



# Full wwPDB NMR Structure Validation Report ⓘ

Dec 24, 2024 – 03:10 PM EST

PDB ID : 2LCL  
BMRB ID : 17615  
Title : Solution Structure of RfaH carboxyterminal domain  
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Deposited on : 2011-05-02

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

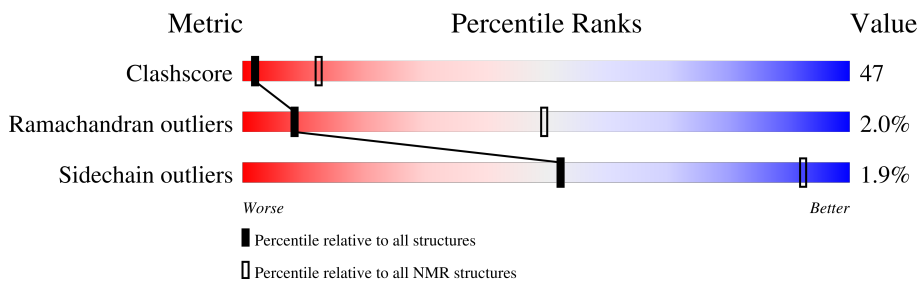
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*SOLUTION NMR*

The overall completeness of chemical shifts assignment is 84%.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



| Metric                | Whole archive<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   | A     | 66     |                  |

## 2 Ensemble composition and analysis i

This entry contains 20 models. Model 9 is the overall representative, medoid model (most similar to other models). The authors have identified model 1 as representative, based on the following criterion: *lowest energy*.

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

| Well-defined (core) protein residues |                       |                   |              |
|--------------------------------------|-----------------------|-------------------|--------------|
| Well-defined core                    | Residue range (total) | Backbone RMSD (Å) | Medoid model |
| 1                                    | A:111-A:162 (52)      | 0.46              | 9            |

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

### 3 Entry composition

There is only 1 type of molecule in this entry. The entry contains 1029 atoms, of which 518 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called Transcriptional activator rfaH.

| Mol | Chain | Residues | Atoms |     |     |    |    |   | Trace |
|-----|-------|----------|-------|-----|-----|----|----|---|-------|
|     |       |          | Total | C   | H   | N  | O  | S |       |
| 1   | A     | 66       | 1029  | 327 | 518 | 84 | 98 | 2 | 0     |

There are 4 discrepancies between the modelled and reference sequences:

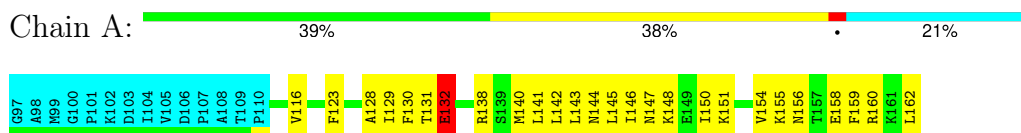
| Chain | Residue | Modelled | Actual | Comment        | Reference  |
|-------|---------|----------|--------|----------------|------------|
| A     | 97      | GLY      | -      | expression tag | UNP P0AFW1 |
| A     | 98      | ALA      | -      | expression tag | UNP P0AFW1 |
| A     | 99      | MET      | -      | expression tag | UNP P0AFW1 |
| A     | 100     | GLY      | -      | expression tag | UNP P0AFW1 |

## 4 Residue-property plots i

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

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

- Molecule 1: Transcriptional activator rfaH

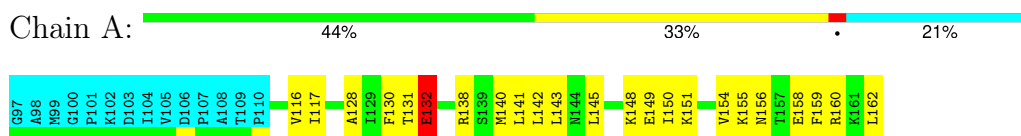


### 4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

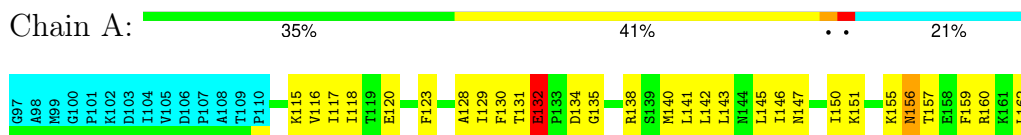
#### 4.2.1 Score per residue for model 1

- Molecule 1: Transcriptional activator rfaH



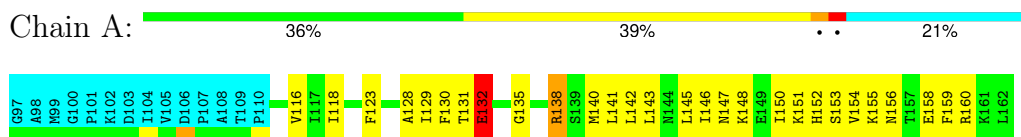
#### 4.2.2 Score per residue for model 2

- Molecule 1: Transcriptional activator rfaH



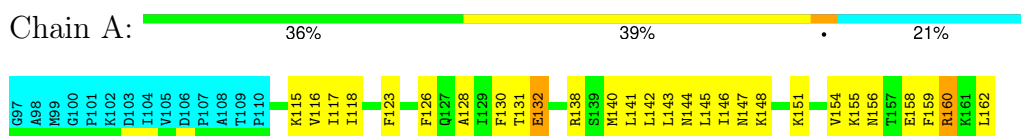
### 4.2.3 Score per residue for model 3

- Molecule 1: Transcriptional activator rfaH



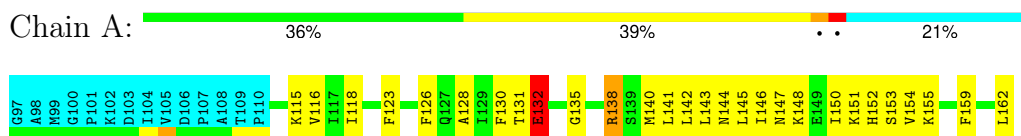
### 4.2.4 Score per residue for model 4

- Molecule 1: Transcriptional activator rfaH



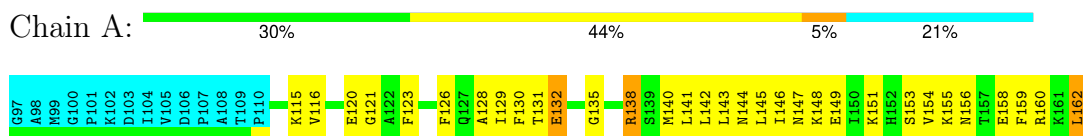
### 4.2.5 Score per residue for model 5

- Molecule 1: Transcriptional activator rfaH



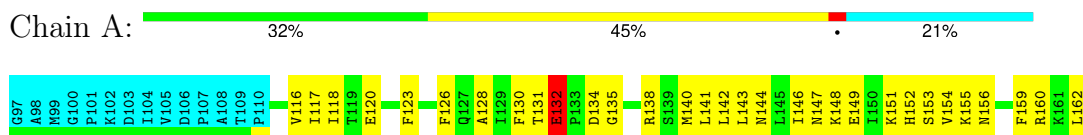
### 4.2.6 Score per residue for model 6

- Molecule 1: Transcriptional activator rfaH



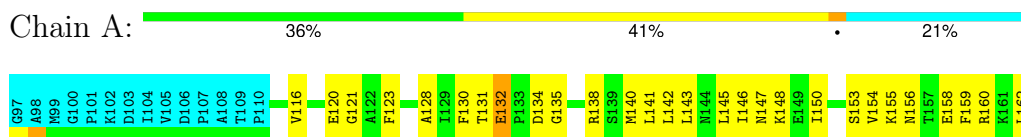
### 4.2.7 Score per residue for model 7

- Molecule 1: Transcriptional activator rfaH



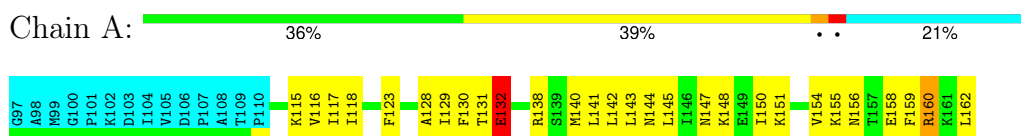
### 4.2.8 Score per residue for model 8

- Molecule 1: Transcriptional activator rfaH



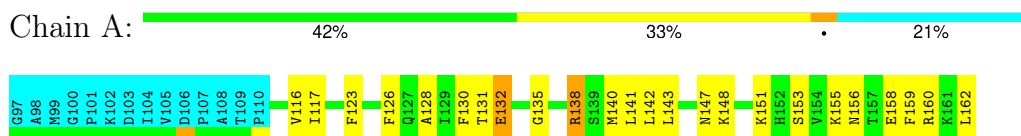
### 4.2.9 Score per residue for model 9 (medoid)

- Molecule 1: Transcriptional activator rfaH



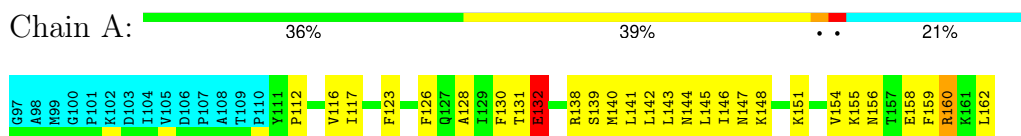
### 4.2.10 Score per residue for model 10

- Molecule 1: Transcriptional activator rfaH



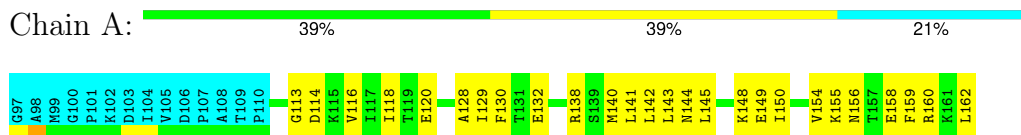
### 4.2.11 Score per residue for model 11

- Molecule 1: Transcriptional activator rfaH



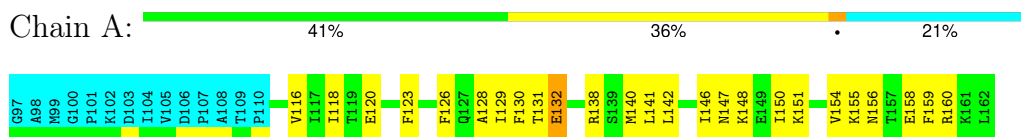
### 4.2.12 Score per residue for model 12

- Molecule 1: Transcriptional activator rfaH



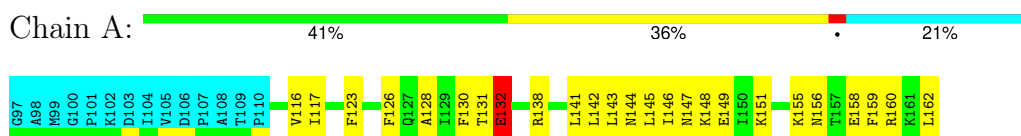
### 4.2.13 Score per residue for model 13

- Molecule 1: Transcriptional activator rfaH



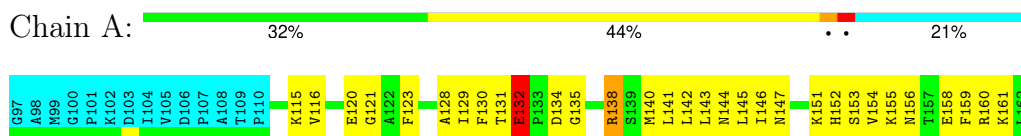
### 4.2.14 Score per residue for model 14

- Molecule 1: Transcriptional activator rfaH



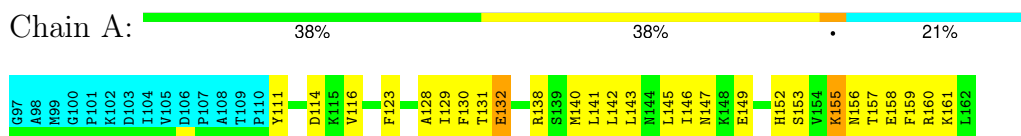
### 4.2.15 Score per residue for model 15

- Molecule 1: Transcriptional activator rfaH



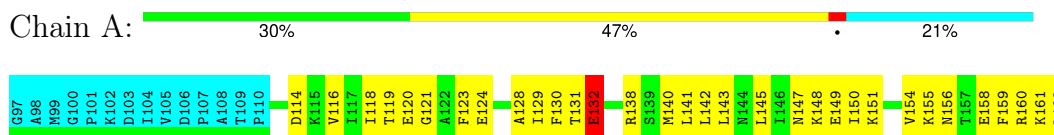
### 4.2.16 Score per residue for model 16

- Molecule 1: Transcriptional activator rfaH



### 4.2.17 Score per residue for model 17

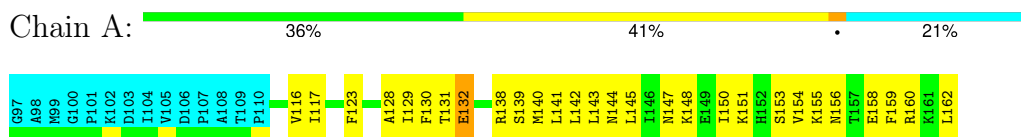
- Molecule 1: Transcriptional activator rfaH





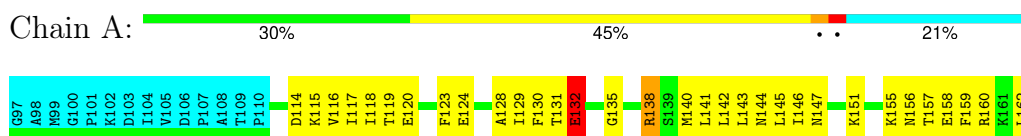
#### 4.2.18 Score per residue for model 18

- Molecule 1: Transcriptional activator rfaH



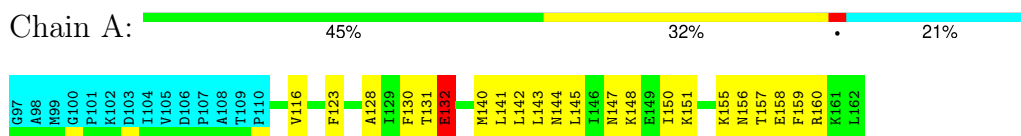
#### 4.2.19 Score per residue for model 19

- Molecule 1: Transcriptional activator rfaH



#### 4.2.20 Score per residue for model 20

- Molecule 1: Transcriptional activator rfaH



## 5 Refinement protocol and experimental data overview

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

Of the 60 calculated structures, 20 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 |
|---------------|--------------------|---------|
| X-PLOR NIH    | structure solution |         |
| X-PLOR NIH    | refinement         |         |

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

|  |                |
|--|----------------|
| Chemical shift file(s)                       | working_cs.cif |
| Number of chemical shift lists               | 1              |
| Total number of shifts                       | 746            |
| Number of shifts mapped to atoms             | 746            |
| Number of unparsed shifts                    | 0              |
| Number of shifts with mapping errors         | 0              |
| Number of shifts with mapping warnings       | 0              |
| Assignment completeness (well-defined parts) | 84%            |

## 6 Model quality [i](#)

### 6.1 Standard geometry [i](#)

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

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

| Mol | Chain | Chirality | Planarity |
|-----|-------|-----------|-----------|
| 1   | A     | 0.0±0.0   | 1.9±0.3   |
| All | All   | 0         | 38        |

There are no bond-length outliers.

There are no bond-angle outliers.

There are no chirality outliers.

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

| Mol | Chain | Res | Type | Group     | Models (Total) |
|-----|-------|-----|------|-----------|----------------|
| 1   | A     | 138 | ARG  | Sidechain | 19             |
| 1   | A     | 160 | ARG  | Sidechain | 19             |

### 6.2 Too-close contacts [i](#)

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

| Mol | Chain | Non-H | H(model) | H(added) | Clashes |
|-----|-------|-------|----------|----------|---------|
| 1   | A     | 417   | 422      | 422      | 40±5    |
| All | All   | 8340  | 8440     | 8440     | 791     |

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 47.

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

| Atom-1           | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|------------------|------------------|----------|-------------|--------|-------|
|                  |                  |          |             | Worst  | Total |
| 1:A:116:VAL:HG21 | 1:A:141:LEU:HD23 | 1.11     | 1.14        | 16     | 17    |
| 1:A:116:VAL:HG22 | 1:A:128:ALA:O    | 0.93     | 1.64        | 10     | 20    |
| 1:A:116:VAL:HG21 | 1:A:141:LEU:CD2  | 0.89     | 1.97        | 1      | 16    |
| 1:A:116:VAL:CG2  | 1:A:128:ALA:HB3  | 0.87     | 1.99        | 11     | 13    |
| 1:A:141:LEU:HD13 | 1:A:154:VAL:CG1  | 0.87     | 2.00        | 18     | 8     |
| 1:A:141:LEU:HD21 | 1:A:159:PHE:CE2  | 0.87     | 2.04        | 9      | 13    |
| 1:A:116:VAL:HG21 | 1:A:141:LEU:HD22 | 0.87     | 1.47        | 19     | 3     |
| 1:A:116:VAL:CG2  | 1:A:141:LEU:HD23 | 0.86     | 1.98        | 2      | 14    |
| 1:A:140:MET:C    | 1:A:141:LEU:HD12 | 0.83     | 1.94        | 18     | 17    |
| 1:A:142:LEU:HD21 | 1:A:149:GLU:OE2  | 0.82     | 1.73        | 17     | 1     |
| 1:A:117:ILE:CG2  | 1:A:162:LEU:HD21 | 0.80     | 2.07        | 7      | 2     |
| 1:A:143:LEU:HD12 | 1:A:143:LEU:N    | 0.78     | 1.93        | 3      | 12    |
| 1:A:142:LEU:HD12 | 1:A:151:LYS:HG2  | 0.78     | 1.53        | 10     | 5     |
| 1:A:116:VAL:HG11 | 1:A:130:PHE:CE2  | 0.78     | 2.14        | 8      | 13    |
| 1:A:142:LEU:HD12 | 1:A:150:ILE:O    | 0.77     | 1.79        | 1      | 9     |
| 1:A:117:ILE:HG21 | 1:A:162:LEU:HD21 | 0.76     | 1.54        | 7      | 1     |
| 1:A:141:LEU:HD21 | 1:A:159:PHE:CD2  | 0.76     | 2.15        | 5      | 7     |
| 1:A:144:ASN:C    | 1:A:145:LEU:HD12 | 0.76     | 2.00        | 6      | 5     |
| 1:A:145:LEU:HD11 | 1:A:150:ILE:HD13 | 0.75     | 1.59        | 20     | 2     |
| 1:A:141:LEU:HD12 | 1:A:141:LEU:N    | 0.74     | 1.96        | 11     | 17    |
| 1:A:117:ILE:HG22 | 1:A:160:ARG:O    | 0.74     | 1.81        | 4      | 3     |
| 1:A:116:VAL:HG22 | 1:A:128:ALA:C    | 0.74     | 2.04        | 18     | 15    |
| 1:A:145:LEU:HD12 | 1:A:145:LEU:N    | 0.73     | 1.98        | 18     | 7     |
| 1:A:145:LEU:N    | 1:A:145:LEU:HD22 | 0.72     | 1.99        | 4      | 7     |
| 1:A:130:PHE:CE1  | 1:A:141:LEU:HD21 | 0.72     | 2.19        | 19     | 3     |
| 1:A:162:LEU:HD12 | 1:A:162:LEU:N    | 0.72     | 1.99        | 9      | 5     |
| 1:A:142:LEU:HD13 | 1:A:151:LYS:HG2  | 0.69     | 1.64        | 1      | 7     |
| 1:A:145:LEU:HD11 | 1:A:150:ILE:CD1  | 0.68     | 2.18        | 20     | 2     |
| 1:A:141:LEU:HD13 | 1:A:154:VAL:HG12 | 0.68     | 1.64        | 11     | 7     |
| 1:A:130:PHE:CD1  | 1:A:141:LEU:HD21 | 0.67     | 2.24        | 19     | 1     |
| 1:A:117:ILE:HB   | 1:A:162:LEU:HD11 | 0.67     | 1.67        | 11     | 4     |
| 1:A:123:PHE:CD1  | 1:A:143:LEU:HD13 | 0.66     | 2.25        | 20     | 2     |
| 1:A:116:VAL:HG11 | 1:A:141:LEU:HD22 | 0.66     | 1.68        | 10     | 1     |
| 1:A:139:SER:OG   | 1:A:141:LEU:HD11 | 0.66     | 1.90        | 11     | 1     |
| 1:A:116:VAL:HG12 | 1:A:130:PHE:CE2  | 0.66     | 2.26        | 14     | 11    |
| 1:A:142:LEU:HD13 | 1:A:151:LYS:CG   | 0.65     | 2.20        | 13     | 2     |
| 1:A:114:ASP:O    | 1:A:129:ILE:HG23 | 0.64     | 1.93        | 17     | 3     |
| 1:A:116:VAL:CG1  | 1:A:130:PHE:CE2  | 0.64     | 2.81        | 2      | 17    |
| 1:A:117:ILE:N    | 1:A:162:LEU:HD11 | 0.64     | 2.07        | 11     | 4     |
| 1:A:142:LEU:HD12 | 1:A:151:LYS:CE   | 0.63     | 2.23        | 6      | 6     |
| 1:A:130:PHE:CE1  | 1:A:141:LEU:HD11 | 0.63     | 2.29        | 17     | 2     |
| 1:A:141:LEU:HD13 | 1:A:154:VAL:HB   | 0.62     | 1.71        | 3      | 4     |

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| Atom-1           | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|------------------|------------------|----------|-------------|--------|-------|
|                  |                  |          |             | Worst  | Total |
| 1:A:116:VAL:HG11 | 1:A:141:LEU:CD2  | 0.61     | 2.25        | 10     | 1     |
| 1:A:128:ALA:HB2  | 1:A:143:LEU:HD23 | 0.61     | 1.71        | 8      | 4     |
| 1:A:154:VAL:HG13 | 1:A:158:GLU:CD   | 0.61     | 2.15        | 15     | 1     |
| 1:A:144:ASN:C    | 1:A:145:LEU:HD22 | 0.61     | 2.16        | 14     | 4     |
| 1:A:123:PHE:CD1  | 1:A:143:LEU:HD23 | 0.60     | 2.32        | 15     | 5     |
| 1:A:123:PHE:CD1  | 1:A:143:LEU:CD2  | 0.59     | 2.85        | 15     | 2     |
| 1:A:141:LEU:HD13 | 1:A:154:VAL:HG13 | 0.58     | 1.70        | 18     | 1     |
| 1:A:143:LEU:N    | 1:A:143:LEU:CD1  | 0.58     | 2.67        | 3      | 12    |
| 1:A:130:PHE:HE1  | 1:A:141:LEU:HD11 | 0.58     | 1.57        | 17     | 2     |
| 1:A:141:LEU:N    | 1:A:141:LEU:CD1  | 0.57     | 2.67        | 17     | 17    |
| 1:A:155:LYS:O    | 1:A:159:PHE:CD1  | 0.57     | 2.57        | 11     | 15    |
| 1:A:115:LYS:C    | 1:A:162:LEU:HD12 | 0.57     | 2.20        | 2      | 1     |
| 1:A:117:ILE:HB   | 1:A:162:LEU:HD21 | 0.57     | 1.75        | 18     | 3     |
| 1:A:141:LEU:CD2  | 1:A:159:PHE:CD2  | 0.56     | 2.87        | 5      | 2     |
| 1:A:128:ALA:O    | 1:A:129:ILE:HD13 | 0.56     | 2.00        | 3      | 7     |
| 1:A:116:VAL:CG2  | 1:A:141:LEU:HD22 | 0.56     | 2.28        | 19     | 2     |
| 1:A:145:LEU:N    | 1:A:145:LEU:CD1  | 0.56     | 2.68        | 18     | 6     |
| 1:A:116:VAL:HG23 | 1:A:128:ALA:HB3  | 0.55     | 1.76        | 10     | 4     |
| 1:A:145:LEU:N    | 1:A:145:LEU:CD2  | 0.55     | 2.70        | 4      | 7     |
| 1:A:117:ILE:CB   | 1:A:162:LEU:HD11 | 0.55     | 2.32        | 11     | 3     |
| 1:A:117:ILE:CB   | 1:A:162:LEU:HD21 | 0.54     | 2.32        | 18     | 1     |
| 1:A:155:LYS:O    | 1:A:159:PHE:CD2  | 0.54     | 2.60        | 4      | 1     |
| 1:A:154:VAL:HG13 | 1:A:158:GLU:OE2  | 0.54     | 2.03        | 15     | 1     |
| 1:A:128:ALA:HB1  | 1:A:142:LEU:O    | 0.54     | 2.03        | 4      | 1     |
| 1:A:131:THR:O    | 1:A:132:GLU:CB   | 0.53     | 2.57        | 20     | 15    |
| 1:A:142:LEU:HD12 | 1:A:151:LYS:CG   | 0.53     | 2.28        | 10     | 2     |
| 1:A:162:LEU:N    | 1:A:162:LEU:CD1  | 0.53     | 2.71        | 9      | 3     |
| 1:A:143:LEU:O    | 1:A:145:LEU:CD2  | 0.53     | 2.57        | 11     | 4     |
| 1:A:154:VAL:HG23 | 1:A:158:GLU:OE1  | 0.53     | 2.04        | 11     | 6     |
| 1:A:123:PHE:HB3  | 1:A:143:LEU:HD23 | 0.53     | 1.78        | 9      | 2     |
| 1:A:128:ALA:CB   | 1:A:142:LEU:O    | 0.53     | 2.57        | 4      | 6     |
| 1:A:132:GLU:O    | 1:A:140:MET:CG   | 0.53     | 2.57        | 10     | 6     |
| 1:A:142:LEU:CD1  | 1:A:151:LYS:CE   | 0.52     | 2.86        | 3      | 4     |
| 1:A:141:LEU:HD21 | 1:A:159:PHE:CZ   | 0.52     | 2.39        | 11     | 5     |
| 1:A:147:ASN:O    | 1:A:148:LYS:CG   | 0.52     | 2.57        | 8      | 8     |
| 1:A:162:LEU:HD12 | 1:A:162:LEU:H    | 0.52     | 1.64        | 11     | 2     |
| 1:A:155:LYS:CD   | 1:A:157:THR:OG1  | 0.52     | 2.57        | 20     | 3     |
| 1:A:162:LEU:OXT  | 1:A:162:LEU:HD12 | 0.52     | 2.04        | 4      | 1     |
| 1:A:146:ILE:CG1  | 1:A:147:ASN:N    | 0.52     | 2.71        | 2      | 5     |
| 1:A:142:LEU:CD1  | 1:A:150:ILE:O    | 0.52     | 2.58        | 8      | 8     |
| 1:A:140:MET:SD   | 1:A:153:SER:CB   | 0.51     | 2.99        | 6      | 5     |

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| Atom-1           | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|------------------|------------------|----------|-------------|--------|-------|
|                  |                  |          |             | Worst  | Total |
| 1:A:130:PHE:CD1  | 1:A:141:LEU:CD2  | 0.51     | 2.93        | 19     | 1     |
| 1:A:142:LEU:HD12 | 1:A:143:LEU:N    | 0.51     | 2.20        | 8      | 2     |
| 1:A:134:ASP:OD1  | 1:A:135:GLY:N    | 0.51     | 2.44        | 7      | 4     |
| 1:A:116:VAL:N    | 1:A:128:ALA:O    | 0.51     | 2.43        | 11     | 3     |
| 1:A:114:ASP:OD2  | 1:A:161:LYS:NZ   | 0.51     | 2.43        | 17     | 1     |
| 1:A:156:ASN:HA   | 1:A:159:PHE:CE1  | 0.51     | 2.41        | 7      | 16    |
| 1:A:117:ILE:HD12 | 1:A:126:PHE:O    | 0.51     | 2.06        | 10     | 3     |
| 1:A:123:PHE:HA   | 1:A:126:PHE:CD2  | 0.51     | 2.41        | 11     | 8     |
| 1:A:116:VAL:C    | 1:A:162:LEU:HD23 | 0.51     | 2.26        | 8      | 1     |
| 1:A:155:LYS:O    | 1:A:158:GLU:N    | 0.50     | 2.43        | 6      | 7     |
| 1:A:117:ILE:CG2  | 1:A:162:LEU:CD2  | 0.50     | 2.88        | 7      | 1     |
| 1:A:142:LEU:CD2  | 1:A:144:ASN:OD1  | 0.50     | 2.60        | 7      | 2     |
| 1:A:116:VAL:HG21 | 1:A:141:LEU:HD13 | 0.50     | 1.82        | 14     | 1     |
| 1:A:154:VAL:HG13 | 1:A:159:PHE:CD2  | 0.50     | 2.42        | 4      | 1     |
| 1:A:142:LEU:C    | 1:A:142:LEU:HD23 | 0.50     | 2.27        | 16     | 2     |
| 1:A:141:LEU:HD22 | 1:A:154:VAL:HG11 | 0.49     | 1.82        | 17     | 1     |
| 1:A:131:THR:O    | 1:A:132:GLU:CG   | 0.49     | 2.60        | 1      | 8     |
| 1:A:152:HIS:CE1  | 1:A:153:SER:O    | 0.49     | 2.65        | 5      | 3     |
| 1:A:123:PHE:CE1  | 1:A:150:ILE:HD11 | 0.49     | 2.42        | 18     | 3     |
| 1:A:145:LEU:CD1  | 1:A:145:LEU:N    | 0.49     | 2.75        | 2      | 1     |
| 1:A:146:ILE:HG13 | 1:A:147:ASN:N    | 0.49     | 2.21        | 2      | 13    |
| 1:A:156:ASN:HA   | 1:A:159:PHE:CE2  | 0.49     | 2.43        | 4      | 2     |
| 1:A:152:HIS:ND1  | 1:A:153:SER:O    | 0.49     | 2.46        | 15     | 4     |
| 1:A:116:VAL:HG11 | 1:A:130:PHE:CZ   | 0.49     | 2.43        | 20     | 3     |
| 1:A:148:LYS:HG2  | 1:A:149:GLU:N    | 0.48     | 2.24        | 1      | 5     |
| 1:A:142:LEU:HD12 | 1:A:151:LYS:CD   | 0.48     | 2.39        | 3      | 1     |
| 1:A:142:LEU:HD12 | 1:A:150:ILE:C    | 0.48     | 2.29        | 13     | 1     |
| 1:A:123:PHE:HA   | 1:A:126:PHE:CE2  | 0.48     | 2.44        | 5      | 6     |
| 1:A:143:LEU:HD12 | 1:A:143:LEU:H    | 0.48     | 1.65        | 12     | 4     |
| 1:A:154:VAL:HG12 | 1:A:159:PHE:HD1  | 0.47     | 1.68        | 8      | 6     |
| 1:A:156:ASN:O    | 1:A:159:PHE:O    | 0.47     | 2.33        | 19     | 12    |
| 1:A:142:LEU:CD1  | 1:A:151:LYS:CG   | 0.47     | 2.93        | 13     | 1     |
| 1:A:143:LEU:O    | 1:A:145:LEU:HD22 | 0.47     | 2.09        | 12     | 3     |
| 1:A:154:VAL:HG12 | 1:A:159:PHE:CD1  | 0.47     | 2.44        | 15     | 4     |
| 1:A:144:ASN:O    | 1:A:144:ASN:OD1  | 0.47     | 2.33        | 12     | 3     |
| 1:A:118:ILE:CG2  | 1:A:120:GLU:O    | 0.47     | 2.63        | 17     | 5     |
| 1:A:142:LEU:HD11 | 1:A:149:GLU:OE2  | 0.47     | 2.10        | 16     | 1     |
| 1:A:117:ILE:CG2  | 1:A:160:ARG:CG   | 0.47     | 2.94        | 11     | 1     |
| 1:A:161:LYS:CG   | 1:A:161:LYS:O    | 0.46     | 2.62        | 16     | 2     |
| 1:A:154:VAL:CG2  | 1:A:158:GLU:HB2  | 0.46     | 2.40        | 1      | 8     |
| 1:A:155:LYS:HG2  | 1:A:158:GLU:CG   | 0.46     | 2.41        | 19     | 3     |

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| Atom-1           | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|------------------|------------------|----------|-------------|--------|-------|
|                  |                  |          |             | Worst  | Total |
| 1:A:155:LYS:O    | 1:A:159:PHE:CE1  | 0.46     | 2.69        | 11     | 2     |
| 1:A:117:ILE:N    | 1:A:162:LEU:CD1  | 0.46     | 2.78        | 11     | 2     |
| 1:A:154:VAL:HG13 | 1:A:159:PHE:CE1  | 0.46     | 2.45        | 11     | 1     |
| 1:A:155:LYS:CD   | 1:A:158:GLU:HG2  | 0.45     | 2.41        | 20     | 3     |
| 1:A:135:GLY:O    | 1:A:138:ARG:O    | 0.45     | 2.35        | 3      | 6     |
| 1:A:123:PHE:CG   | 1:A:143:LEU:HD13 | 0.45     | 2.45        | 19     | 1     |
| 1:A:142:LEU:CD1  | 1:A:151:LYS:HG2  | 0.45     | 2.40        | 20     | 12    |
| 1:A:145:LEU:N    | 1:A:145:LEU:HD12 | 0.45     | 2.27        | 2      | 1     |
| 1:A:145:LEU:N    | 1:A:148:LYS:O    | 0.45     | 2.46        | 5      | 2     |
| 1:A:118:ILE:HG22 | 1:A:120:GLU:O    | 0.45     | 2.11        | 12     | 1     |
| 1:A:115:LYS:O    | 1:A:162:LEU:HD12 | 0.45     | 2.12        | 2      | 1     |
| 1:A:116:VAL:C    | 1:A:162:LEU:CD1  | 0.45     | 2.85        | 11     | 1     |
| 1:A:130:PHE:CD1  | 1:A:141:LEU:HG   | 0.45     | 2.47        | 12     | 1     |
| 1:A:145:LEU:CD1  | 1:A:150:ILE:HD13 | 0.45     | 2.38        | 20     | 1     |
| 1:A:116:VAL:HA   | 1:A:162:LEU:CD1  | 0.44     | 2.42        | 19     | 1     |
| 1:A:120:GLU:OE1  | 1:A:157:THR:O    | 0.44     | 2.35        | 2      | 1     |
| 1:A:141:LEU:CD2  | 1:A:159:PHE:CE2  | 0.44     | 2.91        | 9      | 3     |
| 1:A:142:LEU:HD21 | 1:A:149:GLU:CG   | 0.44     | 2.42        | 16     | 1     |
| 1:A:155:LYS:HD2  | 1:A:157:THR:OG1  | 0.44     | 2.11        | 16     | 2     |
| 1:A:142:LEU:CD1  | 1:A:151:LYS:HE2  | 0.44     | 2.42        | 3      | 3     |
| 1:A:132:GLU:O    | 1:A:140:MET:SD   | 0.44     | 2.75        | 16     | 3     |
| 1:A:161:LYS:O    | 1:A:161:LYS:HG3  | 0.44     | 2.13        | 16     | 2     |
| 1:A:138:ARG:NH1  | 1:A:138:ARG:HG3  | 0.44     | 2.25        | 19     | 1     |
| 1:A:115:LYS:CB   | 1:A:162:LEU:HD21 | 0.44     | 2.43        | 4      | 2     |
| 1:A:147:ASN:O    | 1:A:148:LYS:HG3  | 0.44     | 2.12        | 8      | 4     |
| 1:A:117:ILE:CG2  | 1:A:160:ARG:O    | 0.44     | 2.59        | 4      | 1     |
| 1:A:111:TYR:N    | 1:A:114:ASP:OD2  | 0.44     | 2.50        | 16     | 1     |
| 1:A:142:LEU:CD2  | 1:A:149:GLU:OE2  | 0.44     | 2.57        | 17     | 1     |
| 1:A:116:VAL:CG2  | 1:A:128:ALA:CB   | 0.44     | 2.87        | 11     | 1     |
| 1:A:148:LYS:CG   | 1:A:149:GLU:N    | 0.44     | 2.80        | 1      | 1     |
| 1:A:118:ILE:HD11 | 1:A:143:LEU:HD21 | 0.44     | 1.88        | 5      | 1     |
| 1:A:116:VAL:CG1  | 1:A:141:LEU:HD22 | 0.44     | 2.41        | 10     | 1     |
| 1:A:141:LEU:HD22 | 1:A:154:VAL:CG1  | 0.44     | 2.43        | 17     | 1     |
| 1:A:128:ALA:HB1  | 1:A:141:LEU:HB3  | 0.43     | 1.88        | 13     | 1     |
| 1:A:154:VAL:CG1  | 1:A:159:PHE:CD1  | 0.43     | 3.01        | 15     | 3     |
| 1:A:131:THR:CG2  | 1:A:142:LEU:HB2  | 0.43     | 2.44        | 16     | 4     |
| 1:A:144:ASN:O    | 1:A:144:ASN:CG   | 0.43     | 2.57        | 5      | 4     |
| 1:A:116:VAL:C    | 1:A:162:LEU:HD11 | 0.43     | 2.33        | 11     | 1     |
| 1:A:154:VAL:HG13 | 1:A:159:PHE:CD1  | 0.43     | 2.48        | 9      | 1     |
| 1:A:131:THR:HG21 | 1:A:151:LYS:HE2  | 0.43     | 1.91        | 10     | 1     |
| 1:A:117:ILE:HB   | 1:A:162:LEU:CD2  | 0.42     | 2.44        | 1      | 1     |

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| Atom-1           | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|------------------|------------------|----------|-------------|--------|-------|
|                  |                  |          |             | Worst  | Total |
| 1:A:118:ILE:HG21 | 1:A:123:PHE:HB2  | 0.42     | 1.90        | 4      | 1     |
| 1:A:128:ALA:HB2  | 1:A:143:LEU:CD2  | 0.42     | 2.43        | 8      | 1     |
| 1:A:119:THR:O    | 1:A:124:GLU:CD   | 0.42     | 2.58        | 17     | 2     |
| 1:A:140:MET:SD   | 1:A:153:SER:HB2  | 0.42     | 2.53        | 18     | 1     |
| 1:A:123:PHE:CG   | 1:A:143:LEU:HD23 | 0.42     | 2.48        | 3      | 1     |
| 1:A:154:VAL:CG1  | 1:A:158:GLU:CD   | 0.42     | 2.86        | 15     | 1     |
| 1:A:115:LYS:HA   | 1:A:129:ILE:CD1  | 0.42     | 2.45        | 19     | 4     |
| 1:A:120:GLU:HG3  | 1:A:121:GLY:N    | 0.42     | 2.29        | 15     | 2     |
| 1:A:128:ALA:CB   | 1:A:141:LEU:HB3  | 0.42     | 2.45        | 19     | 2     |
| 1:A:123:PHE:CG   | 1:A:143:LEU:CD1  | 0.42     | 3.02        | 8      | 1     |
| 1:A:118:ILE:HD12 | 1:A:123:PHE:HB3  | 0.42     | 1.90        | 2      | 2     |
| 1:A:115:LYS:HB3  | 1:A:162:LEU:HD21 | 0.42     | 1.91        | 4      | 2     |
| 1:A:119:THR:CA   | 1:A:124:GLU:HG3  | 0.42     | 2.45        | 17     | 1     |
| 1:A:123:PHE:CG   | 1:A:143:LEU:CD2  | 0.42     | 3.03        | 3      | 1     |
| 1:A:131:THR:O    | 1:A:132:GLU:HB2  | 0.42     | 2.14        | 13     | 4     |
| 1:A:155:LYS:HG3  | 1:A:157:THR:OG1  | 0.42     | 2.15        | 16     | 3     |
| 1:A:147:ASN:CG   | 1:A:148:LYS:N    | 0.42     | 2.72        | 18     | 1     |
| 1:A:140:MET:SD   | 1:A:153:SER:HB3  | 0.42     | 2.55        | 8      | 2     |
| 1:A:114:ASP:OD1  | 1:A:114:ASP:C    | 0.42     | 2.57        | 17     | 2     |
| 1:A:145:LEU:HD21 | 1:A:150:ILE:HG12 | 0.42     | 1.92        | 3      | 1     |
| 1:A:128:ALA:HA   | 1:A:142:LEU:O    | 0.41     | 2.15        | 18     | 2     |
| 1:A:131:THR:O    | 1:A:132:GLU:HG2  | 0.41     | 2.15        | 4      | 1     |
| 1:A:120:GLU:HG2  | 1:A:121:GLY:N    | 0.41     | 2.30        | 6      | 2     |
| 1:A:144:ASN:O    | 1:A:145:LEU:HD12 | 0.41     | 2.16        | 6      | 1     |
| 1:A:145:LEU:HD23 | 1:A:150:ILE:HG23 | 0.41     | 1.91        | 3      | 1     |
| 1:A:155:LYS:HD3  | 1:A:157:THR:OG1  | 0.41     | 2.15        | 20     | 1     |
| 1:A:113:GLY:HA2  | 1:A:129:ILE:CG2  | 0.41     | 2.45        | 12     | 1     |
| 1:A:118:ILE:HB   | 1:A:123:PHE:O    | 0.41     | 2.16        | 9      | 1     |
| 1:A:117:ILE:HB   | 1:A:162:LEU:CD1  | 0.41     | 2.43        | 11     | 1     |
| 1:A:145:LEU:CD2  | 1:A:150:ILE:HG12 | 0.41     | 2.46        | 17     | 1     |
| 1:A:139:SER:OG   | 1:A:156:ASN:ND2  | 0.40     | 2.54        | 18     | 1     |
| 1:A:143:LEU:HB2  | 1:A:150:ILE:CG1  | 0.40     | 2.46        | 17     | 1     |
| 1:A:138:ARG:NH1  | 1:A:138:ARG:CG   | 0.40     | 2.85        | 19     | 1     |
| 1:A:131:THR:OG1  | 1:A:140:MET:CG   | 0.40     | 2.70        | 15     | 1     |
| 1:A:159:PHE:CD1  | 1:A:159:PHE:C    | 0.40     | 2.95        | 4      | 1     |
| 1:A:132:GLU:O    | 1:A:140:MET:HG3  | 0.40     | 2.16        | 2      | 1     |
| 1:A:112:PRO:HA   | 1:A:130:PHE:CB   | 0.40     | 2.46        | 11     | 1     |
| 1:A:115:LYS:HA   | 1:A:129:ILE:HD13 | 0.40     | 1.92        | 19     | 1     |



## 6.3 Torsion angles [i](#)

### 6.3.1 Protein backbone [i](#)

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

| Mol | Chain | Analysed        | Favoured     | Allowed    | Outliers   | Percentiles |    |
|-----|-------|-----------------|--------------|------------|------------|-------------|----|
| 1   | A     | 51/66 (77%)     | 48±1 (95±2%) | 2±1 (3±2%) | 1±0 (2±0%) | 8           | 50 |
| All | All   | 1020/1320 (77%) | 965 (95%)    | 35 (3%)    | 20 (2%)    | 8           | 50 |

All 1 unique Ramachandran outliers are listed below.

| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1   | A     | 132 | GLU  | 20             |

### 6.3.2 Protein sidechains [i](#)

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

| Mol | Chain | Analysed       | Rotameric    | Outliers   | Percentiles |    |
|-----|-------|----------------|--------------|------------|-------------|----|
| 1   | A     | 45/55 (82%)    | 44±1 (98±1%) | 1±1 (2±1%) | 52          | 92 |
| All | All   | 900/1100 (82%) | 883 (98%)    | 17 (2%)    | 52          | 92 |

All 4 unique residues with a non-rotameric sidechain are listed below. They are sorted by the frequency of occurrence in the ensemble.

| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1   | A     | 132 | GLU  | 12             |
| 1   | A     | 162 | LEU  | 3              |
| 1   | A     | 156 | ASN  | 1              |
| 1   | A     | 155 | LYS  | 1              |

### 6.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

## 6.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

## 6.6 Ligand geometry [i](#)

There are no ligands in this entry.

## 6.7 Other polymers [i](#)

There are no such molecules in this entry.

## 6.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

## 7 Chemical shift validation (i)

The completeness of assignment taking into account all chemical shift lists is 84% for the well-defined parts and 84% for the entire structure.

