



# Full wwPDB NMR Structure Validation Report ⓘ

Jun 6, 2023 – 01:09 AM EDT

PDB ID : 2M1Z  
BMRB ID : 18887  
Title : Solution structure of uncharacterized protein lmo0427  
Authors : Zhang, Y.; Winsor, J.; Radhakrishnan, I.; Anderson, W.; Center for Structural Genomics of Infectious Diseases (CSGID)  
Deposited on : 2012-12-10

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 : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
wwPDB-RCI : v\_1n\_11\_5\_13\_A (Berjanski et al., 2005)  
PANAV : Wang et al. (2010)  
wwPDB-ShiftChecker : v1.2  
BMRB Restraints Analysis : v1.2  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.33

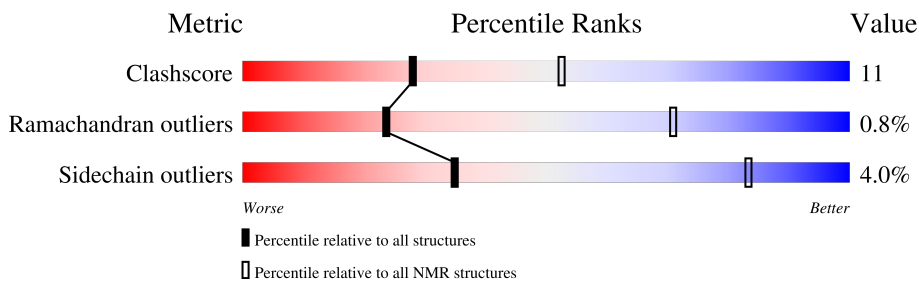
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*SOLUTION NMR*

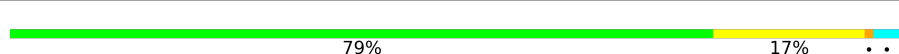
The overall completeness of chemical shifts assignment is 94%.

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

The table below summarises the geometric issues observed across the polymeric chains and their fit to the experimental data. The red, orange, yellow and green segments indicate the fraction of residues that contain outliers for  $\geq 3$ , 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     | 106    | <br>79% 17% .. |

## 2 Ensemble composition and analysis

This entry contains 20 models. Model 5 is the overall representative, medoid model (most similar to other models). The authors have identified model 1 as representative, based on the following criterion: *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:2-A:104 (103)       | 0.73              | 5            |

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

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

The models can be grouped into 2 clusters and 3 single-model clusters were found.

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

### 3 Entry composition

There is only 1 type of molecule in this entry. The entry contains 1652 atoms, of which 856 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called Lmo0427 protein.

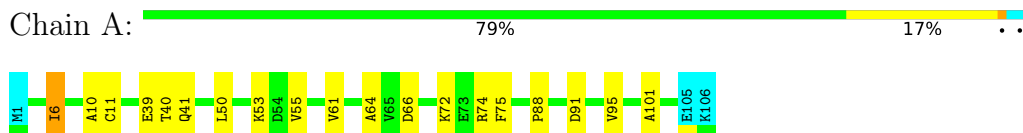
| Mol | Chain | Residues | Atoms |     |     |     |     |   | Trace |
|-----|-------|----------|-------|-----|-----|-----|-----|---|-------|
|     |       |          | Total | C   | H   | N   | O   | S |       |
| 1   | A     | 106      | 1652  | 503 | 856 | 138 | 151 | 4 | 0     |

## 4 Residue-property plots

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

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

- Molecule 1: Lmo0427 protein

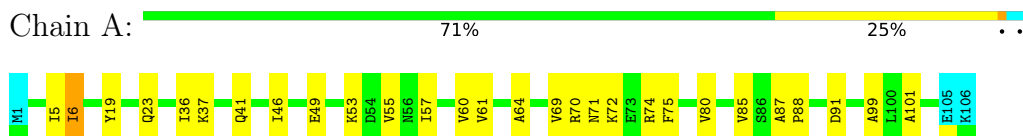


### 4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

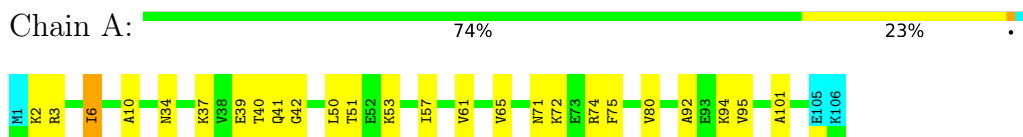
#### 4.2.1 Score per residue for model 1

- Molecule 1: Lmo0427 protein



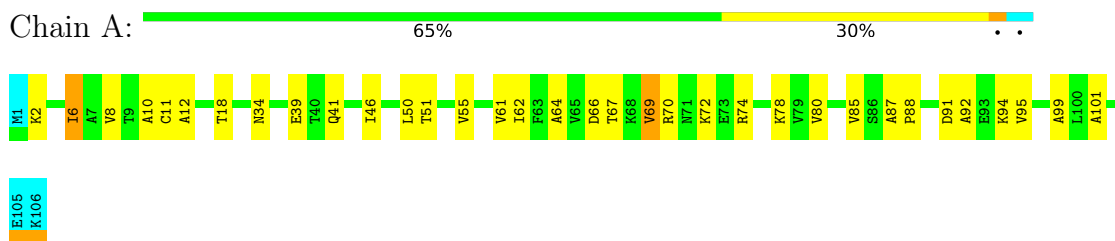
#### 4.2.2 Score per residue for model 2

- Molecule 1: Lmo0427 protein



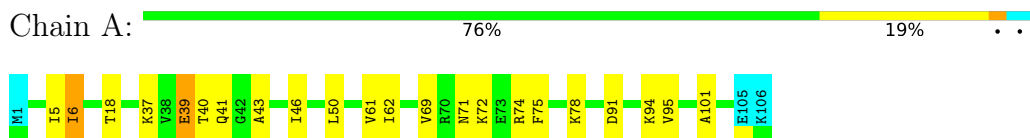
### 4.2.3 Score per residue for model 3

- Molecule 1: Lmo0427 protein



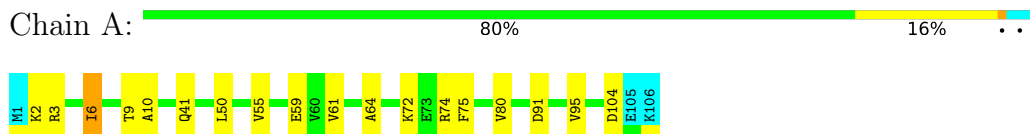
### 4.2.4 Score per residue for model 4

- Molecule 1: Lmo0427 protein



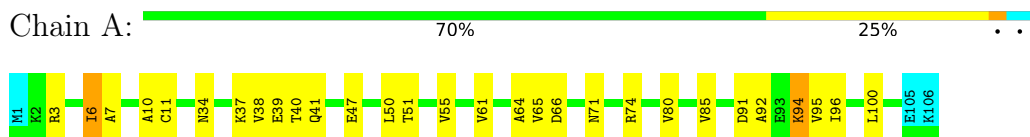
### 4.2.5 Score per residue for model 5 (medoid)

- Molecule 1: Lmo0427 protein



### 4.2.6 Score per residue for model 6

- Molecule 1: Lmo0427 protein



### 4.2.7 Score per residue for model 7

- Molecule 1: Lmo0427 protein





#### 4.2.8 Score per residue for model 8

- Molecule 1: Lmo0427 protein



#### 4.2.9 Score per residue for model 9

- Molecule 1: Lmo0427 protein



#### 4.2.10 Score per residue for model 10

- Molecule 1: Lmo0427 protein



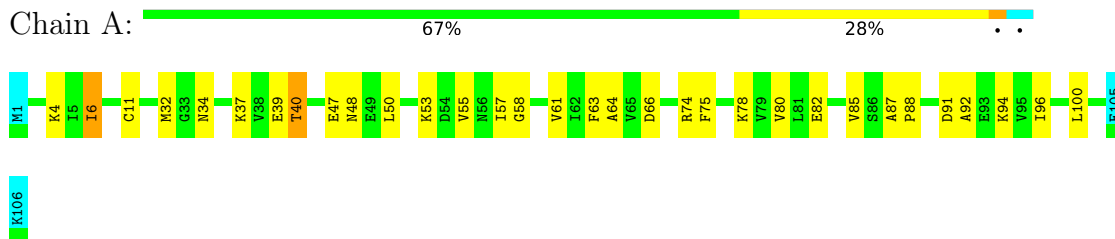
#### 4.2.11 Score per residue for model 11