### 7.1 Chemical shift list 1

File name: working\_cs.cif

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

#### 7.1.1 Bookkeeping (i)

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

|   |     |
|---|-----|
| Total number of shifts                  | 746 |
| Number of shifts mapped to atoms        | 746 |
| 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         |
|------------------------|----------|---------------------------------|--------------------------|
| $^{13}\text{C}_\alpha$ | 66       | $-0.14 \pm 0.17$                | None needed (< 0.5 ppm)  |
| $^{13}\text{C}_\beta$  | 60       | $0.10 \pm 0.33$                 | None needed (< 0.5 ppm)  |
| $^{13}\text{C}'$       | 0        | —                               | None (insufficient data) |
| $^{15}\text{N}$        | 58       | $0.18 \pm 0.53$                 | None needed (< 0.5 ppm)  |

#### 7.1.3 Completeness of resonance assignments (i)

The following table shows the completeness of the chemical shift assignments for the well-defined regions of the structure. The overall completeness is 84%, i.e. 612 atoms were assigned a chemical shift out of a possible 730. 0 out of 7 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

|           | Total         | $^1\text{H}$   | $^{13}\text{C}$ | $^{15}\text{N}$ |
|-----------|---------------|----------------|-----------------|-----------------|
| Backbone  | 208/260 (80%) | 106/106 (100%) | 52/104 (50%)    | 50/50 (100%)    |
| Sidechain | 379/414 (92%) | 258/268 (96%)  | 117/131 (89%)   | 4/15 (27%)      |

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|          | Total         | <sup>1</sup> H | <sup>13</sup> C | <sup>15</sup> N |
|----------|---------------|----------------|-----------------|-----------------|
| Aromatic | 25/56 (45%)   | 25/28 (89%)    | 0/27 (0%)       | 0/1 (0%)        |
| Overall  | 612/730 (84%) | 389/402 (97%)  | 169/262 (65%)   | 54/66 (82%)     |

The following table shows the completeness of the chemical shift assignments for the full structure. The overall completeness is 84%, i.e. 746 atoms were assigned a chemical shift out of a possible 891. 0 out of 8 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

|           | Total         | <sup>1</sup> H | <sup>13</sup> C | <sup>15</sup> N |
|-----------|---------------|----------------|-----------------|-----------------|
| Backbone  | 254/326 (78%) | 130/133 (98%)  | 66/132 (50%)    | 58/61 (95%)     |
| Sidechain | 467/509 (92%) | 318/331 (96%)  | 145/162 (90%)   | 4/16 (25%)      |
| Aromatic  | 25/56 (45%)   | 25/28 (89%)    | 0/27 (0%)       | 0/1 (0%)        |
| Overall   | 746/891 (84%) | 473/492 (96%)  | 211/321 (66%)   | 62/78 (79%)     |

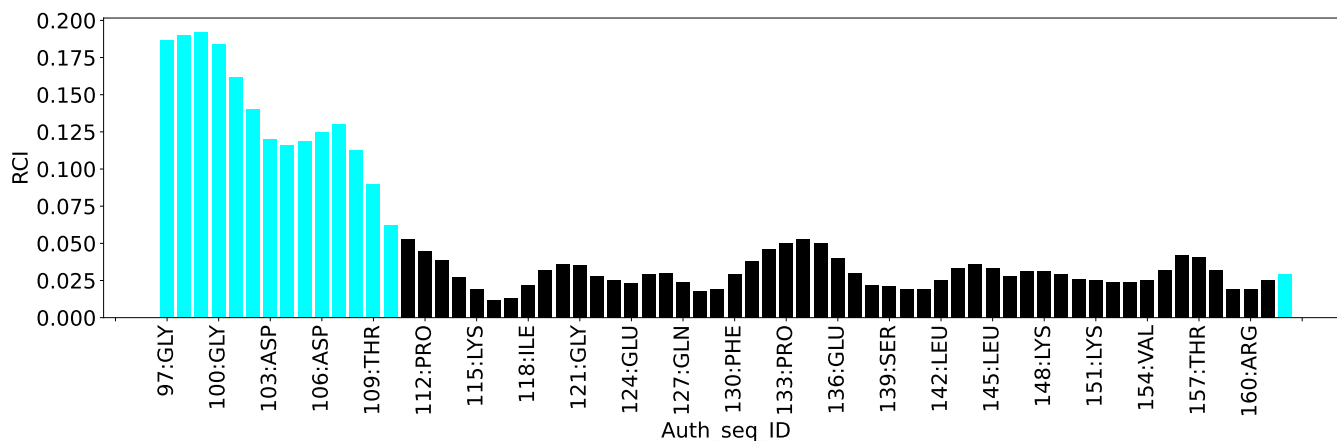
#### 7.1.4 Statistically unusual chemical shifts [i](#)

There are no statistically unusual chemical shifts.

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

The image below reports *random coil index* values for the protein chains in the structure. The height of each bar gives a probability of a given residue to be disordered, as predicted from the available chemical shifts and the amino acid sequence. A value above 0.2 is an indication of significant predicted disorder. The colour of the bar shows whether the residue is in the well-defined core (black) or in the ill-defined residue ranges (cyan), as described in section 2 on ensemble composition. If well-defined core and ill-defined regions are not identified then it is shown as gray bars.

Random coil index (RCI) for chain A:



## 8 NMR restraints analysis

### 8.1 Conformationally restricting restraints

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

| Description  | Value |
|--|-------|
| Total distance restraints                                | 1198  |
| Intra-residue ( $ i-j =0$ )                              | 418   |
| Sequential ( $ i-j =1$ )                                 | 282   |
| Medium range ( $ i-j >1$ and $ i-j <5$ )                 | 90    |
| Long range ( $ i-j \geq 5$ )                             | 408   |
| Inter-chain  | 0     |
| Hydrogen bond restraints                                 | 0     |
| Disulfide bond restraints                                | 0     |
| Total dihedral-angle restraints                          | 103   |
| Number of unmapped restraints                            | 0     |
| Number of restraints per residue                         | 19.7  |
| Number of long range restraints per residue <sup>1</sup> | 6.2   |

<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)  | 5.3                                    | 0.2     |
| 0.2-0.5 (Medium) | 13.0                                   | 0.5     |
| >0.5 (Large)     | 35.1                                   | 2.48    |

### 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)   | None                                   | None    |
| 10.0-20.0 (Medium) | None                                   | None    |
| >20.0 (Large)      | 6.5                                    | 120.96  |

## 9 Distance violation analysis [i](#)

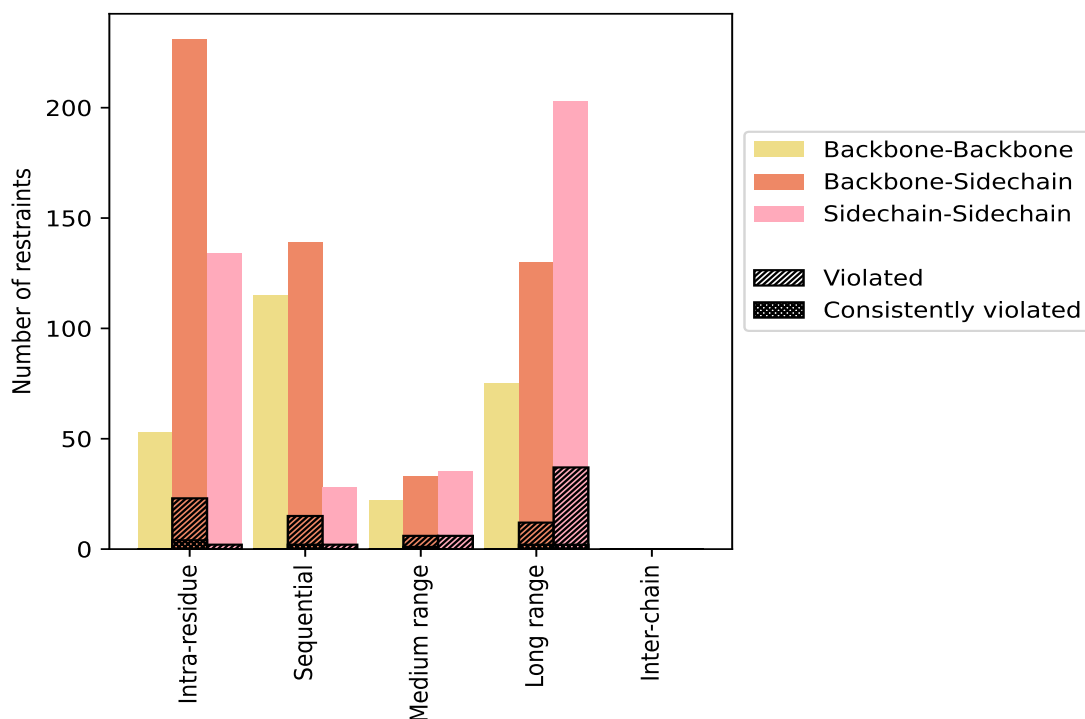
### 9.1 Summary of distance violations [i](#)

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 ( i-j =0)</b>                    | <b>418</b>  | <b>34.9</b>    | <b>25</b>             | <b>6.0</b>     | <b>2.1</b>     | <b>4</b>                           | <b>1.0</b>     | <b>0.3</b>     |
| Backbone-Backbone                                 | 53          | 4.4            | 0                     | 0.0            | 0.0            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain                                | 231         | 19.3           | 23                    | 10.0           | 1.9            | 4                                  | 1.7            | 0.3            |
| Sidechain-Sidechain                               | 134         | 11.2           | 2                     | 1.5            | 0.2            | 0                                  | 0.0            | 0.0            |
| <b>Sequential ( i-j =1)</b>                       | <b>282</b>  | <b>23.5</b>    | <b>17</b>             | <b>6.0</b>     | <b>1.4</b>     | <b>2</b>                           | <b>0.7</b>     | <b>0.2</b>     |
| Backbone-Backbone                                 | 115         | 9.6            | 0                     | 0.0            | 0.0            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain                                | 139         | 11.6           | 15                    | 10.8           | 1.3            | 2                                  | 1.4            | 0.2            |
| Sidechain-Sidechain                               | 28          | 2.3            | 2                     | 7.1            | 0.2            | 0                                  | 0.0            | 0.0            |
| <b>Medium range ( i-j &gt;1 &amp;  i-j &lt;5)</b> | <b>90</b>   | <b>7.5</b>     | <b>12</b>             | <b>13.3</b>    | <b>1.0</b>     | <b>1</b>                           | <b>1.1</b>     | <b>0.1</b>     |
| Backbone-Backbone                                 | 22          | 1.8            | 0                     | 0.0            | 0.0            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain                                | 33          | 2.8            | 6                     | 18.2           | 0.5            | 1                                  | 3.0            | 0.1            |
| Sidechain-Sidechain                               | 35          | 2.9            | 6                     | 17.1           | 0.5            | 0                                  | 0.0            | 0.0            |
| <b>Long range ( i-j ≥5)</b>                       | <b>408</b>  | <b>34.1</b>    | <b>49</b>             | <b>12.0</b>    | <b>4.1</b>     | <b>4</b>                           | <b>1.0</b>     | <b>0.3</b>     |
| Backbone-Backbone                                 | 75          | 6.3            | 0                     | 0.0            | 0.0            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain                                | 130         | 10.9           | 12                    | 9.2            | 1.0            | 2                                  | 1.5            | 0.2            |
| Sidechain-Sidechain                               | 203         | 16.9           | 37                    | 18.2           | 3.1            | 2                                  | 1.0            | 0.2            |
| <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>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>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>1198</b> | <b>100.0</b>   | <b>103</b>            | <b>8.6</b>     | <b>8.6</b>     | <b>11</b>                          | <b>0.9</b>     | <b>0.9</b>     |
| Backbone-Backbone                                 | 265         | 22.1           | 0                     | 0.0            | 0.0            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain                                | 533         | 44.5           | 56                    | 10.5           | 4.7            | 9                                  | 1.7            | 0.8            |
| Sidechain-Sidechain                               | 400         | 33.4           | 47                    | 11.8           | 3.9            | 2                                  | 0.5            | 0.2            |

<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                   | 11              | 8               | 24              | 0               | 54    | 0.82     | 2.26    | 0.53                | 0.73       |
| 2        | 14                   | 11              | 5               | 24              | 0               | 54    | 0.75     | 1.96    | 0.44                | 0.72       |
| 3        | 14                   | 12              | 4               | 24              | 0               | 54    | 0.79     | 2.06    | 0.52                | 0.7        |
| 4        | 15                   | 12              | 8               | 30              | 0               | 65    | 0.76     | 2.4     | 0.49                | 0.72       |
| 5        | 14                   | 12              | 4               | 32              | 0               | 62    | 0.74     | 2.43    | 0.5                 | 0.62       |
| 6        | 13                   | 12              | 4               | 21              | 0               | 50    | 0.71     | 2.06    | 0.43                | 0.72       |
| 7        | 12                   | 8               | 4               | 26              | 0               | 50    | 0.76     | 1.92    | 0.44                | 0.68       |
| 8        | 13                   | 11              | 3               | 21              | 0               | 48    | 0.72     | 2.48    | 0.46                | 0.7        |
| 9        | 16                   | 13              | 9               | 26              | 0               | 64    | 0.76     | 2.17    | 0.45                | 0.74       |
| 10       | 11                   | 10              | 4               | 14              | 0               | 39    | 0.79     | 2.05    | 0.44                | 0.82       |

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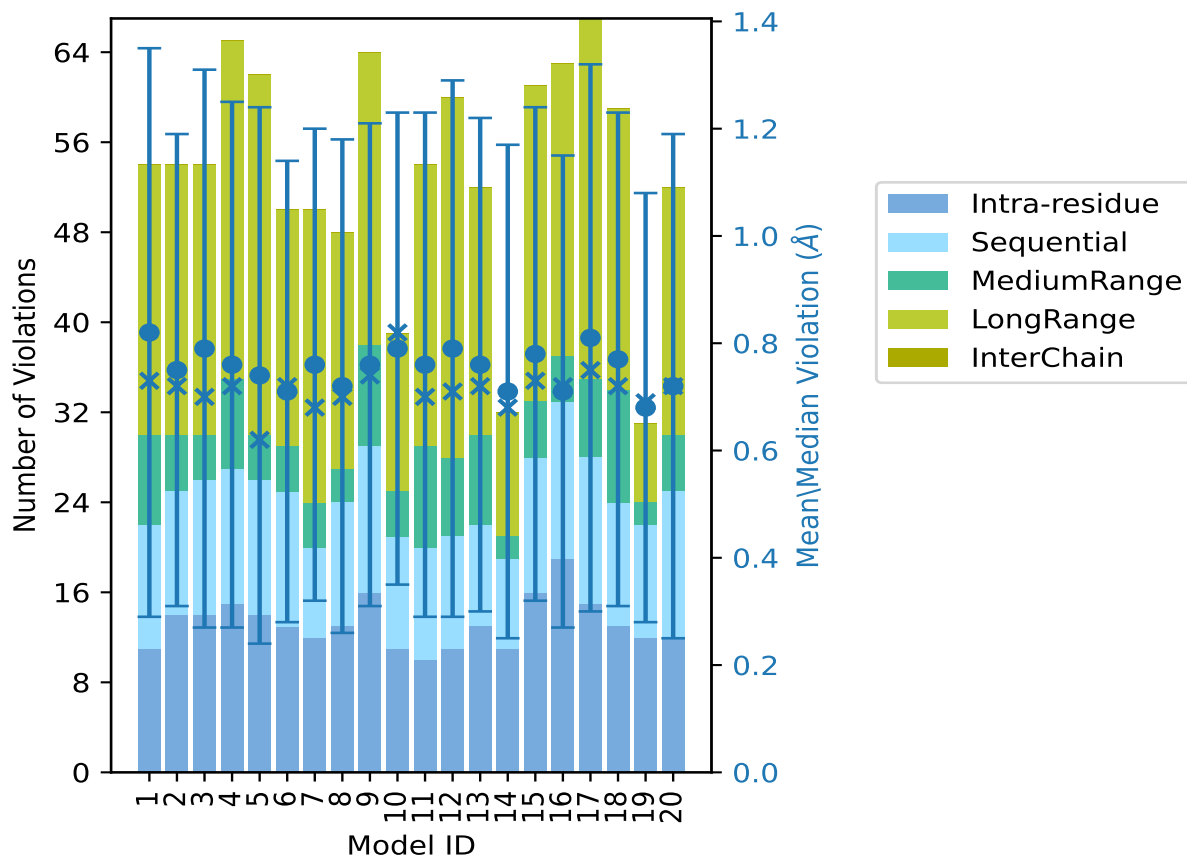


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| Model ID | Number of violations |                 |                 |                 |                 | Total | Mean (Å) | Max (Å) | SD <sup>6</sup> (Å) | Median (Å) |
|----------|----------------------|-----------------|-----------------|-----------------|-----------------|-------|----------|---------|---------------------|------------|
|          | IR <sup>1</sup>      | SQ <sup>2</sup> | MR <sup>3</sup> | LR <sup>4</sup> | IC <sup>5</sup> |       |          |         |                     |            |
| 11       | 10                   | 10              | 9               | 25              | 0               | 54    | 0.76     | 2.04    | 0.47                | 0.7        |
| 12       | 11                   | 10              | 7               | 32              | 0               | 60    | 0.79     | 2.22    | 0.5                 | 0.71       |
| 13       | 13                   | 9               | 8               | 22              | 0               | 52    | 0.76     | 2.29    | 0.46                | 0.72       |
| 14       | 11                   | 8               | 2               | 11              | 0               | 32    | 0.71     | 2.07    | 0.46                | 0.68       |
| 15       | 16                   | 12              | 5               | 28              | 0               | 61    | 0.78     | 2.27    | 0.46                | 0.73       |
| 16       | 19                   | 14              | 4               | 26              | 0               | 63    | 0.71     | 2.21    | 0.44                | 0.72       |
| 17       | 15                   | 13              | 7               | 32              | 0               | 67    | 0.81     | 2.03    | 0.51                | 0.75       |
| 18       | 13                   | 11              | 10              | 25              | 0               | 59    | 0.77     | 2.08    | 0.46                | 0.72       |
| 19       | 12                   | 10              | 2               | 7               | 0               | 31    | 0.68     | 1.54    | 0.4                 | 0.69       |
| 20       | 12                   | 13              | 5               | 22              | 0               | 52    | 0.72     | 2.39    | 0.47                | 0.72       |

<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

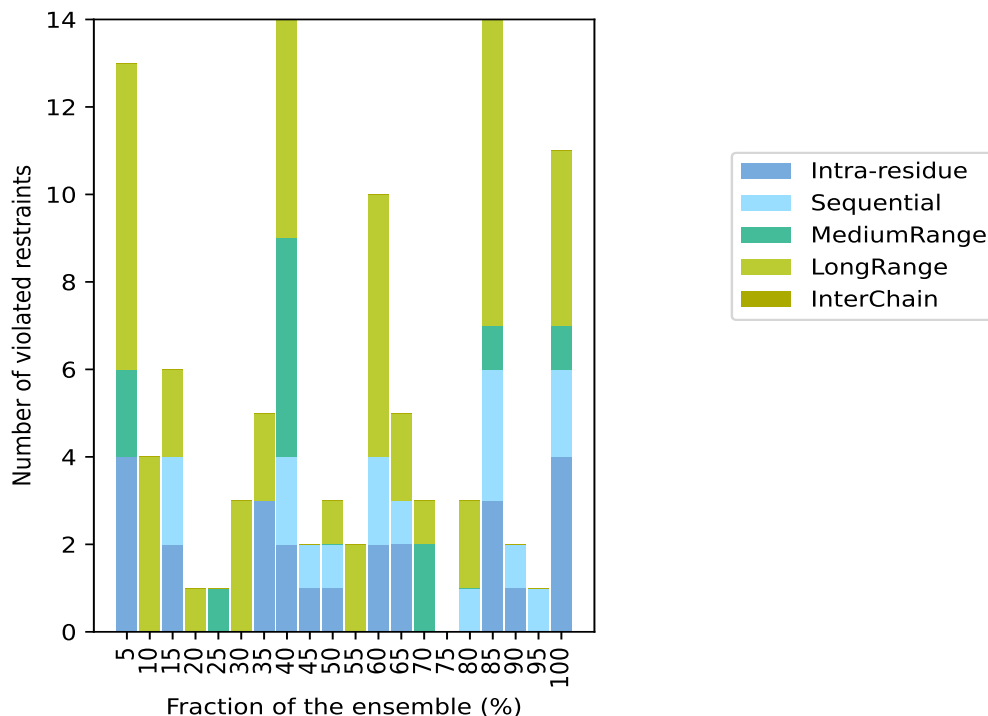
### 9.3 Distance violation statistics for the ensemble

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, 1095(IR:393, SQ:265, MR:78, LR:359, 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>       | %     |
| 4                             | 0               | 2               | 7               | 0               | 13    | 1                        | 5.0   |
| 0                             | 0               | 0               | 4               | 0               | 4     | 2                        | 10.0  |
| 2                             | 2               | 0               | 2               | 0               | 6     | 3                        | 15.0  |
| 0                             | 0               | 0               | 1               | 0               | 1     | 4                        | 20.0  |
| 0                             | 0               | 1               | 0               | 0               | 1     | 5                        | 25.0  |
| 0                             | 0               | 0               | 3               | 0               | 3     | 6                        | 30.0  |
| 3                             | 0               | 0               | 2               | 0               | 5     | 7                        | 35.0  |
| 2                             | 2               | 5               | 5               | 0               | 14    | 8                        | 40.0  |
| 1                             | 1               | 0               | 0               | 0               | 2     | 9                        | 45.0  |
| 1                             | 1               | 0               | 1               | 0               | 3     | 10                       | 50.0  |
| 0                             | 0               | 0               | 2               | 0               | 2     | 11                       | 55.0  |
| 2                             | 2               | 0               | 6               | 0               | 10    | 12                       | 60.0  |
| 2                             | 1               | 0               | 2               | 0               | 5     | 13                       | 65.0  |
| 0                             | 0               | 2               | 1               | 0               | 3     | 14                       | 70.0  |
| 0                             | 0               | 0               | 0               | 0               | 0     | 15                       | 75.0  |
| 0                             | 1               | 0               | 2               | 0               | 3     | 16                       | 80.0  |
| 3                             | 3               | 1               | 7               | 0               | 14    | 17                       | 85.0  |
| 1                             | 1               | 0               | 0               | 0               | 2     | 18                       | 90.0  |
| 0                             | 1               | 0               | 0               | 0               | 1     | 19                       | 95.0  |
| 4                             | 2               | 1               | 4               | 0               | 11    | 20                       | 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

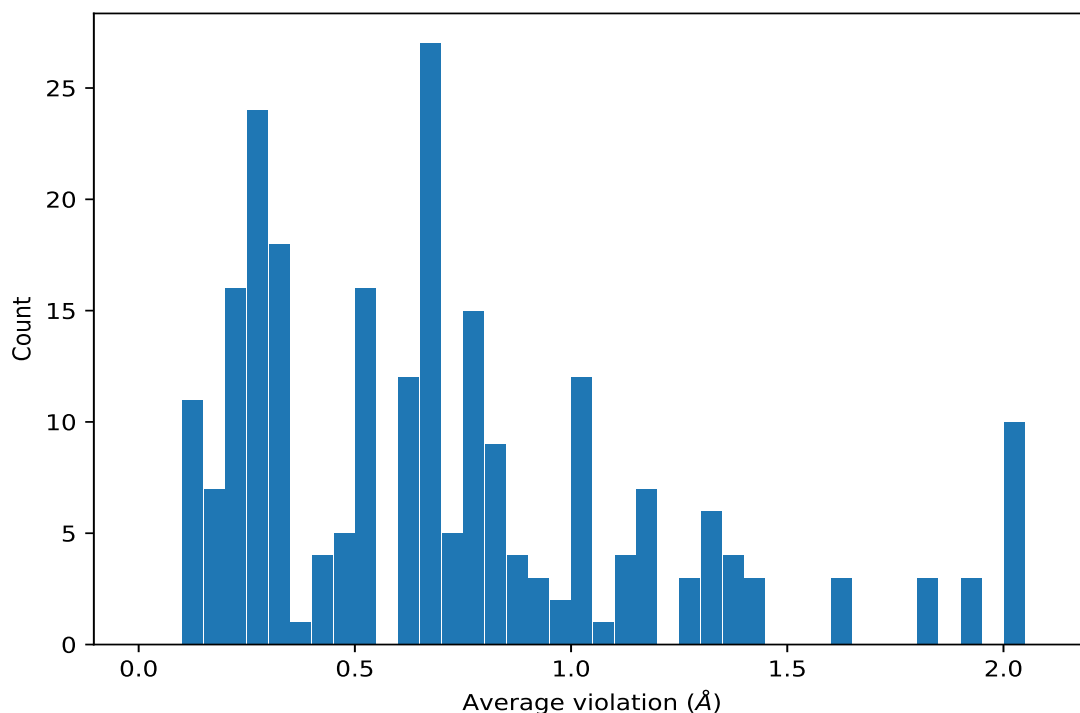
### 9.3.1 Bar graph : Distance violation statistics for the ensemble [i](#)



## 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) |
|---------|------------------|-----------------|---------------------|----------|---------------------|------------|
| (1,752) | 1:130:A:PHE:HB3  | 1:114:A:ASP:HB3 | 20                  | 2.01     | 0.29                | 2.06       |
| (2,227) | 1:114:A:ASP:HA   | 1:130:A:PHE:HB3 | 20                  | 1.39     | 0.12                | 1.4        |
| (1,107) | 1:126:A:PHE:H    | 1:126:A:PHE:HB3 | 20                  | 1.16     | 0.03                | 1.18       |
| (1,260) | 1:130:A:PHE:H    | 1:130:A:PHE:HB3 | 20                  | 1.08     | 0.0                 | 1.08       |
| (1,751) | 1:130:A:PHE:HB3  | 1:129:A:ILE:HA  | 20                  | 0.77     | 0.01                | 0.77       |
| (1,748) | 1:130:A:PHE:HB3  | 1:114:A:ASP:H   | 20                  | 0.71     | 0.15                | 0.74       |
| (2,187) | 1:114:A:ASP:H    | 1:110:A:PRO:HB3 | 20                  | 0.7      | 0.2                 | 0.68       |
| (1,902) | 1:116:A:VAL:HG11 | 1:130:A:PHE:HB3 | 20                  | 0.68     | 0.1                 | 0.69       |
| (1,902) | 1:116:A:VAL:HG12 | 1:130:A:PHE:HB3 | 20                  | 0.68     | 0.1                 | 0.69       |
| (1,902) | 1:116:A:VAL:HG13 | 1:130:A:PHE:HB3 | 20                  | 0.68     | 0.1                 | 0.69       |
| (1,406) | 1:131:A:THR:H    | 1:130:A:PHE:HB2 | 20                  | 0.53     | 0.03                | 0.54       |
| (1,108) | 1:126:A:PHE:HA   | 1:126:A:PHE:HB2 | 20                  | 0.32     | 0.01                | 0.33       |
| (1,261) | 1:130:A:PHE:HA   | 1:130:A:PHE:HB2 | 20                  | 0.31     | 0.0                 | 0.31       |
| (1,434) | 1:111:A:TYR:H    | 1:112:A:PRO:HD3 | 19                  | 0.15     | 0.02                | 0.15       |
| (1,276) | 1:153:A:SER:H    | 1:153:A:SER:HB2 | 18                  | 1.14     | 0.02                | 1.14       |
| (1,903) | 1:152:A:HIS:HA   | 1:153:A:SER:HB2 | 18                  | 0.72     | 0.02                | 0.72       |

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| Key     | Atom-1           | Atom-2           | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|---------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD21 | 17                  | 1.64     | 0.2                 | 1.67       |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD22 | 17                  | 1.64     | 0.2                 | 1.67       |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD23 | 17                  | 1.64     | 0.2                 | 1.67       |
| (1,930) | 1:141:A:LEU:HD21 | 1:131:A:THR:H    | 17                  | 1.45     | 0.19                | 1.4        |
| (1,930) | 1:141:A:LEU:HD22 | 1:131:A:THR:H    | 17                  | 1.45     | 0.19                | 1.4        |
| (1,930) | 1:141:A:LEU:HD23 | 1:131:A:THR:H    | 17                  | 1.45     | 0.19                | 1.4        |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD11 | 17                  | 1.27     | 0.26                | 1.22       |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD12 | 17                  | 1.27     | 0.26                | 1.22       |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD13 | 17                  | 1.27     | 0.26                | 1.22       |
| (1,272) | 1:114:A:ASP:H    | 1:114:A:ASP:HB3  | 17                  | 1.13     | 0.01                | 1.13       |
| (1,308) | 1:113:A:GLY:H    | 1:114:A:ASP:HB3  | 17                  | 0.96     | 0.04                | 0.96       |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD11 | 17                  | 0.86     | 0.13                | 0.87       |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD12 | 17                  | 0.86     | 0.13                | 0.87       |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD13 | 17                  | 0.86     | 0.13                | 0.87       |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG21 | 17                  | 0.75     | 0.11                | 0.73       |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG22 | 17                  | 0.75     | 0.11                | 0.73       |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG23 | 17                  | 0.75     | 0.11                | 0.73       |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG21 | 17                  | 0.75     | 0.11                | 0.73       |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG22 | 17                  | 0.75     | 0.11                | 0.73       |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG23 | 17                  | 0.75     | 0.11                | 0.73       |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG21 | 17                  | 0.75     | 0.11                | 0.73       |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG22 | 17                  | 0.75     | 0.11                | 0.73       |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG23 | 17                  | 0.75     | 0.11                | 0.73       |
| (1,932) | 1:141:A:LEU:HD21 | 1:141:A:LEU:HA   | 17                  | 0.72     | 0.01                | 0.72       |
| (1,932) | 1:141:A:LEU:HD22 | 1:141:A:LEU:HA   | 17                  | 0.72     | 0.01                | 0.72       |
| (1,932) | 1:141:A:LEU:HD23 | 1:141:A:LEU:HA   | 17                  | 0.72     | 0.01                | 0.72       |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD1  | 17                  | 0.7      | 0.15                | 0.7        |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD2  | 17                  | 0.7      | 0.15                | 0.7        |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD1  | 17                  | 0.7      | 0.15                | 0.7        |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD2  | 17                  | 0.7      | 0.15                | 0.7        |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD1  | 17                  | 0.7      | 0.15                | 0.7        |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD2  | 17                  | 0.7      | 0.15                | 0.7        |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD21 | 17                  | 0.68     | 0.07                | 0.69       |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD22 | 17                  | 0.68     | 0.07                | 0.69       |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD23 | 17                  | 0.68     | 0.07                | 0.69       |
| (2,111) | 1:141:A:LEU:HD21 | 1:140:A:MET:HB2  | 17                  | 0.68     | 0.18                | 0.62       |
| (2,111) | 1:141:A:LEU:HD22 | 1:140:A:MET:HB2  | 17                  | 0.68     | 0.18                | 0.62       |
| (2,111) | 1:141:A:LEU:HD23 | 1:140:A:MET:HB2  | 17                  | 0.68     | 0.18                | 0.62       |
| (2,213) | 1:114:A:ASP:HB3  | 1:111:A:TYR:HA   | 17                  | 0.68     | 0.09                | 0.67       |
| (2,110) | 1:141:A:LEU:HD11 | 1:118:A:ILE:HG13 | 17                  | 0.62     | 0.45                | 0.32       |
| (2,110) | 1:141:A:LEU:HD12 | 1:118:A:ILE:HG13 | 17                  | 0.62     | 0.45                | 0.32       |
| (2,110) | 1:141:A:LEU:HD13 | 1:118:A:ILE:HG13 | 17                  | 0.62     | 0.45                | 0.32       |

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| Key     | Atom-1           | Atom-2           | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|---------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,273) | 1:114:A:ASP:HA   | 1:114:A:ASP:HB2  | 17                  | 0.33     | 0.0                 | 0.33       |
| (1,63)  | 1:141:A:LEU:HD21 | 1:130:A:PHE:HB2  | 16                  | 0.8      | 0.25                | 0.76       |
| (1,63)  | 1:141:A:LEU:HD22 | 1:130:A:PHE:HB2  | 16                  | 0.8      | 0.25                | 0.76       |
| (1,63)  | 1:141:A:LEU:HD23 | 1:130:A:PHE:HB2  | 16                  | 0.8      | 0.25                | 0.76       |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD11 | 16                  | 0.24     | 0.08                | 0.22       |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD12 | 16                  | 0.24     | 0.08                | 0.22       |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD13 | 16                  | 0.24     | 0.08                | 0.22       |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD11 | 16                  | 0.24     | 0.08                | 0.22       |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD12 | 16                  | 0.24     | 0.08                | 0.22       |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD13 | 16                  | 0.24     | 0.08                | 0.22       |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD11 | 16                  | 0.24     | 0.08                | 0.22       |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD12 | 16                  | 0.24     | 0.08                | 0.22       |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD13 | 16                  | 0.24     | 0.08                | 0.22       |
| (1,641) | 1:151:A:LYS:HB2  | 1:152:A:HIS:H    | 16                  | 0.19     | 0.06                | 0.18       |
| (1,608) | 1:110:A:PRO:HB3  | 1:114:A:ASP:HB3  | 14                  | 0.48     | 0.19                | 0.46       |
| (1,712) | 1:118:A:ILE:HB   | 1:126:A:PHE:HB3  | 14                  | 0.31     | 0.12                | 0.33       |
| (1,531) | 1:110:A:PRO:HA   | 1:114:A:ASP:HB3  | 14                  | 0.21     | 0.08                | 0.19       |
| (1,264) | 1:138:A:ARG:H    | 1:138:A:ARG:HB3  | 13                  | 1.2      | 0.01                | 1.2        |
| (1,679) | 1:138:A:ARG:HB2  | 1:155:A:LYS:HA   | 13                  | 0.99     | 0.17                | 1.02       |
| (1,312) | 1:139:A:SER:H    | 1:138:A:ARG:HB2  | 13                  | 0.88     | 0.07                | 0.87       |
| (1,265) | 1:138:A:ARG:HA   | 1:138:A:ARG:HB2  | 13                  | 0.33     | 0.0                 | 0.33       |
| (1,933) | 1:141:A:LEU:HD21 | 1:130:A:PHE:HA   | 13                  | 0.31     | 0.14                | 0.25       |
| (1,933) | 1:141:A:LEU:HD22 | 1:130:A:PHE:HA   | 13                  | 0.31     | 0.14                | 0.25       |
| (1,933) | 1:141:A:LEU:HD23 | 1:130:A:PHE:HA   | 13                  | 0.31     | 0.14                | 0.25       |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD21 | 12                  | 1.84     | 0.13                | 1.84       |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD22 | 12                  | 1.84     | 0.13                | 1.84       |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD23 | 12                  | 1.84     | 0.13                | 1.84       |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD11 | 12                  | 1.34     | 0.29                | 1.35       |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD12 | 12                  | 1.34     | 0.29                | 1.35       |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD13 | 12                  | 1.34     | 0.29                | 1.35       |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD11 | 12                  | 1.34     | 0.29                | 1.35       |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD12 | 12                  | 1.34     | 0.29                | 1.35       |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD13 | 12                  | 1.34     | 0.29                | 1.35       |
| (1,262) | 1:134:A:ASP:H    | 1:134:A:ASP:HB3  | 12                  | 1.12     | 0.0                 | 1.12       |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD11 | 12                  | 1.03     | 0.3                 | 0.92       |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD12 | 12                  | 1.03     | 0.3                 | 0.92       |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD13 | 12                  | 1.03     | 0.3                 | 0.92       |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD11 | 12                  | 1.03     | 0.3                 | 0.92       |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD12 | 12                  | 1.03     | 0.3                 | 0.92       |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD13 | 12                  | 1.03     | 0.3                 | 0.92       |
| (1,224) | 1:143:A:LEU:HD21 | 1:128:A:ALA:HA   | 12                  | 0.78     | 0.14                | 0.78       |
| (1,224) | 1:143:A:LEU:HD22 | 1:128:A:ALA:HA   | 12                  | 0.78     | 0.14                | 0.78       |

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| Key     | Atom-1           | Atom-2           | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|---------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,224) | 1:143:A:LEU:HD23 | 1:128:A:ALA:HA   | 12                  | 0.78     | 0.14                | 0.78       |
| (1,757) | 1:134:A:ASP:HB3  | 1:133:A:PRO:HA   | 12                  | 0.77     | 0.0                 | 0.77       |
| (2,58)  | 1:108:A:ALA:HA   | 1:161:A:LYS:HD2  | 12                  | 0.45     | 0.28                | 0.4        |
| (1,616) | 1:110:A:PRO:HB2  | 1:161:A:LYS:HD3  | 12                  | 0.41     | 0.33                | 0.29       |
| (1,263) | 1:134:A:ASP:HA   | 1:134:A:ASP:HB2  | 12                  | 0.33     | 0.0                 | 0.33       |
| (1,736) | 1:126:A:PHE:HB2  | 1:127:A:GLN:H    | 12                  | 0.25     | 0.09                | 0.23       |
| (1,125) | 1:118:A:ILE:HD11 | 1:126:A:PHE:HB3  | 11                  | 0.67     | 0.28                | 0.63       |
| (1,125) | 1:118:A:ILE:HD12 | 1:126:A:PHE:HB3  | 11                  | 0.67     | 0.28                | 0.63       |
| (1,125) | 1:118:A:ILE:HD13 | 1:126:A:PHE:HB3  | 11                  | 0.67     | 0.28                | 0.63       |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD11 | 11                  | 0.29     | 0.11                | 0.27       |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD12 | 11                  | 0.29     | 0.11                | 0.27       |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD13 | 11                  | 0.29     | 0.11                | 0.27       |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD11 | 11                  | 0.29     | 0.11                | 0.27       |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD12 | 11                  | 0.29     | 0.11                | 0.27       |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD13 | 11                  | 0.29     | 0.11                | 0.27       |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD11 | 11                  | 0.29     | 0.11                | 0.27       |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD12 | 11                  | 0.29     | 0.11                | 0.27       |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD13 | 11                  | 0.29     | 0.11                | 0.27       |
| (1,280) | 1:162:A:LEU:H    | 1:162:A:LEU:HB2  | 10                  | 1.13     | 0.0                 | 1.13       |
| (1,231) | 1:162:A:LEU:HB2  | 1:161:A:LYS:HA   | 10                  | 0.75     | 0.01                | 0.75       |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB1  | 10                  | 0.21     | 0.05                | 0.22       |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB2  | 10                  | 0.21     | 0.05                | 0.22       |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB3  | 10                  | 0.21     | 0.05                | 0.22       |
| (1,150) | 1:137:A:ALA:HB1  | 1:136:A:GLU:HB2  | 9                   | 0.43     | 0.05                | 0.44       |
| (1,150) | 1:137:A:ALA:HB2  | 1:136:A:GLU:HB2  | 9                   | 0.43     | 0.05                | 0.44       |
| (1,150) | 1:137:A:ALA:HB3  | 1:136:A:GLU:HB2  | 9                   | 0.43     | 0.05                | 0.44       |
| (1,548) | 1:129:A:ILE:HG13 | 1:129:A:ILE:H    | 9                   | 0.12     | 0.02                | 0.12       |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG21 | 8                   | 2.01     | 0.13                | 2.0        |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG22 | 8                   | 2.01     | 0.13                | 2.0        |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG23 | 8                   | 2.01     | 0.13                | 2.0        |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG21 | 8                   | 2.01     | 0.13                | 2.0        |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG22 | 8                   | 2.01     | 0.13                | 2.0        |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG23 | 8                   | 2.01     | 0.13                | 2.0        |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG21 | 8                   | 2.01     | 0.13                | 2.0        |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG22 | 8                   | 2.01     | 0.13                | 2.0        |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG23 | 8                   | 2.01     | 0.13                | 2.0        |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD21 | 8                   | 1.95     | 0.45                | 2.05       |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD22 | 8                   | 1.95     | 0.45                | 2.05       |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD23 | 8                   | 1.95     | 0.45                | 2.05       |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG21 | 8                   | 1.35     | 0.06                | 1.37       |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG22 | 8                   | 1.35     | 0.06                | 1.37       |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG23 | 8                   | 1.35     | 0.06                | 1.37       |

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| Key     | Atom-1           | Atom-2           | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|---------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,923) | 1:154:A:VAL:HG11 | 1:158:A:GLU:H    | 8                   | 1.16     | 0.04                | 1.16       |
| (1,923) | 1:154:A:VAL:HG12 | 1:158:A:GLU:H    | 8                   | 1.16     | 0.04                | 1.16       |
| (1,923) | 1:154:A:VAL:HG13 | 1:158:A:GLU:H    | 8                   | 1.16     | 0.04                | 1.16       |
| (2,62)  | 1:154:A:VAL:HG21 | 1:152:A:HIS:HB2  | 8                   | 1.03     | 0.06                | 1.05       |
| (2,62)  | 1:154:A:VAL:HG22 | 1:152:A:HIS:HB2  | 8                   | 1.03     | 0.06                | 1.05       |
| (2,62)  | 1:154:A:VAL:HG23 | 1:152:A:HIS:HB2  | 8                   | 1.03     | 0.06                | 1.05       |
| (1,68)  | 1:154:A:VAL:HG11 | 1:158:A:GLU:HB3  | 8                   | 0.82     | 0.09                | 0.84       |
| (1,68)  | 1:154:A:VAL:HG12 | 1:158:A:GLU:HB3  | 8                   | 0.82     | 0.09                | 0.84       |
| (1,68)  | 1:154:A:VAL:HG13 | 1:158:A:GLU:HB3  | 8                   | 0.82     | 0.09                | 0.84       |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG11 | 8                   | 0.81     | 0.01                | 0.81       |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG12 | 8                   | 0.81     | 0.01                | 0.81       |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG13 | 8                   | 0.81     | 0.01                | 0.81       |
| (1,946) | 1:145:A:LEU:HD21 | 1:145:A:LEU:HA   | 8                   | 0.7      | 0.03                | 0.7        |
| (1,946) | 1:145:A:LEU:HD22 | 1:145:A:LEU:HA   | 8                   | 0.7      | 0.03                | 0.7        |
| (1,946) | 1:145:A:LEU:HD23 | 1:145:A:LEU:HA   | 8                   | 0.7      | 0.03                | 0.7        |
| (1,915) | 1:154:A:VAL:HG21 | 1:152:A:HIS:HB3  | 8                   | 0.69     | 0.1                 | 0.7        |
| (1,915) | 1:154:A:VAL:HG22 | 1:152:A:HIS:HB3  | 8                   | 0.69     | 0.1                 | 0.7        |
| (1,915) | 1:154:A:VAL:HG23 | 1:152:A:HIS:HB3  | 8                   | 0.69     | 0.1                 | 0.7        |
| (2,60)  | 1:154:A:VAL:HG21 | 1:139:A:SER:HB3  | 8                   | 0.5      | 0.17                | 0.54       |
| (2,60)  | 1:154:A:VAL:HG22 | 1:139:A:SER:HB3  | 8                   | 0.5      | 0.17                | 0.54       |
| (2,60)  | 1:154:A:VAL:HG23 | 1:139:A:SER:HB3  | 8                   | 0.5      | 0.17                | 0.54       |
| (1,230) | 1:162:A:LEU:HB2  | 1:116:A:VAL:HA   | 8                   | 0.37     | 0.1                 | 0.32       |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD21 | 8                   | 0.29     | 0.06                | 0.29       |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD22 | 8                   | 0.29     | 0.06                | 0.29       |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD23 | 8                   | 0.29     | 0.06                | 0.29       |
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD21 | 8                   | 0.29     | 0.06                | 0.29       |
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD22 | 8                   | 0.29     | 0.06                | 0.29       |
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD23 | 8                   | 0.29     | 0.06                | 0.29       |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD21 | 8                   | 0.29     | 0.06                | 0.29       |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD22 | 8                   | 0.29     | 0.06                | 0.29       |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD23 | 8                   | 0.29     | 0.06                | 0.29       |
| (1,575) | 1:118:A:ILE:HG13 | 1:117:A:ILE:HA   | 8                   | 0.28     | 0.03                | 0.28       |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG11 | 8                   | 0.19     | 0.0                 | 0.19       |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG12 | 8                   | 0.19     | 0.0                 | 0.19       |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG13 | 8                   | 0.19     | 0.0                 | 0.19       |
| (1,266) | 1:144:A:ASN:H    | 1:144:A:ASN:HB3  | 7                   | 1.2      | 0.01                | 1.2        |
| (2,233) | 1:128:A:ALA:HB1  | 1:144:A:ASN:HB3  | 7                   | 1.0      | 0.12                | 1.02       |
| (2,233) | 1:128:A:ALA:HB2  | 1:144:A:ASN:HB3  | 7                   | 1.0      | 0.12                | 1.02       |
| (2,233) | 1:128:A:ALA:HB3  | 1:144:A:ASN:HB3  | 7                   | 1.0      | 0.12                | 1.02       |
| (1,34)  | 1:130:A:PHE:HE1  | 1:161:A:LYS:HB3  | 7                   | 0.54     | 0.23                | 0.6        |
| (1,34)  | 1:130:A:PHE:HE2  | 1:161:A:LYS:HB3  | 7                   | 0.54     | 0.23                | 0.6        |
| (1,267) | 1:144:A:ASN:HA   | 1:144:A:ASN:HB2  | 7                   | 0.33     | 0.0                 | 0.33       |

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| Key     | Atom-1           | Atom-2           | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|---------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,767) | 1:145:A:LEU:HB2  | 1:145:A:LEU:HD11 | 7                   | 0.19     | 0.0                 | 0.19       |
| (1,767) | 1:145:A:LEU:HB2  | 1:145:A:LEU:HD12 | 7                   | 0.19     | 0.0                 | 0.19       |
| (1,767) | 1:145:A:LEU:HB2  | 1:145:A:LEU:HD13 | 7                   | 0.19     | 0.0                 | 0.19       |
| (1,819) | 1:150:A:ILE:HD11 | 1:145:A:LEU:HD11 | 6                   | 0.64     | 0.31                | 0.74       |
| (1,819) | 1:150:A:ILE:HD11 | 1:145:A:LEU:HD12 | 6                   | 0.64     | 0.31                | 0.74       |
| (1,819) | 1:150:A:ILE:HD11 | 1:145:A:LEU:HD13 | 6                   | 0.64     | 0.31                | 0.74       |
| (1,819) | 1:150:A:ILE:HD12 | 1:145:A:LEU:HD11 | 6                   | 0.64     | 0.31                | 0.74       |
| (1,819) | 1:150:A:ILE:HD12 | 1:145:A:LEU:HD12 | 6                   | 0.64     | 0.31                | 0.74       |
| (1,819) | 1:150:A:ILE:HD12 | 1:145:A:LEU:HD13 | 6                   | 0.64     | 0.31                | 0.74       |
| (1,819) | 1:150:A:ILE:HD13 | 1:145:A:LEU:HD11 | 6                   | 0.64     | 0.31                | 0.74       |
| (1,819) | 1:150:A:ILE:HD13 | 1:145:A:LEU:HD12 | 6                   | 0.64     | 0.31                | 0.74       |
| (1,819) | 1:150:A:ILE:HD13 | 1:145:A:LEU:HD13 | 6                   | 0.64     | 0.31                | 0.74       |
| (2,123) | 1:142:A:LEU:HD21 | 1:150:A:ILE:HG12 | 6                   | 0.48     | 0.2                 | 0.5        |
| (2,123) | 1:142:A:LEU:HD22 | 1:150:A:ILE:HG12 | 6                   | 0.48     | 0.2                 | 0.5        |
| (2,123) | 1:142:A:LEU:HD23 | 1:150:A:ILE:HG12 | 6                   | 0.48     | 0.2                 | 0.5        |
| (1,497) | 1:162:A:LEU:HD11 | 1:117:A:ILE:HB   | 6                   | 0.32     | 0.05                | 0.32       |
| (1,497) | 1:162:A:LEU:HD12 | 1:117:A:ILE:HB   | 6                   | 0.32     | 0.05                | 0.32       |
| (1,497) | 1:162:A:LEU:HD13 | 1:117:A:ILE:HB   | 6                   | 0.32     | 0.05                | 0.32       |
| (1,229) | 1:145:A:LEU:HD21 | 1:143:A:LEU:HD11 | 5                   | 0.54     | 0.21                | 0.46       |
| (1,229) | 1:145:A:LEU:HD21 | 1:143:A:LEU:HD12 | 5                   | 0.54     | 0.21                | 0.46       |
| (1,229) | 1:145:A:LEU:HD21 | 1:143:A:LEU:HD13 | 5                   | 0.54     | 0.21                | 0.46       |
| (1,229) | 1:145:A:LEU:HD22 | 1:143:A:LEU:HD11 | 5                   | 0.54     | 0.21                | 0.46       |
| (1,229) | 1:145:A:LEU:HD22 | 1:143:A:LEU:HD12 | 5                   | 0.54     | 0.21                | 0.46       |
| (1,229) | 1:145:A:LEU:HD22 | 1:143:A:LEU:HD13 | 5                   | 0.54     | 0.21                | 0.46       |
| (1,229) | 1:145:A:LEU:HD23 | 1:143:A:LEU:HD11 | 5                   | 0.54     | 0.21                | 0.46       |
| (1,229) | 1:145:A:LEU:HD23 | 1:143:A:LEU:HD12 | 5                   | 0.54     | 0.21                | 0.46       |
| (1,229) | 1:145:A:LEU:HD23 | 1:143:A:LEU:HD13 | 5                   | 0.54     | 0.21                | 0.46       |
| (2,118) | 1:142:A:LEU:HD11 | 1:150:A:ILE:HG12 | 4                   | 0.27     | 0.04                | 0.29       |
| (2,118) | 1:142:A:LEU:HD12 | 1:150:A:ILE:HG12 | 4                   | 0.27     | 0.04                | 0.29       |
| (2,118) | 1:142:A:LEU:HD13 | 1:150:A:ILE:HG12 | 4                   | 0.27     | 0.04                | 0.29       |
| (1,278) | 1:155:A:LYS:H    | 1:155:A:LYS:HB2  | 3                   | 1.17     | 0.0                 | 1.17       |
| (1,507) | 1:154:A:VAL:HA   | 1:155:A:LYS:HB2  | 3                   | 0.68     | 0.01                | 0.68       |
| (1,226) | 1:145:A:LEU:HD11 | 1:150:A:ILE:HG13 | 3                   | 0.34     | 0.03                | 0.34       |
| (1,226) | 1:145:A:LEU:HD12 | 1:150:A:ILE:HG13 | 3                   | 0.34     | 0.03                | 0.34       |
| (1,226) | 1:145:A:LEU:HD13 | 1:150:A:ILE:HG13 | 3                   | 0.34     | 0.03                | 0.34       |
| (1,514) | 1:155:A:LYS:HG3  | 1:155:A:LYS:HE2  | 3                   | 0.33     | 0.02                | 0.33       |
| (1,514) | 1:155:A:LYS:HG3  | 1:155:A:LYS:HE3  | 3                   | 0.33     | 0.02                | 0.33       |
| (1,422) | 1:156:A:ASN:H    | 1:155:A:LYS:HB3  | 3                   | 0.26     | 0.03                | 0.28       |
| (1,168) | 1:159:A:PHE:HB3  | 1:141:A:LEU:HD11 | 3                   | 0.24     | 0.09                | 0.25       |
| (1,168) | 1:159:A:PHE:HB3  | 1:141:A:LEU:HD12 | 3                   | 0.24     | 0.09                | 0.25       |
| (1,168) | 1:159:A:PHE:HB3  | 1:141:A:LEU:HD13 | 3                   | 0.24     | 0.09                | 0.25       |
| (1,211) | 1:142:A:LEU:HD21 | 1:151:A:LYS:HD3  | 2                   | 0.93     | 0.19                | 0.93       |

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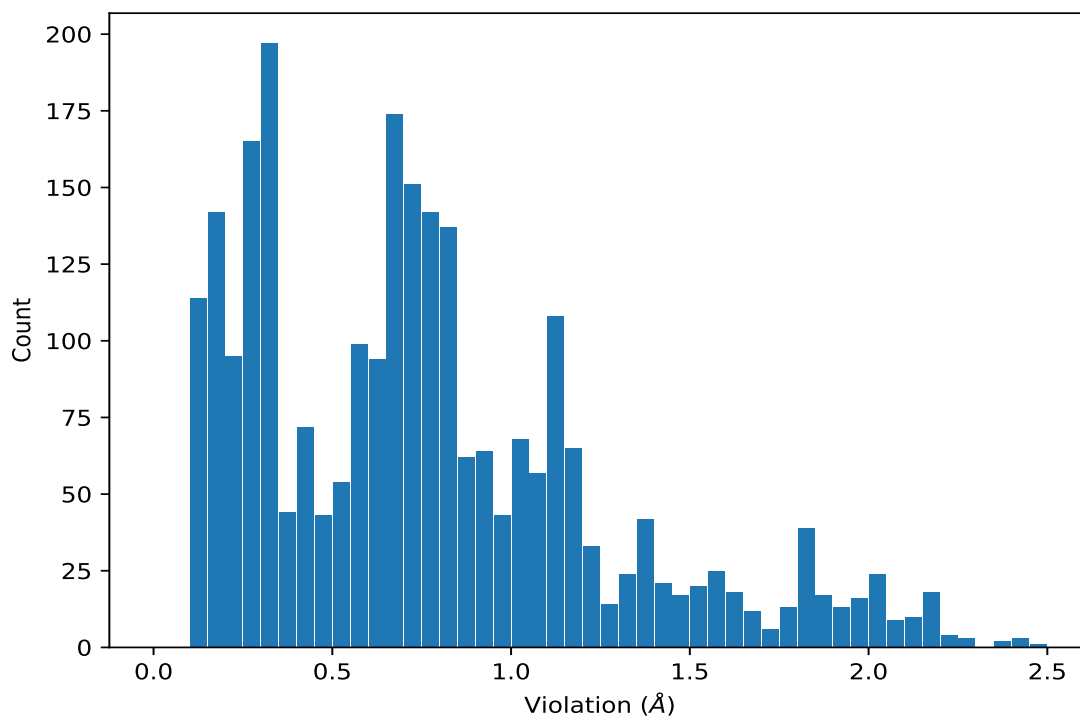
| Key     | Atom-1           | Atom-2           | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|---------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,211) | 1:142:A:LEU:HD22 | 1:151:A:LYS:HD3  | 2                   | 0.93     | 0.19                | 0.93       |
| (1,211) | 1:142:A:LEU:HD23 | 1:151:A:LYS:HD3  | 2                   | 0.93     | 0.19                | 0.93       |
| (1,662) | 1:120:A:GLU:HB2  | 1:158:A:GLU:HB3  | 2                   | 0.54     | 0.02                | 0.54       |
| (2,64)  | 1:154:A:VAL:HG21 | 1:141:A:LEU:HG   | 2                   | 0.15     | 0.05                | 0.15       |
| (2,64)  | 1:154:A:VAL:HG22 | 1:141:A:LEU:HG   | 2                   | 0.15     | 0.05                | 0.15       |
| (2,64)  | 1:154:A:VAL:HG23 | 1:141:A:LEU:HG   | 2                   | 0.15     | 0.05                | 0.15       |
| (1,37)  | 1:123:A:PHE:HE1  | 1:143:A:LEU:HD11 | 2                   | 0.12     | 0.0                 | 0.12       |
| (1,37)  | 1:123:A:PHE:HE1  | 1:143:A:LEU:HD12 | 2                   | 0.12     | 0.0                 | 0.12       |
| (1,37)  | 1:123:A:PHE:HE1  | 1:143:A:LEU:HD13 | 2                   | 0.12     | 0.0                 | 0.12       |
| (1,37)  | 1:123:A:PHE:HE2  | 1:143:A:LEU:HD11 | 2                   | 0.12     | 0.0                 | 0.12       |
| (1,37)  | 1:123:A:PHE:HE2  | 1:143:A:LEU:HD12 | 2                   | 0.12     | 0.0                 | 0.12       |
| (1,37)  | 1:123:A:PHE:HE2  | 1:143:A:LEU:HD13 | 2                   | 0.12     | 0.0                 | 0.12       |

<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) |
|---------|------------------|------------------|----------|---------------|
| (1,752) | 1:130:A:PHE:HB3  | 1:114:A:ASP:HB3  | 8        | 2.48          |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD21 | 5        | 2.43          |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD22 | 5        | 2.43          |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD23 | 5        | 2.43          |
| (1,752) | 1:130:A:PHE:HB3  | 1:114:A:ASP:HB3  | 4        | 2.4           |
| (1,752) | 1:130:A:PHE:HB3  | 1:114:A:ASP:HB3  | 20       | 2.39          |
| (1,752) | 1:130:A:PHE:HB3  | 1:114:A:ASP:HB3  | 13       | 2.29          |
| (1,752) | 1:130:A:PHE:HB3  | 1:114:A:ASP:HB3  | 15       | 2.27          |
| (1,752) | 1:130:A:PHE:HB3  | 1:114:A:ASP:HB3  | 1        | 2.26          |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD21 | 12       | 2.22          |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD22 | 12       | 2.22          |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD23 | 12       | 2.22          |
| (1,752) | 1:130:A:PHE:HB3  | 1:114:A:ASP:HB3  | 16       | 2.21          |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG21 | 9        | 2.17          |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG22 | 9        | 2.17          |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG23 | 9        | 2.17          |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG21 | 9        | 2.17          |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG22 | 9        | 2.17          |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG23 | 9        | 2.17          |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG21 | 9        | 2.17          |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG22 | 9        | 2.17          |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG23 | 9        | 2.17          |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG21 | 12       | 2.17          |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG22 | 12       | 2.17          |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG23 | 12       | 2.17          |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG21 | 12       | 2.17          |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG22 | 12       | 2.17          |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG23 | 12       | 2.17          |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG21 | 12       | 2.17          |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG22 | 12       | 2.17          |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG23 | 12       | 2.17          |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG21 | 1        | 2.14          |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG22 | 1        | 2.14          |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG23 | 1        | 2.14          |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG21 | 1        | 2.14          |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG22 | 1        | 2.14          |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG23 | 1        | 2.14          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG21 | 1        | 2.14          |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG22 | 1        | 2.14          |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG23 | 1        | 2.14          |
| (1,752) | 1:130:A:PHE:HB3  | 1:114:A:ASP:HB3  | 5        | 2.1           |
| (1,752) | 1:130:A:PHE:HB3  | 1:114:A:ASP:HB3  | 18       | 2.08          |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD21 | 14       | 2.07          |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD22 | 14       | 2.07          |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD23 | 14       | 2.07          |
| (1,752) | 1:130:A:PHE:HB3  | 1:114:A:ASP:HB3  | 3        | 2.06          |
| (1,752) | 1:130:A:PHE:HB3  | 1:114:A:ASP:HB3  | 6        | 2.06          |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD21 | 4        | 2.06          |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD22 | 4        | 2.06          |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD23 | 4        | 2.06          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD21 | 10       | 2.05          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD22 | 10       | 2.05          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD23 | 10       | 2.05          |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD21 | 11       | 2.04          |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD22 | 11       | 2.04          |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD23 | 11       | 2.04          |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG21 | 17       | 2.03          |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG22 | 17       | 2.03          |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG23 | 17       | 2.03          |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG21 | 17       | 2.03          |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG22 | 17       | 2.03          |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG23 | 17       | 2.03          |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG21 | 17       | 2.03          |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG22 | 17       | 2.03          |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG23 | 17       | 2.03          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD21 | 17       | 2.02          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD22 | 17       | 2.02          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD23 | 17       | 2.02          |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD21 | 17       | 2.02          |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD22 | 17       | 2.02          |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD23 | 17       | 2.02          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD21 | 15       | 2.0           |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD22 | 15       | 2.0           |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD23 | 15       | 2.0           |
| (1,752) | 1:130:A:PHE:HB3  | 1:114:A:ASP:HB3  | 9        | 1.99          |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG21 | 4        | 1.96          |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG22 | 4        | 1.96          |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG23 | 4        | 1.96          |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG21 | 4        | 1.96          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG22 | 4        | 1.96          |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG23 | 4        | 1.96          |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG21 | 4        | 1.96          |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG22 | 4        | 1.96          |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG23 | 4        | 1.96          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD21 | 2        | 1.96          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD22 | 2        | 1.96          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD23 | 2        | 1.96          |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD21 | 3        | 1.96          |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD22 | 3        | 1.96          |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD23 | 3        | 1.96          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD21 | 16       | 1.94          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD22 | 16       | 1.94          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD23 | 16       | 1.94          |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG21 | 13       | 1.92          |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG22 | 13       | 1.92          |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG23 | 13       | 1.92          |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG21 | 13       | 1.92          |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG22 | 13       | 1.92          |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG23 | 13       | 1.92          |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG21 | 13       | 1.92          |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG22 | 13       | 1.92          |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG23 | 13       | 1.92          |
| (1,752) | 1:130:A:PHE:HB3  | 1:114:A:ASP:HB3  | 7        | 1.92          |
| (1,752) | 1:130:A:PHE:HB3  | 1:114:A:ASP:HB3  | 2        | 1.9           |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD21 | 9        | 1.89          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD22 | 9        | 1.89          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD23 | 9        | 1.89          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD21 | 5        | 1.88          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD22 | 5        | 1.88          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD23 | 5        | 1.88          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD11 | 3        | 1.87          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD12 | 3        | 1.87          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD13 | 3        | 1.87          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD11 | 3        | 1.87          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD12 | 3        | 1.87          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD13 | 3        | 1.87          |
| (1,752) | 1:130:A:PHE:HB3  | 1:114:A:ASP:HB3  | 11       | 1.87          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD21 | 18       | 1.85          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD22 | 18       | 1.85          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD23 | 18       | 1.85          |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG21 | 11       | 1.83          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG22 | 11       | 1.83          |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG23 | 11       | 1.83          |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG21 | 11       | 1.83          |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG22 | 11       | 1.83          |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG23 | 11       | 1.83          |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG21 | 11       | 1.83          |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG22 | 11       | 1.83          |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG23 | 11       | 1.83          |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG21 | 18       | 1.83          |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG22 | 18       | 1.83          |
| (2,232) | 1:154:A:VAL:HG21 | 1:131:A:THR:HG23 | 18       | 1.83          |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG21 | 18       | 1.83          |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG22 | 18       | 1.83          |
| (2,232) | 1:154:A:VAL:HG22 | 1:131:A:THR:HG23 | 18       | 1.83          |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG21 | 18       | 1.83          |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG22 | 18       | 1.83          |
| (2,232) | 1:154:A:VAL:HG23 | 1:131:A:THR:HG23 | 18       | 1.83          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD21 | 1        | 1.83          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD22 | 1        | 1.83          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD23 | 1        | 1.83          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD21 | 3        | 1.82          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD22 | 3        | 1.82          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD23 | 3        | 1.82          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD21 | 1        | 1.82          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD22 | 1        | 1.82          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD23 | 1        | 1.82          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD11 | 17       | 1.81          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD12 | 17       | 1.81          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD13 | 17       | 1.81          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD11 | 17       | 1.81          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD12 | 17       | 1.81          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD13 | 17       | 1.81          |
| (1,930) | 1:141:A:LEU:HD21 | 1:131:A:THR:H    | 17       | 1.81          |
| (1,930) | 1:141:A:LEU:HD22 | 1:131:A:THR:H    | 17       | 1.81          |
| (1,930) | 1:141:A:LEU:HD23 | 1:131:A:THR:H    | 17       | 1.81          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD21 | 3        | 1.81          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD22 | 3        | 1.81          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD23 | 3        | 1.81          |
| (1,752) | 1:130:A:PHE:HB3  | 1:114:A:ASP:HB3  | 10       | 1.79          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD21 | 7        | 1.78          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD22 | 7        | 1.78          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD23 | 7        | 1.78          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD21 | 20       | 1.78          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD22 | 20       | 1.78          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD23 | 20       | 1.78          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD11 | 13       | 1.76          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD12 | 13       | 1.76          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD13 | 13       | 1.76          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD21 | 17       | 1.76          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD22 | 17       | 1.76          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD23 | 17       | 1.76          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD21 | 5        | 1.71          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD22 | 5        | 1.71          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD23 | 5        | 1.71          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD21 | 15       | 1.71          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD22 | 15       | 1.71          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD23 | 15       | 1.71          |
| (1,930) | 1:141:A:LEU:HD21 | 1:131:A:THR:H    | 5        | 1.69          |
| (1,930) | 1:141:A:LEU:HD22 | 1:131:A:THR:H    | 5        | 1.69          |
| (1,930) | 1:141:A:LEU:HD23 | 1:131:A:THR:H    | 5        | 1.69          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD11 | 12       | 1.69          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD12 | 12       | 1.69          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD13 | 12       | 1.69          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD21 | 4        | 1.69          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD22 | 4        | 1.69          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD23 | 4        | 1.69          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD21 | 18       | 1.67          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD22 | 18       | 1.67          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD23 | 18       | 1.67          |
| (1,930) | 1:141:A:LEU:HD21 | 1:131:A:THR:H    | 1        | 1.63          |
| (1,930) | 1:141:A:LEU:HD22 | 1:131:A:THR:H    | 1        | 1.63          |
| (1,930) | 1:141:A:LEU:HD23 | 1:131:A:THR:H    | 1        | 1.63          |
| (1,930) | 1:141:A:LEU:HD21 | 1:131:A:THR:H    | 3        | 1.62          |
| (1,930) | 1:141:A:LEU:HD22 | 1:131:A:THR:H    | 3        | 1.62          |
| (1,930) | 1:141:A:LEU:HD23 | 1:131:A:THR:H    | 3        | 1.62          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD21 | 7        | 1.62          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD22 | 7        | 1.62          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD23 | 7        | 1.62          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD21 | 12       | 1.62          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD22 | 12       | 1.62          |
| (1,358) | 1:129:A:ILE:H    | 1:143:A:LEU:HD23 | 12       | 1.62          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD11 | 3        | 1.6           |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD12 | 3        | 1.6           |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD13 | 3        | 1.6           |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD11 | 3        | 1.6           |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD12 | 3        | 1.6           |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD13 | 3        | 1.6           |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD11 | 1        | 1.59          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD12 | 1        | 1.59          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD13 | 1        | 1.59          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD11 | 1        | 1.59          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD12 | 1        | 1.59          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD13 | 1        | 1.59          |
| (1,930) | 1:141:A:LEU:HD21 | 1:131:A:THR:H    | 20       | 1.59          |
| (1,930) | 1:141:A:LEU:HD22 | 1:131:A:THR:H    | 20       | 1.59          |
| (1,930) | 1:141:A:LEU:HD23 | 1:131:A:THR:H    | 20       | 1.59          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD11 | 8        | 1.58          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD12 | 8        | 1.58          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD13 | 8        | 1.58          |
| (1,752) | 1:130:A:PHE:HB3  | 1:114:A:ASP:HB3  | 14       | 1.58          |
| (1,752) | 1:130:A:PHE:HB3  | 1:114:A:ASP:HB3  | 17       | 1.58          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD21 | 16       | 1.58          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD22 | 16       | 1.58          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD23 | 16       | 1.58          |
| (1,930) | 1:141:A:LEU:HD21 | 1:131:A:THR:H    | 7        | 1.57          |
| (1,930) | 1:141:A:LEU:HD22 | 1:131:A:THR:H    | 7        | 1.57          |
| (1,930) | 1:141:A:LEU:HD23 | 1:131:A:THR:H    | 7        | 1.57          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD21 | 2        | 1.57          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD22 | 2        | 1.57          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD23 | 2        | 1.57          |
| (2,227) | 1:114:A:ASP:HA   | 1:130:A:PHE:HB3  | 8        | 1.56          |
| (2,227) | 1:114:A:ASP:HA   | 1:130:A:PHE:HB3  | 12       | 1.55          |
| (1,752) | 1:130:A:PHE:HB3  | 1:114:A:ASP:HB3  | 19       | 1.54          |
| (2,227) | 1:114:A:ASP:HA   | 1:130:A:PHE:HB3  | 1        | 1.53          |
| (1,752) | 1:130:A:PHE:HB3  | 1:114:A:ASP:HB3  | 12       | 1.53          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD11 | 17       | 1.53          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD12 | 17       | 1.53          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD13 | 17       | 1.53          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD11 | 17       | 1.53          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD12 | 17       | 1.53          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD13 | 17       | 1.53          |
| (2,227) | 1:114:A:ASP:HA   | 1:130:A:PHE:HB3  | 19       | 1.52          |
| (2,227) | 1:114:A:ASP:HA   | 1:130:A:PHE:HB3  | 20       | 1.52          |
| (1,930) | 1:141:A:LEU:HD21 | 1:131:A:THR:H    | 15       | 1.52          |
| (1,930) | 1:141:A:LEU:HD22 | 1:131:A:THR:H    | 15       | 1.52          |
| (1,930) | 1:141:A:LEU:HD23 | 1:131:A:THR:H    | 15       | 1.52          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD21 | 9        | 1.5           |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD22 | 9        | 1.5           |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD23 | 9        | 1.5           |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD21 | 12       | 1.5           |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD22 | 12       | 1.5           |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD23 | 12       | 1.5           |
| (2,227) | 1:114:A:ASP:HA   | 1:130:A:PHE:HB3  | 17       | 1.49          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD11 | 12       | 1.48          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD12 | 12       | 1.48          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD13 | 12       | 1.48          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD11 | 12       | 1.48          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD12 | 12       | 1.48          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD13 | 12       | 1.48          |
| (1,930) | 1:141:A:LEU:HD21 | 1:131:A:THR:H    | 4        | 1.48          |
| (1,930) | 1:141:A:LEU:HD22 | 1:131:A:THR:H    | 4        | 1.48          |
| (1,930) | 1:141:A:LEU:HD23 | 1:131:A:THR:H    | 4        | 1.48          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD11 | 11       | 1.48          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD12 | 11       | 1.48          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD13 | 11       | 1.48          |
| (2,227) | 1:114:A:ASP:HA   | 1:130:A:PHE:HB3  | 4        | 1.47          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD21 | 6        | 1.47          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD22 | 6        | 1.47          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD23 | 6        | 1.47          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD11 | 6        | 1.45          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD12 | 6        | 1.45          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD13 | 6        | 1.45          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD21 | 8        | 1.45          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD22 | 8        | 1.45          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD23 | 8        | 1.45          |
| (2,227) | 1:114:A:ASP:HA   | 1:130:A:PHE:HB3  | 18       | 1.43          |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG21 | 18       | 1.43          |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG22 | 18       | 1.43          |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG23 | 18       | 1.43          |
| (2,110) | 1:141:A:LEU:HD11 | 1:118:A:ILE:HG13 | 11       | 1.42          |
| (2,110) | 1:141:A:LEU:HD12 | 1:118:A:ILE:HG13 | 11       | 1.42          |
| (2,110) | 1:141:A:LEU:HD13 | 1:118:A:ILE:HG13 | 11       | 1.42          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD11 | 15       | 1.42          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD12 | 15       | 1.42          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD13 | 15       | 1.42          |
| (2,227) | 1:114:A:ASP:HA   | 1:130:A:PHE:HB3  | 2        | 1.41          |
| (2,227) | 1:114:A:ASP:HA   | 1:130:A:PHE:HB3  | 6        | 1.41          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD11 | 17       | 1.41          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD12 | 17       | 1.41          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD13 | 17       | 1.41          |
| (2,227) | 1:114:A:ASP:HA   | 1:130:A:PHE:HB3  | 16       | 1.4           |
| (1,930) | 1:141:A:LEU:HD21 | 1:131:A:THR:H    | 12       | 1.4           |
| (1,930) | 1:141:A:LEU:HD22 | 1:131:A:THR:H    | 12       | 1.4           |
| (1,930) | 1:141:A:LEU:HD23 | 1:131:A:THR:H    | 12       | 1.4           |
| (1,930) | 1:141:A:LEU:HD21 | 1:131:A:THR:H    | 18       | 1.4           |
| (1,930) | 1:141:A:LEU:HD22 | 1:131:A:THR:H    | 18       | 1.4           |
| (1,930) | 1:141:A:LEU:HD23 | 1:131:A:THR:H    | 18       | 1.4           |
| (1,930) | 1:141:A:LEU:HD21 | 1:131:A:THR:H    | 9        | 1.39          |
| (1,930) | 1:141:A:LEU:HD22 | 1:131:A:THR:H    | 9        | 1.39          |
| (1,930) | 1:141:A:LEU:HD23 | 1:131:A:THR:H    | 9        | 1.39          |
| (2,227) | 1:114:A:ASP:HA   | 1:130:A:PHE:HB3  | 15       | 1.38          |
| (1,930) | 1:141:A:LEU:HD21 | 1:131:A:THR:H    | 2        | 1.38          |
| (1,930) | 1:141:A:LEU:HD22 | 1:131:A:THR:H    | 2        | 1.38          |
| (1,930) | 1:141:A:LEU:HD23 | 1:131:A:THR:H    | 2        | 1.38          |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG21 | 1        | 1.37          |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG22 | 1        | 1.37          |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG23 | 1        | 1.37          |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG21 | 9        | 1.37          |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG22 | 9        | 1.37          |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG23 | 9        | 1.37          |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG21 | 11       | 1.37          |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG22 | 11       | 1.37          |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG23 | 11       | 1.37          |
| (2,227) | 1:114:A:ASP:HA   | 1:130:A:PHE:HB3  | 3        | 1.36          |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG21 | 4        | 1.36          |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG22 | 4        | 1.36          |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG23 | 4        | 1.36          |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG21 | 12       | 1.36          |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG22 | 12       | 1.36          |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG23 | 12       | 1.36          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD11 | 2        | 1.36          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD12 | 2        | 1.36          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD13 | 2        | 1.36          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD11 | 2        | 1.36          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD12 | 2        | 1.36          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD13 | 2        | 1.36          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD11 | 10       | 1.35          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD12 | 10       | 1.35          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD13 | 10       | 1.35          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD11 | 10       | 1.35          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD12 | 10       | 1.35          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD13 | 10       | 1.35          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD11 | 7        | 1.34          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD12 | 7        | 1.34          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD13 | 7        | 1.34          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD11 | 7        | 1.34          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD12 | 7        | 1.34          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD13 | 7        | 1.34          |
| (1,930) | 1:141:A:LEU:HD21 | 1:131:A:THR:H    | 16       | 1.34          |
| (1,930) | 1:141:A:LEU:HD22 | 1:131:A:THR:H    | 16       | 1.34          |
| (1,930) | 1:141:A:LEU:HD23 | 1:131:A:THR:H    | 16       | 1.34          |
| (2,227) | 1:114:A:ASP:HA   | 1:130:A:PHE:HB3  | 9        | 1.33          |
| (1,930) | 1:141:A:LEU:HD21 | 1:131:A:THR:H    | 6        | 1.33          |
| (1,930) | 1:141:A:LEU:HD22 | 1:131:A:THR:H    | 6        | 1.33          |
| (1,930) | 1:141:A:LEU:HD23 | 1:131:A:THR:H    | 6        | 1.33          |
| (2,227) | 1:114:A:ASP:HA   | 1:130:A:PHE:HB3  | 10       | 1.31          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD11 | 1        | 1.31          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD12 | 1        | 1.31          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD13 | 1        | 1.31          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD11 | 1        | 1.31          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD12 | 1        | 1.31          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD13 | 1        | 1.31          |
| (2,227) | 1:114:A:ASP:HA   | 1:130:A:PHE:HB3  | 13       | 1.3           |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD21 | 13       | 1.3           |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD22 | 13       | 1.3           |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD23 | 13       | 1.3           |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG21 | 17       | 1.29          |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG22 | 17       | 1.29          |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG23 | 17       | 1.29          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD21 | 11       | 1.28          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD22 | 11       | 1.28          |
| (1,322) | 1:132:A:GLU:H    | 1:141:A:LEU:HD23 | 11       | 1.28          |
| (2,227) | 1:114:A:ASP:HA   | 1:130:A:PHE:HB3  | 7        | 1.26          |
| (2,110) | 1:141:A:LEU:HD11 | 1:118:A:ILE:HG13 | 4        | 1.25          |
| (2,110) | 1:141:A:LEU:HD12 | 1:118:A:ILE:HG13 | 4        | 1.25          |
| (2,110) | 1:141:A:LEU:HD13 | 1:118:A:ILE:HG13 | 4        | 1.25          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD11 | 20       | 1.25          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD12 | 20       | 1.25          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD13 | 20       | 1.25          |
| (1,368) | 1:120:A:GLU:H    | 1:158:A:GLU:HB3  | 15       | 1.25          |
| (2,227) | 1:114:A:ASP:HA   | 1:130:A:PHE:HB3  | 5        | 1.23          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD11 | 11       | 1.23          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD12 | 11       | 1.23          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD13 | 11       | 1.23          |
| (1,923) | 1:154:A:VAL:HG11 | 1:158:A:GLU:H    | 12       | 1.23          |
| (1,923) | 1:154:A:VAL:HG12 | 1:158:A:GLU:H    | 12       | 1.23          |
| (1,923) | 1:154:A:VAL:HG13 | 1:158:A:GLU:H    | 12       | 1.23          |
| (1,930) | 1:141:A:LEU:HD21 | 1:131:A:THR:H    | 8        | 1.22          |
| (1,930) | 1:141:A:LEU:HD22 | 1:131:A:THR:H    | 8        | 1.22          |
| (1,930) | 1:141:A:LEU:HD23 | 1:131:A:THR:H    | 8        | 1.22          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD11 | 7        | 1.22          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD12 | 7        | 1.22          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD13 | 7        | 1.22          |
| (1,266) | 1:144:A:ASN:H    | 1:144:A:ASN:HB3  | 8        | 1.22          |
| (1,63)  | 1:141:A:LEU:HD21 | 1:130:A:PHE:HB2  | 5        | 1.22          |
| (1,63)  | 1:141:A:LEU:HD22 | 1:130:A:PHE:HB2  | 5        | 1.22          |
| (1,63)  | 1:141:A:LEU:HD23 | 1:130:A:PHE:HB2  | 5        | 1.22          |
| (2,233) | 1:128:A:ALA:HB1  | 1:144:A:ASN:HB3  | 17       | 1.21          |
| (2,233) | 1:128:A:ALA:HB2  | 1:144:A:ASN:HB3  | 17       | 1.21          |
| (2,233) | 1:128:A:ALA:HB3  | 1:144:A:ASN:HB3  | 17       | 1.21          |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG21 | 13       | 1.21          |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG22 | 13       | 1.21          |
| (2,220) | 1:152:A:HIS:HA   | 1:154:A:VAL:HG23 | 13       | 1.21          |
| (1,923) | 1:154:A:VAL:HG11 | 1:158:A:GLU:H    | 18       | 1.21          |
| (1,923) | 1:154:A:VAL:HG12 | 1:158:A:GLU:H    | 18       | 1.21          |
| (1,923) | 1:154:A:VAL:HG13 | 1:158:A:GLU:H    | 18       | 1.21          |
| (1,616) | 1:110:A:PRO:HB2  | 1:161:A:LYS:HD3  | 6        | 1.21          |
| (1,266) | 1:144:A:ASN:H    | 1:144:A:ASN:HB3  | 15       | 1.21          |
| (1,266) | 1:144:A:ASN:H    | 1:144:A:ASN:HB3  | 16       | 1.21          |
| (1,264) | 1:138:A:ARG:H    | 1:138:A:ARG:HB3  | 3        | 1.21          |
| (1,264) | 1:138:A:ARG:H    | 1:138:A:ARG:HB3  | 4        | 1.21          |
| (1,264) | 1:138:A:ARG:H    | 1:138:A:ARG:HB3  | 5        | 1.21          |
| (1,264) | 1:138:A:ARG:H    | 1:138:A:ARG:HB3  | 9        | 1.21          |
| (2,110) | 1:141:A:LEU:HD11 | 1:118:A:ILE:HG13 | 15       | 1.2           |
| (2,110) | 1:141:A:LEU:HD12 | 1:118:A:ILE:HG13 | 15       | 1.2           |
| (2,110) | 1:141:A:LEU:HD13 | 1:118:A:ILE:HG13 | 15       | 1.2           |
| (1,679) | 1:138:A:ARG:HB2  | 1:155:A:LYS:HA   | 7        | 1.2           |
| (1,266) | 1:144:A:ASN:H    | 1:144:A:ASN:HB3  | 2        | 1.2           |
| (1,266) | 1:144:A:ASN:H    | 1:144:A:ASN:HB3  | 7        | 1.2           |
| (1,266) | 1:144:A:ASN:H    | 1:144:A:ASN:HB3  | 17       | 1.2           |
| (1,264) | 1:138:A:ARG:H    | 1:138:A:ARG:HB3  | 1        | 1.2           |
| (1,264) | 1:138:A:ARG:H    | 1:138:A:ARG:HB3  | 2        | 1.2           |
| (1,264) | 1:138:A:ARG:H    | 1:138:A:ARG:HB3  | 7        | 1.2           |
| (1,264) | 1:138:A:ARG:H    | 1:138:A:ARG:HB3  | 16       | 1.2           |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,264) | 1:138:A:ARG:H    | 1:138:A:ARG:HB3  | 18       | 1.2           |
| (1,264) | 1:138:A:ARG:H    | 1:138:A:ARG:HB3  | 19       | 1.2           |
| (1,107) | 1:126:A:PHE:H    | 1:126:A:PHE:HB3  | 4        | 1.2           |
| (1,107) | 1:126:A:PHE:H    | 1:126:A:PHE:HB3  | 11       | 1.2           |
| (1,107) | 1:126:A:PHE:H    | 1:126:A:PHE:HB3  | 14       | 1.2           |
| (1,679) | 1:138:A:ARG:HB2  | 1:155:A:LYS:HA   | 5        | 1.19          |
| (1,266) | 1:144:A:ASN:H    | 1:144:A:ASN:HB3  | 13       | 1.19          |
| (1,264) | 1:138:A:ARG:H    | 1:138:A:ARG:HB3  | 10       | 1.19          |
| (1,264) | 1:138:A:ARG:H    | 1:138:A:ARG:HB3  | 15       | 1.19          |
| (1,107) | 1:126:A:PHE:H    | 1:126:A:PHE:HB3  | 5        | 1.19          |
| (1,107) | 1:126:A:PHE:H    | 1:126:A:PHE:HB3  | 6        | 1.19          |
| (1,107) | 1:126:A:PHE:H    | 1:126:A:PHE:HB3  | 7        | 1.19          |
| (1,107) | 1:126:A:PHE:H    | 1:126:A:PHE:HB3  | 12       | 1.19          |
| (1,107) | 1:126:A:PHE:H    | 1:126:A:PHE:HB3  | 13       | 1.19          |
| (2,227) | 1:114:A:ASP:HA   | 1:130:A:PHE:HB3  | 14       | 1.18          |
| (2,110) | 1:141:A:LEU:HD11 | 1:118:A:ILE:HG13 | 6        | 1.18          |
| (2,110) | 1:141:A:LEU:HD12 | 1:118:A:ILE:HG13 | 6        | 1.18          |
| (2,110) | 1:141:A:LEU:HD13 | 1:118:A:ILE:HG13 | 6        | 1.18          |
| (1,923) | 1:154:A:VAL:HG11 | 1:158:A:GLU:H    | 1        | 1.18          |
| (1,923) | 1:154:A:VAL:HG12 | 1:158:A:GLU:H    | 1        | 1.18          |
| (1,923) | 1:154:A:VAL:HG13 | 1:158:A:GLU:H    | 1        | 1.18          |
| (1,923) | 1:154:A:VAL:HG11 | 1:158:A:GLU:H    | 13       | 1.18          |
| (1,923) | 1:154:A:VAL:HG12 | 1:158:A:GLU:H    | 13       | 1.18          |
| (1,923) | 1:154:A:VAL:HG13 | 1:158:A:GLU:H    | 13       | 1.18          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD11 | 18       | 1.18          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD12 | 18       | 1.18          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD13 | 18       | 1.18          |
| (1,264) | 1:138:A:ARG:H    | 1:138:A:ARG:HB3  | 17       | 1.18          |
| (1,107) | 1:126:A:PHE:H    | 1:126:A:PHE:HB3  | 3        | 1.18          |
| (1,107) | 1:126:A:PHE:H    | 1:126:A:PHE:HB3  | 10       | 1.18          |
| (1,107) | 1:126:A:PHE:H    | 1:126:A:PHE:HB3  | 17       | 1.18          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD11 | 2        | 1.18          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD12 | 2        | 1.18          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD13 | 2        | 1.18          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD11 | 2        | 1.18          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD12 | 2        | 1.18          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD13 | 2        | 1.18          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD11 | 1        | 1.17          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD12 | 1        | 1.17          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD13 | 1        | 1.17          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD11 | 9        | 1.17          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD12 | 9        | 1.17          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD13 | 9        | 1.17          |
| (1,278) | 1:155:A:LYS:H    | 1:155:A:LYS:HB2  | 19       | 1.17          |
| (1,278) | 1:155:A:LYS:H    | 1:155:A:LYS:HB2  | 20       | 1.17          |
| (1,107) | 1:126:A:PHE:H    | 1:126:A:PHE:HB3  | 1        | 1.17          |
| (1,107) | 1:126:A:PHE:H    | 1:126:A:PHE:HB3  | 20       | 1.17          |
| (1,278) | 1:155:A:LYS:H    | 1:155:A:LYS:HB2  | 16       | 1.16          |
| (1,276) | 1:153:A:SER:H    | 1:153:A:SER:HB2  | 1        | 1.16          |
| (1,276) | 1:153:A:SER:H    | 1:153:A:SER:HB2  | 11       | 1.16          |
| (1,276) | 1:153:A:SER:H    | 1:153:A:SER:HB2  | 12       | 1.16          |
| (1,276) | 1:153:A:SER:H    | 1:153:A:SER:HB2  | 17       | 1.16          |
| (1,276) | 1:153:A:SER:H    | 1:153:A:SER:HB2  | 18       | 1.16          |
| (1,268) | 1:158:A:GLU:H    | 1:158:A:GLU:HB2  | 15       | 1.16          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD11 | 5        | 1.15          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD12 | 5        | 1.15          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD13 | 5        | 1.15          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD11 | 5        | 1.15          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD12 | 5        | 1.15          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD13 | 5        | 1.15          |
| (1,923) | 1:154:A:VAL:HG11 | 1:158:A:GLU:H    | 11       | 1.15          |
| (1,923) | 1:154:A:VAL:HG12 | 1:158:A:GLU:H    | 11       | 1.15          |
| (1,923) | 1:154:A:VAL:HG13 | 1:158:A:GLU:H    | 11       | 1.15          |
| (1,679) | 1:138:A:ARG:HB2  | 1:155:A:LYS:HA   | 15       | 1.15          |
| (1,276) | 1:153:A:SER:H    | 1:153:A:SER:HB2  | 4        | 1.15          |
| (1,276) | 1:153:A:SER:H    | 1:153:A:SER:HB2  | 9        | 1.15          |
| (1,276) | 1:153:A:SER:H    | 1:153:A:SER:HB2  | 14       | 1.15          |
| (1,276) | 1:153:A:SER:H    | 1:153:A:SER:HB2  | 16       | 1.15          |
| (1,272) | 1:114:A:ASP:H    | 1:114:A:ASP:HB3  | 7        | 1.15          |
| (1,272) | 1:114:A:ASP:H    | 1:114:A:ASP:HB3  | 20       | 1.15          |
| (2,111) | 1:141:A:LEU:HD21 | 1:140:A:MET:HB2  | 13       | 1.14          |
| (2,111) | 1:141:A:LEU:HD22 | 1:140:A:MET:HB2  | 13       | 1.14          |
| (2,111) | 1:141:A:LEU:HD23 | 1:140:A:MET:HB2  | 13       | 1.14          |
| (2,111) | 1:141:A:LEU:HD21 | 1:140:A:MET:HB2  | 15       | 1.14          |
| (2,111) | 1:141:A:LEU:HD22 | 1:140:A:MET:HB2  | 15       | 1.14          |
| (2,111) | 1:141:A:LEU:HD23 | 1:140:A:MET:HB2  | 15       | 1.14          |
| (1,930) | 1:141:A:LEU:HD21 | 1:131:A:THR:H    | 13       | 1.14          |
| (1,930) | 1:141:A:LEU:HD22 | 1:131:A:THR:H    | 13       | 1.14          |
| (1,930) | 1:141:A:LEU:HD23 | 1:131:A:THR:H    | 13       | 1.14          |
| (1,923) | 1:154:A:VAL:HG11 | 1:158:A:GLU:H    | 17       | 1.14          |
| (1,923) | 1:154:A:VAL:HG12 | 1:158:A:GLU:H    | 17       | 1.14          |
| (1,923) | 1:154:A:VAL:HG13 | 1:158:A:GLU:H    | 17       | 1.14          |
| (1,679) | 1:138:A:ARG:HB2  | 1:155:A:LYS:HA   | 3        | 1.14          |
| (1,280) | 1:162:A:LEU:H    | 1:162:A:LEU:HB2  | 16       | 1.14          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,276) | 1:153:A:SER:H    | 1:153:A:SER:HB2  | 2        | 1.14          |
| (1,272) | 1:114:A:ASP:H    | 1:114:A:ASP:HB3  | 3        | 1.14          |
| (1,272) | 1:114:A:ASP:H    | 1:114:A:ASP:HB3  | 5        | 1.14          |
| (1,272) | 1:114:A:ASP:H    | 1:114:A:ASP:HB3  | 10       | 1.14          |
| (1,272) | 1:114:A:ASP:H    | 1:114:A:ASP:HB3  | 11       | 1.14          |
| (1,63)  | 1:141:A:LEU:HD21 | 1:130:A:PHE:HB2  | 3        | 1.14          |
| (1,63)  | 1:141:A:LEU:HD22 | 1:130:A:PHE:HB2  | 3        | 1.14          |
| (1,63)  | 1:141:A:LEU:HD23 | 1:130:A:PHE:HB2  | 3        | 1.14          |
| (2,110) | 1:141:A:LEU:HD11 | 1:118:A:ILE:HG13 | 9        | 1.13          |
| (2,110) | 1:141:A:LEU:HD12 | 1:118:A:ILE:HG13 | 9        | 1.13          |
| (2,110) | 1:141:A:LEU:HD13 | 1:118:A:ILE:HG13 | 9        | 1.13          |
| (2,58)  | 1:108:A:ALA:HA   | 1:161:A:LYS:HD2  | 14       | 1.13          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD11 | 16       | 1.13          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD12 | 16       | 1.13          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD13 | 16       | 1.13          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD11 | 16       | 1.13          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD12 | 16       | 1.13          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD13 | 16       | 1.13          |
| (1,923) | 1:154:A:VAL:HG11 | 1:158:A:GLU:H    | 9        | 1.13          |
| (1,923) | 1:154:A:VAL:HG12 | 1:158:A:GLU:H    | 9        | 1.13          |
| (1,923) | 1:154:A:VAL:HG13 | 1:158:A:GLU:H    | 9        | 1.13          |
| (1,280) | 1:162:A:LEU:H    | 1:162:A:LEU:HB2  | 4        | 1.13          |
| (1,280) | 1:162:A:LEU:H    | 1:162:A:LEU:HB2  | 5        | 1.13          |
| (1,280) | 1:162:A:LEU:H    | 1:162:A:LEU:HB2  | 6        | 1.13          |
| (1,280) | 1:162:A:LEU:H    | 1:162:A:LEU:HB2  | 8        | 1.13          |
| (1,280) | 1:162:A:LEU:H    | 1:162:A:LEU:HB2  | 12       | 1.13          |
| (1,280) | 1:162:A:LEU:H    | 1:162:A:LEU:HB2  | 13       | 1.13          |
| (1,280) | 1:162:A:LEU:H    | 1:162:A:LEU:HB2  | 15       | 1.13          |
| (1,280) | 1:162:A:LEU:H    | 1:162:A:LEU:HB2  | 17       | 1.13          |
| (1,280) | 1:162:A:LEU:H    | 1:162:A:LEU:HB2  | 20       | 1.13          |
| (1,276) | 1:153:A:SER:H    | 1:153:A:SER:HB2  | 5        | 1.13          |
| (1,276) | 1:153:A:SER:H    | 1:153:A:SER:HB2  | 19       | 1.13          |
| (1,276) | 1:153:A:SER:H    | 1:153:A:SER:HB2  | 20       | 1.13          |
| (1,272) | 1:114:A:ASP:H    | 1:114:A:ASP:HB3  | 2        | 1.13          |
| (1,272) | 1:114:A:ASP:H    | 1:114:A:ASP:HB3  | 4        | 1.13          |
| (1,272) | 1:114:A:ASP:H    | 1:114:A:ASP:HB3  | 6        | 1.13          |
| (1,107) | 1:126:A:PHE:H    | 1:126:A:PHE:HB3  | 8        | 1.13          |
| (1,107) | 1:126:A:PHE:H    | 1:126:A:PHE:HB3  | 19       | 1.13          |
| (2,227) | 1:114:A:ASP:HA   | 1:130:A:PHE:HB3  | 11       | 1.12          |
| (1,930) | 1:141:A:LEU:HD21 | 1:131:A:THR:H    | 11       | 1.12          |
| (1,930) | 1:141:A:LEU:HD22 | 1:131:A:THR:H    | 11       | 1.12          |
| (1,930) | 1:141:A:LEU:HD23 | 1:131:A:THR:H    | 11       | 1.12          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,276) | 1:153:A:SER:H    | 1:153:A:SER:HB2  | 6        | 1.12          |
| (1,276) | 1:153:A:SER:H    | 1:153:A:SER:HB2  | 8        | 1.12          |
| (1,276) | 1:153:A:SER:H    | 1:153:A:SER:HB2  | 10       | 1.12          |
| (1,272) | 1:114:A:ASP:H    | 1:114:A:ASP:HB3  | 1        | 1.12          |
| (1,272) | 1:114:A:ASP:H    | 1:114:A:ASP:HB3  | 8        | 1.12          |
| (1,272) | 1:114:A:ASP:H    | 1:114:A:ASP:HB3  | 9        | 1.12          |
| (1,272) | 1:114:A:ASP:H    | 1:114:A:ASP:HB3  | 13       | 1.12          |
| (1,272) | 1:114:A:ASP:H    | 1:114:A:ASP:HB3  | 14       | 1.12          |
| (1,272) | 1:114:A:ASP:H    | 1:114:A:ASP:HB3  | 15       | 1.12          |
| (1,272) | 1:114:A:ASP:H    | 1:114:A:ASP:HB3  | 16       | 1.12          |
| (1,272) | 1:114:A:ASP:H    | 1:114:A:ASP:HB3  | 18       | 1.12          |
| (1,262) | 1:134:A:ASP:H    | 1:134:A:ASP:HB3  | 3        | 1.12          |
| (1,262) | 1:134:A:ASP:H    | 1:134:A:ASP:HB3  | 4        | 1.12          |
| (1,262) | 1:134:A:ASP:H    | 1:134:A:ASP:HB3  | 5        | 1.12          |
| (1,262) | 1:134:A:ASP:H    | 1:134:A:ASP:HB3  | 6        | 1.12          |
| (1,262) | 1:134:A:ASP:H    | 1:134:A:ASP:HB3  | 9        | 1.12          |
| (1,262) | 1:134:A:ASP:H    | 1:134:A:ASP:HB3  | 10       | 1.12          |
| (1,262) | 1:134:A:ASP:H    | 1:134:A:ASP:HB3  | 12       | 1.12          |
| (1,262) | 1:134:A:ASP:H    | 1:134:A:ASP:HB3  | 14       | 1.12          |
| (1,262) | 1:134:A:ASP:H    | 1:134:A:ASP:HB3  | 16       | 1.12          |
| (1,262) | 1:134:A:ASP:H    | 1:134:A:ASP:HB3  | 17       | 1.12          |
| (1,262) | 1:134:A:ASP:H    | 1:134:A:ASP:HB3  | 19       | 1.12          |
| (1,262) | 1:134:A:ASP:H    | 1:134:A:ASP:HB3  | 20       | 1.12          |
| (1,211) | 1:142:A:LEU:HD21 | 1:151:A:LYS:HD3  | 10       | 1.12          |
| (1,211) | 1:142:A:LEU:HD22 | 1:151:A:LYS:HD3  | 10       | 1.12          |
| (1,211) | 1:142:A:LEU:HD23 | 1:151:A:LYS:HD3  | 10       | 1.12          |
| (1,107) | 1:126:A:PHE:H    | 1:126:A:PHE:HB3  | 2        | 1.12          |
| (1,107) | 1:126:A:PHE:H    | 1:126:A:PHE:HB3  | 16       | 1.12          |
| (1,276) | 1:153:A:SER:H    | 1:153:A:SER:HB2  | 3        | 1.11          |
| (1,276) | 1:153:A:SER:H    | 1:153:A:SER:HB2  | 15       | 1.11          |
| (1,107) | 1:126:A:PHE:H    | 1:126:A:PHE:HB3  | 9        | 1.11          |
| (1,107) | 1:126:A:PHE:H    | 1:126:A:PHE:HB3  | 15       | 1.11          |
| (1,107) | 1:126:A:PHE:H    | 1:126:A:PHE:HB3  | 18       | 1.11          |
| (1,923) | 1:154:A:VAL:HG11 | 1:158:A:GLU:H    | 4        | 1.1           |
| (1,923) | 1:154:A:VAL:HG12 | 1:158:A:GLU:H    | 4        | 1.1           |
| (1,923) | 1:154:A:VAL:HG13 | 1:158:A:GLU:H    | 4        | 1.1           |
| (2,110) | 1:141:A:LEU:HD11 | 1:118:A:ILE:HG13 | 18       | 1.09          |
| (2,110) | 1:141:A:LEU:HD12 | 1:118:A:ILE:HG13 | 18       | 1.09          |
| (2,110) | 1:141:A:LEU:HD13 | 1:118:A:ILE:HG13 | 18       | 1.09          |
| (2,62)  | 1:154:A:VAL:HG21 | 1:152:A:HIS:HB2  | 1        | 1.09          |
| (2,62)  | 1:154:A:VAL:HG22 | 1:152:A:HIS:HB2  | 1        | 1.09          |
| (2,62)  | 1:154:A:VAL:HG23 | 1:152:A:HIS:HB2  | 1        | 1.09          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,260) | 1:130:A:PHE:H    | 1:130:A:PHE:HB3  | 3        | 1.09          |
| (1,260) | 1:130:A:PHE:H    | 1:130:A:PHE:HB3  | 5        | 1.09          |
| (1,260) | 1:130:A:PHE:H    | 1:130:A:PHE:HB3  | 15       | 1.09          |
| (1,260) | 1:130:A:PHE:H    | 1:130:A:PHE:HB3  | 16       | 1.09          |
| (2,233) | 1:128:A:ALA:HB1  | 1:144:A:ASN:HB3  | 7        | 1.08          |
| (2,233) | 1:128:A:ALA:HB2  | 1:144:A:ASN:HB3  | 7        | 1.08          |
| (2,233) | 1:128:A:ALA:HB3  | 1:144:A:ASN:HB3  | 7        | 1.08          |
| (1,260) | 1:130:A:PHE:H    | 1:130:A:PHE:HB3  | 1        | 1.08          |
| (1,260) | 1:130:A:PHE:H    | 1:130:A:PHE:HB3  | 2        | 1.08          |
| (1,260) | 1:130:A:PHE:H    | 1:130:A:PHE:HB3  | 4        | 1.08          |
| (1,260) | 1:130:A:PHE:H    | 1:130:A:PHE:HB3  | 6        | 1.08          |
| (1,260) | 1:130:A:PHE:H    | 1:130:A:PHE:HB3  | 7        | 1.08          |
| (1,260) | 1:130:A:PHE:H    | 1:130:A:PHE:HB3  | 8        | 1.08          |
| (1,260) | 1:130:A:PHE:H    | 1:130:A:PHE:HB3  | 9        | 1.08          |
| (1,260) | 1:130:A:PHE:H    | 1:130:A:PHE:HB3  | 10       | 1.08          |
| (1,260) | 1:130:A:PHE:H    | 1:130:A:PHE:HB3  | 11       | 1.08          |
| (1,260) | 1:130:A:PHE:H    | 1:130:A:PHE:HB3  | 13       | 1.08          |
| (1,260) | 1:130:A:PHE:H    | 1:130:A:PHE:HB3  | 14       | 1.08          |
| (1,260) | 1:130:A:PHE:H    | 1:130:A:PHE:HB3  | 17       | 1.08          |
| (1,260) | 1:130:A:PHE:H    | 1:130:A:PHE:HB3  | 18       | 1.08          |
| (1,260) | 1:130:A:PHE:H    | 1:130:A:PHE:HB3  | 19       | 1.08          |
| (1,260) | 1:130:A:PHE:H    | 1:130:A:PHE:HB3  | 20       | 1.08          |
| (2,62)  | 1:154:A:VAL:HG21 | 1:152:A:HIS:HB2  | 18       | 1.07          |
| (2,62)  | 1:154:A:VAL:HG22 | 1:152:A:HIS:HB2  | 18       | 1.07          |
| (2,62)  | 1:154:A:VAL:HG23 | 1:152:A:HIS:HB2  | 18       | 1.07          |
| (1,260) | 1:130:A:PHE:H    | 1:130:A:PHE:HB3  | 12       | 1.07          |
| (2,62)  | 1:154:A:VAL:HG21 | 1:152:A:HIS:HB2  | 4        | 1.06          |
| (2,62)  | 1:154:A:VAL:HG22 | 1:152:A:HIS:HB2  | 4        | 1.06          |
| (2,62)  | 1:154:A:VAL:HG23 | 1:152:A:HIS:HB2  | 4        | 1.06          |
| (2,62)  | 1:154:A:VAL:HG21 | 1:152:A:HIS:HB2  | 9        | 1.06          |
| (2,62)  | 1:154:A:VAL:HG22 | 1:152:A:HIS:HB2  | 9        | 1.06          |
| (2,62)  | 1:154:A:VAL:HG23 | 1:152:A:HIS:HB2  | 9        | 1.06          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD11 | 9        | 1.06          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD12 | 9        | 1.06          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD13 | 9        | 1.06          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD11 | 9        | 1.06          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD12 | 9        | 1.06          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD13 | 9        | 1.06          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD11 | 5        | 1.06          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD12 | 5        | 1.06          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD13 | 5        | 1.06          |
| (1,819) | 1:150:A:ILE:HD11 | 1:145:A:LEU:HD11 | 12       | 1.05          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,819) | 1:150:A:ILE:HD11 | 1:145:A:LEU:HD12 | 12       | 1.05          |
| (1,819) | 1:150:A:ILE:HD11 | 1:145:A:LEU:HD13 | 12       | 1.05          |
| (1,819) | 1:150:A:ILE:HD12 | 1:145:A:LEU:HD11 | 12       | 1.05          |
| (1,819) | 1:150:A:ILE:HD12 | 1:145:A:LEU:HD12 | 12       | 1.05          |
| (1,819) | 1:150:A:ILE:HD12 | 1:145:A:LEU:HD13 | 12       | 1.05          |
| (1,819) | 1:150:A:ILE:HD13 | 1:145:A:LEU:HD11 | 12       | 1.05          |
| (1,819) | 1:150:A:ILE:HD13 | 1:145:A:LEU:HD12 | 12       | 1.05          |
| (1,819) | 1:150:A:ILE:HD13 | 1:145:A:LEU:HD13 | 12       | 1.05          |
| (1,312) | 1:139:A:SER:H    | 1:138:A:ARG:HB2  | 2        | 1.05          |
| (2,62)  | 1:154:A:VAL:HG21 | 1:152:A:HIS:HB2  | 12       | 1.04          |
| (2,62)  | 1:154:A:VAL:HG22 | 1:152:A:HIS:HB2  | 12       | 1.04          |
| (2,62)  | 1:154:A:VAL:HG23 | 1:152:A:HIS:HB2  | 12       | 1.04          |
| (1,308) | 1:113:A:GLY:H    | 1:114:A:ASP:HB3  | 3        | 1.04          |
| (2,233) | 1:128:A:ALA:HB1  | 1:144:A:ASN:HB3  | 13       | 1.03          |
| (2,233) | 1:128:A:ALA:HB2  | 1:144:A:ASN:HB3  | 13       | 1.03          |
| (2,233) | 1:128:A:ALA:HB3  | 1:144:A:ASN:HB3  | 13       | 1.03          |
| (2,62)  | 1:154:A:VAL:HG21 | 1:152:A:HIS:HB2  | 17       | 1.03          |
| (2,62)  | 1:154:A:VAL:HG22 | 1:152:A:HIS:HB2  | 17       | 1.03          |
| (2,62)  | 1:154:A:VAL:HG23 | 1:152:A:HIS:HB2  | 17       | 1.03          |
| (1,679) | 1:138:A:ARG:HB2  | 1:155:A:LYS:HA   | 16       | 1.03          |
| (1,679) | 1:138:A:ARG:HB2  | 1:155:A:LYS:HA   | 17       | 1.03          |
| (1,308) | 1:113:A:GLY:H    | 1:114:A:ASP:HB3  | 5        | 1.03          |
| (1,224) | 1:143:A:LEU:HD21 | 1:128:A:ALA:HA   | 10       | 1.03          |
| (1,224) | 1:143:A:LEU:HD22 | 1:128:A:ALA:HA   | 10       | 1.03          |
| (1,224) | 1:143:A:LEU:HD23 | 1:128:A:ALA:HA   | 10       | 1.03          |
| (2,233) | 1:128:A:ALA:HB1  | 1:144:A:ASN:HB3  | 16       | 1.02          |
| (2,233) | 1:128:A:ALA:HB2  | 1:144:A:ASN:HB3  | 16       | 1.02          |
| (2,233) | 1:128:A:ALA:HB3  | 1:144:A:ASN:HB3  | 16       | 1.02          |
| (1,679) | 1:138:A:ARG:HB2  | 1:155:A:LYS:HA   | 10       | 1.02          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD1  | 13       | 1.02          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD2  | 13       | 1.02          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD1  | 13       | 1.02          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD2  | 13       | 1.02          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD1  | 13       | 1.02          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD2  | 13       | 1.02          |
| (1,63)  | 1:141:A:LEU:HD21 | 1:130:A:PHE:HB2  | 7        | 1.02          |
| (1,63)  | 1:141:A:LEU:HD22 | 1:130:A:PHE:HB2  | 7        | 1.02          |
| (1,63)  | 1:141:A:LEU:HD23 | 1:130:A:PHE:HB2  | 7        | 1.02          |
| (2,62)  | 1:154:A:VAL:HG21 | 1:152:A:HIS:HB2  | 11       | 1.01          |
| (2,62)  | 1:154:A:VAL:HG22 | 1:152:A:HIS:HB2  | 11       | 1.01          |
| (2,62)  | 1:154:A:VAL:HG23 | 1:152:A:HIS:HB2  | 11       | 1.01          |
| (1,679) | 1:138:A:ARG:HB2  | 1:155:A:LYS:HA   | 1        | 1.01          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,679) | 1:138:A:ARG:HB2  | 1:155:A:LYS:HA   | 4        | 1.01          |
| (1,308) | 1:113:A:GLY:H    | 1:114:A:ASP:HB3  | 7        | 1.01          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD11 | 3        | 1.0           |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD12 | 3        | 1.0           |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD13 | 3        | 1.0           |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD11 | 15       | 1.0           |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD12 | 15       | 1.0           |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD13 | 15       | 1.0           |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD11 | 15       | 1.0           |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD12 | 15       | 1.0           |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD13 | 15       | 1.0           |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD11 | 4        | 1.0           |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD12 | 4        | 1.0           |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD13 | 4        | 1.0           |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG21 | 11       | 1.0           |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG22 | 11       | 1.0           |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG23 | 11       | 1.0           |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG21 | 11       | 1.0           |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG22 | 11       | 1.0           |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG23 | 11       | 1.0           |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG21 | 11       | 1.0           |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG22 | 11       | 1.0           |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG23 | 11       | 1.0           |
| (1,125) | 1:118:A:ILE:HD11 | 1:126:A:PHE:HB3  | 14       | 1.0           |
| (1,125) | 1:118:A:ILE:HD12 | 1:126:A:PHE:HB3  | 14       | 1.0           |
| (1,125) | 1:118:A:ILE:HD13 | 1:126:A:PHE:HB3  | 14       | 1.0           |
| (1,63)  | 1:141:A:LEU:HD21 | 1:130:A:PHE:HB2  | 1        | 1.0           |
| (1,63)  | 1:141:A:LEU:HD22 | 1:130:A:PHE:HB2  | 1        | 1.0           |
| (1,63)  | 1:141:A:LEU:HD23 | 1:130:A:PHE:HB2  | 1        | 1.0           |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD11 | 12       | 1.0           |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD12 | 12       | 1.0           |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD13 | 12       | 1.0           |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD11 | 12       | 1.0           |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD12 | 12       | 1.0           |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD13 | 12       | 1.0           |
| (2,187) | 1:114:A:ASP:H    | 1:110:A:PRO:HB3  | 7        | 0.99          |
| (1,308) | 1:113:A:GLY:H    | 1:114:A:ASP:HB3  | 2        | 0.99          |
| (1,308) | 1:113:A:GLY:H    | 1:114:A:ASP:HB3  | 20       | 0.99          |
| (1,63)  | 1:141:A:LEU:HD21 | 1:130:A:PHE:HB2  | 20       | 0.99          |
| (1,63)  | 1:141:A:LEU:HD22 | 1:130:A:PHE:HB2  | 20       | 0.99          |
| (1,63)  | 1:141:A:LEU:HD23 | 1:130:A:PHE:HB2  | 20       | 0.99          |
| (2,187) | 1:114:A:ASP:H    | 1:110:A:PRO:HB3  | 5        | 0.98          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD11 | 18       | 0.98          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD12 | 18       | 0.98          |
| (2,5)   | 1:126:A:PHE:HE1  | 1:143:A:LEU:HD13 | 18       | 0.98          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD11 | 18       | 0.98          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD12 | 18       | 0.98          |
| (2,5)   | 1:126:A:PHE:HE2  | 1:143:A:LEU:HD13 | 18       | 0.98          |
| (1,308) | 1:113:A:GLY:H    | 1:114:A:ASP:HB3  | 9        | 0.98          |
| (1,224) | 1:143:A:LEU:HD21 | 1:128:A:ALA:HA   | 2        | 0.98          |
| (1,224) | 1:143:A:LEU:HD22 | 1:128:A:ALA:HA   | 2        | 0.98          |
| (1,224) | 1:143:A:LEU:HD23 | 1:128:A:ALA:HA   | 2        | 0.98          |
| (2,187) | 1:114:A:ASP:H    | 1:110:A:PRO:HB3  | 3        | 0.97          |
| (1,308) | 1:113:A:GLY:H    | 1:114:A:ASP:HB3  | 15       | 0.97          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD11 | 16       | 0.97          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD12 | 16       | 0.97          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD13 | 16       | 0.97          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD11 | 16       | 0.97          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD12 | 16       | 0.97          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD13 | 16       | 0.97          |
| (2,233) | 1:128:A:ALA:HB1  | 1:144:A:ASN:HB3  | 15       | 0.96          |
| (2,233) | 1:128:A:ALA:HB2  | 1:144:A:ASN:HB3  | 15       | 0.96          |
| (2,233) | 1:128:A:ALA:HB3  | 1:144:A:ASN:HB3  | 15       | 0.96          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD11 | 3        | 0.96          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD12 | 3        | 0.96          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD13 | 3        | 0.96          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG21 | 13       | 0.96          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG22 | 13       | 0.96          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG23 | 13       | 0.96          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG21 | 13       | 0.96          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG22 | 13       | 0.96          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG23 | 13       | 0.96          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG21 | 13       | 0.96          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG22 | 13       | 0.96          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG23 | 13       | 0.96          |
| (1,312) | 1:139:A:SER:H    | 1:138:A:ARG:HB2  | 1        | 0.96          |
| (1,308) | 1:113:A:GLY:H    | 1:114:A:ASP:HB3  | 4        | 0.96          |
| (1,308) | 1:113:A:GLY:H    | 1:114:A:ASP:HB3  | 6        | 0.96          |
| (1,312) | 1:139:A:SER:H    | 1:138:A:ARG:HB2  | 4        | 0.95          |
| (1,308) | 1:113:A:GLY:H    | 1:114:A:ASP:HB3  | 8        | 0.95          |
| (1,125) | 1:118:A:ILE:HD11 | 1:126:A:PHE:HB3  | 4        | 0.94          |
| (1,125) | 1:118:A:ILE:HD12 | 1:126:A:PHE:HB3  | 4        | 0.94          |
| (1,125) | 1:118:A:ILE:HD13 | 1:126:A:PHE:HB3  | 4        | 0.94          |
| (1,125) | 1:118:A:ILE:HD11 | 1:126:A:PHE:HB3  | 10       | 0.94          |