- Molecule 1: Lmo0427 protein



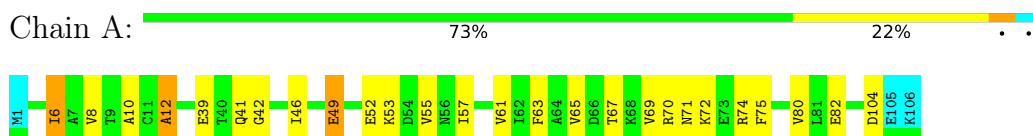
#### 4.2.12 Score per residue for model 12

- Molecule 1: Lmo0427 protein



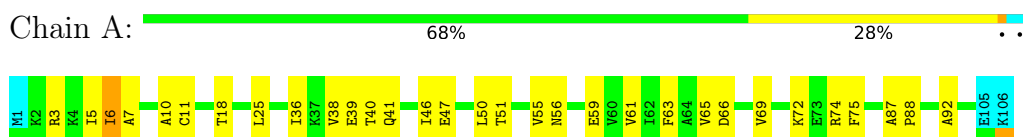
#### 4.2.13 Score per residue for model 13

- Molecule 1: Lmo0427 protein



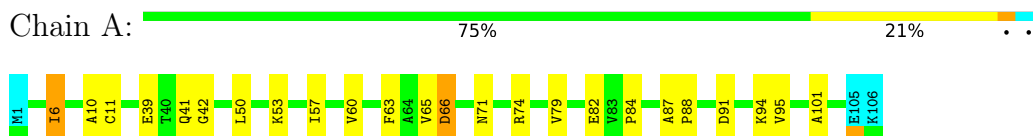
#### 4.2.14 Score per residue for model 14

- Molecule 1: Lmo0427 protein



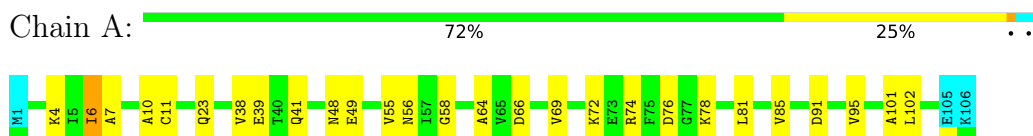
#### 4.2.15 Score per residue for model 15

- Molecule 1: Lmo0427 protein



#### 4.2.16 Score per residue for model 16

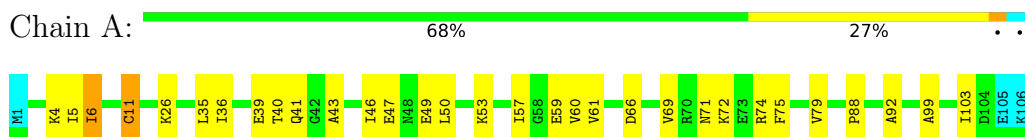
- Molecule 1: Lmo0427 protein





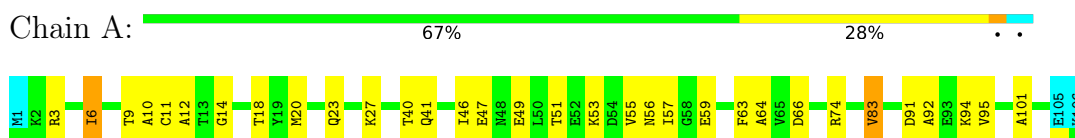
#### 4.2.17 Score per residue for model 17

- Molecule 1: Lmo0427 protein



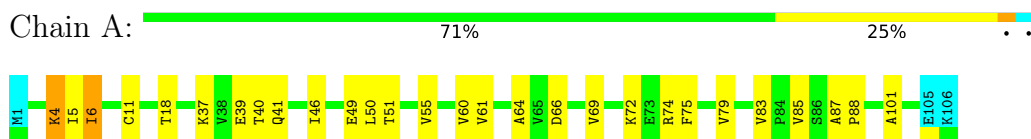
#### 4.2.18 Score per residue for model 18

- Molecule 1: Lmo0427 protein



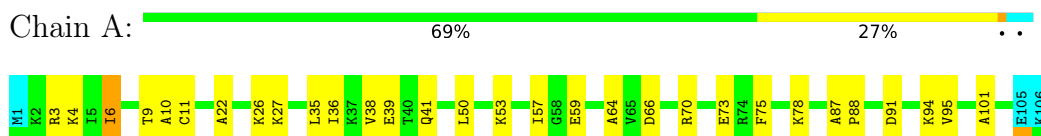
#### 4.2.19 Score per residue for model 19

- Molecule 1: Lmo0427 protein



#### 4.2.20 Score per residue for model 20

- Molecule 1: Lmo0427 protein



## 5 Refinement protocol and experimental data overview

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

Of the 80 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 |
|---------------|--------------------|---------|
| ARIA          | structure solution | 1.2     |
| ARIA          | refinement         | 1.2     |

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                       | 1340           |
| Number of shifts mapped to atoms             | 1340           |
| Number of unparsed shifts                    | 0              |
| Number of shifts with mapping errors         | 0              |
| Number of shifts with mapping warnings       | 0              |
| Assignment completeness (well-defined parts) | 94%            |

## 6 Model quality i

### 6.1 Standard geometry i

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

There are no bond-length outliers.

There are no bond-angle outliers.

There are no chirality outliers.

There are no planarity outliers.

### 6.2 Too-close contacts i

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

| Mol | Chain | Non-H | H(model) | H(added) | Clashes |
|-----|-------|-------|----------|----------|---------|
| 1   | A     | 769   | 826      | 825      | 17±3    |
| All | All   | 15380 | 16520    | 16500    | 337     |

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 11.

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

| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:69:VAL:HB   | 1:A:72:LYS:HG3  | 0.90     | 1.44        | 13     | 1     |
| 1:A:55:VAL:HG21 | 1:A:74:ARG:HD2  | 0.89     | 1.44        | 11     | 1     |
| 1:A:11:CYS:HA   | 1:A:66:ASP:HB3  | 0.85     | 1.49        | 20     | 11    |
| 1:A:3:ARG:HD2   | 1:A:59:GLU:HG3  | 0.84     | 1.49        | 20     | 1     |
| 1:A:55:VAL:HG11 | 1:A:74:ARG:HB3  | 0.84     | 1.47        | 7      | 2     |
| 1:A:40:THR:HB   | 1:A:47:GLU:HB3  | 0.83     | 1.47        | 14     | 4     |
| 1:A:37:LYS:HG3  | 1:A:50:LEU:HD22 | 0.83     | 1.51        | 4      | 3     |
| 1:A:40:THR:HB   | 1:A:47:GLU:HB2  | 0.77     | 1.57        | 8      | 2     |
| 1:A:62:ILE:HD11 | 1:A:99:ALA:HB2  | 0.71     | 1.63        | 3      | 1     |
| 1:A:6:ILE:HG22  | 1:A:37:LYS:HB2  | 0.70     | 1.64        | 1      | 1     |
| 1:A:4:LYS:H     | 1:A:4:LYS:HD2   | 0.70     | 1.46        | 19     | 1     |
| 1:A:39:GLU:HB2  | 1:A:50:LEU:HG   | 0.70     | 1.61        | 14     | 11    |
| 1:A:41:GLN:HG2  | 1:A:46:ILE:HG12 | 0.68     | 1.66        | 1      | 2     |
| 1:A:3:ARG:HE    | 1:A:59:GLU:HG3  | 0.66     | 1.49        | 14     | 2     |