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| Key     | Atom-1           | Atom-2          | Model ID | Violation (Å) |
|---------|------------------|-----------------|----------|---------------|
| (1,125) | 1:118:A:ILE:HD12 | 1:126:A:PHE:HB3 | 10       | 0.94          |
| (1,125) | 1:118:A:ILE:HD13 | 1:126:A:PHE:HB3 | 10       | 0.94          |
| (1,125) | 1:118:A:ILE:HD11 | 1:126:A:PHE:HB3 | 11       | 0.94          |
| (1,125) | 1:118:A:ILE:HD12 | 1:126:A:PHE:HB3 | 11       | 0.94          |
| (1,125) | 1:118:A:ILE:HD13 | 1:126:A:PHE:HB3 | 11       | 0.94          |
| (1,63)  | 1:141:A:LEU:HD21 | 1:130:A:PHE:HB2 | 17       | 0.94          |
| (1,63)  | 1:141:A:LEU:HD22 | 1:130:A:PHE:HB2 | 17       | 0.94          |
| (1,63)  | 1:141:A:LEU:HD23 | 1:130:A:PHE:HB2 | 17       | 0.94          |
| (2,233) | 1:128:A:ALA:HB1  | 1:144:A:ASN:HB3 | 8        | 0.93          |
| (2,233) | 1:128:A:ALA:HB2  | 1:144:A:ASN:HB3 | 8        | 0.93          |
| (2,233) | 1:128:A:ALA:HB3  | 1:144:A:ASN:HB3 | 8        | 0.93          |
| (1,879) | 1:118:A:ILE:HG21 | 1:158:A:GLU:HB3 | 15       | 0.93          |
| (1,879) | 1:118:A:ILE:HG22 | 1:158:A:GLU:HB3 | 15       | 0.93          |
| (1,879) | 1:118:A:ILE:HG23 | 1:158:A:GLU:HB3 | 15       | 0.93          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD1 | 8        | 0.93          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD2 | 8        | 0.93          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD1 | 8        | 0.93          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD2 | 8        | 0.93          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD1 | 8        | 0.93          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD2 | 8        | 0.93          |
| (1,308) | 1:113:A:GLY:H    | 1:114:A:ASP:HB3 | 11       | 0.93          |
| (1,308) | 1:113:A:GLY:H    | 1:114:A:ASP:HB3 | 13       | 0.93          |
| (2,213) | 1:114:A:ASP:HB3  | 1:111:A:TYR:HA  | 10       | 0.92          |
| (1,748) | 1:130:A:PHE:HB3  | 1:114:A:ASP:H   | 1        | 0.92          |
| (1,748) | 1:130:A:PHE:HB3  | 1:114:A:ASP:H   | 8        | 0.92          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD1 | 12       | 0.92          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD2 | 12       | 0.92          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD1 | 12       | 0.92          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD2 | 12       | 0.92          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD1 | 12       | 0.92          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD2 | 12       | 0.92          |
| (1,308) | 1:113:A:GLY:H    | 1:114:A:ASP:HB3 | 10       | 0.92          |
| (1,308) | 1:113:A:GLY:H    | 1:114:A:ASP:HB3 | 14       | 0.92          |
| (1,308) | 1:113:A:GLY:H    | 1:114:A:ASP:HB3 | 16       | 0.92          |
| (1,68)  | 1:154:A:VAL:HG11 | 1:158:A:GLU:HB3 | 13       | 0.92          |
| (1,68)  | 1:154:A:VAL:HG12 | 1:158:A:GLU:HB3 | 13       | 0.92          |
| (1,68)  | 1:154:A:VAL:HG13 | 1:158:A:GLU:HB3 | 13       | 0.92          |
| (1,68)  | 1:154:A:VAL:HG11 | 1:158:A:GLU:HB3 | 17       | 0.92          |
| (1,68)  | 1:154:A:VAL:HG12 | 1:158:A:GLU:HB3 | 17       | 0.92          |
| (1,68)  | 1:154:A:VAL:HG13 | 1:158:A:GLU:HB3 | 17       | 0.92          |
| (1,63)  | 1:141:A:LEU:HD21 | 1:130:A:PHE:HB2 | 18       | 0.92          |
| (1,63)  | 1:141:A:LEU:HD22 | 1:130:A:PHE:HB2 | 18       | 0.92          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,63)  | 1:141:A:LEU:HD23 | 1:130:A:PHE:HB2  | 18       | 0.92          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD11 | 4        | 0.91          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD12 | 4        | 0.91          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD13 | 4        | 0.91          |
| (1,312) | 1:139:A:SER:H    | 1:138:A:ARG:HB2  | 15       | 0.91          |
| (1,308) | 1:113:A:GLY:H    | 1:114:A:ASP:HB3  | 18       | 0.91          |
| (2,187) | 1:114:A:ASP:H    | 1:110:A:PRO:HB3  | 11       | 0.9           |
| (2,62)  | 1:154:A:VAL:HG21 | 1:152:A:HIS:HB2  | 13       | 0.9           |
| (2,62)  | 1:154:A:VAL:HG22 | 1:152:A:HIS:HB2  | 13       | 0.9           |
| (2,62)  | 1:154:A:VAL:HG23 | 1:152:A:HIS:HB2  | 13       | 0.9           |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD11 | 2        | 0.9           |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD12 | 2        | 0.9           |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD13 | 2        | 0.9           |
| (1,125) | 1:118:A:ILE:HD11 | 1:126:A:PHE:HB3  | 6        | 0.9           |
| (1,125) | 1:118:A:ILE:HD12 | 1:126:A:PHE:HB3  | 6        | 0.9           |
| (1,125) | 1:118:A:ILE:HD13 | 1:126:A:PHE:HB3  | 6        | 0.9           |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD11 | 8        | 0.89          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD12 | 8        | 0.89          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD13 | 8        | 0.89          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD11 | 13       | 0.89          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD12 | 13       | 0.89          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD13 | 13       | 0.89          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD11 | 18       | 0.89          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD12 | 18       | 0.89          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD13 | 18       | 0.89          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD11 | 5        | 0.88          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD12 | 5        | 0.88          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD13 | 5        | 0.88          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD11 | 12       | 0.88          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD12 | 12       | 0.88          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD13 | 12       | 0.88          |
| (1,902) | 1:116:A:VAL:HG11 | 1:130:A:PHE:HB3  | 12       | 0.88          |
| (1,902) | 1:116:A:VAL:HG12 | 1:130:A:PHE:HB3  | 12       | 0.88          |
| (1,902) | 1:116:A:VAL:HG13 | 1:130:A:PHE:HB3  | 12       | 0.88          |
| (1,616) | 1:110:A:PRO:HB2  | 1:161:A:LYS:HD3  | 20       | 0.88          |
| (1,312) | 1:139:A:SER:H    | 1:138:A:ARG:HB2  | 5        | 0.88          |
| (1,312) | 1:139:A:SER:H    | 1:138:A:ARG:HB2  | 17       | 0.88          |
| (1,308) | 1:113:A:GLY:H    | 1:114:A:ASP:HB3  | 1        | 0.88          |
| (1,224) | 1:143:A:LEU:HD21 | 1:128:A:ALA:HA   | 3        | 0.88          |
| (1,224) | 1:143:A:LEU:HD22 | 1:128:A:ALA:HA   | 3        | 0.88          |
| (1,224) | 1:143:A:LEU:HD23 | 1:128:A:ALA:HA   | 3        | 0.88          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD11 | 9        | 0.87          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD12 | 9        | 0.87          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD13 | 9        | 0.87          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD11 | 17       | 0.87          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD12 | 17       | 0.87          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD13 | 17       | 0.87          |
| (1,679) | 1:138:A:ARG:HB2  | 1:155:A:LYS:HA   | 2        | 0.87          |
| (1,312) | 1:139:A:SER:H    | 1:138:A:ARG:HB2  | 3        | 0.87          |
| (1,312) | 1:139:A:SER:H    | 1:138:A:ARG:HB2  | 18       | 0.87          |
| (1,68)  | 1:154:A:VAL:HG11 | 1:158:A:GLU:HB3  | 18       | 0.87          |
| (1,68)  | 1:154:A:VAL:HG12 | 1:158:A:GLU:HB3  | 18       | 0.87          |
| (1,68)  | 1:154:A:VAL:HG13 | 1:158:A:GLU:HB3  | 18       | 0.87          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD11 | 10       | 0.87          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD12 | 10       | 0.87          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD13 | 10       | 0.87          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD11 | 10       | 0.87          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD12 | 10       | 0.87          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD13 | 10       | 0.87          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD11 | 7        | 0.86          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD12 | 7        | 0.86          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD13 | 7        | 0.86          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD11 | 16       | 0.86          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD12 | 16       | 0.86          |
| (1,773) | 1:159:A:PHE:HB2  | 1:141:A:LEU:HD13 | 16       | 0.86          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD1  | 15       | 0.86          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD2  | 15       | 0.86          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD1  | 15       | 0.86          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD2  | 15       | 0.86          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD1  | 15       | 0.86          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD2  | 15       | 0.86          |
| (1,312) | 1:139:A:SER:H    | 1:138:A:ARG:HB2  | 10       | 0.86          |
| (1,224) | 1:143:A:LEU:HD21 | 1:128:A:ALA:HA   | 15       | 0.86          |
| (1,224) | 1:143:A:LEU:HD22 | 1:128:A:ALA:HA   | 15       | 0.86          |
| (1,224) | 1:143:A:LEU:HD23 | 1:128:A:ALA:HA   | 15       | 0.86          |
| (1,68)  | 1:154:A:VAL:HG11 | 1:158:A:GLU:HB3  | 12       | 0.86          |
| (1,68)  | 1:154:A:VAL:HG12 | 1:158:A:GLU:HB3  | 12       | 0.86          |
| (1,68)  | 1:154:A:VAL:HG13 | 1:158:A:GLU:HB3  | 12       | 0.86          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD11 | 20       | 0.85          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD12 | 20       | 0.85          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD13 | 20       | 0.85          |
| (1,902) | 1:116:A:VAL:HG11 | 1:130:A:PHE:HB3  | 17       | 0.85          |
| (1,902) | 1:116:A:VAL:HG12 | 1:130:A:PHE:HB3  | 17       | 0.85          |
| (1,902) | 1:116:A:VAL:HG13 | 1:130:A:PHE:HB3  | 17       | 0.85          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,748) | 1:130:A:PHE:HB3  | 1:114:A:ASP:H    | 18       | 0.85          |
| (1,748) | 1:130:A:PHE:HB3  | 1:114:A:ASP:H    | 19       | 0.85          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG21 | 9        | 0.85          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG22 | 9        | 0.85          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG23 | 9        | 0.85          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG21 | 9        | 0.85          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG22 | 9        | 0.85          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG23 | 9        | 0.85          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG21 | 9        | 0.85          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG22 | 9        | 0.85          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG23 | 9        | 0.85          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD21 | 17       | 0.85          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD22 | 17       | 0.85          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD23 | 17       | 0.85          |
| (1,312) | 1:139:A:SER:H    | 1:138:A:ARG:HB2  | 19       | 0.85          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD11 | 7        | 0.85          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD12 | 7        | 0.85          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD13 | 7        | 0.85          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD11 | 7        | 0.85          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD12 | 7        | 0.85          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD13 | 7        | 0.85          |
| (2,187) | 1:114:A:ASP:H    | 1:110:A:PRO:HB3  | 2        | 0.84          |
| (2,58)  | 1:108:A:ALA:HA   | 1:161:A:LYS:HD2  | 10       | 0.84          |
| (1,915) | 1:154:A:VAL:HG21 | 1:152:A:HIS:HB3  | 1        | 0.84          |
| (1,915) | 1:154:A:VAL:HG22 | 1:152:A:HIS:HB3  | 1        | 0.84          |
| (1,915) | 1:154:A:VAL:HG23 | 1:152:A:HIS:HB3  | 1        | 0.84          |
| (1,902) | 1:116:A:VAL:HG11 | 1:130:A:PHE:HB3  | 13       | 0.84          |
| (1,902) | 1:116:A:VAL:HG12 | 1:130:A:PHE:HB3  | 13       | 0.84          |
| (1,902) | 1:116:A:VAL:HG13 | 1:130:A:PHE:HB3  | 13       | 0.84          |
| (1,819) | 1:150:A:ILE:HD11 | 1:145:A:LEU:HD11 | 11       | 0.84          |
| (1,819) | 1:150:A:ILE:HD11 | 1:145:A:LEU:HD12 | 11       | 0.84          |
| (1,819) | 1:150:A:ILE:HD11 | 1:145:A:LEU:HD13 | 11       | 0.84          |
| (1,819) | 1:150:A:ILE:HD12 | 1:145:A:LEU:HD11 | 11       | 0.84          |
| (1,819) | 1:150:A:ILE:HD12 | 1:145:A:LEU:HD12 | 11       | 0.84          |
| (1,819) | 1:150:A:ILE:HD12 | 1:145:A:LEU:HD13 | 11       | 0.84          |
| (1,819) | 1:150:A:ILE:HD13 | 1:145:A:LEU:HD11 | 11       | 0.84          |
| (1,819) | 1:150:A:ILE:HD13 | 1:145:A:LEU:HD12 | 11       | 0.84          |
| (1,819) | 1:150:A:ILE:HD13 | 1:145:A:LEU:HD13 | 11       | 0.84          |
| (1,748) | 1:130:A:PHE:HB3  | 1:114:A:ASP:H    | 12       | 0.84          |
| (1,679) | 1:138:A:ARG:HB2  | 1:155:A:LYS:HA   | 18       | 0.84          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG21 | 12       | 0.84          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG22 | 12       | 0.84          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG23 | 12       | 0.84          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG21 | 12       | 0.84          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG22 | 12       | 0.84          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG23 | 12       | 0.84          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG21 | 12       | 0.84          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG22 | 12       | 0.84          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG23 | 12       | 0.84          |
| (1,229) | 1:145:A:LEU:HD21 | 1:143:A:LEU:HD11 | 2        | 0.84          |
| (1,229) | 1:145:A:LEU:HD21 | 1:143:A:LEU:HD12 | 2        | 0.84          |
| (1,229) | 1:145:A:LEU:HD21 | 1:143:A:LEU:HD13 | 2        | 0.84          |
| (1,229) | 1:145:A:LEU:HD22 | 1:143:A:LEU:HD11 | 2        | 0.84          |
| (1,229) | 1:145:A:LEU:HD22 | 1:143:A:LEU:HD12 | 2        | 0.84          |
| (1,229) | 1:145:A:LEU:HD22 | 1:143:A:LEU:HD13 | 2        | 0.84          |
| (1,229) | 1:145:A:LEU:HD23 | 1:143:A:LEU:HD11 | 2        | 0.84          |
| (1,229) | 1:145:A:LEU:HD23 | 1:143:A:LEU:HD12 | 2        | 0.84          |
| (1,229) | 1:145:A:LEU:HD23 | 1:143:A:LEU:HD13 | 2        | 0.84          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD11 | 9        | 0.84          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD12 | 9        | 0.84          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD13 | 9        | 0.84          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD11 | 9        | 0.84          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD12 | 9        | 0.84          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD13 | 9        | 0.84          |
| (2,187) | 1:114:A:ASP:H    | 1:110:A:PRO:HB3  | 20       | 0.83          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG21 | 8        | 0.83          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG22 | 8        | 0.83          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG23 | 8        | 0.83          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG21 | 8        | 0.83          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG22 | 8        | 0.83          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG23 | 8        | 0.83          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG21 | 8        | 0.83          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG22 | 8        | 0.83          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG23 | 8        | 0.83          |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG11 | 18       | 0.83          |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG12 | 18       | 0.83          |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG13 | 18       | 0.83          |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD21 | 2        | 0.83          |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD22 | 2        | 0.83          |
| (1,55)  | 1:126:A:PHE:HZ   | 1:145:A:LEU:HD23 | 2        | 0.83          |
| (1,34)  | 1:130:A:PHE:HE1  | 1:161:A:LYS:HB3  | 20       | 0.83          |
| (1,34)  | 1:130:A:PHE:HE2  | 1:161:A:LYS:HB3  | 20       | 0.83          |
| (2,187) | 1:114:A:ASP:H    | 1:110:A:PRO:HB3  | 10       | 0.82          |
| (1,608) | 1:110:A:PRO:HB3  | 1:114:A:ASP:HB3  | 7        | 0.82          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG11 | 4        | 0.82          |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG12 | 4        | 0.82          |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG13 | 4        | 0.82          |
| (1,312) | 1:139:A:SER:H    | 1:138:A:ARG:HB2  | 7        | 0.82          |
| (1,34)  | 1:130:A:PHE:HE1  | 1:161:A:LYS:HB3  | 17       | 0.82          |
| (1,34)  | 1:130:A:PHE:HE2  | 1:161:A:LYS:HB3  | 17       | 0.82          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD11 | 15       | 0.82          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD12 | 15       | 0.82          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD13 | 15       | 0.82          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD11 | 15       | 0.82          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD12 | 15       | 0.82          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD13 | 15       | 0.82          |
| (2,187) | 1:114:A:ASP:H    | 1:110:A:PRO:HB3  | 6        | 0.81          |
| (1,915) | 1:154:A:VAL:HG21 | 1:152:A:HIS:HB3  | 17       | 0.81          |
| (1,915) | 1:154:A:VAL:HG22 | 1:152:A:HIS:HB3  | 17       | 0.81          |
| (1,915) | 1:154:A:VAL:HG23 | 1:152:A:HIS:HB3  | 17       | 0.81          |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG11 | 1        | 0.81          |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG12 | 1        | 0.81          |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG13 | 1        | 0.81          |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG11 | 9        | 0.81          |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG12 | 9        | 0.81          |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG13 | 9        | 0.81          |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG11 | 11       | 0.81          |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG12 | 11       | 0.81          |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG13 | 11       | 0.81          |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG11 | 12       | 0.81          |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG12 | 12       | 0.81          |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG13 | 12       | 0.81          |
| (1,224) | 1:143:A:LEU:HD21 | 1:128:A:ALA:HA   | 16       | 0.81          |
| (1,224) | 1:143:A:LEU:HD22 | 1:128:A:ALA:HA   | 16       | 0.81          |
| (1,224) | 1:143:A:LEU:HD23 | 1:128:A:ALA:HA   | 16       | 0.81          |
| (1,68)  | 1:154:A:VAL:HG11 | 1:158:A:GLU:HB3  | 11       | 0.81          |
| (1,68)  | 1:154:A:VAL:HG12 | 1:158:A:GLU:HB3  | 11       | 0.81          |
| (1,68)  | 1:154:A:VAL:HG13 | 1:158:A:GLU:HB3  | 11       | 0.81          |
| (2,187) | 1:114:A:ASP:H    | 1:110:A:PRO:HB3  | 4        | 0.8           |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD11 | 16       | 0.8           |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD12 | 16       | 0.8           |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD13 | 16       | 0.8           |
| (1,902) | 1:116:A:VAL:HG11 | 1:130:A:PHE:HB3  | 8        | 0.8           |
| (1,902) | 1:116:A:VAL:HG12 | 1:130:A:PHE:HB3  | 8        | 0.8           |
| (1,902) | 1:116:A:VAL:HG13 | 1:130:A:PHE:HB3  | 8        | 0.8           |
| (1,902) | 1:116:A:VAL:HG11 | 1:130:A:PHE:HB3  | 19       | 0.8           |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,902) | 1:116:A:VAL:HG12 | 1:130:A:PHE:HB3  | 19       | 0.8           |
| (1,902) | 1:116:A:VAL:HG13 | 1:130:A:PHE:HB3  | 19       | 0.8           |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG11 | 13       | 0.8           |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG12 | 13       | 0.8           |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG13 | 13       | 0.8           |
| (2,233) | 1:128:A:ALA:HB1  | 1:144:A:ASN:HB3  | 2        | 0.79          |
| (2,233) | 1:128:A:ALA:HB2  | 1:144:A:ASN:HB3  | 2        | 0.79          |
| (2,233) | 1:128:A:ALA:HB3  | 1:144:A:ASN:HB3  | 2        | 0.79          |
| (1,751) | 1:130:A:PHE:HB3  | 1:129:A:ILE:HA   | 10       | 0.79          |
| (1,751) | 1:130:A:PHE:HB3  | 1:129:A:ILE:HA   | 18       | 0.79          |
| (1,679) | 1:138:A:ARG:HB2  | 1:155:A:LYS:HA   | 19       | 0.79          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD1  | 11       | 0.79          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD2  | 11       | 0.79          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD1  | 11       | 0.79          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD2  | 11       | 0.79          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD1  | 11       | 0.79          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD2  | 11       | 0.79          |
| (1,224) | 1:143:A:LEU:HD21 | 1:128:A:ALA:HA   | 9        | 0.79          |
| (1,224) | 1:143:A:LEU:HD22 | 1:128:A:ALA:HA   | 9        | 0.79          |
| (1,224) | 1:143:A:LEU:HD23 | 1:128:A:ALA:HA   | 9        | 0.79          |
| (1,819) | 1:150:A:ILE:HD11 | 1:145:A:LEU:HD11 | 14       | 0.78          |
| (1,819) | 1:150:A:ILE:HD11 | 1:145:A:LEU:HD12 | 14       | 0.78          |
| (1,819) | 1:150:A:ILE:HD11 | 1:145:A:LEU:HD13 | 14       | 0.78          |
| (1,819) | 1:150:A:ILE:HD12 | 1:145:A:LEU:HD11 | 14       | 0.78          |
| (1,819) | 1:150:A:ILE:HD12 | 1:145:A:LEU:HD12 | 14       | 0.78          |
| (1,819) | 1:150:A:ILE:HD12 | 1:145:A:LEU:HD13 | 14       | 0.78          |
| (1,819) | 1:150:A:ILE:HD13 | 1:145:A:LEU:HD11 | 14       | 0.78          |
| (1,819) | 1:150:A:ILE:HD13 | 1:145:A:LEU:HD12 | 14       | 0.78          |
| (1,819) | 1:150:A:ILE:HD13 | 1:145:A:LEU:HD13 | 14       | 0.78          |
| (1,757) | 1:134:A:ASP:HB3  | 1:133:A:PRO:HA   | 6        | 0.78          |
| (1,757) | 1:134:A:ASP:HB3  | 1:133:A:PRO:HA   | 9        | 0.78          |
| (1,757) | 1:134:A:ASP:HB3  | 1:133:A:PRO:HA   | 14       | 0.78          |
| (1,757) | 1:134:A:ASP:HB3  | 1:133:A:PRO:HA   | 20       | 0.78          |
| (1,751) | 1:130:A:PHE:HB3  | 1:129:A:ILE:HA   | 3        | 0.78          |
| (1,751) | 1:130:A:PHE:HB3  | 1:129:A:ILE:HA   | 4        | 0.78          |
| (1,751) | 1:130:A:PHE:HB3  | 1:129:A:ILE:HA   | 5        | 0.78          |
| (1,751) | 1:130:A:PHE:HB3  | 1:129:A:ILE:HA   | 6        | 0.78          |
| (1,751) | 1:130:A:PHE:HB3  | 1:129:A:ILE:HA   | 7        | 0.78          |
| (1,751) | 1:130:A:PHE:HB3  | 1:129:A:ILE:HA   | 9        | 0.78          |
| (1,751) | 1:130:A:PHE:HB3  | 1:129:A:ILE:HA   | 16       | 0.78          |
| (1,748) | 1:130:A:PHE:HB3  | 1:114:A:ASP:H    | 16       | 0.78          |
| (1,748) | 1:130:A:PHE:HB3  | 1:114:A:ASP:H    | 20       | 0.78          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG21 | 6        | 0.78          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG22 | 6        | 0.78          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG23 | 6        | 0.78          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG21 | 6        | 0.78          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG22 | 6        | 0.78          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG23 | 6        | 0.78          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG21 | 6        | 0.78          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG22 | 6        | 0.78          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG23 | 6        | 0.78          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG21 | 18       | 0.78          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG22 | 18       | 0.78          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG23 | 18       | 0.78          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG21 | 18       | 0.78          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG22 | 18       | 0.78          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG23 | 18       | 0.78          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG21 | 18       | 0.78          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG22 | 18       | 0.78          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG23 | 18       | 0.78          |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG11 | 17       | 0.78          |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG12 | 17       | 0.78          |
| (1,454) | 1:155:A:LYS:H    | 1:154:A:VAL:HG13 | 17       | 0.78          |
| (1,312) | 1:139:A:SER:H    | 1:138:A:ARG:HB2  | 16       | 0.78          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD11 | 18       | 0.78          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD12 | 18       | 0.78          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD13 | 18       | 0.78          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD11 | 18       | 0.78          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD12 | 18       | 0.78          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD13 | 18       | 0.78          |
| (2,213) | 1:114:A:ASP:HB3  | 1:111:A:TYR:HA   | 8        | 0.77          |
| (2,213) | 1:114:A:ASP:HB3  | 1:111:A:TYR:HA   | 20       | 0.77          |
| (2,123) | 1:142:A:LEU:HD21 | 1:150:A:ILE:HG12 | 9        | 0.77          |
| (2,123) | 1:142:A:LEU:HD22 | 1:150:A:ILE:HG12 | 9        | 0.77          |
| (2,123) | 1:142:A:LEU:HD23 | 1:150:A:ILE:HG12 | 9        | 0.77          |
| (1,946) | 1:145:A:LEU:HD21 | 1:145:A:LEU:HA   | 2        | 0.77          |
| (1,946) | 1:145:A:LEU:HD22 | 1:145:A:LEU:HA   | 2        | 0.77          |
| (1,946) | 1:145:A:LEU:HD23 | 1:145:A:LEU:HA   | 2        | 0.77          |
| (1,757) | 1:134:A:ASP:HB3  | 1:133:A:PRO:HA   | 3        | 0.77          |
| (1,757) | 1:134:A:ASP:HB3  | 1:133:A:PRO:HA   | 4        | 0.77          |
| (1,757) | 1:134:A:ASP:HB3  | 1:133:A:PRO:HA   | 5        | 0.77          |
| (1,757) | 1:134:A:ASP:HB3  | 1:133:A:PRO:HA   | 10       | 0.77          |
| (1,757) | 1:134:A:ASP:HB3  | 1:133:A:PRO:HA   | 12       | 0.77          |
| (1,757) | 1:134:A:ASP:HB3  | 1:133:A:PRO:HA   | 16       | 0.77          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,757) | 1:134:A:ASP:HB3  | 1:133:A:PRO:HA   | 17       | 0.77          |
| (1,757) | 1:134:A:ASP:HB3  | 1:133:A:PRO:HA   | 19       | 0.77          |
| (1,751) | 1:130:A:PHE:HB3  | 1:129:A:ILE:HA   | 2        | 0.77          |
| (1,751) | 1:130:A:PHE:HB3  | 1:129:A:ILE:HA   | 11       | 0.77          |
| (1,751) | 1:130:A:PHE:HB3  | 1:129:A:ILE:HA   | 14       | 0.77          |
| (1,751) | 1:130:A:PHE:HB3  | 1:129:A:ILE:HA   | 15       | 0.77          |
| (1,751) | 1:130:A:PHE:HB3  | 1:129:A:ILE:HA   | 19       | 0.77          |
| (1,751) | 1:130:A:PHE:HB3  | 1:129:A:ILE:HA   | 20       | 0.77          |
| (1,231) | 1:162:A:LEU:HB2  | 1:161:A:LYS:HA   | 8        | 0.77          |
| (1,224) | 1:143:A:LEU:HD21 | 1:128:A:ALA:HA   | 1        | 0.77          |
| (1,224) | 1:143:A:LEU:HD22 | 1:128:A:ALA:HA   | 1        | 0.77          |
| (1,224) | 1:143:A:LEU:HD23 | 1:128:A:ALA:HA   | 1        | 0.77          |
| (1,68)  | 1:154:A:VAL:HG11 | 1:158:A:GLU:HB3  | 9        | 0.77          |
| (1,68)  | 1:154:A:VAL:HG12 | 1:158:A:GLU:HB3  | 9        | 0.77          |
| (1,68)  | 1:154:A:VAL:HG13 | 1:158:A:GLU:HB3  | 9        | 0.77          |
| (2,60)  | 1:154:A:VAL:HG21 | 1:139:A:SER:HB3  | 9        | 0.76          |
| (2,60)  | 1:154:A:VAL:HG22 | 1:139:A:SER:HB3  | 9        | 0.76          |
| (2,60)  | 1:154:A:VAL:HG23 | 1:139:A:SER:HB3  | 9        | 0.76          |
| (1,751) | 1:130:A:PHE:HB3  | 1:129:A:ILE:HA   | 1        | 0.76          |
| (1,751) | 1:130:A:PHE:HB3  | 1:129:A:ILE:HA   | 8        | 0.76          |
| (1,751) | 1:130:A:PHE:HB3  | 1:129:A:ILE:HA   | 12       | 0.76          |
| (1,751) | 1:130:A:PHE:HB3  | 1:129:A:ILE:HA   | 17       | 0.76          |
| (1,748) | 1:130:A:PHE:HB3  | 1:114:A:ASP:H    | 4        | 0.76          |
| (1,748) | 1:130:A:PHE:HB3  | 1:114:A:ASP:H    | 6        | 0.76          |
| (1,312) | 1:139:A:SER:H    | 1:138:A:ARG:HB2  | 9        | 0.76          |
| (1,231) | 1:162:A:LEU:HB2  | 1:161:A:LYS:HA   | 6        | 0.76          |
| (1,231) | 1:162:A:LEU:HB2  | 1:161:A:LYS:HA   | 20       | 0.76          |
| (1,63)  | 1:141:A:LEU:HD21 | 1:130:A:PHE:HB2  | 4        | 0.76          |
| (1,63)  | 1:141:A:LEU:HD22 | 1:130:A:PHE:HB2  | 4        | 0.76          |
| (1,63)  | 1:141:A:LEU:HD23 | 1:130:A:PHE:HB2  | 4        | 0.76          |
| (1,63)  | 1:141:A:LEU:HD21 | 1:130:A:PHE:HB2  | 9        | 0.76          |
| (1,63)  | 1:141:A:LEU:HD22 | 1:130:A:PHE:HB2  | 9        | 0.76          |
| (1,63)  | 1:141:A:LEU:HD23 | 1:130:A:PHE:HB2  | 9        | 0.76          |
| (2,213) | 1:114:A:ASP:HB3  | 1:111:A:TYR:HA   | 9        | 0.75          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD11 | 6        | 0.75          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD12 | 6        | 0.75          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD13 | 6        | 0.75          |
| (1,903) | 1:152:A:HIS:HA   | 1:153:A:SER:HB2  | 3        | 0.75          |
| (1,903) | 1:152:A:HIS:HA   | 1:153:A:SER:HB2  | 15       | 0.75          |
| (1,748) | 1:130:A:PHE:HB3  | 1:114:A:ASP:H    | 2        | 0.75          |
| (1,608) | 1:110:A:PRO:HB3  | 1:114:A:ASP:HB3  | 5        | 0.75          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD1  | 6        | 0.75          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD2  | 6        | 0.75          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD1  | 6        | 0.75          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD2  | 6        | 0.75          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD1  | 6        | 0.75          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD2  | 6        | 0.75          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD21 | 6        | 0.75          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD22 | 6        | 0.75          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD23 | 6        | 0.75          |
| (1,231) | 1:162:A:LEU:HB2  | 1:161:A:LYS:HA   | 4        | 0.75          |
| (1,231) | 1:162:A:LEU:HB2  | 1:161:A:LYS:HA   | 5        | 0.75          |
| (1,231) | 1:162:A:LEU:HB2  | 1:161:A:LYS:HA   | 12       | 0.75          |
| (1,231) | 1:162:A:LEU:HB2  | 1:161:A:LYS:HA   | 13       | 0.75          |
| (1,231) | 1:162:A:LEU:HB2  | 1:161:A:LYS:HA   | 15       | 0.75          |
| (1,231) | 1:162:A:LEU:HB2  | 1:161:A:LYS:HA   | 16       | 0.75          |
| (1,231) | 1:162:A:LEU:HB2  | 1:161:A:LYS:HA   | 17       | 0.75          |
| (1,224) | 1:143:A:LEU:HD21 | 1:128:A:ALA:HA   | 18       | 0.75          |
| (1,224) | 1:143:A:LEU:HD22 | 1:128:A:ALA:HA   | 18       | 0.75          |
| (1,224) | 1:143:A:LEU:HD23 | 1:128:A:ALA:HA   | 18       | 0.75          |
| (1,63)  | 1:141:A:LEU:HD21 | 1:130:A:PHE:HB2  | 2        | 0.75          |
| (1,63)  | 1:141:A:LEU:HD22 | 1:130:A:PHE:HB2  | 2        | 0.75          |
| (1,63)  | 1:141:A:LEU:HD23 | 1:130:A:PHE:HB2  | 2        | 0.75          |
| (1,932) | 1:141:A:LEU:HD21 | 1:141:A:LEU:HA   | 1        | 0.74          |
| (1,932) | 1:141:A:LEU:HD22 | 1:141:A:LEU:HA   | 1        | 0.74          |
| (1,932) | 1:141:A:LEU:HD23 | 1:141:A:LEU:HA   | 1        | 0.74          |
| (1,932) | 1:141:A:LEU:HD21 | 1:141:A:LEU:HA   | 17       | 0.74          |
| (1,932) | 1:141:A:LEU:HD22 | 1:141:A:LEU:HA   | 17       | 0.74          |
| (1,932) | 1:141:A:LEU:HD23 | 1:141:A:LEU:HA   | 17       | 0.74          |
| (1,903) | 1:152:A:HIS:HA   | 1:153:A:SER:HB2  | 5        | 0.74          |
| (1,903) | 1:152:A:HIS:HA   | 1:153:A:SER:HB2  | 6        | 0.74          |
| (1,903) | 1:152:A:HIS:HA   | 1:153:A:SER:HB2  | 8        | 0.74          |
| (1,751) | 1:130:A:PHE:HB3  | 1:129:A:ILE:HA   | 13       | 0.74          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG21 | 15       | 0.74          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG22 | 15       | 0.74          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG23 | 15       | 0.74          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG21 | 15       | 0.74          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG22 | 15       | 0.74          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG23 | 15       | 0.74          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG21 | 15       | 0.74          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG22 | 15       | 0.74          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG23 | 15       | 0.74          |
| (1,211) | 1:142:A:LEU:HD21 | 1:151:A:LYS:HD3  | 16       | 0.74          |
| (1,211) | 1:142:A:LEU:HD22 | 1:151:A:LYS:HD3  | 16       | 0.74          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,211) | 1:142:A:LEU:HD23 | 1:151:A:LYS:HD3  | 16       | 0.74          |
| (1,932) | 1:141:A:LEU:HD21 | 1:141:A:LEU:HA   | 9        | 0.73          |
| (1,932) | 1:141:A:LEU:HD22 | 1:141:A:LEU:HA   | 9        | 0.73          |
| (1,932) | 1:141:A:LEU:HD23 | 1:141:A:LEU:HA   | 9        | 0.73          |
| (1,932) | 1:141:A:LEU:HD21 | 1:141:A:LEU:HA   | 20       | 0.73          |
| (1,932) | 1:141:A:LEU:HD22 | 1:141:A:LEU:HA   | 20       | 0.73          |
| (1,932) | 1:141:A:LEU:HD23 | 1:141:A:LEU:HA   | 20       | 0.73          |
| (1,903) | 1:152:A:HIS:HA   | 1:153:A:SER:HB2  | 2        | 0.73          |
| (1,903) | 1:152:A:HIS:HA   | 1:153:A:SER:HB2  | 10       | 0.73          |
| (1,903) | 1:152:A:HIS:HA   | 1:153:A:SER:HB2  | 19       | 0.73          |
| (1,748) | 1:130:A:PHE:HB3  | 1:114:A:ASP:H    | 15       | 0.73          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG21 | 4        | 0.73          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG22 | 4        | 0.73          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG23 | 4        | 0.73          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG21 | 4        | 0.73          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG22 | 4        | 0.73          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG23 | 4        | 0.73          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG21 | 4        | 0.73          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG22 | 4        | 0.73          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG23 | 4        | 0.73          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG21 | 16       | 0.73          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG22 | 16       | 0.73          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG23 | 16       | 0.73          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG21 | 16       | 0.73          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG22 | 16       | 0.73          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG23 | 16       | 0.73          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG21 | 16       | 0.73          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG22 | 16       | 0.73          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG23 | 16       | 0.73          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD21 | 8        | 0.73          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD22 | 8        | 0.73          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD23 | 8        | 0.73          |
| (1,224) | 1:143:A:LEU:HD21 | 1:128:A:ALA:HA   | 17       | 0.73          |
| (1,224) | 1:143:A:LEU:HD22 | 1:128:A:ALA:HA   | 17       | 0.73          |
| (1,224) | 1:143:A:LEU:HD23 | 1:128:A:ALA:HA   | 17       | 0.73          |
| (2,213) | 1:114:A:ASP:HB3  | 1:111:A:TYR:HA   | 1        | 0.72          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD11 | 15       | 0.72          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD12 | 15       | 0.72          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD13 | 15       | 0.72          |
| (2,111) | 1:141:A:LEU:HD21 | 1:140:A:MET:HB2  | 17       | 0.72          |
| (2,111) | 1:141:A:LEU:HD22 | 1:140:A:MET:HB2  | 17       | 0.72          |
| (2,111) | 1:141:A:LEU:HD23 | 1:140:A:MET:HB2  | 17       | 0.72          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,946) | 1:145:A:LEU:HD21 | 1:145:A:LEU:HA   | 18       | 0.72          |
| (1,946) | 1:145:A:LEU:HD22 | 1:145:A:LEU:HA   | 18       | 0.72          |
| (1,946) | 1:145:A:LEU:HD23 | 1:145:A:LEU:HA   | 18       | 0.72          |
| (1,932) | 1:141:A:LEU:HD21 | 1:141:A:LEU:HA   | 3        | 0.72          |
| (1,932) | 1:141:A:LEU:HD22 | 1:141:A:LEU:HA   | 3        | 0.72          |
| (1,932) | 1:141:A:LEU:HD23 | 1:141:A:LEU:HA   | 3        | 0.72          |
| (1,932) | 1:141:A:LEU:HD21 | 1:141:A:LEU:HA   | 4        | 0.72          |
| (1,932) | 1:141:A:LEU:HD22 | 1:141:A:LEU:HA   | 4        | 0.72          |
| (1,932) | 1:141:A:LEU:HD23 | 1:141:A:LEU:HA   | 4        | 0.72          |
| (1,932) | 1:141:A:LEU:HD21 | 1:141:A:LEU:HA   | 5        | 0.72          |
| (1,932) | 1:141:A:LEU:HD22 | 1:141:A:LEU:HA   | 5        | 0.72          |
| (1,932) | 1:141:A:LEU:HD23 | 1:141:A:LEU:HA   | 5        | 0.72          |
| (1,932) | 1:141:A:LEU:HD21 | 1:141:A:LEU:HA   | 7        | 0.72          |
| (1,932) | 1:141:A:LEU:HD22 | 1:141:A:LEU:HA   | 7        | 0.72          |
| (1,932) | 1:141:A:LEU:HD23 | 1:141:A:LEU:HA   | 7        | 0.72          |
| (1,932) | 1:141:A:LEU:HD21 | 1:141:A:LEU:HA   | 12       | 0.72          |
| (1,932) | 1:141:A:LEU:HD22 | 1:141:A:LEU:HA   | 12       | 0.72          |
| (1,932) | 1:141:A:LEU:HD23 | 1:141:A:LEU:HA   | 12       | 0.72          |
| (1,932) | 1:141:A:LEU:HD21 | 1:141:A:LEU:HA   | 15       | 0.72          |
| (1,932) | 1:141:A:LEU:HD22 | 1:141:A:LEU:HA   | 15       | 0.72          |
| (1,932) | 1:141:A:LEU:HD23 | 1:141:A:LEU:HA   | 15       | 0.72          |
| (1,903) | 1:152:A:HIS:HA   | 1:153:A:SER:HB2  | 14       | 0.72          |
| (1,903) | 1:152:A:HIS:HA   | 1:153:A:SER:HB2  | 16       | 0.72          |
| (1,903) | 1:152:A:HIS:HA   | 1:153:A:SER:HB2  | 20       | 0.72          |
| (1,902) | 1:116:A:VAL:HG11 | 1:130:A:PHE:HB3  | 16       | 0.72          |
| (1,902) | 1:116:A:VAL:HG12 | 1:130:A:PHE:HB3  | 16       | 0.72          |
| (1,902) | 1:116:A:VAL:HG13 | 1:130:A:PHE:HB3  | 16       | 0.72          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD1  | 20       | 0.72          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD2  | 20       | 0.72          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD1  | 20       | 0.72          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD2  | 20       | 0.72          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD1  | 20       | 0.72          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD2  | 20       | 0.72          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD21 | 5        | 0.72          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD22 | 5        | 0.72          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD23 | 5        | 0.72          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD21 | 13       | 0.72          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD22 | 13       | 0.72          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD23 | 13       | 0.72          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD21 | 20       | 0.72          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD22 | 20       | 0.72          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD23 | 20       | 0.72          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,229) | 1:145:A:LEU:HD21 | 1:143:A:LEU:HD11 | 18       | 0.72          |
| (1,229) | 1:145:A:LEU:HD21 | 1:143:A:LEU:HD12 | 18       | 0.72          |
| (1,229) | 1:145:A:LEU:HD21 | 1:143:A:LEU:HD13 | 18       | 0.72          |
| (1,229) | 1:145:A:LEU:HD22 | 1:143:A:LEU:HD11 | 18       | 0.72          |
| (1,229) | 1:145:A:LEU:HD22 | 1:143:A:LEU:HD12 | 18       | 0.72          |
| (1,229) | 1:145:A:LEU:HD22 | 1:143:A:LEU:HD13 | 18       | 0.72          |
| (1,229) | 1:145:A:LEU:HD23 | 1:143:A:LEU:HD11 | 18       | 0.72          |
| (1,229) | 1:145:A:LEU:HD23 | 1:143:A:LEU:HD12 | 18       | 0.72          |
| (1,229) | 1:145:A:LEU:HD23 | 1:143:A:LEU:HD13 | 18       | 0.72          |
| (1,68)  | 1:154:A:VAL:HG11 | 1:158:A:GLU:HB3  | 4        | 0.72          |
| (1,68)  | 1:154:A:VAL:HG12 | 1:158:A:GLU:HB3  | 4        | 0.72          |
| (1,68)  | 1:154:A:VAL:HG13 | 1:158:A:GLU:HB3  | 4        | 0.72          |
| (1,63)  | 1:141:A:LEU:HD21 | 1:130:A:PHE:HB2  | 15       | 0.72          |
| (1,63)  | 1:141:A:LEU:HD22 | 1:130:A:PHE:HB2  | 15       | 0.72          |
| (1,63)  | 1:141:A:LEU:HD23 | 1:130:A:PHE:HB2  | 15       | 0.72          |
| (1,63)  | 1:141:A:LEU:HD21 | 1:130:A:PHE:HB2  | 16       | 0.72          |
| (1,63)  | 1:141:A:LEU:HD22 | 1:130:A:PHE:HB2  | 16       | 0.72          |
| (1,63)  | 1:141:A:LEU:HD23 | 1:130:A:PHE:HB2  | 16       | 0.72          |
| (2,111) | 1:141:A:LEU:HD21 | 1:140:A:MET:HB2  | 1        | 0.71          |
| (2,111) | 1:141:A:LEU:HD22 | 1:140:A:MET:HB2  | 1        | 0.71          |
| (2,111) | 1:141:A:LEU:HD23 | 1:140:A:MET:HB2  | 1        | 0.71          |
| (1,932) | 1:141:A:LEU:HD21 | 1:141:A:LEU:HA   | 2        | 0.71          |
| (1,932) | 1:141:A:LEU:HD22 | 1:141:A:LEU:HA   | 2        | 0.71          |
| (1,932) | 1:141:A:LEU:HD23 | 1:141:A:LEU:HA   | 2        | 0.71          |
| (1,932) | 1:141:A:LEU:HD21 | 1:141:A:LEU:HA   | 6        | 0.71          |
| (1,932) | 1:141:A:LEU:HD22 | 1:141:A:LEU:HA   | 6        | 0.71          |
| (1,932) | 1:141:A:LEU:HD23 | 1:141:A:LEU:HA   | 6        | 0.71          |
| (1,932) | 1:141:A:LEU:HD21 | 1:141:A:LEU:HA   | 11       | 0.71          |
| (1,932) | 1:141:A:LEU:HD22 | 1:141:A:LEU:HA   | 11       | 0.71          |
| (1,932) | 1:141:A:LEU:HD23 | 1:141:A:LEU:HA   | 11       | 0.71          |
| (1,932) | 1:141:A:LEU:HD21 | 1:141:A:LEU:HA   | 13       | 0.71          |
| (1,932) | 1:141:A:LEU:HD22 | 1:141:A:LEU:HA   | 13       | 0.71          |
| (1,932) | 1:141:A:LEU:HD23 | 1:141:A:LEU:HA   | 13       | 0.71          |
| (1,932) | 1:141:A:LEU:HD21 | 1:141:A:LEU:HA   | 16       | 0.71          |
| (1,932) | 1:141:A:LEU:HD22 | 1:141:A:LEU:HA   | 16       | 0.71          |
| (1,932) | 1:141:A:LEU:HD23 | 1:141:A:LEU:HA   | 16       | 0.71          |
| (1,748) | 1:130:A:PHE:HB3  | 1:114:A:ASP:H    | 17       | 0.71          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD1  | 17       | 0.71          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD2  | 17       | 0.71          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD1  | 17       | 0.71          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD2  | 17       | 0.71          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD1  | 17       | 0.71          |

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| Key     | Atom-1           | Atom-2          | Model ID | Violation (Å) |
|---------|------------------|-----------------|----------|---------------|
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD2 | 17       | 0.71          |
| (1,63)  | 1:141:A:LEU:HD21 | 1:130:A:PHE:HB2 | 6        | 0.71          |
| (1,63)  | 1:141:A:LEU:HD22 | 1:130:A:PHE:HB2 | 6        | 0.71          |
| (1,63)  | 1:141:A:LEU:HD23 | 1:130:A:PHE:HB2 | 6        | 0.71          |
| (2,213) | 1:114:A:ASP:HB3  | 1:111:A:TYR:HA  | 11       | 0.7           |
| (2,187) | 1:114:A:ASP:H    | 1:110:A:PRO:HB3 | 17       | 0.7           |
| (1,946) | 1:145:A:LEU:HD21 | 1:145:A:LEU:HA  | 8        | 0.7           |
| (1,946) | 1:145:A:LEU:HD22 | 1:145:A:LEU:HA  | 8        | 0.7           |
| (1,946) | 1:145:A:LEU:HD23 | 1:145:A:LEU:HA  | 8        | 0.7           |
| (1,946) | 1:145:A:LEU:HD21 | 1:145:A:LEU:HA  | 15       | 0.7           |
| (1,946) | 1:145:A:LEU:HD22 | 1:145:A:LEU:HA  | 15       | 0.7           |
| (1,946) | 1:145:A:LEU:HD23 | 1:145:A:LEU:HA  | 15       | 0.7           |
| (1,932) | 1:141:A:LEU:HD21 | 1:141:A:LEU:HA  | 8        | 0.7           |
| (1,932) | 1:141:A:LEU:HD22 | 1:141:A:LEU:HA  | 8        | 0.7           |
| (1,932) | 1:141:A:LEU:HD23 | 1:141:A:LEU:HA  | 8        | 0.7           |
| (1,932) | 1:141:A:LEU:HD21 | 1:141:A:LEU:HA  | 18       | 0.7           |
| (1,932) | 1:141:A:LEU:HD22 | 1:141:A:LEU:HA  | 18       | 0.7           |
| (1,932) | 1:141:A:LEU:HD23 | 1:141:A:LEU:HA  | 18       | 0.7           |
| (1,915) | 1:154:A:VAL:HG21 | 1:152:A:HIS:HB3 | 9        | 0.7           |
| (1,915) | 1:154:A:VAL:HG22 | 1:152:A:HIS:HB3 | 9        | 0.7           |
| (1,915) | 1:154:A:VAL:HG23 | 1:152:A:HIS:HB3 | 9        | 0.7           |
| (1,915) | 1:154:A:VAL:HG21 | 1:152:A:HIS:HB3 | 12       | 0.7           |
| (1,915) | 1:154:A:VAL:HG22 | 1:152:A:HIS:HB3 | 12       | 0.7           |
| (1,915) | 1:154:A:VAL:HG23 | 1:152:A:HIS:HB3 | 12       | 0.7           |
| (1,903) | 1:152:A:HIS:HA   | 1:153:A:SER:HB2 | 4        | 0.7           |
| (1,903) | 1:152:A:HIS:HA   | 1:153:A:SER:HB2 | 9        | 0.7           |
| (1,903) | 1:152:A:HIS:HA   | 1:153:A:SER:HB2 | 11       | 0.7           |
| (1,902) | 1:116:A:VAL:HG11 | 1:130:A:PHE:HB3 | 1        | 0.7           |
| (1,902) | 1:116:A:VAL:HG12 | 1:130:A:PHE:HB3 | 1        | 0.7           |
| (1,902) | 1:116:A:VAL:HG13 | 1:130:A:PHE:HB3 | 1        | 0.7           |
| (1,902) | 1:116:A:VAL:HG11 | 1:130:A:PHE:HB3 | 20       | 0.7           |
| (1,902) | 1:116:A:VAL:HG12 | 1:130:A:PHE:HB3 | 20       | 0.7           |
| (1,902) | 1:116:A:VAL:HG13 | 1:130:A:PHE:HB3 | 20       | 0.7           |
| (1,748) | 1:130:A:PHE:HB3  | 1:114:A:ASP:H   | 10       | 0.7           |
| (1,748) | 1:130:A:PHE:HB3  | 1:114:A:ASP:H   | 14       | 0.7           |
| (1,608) | 1:110:A:PRO:HB3  | 1:114:A:ASP:HB3 | 3        | 0.7           |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD1 | 7        | 0.7           |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD2 | 7        | 0.7           |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD1 | 7        | 0.7           |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD2 | 7        | 0.7           |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD1 | 7        | 0.7           |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD2 | 7        | 0.7           |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG21 | 2        | 0.7           |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG22 | 2        | 0.7           |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG23 | 2        | 0.7           |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG21 | 2        | 0.7           |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG22 | 2        | 0.7           |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG23 | 2        | 0.7           |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG21 | 2        | 0.7           |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG22 | 2        | 0.7           |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG23 | 2        | 0.7           |
| (1,507) | 1:154:A:VAL:HA   | 1:155:A:LYS:HB2  | 16       | 0.7           |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD21 | 3        | 0.7           |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD22 | 3        | 0.7           |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD23 | 3        | 0.7           |
| (1,946) | 1:145:A:LEU:HD21 | 1:145:A:LEU:HA   | 9        | 0.69          |
| (1,946) | 1:145:A:LEU:HD22 | 1:145:A:LEU:HA   | 9        | 0.69          |
| (1,946) | 1:145:A:LEU:HD23 | 1:145:A:LEU:HA   | 9        | 0.69          |
| (1,946) | 1:145:A:LEU:HD21 | 1:145:A:LEU:HA   | 16       | 0.69          |
| (1,946) | 1:145:A:LEU:HD22 | 1:145:A:LEU:HA   | 16       | 0.69          |
| (1,946) | 1:145:A:LEU:HD23 | 1:145:A:LEU:HA   | 16       | 0.69          |
| (1,946) | 1:145:A:LEU:HD21 | 1:145:A:LEU:HA   | 19       | 0.69          |
| (1,946) | 1:145:A:LEU:HD22 | 1:145:A:LEU:HA   | 19       | 0.69          |
| (1,946) | 1:145:A:LEU:HD23 | 1:145:A:LEU:HA   | 19       | 0.69          |
| (1,915) | 1:154:A:VAL:HG21 | 1:152:A:HIS:HB3  | 4        | 0.69          |
| (1,915) | 1:154:A:VAL:HG22 | 1:152:A:HIS:HB3  | 4        | 0.69          |
| (1,915) | 1:154:A:VAL:HG23 | 1:152:A:HIS:HB3  | 4        | 0.69          |
| (1,903) | 1:152:A:HIS:HA   | 1:153:A:SER:HB2  | 1        | 0.69          |
| (1,903) | 1:152:A:HIS:HA   | 1:153:A:SER:HB2  | 12       | 0.69          |
| (1,903) | 1:152:A:HIS:HA   | 1:153:A:SER:HB2  | 17       | 0.69          |
| (1,903) | 1:152:A:HIS:HA   | 1:153:A:SER:HB2  | 18       | 0.69          |
| (1,902) | 1:116:A:VAL:HG11 | 1:130:A:PHE:HB3  | 2        | 0.69          |
| (1,902) | 1:116:A:VAL:HG12 | 1:130:A:PHE:HB3  | 2        | 0.69          |
| (1,902) | 1:116:A:VAL:HG13 | 1:130:A:PHE:HB3  | 2        | 0.69          |
| (1,902) | 1:116:A:VAL:HG11 | 1:130:A:PHE:HB3  | 6        | 0.69          |
| (1,902) | 1:116:A:VAL:HG12 | 1:130:A:PHE:HB3  | 6        | 0.69          |
| (1,902) | 1:116:A:VAL:HG13 | 1:130:A:PHE:HB3  | 6        | 0.69          |
| (1,902) | 1:116:A:VAL:HG11 | 1:130:A:PHE:HB3  | 15       | 0.69          |
| (1,902) | 1:116:A:VAL:HG12 | 1:130:A:PHE:HB3  | 15       | 0.69          |
| (1,902) | 1:116:A:VAL:HG13 | 1:130:A:PHE:HB3  | 15       | 0.69          |
| (1,819) | 1:150:A:ILE:HD11 | 1:145:A:LEU:HD11 | 4        | 0.69          |
| (1,819) | 1:150:A:ILE:HD11 | 1:145:A:LEU:HD12 | 4        | 0.69          |
| (1,819) | 1:150:A:ILE:HD11 | 1:145:A:LEU:HD13 | 4        | 0.69          |
| (1,819) | 1:150:A:ILE:HD12 | 1:145:A:LEU:HD11 | 4        | 0.69          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,819) | 1:150:A:ILE:HD12 | 1:145:A:LEU:HD12 | 4        | 0.69          |
| (1,819) | 1:150:A:ILE:HD12 | 1:145:A:LEU:HD13 | 4        | 0.69          |
| (1,819) | 1:150:A:ILE:HD13 | 1:145:A:LEU:HD11 | 4        | 0.69          |
| (1,819) | 1:150:A:ILE:HD13 | 1:145:A:LEU:HD12 | 4        | 0.69          |
| (1,819) | 1:150:A:ILE:HD13 | 1:145:A:LEU:HD13 | 4        | 0.69          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG21 | 17       | 0.69          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG22 | 17       | 0.69          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG23 | 17       | 0.69          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG21 | 17       | 0.69          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG22 | 17       | 0.69          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG23 | 17       | 0.69          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG21 | 17       | 0.69          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG22 | 17       | 0.69          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG23 | 17       | 0.69          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD21 | 1        | 0.69          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD22 | 1        | 0.69          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD23 | 1        | 0.69          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD21 | 4        | 0.69          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD22 | 4        | 0.69          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD23 | 4        | 0.69          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD21 | 7        | 0.69          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD22 | 7        | 0.69          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD23 | 7        | 0.69          |
| (2,213) | 1:114:A:ASP:HB3  | 1:111:A:TYR:HA   | 7        | 0.68          |
| (2,111) | 1:141:A:LEU:HD21 | 1:140:A:MET:HB2  | 20       | 0.68          |
| (2,111) | 1:141:A:LEU:HD22 | 1:140:A:MET:HB2  | 20       | 0.68          |
| (2,111) | 1:141:A:LEU:HD23 | 1:140:A:MET:HB2  | 20       | 0.68          |
| (1,946) | 1:145:A:LEU:HD21 | 1:145:A:LEU:HA   | 6        | 0.68          |
| (1,946) | 1:145:A:LEU:HD22 | 1:145:A:LEU:HA   | 6        | 0.68          |
| (1,946) | 1:145:A:LEU:HD23 | 1:145:A:LEU:HA   | 6        | 0.68          |
| (1,507) | 1:154:A:VAL:HA   | 1:155:A:LYS:HB2  | 19       | 0.68          |
| (2,213) | 1:114:A:ASP:HB3  | 1:111:A:TYR:HA   | 3        | 0.67          |
| (2,213) | 1:114:A:ASP:HB3  | 1:111:A:TYR:HA   | 14       | 0.67          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD11 | 2        | 0.67          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD12 | 2        | 0.67          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD13 | 2        | 0.67          |
| (1,915) | 1:154:A:VAL:HG21 | 1:152:A:HIS:HB3  | 18       | 0.67          |
| (1,915) | 1:154:A:VAL:HG22 | 1:152:A:HIS:HB3  | 18       | 0.67          |
| (1,915) | 1:154:A:VAL:HG23 | 1:152:A:HIS:HB3  | 18       | 0.67          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG21 | 5        | 0.67          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG22 | 5        | 0.67          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG23 | 5        | 0.67          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG21 | 5        | 0.67          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG22 | 5        | 0.67          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG23 | 5        | 0.67          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG21 | 5        | 0.67          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG22 | 5        | 0.67          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG23 | 5        | 0.67          |
| (1,507) | 1:154:A:VAL:HA   | 1:155:A:LYS:HB2  | 20       | 0.67          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD21 | 15       | 0.67          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD22 | 15       | 0.67          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD23 | 15       | 0.67          |
| (2,110) | 1:141:A:LEU:HD11 | 1:118:A:ILE:HG13 | 13       | 0.66          |
| (2,110) | 1:141:A:LEU:HD12 | 1:118:A:ILE:HG13 | 13       | 0.66          |
| (2,110) | 1:141:A:LEU:HD13 | 1:118:A:ILE:HG13 | 13       | 0.66          |
| (1,748) | 1:130:A:PHE:HB3  | 1:114:A:ASP:H    | 3        | 0.66          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG21 | 3        | 0.66          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG22 | 3        | 0.66          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG23 | 3        | 0.66          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG21 | 3        | 0.66          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG22 | 3        | 0.66          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG23 | 3        | 0.66          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG21 | 3        | 0.66          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG22 | 3        | 0.66          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG23 | 3        | 0.66          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD21 | 9        | 0.66          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD22 | 9        | 0.66          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD23 | 9        | 0.66          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD21 | 12       | 0.66          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD22 | 12       | 0.66          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD23 | 12       | 0.66          |
| (2,213) | 1:114:A:ASP:HB3  | 1:111:A:TYR:HA   | 18       | 0.65          |
| (2,187) | 1:114:A:ASP:H    | 1:110:A:PRO:HB3  | 9        | 0.65          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD11 | 1        | 0.65          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD12 | 1        | 0.65          |
| (2,169) | 1:128:A:ALA:H    | 1:141:A:LEU:HD13 | 1        | 0.65          |
| (2,111) | 1:141:A:LEU:HD21 | 1:140:A:MET:HB2  | 8        | 0.65          |
| (2,111) | 1:141:A:LEU:HD22 | 1:140:A:MET:HB2  | 8        | 0.65          |
| (2,111) | 1:141:A:LEU:HD23 | 1:140:A:MET:HB2  | 8        | 0.65          |
| (1,902) | 1:116:A:VAL:HG11 | 1:130:A:PHE:HB3  | 9        | 0.65          |
| (1,902) | 1:116:A:VAL:HG12 | 1:130:A:PHE:HB3  | 9        | 0.65          |
| (1,902) | 1:116:A:VAL:HG13 | 1:130:A:PHE:HB3  | 9        | 0.65          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD1  | 1        | 0.65          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD2  | 1        | 0.65          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD1  | 1        | 0.65          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD2  | 1        | 0.65          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD1  | 1        | 0.65          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD2  | 1        | 0.65          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD21 | 18       | 0.65          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD22 | 18       | 0.65          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD23 | 18       | 0.65          |
| (1,68)  | 1:154:A:VAL:HG11 | 1:158:A:GLU:HB3  | 1        | 0.65          |
| (1,68)  | 1:154:A:VAL:HG12 | 1:158:A:GLU:HB3  | 1        | 0.65          |
| (1,68)  | 1:154:A:VAL:HG13 | 1:158:A:GLU:HB3  | 1        | 0.65          |
| (2,213) | 1:114:A:ASP:HB3  | 1:111:A:TYR:HA   | 2        | 0.64          |
| (2,213) | 1:114:A:ASP:HB3  | 1:111:A:TYR:HA   | 15       | 0.64          |
| (1,748) | 1:130:A:PHE:HB3  | 1:114:A:ASP:H    | 9        | 0.64          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD1  | 5        | 0.64          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD2  | 5        | 0.64          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD1  | 5        | 0.64          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD2  | 5        | 0.64          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD1  | 5        | 0.64          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD2  | 5        | 0.64          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD1  | 9        | 0.64          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD2  | 9        | 0.64          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD1  | 9        | 0.64          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD2  | 9        | 0.64          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD1  | 9        | 0.64          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD2  | 9        | 0.64          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG21 | 7        | 0.64          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG22 | 7        | 0.64          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG23 | 7        | 0.64          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG21 | 7        | 0.64          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG22 | 7        | 0.64          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG23 | 7        | 0.64          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG21 | 7        | 0.64          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG22 | 7        | 0.64          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG23 | 7        | 0.64          |
| (2,187) | 1:114:A:ASP:H    | 1:110:A:PRO:HB3  | 13       | 0.63          |
| (2,111) | 1:141:A:LEU:HD21 | 1:140:A:MET:HB2  | 7        | 0.63          |
| (2,111) | 1:141:A:LEU:HD22 | 1:140:A:MET:HB2  | 7        | 0.63          |
| (2,111) | 1:141:A:LEU:HD23 | 1:140:A:MET:HB2  | 7        | 0.63          |
| (2,111) | 1:141:A:LEU:HD21 | 1:140:A:MET:HB2  | 9        | 0.63          |
| (2,111) | 1:141:A:LEU:HD22 | 1:140:A:MET:HB2  | 9        | 0.63          |
| (2,111) | 1:141:A:LEU:HD23 | 1:140:A:MET:HB2  | 9        | 0.63          |
| (1,915) | 1:154:A:VAL:HG21 | 1:152:A:HIS:HB3  | 11       | 0.63          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,915) | 1:154:A:VAL:HG22 | 1:152:A:HIS:HB3  | 11       | 0.63          |
| (1,915) | 1:154:A:VAL:HG23 | 1:152:A:HIS:HB3  | 11       | 0.63          |
| (1,608) | 1:110:A:PRO:HB3  | 1:114:A:ASP:HB3  | 11       | 0.63          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG21 | 20       | 0.63          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG22 | 20       | 0.63          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG23 | 20       | 0.63          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG21 | 20       | 0.63          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG22 | 20       | 0.63          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG23 | 20       | 0.63          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG21 | 20       | 0.63          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG22 | 20       | 0.63          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG23 | 20       | 0.63          |
| (1,125) | 1:118:A:ILE:HD11 | 1:126:A:PHE:HB3  | 18       | 0.63          |
| (1,125) | 1:118:A:ILE:HD12 | 1:126:A:PHE:HB3  | 18       | 0.63          |
| (1,125) | 1:118:A:ILE:HD13 | 1:126:A:PHE:HB3  | 18       | 0.63          |
| (1,34)  | 1:130:A:PHE:HE1  | 1:161:A:LYS:HB3  | 8        | 0.63          |
| (1,34)  | 1:130:A:PHE:HE2  | 1:161:A:LYS:HB3  | 8        | 0.63          |
| (2,213) | 1:114:A:ASP:HB3  | 1:111:A:TYR:HA   | 6        | 0.62          |
| (2,187) | 1:114:A:ASP:H    | 1:110:A:PRO:HB3  | 19       | 0.62          |
| (2,123) | 1:142:A:LEU:HD21 | 1:150:A:ILE:HG12 | 12       | 0.62          |
| (2,123) | 1:142:A:LEU:HD22 | 1:150:A:ILE:HG12 | 12       | 0.62          |
| (2,123) | 1:142:A:LEU:HD23 | 1:150:A:ILE:HG12 | 12       | 0.62          |
| (2,111) | 1:141:A:LEU:HD21 | 1:140:A:MET:HB2  | 5        | 0.62          |
| (2,111) | 1:141:A:LEU:HD22 | 1:140:A:MET:HB2  | 5        | 0.62          |
| (2,111) | 1:141:A:LEU:HD23 | 1:140:A:MET:HB2  | 5        | 0.62          |
| (2,111) | 1:141:A:LEU:HD21 | 1:140:A:MET:HB2  | 6        | 0.62          |
| (2,111) | 1:141:A:LEU:HD22 | 1:140:A:MET:HB2  | 6        | 0.62          |
| (2,111) | 1:141:A:LEU:HD23 | 1:140:A:MET:HB2  | 6        | 0.62          |
| (1,902) | 1:116:A:VAL:HG11 | 1:130:A:PHE:HB3  | 18       | 0.62          |
| (1,902) | 1:116:A:VAL:HG12 | 1:130:A:PHE:HB3  | 18       | 0.62          |
| (1,902) | 1:116:A:VAL:HG13 | 1:130:A:PHE:HB3  | 18       | 0.62          |
| (1,616) | 1:110:A:PRO:HB2  | 1:161:A:LYS:HD3  | 11       | 0.62          |
| (2,213) | 1:114:A:ASP:HB3  | 1:111:A:TYR:HA   | 4        | 0.61          |
| (2,213) | 1:114:A:ASP:HB3  | 1:111:A:TYR:HA   | 5        | 0.61          |
| (2,187) | 1:114:A:ASP:H    | 1:110:A:PRO:HB3  | 18       | 0.61          |
| (2,60)  | 1:154:A:VAL:HG21 | 1:139:A:SER:HB3  | 4        | 0.61          |
| (2,60)  | 1:154:A:VAL:HG22 | 1:139:A:SER:HB3  | 4        | 0.61          |
| (2,60)  | 1:154:A:VAL:HG23 | 1:139:A:SER:HB3  | 4        | 0.61          |
| (2,60)  | 1:154:A:VAL:HG21 | 1:139:A:SER:HB3  | 13       | 0.61          |
| (2,60)  | 1:154:A:VAL:HG22 | 1:139:A:SER:HB3  | 13       | 0.61          |
| (2,60)  | 1:154:A:VAL:HG23 | 1:139:A:SER:HB3  | 13       | 0.61          |
| (1,902) | 1:116:A:VAL:HG11 | 1:130:A:PHE:HB3  | 4        | 0.61          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,902) | 1:116:A:VAL:HG12 | 1:130:A:PHE:HB3  | 4        | 0.61          |
| (1,902) | 1:116:A:VAL:HG13 | 1:130:A:PHE:HB3  | 4        | 0.61          |
| (1,902) | 1:116:A:VAL:HG11 | 1:130:A:PHE:HB3  | 11       | 0.61          |
| (1,902) | 1:116:A:VAL:HG12 | 1:130:A:PHE:HB3  | 11       | 0.61          |
| (1,902) | 1:116:A:VAL:HG13 | 1:130:A:PHE:HB3  | 11       | 0.61          |
| (1,224) | 1:143:A:LEU:HD21 | 1:128:A:ALA:HA   | 5        | 0.61          |
| (1,224) | 1:143:A:LEU:HD22 | 1:128:A:ALA:HA   | 5        | 0.61          |
| (1,224) | 1:143:A:LEU:HD23 | 1:128:A:ALA:HA   | 5        | 0.61          |
| (1,224) | 1:143:A:LEU:HD21 | 1:128:A:ALA:HA   | 12       | 0.61          |
| (1,224) | 1:143:A:LEU:HD22 | 1:128:A:ALA:HA   | 12       | 0.61          |
| (1,224) | 1:143:A:LEU:HD23 | 1:128:A:ALA:HA   | 12       | 0.61          |
| (1,125) | 1:118:A:ILE:HD11 | 1:126:A:PHE:HB3  | 15       | 0.61          |
| (1,125) | 1:118:A:ILE:HD12 | 1:126:A:PHE:HB3  | 15       | 0.61          |
| (1,125) | 1:118:A:ILE:HD13 | 1:126:A:PHE:HB3  | 15       | 0.61          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD11 | 5        | 0.61          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD12 | 5        | 0.61          |
| (1,29)  | 1:126:A:PHE:HD1  | 1:143:A:LEU:HD13 | 5        | 0.61          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD11 | 5        | 0.61          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD12 | 5        | 0.61          |
| (1,29)  | 1:126:A:PHE:HD2  | 1:143:A:LEU:HD13 | 5        | 0.61          |
| (2,187) | 1:114:A:ASP:H    | 1:110:A:PRO:HB3  | 12       | 0.6           |
| (2,111) | 1:141:A:LEU:HD21 | 1:140:A:MET:HB2  | 4        | 0.6           |
| (2,111) | 1:141:A:LEU:HD22 | 1:140:A:MET:HB2  | 4        | 0.6           |
| (2,111) | 1:141:A:LEU:HD23 | 1:140:A:MET:HB2  | 4        | 0.6           |
| (1,902) | 1:116:A:VAL:HG11 | 1:130:A:PHE:HB3  | 5        | 0.6           |
| (1,902) | 1:116:A:VAL:HG12 | 1:130:A:PHE:HB3  | 5        | 0.6           |
| (1,902) | 1:116:A:VAL:HG13 | 1:130:A:PHE:HB3  | 5        | 0.6           |
| (1,125) | 1:118:A:ILE:HD11 | 1:126:A:PHE:HB3  | 9        | 0.6           |
| (1,125) | 1:118:A:ILE:HD12 | 1:126:A:PHE:HB3  | 9        | 0.6           |
| (1,125) | 1:118:A:ILE:HD13 | 1:126:A:PHE:HB3  | 9        | 0.6           |
| (1,34)  | 1:130:A:PHE:HE1  | 1:161:A:LYS:HB3  | 12       | 0.6           |
| (1,34)  | 1:130:A:PHE:HE2  | 1:161:A:LYS:HB3  | 12       | 0.6           |
| (2,213) | 1:114:A:ASP:HB3  | 1:111:A:TYR:HA   | 16       | 0.59          |
| (2,111) | 1:141:A:LEU:HD21 | 1:140:A:MET:HB2  | 3        | 0.59          |
| (2,111) | 1:141:A:LEU:HD22 | 1:140:A:MET:HB2  | 3        | 0.59          |
| (2,111) | 1:141:A:LEU:HD23 | 1:140:A:MET:HB2  | 3        | 0.59          |
| (2,111) | 1:141:A:LEU:HD21 | 1:140:A:MET:HB2  | 12       | 0.59          |
| (2,111) | 1:141:A:LEU:HD22 | 1:140:A:MET:HB2  | 12       | 0.59          |
| (2,111) | 1:141:A:LEU:HD23 | 1:140:A:MET:HB2  | 12       | 0.59          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD21 | 2        | 0.59          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD22 | 2        | 0.59          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD23 | 2        | 0.59          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (2,61)  | 1:154:A:VAL:HG21 | 1:139:A:SER:HB2  | 11       | 0.58          |
| (2,61)  | 1:154:A:VAL:HG22 | 1:139:A:SER:HB2  | 11       | 0.58          |
| (2,61)  | 1:154:A:VAL:HG23 | 1:139:A:SER:HB2  | 11       | 0.58          |
| (1,902) | 1:116:A:VAL:HG11 | 1:130:A:PHE:HB3  | 10       | 0.58          |
| (1,902) | 1:116:A:VAL:HG12 | 1:130:A:PHE:HB3  | 10       | 0.58          |
| (1,902) | 1:116:A:VAL:HG13 | 1:130:A:PHE:HB3  | 10       | 0.58          |
| (1,748) | 1:130:A:PHE:HB3  | 1:114:A:ASP:H    | 13       | 0.58          |
| (1,679) | 1:138:A:ARG:HB2  | 1:155:A:LYS:HA   | 9        | 0.58          |
| (2,187) | 1:114:A:ASP:H    | 1:110:A:PRO:HB3  | 14       | 0.57          |
| (2,111) | 1:141:A:LEU:HD21 | 1:140:A:MET:HB2  | 18       | 0.57          |
| (2,111) | 1:141:A:LEU:HD22 | 1:140:A:MET:HB2  | 18       | 0.57          |
| (2,111) | 1:141:A:LEU:HD23 | 1:140:A:MET:HB2  | 18       | 0.57          |
| (2,60)  | 1:154:A:VAL:HG21 | 1:139:A:SER:HB3  | 17       | 0.57          |
| (2,60)  | 1:154:A:VAL:HG22 | 1:139:A:SER:HB3  | 17       | 0.57          |
| (2,60)  | 1:154:A:VAL:HG23 | 1:139:A:SER:HB3  | 17       | 0.57          |
| (2,58)  | 1:108:A:ALA:HA   | 1:161:A:LYS:HD2  | 2        | 0.57          |
| (1,902) | 1:116:A:VAL:HG11 | 1:130:A:PHE:HB3  | 14       | 0.57          |
| (1,902) | 1:116:A:VAL:HG12 | 1:130:A:PHE:HB3  | 14       | 0.57          |
| (1,902) | 1:116:A:VAL:HG13 | 1:130:A:PHE:HB3  | 14       | 0.57          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD1  | 16       | 0.57          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD2  | 16       | 0.57          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD1  | 16       | 0.57          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD2  | 16       | 0.57          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD1  | 16       | 0.57          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD2  | 16       | 0.57          |
| (1,224) | 1:143:A:LEU:HD21 | 1:128:A:ALA:HA   | 7        | 0.57          |
| (1,224) | 1:143:A:LEU:HD22 | 1:128:A:ALA:HA   | 7        | 0.57          |
| (1,224) | 1:143:A:LEU:HD23 | 1:128:A:ALA:HA   | 7        | 0.57          |
| (1,223) | 1:143:A:LEU:HD21 | 1:152:A:HIS:HB2  | 5        | 0.57          |
| (1,223) | 1:143:A:LEU:HD22 | 1:152:A:HIS:HB2  | 5        | 0.57          |
| (1,223) | 1:143:A:LEU:HD23 | 1:152:A:HIS:HB2  | 5        | 0.57          |
| (2,111) | 1:141:A:LEU:HD21 | 1:140:A:MET:HB2  | 2        | 0.56          |
| (2,111) | 1:141:A:LEU:HD22 | 1:140:A:MET:HB2  | 2        | 0.56          |
| (2,111) | 1:141:A:LEU:HD23 | 1:140:A:MET:HB2  | 2        | 0.56          |
| (1,662) | 1:120:A:GLU:HB2  | 1:158:A:GLU:HB3  | 8        | 0.56          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD1  | 2        | 0.56          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD2  | 2        | 0.56          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD1  | 2        | 0.56          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD2  | 2        | 0.56          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD1  | 2        | 0.56          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD2  | 2        | 0.56          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD21 | 16       | 0.56          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD22 | 16       | 0.56          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD23 | 16       | 0.56          |
| (2,111) | 1:141:A:LEU:HD21 | 1:140:A:MET:HB2  | 11       | 0.55          |
| (2,111) | 1:141:A:LEU:HD22 | 1:140:A:MET:HB2  | 11       | 0.55          |
| (2,111) | 1:141:A:LEU:HD23 | 1:140:A:MET:HB2  | 11       | 0.55          |
| (2,111) | 1:141:A:LEU:HD21 | 1:140:A:MET:HB2  | 16       | 0.55          |
| (2,111) | 1:141:A:LEU:HD22 | 1:140:A:MET:HB2  | 16       | 0.55          |
| (2,111) | 1:141:A:LEU:HD23 | 1:140:A:MET:HB2  | 16       | 0.55          |
| (1,902) | 1:116:A:VAL:HG11 | 1:130:A:PHE:HB3  | 7        | 0.55          |
| (1,902) | 1:116:A:VAL:HG12 | 1:130:A:PHE:HB3  | 7        | 0.55          |
| (1,902) | 1:116:A:VAL:HG13 | 1:130:A:PHE:HB3  | 7        | 0.55          |
| (1,748) | 1:130:A:PHE:HB3  | 1:114:A:ASP:H    | 7        | 0.55          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD1  | 3        | 0.55          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD2  | 3        | 0.55          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD1  | 3        | 0.55          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD2  | 3        | 0.55          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD1  | 3        | 0.55          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD2  | 3        | 0.55          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG21 | 1        | 0.55          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG22 | 1        | 0.55          |
| (1,515) | 1:141:A:LEU:HD11 | 1:116:A:VAL:HG23 | 1        | 0.55          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG21 | 1        | 0.55          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG22 | 1        | 0.55          |
| (1,515) | 1:141:A:LEU:HD12 | 1:116:A:VAL:HG23 | 1        | 0.55          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG21 | 1        | 0.55          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG22 | 1        | 0.55          |
| (1,515) | 1:141:A:LEU:HD13 | 1:116:A:VAL:HG23 | 1        | 0.55          |
| (1,406) | 1:131:A:THR:H    | 1:130:A:PHE:HB2  | 2        | 0.55          |
| (1,406) | 1:131:A:THR:H    | 1:130:A:PHE:HB2  | 6        | 0.55          |
| (1,406) | 1:131:A:THR:H    | 1:130:A:PHE:HB2  | 8        | 0.55          |
| (1,406) | 1:131:A:THR:H    | 1:130:A:PHE:HB2  | 9        | 0.55          |
| (1,406) | 1:131:A:THR:H    | 1:130:A:PHE:HB2  | 10       | 0.55          |
| (1,406) | 1:131:A:THR:H    | 1:130:A:PHE:HB2  | 13       | 0.55          |
| (1,406) | 1:131:A:THR:H    | 1:130:A:PHE:HB2  | 16       | 0.55          |
| (1,406) | 1:131:A:THR:H    | 1:130:A:PHE:HB2  | 19       | 0.55          |
| (1,933) | 1:141:A:LEU:HD21 | 1:130:A:PHE:HA   | 5        | 0.54          |
| (1,933) | 1:141:A:LEU:HD22 | 1:130:A:PHE:HA   | 5        | 0.54          |
| (1,933) | 1:141:A:LEU:HD23 | 1:130:A:PHE:HA   | 5        | 0.54          |
| (1,902) | 1:116:A:VAL:HG11 | 1:130:A:PHE:HB3  | 3        | 0.54          |
| (1,902) | 1:116:A:VAL:HG12 | 1:130:A:PHE:HB3  | 3        | 0.54          |
| (1,902) | 1:116:A:VAL:HG13 | 1:130:A:PHE:HB3  | 3        | 0.54          |
| (1,453) | 1:155:A:LYS:H    | 1:158:A:GLU:HB2  | 15       | 0.54          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,406) | 1:131:A:THR:H    | 1:130:A:PHE:HB2  | 1        | 0.54          |
| (1,406) | 1:131:A:THR:H    | 1:130:A:PHE:HB2  | 14       | 0.54          |
| (1,406) | 1:131:A:THR:H    | 1:130:A:PHE:HB2  | 15       | 0.54          |
| (1,406) | 1:131:A:THR:H    | 1:130:A:PHE:HB2  | 18       | 0.54          |
| (1,406) | 1:131:A:THR:H    | 1:130:A:PHE:HB2  | 20       | 0.54          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD21 | 11       | 0.54          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD22 | 11       | 0.54          |
| (1,399) | 1:140:A:MET:H    | 1:141:A:LEU:HD23 | 11       | 0.54          |
| (1,230) | 1:162:A:LEU:HB2  | 1:116:A:VAL:HA   | 17       | 0.54          |
| (1,63)  | 1:141:A:LEU:HD21 | 1:130:A:PHE:HB2  | 11       | 0.54          |
| (1,63)  | 1:141:A:LEU:HD22 | 1:130:A:PHE:HB2  | 11       | 0.54          |
| (1,63)  | 1:141:A:LEU:HD23 | 1:130:A:PHE:HB2  | 11       | 0.54          |
| (2,123) | 1:142:A:LEU:HD21 | 1:150:A:ILE:HG12 | 8        | 0.53          |
| (2,123) | 1:142:A:LEU:HD22 | 1:150:A:ILE:HG12 | 8        | 0.53          |
| (2,123) | 1:142:A:LEU:HD23 | 1:150:A:ILE:HG12 | 8        | 0.53          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD1  | 18       | 0.53          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD2  | 18       | 0.53          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD1  | 18       | 0.53          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD2  | 18       | 0.53          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD1  | 18       | 0.53          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD2  | 18       | 0.53          |
| (2,213) | 1:114:A:ASP:HB3  | 1:111:A:TYR:HA   | 13       | 0.52          |
| (2,187) | 1:114:A:ASP:H    | 1:110:A:PRO:HB3  | 15       | 0.52          |
| (2,60)  | 1:154:A:VAL:HG21 | 1:139:A:SER:HB3  | 12       | 0.52          |
| (2,60)  | 1:154:A:VAL:HG22 | 1:139:A:SER:HB3  | 12       | 0.52          |
| (2,60)  | 1:154:A:VAL:HG23 | 1:139:A:SER:HB3  | 12       | 0.52          |
| (1,662) | 1:120:A:GLU:HB2  | 1:158:A:GLU:HB3  | 15       | 0.52          |
| (1,406) | 1:131:A:THR:H    | 1:130:A:PHE:HB2  | 11       | 0.52          |
| (1,150) | 1:137:A:ALA:HB1  | 1:136:A:GLU:HB2  | 10       | 0.52          |
| (1,150) | 1:137:A:ALA:HB2  | 1:136:A:GLU:HB2  | 10       | 0.52          |
| (1,150) | 1:137:A:ALA:HB3  | 1:136:A:GLU:HB2  | 10       | 0.52          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD11 | 13       | 0.52          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD12 | 13       | 0.52          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD13 | 13       | 0.52          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD11 | 13       | 0.52          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD12 | 13       | 0.52          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD13 | 13       | 0.52          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD11 | 13       | 0.52          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD12 | 13       | 0.52          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD13 | 13       | 0.52          |
| (1,616) | 1:110:A:PRO:HB2  | 1:161:A:LYS:HD3  | 3        | 0.51          |
| (2,58)  | 1:108:A:ALA:HA   | 1:161:A:LYS:HD2  | 9        | 0.5           |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,933) | 1:141:A:LEU:HD21 | 1:130:A:PHE:HA   | 17       | 0.5           |
| (1,933) | 1:141:A:LEU:HD22 | 1:130:A:PHE:HA   | 17       | 0.5           |
| (1,933) | 1:141:A:LEU:HD23 | 1:130:A:PHE:HA   | 17       | 0.5           |
| (1,712) | 1:118:A:ILE:HB   | 1:126:A:PHE:HB3  | 12       | 0.5           |
| (1,406) | 1:131:A:THR:H    | 1:130:A:PHE:HB2  | 5        | 0.5           |
| (1,915) | 1:154:A:VAL:HG21 | 1:152:A:HIS:HB3  | 13       | 0.49          |
| (1,915) | 1:154:A:VAL:HG22 | 1:152:A:HIS:HB3  | 13       | 0.49          |
| (1,915) | 1:154:A:VAL:HG23 | 1:152:A:HIS:HB3  | 13       | 0.49          |
| (1,406) | 1:131:A:THR:H    | 1:130:A:PHE:HB2  | 4        | 0.49          |
| (1,406) | 1:131:A:THR:H    | 1:130:A:PHE:HB2  | 7        | 0.49          |
| (1,230) | 1:162:A:LEU:HB2  | 1:116:A:VAL:HA   | 4        | 0.49          |
| (2,123) | 1:142:A:LEU:HD21 | 1:150:A:ILE:HG12 | 5        | 0.48          |
| (2,123) | 1:142:A:LEU:HD22 | 1:150:A:ILE:HG12 | 5        | 0.48          |
| (2,123) | 1:142:A:LEU:HD23 | 1:150:A:ILE:HG12 | 5        | 0.48          |
| (2,110) | 1:141:A:LEU:HD11 | 1:118:A:ILE:HG13 | 12       | 0.48          |
| (2,110) | 1:141:A:LEU:HD12 | 1:118:A:ILE:HG13 | 12       | 0.48          |
| (2,110) | 1:141:A:LEU:HD13 | 1:118:A:ILE:HG13 | 12       | 0.48          |
| (1,608) | 1:110:A:PRO:HB3  | 1:114:A:ASP:HB3  | 10       | 0.48          |
| (1,608) | 1:110:A:PRO:HB3  | 1:114:A:ASP:HB3  | 20       | 0.48          |
| (1,406) | 1:131:A:THR:H    | 1:130:A:PHE:HB2  | 12       | 0.48          |
| (1,712) | 1:118:A:ILE:HB   | 1:126:A:PHE:HB3  | 5        | 0.47          |
| (1,712) | 1:118:A:ILE:HB   | 1:126:A:PHE:HB3  | 7        | 0.47          |
| (1,608) | 1:110:A:PRO:HB3  | 1:114:A:ASP:HB3  | 2        | 0.47          |
| (1,406) | 1:131:A:THR:H    | 1:130:A:PHE:HB2  | 17       | 0.47          |
| (1,230) | 1:162:A:LEU:HB2  | 1:116:A:VAL:HA   | 6        | 0.47          |
| (1,150) | 1:137:A:ALA:HB1  | 1:136:A:GLU:HB2  | 3        | 0.47          |
| (1,150) | 1:137:A:ALA:HB2  | 1:136:A:GLU:HB2  | 3        | 0.47          |
| (1,150) | 1:137:A:ALA:HB3  | 1:136:A:GLU:HB2  | 3        | 0.47          |
| (2,58)  | 1:108:A:ALA:HA   | 1:161:A:LYS:HD2  | 5        | 0.46          |
| (1,608) | 1:110:A:PRO:HB3  | 1:114:A:ASP:HB3  | 17       | 0.46          |
| (1,406) | 1:131:A:THR:H    | 1:130:A:PHE:HB2  | 3        | 0.46          |
| (1,229) | 1:145:A:LEU:HD21 | 1:143:A:LEU:HD11 | 9        | 0.46          |
| (1,229) | 1:145:A:LEU:HD21 | 1:143:A:LEU:HD12 | 9        | 0.46          |
| (1,229) | 1:145:A:LEU:HD21 | 1:143:A:LEU:HD13 | 9        | 0.46          |
| (1,229) | 1:145:A:LEU:HD22 | 1:143:A:LEU:HD11 | 9        | 0.46          |
| (1,229) | 1:145:A:LEU:HD22 | 1:143:A:LEU:HD12 | 9        | 0.46          |
| (1,229) | 1:145:A:LEU:HD22 | 1:143:A:LEU:HD13 | 9        | 0.46          |
| (1,229) | 1:145:A:LEU:HD23 | 1:143:A:LEU:HD11 | 9        | 0.46          |
| (1,229) | 1:145:A:LEU:HD23 | 1:143:A:LEU:HD12 | 9        | 0.46          |
| (1,229) | 1:145:A:LEU:HD23 | 1:143:A:LEU:HD13 | 9        | 0.46          |
| (1,150) | 1:137:A:ALA:HB1  | 1:136:A:GLU:HB2  | 7        | 0.46          |
| (1,150) | 1:137:A:ALA:HB2  | 1:136:A:GLU:HB2  | 7        | 0.46          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,150) | 1:137:A:ALA:HB3  | 1:136:A:GLU:HB2  | 7        | 0.46          |
| (2,187) | 1:114:A:ASP:H    | 1:110:A:PRO:HB3  | 8        | 0.45          |
| (1,748) | 1:130:A:PHE:HB3  | 1:114:A:ASP:H    | 5        | 0.45          |
| (1,150) | 1:137:A:ALA:HB1  | 1:136:A:GLU:HB2  | 15       | 0.45          |
| (1,150) | 1:137:A:ALA:HB2  | 1:136:A:GLU:HB2  | 15       | 0.45          |
| (1,150) | 1:137:A:ALA:HB3  | 1:136:A:GLU:HB2  | 15       | 0.45          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD11 | 13       | 0.44          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD12 | 13       | 0.44          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD13 | 13       | 0.44          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD11 | 13       | 0.44          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD12 | 13       | 0.44          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD13 | 13       | 0.44          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD11 | 13       | 0.44          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD12 | 13       | 0.44          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD13 | 13       | 0.44          |
| (1,933) | 1:141:A:LEU:HD21 | 1:130:A:PHE:HA   | 1        | 0.44          |
| (1,933) | 1:141:A:LEU:HD22 | 1:130:A:PHE:HA   | 1        | 0.44          |
| (1,933) | 1:141:A:LEU:HD23 | 1:130:A:PHE:HA   | 1        | 0.44          |
| (1,933) | 1:141:A:LEU:HD21 | 1:130:A:PHE:HA   | 3        | 0.44          |
| (1,933) | 1:141:A:LEU:HD22 | 1:130:A:PHE:HA   | 3        | 0.44          |
| (1,933) | 1:141:A:LEU:HD23 | 1:130:A:PHE:HA   | 3        | 0.44          |
| (1,608) | 1:110:A:PRO:HB3  | 1:114:A:ASP:HB3  | 12       | 0.44          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD1  | 4        | 0.44          |
| (1,517) | 1:141:A:LEU:HD11 | 1:159:A:PHE:HD2  | 4        | 0.44          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD1  | 4        | 0.44          |
| (1,517) | 1:141:A:LEU:HD12 | 1:159:A:PHE:HD2  | 4        | 0.44          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD1  | 4        | 0.44          |
| (1,517) | 1:141:A:LEU:HD13 | 1:159:A:PHE:HD2  | 4        | 0.44          |
| (1,150) | 1:137:A:ALA:HB1  | 1:136:A:GLU:HB2  | 17       | 0.44          |
| (1,150) | 1:137:A:ALA:HB2  | 1:136:A:GLU:HB2  | 17       | 0.44          |
| (1,150) | 1:137:A:ALA:HB3  | 1:136:A:GLU:HB2  | 17       | 0.44          |
| (1,150) | 1:137:A:ALA:HB1  | 1:136:A:GLU:HB2  | 5        | 0.43          |
| (1,150) | 1:137:A:ALA:HB2  | 1:136:A:GLU:HB2  | 5        | 0.43          |
| (1,150) | 1:137:A:ALA:HB3  | 1:136:A:GLU:HB2  | 5        | 0.43          |
| (2,60)  | 1:154:A:VAL:HG21 | 1:139:A:SER:HB3  | 1        | 0.42          |
| (2,60)  | 1:154:A:VAL:HG22 | 1:139:A:SER:HB3  | 1        | 0.42          |
| (2,60)  | 1:154:A:VAL:HG23 | 1:139:A:SER:HB3  | 1        | 0.42          |
| (1,736) | 1:126:A:PHE:HB2  | 1:127:A:GLN:H    | 8        | 0.42          |
| (1,608) | 1:110:A:PRO:HB3  | 1:114:A:ASP:HB3  | 6        | 0.42          |
| (2,58)  | 1:108:A:ALA:HA   | 1:161:A:LYS:HD2  | 16       | 0.41          |
| (1,712) | 1:118:A:ILE:HB   | 1:126:A:PHE:HB3  | 13       | 0.41          |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD21 | 8        | 0.4           |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD22 | 8        | 0.4           |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD23 | 8        | 0.4           |
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD21 | 8        | 0.4           |
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD22 | 8        | 0.4           |
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD23 | 8        | 0.4           |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD21 | 8        | 0.4           |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD22 | 8        | 0.4           |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD23 | 8        | 0.4           |
| (1,933) | 1:141:A:LEU:HD21 | 1:130:A:PHE:HA   | 20       | 0.4           |
| (1,933) | 1:141:A:LEU:HD22 | 1:130:A:PHE:HA   | 20       | 0.4           |
| (1,933) | 1:141:A:LEU:HD23 | 1:130:A:PHE:HA   | 20       | 0.4           |
| (1,608) | 1:110:A:PRO:HB3  | 1:114:A:ASP:HB3  | 4        | 0.4           |
| (1,497) | 1:162:A:LEU:HD11 | 1:117:A:ILE:HB   | 15       | 0.4           |
| (1,497) | 1:162:A:LEU:HD12 | 1:117:A:ILE:HB   | 15       | 0.4           |
| (1,497) | 1:162:A:LEU:HD13 | 1:117:A:ILE:HB   | 15       | 0.4           |
| (1,63)  | 1:141:A:LEU:HD21 | 1:130:A:PHE:HB2  | 8        | 0.4           |
| (1,63)  | 1:141:A:LEU:HD22 | 1:130:A:PHE:HB2  | 8        | 0.4           |
| (1,63)  | 1:141:A:LEU:HD23 | 1:130:A:PHE:HB2  | 8        | 0.4           |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD11 | 7        | 0.4           |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD12 | 7        | 0.4           |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD13 | 7        | 0.4           |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD11 | 7        | 0.4           |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD12 | 7        | 0.4           |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD13 | 7        | 0.4           |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD11 | 7        | 0.4           |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD12 | 7        | 0.4           |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD13 | 7        | 0.4           |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD11 | 12       | 0.4           |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD12 | 12       | 0.4           |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD13 | 12       | 0.4           |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD11 | 12       | 0.4           |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD12 | 12       | 0.4           |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD13 | 12       | 0.4           |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD11 | 12       | 0.4           |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD12 | 12       | 0.4           |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD13 | 12       | 0.4           |
| (2,58)  | 1:108:A:ALA:HA   | 1:161:A:LYS:HD2  | 4        | 0.39          |
| (1,819) | 1:150:A:ILE:HD11 | 1:145:A:LEU:HD11 | 5        | 0.39          |
| (1,819) | 1:150:A:ILE:HD11 | 1:145:A:LEU:HD12 | 5        | 0.39          |
| (1,819) | 1:150:A:ILE:HD11 | 1:145:A:LEU:HD13 | 5        | 0.39          |
| (1,819) | 1:150:A:ILE:HD12 | 1:145:A:LEU:HD11 | 5        | 0.39          |
| (1,819) | 1:150:A:ILE:HD12 | 1:145:A:LEU:HD12 | 5        | 0.39          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,819) | 1:150:A:ILE:HD12 | 1:145:A:LEU:HD13 | 5        | 0.39          |
| (1,819) | 1:150:A:ILE:HD13 | 1:145:A:LEU:HD11 | 5        | 0.39          |
| (1,819) | 1:150:A:ILE:HD13 | 1:145:A:LEU:HD12 | 5        | 0.39          |
| (1,819) | 1:150:A:ILE:HD13 | 1:145:A:LEU:HD13 | 5        | 0.39          |
| (1,150) | 1:137:A:ALA:HB1  | 1:136:A:GLU:HB2  | 2        | 0.39          |
| (1,150) | 1:137:A:ALA:HB2  | 1:136:A:GLU:HB2  | 2        | 0.39          |
| (1,150) | 1:137:A:ALA:HB3  | 1:136:A:GLU:HB2  | 2        | 0.39          |
| (1,933) | 1:141:A:LEU:HD21 | 1:130:A:PHE:HA   | 7        | 0.38          |
| (1,933) | 1:141:A:LEU:HD22 | 1:130:A:PHE:HA   | 7        | 0.38          |
| (1,933) | 1:141:A:LEU:HD23 | 1:130:A:PHE:HA   | 7        | 0.38          |
| (1,226) | 1:145:A:LEU:HD11 | 1:150:A:ILE:HG13 | 11       | 0.38          |
| (1,226) | 1:145:A:LEU:HD12 | 1:150:A:ILE:HG13 | 11       | 0.38          |
| (1,226) | 1:145:A:LEU:HD13 | 1:150:A:ILE:HG13 | 11       | 0.38          |
| (1,150) | 1:137:A:ALA:HB1  | 1:136:A:GLU:HB2  | 8        | 0.38          |
| (1,150) | 1:137:A:ALA:HB2  | 1:136:A:GLU:HB2  | 8        | 0.38          |
| (1,150) | 1:137:A:ALA:HB3  | 1:136:A:GLU:HB2  | 8        | 0.38          |
| (1,531) | 1:110:A:PRO:HA   | 1:114:A:ASP:HB3  | 7        | 0.37          |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD21 | 4        | 0.36          |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD22 | 4        | 0.36          |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD23 | 4        | 0.36          |
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD21 | 4        | 0.36          |
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD22 | 4        | 0.36          |
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD23 | 4        | 0.36          |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD21 | 4        | 0.36          |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD22 | 4        | 0.36          |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD23 | 4        | 0.36          |
| (2,58)  | 1:108:A:ALA:HA   | 1:161:A:LYS:HD2  | 18       | 0.36          |
| (1,736) | 1:126:A:PHE:HB2  | 1:127:A:GLN:H    | 19       | 0.36          |
| (1,616) | 1:110:A:PRO:HB2  | 1:161:A:LYS:HD3  | 17       | 0.36          |
| (1,229) | 1:145:A:LEU:HD21 | 1:143:A:LEU:HD11 | 15       | 0.36          |
| (1,229) | 1:145:A:LEU:HD21 | 1:143:A:LEU:HD12 | 15       | 0.36          |
| (1,229) | 1:145:A:LEU:HD21 | 1:143:A:LEU:HD13 | 15       | 0.36          |
| (1,229) | 1:145:A:LEU:HD22 | 1:143:A:LEU:HD11 | 15       | 0.36          |
| (1,229) | 1:145:A:LEU:HD22 | 1:143:A:LEU:HD12 | 15       | 0.36          |
| (1,229) | 1:145:A:LEU:HD22 | 1:143:A:LEU:HD13 | 15       | 0.36          |
| (1,229) | 1:145:A:LEU:HD23 | 1:143:A:LEU:HD11 | 15       | 0.36          |
| (1,229) | 1:145:A:LEU:HD23 | 1:143:A:LEU:HD12 | 15       | 0.36          |
| (1,229) | 1:145:A:LEU:HD23 | 1:143:A:LEU:HD13 | 15       | 0.36          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD11 | 15       | 0.35          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD12 | 15       | 0.35          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD13 | 15       | 0.35          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD11 | 15       | 0.35          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD12 | 15       | 0.35          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD13 | 15       | 0.35          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD11 | 15       | 0.35          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD12 | 15       | 0.35          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD13 | 15       | 0.35          |
| (1,514) | 1:155:A:LYS:HG3  | 1:155:A:LYS:HE2  | 7        | 0.35          |
| (1,514) | 1:155:A:LYS:HG3  | 1:155:A:LYS:HE3  | 7        | 0.35          |
| (1,497) | 1:162:A:LEU:HD11 | 1:117:A:ILE:HB   | 13       | 0.35          |
| (1,497) | 1:162:A:LEU:HD12 | 1:117:A:ILE:HB   | 13       | 0.35          |
| (1,497) | 1:162:A:LEU:HD13 | 1:117:A:ILE:HB   | 13       | 0.35          |
| (1,497) | 1:162:A:LEU:HD11 | 1:117:A:ILE:HB   | 16       | 0.35          |
| (1,497) | 1:162:A:LEU:HD12 | 1:117:A:ILE:HB   | 16       | 0.35          |
| (1,497) | 1:162:A:LEU:HD13 | 1:117:A:ILE:HB   | 16       | 0.35          |
| (1,168) | 1:159:A:PHE:HB3  | 1:141:A:LEU:HD11 | 13       | 0.35          |
| (1,168) | 1:159:A:PHE:HB3  | 1:141:A:LEU:HD12 | 13       | 0.35          |
| (1,168) | 1:159:A:PHE:HB3  | 1:141:A:LEU:HD13 | 13       | 0.35          |
| (1,34)  | 1:130:A:PHE:HE1  | 1:161:A:LYS:HB3  | 13       | 0.35          |
| (1,34)  | 1:130:A:PHE:HE2  | 1:161:A:LYS:HB3  | 13       | 0.35          |
| (2,187) | 1:114:A:ASP:H    | 1:110:A:PRO:HB3  | 16       | 0.34          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD11 | 6        | 0.34          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD12 | 6        | 0.34          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD13 | 6        | 0.34          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD11 | 6        | 0.34          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD12 | 6        | 0.34          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD13 | 6        | 0.34          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD11 | 6        | 0.34          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD12 | 6        | 0.34          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD13 | 6        | 0.34          |
| (1,712) | 1:118:A:ILE:HB   | 1:126:A:PHE:HB3  | 8        | 0.34          |
| (1,575) | 1:118:A:ILE:HG13 | 1:117:A:ILE:HA   | 9        | 0.34          |
| (1,263) | 1:134:A:ASP:HA   | 1:134:A:ASP:HB2  | 10       | 0.34          |
| (1,230) | 1:162:A:LEU:HB2  | 1:116:A:VAL:HA   | 12       | 0.34          |
| (1,226) | 1:145:A:LEU:HD11 | 1:150:A:ILE:HG13 | 14       | 0.34          |
| (1,226) | 1:145:A:LEU:HD12 | 1:150:A:ILE:HG13 | 14       | 0.34          |
| (1,226) | 1:145:A:LEU:HD13 | 1:150:A:ILE:HG13 | 14       | 0.34          |
| (1,736) | 1:126:A:PHE:HB2  | 1:127:A:GLN:H    | 16       | 0.33          |
| (1,712) | 1:118:A:ILE:HB   | 1:126:A:PHE:HB3  | 3        | 0.33          |
| (1,712) | 1:118:A:ILE:HB   | 1:126:A:PHE:HB3  | 19       | 0.33          |
| (1,712) | 1:118:A:ILE:HB   | 1:126:A:PHE:HB3  | 20       | 0.33          |
| (1,658) | 1:132:A:GLU:HG2  | 1:132:A:GLU:H    | 13       | 0.33          |
| (1,616) | 1:110:A:PRO:HB2  | 1:161:A:LYS:HD3  | 8        | 0.33          |
| (1,531) | 1:110:A:PRO:HA   | 1:114:A:ASP:HB3  | 10       | 0.33          |