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| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:91:ASP:HB3  | 1:A:94:LYS:HB2  | 0.63     | 1.70        | 6      | 2     |
| 1:A:55:VAL:HG21 | 1:A:74:ARG:HG3  | 0.63     | 1.71        | 1      | 3     |
| 1:A:55:VAL:HG11 | 1:A:74:ARG:HG3  | 0.62     | 1.71        | 6      | 4     |
| 1:A:92:ALA:O    | 1:A:95:VAL:HG12 | 0.62     | 1.95        | 18     | 4     |
| 1:A:75:PHE:HA   | 1:A:78:LYS:HG3  | 0.62     | 1.70        | 12     | 1     |
| 1:A:91:ASP:HB2  | 1:A:94:LYS:HD3  | 0.62     | 1.70        | 12     | 1     |
| 1:A:69:VAL:HB   | 1:A:72:LYS:HB2  | 0.61     | 1.72        | 8      | 3     |
| 1:A:91:ASP:HB3  | 1:A:94:LYS:HB3  | 0.60     | 1.73        | 18     | 5     |
| 1:A:6:ILE:HD11  | 1:A:61:VAL:HG22 | 0.59     | 1.73        | 17     | 10    |
| 1:A:6:ILE:HG13  | 1:A:75:PHE:CE1  | 0.59     | 2.33        | 19     | 6     |
| 1:A:4:LYS:HE2   | 1:A:35:LEU:HD12 | 0.59     | 1.73        | 17     | 1     |
| 1:A:61:VAL:HB   | 1:A:80:VAL:HB   | 0.59     | 1.75        | 13     | 1     |
| 1:A:10:ALA:HB2  | 1:A:41:GLN:HB3  | 0.59     | 1.73        | 14     | 6     |
| 1:A:75:PHE:HA   | 1:A:78:LYS:HD3  | 0.59     | 1.73        | 10     | 3     |
| 1:A:10:ALA:HB3  | 1:A:65:VAL:HG12 | 0.59     | 1.73        | 11     | 7     |
| 1:A:39:GLU:OE1  | 1:A:49:GLU:HA   | 0.57     | 2.00        | 13     | 1     |
| 1:A:37:LYS:CG   | 1:A:50:LEU:HD22 | 0.57     | 2.26        | 4      | 2     |
| 1:A:3:ARG:HD2   | 1:A:59:GLU:CG   | 0.57     | 2.28        | 20     | 1     |
| 1:A:69:VAL:HB   | 1:A:72:LYS:CG   | 0.56     | 2.26        | 13     | 1     |
| 1:A:4:LYS:HB2   | 1:A:59:GLU:HG3  | 0.56     | 1.77        | 7      | 1     |
| 1:A:4:LYS:HB3   | 1:A:58:GLY:HA2  | 0.56     | 1.78        | 12     | 1     |
| 1:A:32:MET:HB2  | 1:A:34:ASN:ND2  | 0.55     | 2.16        | 12     | 2     |
| 1:A:3:ARG:HG3   | 1:A:59:GLU:HG3  | 0.55     | 1.79        | 18     | 1     |
| 1:A:10:ALA:HA   | 1:A:41:GLN:O    | 0.55     | 2.02        | 2      | 8     |
| 1:A:39:GLU:HG3  | 1:A:49:GLU:H    | 0.55     | 1.62        | 19     | 2     |
| 1:A:41:GLN:HG3  | 1:A:46:ILE:HG12 | 0.55     | 1.78        | 13     | 2     |
| 1:A:49:GLU:HG3  | 1:A:71:ASN:HD21 | 0.55     | 1.62        | 1      | 1     |
| 1:A:41:GLN:HE22 | 1:A:46:ILE:HG12 | 0.54     | 1.62        | 14     | 1     |
| 1:A:60:VAL:HA   | 1:A:79:VAL:HG13 | 0.54     | 1.80        | 8      | 3     |
| 1:A:84:PRO:HG2  | 1:A:87:ALA:HB2  | 0.54     | 1.79        | 15     | 1     |
| 1:A:74:ARG:O    | 1:A:78:LYS:HE3  | 0.54     | 2.02        | 16     | 1     |
| 1:A:71:ASN:O    | 1:A:74:ARG:HG2  | 0.54     | 2.02        | 1      | 7     |
| 1:A:69:VAL:HG13 | 1:A:72:LYS:HB2  | 0.54     | 1.80        | 14     | 1     |
| 1:A:6:ILE:HB    | 1:A:50:LEU:HD21 | 0.54     | 1.79        | 5      | 2     |
| 1:A:41:GLN:HE21 | 1:A:46:ILE:HG23 | 0.54     | 1.61        | 17     | 1     |
| 1:A:69:VAL:HG23 | 1:A:72:LYS:HB2  | 0.54     | 1.80        | 4      | 1     |
| 1:A:69:VAL:CB   | 1:A:72:LYS:HG3  | 0.54     | 2.28        | 13     | 1     |
| 1:A:63:PHE:HB2  | 1:A:82:GLU:HG2  | 0.54     | 1.79        | 12     | 3     |
| 1:A:11:CYS:SG   | 1:A:17:HIS:HB2  | 0.54     | 2.43        | 9      | 1     |
| 1:A:10:ALA:O    | 1:A:65:VAL:HA   | 0.53     | 2.02        | 9      | 2     |
| 1:A:4:LYS:HD2   | 1:A:35:LEU:HB2  | 0.53     | 1.81        | 20     | 1     |

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| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:51:THR:O    | 1:A:55:VAL:HG23 | 0.53     | 2.04        | 3      | 5     |
| 1:A:6:ILE:HD13  | 1:A:6:ILE:H     | 0.53     | 1.63        | 13     | 8     |
| 1:A:94:LYS:HE3  | 1:A:94:LYS:HA   | 0.53     | 1.81        | 2      | 1     |
| 1:A:6:ILE:H     | 1:A:6:ILE:HD13  | 0.52     | 1.64        | 12     | 8     |
| 1:A:37:LYS:HB3  | 1:A:50:LEU:HD22 | 0.52     | 1.81        | 6      | 1     |
| 1:A:61:VAL:HG11 | 1:A:75:PHE:HB3  | 0.52     | 1.82        | 14     | 3     |
| 1:A:46:ILE:HD11 | 1:A:70:ARG:HD3  | 0.52     | 1.82        | 13     | 1     |
| 1:A:79:VAL:HG11 | 1:A:102:LEU:HB3 | 0.51     | 1.81        | 7      | 1     |
| 1:A:12:ALA:HB3  | 1:A:67:THR:HG21 | 0.51     | 1.81        | 3      | 1     |
| 1:A:64:ALA:HB2  | 1:A:88:PRO:HG3  | 0.51     | 1.83        | 10     | 2     |
| 1:A:6:ILE:O     | 1:A:61:VAL:HA   | 0.50     | 2.06        | 6      | 5     |
| 1:A:50:LEU:HD12 | 1:A:75:PHE:HZ   | 0.50     | 1.66        | 4      | 2     |
| 1:A:11:CYS:HB3  | 1:A:18:THR:OG1  | 0.50     | 2.05        | 3      | 6     |
| 1:A:7:ALA:O     | 1:A:38:VAL:HA   | 0.50     | 2.07        | 16     | 4     |
| 1:A:61:VAL:HB   | 1:A:80:VAL:HG12 | 0.50     | 1.84        | 3      | 8     |
| 1:A:64:ALA:HB2  | 1:A:88:PRO:HG2  | 0.50     | 1.83        | 11     | 1     |
| 1:A:69:VAL:HB   | 1:A:72:LYS:HB3  | 0.49     | 1.84        | 1      | 1     |
| 1:A:60:VAL:HG11 | 1:A:99:ALA:HB1  | 0.49     | 1.85        | 1      | 1     |
| 1:A:91:ASP:O    | 1:A:95:VAL:HG23 | 0.49     | 2.08        | 20     | 9     |
| 1:A:61:VAL:HB   | 1:A:80:VAL:CB   | 0.49     | 2.37        | 13     | 1     |
| 1:A:64:ALA:HA   | 1:A:83:VAL:O    | 0.48     | 2.08        | 18     | 2     |
| 1:A:64:ALA:HB1  | 1:A:85:VAL:HA   | 0.48     | 1.85        | 11     | 9     |
| 1:A:96:ILE:O    | 1:A:100:LEU:HG  | 0.48     | 2.07        | 12     | 4     |
| 1:A:4:LYS:CB    | 1:A:58:GLY:HA2  | 0.48     | 2.38        | 12     | 2     |
| 1:A:50:LEU:HD23 | 1:A:75:PHE:CZ   | 0.48     | 2.44        | 5      | 1     |
| 1:A:23:GLN:O    | 1:A:27:LYS:HG2  | 0.48     | 2.09        | 18     | 1     |
| 1:A:41:GLN:OE1  | 1:A:46:ILE:HG12 | 0.48     | 2.09        | 18     | 1     |
| 1:A:12:ALA:HB2  | 1:A:67:THR:HG21 | 0.47     | 1.84        | 13     | 1     |
| 1:A:53:LYS:O    | 1:A:57:ILE:HG12 | 0.47     | 2.09        | 17     | 4     |
| 1:A:19:TYR:O    | 1:A:23:GLN:HG2  | 0.47     | 2.08        | 1      | 1     |
| 1:A:87:ALA:HB3  | 1:A:88:PRO:HD3  | 0.47     | 1.87        | 12     | 8     |
| 1:A:5:ILE:O     | 1:A:36:ILE:HA   | 0.47     | 2.09        | 17     | 4     |
| 1:A:22:ALA:HA   | 1:A:38:VAL:HG11 | 0.47     | 1.86        | 11     | 2     |
| 1:A:21:ALA:HA   | 1:A:89:ILE:HG12 | 0.47     | 1.87        | 10     | 1     |
| 1:A:12:ALA:HA   | 1:A:42:GLY:O    | 0.47     | 2.10        | 13     | 1     |
| 1:A:3:ARG:O     | 1:A:34:ASN:HB2  | 0.47     | 2.10        | 6      | 1     |
| 1:A:88:PRO:O    | 1:A:92:ALA:HB2  | 0.47     | 2.09        | 12     | 5     |
| 1:A:50:LEU:HD23 | 1:A:75:PHE:HZ   | 0.46     | 1.71        | 5      | 1     |
| 1:A:4:LYS:O     | 1:A:59:GLU:HG2  | 0.46     | 2.10        | 17     | 1     |
| 1:A:39:GLU:HG3  | 1:A:48:ASN:O    | 0.46     | 2.11        | 12     | 1     |
| 1:A:71:ASN:HB3  | 1:A:75:PHE:CE2  | 0.46     | 2.45        | 10     | 1     |