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| Key     | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|---------|-----------------|-----------------|----------|---------------|
| (1,514) | 1:155:A:LYS:HG3 | 1:155:A:LYS:HE2 | 16       | 0.33          |
| (1,514) | 1:155:A:LYS:HG3 | 1:155:A:LYS:HE3 | 16       | 0.33          |
| (1,273) | 1:114:A:ASP:HA  | 1:114:A:ASP:HB2 | 1        | 0.33          |
| (1,273) | 1:114:A:ASP:HA  | 1:114:A:ASP:HB2 | 2        | 0.33          |
| (1,273) | 1:114:A:ASP:HA  | 1:114:A:ASP:HB2 | 3        | 0.33          |
| (1,273) | 1:114:A:ASP:HA  | 1:114:A:ASP:HB2 | 4        | 0.33          |
| (1,273) | 1:114:A:ASP:HA  | 1:114:A:ASP:HB2 | 5        | 0.33          |
| (1,273) | 1:114:A:ASP:HA  | 1:114:A:ASP:HB2 | 6        | 0.33          |
| (1,273) | 1:114:A:ASP:HA  | 1:114:A:ASP:HB2 | 7        | 0.33          |
| (1,273) | 1:114:A:ASP:HA  | 1:114:A:ASP:HB2 | 8        | 0.33          |
| (1,273) | 1:114:A:ASP:HA  | 1:114:A:ASP:HB2 | 9        | 0.33          |
| (1,273) | 1:114:A:ASP:HA  | 1:114:A:ASP:HB2 | 10       | 0.33          |
| (1,273) | 1:114:A:ASP:HA  | 1:114:A:ASP:HB2 | 11       | 0.33          |
| (1,273) | 1:114:A:ASP:HA  | 1:114:A:ASP:HB2 | 13       | 0.33          |
| (1,273) | 1:114:A:ASP:HA  | 1:114:A:ASP:HB2 | 14       | 0.33          |
| (1,273) | 1:114:A:ASP:HA  | 1:114:A:ASP:HB2 | 15       | 0.33          |
| (1,273) | 1:114:A:ASP:HA  | 1:114:A:ASP:HB2 | 16       | 0.33          |
| (1,273) | 1:114:A:ASP:HA  | 1:114:A:ASP:HB2 | 18       | 0.33          |
| (1,273) | 1:114:A:ASP:HA  | 1:114:A:ASP:HB2 | 20       | 0.33          |
| (1,267) | 1:144:A:ASN:HA  | 1:144:A:ASN:HB2 | 2        | 0.33          |
| (1,267) | 1:144:A:ASN:HA  | 1:144:A:ASN:HB2 | 7        | 0.33          |
| (1,267) | 1:144:A:ASN:HA  | 1:144:A:ASN:HB2 | 8        | 0.33          |
| (1,267) | 1:144:A:ASN:HA  | 1:144:A:ASN:HB2 | 13       | 0.33          |
| (1,267) | 1:144:A:ASN:HA  | 1:144:A:ASN:HB2 | 15       | 0.33          |
| (1,267) | 1:144:A:ASN:HA  | 1:144:A:ASN:HB2 | 16       | 0.33          |
| (1,267) | 1:144:A:ASN:HA  | 1:144:A:ASN:HB2 | 17       | 0.33          |
| (1,265) | 1:138:A:ARG:HA  | 1:138:A:ARG:HB2 | 1        | 0.33          |
| (1,265) | 1:138:A:ARG:HA  | 1:138:A:ARG:HB2 | 2        | 0.33          |
| (1,265) | 1:138:A:ARG:HA  | 1:138:A:ARG:HB2 | 3        | 0.33          |
| (1,265) | 1:138:A:ARG:HA  | 1:138:A:ARG:HB2 | 4        | 0.33          |
| (1,265) | 1:138:A:ARG:HA  | 1:138:A:ARG:HB2 | 5        | 0.33          |
| (1,265) | 1:138:A:ARG:HA  | 1:138:A:ARG:HB2 | 7        | 0.33          |
| (1,265) | 1:138:A:ARG:HA  | 1:138:A:ARG:HB2 | 9        | 0.33          |
| (1,265) | 1:138:A:ARG:HA  | 1:138:A:ARG:HB2 | 15       | 0.33          |
| (1,265) | 1:138:A:ARG:HA  | 1:138:A:ARG:HB2 | 16       | 0.33          |
| (1,265) | 1:138:A:ARG:HA  | 1:138:A:ARG:HB2 | 17       | 0.33          |
| (1,265) | 1:138:A:ARG:HA  | 1:138:A:ARG:HB2 | 18       | 0.33          |
| (1,265) | 1:138:A:ARG:HA  | 1:138:A:ARG:HB2 | 19       | 0.33          |
| (1,263) | 1:134:A:ASP:HA  | 1:134:A:ASP:HB2 | 3        | 0.33          |
| (1,263) | 1:134:A:ASP:HA  | 1:134:A:ASP:HB2 | 4        | 0.33          |
| (1,263) | 1:134:A:ASP:HA  | 1:134:A:ASP:HB2 | 5        | 0.33          |
| (1,263) | 1:134:A:ASP:HA  | 1:134:A:ASP:HB2 | 6        | 0.33          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,263) | 1:134:A:ASP:HA   | 1:134:A:ASP:HB2  | 9        | 0.33          |
| (1,263) | 1:134:A:ASP:HA   | 1:134:A:ASP:HB2  | 12       | 0.33          |
| (1,263) | 1:134:A:ASP:HA   | 1:134:A:ASP:HB2  | 14       | 0.33          |
| (1,263) | 1:134:A:ASP:HA   | 1:134:A:ASP:HB2  | 16       | 0.33          |
| (1,263) | 1:134:A:ASP:HA   | 1:134:A:ASP:HB2  | 17       | 0.33          |
| (1,263) | 1:134:A:ASP:HA   | 1:134:A:ASP:HB2  | 19       | 0.33          |
| (1,263) | 1:134:A:ASP:HA   | 1:134:A:ASP:HB2  | 20       | 0.33          |
| (1,150) | 1:137:A:ALA:HB1  | 1:136:A:GLU:HB2  | 11       | 0.33          |
| (1,150) | 1:137:A:ALA:HB2  | 1:136:A:GLU:HB2  | 11       | 0.33          |
| (1,150) | 1:137:A:ALA:HB3  | 1:136:A:GLU:HB2  | 11       | 0.33          |
| (1,125) | 1:118:A:ILE:HD11 | 1:126:A:PHE:HB3  | 12       | 0.33          |
| (1,125) | 1:118:A:ILE:HD12 | 1:126:A:PHE:HB3  | 12       | 0.33          |
| (1,125) | 1:118:A:ILE:HD13 | 1:126:A:PHE:HB3  | 12       | 0.33          |
| (1,108) | 1:126:A:PHE:HA   | 1:126:A:PHE:HB2  | 1        | 0.33          |
| (1,108) | 1:126:A:PHE:HA   | 1:126:A:PHE:HB2  | 3        | 0.33          |
| (1,108) | 1:126:A:PHE:HA   | 1:126:A:PHE:HB2  | 4        | 0.33          |
| (1,108) | 1:126:A:PHE:HA   | 1:126:A:PHE:HB2  | 5        | 0.33          |
| (1,108) | 1:126:A:PHE:HA   | 1:126:A:PHE:HB2  | 6        | 0.33          |
| (1,108) | 1:126:A:PHE:HA   | 1:126:A:PHE:HB2  | 7        | 0.33          |
| (1,108) | 1:126:A:PHE:HA   | 1:126:A:PHE:HB2  | 10       | 0.33          |
| (1,108) | 1:126:A:PHE:HA   | 1:126:A:PHE:HB2  | 11       | 0.33          |
| (1,108) | 1:126:A:PHE:HA   | 1:126:A:PHE:HB2  | 12       | 0.33          |
| (1,108) | 1:126:A:PHE:HA   | 1:126:A:PHE:HB2  | 13       | 0.33          |
| (1,108) | 1:126:A:PHE:HA   | 1:126:A:PHE:HB2  | 14       | 0.33          |
| (1,108) | 1:126:A:PHE:HA   | 1:126:A:PHE:HB2  | 17       | 0.33          |
| (1,108) | 1:126:A:PHE:HA   | 1:126:A:PHE:HB2  | 20       | 0.33          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD11 | 1        | 0.33          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD12 | 1        | 0.33          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD13 | 1        | 0.33          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD11 | 1        | 0.33          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD12 | 1        | 0.33          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD13 | 1        | 0.33          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD11 | 1        | 0.33          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD12 | 1        | 0.33          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD13 | 1        | 0.33          |
| (2,110) | 1:141:A:LEU:HD11 | 1:118:A:ILE:HG13 | 5        | 0.32          |
| (2,110) | 1:141:A:LEU:HD12 | 1:118:A:ILE:HG13 | 5        | 0.32          |
| (2,110) | 1:141:A:LEU:HD13 | 1:118:A:ILE:HG13 | 5        | 0.32          |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD21 | 20       | 0.32          |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD22 | 20       | 0.32          |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD23 | 20       | 0.32          |
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD21 | 20       | 0.32          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD22 | 20       | 0.32          |
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD23 | 20       | 0.32          |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD21 | 20       | 0.32          |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD22 | 20       | 0.32          |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD23 | 20       | 0.32          |
| (1,748) | 1:130:A:PHE:HB3  | 1:114:A:ASP:H    | 11       | 0.32          |
| (1,736) | 1:126:A:PHE:HB2  | 1:127:A:GLN:H    | 2        | 0.32          |
| (1,712) | 1:118:A:ILE:HB   | 1:126:A:PHE:HB3  | 17       | 0.32          |
| (1,265) | 1:138:A:ARG:HA   | 1:138:A:ARG:HB2  | 10       | 0.32          |
| (1,261) | 1:130:A:PHE:HA   | 1:130:A:PHE:HB2  | 3        | 0.32          |
| (1,261) | 1:130:A:PHE:HA   | 1:130:A:PHE:HB2  | 4        | 0.32          |
| (1,261) | 1:130:A:PHE:HA   | 1:130:A:PHE:HB2  | 5        | 0.32          |
| (1,261) | 1:130:A:PHE:HA   | 1:130:A:PHE:HB2  | 7        | 0.32          |
| (1,108) | 1:126:A:PHE:HA   | 1:126:A:PHE:HB2  | 15       | 0.32          |
| (2,118) | 1:142:A:LEU:HD11 | 1:150:A:ILE:HG12 | 16       | 0.31          |
| (2,118) | 1:142:A:LEU:HD12 | 1:150:A:ILE:HG12 | 16       | 0.31          |
| (2,118) | 1:142:A:LEU:HD13 | 1:150:A:ILE:HG12 | 16       | 0.31          |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD21 | 14       | 0.31          |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD22 | 14       | 0.31          |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD23 | 14       | 0.31          |
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD21 | 14       | 0.31          |
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD22 | 14       | 0.31          |
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD23 | 14       | 0.31          |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD21 | 14       | 0.31          |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD22 | 14       | 0.31          |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD23 | 14       | 0.31          |
| (2,60)  | 1:154:A:VAL:HG21 | 1:139:A:SER:HB3  | 11       | 0.31          |
| (2,60)  | 1:154:A:VAL:HG22 | 1:139:A:SER:HB3  | 11       | 0.31          |
| (2,60)  | 1:154:A:VAL:HG23 | 1:139:A:SER:HB3  | 11       | 0.31          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD11 | 9        | 0.31          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD12 | 9        | 0.31          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD13 | 9        | 0.31          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD11 | 9        | 0.31          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD12 | 9        | 0.31          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD13 | 9        | 0.31          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD11 | 9        | 0.31          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD12 | 9        | 0.31          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD13 | 9        | 0.31          |
| (1,531) | 1:110:A:PRO:HA   | 1:114:A:ASP:HB3  | 3        | 0.31          |
| (1,261) | 1:130:A:PHE:HA   | 1:130:A:PHE:HB2  | 1        | 0.31          |
| (1,261) | 1:130:A:PHE:HA   | 1:130:A:PHE:HB2  | 2        | 0.31          |
| (1,261) | 1:130:A:PHE:HA   | 1:130:A:PHE:HB2  | 6        | 0.31          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,261) | 1:130:A:PHE:HA   | 1:130:A:PHE:HB2  | 8        | 0.31          |
| (1,261) | 1:130:A:PHE:HA   | 1:130:A:PHE:HB2  | 9        | 0.31          |
| (1,261) | 1:130:A:PHE:HA   | 1:130:A:PHE:HB2  | 10       | 0.31          |
| (1,261) | 1:130:A:PHE:HA   | 1:130:A:PHE:HB2  | 11       | 0.31          |
| (1,261) | 1:130:A:PHE:HA   | 1:130:A:PHE:HB2  | 12       | 0.31          |
| (1,261) | 1:130:A:PHE:HA   | 1:130:A:PHE:HB2  | 13       | 0.31          |
| (1,261) | 1:130:A:PHE:HA   | 1:130:A:PHE:HB2  | 14       | 0.31          |
| (1,261) | 1:130:A:PHE:HA   | 1:130:A:PHE:HB2  | 15       | 0.31          |
| (1,261) | 1:130:A:PHE:HA   | 1:130:A:PHE:HB2  | 16       | 0.31          |
| (1,261) | 1:130:A:PHE:HA   | 1:130:A:PHE:HB2  | 17       | 0.31          |
| (1,261) | 1:130:A:PHE:HA   | 1:130:A:PHE:HB2  | 18       | 0.31          |
| (1,261) | 1:130:A:PHE:HA   | 1:130:A:PHE:HB2  | 19       | 0.31          |
| (1,261) | 1:130:A:PHE:HA   | 1:130:A:PHE:HB2  | 20       | 0.31          |
| (1,230) | 1:162:A:LEU:HB2  | 1:116:A:VAL:HA   | 16       | 0.31          |
| (1,226) | 1:145:A:LEU:HD11 | 1:150:A:ILE:HG13 | 4        | 0.31          |
| (1,226) | 1:145:A:LEU:HD12 | 1:150:A:ILE:HG13 | 4        | 0.31          |
| (1,226) | 1:145:A:LEU:HD13 | 1:150:A:ILE:HG13 | 4        | 0.31          |
| (1,108) | 1:126:A:PHE:HA   | 1:126:A:PHE:HB2  | 2        | 0.31          |
| (1,108) | 1:126:A:PHE:HA   | 1:126:A:PHE:HB2  | 8        | 0.31          |
| (1,108) | 1:126:A:PHE:HA   | 1:126:A:PHE:HB2  | 9        | 0.31          |
| (1,108) | 1:126:A:PHE:HA   | 1:126:A:PHE:HB2  | 16       | 0.31          |
| (1,108) | 1:126:A:PHE:HA   | 1:126:A:PHE:HB2  | 18       | 0.31          |
| (1,108) | 1:126:A:PHE:HA   | 1:126:A:PHE:HB2  | 19       | 0.31          |
| (1,34)  | 1:130:A:PHE:HE1  | 1:161:A:LYS:HB3  | 6        | 0.31          |
| (1,34)  | 1:130:A:PHE:HE2  | 1:161:A:LYS:HB3  | 6        | 0.31          |
| (2,123) | 1:142:A:LEU:HD21 | 1:150:A:ILE:HG12 | 2        | 0.3           |
| (2,123) | 1:142:A:LEU:HD22 | 1:150:A:ILE:HG12 | 2        | 0.3           |
| (2,123) | 1:142:A:LEU:HD23 | 1:150:A:ILE:HG12 | 2        | 0.3           |
| (2,118) | 1:142:A:LEU:HD11 | 1:150:A:ILE:HG12 | 7        | 0.3           |
| (2,118) | 1:142:A:LEU:HD12 | 1:150:A:ILE:HG12 | 7        | 0.3           |
| (2,118) | 1:142:A:LEU:HD13 | 1:150:A:ILE:HG12 | 7        | 0.3           |
| (1,641) | 1:151:A:LYS:HB2  | 1:152:A:HIS:H    | 2        | 0.3           |
| (1,514) | 1:155:A:LYS:HG3  | 1:155:A:LYS:HE2  | 19       | 0.3           |
| (1,514) | 1:155:A:LYS:HG3  | 1:155:A:LYS:HE3  | 19       | 0.3           |
| (1,497) | 1:162:A:LEU:HD11 | 1:117:A:ILE:HB   | 5        | 0.3           |
| (1,497) | 1:162:A:LEU:HD12 | 1:117:A:ILE:HB   | 5        | 0.3           |
| (1,497) | 1:162:A:LEU:HD13 | 1:117:A:ILE:HB   | 5        | 0.3           |
| (1,230) | 1:162:A:LEU:HB2  | 1:116:A:VAL:HA   | 5        | 0.3           |
| (1,229) | 1:145:A:LEU:HD21 | 1:143:A:LEU:HD11 | 16       | 0.3           |
| (1,229) | 1:145:A:LEU:HD21 | 1:143:A:LEU:HD12 | 16       | 0.3           |
| (1,229) | 1:145:A:LEU:HD21 | 1:143:A:LEU:HD13 | 16       | 0.3           |
| (1,229) | 1:145:A:LEU:HD22 | 1:143:A:LEU:HD11 | 16       | 0.3           |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,229) | 1:145:A:LEU:HD22 | 1:143:A:LEU:HD12 | 16       | 0.3           |
| (1,229) | 1:145:A:LEU:HD22 | 1:143:A:LEU:HD13 | 16       | 0.3           |
| (1,229) | 1:145:A:LEU:HD23 | 1:143:A:LEU:HD11 | 16       | 0.3           |
| (1,229) | 1:145:A:LEU:HD23 | 1:143:A:LEU:HD12 | 16       | 0.3           |
| (1,229) | 1:145:A:LEU:HD23 | 1:143:A:LEU:HD13 | 16       | 0.3           |
| (1,125) | 1:118:A:ILE:HD11 | 1:126:A:PHE:HB3  | 7        | 0.3           |
| (1,125) | 1:118:A:ILE:HD12 | 1:126:A:PHE:HB3  | 7        | 0.3           |
| (1,125) | 1:118:A:ILE:HD13 | 1:126:A:PHE:HB3  | 7        | 0.3           |
| (2,187) | 1:114:A:ASP:H    | 1:110:A:PRO:HB3  | 1        | 0.29          |
| (2,110) | 1:141:A:LEU:HD11 | 1:118:A:ILE:HG13 | 7        | 0.29          |
| (2,110) | 1:141:A:LEU:HD12 | 1:118:A:ILE:HG13 | 7        | 0.29          |
| (2,110) | 1:141:A:LEU:HD13 | 1:118:A:ILE:HG13 | 7        | 0.29          |
| (2,76)  | 1:126:A:PHE:HB3  | 1:143:A:LEU:HD11 | 12       | 0.29          |
| (2,76)  | 1:126:A:PHE:HB3  | 1:143:A:LEU:HD12 | 12       | 0.29          |
| (2,76)  | 1:126:A:PHE:HB3  | 1:143:A:LEU:HD13 | 12       | 0.29          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB1  | 5        | 0.29          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB2  | 5        | 0.29          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB3  | 5        | 0.29          |
| (1,575) | 1:118:A:ILE:HG13 | 1:117:A:ILE:HA   | 6        | 0.29          |
| (1,575) | 1:118:A:ILE:HG13 | 1:117:A:ILE:HA   | 14       | 0.29          |
| (1,531) | 1:110:A:PRO:HA   | 1:114:A:ASP:HB3  | 20       | 0.29          |
| (2,118) | 1:142:A:LEU:HD11 | 1:150:A:ILE:HG12 | 15       | 0.28          |
| (2,118) | 1:142:A:LEU:HD12 | 1:150:A:ILE:HG12 | 15       | 0.28          |
| (2,118) | 1:142:A:LEU:HD13 | 1:150:A:ILE:HG12 | 15       | 0.28          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB1  | 11       | 0.28          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB2  | 11       | 0.28          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB3  | 11       | 0.28          |
| (1,575) | 1:118:A:ILE:HG13 | 1:117:A:ILE:HA   | 15       | 0.28          |
| (1,575) | 1:118:A:ILE:HG13 | 1:117:A:ILE:HA   | 18       | 0.28          |
| (1,422) | 1:156:A:ASN:H    | 1:155:A:LYS:HB3  | 16       | 0.28          |
| (1,422) | 1:156:A:ASN:H    | 1:155:A:LYS:HB3  | 20       | 0.28          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD11 | 20       | 0.28          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD12 | 20       | 0.28          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD13 | 20       | 0.28          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD11 | 20       | 0.28          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD12 | 20       | 0.28          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD13 | 20       | 0.28          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD11 | 20       | 0.28          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD12 | 20       | 0.28          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD13 | 20       | 0.28          |
| (2,110) | 1:141:A:LEU:HD11 | 1:118:A:ILE:HG13 | 8        | 0.27          |
| (2,110) | 1:141:A:LEU:HD12 | 1:118:A:ILE:HG13 | 8        | 0.27          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (2,110) | 1:141:A:LEU:HD13 | 1:118:A:ILE:HG13 | 8        | 0.27          |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD21 | 6        | 0.27          |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD22 | 6        | 0.27          |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD23 | 6        | 0.27          |
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD21 | 6        | 0.27          |
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD22 | 6        | 0.27          |
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD23 | 6        | 0.27          |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD21 | 6        | 0.27          |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD22 | 6        | 0.27          |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD23 | 6        | 0.27          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD11 | 20       | 0.27          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD12 | 20       | 0.27          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD13 | 20       | 0.27          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD11 | 20       | 0.27          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD12 | 20       | 0.27          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD13 | 20       | 0.27          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD11 | 20       | 0.27          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD12 | 20       | 0.27          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD13 | 20       | 0.27          |
| (1,575) | 1:118:A:ILE:HG13 | 1:117:A:ILE:HA   | 4        | 0.27          |
| (1,497) | 1:162:A:LEU:HD11 | 1:117:A:ILE:HB   | 6        | 0.27          |
| (1,497) | 1:162:A:LEU:HD12 | 1:117:A:ILE:HB   | 6        | 0.27          |
| (1,497) | 1:162:A:LEU:HD13 | 1:117:A:ILE:HB   | 6        | 0.27          |
| (1,230) | 1:162:A:LEU:HB2  | 1:116:A:VAL:HA   | 20       | 0.27          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD11 | 17       | 0.27          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD12 | 17       | 0.27          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD13 | 17       | 0.27          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD11 | 17       | 0.27          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD12 | 17       | 0.27          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD13 | 17       | 0.27          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD11 | 17       | 0.27          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD12 | 17       | 0.27          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD13 | 17       | 0.27          |
| (2,110) | 1:141:A:LEU:HD11 | 1:118:A:ILE:HG13 | 17       | 0.26          |
| (2,110) | 1:141:A:LEU:HD12 | 1:118:A:ILE:HG13 | 17       | 0.26          |
| (2,110) | 1:141:A:LEU:HD13 | 1:118:A:ILE:HG13 | 17       | 0.26          |
| (2,58)  | 1:108:A:ALA:HA   | 1:161:A:LYS:HD2  | 12       | 0.26          |
| (1,736) | 1:126:A:PHE:HB2  | 1:127:A:GLN:H    | 18       | 0.26          |
| (1,641) | 1:151:A:LYS:HB2  | 1:152:A:HIS:H    | 5        | 0.26          |
| (1,531) | 1:110:A:PRO:HA   | 1:114:A:ASP:HB3  | 9        | 0.26          |
| (1,497) | 1:162:A:LEU:HD11 | 1:117:A:ILE:HB   | 4        | 0.26          |
| (1,497) | 1:162:A:LEU:HD12 | 1:117:A:ILE:HB   | 4        | 0.26          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,497) | 1:162:A:LEU:HD13 | 1:117:A:ILE:HB   | 4        | 0.26          |
| (1,230) | 1:162:A:LEU:HB2  | 1:116:A:VAL:HA   | 15       | 0.26          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD11 | 5        | 0.26          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD12 | 5        | 0.26          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD13 | 5        | 0.26          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD11 | 5        | 0.26          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD12 | 5        | 0.26          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD13 | 5        | 0.26          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD11 | 5        | 0.26          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD12 | 5        | 0.26          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD13 | 5        | 0.26          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD11 | 16       | 0.26          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD12 | 16       | 0.26          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD13 | 16       | 0.26          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD11 | 16       | 0.26          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD12 | 16       | 0.26          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD13 | 16       | 0.26          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD11 | 16       | 0.26          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD12 | 16       | 0.26          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD13 | 16       | 0.26          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD11 | 7        | 0.25          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD12 | 7        | 0.25          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD13 | 7        | 0.25          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD11 | 7        | 0.25          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD12 | 7        | 0.25          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD13 | 7        | 0.25          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD11 | 7        | 0.25          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD12 | 7        | 0.25          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD13 | 7        | 0.25          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD11 | 11       | 0.25          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD12 | 11       | 0.25          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD13 | 11       | 0.25          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD11 | 11       | 0.25          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD12 | 11       | 0.25          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD13 | 11       | 0.25          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD11 | 11       | 0.25          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD12 | 11       | 0.25          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD13 | 11       | 0.25          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD11 | 12       | 0.25          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD12 | 12       | 0.25          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD13 | 12       | 0.25          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD11 | 12       | 0.25          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD12 | 12       | 0.25          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD13 | 12       | 0.25          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD11 | 12       | 0.25          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD12 | 12       | 0.25          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD13 | 12       | 0.25          |
| (1,933) | 1:141:A:LEU:HD21 | 1:130:A:PHE:HA   | 15       | 0.25          |
| (1,933) | 1:141:A:LEU:HD22 | 1:130:A:PHE:HA   | 15       | 0.25          |
| (1,933) | 1:141:A:LEU:HD23 | 1:130:A:PHE:HA   | 15       | 0.25          |
| (1,933) | 1:141:A:LEU:HD21 | 1:130:A:PHE:HA   | 18       | 0.25          |
| (1,933) | 1:141:A:LEU:HD22 | 1:130:A:PHE:HA   | 18       | 0.25          |
| (1,933) | 1:141:A:LEU:HD23 | 1:130:A:PHE:HA   | 18       | 0.25          |
| (1,736) | 1:126:A:PHE:HB2  | 1:127:A:GLN:H    | 9        | 0.25          |
| (1,641) | 1:151:A:LYS:HB2  | 1:152:A:HIS:H    | 20       | 0.25          |
| (1,616) | 1:110:A:PRO:HB2  | 1:161:A:LYS:HD3  | 13       | 0.25          |
| (1,608) | 1:110:A:PRO:HB3  | 1:114:A:ASP:HB3  | 19       | 0.25          |
| (1,575) | 1:118:A:ILE:HG13 | 1:117:A:ILE:HA   | 10       | 0.25          |
| (1,168) | 1:159:A:PHE:HB3  | 1:141:A:LEU:HD11 | 12       | 0.25          |
| (1,168) | 1:159:A:PHE:HB3  | 1:141:A:LEU:HD12 | 12       | 0.25          |
| (1,168) | 1:159:A:PHE:HB3  | 1:141:A:LEU:HD13 | 12       | 0.25          |
| (1,63)  | 1:141:A:LEU:HD21 | 1:130:A:PHE:HB2  | 12       | 0.25          |
| (1,63)  | 1:141:A:LEU:HD22 | 1:130:A:PHE:HB2  | 12       | 0.25          |
| (1,63)  | 1:141:A:LEU:HD23 | 1:130:A:PHE:HB2  | 12       | 0.25          |
| (2,110) | 1:141:A:LEU:HD11 | 1:118:A:ILE:HG13 | 2        | 0.24          |
| (2,110) | 1:141:A:LEU:HD12 | 1:118:A:ILE:HG13 | 2        | 0.24          |
| (2,110) | 1:141:A:LEU:HD13 | 1:118:A:ILE:HG13 | 2        | 0.24          |
| (2,110) | 1:141:A:LEU:HD11 | 1:118:A:ILE:HG13 | 16       | 0.24          |
| (2,110) | 1:141:A:LEU:HD12 | 1:118:A:ILE:HG13 | 16       | 0.24          |
| (2,110) | 1:141:A:LEU:HD13 | 1:118:A:ILE:HG13 | 16       | 0.24          |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD21 | 19       | 0.24          |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD22 | 19       | 0.24          |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD23 | 19       | 0.24          |
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD21 | 19       | 0.24          |
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD22 | 19       | 0.24          |
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD23 | 19       | 0.24          |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD21 | 19       | 0.24          |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD22 | 19       | 0.24          |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD23 | 19       | 0.24          |
| (2,58)  | 1:108:A:ALA:HA   | 1:161:A:LYS:HD2  | 17       | 0.24          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB1  | 3        | 0.24          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB2  | 3        | 0.24          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB3  | 3        | 0.24          |
| (1,712) | 1:118:A:ILE:HB   | 1:126:A:PHE:HB3  | 1        | 0.24          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,712) | 1:118:A:ILE:HB   | 1:126:A:PHE:HB3  | 11       | 0.24          |
| (1,641) | 1:151:A:LYS:HB2  | 1:152:A:HIS:H    | 12       | 0.24          |
| (1,575) | 1:118:A:ILE:HG13 | 1:117:A:ILE:HA   | 11       | 0.24          |
| (1,531) | 1:110:A:PRO:HA   | 1:114:A:ASP:HB3  | 2        | 0.24          |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD21 | 13       | 0.23          |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD22 | 13       | 0.23          |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD23 | 13       | 0.23          |
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD21 | 13       | 0.23          |
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD22 | 13       | 0.23          |
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD23 | 13       | 0.23          |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD21 | 13       | 0.23          |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD22 | 13       | 0.23          |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD23 | 13       | 0.23          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB1  | 4        | 0.23          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB2  | 4        | 0.23          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB3  | 4        | 0.23          |
| (1,34)  | 1:130:A:PHE:HE1  | 1:161:A:LYS:HB3  | 4        | 0.23          |
| (1,34)  | 1:130:A:PHE:HE2  | 1:161:A:LYS:HB3  | 4        | 0.23          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB1  | 18       | 0.22          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB2  | 18       | 0.22          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB3  | 18       | 0.22          |
| (1,641) | 1:151:A:LYS:HB2  | 1:152:A:HIS:H    | 1        | 0.22          |
| (1,641) | 1:151:A:LYS:HB2  | 1:152:A:HIS:H    | 8        | 0.22          |
| (1,616) | 1:110:A:PRO:HB2  | 1:161:A:LYS:HD3  | 12       | 0.22          |
| (1,608) | 1:110:A:PRO:HB3  | 1:114:A:ASP:HB3  | 13       | 0.22          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD11 | 2        | 0.22          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD12 | 2        | 0.22          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD13 | 2        | 0.22          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD11 | 2        | 0.22          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD12 | 2        | 0.22          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD13 | 2        | 0.22          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD11 | 2        | 0.22          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD12 | 2        | 0.22          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD13 | 2        | 0.22          |
| (2,110) | 1:141:A:LEU:HD11 | 1:118:A:ILE:HG13 | 20       | 0.21          |
| (2,110) | 1:141:A:LEU:HD12 | 1:118:A:ILE:HG13 | 20       | 0.21          |
| (2,110) | 1:141:A:LEU:HD13 | 1:118:A:ILE:HG13 | 20       | 0.21          |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD21 | 11       | 0.21          |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD22 | 11       | 0.21          |
| (2,109) | 1:150:A:ILE:HG21 | 1:143:A:LEU:HD23 | 11       | 0.21          |
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD21 | 11       | 0.21          |
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD22 | 11       | 0.21          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (2,109) | 1:150:A:ILE:HG22 | 1:143:A:LEU:HD23 | 11       | 0.21          |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD21 | 11       | 0.21          |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD22 | 11       | 0.21          |
| (2,109) | 1:150:A:ILE:HG23 | 1:143:A:LEU:HD23 | 11       | 0.21          |
| (2,60)  | 1:154:A:VAL:HG21 | 1:139:A:SER:HB3  | 18       | 0.21          |
| (2,60)  | 1:154:A:VAL:HG22 | 1:139:A:SER:HB3  | 18       | 0.21          |
| (2,60)  | 1:154:A:VAL:HG23 | 1:139:A:SER:HB3  | 18       | 0.21          |
| (1,933) | 1:141:A:LEU:HD21 | 1:130:A:PHE:HA   | 4        | 0.21          |
| (1,933) | 1:141:A:LEU:HD22 | 1:130:A:PHE:HA   | 4        | 0.21          |
| (1,933) | 1:141:A:LEU:HD23 | 1:130:A:PHE:HA   | 4        | 0.21          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB1  | 7        | 0.21          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB2  | 7        | 0.21          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB3  | 7        | 0.21          |
| (1,736) | 1:126:A:PHE:HB2  | 1:127:A:GLN:H    | 3        | 0.21          |
| (1,736) | 1:126:A:PHE:HB2  | 1:127:A:GLN:H    | 15       | 0.21          |
| (1,422) | 1:156:A:ASN:H    | 1:155:A:LYS:HB3  | 19       | 0.21          |
| (2,118) | 1:142:A:LEU:HD11 | 1:150:A:ILE:HG12 | 18       | 0.2           |
| (2,118) | 1:142:A:LEU:HD12 | 1:150:A:ILE:HG12 | 18       | 0.2           |
| (2,118) | 1:142:A:LEU:HD13 | 1:150:A:ILE:HG12 | 18       | 0.2           |
| (2,64)  | 1:154:A:VAL:HG21 | 1:141:A:LEU:HG   | 9        | 0.2           |
| (2,64)  | 1:154:A:VAL:HG22 | 1:141:A:LEU:HG   | 9        | 0.2           |
| (2,64)  | 1:154:A:VAL:HG23 | 1:141:A:LEU:HG   | 9        | 0.2           |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD11 | 18       | 0.2           |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD12 | 18       | 0.2           |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD13 | 18       | 0.2           |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD11 | 18       | 0.2           |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD12 | 18       | 0.2           |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD13 | 18       | 0.2           |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD11 | 18       | 0.2           |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD12 | 18       | 0.2           |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD13 | 18       | 0.2           |
| (1,641) | 1:151:A:LYS:HB2  | 1:152:A:HIS:H    | 13       | 0.2           |
| (1,531) | 1:110:A:PRO:HA   | 1:114:A:ASP:HB3  | 15       | 0.2           |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD11 | 17       | 0.19          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD12 | 17       | 0.19          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD13 | 17       | 0.19          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD11 | 17       | 0.19          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD12 | 17       | 0.19          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD13 | 17       | 0.19          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD11 | 17       | 0.19          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD12 | 17       | 0.19          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD13 | 17       | 0.19          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB1  | 6        | 0.19          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB2  | 6        | 0.19          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB3  | 6        | 0.19          |
| (1,767) | 1:145:A:LEU:HB2  | 1:145:A:LEU:HD11 | 3        | 0.19          |
| (1,767) | 1:145:A:LEU:HB2  | 1:145:A:LEU:HD12 | 3        | 0.19          |
| (1,767) | 1:145:A:LEU:HB2  | 1:145:A:LEU:HD13 | 3        | 0.19          |
| (1,767) | 1:145:A:LEU:HB2  | 1:145:A:LEU:HD11 | 4        | 0.19          |
| (1,767) | 1:145:A:LEU:HB2  | 1:145:A:LEU:HD12 | 4        | 0.19          |
| (1,767) | 1:145:A:LEU:HB2  | 1:145:A:LEU:HD13 | 4        | 0.19          |
| (1,767) | 1:145:A:LEU:HB2  | 1:145:A:LEU:HD11 | 14       | 0.19          |
| (1,767) | 1:145:A:LEU:HB2  | 1:145:A:LEU:HD12 | 14       | 0.19          |
| (1,767) | 1:145:A:LEU:HB2  | 1:145:A:LEU:HD13 | 14       | 0.19          |
| (1,767) | 1:145:A:LEU:HB2  | 1:145:A:LEU:HD11 | 17       | 0.19          |
| (1,767) | 1:145:A:LEU:HB2  | 1:145:A:LEU:HD12 | 17       | 0.19          |
| (1,767) | 1:145:A:LEU:HB2  | 1:145:A:LEU:HD13 | 17       | 0.19          |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG11 | 1        | 0.19          |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG12 | 1        | 0.19          |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG13 | 1        | 0.19          |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG11 | 4        | 0.19          |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG12 | 4        | 0.19          |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG13 | 4        | 0.19          |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG11 | 11       | 0.19          |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG12 | 11       | 0.19          |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG13 | 11       | 0.19          |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG11 | 12       | 0.19          |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG12 | 12       | 0.19          |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG13 | 12       | 0.19          |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG11 | 13       | 0.19          |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG12 | 13       | 0.19          |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG13 | 13       | 0.19          |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG11 | 17       | 0.19          |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG12 | 17       | 0.19          |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG13 | 17       | 0.19          |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG11 | 18       | 0.19          |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG12 | 18       | 0.19          |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG13 | 18       | 0.19          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD11 | 3        | 0.19          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD12 | 3        | 0.19          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD13 | 3        | 0.19          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD11 | 3        | 0.19          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD12 | 3        | 0.19          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD13 | 3        | 0.19          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD11 | 3        | 0.19          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD12 | 3        | 0.19          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD13 | 3        | 0.19          |
| (2,110) | 1:141:A:LEU:HD11 | 1:118:A:ILE:HG13 | 3        | 0.18          |
| (2,110) | 1:141:A:LEU:HD12 | 1:118:A:ILE:HG13 | 3        | 0.18          |
| (2,110) | 1:141:A:LEU:HD13 | 1:118:A:ILE:HG13 | 3        | 0.18          |
| (2,58)  | 1:108:A:ALA:HA   | 1:161:A:LYS:HD2  | 11       | 0.18          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD11 | 1        | 0.18          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD12 | 1        | 0.18          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD13 | 1        | 0.18          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD11 | 1        | 0.18          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD12 | 1        | 0.18          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD13 | 1        | 0.18          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD11 | 1        | 0.18          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD12 | 1        | 0.18          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD13 | 1        | 0.18          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD11 | 4        | 0.18          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD12 | 4        | 0.18          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD13 | 4        | 0.18          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD11 | 4        | 0.18          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD12 | 4        | 0.18          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD13 | 4        | 0.18          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD11 | 4        | 0.18          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD12 | 4        | 0.18          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD13 | 4        | 0.18          |
| (1,767) | 1:145:A:LEU:HB2  | 1:145:A:LEU:HD11 | 5        | 0.18          |
| (1,767) | 1:145:A:LEU:HB2  | 1:145:A:LEU:HD12 | 5        | 0.18          |
| (1,767) | 1:145:A:LEU:HB2  | 1:145:A:LEU:HD13 | 5        | 0.18          |
| (1,767) | 1:145:A:LEU:HB2  | 1:145:A:LEU:HD11 | 11       | 0.18          |
| (1,767) | 1:145:A:LEU:HB2  | 1:145:A:LEU:HD12 | 11       | 0.18          |
| (1,767) | 1:145:A:LEU:HB2  | 1:145:A:LEU:HD13 | 11       | 0.18          |
| (1,767) | 1:145:A:LEU:HB2  | 1:145:A:LEU:HD11 | 12       | 0.18          |
| (1,767) | 1:145:A:LEU:HB2  | 1:145:A:LEU:HD12 | 12       | 0.18          |
| (1,767) | 1:145:A:LEU:HB2  | 1:145:A:LEU:HD13 | 12       | 0.18          |
| (1,736) | 1:126:A:PHE:HB2  | 1:127:A:GLN:H    | 20       | 0.18          |
| (1,641) | 1:151:A:LYS:HB2  | 1:152:A:HIS:H    | 10       | 0.18          |
| (1,531) | 1:110:A:PRO:HA   | 1:114:A:ASP:HB3  | 5        | 0.18          |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG11 | 9        | 0.18          |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG12 | 9        | 0.18          |
| (1,499) | 1:154:A:VAL:HA   | 1:154:A:VAL:HG13 | 9        | 0.18          |
| (1,434) | 1:111:A:TYR:H    | 1:112:A:PRO:HD3  | 17       | 0.18          |
| (1,125) | 1:118:A:ILE:HD11 | 1:126:A:PHE:HB3  | 17       | 0.18          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,125) | 1:118:A:ILE:HD12 | 1:126:A:PHE:HB3  | 17       | 0.18          |
| (1,125) | 1:118:A:ILE:HD13 | 1:126:A:PHE:HB3  | 17       | 0.18          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD11 | 5        | 0.17          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD12 | 5        | 0.17          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD13 | 5        | 0.17          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD11 | 5        | 0.17          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD12 | 5        | 0.17          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD13 | 5        | 0.17          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD11 | 5        | 0.17          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD12 | 5        | 0.17          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD13 | 5        | 0.17          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD11 | 16       | 0.17          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD12 | 16       | 0.17          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD13 | 16       | 0.17          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD11 | 16       | 0.17          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD12 | 16       | 0.17          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD13 | 16       | 0.17          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD11 | 16       | 0.17          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD12 | 16       | 0.17          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD13 | 16       | 0.17          |
| (1,933) | 1:141:A:LEU:HD21 | 1:130:A:PHE:HA   | 2        | 0.17          |
| (1,933) | 1:141:A:LEU:HD22 | 1:130:A:PHE:HA   | 2        | 0.17          |
| (1,933) | 1:141:A:LEU:HD23 | 1:130:A:PHE:HA   | 2        | 0.17          |
| (1,933) | 1:141:A:LEU:HD21 | 1:130:A:PHE:HA   | 9        | 0.17          |
| (1,933) | 1:141:A:LEU:HD22 | 1:130:A:PHE:HA   | 9        | 0.17          |
| (1,933) | 1:141:A:LEU:HD23 | 1:130:A:PHE:HA   | 9        | 0.17          |
| (1,736) | 1:126:A:PHE:HB2  | 1:127:A:GLN:H    | 17       | 0.17          |
| (1,641) | 1:151:A:LYS:HB2  | 1:152:A:HIS:H    | 16       | 0.17          |
| (1,616) | 1:110:A:PRO:HB2  | 1:161:A:LYS:HD3  | 7        | 0.17          |
| (1,608) | 1:110:A:PRO:HB3  | 1:114:A:ASP:HB3  | 18       | 0.17          |
| (1,548) | 1:129:A:ILE:HG13 | 1:129:A:ILE:H    | 3        | 0.17          |
| (1,434) | 1:111:A:TYR:H    | 1:112:A:PRO:HD3  | 1        | 0.17          |
| (1,434) | 1:111:A:TYR:H    | 1:112:A:PRO:HD3  | 8        | 0.17          |
| (1,434) | 1:111:A:TYR:H    | 1:112:A:PRO:HD3  | 14       | 0.17          |
| (1,219) | 1:143:A:LEU:HD11 | 1:123:A:PHE:HB3  | 10       | 0.17          |
| (1,219) | 1:143:A:LEU:HD12 | 1:123:A:PHE:HB3  | 10       | 0.17          |
| (1,219) | 1:143:A:LEU:HD13 | 1:123:A:PHE:HB3  | 10       | 0.17          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB1  | 9        | 0.16          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB2  | 9        | 0.16          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB3  | 9        | 0.16          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB1  | 17       | 0.16          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB2  | 17       | 0.16          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB3  | 17       | 0.16          |
| (1,641) | 1:151:A:LYS:HB2  | 1:152:A:HIS:H    | 7        | 0.16          |
| (1,616) | 1:110:A:PRO:HB2  | 1:161:A:LYS:HD3  | 4        | 0.16          |
| (1,531) | 1:110:A:PRO:HA   | 1:114:A:ASP:HB3  | 1        | 0.16          |
| (1,434) | 1:111:A:TYR:H    | 1:112:A:PRO:HD3  | 9        | 0.16          |
| (1,434) | 1:111:A:TYR:H    | 1:112:A:PRO:HD3  | 13       | 0.16          |
| (1,434) | 1:111:A:TYR:H    | 1:112:A:PRO:HD3  | 16       | 0.16          |
| (2,123) | 1:142:A:LEU:HD21 | 1:150:A:ILE:HG12 | 20       | 0.15          |
| (2,123) | 1:142:A:LEU:HD22 | 1:150:A:ILE:HG12 | 20       | 0.15          |
| (2,123) | 1:142:A:LEU:HD23 | 1:150:A:ILE:HG12 | 20       | 0.15          |
| (2,110) | 1:141:A:LEU:HD11 | 1:118:A:ILE:HG13 | 1        | 0.15          |
| (2,110) | 1:141:A:LEU:HD12 | 1:118:A:ILE:HG13 | 1        | 0.15          |
| (2,110) | 1:141:A:LEU:HD13 | 1:118:A:ILE:HG13 | 1        | 0.15          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD11 | 8        | 0.15          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD12 | 8        | 0.15          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD13 | 8        | 0.15          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD11 | 8        | 0.15          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD12 | 8        | 0.15          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD13 | 8        | 0.15          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD11 | 8        | 0.15          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD12 | 8        | 0.15          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD13 | 8        | 0.15          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB1  | 20       | 0.15          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB2  | 20       | 0.15          |
| (1,792) | 1:141:A:LEU:HB2  | 1:128:A:ALA:HB3  | 20       | 0.15          |
| (1,736) | 1:126:A:PHE:HB2  | 1:127:A:GLN:H    | 1        | 0.15          |
| (1,641) | 1:151:A:LYS:HB2  | 1:152:A:HIS:H    | 3        | 0.15          |
| (1,641) | 1:151:A:LYS:HB2  | 1:152:A:HIS:H    | 14       | 0.15          |
| (1,531) | 1:110:A:PRO:HA   | 1:114:A:ASP:HB3  | 6        | 0.15          |
| (1,434) | 1:111:A:TYR:H    | 1:112:A:PRO:HD3  | 4        | 0.15          |
| (1,434) | 1:111:A:TYR:H    | 1:112:A:PRO:HD3  | 10       | 0.15          |
| (1,434) | 1:111:A:TYR:H    | 1:112:A:PRO:HD3  | 15       | 0.15          |
| (1,434) | 1:111:A:TYR:H    | 1:112:A:PRO:HD3  | 18       | 0.15          |
| (1,434) | 1:111:A:TYR:H    | 1:112:A:PRO:HD3  | 20       | 0.15          |
| (1,712) | 1:118:A:ILE:HB   | 1:126:A:PHE:HB3  | 10       | 0.14          |
| (1,641) | 1:151:A:LYS:HB2  | 1:152:A:HIS:H    | 17       | 0.14          |
| (1,531) | 1:110:A:PRO:HA   | 1:114:A:ASP:HB3  | 8        | 0.14          |
| (1,434) | 1:111:A:TYR:H    | 1:112:A:PRO:HD3  | 6        | 0.14          |
| (1,434) | 1:111:A:TYR:H    | 1:112:A:PRO:HD3  | 12       | 0.14          |
| (1,434) | 1:111:A:TYR:H    | 1:112:A:PRO:HD3  | 19       | 0.14          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD11 | 2        | 0.13          |
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD12 | 2        | 0.13          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (2,36)  | 1:118:A:ILE:HG21 | 1:141:A:LEU:HD13 | 2        | 0.13          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD11 | 2        | 0.13          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD12 | 2        | 0.13          |
| (2,36)  | 1:118:A:ILE:HG22 | 1:141:A:LEU:HD13 | 2        | 0.13          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD11 | 2        | 0.13          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD12 | 2        | 0.13          |
| (2,36)  | 1:118:A:ILE:HG23 | 1:141:A:LEU:HD13 | 2        | 0.13          |
| (1,933) | 1:141:A:LEU:HD21 | 1:130:A:PHE:HA   | 16       | 0.13          |
| (1,933) | 1:141:A:LEU:HD22 | 1:130:A:PHE:HA   | 16       | 0.13          |
| (1,933) | 1:141:A:LEU:HD23 | 1:130:A:PHE:HA   | 16       | 0.13          |
| (1,736) | 1:126:A:PHE:HB2  | 1:127:A:GLN:H    | 6        | 0.13          |
| (1,548) | 1:129:A:ILE:HG13 | 1:129:A:ILE:H    | 15       | 0.13          |
| (1,531) | 1:110:A:PRO:HA   | 1:114:A:ASP:HB3  | 16       | 0.13          |
| (1,434) | 1:111:A:TYR:H    | 1:112:A:PRO:HD3  | 2        | 0.13          |
| (1,168) | 1:159:A:PHE:HB3  | 1:141:A:LEU:HD11 | 15       | 0.13          |
| (1,168) | 1:159:A:PHE:HB3  | 1:141:A:LEU:HD12 | 15       | 0.13          |
| (1,168) | 1:159:A:PHE:HB3  | 1:141:A:LEU:HD13 | 15       | 0.13          |
| (1,712) | 1:118:A:ILE:HB   | 1:126:A:PHE:HB3  | 4        | 0.12          |
| (1,712) | 1:118:A:ILE:HB   | 1:126:A:PHE:HB3  | 14       | 0.12          |
| (1,641) | 1:151:A:LYS:HB2  | 1:152:A:HIS:H    | 6        | 0.12          |
| (1,616) | 1:110:A:PRO:HB2  | 1:161:A:LYS:HD3  | 1        | 0.12          |
| (1,616) | 1:110:A:PRO:HB2  | 1:161:A:LYS:HD3  | 5        | 0.12          |
| (1,548) | 1:129:A:ILE:HG13 | 1:129:A:ILE:H    | 13       | 0.12          |
| (1,548) | 1:129:A:ILE:HG13 | 1:129:A:ILE:H    | 14       | 0.12          |
| (1,548) | 1:129:A:ILE:HG13 | 1:129:A:ILE:H    | 18       | 0.12          |
| (1,531) | 1:110:A:PRO:HA   | 1:114:A:ASP:HB3  | 11       | 0.12          |
| (1,531) | 1:110:A:PRO:HA   | 1:114:A:ASP:HB3  | 18       | 0.12          |
| (1,434) | 1:111:A:TYR:H    | 1:112:A:PRO:HD3  | 3        | 0.12          |
| (1,434) | 1:111:A:TYR:H    | 1:112:A:PRO:HD3  | 5        | 0.12          |
| (1,434) | 1:111:A:TYR:H    | 1:112:A:PRO:HD3  | 11       | 0.12          |
| (1,345) | 1:138:A:ARG:H    | 1:138:A:ARG:HD2  | 9        | 0.12          |
| (1,37)  | 1:123:A:PHE:HE1  | 1:143:A:LEU:HD11 | 12       | 0.12          |
| (1,37)  | 1:123:A:PHE:HE1  | 1:143:A:LEU:HD12 | 12       | 0.12          |
| (1,37)  | 1:123:A:PHE:HE1  | 1:143:A:LEU:HD13 | 12       | 0.12          |
| (1,37)  | 1:123:A:PHE:HE2  | 1:143:A:LEU:HD11 | 12       | 0.12          |
| (1,37)  | 1:123:A:PHE:HE2  | 1:143:A:LEU:HD12 | 12       | 0.12          |
| (1,37)  | 1:123:A:PHE:HE2  | 1:143:A:LEU:HD13 | 12       | 0.12          |
| (2,58)  | 1:108:A:ALA:HA   | 1:161:A:LYS:HD2  | 3        | 0.11          |
| (2,18)  | 1:141:A:LEU:HD21 | 1:130:A:PHE:HB3  | 5        | 0.11          |
| (2,18)  | 1:141:A:LEU:HD22 | 1:130:A:PHE:HB3  | 5        | 0.11          |
| (2,18)  | 1:141:A:LEU:HD23 | 1:130:A:PHE:HB3  | 5        | 0.11          |
| (1,933) | 1:141:A:LEU:HD21 | 1:130:A:PHE:HA   | 6        | 0.11          |