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| Atom-1          | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|-----------------|------------------|----------|-------------|--------|-------|
|                 |                  |          |             | Worst  | Total |
| 1:A:70:ARG:O    | 1:A:73:GLU:HG3   | 0.46     | 2.11        | 20     | 3     |
| 1:A:4:LYS:HD2   | 1:A:4:LYS:N      | 0.46     | 2.22        | 19     | 1     |
| 1:A:53:LYS:O    | 1:A:57:ILE:HG13  | 0.46     | 2.10        | 1      | 6     |
| 1:A:20:MET:HA   | 1:A:23:GLN:HE21  | 0.46     | 1.70        | 18     | 1     |
| 1:A:18:THR:HG22 | 1:A:40:THR:HG23  | 0.45     | 1.89        | 19     | 2     |
| 1:A:7:ALA:HA    | 1:A:62:ILE:O     | 0.45     | 2.10        | 8      | 1     |
| 1:A:6:ILE:HG22  | 1:A:37:LYS:HB3   | 0.45     | 1.88        | 12     | 1     |
| 1:A:63:PHE:CZ   | 1:A:72:LYS:HG3   | 0.45     | 2.46        | 14     | 1     |
| 1:A:2:LYS:HE2   | 1:A:35:LEU:HD21  | 0.45     | 1.88        | 9      | 1     |
| 1:A:40:THR:OG1  | 1:A:47:GLU:HB3   | 0.45     | 2.12        | 12     | 1     |
| 1:A:10:ALA:CB   | 1:A:41:GLN:HB3   | 0.45     | 2.42        | 16     | 1     |
| 1:A:26:LYS:HA   | 1:A:36:ILE:HG21  | 0.45     | 1.89        | 20     | 2     |
| 1:A:55:VAL:HG22 | 1:A:75:PHE:CE1   | 0.44     | 2.47        | 1      | 2     |
| 1:A:27:LYS:HB2  | 1:A:27:LYS:NZ    | 0.44     | 2.27        | 20     | 1     |
| 1:A:46:ILE:HD11 | 1:A:70:ARG:HB2   | 0.44     | 1.87        | 10     | 2     |
| 1:A:8:VAL:HB    | 1:A:63:PHE:CE1   | 0.44     | 2.48        | 13     | 1     |
| 1:A:39:GLU:HA   | 1:A:48:ASN:HB2   | 0.44     | 1.89        | 16     | 1     |
| 1:A:8:VAL:HG11  | 1:A:69:VAL:HG21  | 0.44     | 1.89        | 3      | 1     |
| 1:A:9:THR:HA    | 1:A:64:ALA:O     | 0.44     | 2.13        | 20     | 4     |
| 1:A:39:GLU:CD   | 1:A:46:ILE:HG23  | 0.44     | 2.34        | 4      | 1     |
| 1:A:69:VAL:CG2  | 1:A:72:LYS:HB2   | 0.44     | 2.43        | 17     | 1     |
| 1:A:39:GLU:HA   | 1:A:48:ASN:HB3   | 0.44     | 1.89        | 10     | 1     |
| 1:A:9:THR:HG22  | 1:A:64:ALA:HB3   | 0.44     | 1.90        | 20     | 3     |
| 1:A:32:MET:HB2  | 1:A:34:ASN:HD21  | 0.43     | 1.72        | 12     | 1     |
| 1:A:6:ILE:HB    | 1:A:50:LEU:HD13  | 0.43     | 1.89        | 9      | 2     |
| 1:A:40:THR:HB   | 1:A:47:GLU:CB    | 0.43     | 2.42        | 18     | 2     |
| 1:A:98:ALA:O    | 1:A:102:LEU:HG   | 0.43     | 2.13        | 8      | 1     |
| 1:A:81:LEU:HD23 | 1:A:102:LEU:HD11 | 0.43     | 1.90        | 10     | 4     |
| 1:A:2:LYS:HA    | 1:A:34:ASN:HA    | 0.42     | 1.91        | 2      | 1     |
| 1:A:41:GLN:HE22 | 1:A:69:VAL:HA    | 0.42     | 1.74        | 4      | 1     |
| 1:A:25:LEU:HD13 | 1:A:88:PRO:HB3   | 0.42     | 1.90        | 14     | 1     |
| 1:A:60:VAL:HG21 | 1:A:99:ALA:HB1   | 0.42     | 1.89        | 17     | 1     |
| 1:A:63:PHE:HB2  | 1:A:82:GLU:HG3   | 0.42     | 1.90        | 8      | 1     |
| 1:A:11:CYS:CB   | 1:A:66:ASP:HB3   | 0.42     | 2.45        | 9      | 1     |
| 1:A:12:ALA:HB2  | 1:A:67:THR:HB    | 0.42     | 1.91        | 10     | 1     |
| 1:A:64:ALA:CB   | 1:A:88:PRO:HG3   | 0.42     | 2.45        | 10     | 1     |
| 1:A:5:ILE:HG23  | 1:A:62:ILE:HD13  | 0.41     | 1.92        | 4      | 1     |
| 1:A:23:GLN:HA   | 1:A:23:GLN:OE1   | 0.41     | 2.15        | 16     | 1     |
| 1:A:37:LYS:HG3  | 1:A:50:LEU:CD2   | 0.41     | 2.41        | 12     | 2     |
| 1:A:79:VAL:HG21 | 1:A:103:ILE:HG21 | 0.41     | 1.92        | 17     | 1     |
| 1:A:5:ILE:HG23  | 1:A:60:VAL:HG23  | 0.41     | 1.93        | 19     | 1     |

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| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:55:VAL:HG21 | 1:A:74:ARG:CD   | 0.41     | 2.46        | 19     | 1     |
| 1:A:6:ILE:HD13  | 1:A:6:ILE:N     | 0.41     | 2.31        | 3      | 1     |
| 1:A:69:VAL:HG13 | 1:A:72:LYS:HE3  | 0.40     | 1.91        | 3      | 1     |
| 1:A:10:ALA:N    | 1:A:65:VAL:HG12 | 0.40     | 2.31        | 13     | 1     |

## 6.3 Torsion angles [i](#)

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

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

| Mol | Chain | Analysed        | Favoured     | Allowed    | Outliers   | Percentiles |    |
|-----|-------|-----------------|--------------|------------|------------|-------------|----|
| 1   | A     | 103/106 (97%)   | 95±2 (92±2%) | 7±2 (7±2%) | 1±1 (1±1%) | 24          | 71 |
| All | All   | 2060/2120 (97%) | 1903 (92%)   | 140 (7%)   | 17 (1%)    | 24          | 71 |

All 9 unique Ramachandran outliers are listed below. They are sorted by the frequency of occurrence in the ensemble.

| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1   | A     | 49  | GLU  | 5              |
| 1   | A     | 42  | GLY  | 2              |
| 1   | A     | 2   | LYS  | 2              |
| 1   | A     | 43  | ALA  | 2              |
| 1   | A     | 12  | ALA  | 2              |
| 1   | A     | 76  | ASP  | 1              |
| 1   | A     | 104 | ASP  | 1              |
| 1   | A     | 11  | CYS  | 1              |
| 1   | A     | 14  | GLY  | 1              |

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

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

| Mol | Chain | Analysed        | Rotameric    | Outliers   | Percentiles |
|-----|-------|-----------------|--------------|------------|-------------|
| 1   | A     | 81/84 (96%)     | 78±2 (96±2%) | 3±2 (4±2%) | 35 83       |
| All | All   | 1620/1680 (96%) | 1555 (96%)   | 65 (4%)    | 35 83       |

All 29 unique residues with a non-rotameric sidechain are listed below. They are sorted by the frequency of occurrence in the ensemble.

| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1   | A     | 6   | ILE  | 20             |
| 1   | A     | 66  | ASP  | 4              |
| 1   | A     | 3   | ARG  | 3              |
| 1   | A     | 40  | THR  | 3              |
| 1   | A     | 51  | THR  | 3              |
| 1   | A     | 74  | ARG  | 3              |
| 1   | A     | 56  | ASN  | 3              |
| 1   | A     | 72  | LYS  | 2              |
| 1   | A     | 78  | LYS  | 2              |
| 1   | A     | 76  | ASP  | 2              |
| 1   | A     | 52  | GLU  | 2              |
| 1   | A     | 91  | ASP  | 1              |
| 1   | A     | 37  | LYS  | 1              |
| 1   | A     | 34  | ASN  | 1              |
| 1   | A     | 69  | VAL  | 1              |
| 1   | A     | 70  | ARG  | 1              |
| 1   | A     | 39  | GLU  | 1              |
| 1   | A     | 59  | GLU  | 1              |
| 1   | A     | 94  | LYS  | 1              |
| 1   | A     | 2   | LYS  | 1              |
| 1   | A     | 68  | LYS  | 1              |
| 1   | A     | 46  | ILE  | 1              |
| 1   | A     | 53  | LYS  | 1              |
| 1   | A     | 71  | ASN  | 1              |
| 1   | A     | 82  | GLU  | 1              |
| 1   | A     | 49  | GLU  | 1              |
| 1   | A     | 63  | PHE  | 1              |
| 1   | A     | 83  | VAL  | 1              |
| 1   | A     | 4   | 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 monosaccharides in this entry.

## 6.6 Ligand geometry [i](#)

There are no ligands in this entry.

## 6.7 Other polymers [i](#)

There are no such molecules in this entry.

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

There are no chain breaks in this entry.

## 7 Chemical shift validation [i](#)

The completeness of assignment taking into account all chemical shift lists is 94% for the well-defined parts and 93% 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                  | 1340 |
| Number of shifts mapped to atoms        | 1340 |
| 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  |
|------------------------|----------|---------------------------------|-------------------|
| $^{13}\text{C}_\alpha$ | 106      | $-1.47 \pm 0.09$                | Should be checked |
| $^{13}\text{C}_\beta$  | 99       | $-0.71 \pm 0.10$                | Should be checked |
| $^{13}\text{C}'$       | 106      | $1.08 \pm 0.50$                 | Should be applied |
| $^{15}\text{N}$        | 103      | $2.01 \pm 0.66$                 | Should be applied |

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

The following table shows the completeness of the chemical shift assignments for the well-defined regions of the structure. The overall completeness is 94%, i.e. 1314 atoms were assigned a chemical shift out of a possible 1392. 0 out of 19 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

|           | Total          | $^1\text{H}$   | $^{13}\text{C}$ | $^{15}\text{N}$ |
|-----------|----------------|----------------|-----------------|-----------------|
| Backbone  | 516/518 (100%) | 210/211 (100%) | 206/206 (100%)  | 100/101 (99%)   |
| Sidechain | 768/837 (92%)  | 528/548 (96%)  | 231/260 (89%)   | 9/29 (31%)      |

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|          | Total           | <sup>1</sup> H | <sup>13</sup> C | <sup>15</sup> N |
|----------|-----------------|----------------|-----------------|-----------------|
| Aromatic | 30/37 (81%)     | 15/18 (83%)    | 15/17 (88%)     | 0/2 (0%)        |
| Overall  | 1314/1392 (94%) | 753/777 (97%)  | 452/483 (94%)   | 109/132 (83%)   |

The following table shows the completeness of the chemical shift assignments for the full structure. The overall completeness is 93%, i.e. 1339 atoms were assigned a chemical shift out of a possible 1437. 0 out of 19 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

|           | Total           | <sup>1</sup> H | <sup>13</sup> C | <sup>15</sup> N |
|-----------|-----------------|----------------|-----------------|-----------------|
| Backbone  | 529/533 (99%)   | 214/217 (99%)  | 212/212 (100%)  | 103/104 (99%)   |
| Sidechain | 780/867 (90%)   | 536/567 (95%)  | 235/270 (87%)   | 9/30 (30%)      |
| Aromatic  | 30/37 (81%)     | 15/18 (83%)    | 15/17 (88%)     | 0/2 (0%)        |
| Overall   | 1339/1437 (93%) | 765/802 (95%)  | 462/499 (93%)   | 112/136 (82%)   |

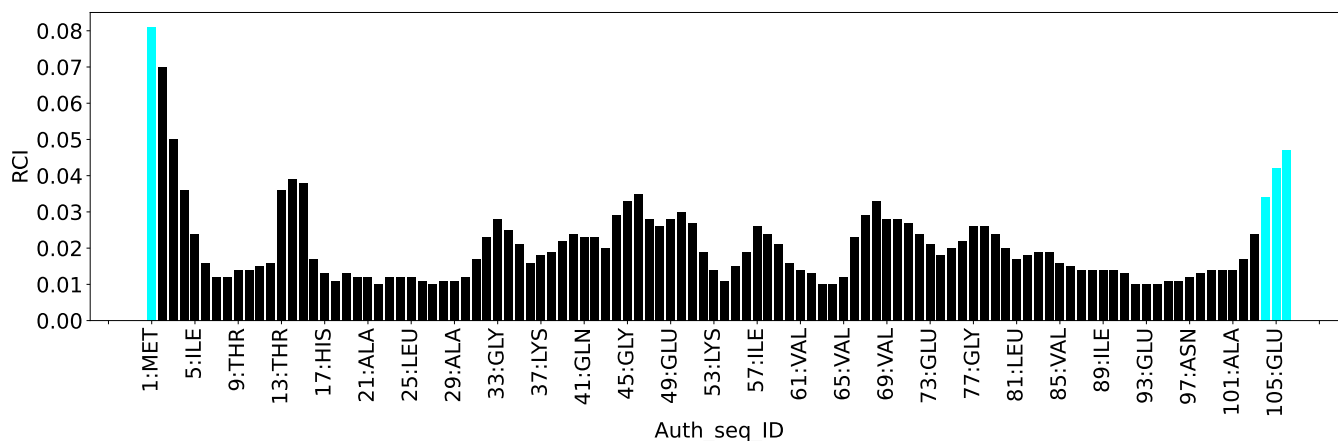
#### 7.1.4 Statistically unusual chemical shifts [i](#)

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                                | 1921  |
| Intra-residue ( $ i-j =0$ )                              | 765   |
| Sequential ( $ i-j =1$ )                                 | 425   |
| Medium range ( $ i-j >1$ and $ i-j <5$ )                 | 290   |
| Long range ( $ i-j \geq 5$ )                             | 441   |
| Inter-chain  | 0     |
| Hydrogen bond restraints                                 | 0     |
| Disulfide bond restraints                                | 0     |
| Total dihedral-angle restraints                          | 126   |
| Number of unmapped restraints                            | 0     |
| Number of restraints per residue                         | 19.3  |
| Number of long range restraints per residue <sup>1</sup> | 4.2   |

<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)  | 11.6                                   | 0.2     |
| 0.2-0.5 (Medium) | 19.4                                   | 0.5     |
| >0.5 (Large)     | 22.4                                   | 2.26    |

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

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

| Bins (°)           | Average number of violations per model | Max (°) |
|--------------------|--|---------|
| 1.0-10.0 (Small)   | 5.8                                    | 4.7     |
| 10.0-20.0 (Medium) | None                                   | None    |
| >20.0 (Large)      | None                                   | None    |