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| Key     | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|---------|------------------|------------------|----------|---------------|
| (1,933) | 1:141:A:LEU:HD22 | 1:130:A:PHE:HA   | 6        | 0.11          |
| (1,933) | 1:141:A:LEU:HD23 | 1:130:A:PHE:HA   | 6        | 0.11          |
| (1,819) | 1:150:A:ILE:HD11 | 1:145:A:LEU:HD11 | 17       | 0.11          |
| (1,819) | 1:150:A:ILE:HD11 | 1:145:A:LEU:HD12 | 17       | 0.11          |
| (1,819) | 1:150:A:ILE:HD11 | 1:145:A:LEU:HD13 | 17       | 0.11          |
| (1,819) | 1:150:A:ILE:HD12 | 1:145:A:LEU:HD11 | 17       | 0.11          |
| (1,819) | 1:150:A:ILE:HD12 | 1:145:A:LEU:HD12 | 17       | 0.11          |
| (1,819) | 1:150:A:ILE:HD12 | 1:145:A:LEU:HD13 | 17       | 0.11          |
| (1,819) | 1:150:A:ILE:HD13 | 1:145:A:LEU:HD11 | 17       | 0.11          |
| (1,819) | 1:150:A:ILE:HD13 | 1:145:A:LEU:HD12 | 17       | 0.11          |
| (1,819) | 1:150:A:ILE:HD13 | 1:145:A:LEU:HD13 | 17       | 0.11          |
| (1,651) | 1:155:A:LYS:HB2  | 1:158:A:GLU:HG3  | 20       | 0.11          |
| (1,641) | 1:151:A:LYS:HB2  | 1:152:A:HIS:H    | 19       | 0.11          |
| (1,600) | 1:155:A:LYS:HD3  | 1:155:A:LYS:H    | 8        | 0.11          |
| (1,548) | 1:129:A:ILE:HG13 | 1:129:A:ILE:H    | 6        | 0.11          |
| (1,548) | 1:129:A:ILE:HG13 | 1:129:A:ILE:H    | 9        | 0.11          |
| (1,548) | 1:129:A:ILE:HG13 | 1:129:A:ILE:H    | 16       | 0.11          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD11 | 8        | 0.11          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD12 | 8        | 0.11          |
| (1,62)  | 1:141:A:LEU:HD11 | 1:118:A:ILE:HD13 | 8        | 0.11          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD11 | 8        | 0.11          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD12 | 8        | 0.11          |
| (1,62)  | 1:141:A:LEU:HD12 | 1:118:A:ILE:HD13 | 8        | 0.11          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD11 | 8        | 0.11          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD12 | 8        | 0.11          |
| (1,62)  | 1:141:A:LEU:HD13 | 1:118:A:ILE:HD13 | 8        | 0.11          |
| (1,37)  | 1:123:A:PHE:HE1  | 1:143:A:LEU:HD11 | 5        | 0.11          |
| (1,37)  | 1:123:A:PHE:HE1  | 1:143:A:LEU:HD12 | 5        | 0.11          |
| (1,37)  | 1:123:A:PHE:HE1  | 1:143:A:LEU:HD13 | 5        | 0.11          |
| (1,37)  | 1:123:A:PHE:HE2  | 1:143:A:LEU:HD11 | 5        | 0.11          |
| (1,37)  | 1:123:A:PHE:HE2  | 1:143:A:LEU:HD12 | 5        | 0.11          |
| (1,37)  | 1:123:A:PHE:HE2  | 1:143:A:LEU:HD13 | 5        | 0.11          |
| (2,64)  | 1:154:A:VAL:HG21 | 1:141:A:LEU:HG   | 4        | 0.1           |
| (2,64)  | 1:154:A:VAL:HG22 | 1:141:A:LEU:HG   | 4        | 0.1           |
| (2,64)  | 1:154:A:VAL:HG23 | 1:141:A:LEU:HG   | 4        | 0.1           |
| (1,641) | 1:151:A:LYS:HB2  | 1:152:A:HIS:H    | 9        | 0.1           |
| (1,548) | 1:129:A:ILE:HG13 | 1:129:A:ILE:H    | 2        | 0.1           |