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

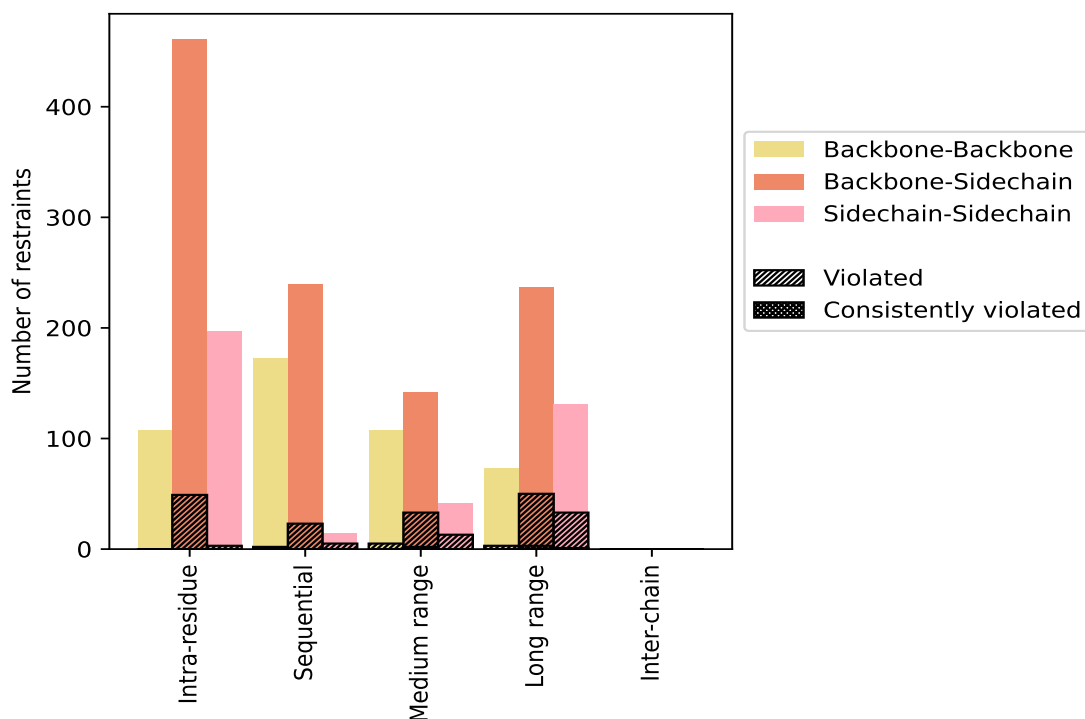
### 9.1 Summary of distance violations [i](#)

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

| Restrains type  | Count       | % <sup>1</sup> | Violated <sup>3</sup> |                |                | Consistently Violated <sup>4</sup> |                |                |
|---|-------------|----------------|-----------------------|----------------|----------------|------------------------------------|----------------|----------------|
|   |             |                | Count                 | % <sup>2</sup> | % <sup>1</sup> | Count                              | % <sup>2</sup> | % <sup>1</sup> |
| <b>Intra-residue (<math> i-j =0</math>)</b>                                 | <b>765</b>  | <b>39.8</b>    | <b>52</b>             | <b>6.8</b>     | <b>2.7</b>     | <b>0</b>                           | <b>0.0</b>     | <b>0.0</b>     |
| Backbone-Backbone   | 107         | 5.6            | 0                     | 0.0            | 0.0            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 461         | 24.0           | 49                    | 10.6           | 2.6            | 0                                  | 0.0            | 0.0            |
| Sidechain-Sidechain   | 197         | 10.3           | 3                     | 1.5            | 0.2            | 0                                  | 0.0            | 0.0            |
| <b>Sequential (<math> i-j =1</math>)</b>                                    | <b>425</b>  | <b>22.1</b>    | <b>30</b>             | <b>7.1</b>     | <b>1.6</b>     | <b>0</b>                           | <b>0.0</b>     | <b>0.0</b>     |
| Backbone-Backbone   | 172         | 9.0            | 2                     | 1.2            | 0.1            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 239         | 12.4           | 23                    | 9.6            | 1.2            | 0                                  | 0.0            | 0.0            |
| Sidechain-Sidechain   | 14          | 0.7            | 5                     | 35.7           | 0.3            | 0                                  | 0.0            | 0.0            |
| <b>Medium range (<math> i-j &gt;1</math> &amp; <math> i-j &lt;5</math>)</b> | <b>290</b>  | <b>15.1</b>    | <b>51</b>             | <b>17.6</b>    | <b>2.7</b>     | <b>2</b>                           | <b>0.7</b>     | <b>0.1</b>     |
| Backbone-Backbone   | 107         | 5.6            | 5                     | 4.7            | 0.3            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 142         | 7.4            | 33                    | 23.2           | 1.7            | 2                                  | 1.4            | 0.1            |
| Sidechain-Sidechain   | 41          | 2.1            | 13                    | 31.7           | 0.7            | 0                                  | 0.0            | 0.0            |
| <b>Long range (<math> i-j \geq 5</math>)</b>                                | <b>441</b>  | <b>23.0</b>    | <b>86</b>             | <b>19.5</b>    | <b>4.5</b>     | <b>4</b>                           | <b>0.9</b>     | <b>0.2</b>     |
| Backbone-Backbone   | 73          | 3.8            | 3                     | 4.1            | 0.2            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 237         | 12.3           | 50                    | 21.1           | 2.6            | 3                                  | 1.3            | 0.2            |
| Sidechain-Sidechain   | 131         | 6.8            | 33                    | 25.2           | 1.7            | 1                                  | 0.8            | 0.1            |
| <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>1921</b> | <b>100.0</b>   | <b>219</b>            | <b>11.4</b>    | <b>11.4</b>    | <b>6</b>                           | <b>0.3</b>     | <b>0.3</b>     |
| Backbone-Backbone   | 459         | 23.9           | 10                    | 2.2            | 0.5            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 1079        | 56.2           | 155                   | 14.4           | 8.1            | 5                                  | 0.5            | 0.3            |
| Sidechain-Sidechain   | 383         | 19.9           | 54                    | 14.1           | 2.8            | 1                                  | 0.3            | 0.1            |

<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        | 13                   | 6               | 16              | 25              | 0               | 60    | 0.59     | 2.22    | 0.48                | 0.42       |
| 2        | 12                   | 8               | 18              | 24              | 0               | 62    | 0.55     | 2.22    | 0.44                | 0.42       |
| 3        | 20                   | 11              | 8               | 26              | 0               | 65    | 0.44     | 1.88    | 0.36                | 0.31       |
| 4        | 10                   | 4               | 16              | 14              | 0               | 44    | 0.51     | 2.11    | 0.41                | 0.44       |
| 5        | 14                   | 5               | 18              | 30              | 0               | 67    | 0.57     | 2.16    | 0.42                | 0.44       |
| 6        | 14                   | 10              | 13              | 18              | 0               | 55    | 0.56     | 1.87    | 0.4                 | 0.47       |
| 7        | 14                   | 7               | 8               | 29              | 0               | 58    | 0.46     | 1.3     | 0.3                 | 0.36       |
| 8        | 13                   | 7               | 12              | 15              | 0               | 47    | 0.63     | 2.18    | 0.44                | 0.55       |
| 9        | 9                    | 5               | 13              | 23              | 0               | 50    | 0.58     | 2.07    | 0.43                | 0.44       |
| 10       | 12                   | 6               | 14              | 16              | 0               | 48    | 0.54     | 2.13    | 0.44                | 0.42       |
| 11       | 9                    | 9               | 8               | 20              | 0               | 46    | 0.53     | 1.53    | 0.37                | 0.48       |

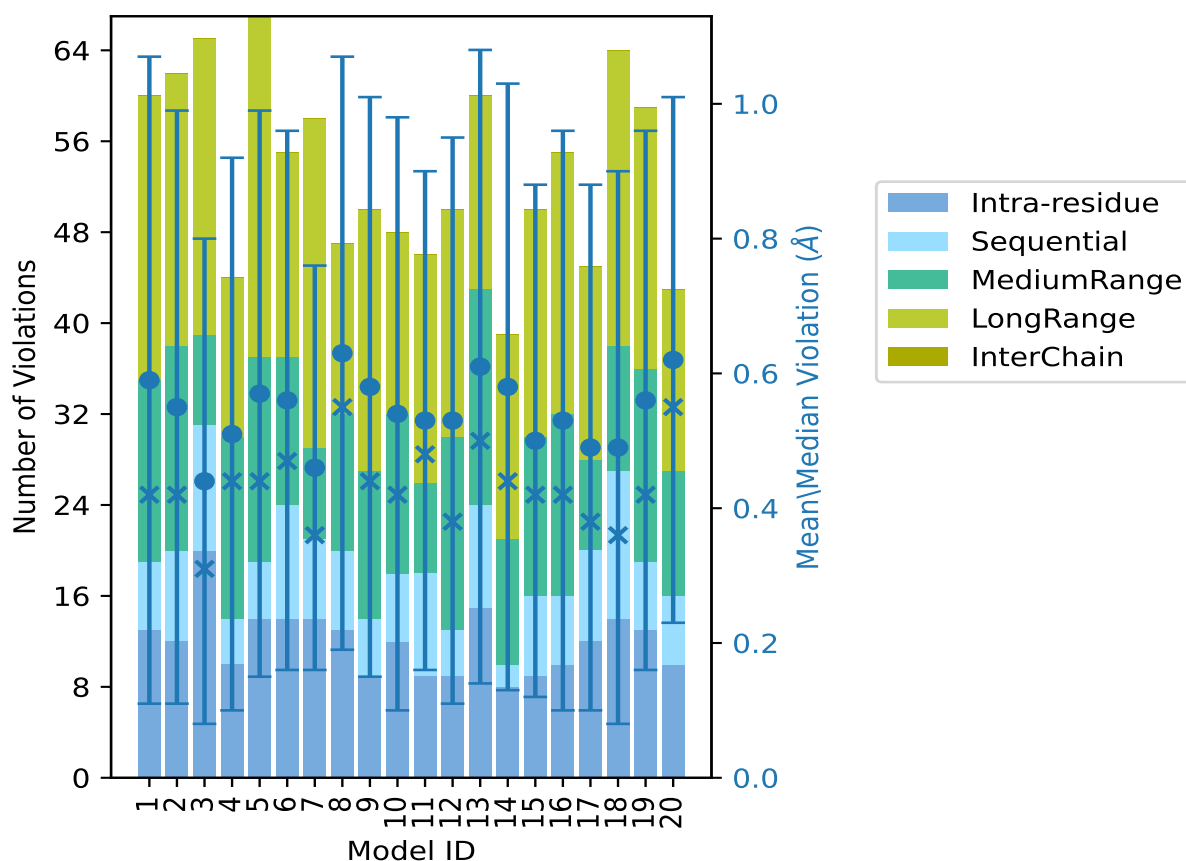
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| Model ID | Number of violations |                 |                 |                 |                 | Total | Mean (Å) | Max (Å) | SD <sup>6</sup> (Å) | Median (Å) |
|----------|----------------------|-----------------|-----------------|-----------------|-----------------|-------|----------|---------|---------------------|------------|
|          | IR <sup>1</sup>      | SQ <sup>2</sup> | MR <sup>3</sup> | LR <sup>4</sup> | IC <sup>5</sup> |       |          |         |                     |            |
| 12       | 9                    | 4               | 17              | 20              | 0               | 50    | 0.53     | 2.19    | 0.42                | 0.38       |
| 13       | 15                   | 9               | 19              | 17              | 0               | 60    | 0.61     | 2.26    | 0.47                | 0.5        |
| 14       | 8                    | 2               | 11              | 18              | 0               | 39    | 0.58     | 2.08    | 0.45                | 0.44       |
| 15       | 9                    | 7               | 14              | 20              | 0               | 50    | 0.5      | 2.08    | 0.38                | 0.42       |
| 16       | 10                   | 6               | 16              | 23              | 0               | 55    | 0.53     | 2.11    | 0.43                | 0.42       |
| 17       | 12                   | 8               | 8               | 17              | 0               | 45    | 0.49     | 1.85    | 0.39                | 0.38       |
| 18       | 14                   | 13              | 11              | 26              | 0               | 64    | 0.49     | 1.86    | 0.41                | 0.36       |
| 19       | 13                   | 6               | 17              | 23              | 0               | 59    | 0.56     | 1.96    | 0.4                 | 0.42       |
| 20       | 10                   | 6               | 11              | 16              | 0               | 43    | 0.62     | 1.87    | 0.39                | 0.55       |

<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



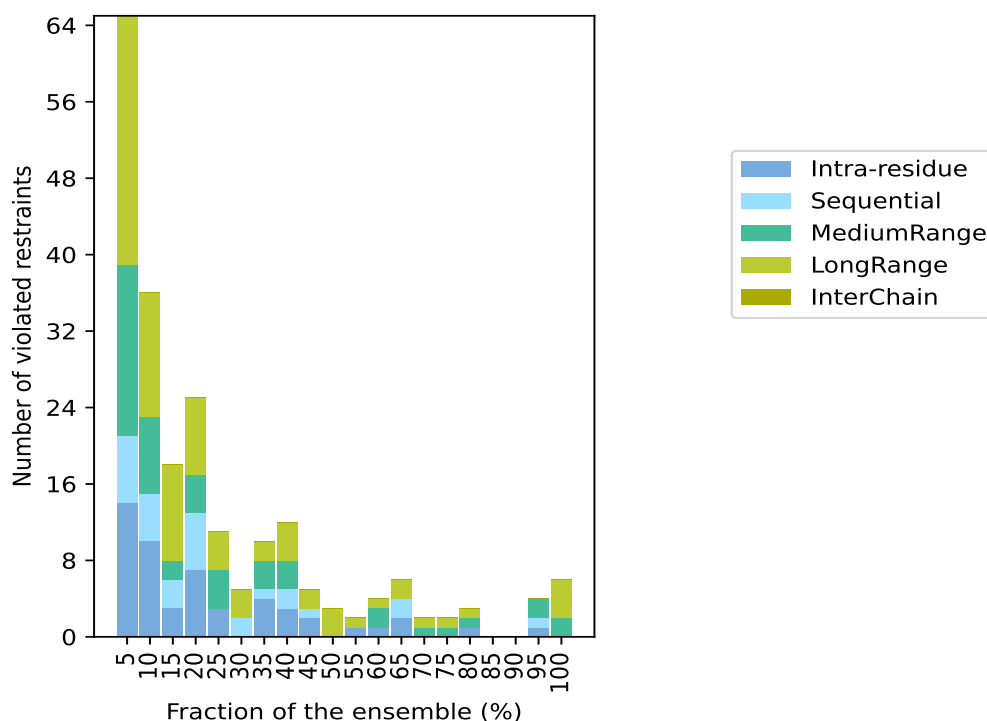
### 9.3 Distance violation statistics for the ensemble

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, 1702(IR:713, SQ:395, MR:239, LR:355, 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>       | %     |
| 14                            | 7               | 18              | 26              | 0               | 65    | 1                        | 5.0   |
| 10                            | 5               | 8               | 13              | 0               | 36    | 2                        | 10.0  |
| 3                             | 3               | 2               | 10              | 0               | 18    | 3                        | 15.0  |
| 7                             | 6               | 4               | 8               | 0               | 25    | 4                        | 20.0  |
| 3                             | 0               | 4               | 4               | 0               | 11    | 5                        | 25.0  |
| 0                             | 2               | 0               | 3               | 0               | 5     | 6                        | 30.0  |
| 4                             | 1               | 3               | 2               | 0               | 10    | 7                        | 35.0  |
| 3                             | 2               | 3               | 4               | 0               | 12    | 8                        | 40.0  |
| 2                             | 1               | 0               | 2               | 0               | 5     | 9                        | 45.0  |
| 0                             | 0               | 0               | 3               | 0               | 3     | 10                       | 50.0  |
| 1                             | 0               | 0               | 1               | 0               | 2     | 11                       | 55.0  |
| 1                             | 0               | 2               | 1               | 0               | 4     | 12                       | 60.0  |
| 2                             | 2               | 0               | 2               | 0               | 6     | 13                       | 65.0  |
| 0                             | 0               | 1               | 1               | 0               | 2     | 14                       | 70.0  |
| 0                             | 0               | 1               | 1               | 0               | 2     | 15                       | 75.0  |
| 1                             | 0               | 1               | 1               | 0               | 3     | 16                       | 80.0  |
| 0                             | 0               | 0               | 0               | 0               | 0     | 17                       | 85.0  |
| 0                             | 0               | 0               | 0               | 0               | 0     | 18                       | 90.0  |
| 1                             | 1               | 2               | 0               | 0               | 4     | 19                       | 95.0  |
| 0                             | 0               | 2               | 4               | 0               | 6     | 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