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

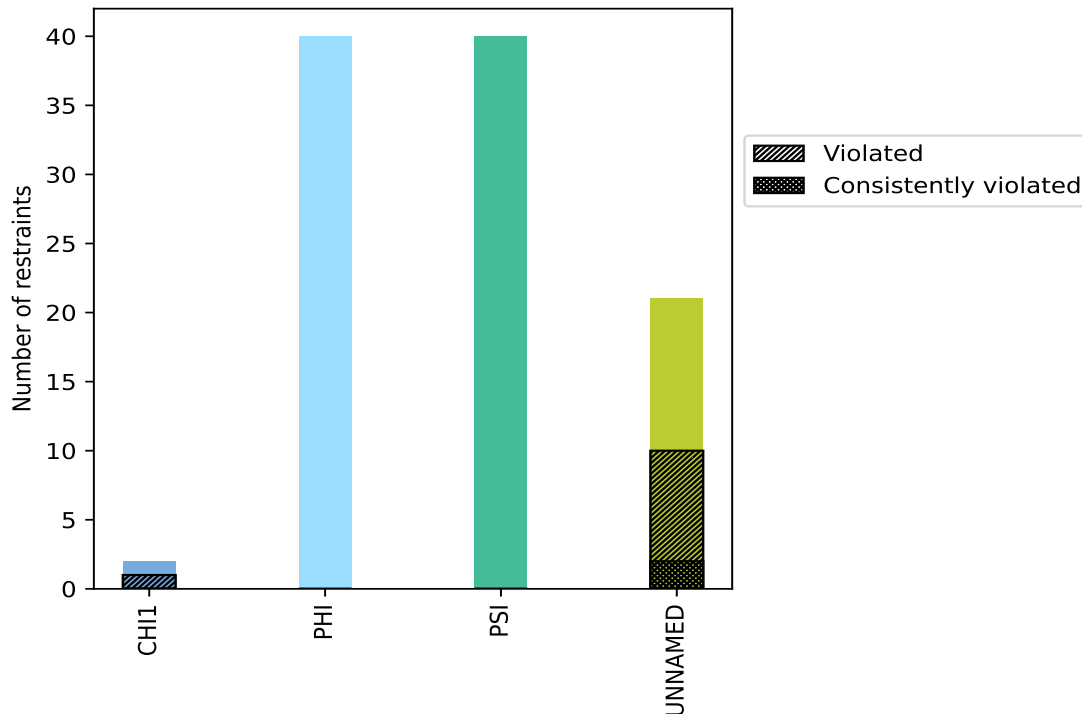
### 10.1 Summary of dihedral-angle violations [i](#)

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> |
| CHI1       | 2     | 1.9            | 1                     | 50.0           | 1.0            | 0                                  | 0.0            | 0.0            |
| PHI        | 40    | 38.8           | 0                     | 0.0            | 0.0            | 0                                  | 0.0            | 0.0            |
| PSI        | 40    | 38.8           | 0                     | 0.0            | 0.0            | 0                                  | 0.0            | 0.0            |
| UNNAMED    | 21    | 20.4           | 10                    | 47.6           | 9.7            | 2                                  | 9.5            | 1.9            |
| Total      | 103   | 100.0          | 11                    | 10.7           | 10.7           | 2                                  | 1.9            | 1.9            |

<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](#)



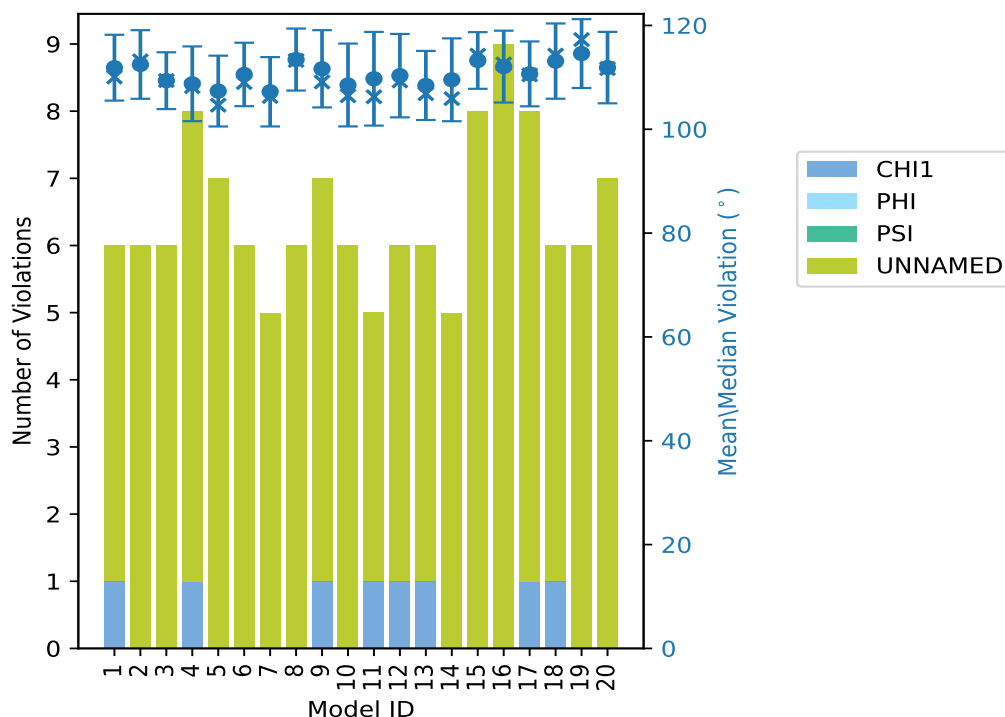
Violated and consistently violated restraints are shown using different hatch patterns in their respective categories

## 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 (°) |
|----------|----------------------|-----|-----|---------|-------|----------|---------|--------|------------|
|          | CHI1                 | PHI | PSI | UNNAMED | Total |          |         |        |            |
| 1        | 1                    | 0   | 0   | 5       | 6     | 111.86   | 120.08  | 6.34   | 110.06     |
| 2        | 0                    | 0   | 0   | 6       | 6     | 112.48   | 120.29  | 6.61   | 113.18     |
| 3        | 0                    | 0   | 0   | 6       | 6     | 109.36   | 116.11  | 5.47   | 109.38     |
| 4        | 1                    | 0   | 0   | 7       | 8     | 108.76   | 119.66  | 7.2    | 108.2      |
| 5        | 0                    | 0   | 0   | 7       | 7     | 107.36   | 117.6   | 6.82   | 104.64     |
| 6        | 0                    | 0   | 0   | 6       | 6     | 110.56   | 120.2   | 6.11   | 109.0      |
| 7        | 0                    | 0   | 0   | 5       | 5     | 107.22   | 119.08  | 6.68   | 106.32     |
| 8        | 0                    | 0   | 0   | 6       | 6     | 113.43   | 120.33  | 5.97   | 113.26     |
| 9        | 1                    | 0   | 0   | 6       | 7     | 111.65   | 120.13  | 7.44   | 109.11     |
| 10       | 0                    | 0   | 0   | 6       | 6     | 108.53   | 120.56  | 7.98   | 106.46     |
| 11       | 1                    | 0   | 0   | 4       | 5     | 109.73   | 120.96  | 9.02   | 106.26     |
| 12       | 1                    | 0   | 0   | 5       | 6     | 110.33   | 120.65  | 8.03   | 109.3      |
| 13       | 1                    | 0   | 0   | 5       | 6     | 108.44   | 120.78  | 6.65   | 106.85     |
| 14       | 0                    | 0   | 0   | 5       | 5     | 109.53   | 120.52  | 7.98   | 105.91     |
| 15       | 0                    | 0   | 0   | 8       | 8     | 113.25   | 119.92  | 5.46   | 114.26     |
| 16       | 0                    | 0   | 0   | 9       | 9     | 112.07   | 120.33  | 6.92   | 112.58     |
| 17       | 1                    | 0   | 0   | 7       | 8     | 110.67   | 120.47  | 6.25   | 110.48     |
| 18       | 1                    | 0   | 0   | 5       | 6     | 113.13   | 120.51  | 7.25   | 114.28     |
| 19       | 0                    | 0   | 0   | 6       | 6     | 114.58   | 120.77  | 6.63   | 117.28     |
| 20       | 0                    | 0   | 0   | 7       | 7     | 111.88   | 120.63  | 6.88   | 111.69     |

### 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 |      |
|-------------------------------|-----|-----|---------|-------|--------------------------|------|
| CHI1                          | PHI | PSI | UNNAMED | Total | Count <sup>1</sup>       | %    |
| 0                             | 0   | 0   | 1       | 1     | 1                        | 5.0  |
| 0                             | 0   | 0   | 0       | 0     | 2                        | 10.0 |
| 0                             | 0   | 0   | 1       | 1     | 3                        | 15.0 |
| 0                             | 0   | 0   | 0       | 0     | 4                        | 20.0 |
| 0                             | 0   | 0   | 0       | 0     | 5                        | 25.0 |
| 0                             | 0   | 0   | 0       | 0     | 6                        | 30.0 |
| 0                             | 0   | 0   | 1       | 1     | 7                        | 35.0 |
| 1                             | 0   | 0   | 0       | 1     | 8                        | 40.0 |
| 0                             | 0   | 0   | 0       | 0     | 9                        | 45.0 |
| 0                             | 0   | 0   | 1       | 1     | 10                       | 50.0 |
| 0                             | 0   | 0   | 0       | 0     | 11                       | 55.0 |

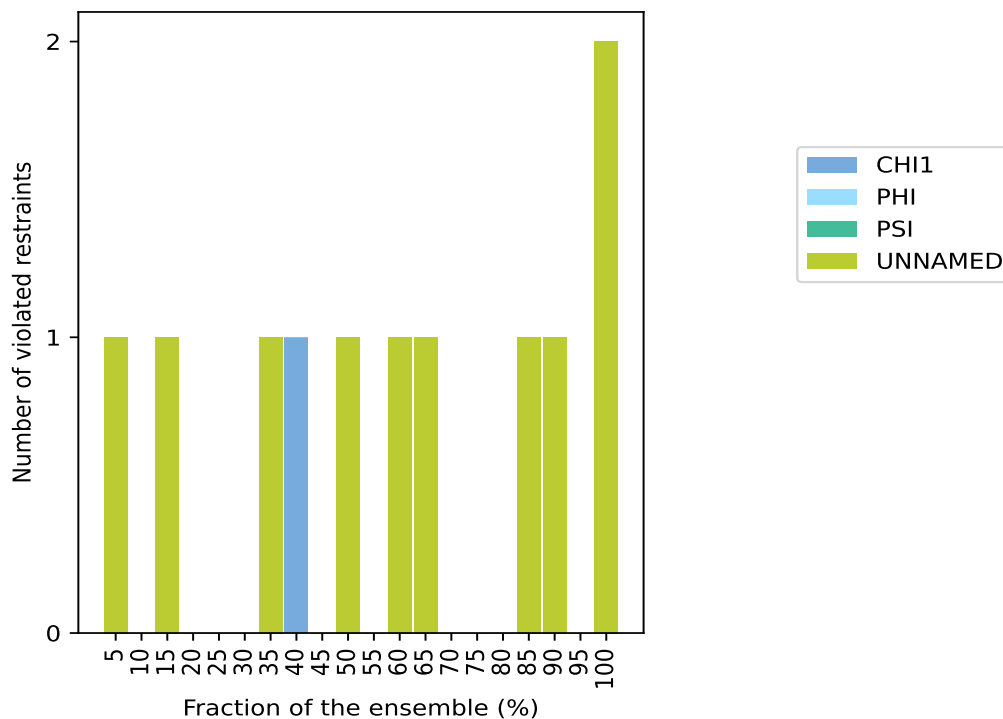
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| Number of violated restraints |     |     |         |       | Fraction of the ensemble |       |
|-------------------------------|-----|-----|---------|-------|--------------------------|-------|
| CHI1                          | PHI | PSI | UNNAMED | Total | Count <sup>1</sup>       | %     |
| 0                             | 0   | 0   | 1       | 1     | 12                       | 60.0  |
| 0                             | 0   | 0   | 1       | 1     | 13                       | 65.0  |
| 0                             | 0   | 0   | 0       | 0     | 14                       | 70.0  |
| 0                             | 0   | 0   | 0       | 0     | 15                       | 75.0  |
| 0                             | 0   | 0   | 0       | 0     | 16                       | 80.0  |
| 0                             | 0   | 0   | 1       | 1     | 17                       | 85.0  |
| 0                             | 0   | 0   | 1       | 1     | 18                       | 90.0  |
| 0                             | 0   | 0   | 0       | 0     | 19                       | 95.0  |
| 0                             | 0   | 0   | 2       | 2     | 20                       | 100.0 |

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

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

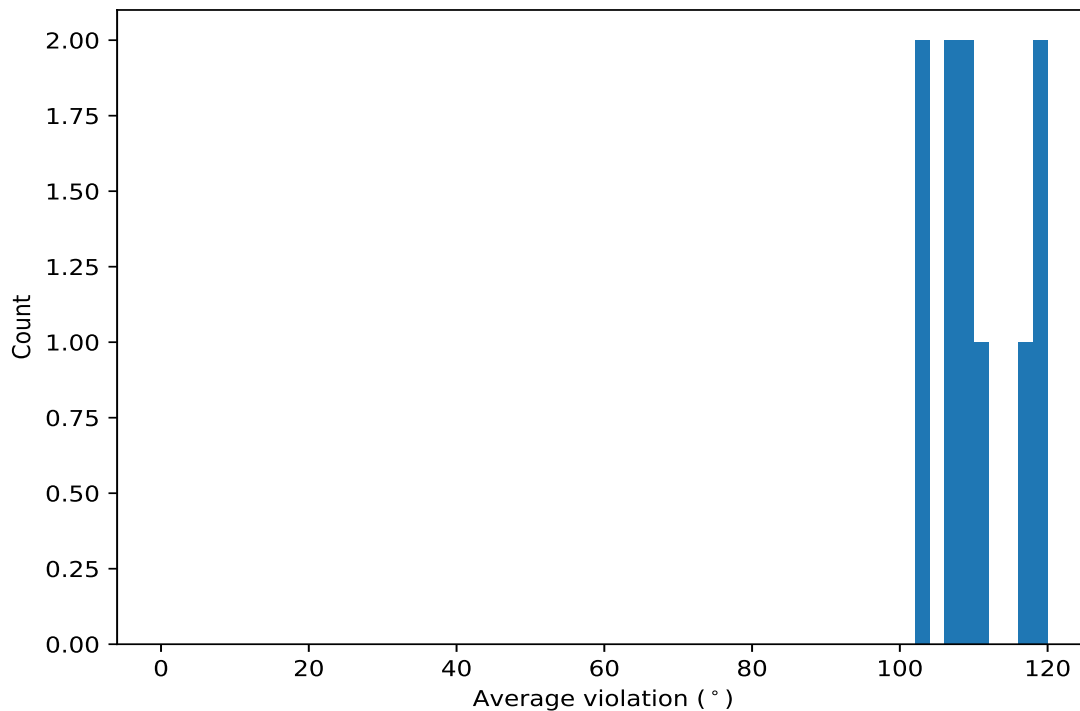


## 10.4 Most violated dihedral-angle restraints in the ensemble [i](#)

### 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.

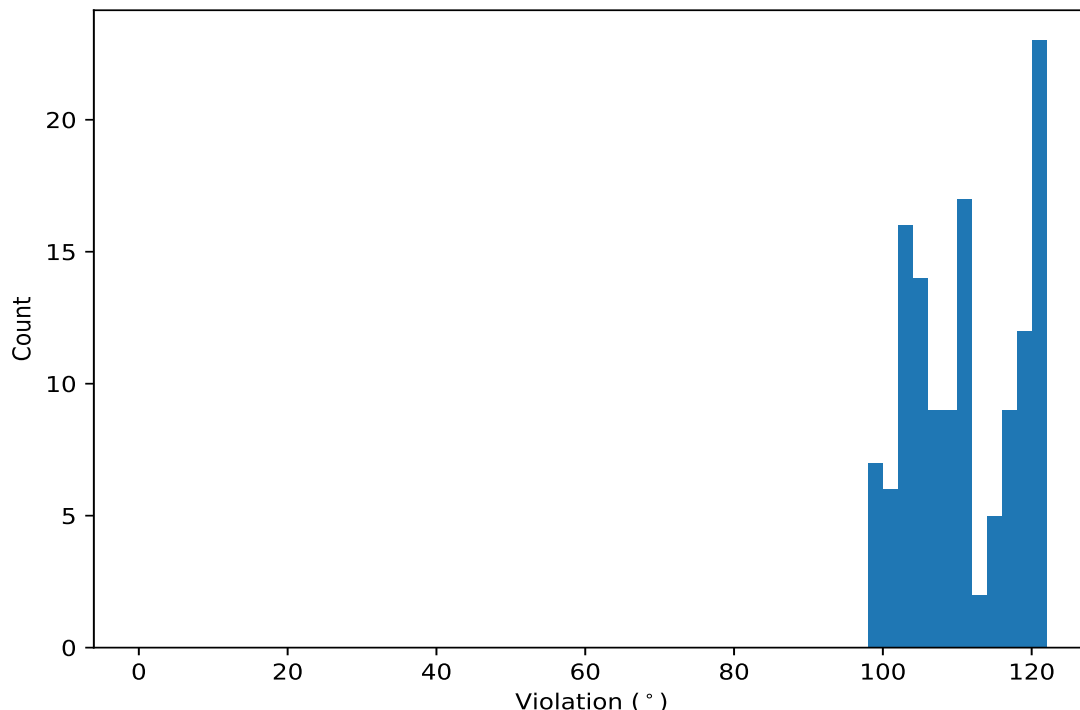
| Key    | Atom-1        | Atom-2         | Atom-3         | Atom-4          | Models <sup>1</sup> | Mean   | SD <sup>2</sup> | Median |
|--------|---------------|----------------|----------------|-----------------|---------------------|--------|-----------------|--------|
| (1,22) | 1:130:A:PHE:N | 1:130:A:PHE:CA | 1:130:A:PHE:CB | 1:130:A:PHE:HB2 | 20                  | 119.93 | 1.18            | 120.31 |
| (1,8)  | 1:126:A:PHE:N | 1:126:A:PHE:CA | 1:126:A:PHE:CB | 1:126:A:PHE:HB2 | 20                  | 109.12 | 9.0             | 110.14 |
| (1,15) | 1:153:A:SER:N | 1:153:A:SER:CA | 1:153:A:SER:CB | 1:153:A:SER:HB3 | 18                  | 117.6  | 1.93            | 116.53 |
| (1,19) | 1:114:A:ASP:N | 1:114:A:ASP:CA | 1:114:A:ASP:CB | 1:114:A:ASP:HB2 | 17                  | 103.75 | 1.52            | 103.65 |
| (1,11) | 1:138:A:ARG:N | 1:138:A:ARG:CA | 1:138:A:ARG:CB | 1:138:A:ARG:HB2 | 13                  | 108.25 | 2.69            | 109.38 |
| (1,10) | 1:134:A:ASP:N | 1:134:A:ASP:CA | 1:134:A:ASP:CB | 1:134:A:ASP:HB2 | 12                  | 102.72 | 1.09            | 102.52 |
| (1,17) | 1:162:A:LEU:N | 1:162:A:LEU:CA | 1:162:A:LEU:CB | 1:162:A:LEU:HB3 | 10                  | 111.51 | 0.67            | 111.58 |
| (1,7)  | 1:154:A:VAL:N | 1:154:A:VAL:CA | 1:154:A:VAL:CB | 1:154:A:VAL:CG1 | 8                   | 107.34 | 1.12            | 107.1  |
| (1,21) | 1:144:A:ASN:N | 1:144:A:ASN:CA | 1:144:A:ASN:CB | 1:144:A:ASN:HB2 | 7                   | 106.52 | 2.28            | 106.13 |
| (1,16) | 1:155:A:LYS:N | 1:155:A:LYS:CA | 1:155:A:LYS:CB | 1:155:A:LYS:HB3 | 3                   | 119.1  | 0.49            | 119.26 |

<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 (°) |
|--------|---------------|----------------|----------------|-----------------|----------|---------------|
| (1,22) | 1:130:A:PHE:N | 1:130:A:PHE:CA | 1:130:A:PHE:CB | 1:130:A:PHE:HB2 | 11       | 120.96        |
| (1,22) | 1:130:A:PHE:N | 1:130:A:PHE:CA | 1:130:A:PHE:CB | 1:130:A:PHE:HB2 | 13       | 120.78        |
| (1,22) | 1:130:A:PHE:N | 1:130:A:PHE:CA | 1:130:A:PHE:CB | 1:130:A:PHE:HB2 | 19       | 120.77        |
| (1,22) | 1:130:A:PHE:N | 1:130:A:PHE:CA | 1:130:A:PHE:CB | 1:130:A:PHE:HB2 | 12       | 120.65        |
| (1,22) | 1:130:A:PHE:N | 1:130:A:PHE:CA | 1:130:A:PHE:CB | 1:130:A:PHE:HB2 | 20       | 120.63        |
| (1,22) | 1:130:A:PHE:N | 1:130:A:PHE:CA | 1:130:A:PHE:CB | 1:130:A:PHE:HB2 | 10       | 120.56        |
| (1,22) | 1:130:A:PHE:N | 1:130:A:PHE:CA | 1:130:A:PHE:CB | 1:130:A:PHE:HB2 | 14       | 120.52        |
| (1,22) | 1:130:A:PHE:N | 1:130:A:PHE:CA | 1:130:A:PHE:CB | 1:130:A:PHE:HB2 | 18       | 120.51        |
| (1,22) | 1:130:A:PHE:N | 1:130:A:PHE:CA | 1:130:A:PHE:CB | 1:130:A:PHE:HB2 | 17       | 120.47        |
| (1,22) | 1:130:A:PHE:N | 1:130:A:PHE:CA | 1:130:A:PHE:CB | 1:130:A:PHE:HB2 | 16       | 120.33        |
| (1,8)  | 1:126:A:PHE:N | 1:126:A:PHE:CA | 1:126:A:PHE:CB | 1:126:A:PHE:HB2 | 8        | 120.33        |
| (1,22) | 1:130:A:PHE:N | 1:130:A:PHE:CA | 1:130:A:PHE:CB | 1:130:A:PHE:HB2 | 2        | 120.29        |
| (1,8)  | 1:126:A:PHE:N | 1:126:A:PHE:CA | 1:126:A:PHE:CB | 1:126:A:PHE:HB2 | 18       | 120.21        |
| (1,22) | 1:130:A:PHE:N | 1:130:A:PHE:CA | 1:130:A:PHE:CB | 1:130:A:PHE:HB2 | 6        | 120.2         |

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| Key    | Atom-1        | Atom-2         | Atom-3         | Atom-4          | Model ID | Violation (°) |
|--------|---------------|----------------|----------------|-----------------|----------|---------------|
| (1,22) | 1:130:A:PHE:N | 1:130:A:PHE:CA | 1:130:A:PHE:CB | 1:130:A:PHE:HB2 | 8        | 120.14        |
| (1,22) | 1:130:A:PHE:N | 1:130:A:PHE:CA | 1:130:A:PHE:CB | 1:130:A:PHE:HB2 | 9        | 120.13        |
| (1,8)  | 1:126:A:PHE:N | 1:126:A:PHE:CA | 1:126:A:PHE:CB | 1:126:A:PHE:HB2 | 19       | 120.11        |
| (1,22) | 1:130:A:PHE:N | 1:130:A:PHE:CA | 1:130:A:PHE:CB | 1:130:A:PHE:HB2 | 1        | 120.08        |
| (1,15) | 1:153:A:SER:N | 1:153:A:SER:CA | 1:153:A:SER:CB | 1:153:A:SER:HB3 | 1        | 120.08        |
| (1,15) | 1:153:A:SER:N | 1:153:A:SER:CA | 1:153:A:SER:CB | 1:153:A:SER:HB3 | 12       | 120.05        |
| (1,15) | 1:153:A:SER:N | 1:153:A:SER:CA | 1:153:A:SER:CB | 1:153:A:SER:HB3 | 18       | 120.05        |
| (1,8)  | 1:126:A:PHE:N | 1:126:A:PHE:CA | 1:126:A:PHE:CB | 1:126:A:PHE:HB2 | 9        | 120.0         |
| (1,8)  | 1:126:A:PHE:N | 1:126:A:PHE:CA | 1:126:A:PHE:CB | 1:126:A:PHE:HB2 | 16       | 120.0         |
| (1,15) | 1:153:A:SER:N | 1:153:A:SER:CA | 1:153:A:SER:CB | 1:153:A:SER:HB3 | 9        | 119.98        |
| (1,15) | 1:153:A:SER:N | 1:153:A:SER:CA | 1:153:A:SER:CB | 1:153:A:SER:HB3 | 11       | 119.93        |
| (1,22) | 1:130:A:PHE:N | 1:130:A:PHE:CA | 1:130:A:PHE:CB | 1:130:A:PHE:HB2 | 15       | 119.92        |
| (1,15) | 1:153:A:SER:N | 1:153:A:SER:CA | 1:153:A:SER:CB | 1:153:A:SER:HB3 | 17       | 119.79        |
| (1,8)  | 1:126:A:PHE:N | 1:126:A:PHE:CA | 1:126:A:PHE:CB | 1:126:A:PHE:HB2 | 2        | 119.68        |
| (1,15) | 1:153:A:SER:N | 1:153:A:SER:CA | 1:153:A:SER:CB | 1:153:A:SER:HB3 | 4        | 119.66        |
| (1,16) | 1:155:A:LYS:N | 1:155:A:LYS:CA | 1:155:A:LYS:CB | 1:155:A:LYS:HB3 | 20       | 119.6         |
| (1,8)  | 1:126:A:PHE:N | 1:126:A:PHE:CA | 1:126:A:PHE:CB | 1:126:A:PHE:HB2 | 15       | 119.53        |
| (1,16) | 1:155:A:LYS:N | 1:155:A:LYS:CA | 1:155:A:LYS:CB | 1:155:A:LYS:HB3 | 16       | 119.26        |
| (1,22) | 1:130:A:PHE:N | 1:130:A:PHE:CA | 1:130:A:PHE:CB | 1:130:A:PHE:HB2 | 7        | 119.08        |
| (1,22) | 1:130:A:PHE:N | 1:130:A:PHE:CA | 1:130:A:PHE:CB | 1:130:A:PHE:HB2 | 4        | 118.99        |
| (1,16) | 1:155:A:LYS:N | 1:155:A:LYS:CA | 1:155:A:LYS:CB | 1:155:A:LYS:HB3 | 19       | 118.43        |
| (1,22) | 1:130:A:PHE:N | 1:130:A:PHE:CA | 1:130:A:PHE:CB | 1:130:A:PHE:HB2 | 5        | 117.6         |
| (1,15) | 1:153:A:SER:N | 1:153:A:SER:CA | 1:153:A:SER:CB | 1:153:A:SER:HB3 | 14       | 117.38        |
| (1,13) | 1:158:A:GLU:N | 1:158:A:GLU:CA | 1:158:A:GLU:CB | 1:158:A:GLU:HB3 | 15       | 116.99        |
| (1,15) | 1:153:A:SER:N | 1:153:A:SER:CA | 1:153:A:SER:CB | 1:153:A:SER:HB3 | 10       | 116.56        |
| (1,15) | 1:153:A:SER:N | 1:153:A:SER:CA | 1:153:A:SER:CB | 1:153:A:SER:HB3 | 6        | 116.5         |
| (1,15) | 1:153:A:SER:N | 1:153:A:SER:CA | 1:153:A:SER:CB | 1:153:A:SER:HB3 | 16       | 116.33        |
| (1,15) | 1:153:A:SER:N | 1:153:A:SER:CA | 1:153:A:SER:CB | 1:153:A:SER:HB3 | 15       | 116.29        |
| (1,15) | 1:153:A:SER:N | 1:153:A:SER:CA | 1:153:A:SER:CB | 1:153:A:SER:HB3 | 19       | 116.12        |
| (1,15) | 1:153:A:SER:N | 1:153:A:SER:CA | 1:153:A:SER:CB | 1:153:A:SER:HB3 | 3        | 116.11        |
| (1,15) | 1:153:A:SER:N | 1:153:A:SER:CA | 1:153:A:SER:CB | 1:153:A:SER:HB3 | 20       | 115.98        |
| (1,22) | 1:130:A:PHE:N | 1:130:A:PHE:CA | 1:130:A:PHE:CB | 1:130:A:PHE:HB2 | 3        | 115.97        |
| (1,15) | 1:153:A:SER:N | 1:153:A:SER:CA | 1:153:A:SER:CB | 1:153:A:SER:HB3 | 2        | 115.79        |
| (1,15) | 1:153:A:SER:N | 1:153:A:SER:CA | 1:153:A:SER:CB | 1:153:A:SER:HB3 | 8        | 115.11        |
| (1,15) | 1:153:A:SER:N | 1:153:A:SER:CA | 1:153:A:SER:CB | 1:153:A:SER:HB3 | 5        | 115.0         |
| (1,17) | 1:162:A:LEU:N | 1:162:A:LEU:CA | 1:162:A:LEU:CB | 1:162:A:LEU:HB3 | 16       | 112.58        |
| (1,17) | 1:162:A:LEU:N | 1:162:A:LEU:CA | 1:162:A:LEU:CB | 1:162:A:LEU:HB3 | 15       | 112.22        |
| (1,17) | 1:162:A:LEU:N | 1:162:A:LEU:CA | 1:162:A:LEU:CB | 1:162:A:LEU:HB3 | 5        | 111.81        |
| (1,17) | 1:162:A:LEU:N | 1:162:A:LEU:CA | 1:162:A:LEU:CB | 1:162:A:LEU:HB3 | 20       | 111.69        |
| (1,17) | 1:162:A:LEU:N | 1:162:A:LEU:CA | 1:162:A:LEU:CB | 1:162:A:LEU:HB3 | 6        | 111.64        |
| (1,17) | 1:162:A:LEU:N | 1:162:A:LEU:CA | 1:162:A:LEU:CB | 1:162:A:LEU:HB3 | 4        | 111.52        |
| (1,17) | 1:162:A:LEU:N | 1:162:A:LEU:CA | 1:162:A:LEU:CB | 1:162:A:LEU:HB3 | 13       | 111.5         |
| (1,21) | 1:144:A:ASN:N | 1:144:A:ASN:CA | 1:144:A:ASN:CB | 1:144:A:ASN:HB2 | 8        | 111.41        |
| (1,17) | 1:162:A:LEU:N | 1:162:A:LEU:CA | 1:162:A:LEU:CB | 1:162:A:LEU:HB3 | 12       | 111.41        |
| (1,8)  | 1:126:A:PHE:N | 1:126:A:PHE:CA | 1:126:A:PHE:CB | 1:126:A:PHE:HB2 | 17       | 111.14        |
| (1,11) | 1:138:A:ARG:N | 1:138:A:ARG:CA | 1:138:A:ARG:CB | 1:138:A:ARG:HB2 | 10       | 110.71        |
| (1,11) | 1:138:A:ARG:N | 1:138:A:ARG:CA | 1:138:A:ARG:CB | 1:138:A:ARG:HB2 | 17       | 110.65        |
| (1,11) | 1:138:A:ARG:N | 1:138:A:ARG:CA | 1:138:A:ARG:CB | 1:138:A:ARG:HB2 | 2        | 110.56        |
| (1,8)  | 1:126:A:PHE:N | 1:126:A:PHE:CA | 1:126:A:PHE:CB | 1:126:A:PHE:HB2 | 1        | 110.5         |
| (1,17) | 1:162:A:LEU:N | 1:162:A:LEU:CA | 1:162:A:LEU:CB | 1:162:A:LEU:HB3 | 8        | 110.39        |
| (1,17) | 1:162:A:LEU:N | 1:162:A:LEU:CA | 1:162:A:LEU:CB | 1:162:A:LEU:HB3 | 17       | 110.3         |

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| Key    | Atom-1        | Atom-2         | Atom-3         | Atom-4          | Model ID | Violation (°) |
|--------|---------------|----------------|----------------|-----------------|----------|---------------|
| (1,8)  | 1:126:A:PHE:N | 1:126:A:PHE:CA | 1:126:A:PHE:CB | 1:126:A:PHE:HB2 | 20       | 110.27        |
| (1,11) | 1:138:A:ARG:N | 1:138:A:ARG:CA | 1:138:A:ARG:CB | 1:138:A:ARG:HB2 | 19       | 110.02        |
| (1,8)  | 1:126:A:PHE:N | 1:126:A:PHE:CA | 1:126:A:PHE:CB | 1:126:A:PHE:HB2 | 3        | 110.01        |
| (1,11) | 1:138:A:ARG:N | 1:138:A:ARG:CA | 1:138:A:ARG:CB | 1:138:A:ARG:HB2 | 1        | 109.61        |
| (1,11) | 1:138:A:ARG:N | 1:138:A:ARG:CA | 1:138:A:ARG:CB | 1:138:A:ARG:HB2 | 4        | 109.38        |
| (1,11) | 1:138:A:ARG:N | 1:138:A:ARG:CA | 1:138:A:ARG:CB | 1:138:A:ARG:HB2 | 16       | 109.38        |
| (1,11) | 1:138:A:ARG:N | 1:138:A:ARG:CA | 1:138:A:ARG:CB | 1:138:A:ARG:HB2 | 15       | 109.21        |
| (1,7)  | 1:154:A:VAL:N | 1:154:A:VAL:CA | 1:154:A:VAL:CB | 1:154:A:VAL:CG1 | 9        | 109.11        |
| (1,11) | 1:138:A:ARG:N | 1:138:A:ARG:CA | 1:138:A:ARG:CB | 1:138:A:ARG:HB2 | 3        | 108.74        |
| (1,7)  | 1:154:A:VAL:N | 1:154:A:VAL:CA | 1:154:A:VAL:CB | 1:154:A:VAL:CG1 | 18       | 108.5         |
| (1,11) | 1:138:A:ARG:N | 1:138:A:ARG:CA | 1:138:A:ARG:CB | 1:138:A:ARG:HB2 | 7        | 108.39        |
| (1,7)  | 1:154:A:VAL:N | 1:154:A:VAL:CA | 1:154:A:VAL:CB | 1:154:A:VAL:CG1 | 1        | 108.37        |
| (1,21) | 1:144:A:ASN:N | 1:144:A:ASN:CA | 1:144:A:ASN:CB | 1:144:A:ASN:HB2 | 15       | 107.69        |
| (1,19) | 1:114:A:ASP:N | 1:114:A:ASP:CA | 1:114:A:ASP:CB | 1:114:A:ASP:HB2 | 13       | 107.57        |
| (1,7)  | 1:154:A:VAL:N | 1:154:A:VAL:CA | 1:154:A:VAL:CB | 1:154:A:VAL:CG1 | 12       | 107.18        |
| (1,7)  | 1:154:A:VAL:N | 1:154:A:VAL:CA | 1:154:A:VAL:CB | 1:154:A:VAL:CG1 | 4        | 107.01        |
| (1,7)  | 1:154:A:VAL:N | 1:154:A:VAL:CA | 1:154:A:VAL:CB | 1:154:A:VAL:CG1 | 17       | 106.67        |
| (1,8)  | 1:126:A:PHE:N | 1:126:A:PHE:CA | 1:126:A:PHE:CB | 1:126:A:PHE:HB2 | 6        | 106.36        |
| (1,21) | 1:144:A:ASN:N | 1:144:A:ASN:CA | 1:144:A:ASN:CB | 1:144:A:ASN:HB2 | 7        | 106.32        |
| (1,7)  | 1:154:A:VAL:N | 1:154:A:VAL:CA | 1:154:A:VAL:CB | 1:154:A:VAL:CG1 | 11       | 106.26        |
| (1,21) | 1:144:A:ASN:N | 1:144:A:ASN:CA | 1:144:A:ASN:CB | 1:144:A:ASN:HB2 | 13       | 106.13        |
| (1,19) | 1:114:A:ASP:N | 1:114:A:ASP:CA | 1:114:A:ASP:CB | 1:114:A:ASP:HB2 | 14       | 105.91        |
| (1,7)  | 1:154:A:VAL:N | 1:154:A:VAL:CA | 1:154:A:VAL:CB | 1:154:A:VAL:CG1 | 13       | 105.66        |
| (1,19) | 1:114:A:ASP:N | 1:114:A:ASP:CA | 1:114:A:ASP:CB | 1:114:A:ASP:HB2 | 18       | 105.57        |
| (1,21) | 1:144:A:ASN:N | 1:144:A:ASN:CA | 1:144:A:ASN:CB | 1:144:A:ASN:HB2 | 16       | 105.4         |
| (1,19) | 1:114:A:ASP:N | 1:114:A:ASP:CA | 1:114:A:ASP:CB | 1:114:A:ASP:HB2 | 5        | 104.64        |
| (1,21) | 1:144:A:ASN:N | 1:144:A:ASN:CA | 1:144:A:ASN:CB | 1:144:A:ASN:HB2 | 17       | 104.61        |
| (1,10) | 1:134:A:ASP:N | 1:134:A:ASP:CA | 1:134:A:ASP:CB | 1:134:A:ASP:HB2 | 6        | 104.55        |
| (1,19) | 1:114:A:ASP:N | 1:114:A:ASP:CA | 1:114:A:ASP:CB | 1:114:A:ASP:HB2 | 2        | 104.47        |
| (1,11) | 1:138:A:ARG:N | 1:138:A:ARG:CA | 1:138:A:ARG:CB | 1:138:A:ARG:HB2 | 9        | 104.32        |
| (1,19) | 1:114:A:ASP:N | 1:114:A:ASP:CA | 1:114:A:ASP:CB | 1:114:A:ASP:HB2 | 15       | 104.15        |
| (1,19) | 1:114:A:ASP:N | 1:114:A:ASP:CA | 1:114:A:ASP:CB | 1:114:A:ASP:HB2 | 6        | 104.14        |
| (1,21) | 1:144:A:ASN:N | 1:144:A:ASN:CA | 1:144:A:ASN:CB | 1:144:A:ASN:HB2 | 2        | 104.09        |
| (1,19) | 1:114:A:ASP:N | 1:114:A:ASP:CA | 1:114:A:ASP:CB | 1:114:A:ASP:HB2 | 9        | 104.02        |
| (1,10) | 1:134:A:ASP:N | 1:134:A:ASP:CA | 1:134:A:ASP:CB | 1:134:A:ASP:HB2 | 9        | 104.02        |
| (1,10) | 1:134:A:ASP:N | 1:134:A:ASP:CA | 1:134:A:ASP:CB | 1:134:A:ASP:HB2 | 12       | 103.95        |
| (1,11) | 1:138:A:ARG:N | 1:138:A:ARG:CA | 1:138:A:ARG:CB | 1:138:A:ARG:HB2 | 18       | 103.93        |
| (1,10) | 1:134:A:ASP:N | 1:134:A:ASP:CA | 1:134:A:ASP:CB | 1:134:A:ASP:HB2 | 14       | 103.81        |
| (1,19) | 1:114:A:ASP:N | 1:114:A:ASP:CA | 1:114:A:ASP:CB | 1:114:A:ASP:HB2 | 16       | 103.65        |
| (1,19) | 1:114:A:ASP:N | 1:114:A:ASP:CA | 1:114:A:ASP:CB | 1:114:A:ASP:HB2 | 8        | 103.18        |
| (1,10) | 1:134:A:ASP:N | 1:134:A:ASP:CA | 1:134:A:ASP:CB | 1:134:A:ASP:HB2 | 20       | 103.07        |
| (1,19) | 1:114:A:ASP:N | 1:114:A:ASP:CA | 1:114:A:ASP:CB | 1:114:A:ASP:HB2 | 7        | 102.97        |
| (1,10) | 1:134:A:ASP:N | 1:134:A:ASP:CA | 1:134:A:ASP:CB | 1:134:A:ASP:HB2 | 3        | 102.73        |
| (1,19) | 1:114:A:ASP:N | 1:114:A:ASP:CA | 1:114:A:ASP:CB | 1:114:A:ASP:HB2 | 3        | 102.59        |
| (1,19) | 1:114:A:ASP:N | 1:114:A:ASP:CA | 1:114:A:ASP:CB | 1:114:A:ASP:HB2 | 1        | 102.54        |
| (1,11) | 1:138:A:ARG:N | 1:138:A:ARG:CA | 1:138:A:ARG:CB | 1:138:A:ARG:HB2 | 5        | 102.4         |
| (1,10) | 1:134:A:ASP:N | 1:134:A:ASP:CA | 1:134:A:ASP:CB | 1:134:A:ASP:HB2 | 4        | 102.32        |
| (1,19) | 1:114:A:ASP:N | 1:114:A:ASP:CA | 1:114:A:ASP:CB | 1:114:A:ASP:HB2 | 10       | 102.2         |
| (1,19) | 1:114:A:ASP:N | 1:114:A:ASP:CA | 1:114:A:ASP:CB | 1:114:A:ASP:HB2 | 11       | 102.09        |
| (1,19) | 1:114:A:ASP:N | 1:114:A:ASP:CA | 1:114:A:ASP:CB | 1:114:A:ASP:HB2 | 4        | 102.05        |
| (1,10) | 1:134:A:ASP:N | 1:134:A:ASP:CA | 1:134:A:ASP:CB | 1:134:A:ASP:HB2 | 19       | 102.05        |

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*Continued from previous page...*

| <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> |
|------------|---------------|----------------|----------------|-----------------|-----------------|----------------------|
| (1,19)     | 1:114:A:ASP:N | 1:114:A:ASP:CA | 1:114:A:ASP:CB | 1:114:A:ASP:HB2 | 20              | 101.95               |
| (1,10)     | 1:134:A:ASP:N | 1:134:A:ASP:CA | 1:134:A:ASP:CB | 1:134:A:ASP:HB2 | 16              | 101.74               |
| (1,10)     | 1:134:A:ASP:N | 1:134:A:ASP:CA | 1:134:A:ASP:CB | 1:134:A:ASP:HB2 | 17              | 101.74               |
| (1,10)     | 1:134:A:ASP:N | 1:134:A:ASP:CA | 1:134:A:ASP:CB | 1:134:A:ASP:HB2 | 5               | 101.34               |
| (1,10)     | 1:134:A:ASP:N | 1:134:A:ASP:CA | 1:134:A:ASP:CB | 1:134:A:ASP:HB2 | 10              | 101.32               |
| (1,8)      | 1:126:A:PHE:N | 1:126:A:PHE:CA | 1:126:A:PHE:CB | 1:126:A:PHE:HB2 | 14              | 100.05               |
| (1,8)      | 1:126:A:PHE:N | 1:126:A:PHE:CA | 1:126:A:PHE:CB | 1:126:A:PHE:HB2 | 10              | 99.83                |
| (1,8)      | 1:126:A:PHE:N | 1:126:A:PHE:CA | 1:126:A:PHE:CB | 1:126:A:PHE:HB2 | 11              | 99.43                |
| (1,8)      | 1:126:A:PHE:N | 1:126:A:PHE:CA | 1:126:A:PHE:CB | 1:126:A:PHE:HB2 | 7               | 99.34                |
| (1,8)      | 1:126:A:PHE:N | 1:126:A:PHE:CA | 1:126:A:PHE:CB | 1:126:A:PHE:HB2 | 4               | 99.11                |
| (1,8)      | 1:126:A:PHE:N | 1:126:A:PHE:CA | 1:126:A:PHE:CB | 1:126:A:PHE:HB2 | 13              | 98.98                |
| (1,8)      | 1:126:A:PHE:N | 1:126:A:PHE:CA | 1:126:A:PHE:CB | 1:126:A:PHE:HB2 | 5               | 98.74                |
| (1,8)      | 1:126:A:PHE:N | 1:126:A:PHE:CA | 1:126:A:PHE:CB | 1:126:A:PHE:HB2 | 12              | 98.73                |