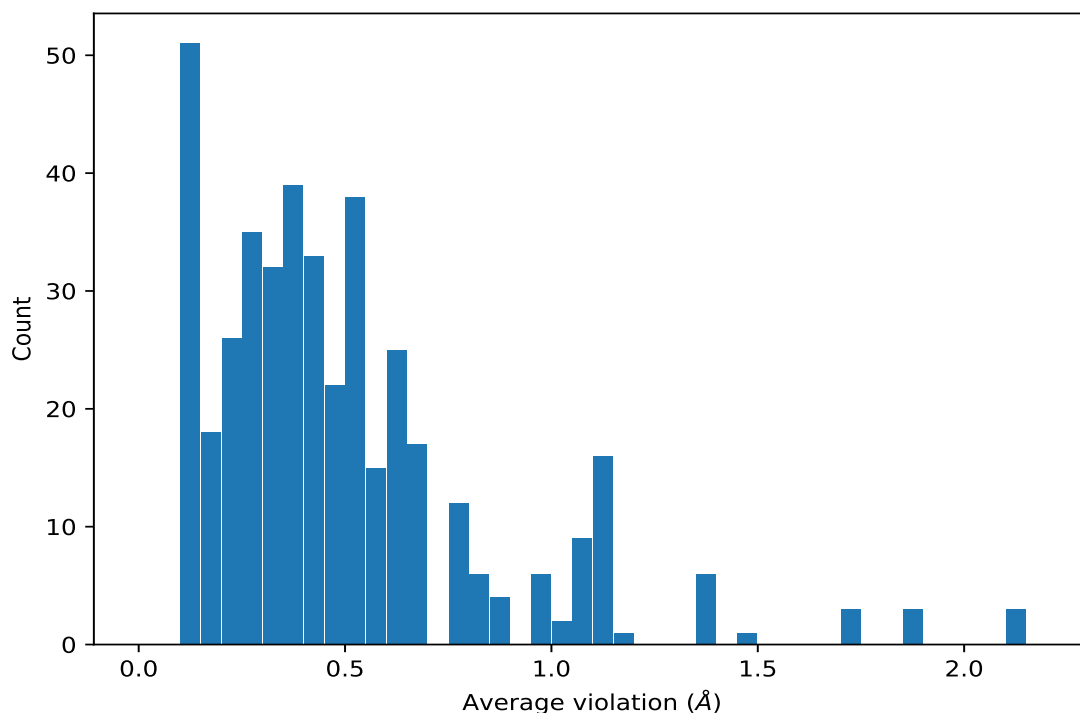
### 9.3.1 Bar graph : Distance violation statistics for the ensemble [\(i\)](#)



## 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) |
|----------|----------------|-----------------|---------------------|----------|---------------------|------------|
| (1,1288) | 1:A:31:LYS:HB2 | 1:A:28:GLY:HA3  | 20                  | 1.18     | 0.19                | 1.18       |
| (1,966)  | 1:A:75:PHE:HE1 | 1:A:8:VAL:HG11  | 20                  | 1.09     | 0.26                | 1.06       |
| (1,966)  | 1:A:75:PHE:HE1 | 1:A:8:VAL:HG12  | 20                  | 1.09     | 0.26                | 1.06       |
| (1,966)  | 1:A:75:PHE:HE1 | 1:A:8:VAL:HG13  | 20                  | 1.09     | 0.26                | 1.06       |
| (1,966)  | 1:A:75:PHE:HE2 | 1:A:8:VAL:HG11  | 20                  | 1.09     | 0.26                | 1.06       |
| (1,966)  | 1:A:75:PHE:HE2 | 1:A:8:VAL:HG12  | 20                  | 1.09     | 0.26                | 1.06       |
| (1,966)  | 1:A:75:PHE:HE2 | 1:A:8:VAL:HG13  | 20                  | 1.09     | 0.26                | 1.06       |
| (1,1814) | 1:A:32:MET:HB3 | 1:A:29:ALA:HA   | 20                  | 1.05     | 0.1                 | 1.06       |
| (1,1814) | 1:A:31:LYS:HB3 | 1:A:29:ALA:HA   | 20                  | 1.05     | 0.1                 | 1.06       |
| (1,1257) | 1:A:4:LYS:HB2  | 1:A:58:GLY:HA3  | 20                  | 0.78     | 0.19                | 0.76       |
| (1,1735) | 1:A:50:LEU:H   | 1:A:55:VAL:HG11 | 20                  | 0.64     | 0.18                | 0.65       |
| (1,1735) | 1:A:50:LEU:H   | 1:A:55:VAL:HG12 | 20                  | 0.64     | 0.18                | 0.65       |
| (1,1735) | 1:A:50:LEU:H   | 1:A:55:VAL:HG13 | 20                  | 0.64     | 0.18                | 0.65       |
| (1,1735) | 1:A:50:LEU:H   | 1:A:8:VAL:HG11  | 20                  | 0.64     | 0.18                | 0.65       |
| (1,1735) | 1:A:50:LEU:H   | 1:A:8:VAL:HG12  | 20                  | 0.64     | 0.18                | 0.65       |
| (1,1735) | 1:A:50:LEU:H   | 1:A:8:VAL:HG13  | 20                  | 0.64     | 0.18                | 0.65       |

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| Key      | Atom-1          | Atom-2          | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|-----------------|-----------------|---------------------|----------|---------------------|------------|
| (1,1808) | 1:A:5:ILE:HB    | 1:A:58:GLY:HA3  | 20                  | 0.53     | 0.13                | 0.55       |
| (1,1808) | 1:A:3:ARG:HG3   | 1:A:58:GLY:HA3  | 20                  | 0.53     | 0.13                | 0.55       |
| (1,1808) | 1:A:3:ARG:HG2   | 1:A:58:GLY:HA3  | 20                  | 0.53     | 0.13                | 0.55       |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG11 | 19                  | 0.64     | 0.15                | 0.63       |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG12 | 19                  | 0.64     | 0.15                | 0.63       |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG13 | 19                  | 0.64     | 0.15                | 0.63       |
| (1,1709) | 1:A:79:VAL:H    | 1:A:75:PHE:HB2  | 19                  | 0.49     | 0.19                | 0.41       |
| (1,1709) | 1:A:79:VAL:H    | 1:A:78:LYS:HE2  | 19                  | 0.49     | 0.19                | 0.41       |
| (1,768)  | 1:A:92:ALA:H    | 1:A:93:GLU:HB3  | 19                  | 0.42     | 0.09                | 0.41       |
| (1,1352) | 1:A:2:LYS:HB2   | 1:A:2:LYS:HA    | 19                  | 0.42     | 0.01                | 0.42       |
| (2,36)   | 1:A:78:LYS:HE3  | 1:A:74:ARG:HG2  | 16                  | 1.07     | 0.37                | 1.17       |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG21 | 16                  | 0.54     | 0.23                | 0.58       |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG22 | 16                  | 0.54     | 0.23                | 0.58       |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG23 | 16                  | 0.54     | 0.23                | 0.58       |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG11 | 16                  | 0.54     | 0.23                | 0.58       |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG12 | 16                  | 0.54     | 0.23                | 0.58       |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG13 | 16                  | 0.54     | 0.23                | 0.58       |
| (1,21)   | 1:A:74:ARG:H    | 1:A:74:ARG:HD3  | 16                  | 0.26     | 0.16                | 0.2        |
| (2,40)   | 1:A:74:ARG:HG2  | 1:A:78:LYS:HE2  | 15                  | 0.58     | 0.16                | 0.56       |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB1  | 15                  | 0.43     | 0.22                | 0.42       |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB2  | 15                  | 0.43     | 0.22                | 0.42       |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB3  | 15                  | 0.43     | 0.22                | 0.42       |
| (1,414)  | 1:A:25:LEU:H    | 1:A:20:MET:HG2  | 14                  | 1.46     | 0.68                | 1.8        |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:31:LYS:HB3  | 14                  | 0.78     | 0.26                | 0.84       |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HB2  | 14                  | 0.78     | 0.26                | 0.84       |
| (1,338)  | 1:A:42:GLY:H    | 1:A:41:GLN:HE22 | 13                  | 0.86     | 0.33                | 0.97       |
| (1,1487) | 1:A:82:GLU:HG2  | 1:A:82:GLU:HA   | 13                  | 0.5      | 0.2                 | 0.46       |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:33:GLY:HA3  | 13                  | 0.42     | 0.23                | 0.38       |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HA   | 13                  | 0.42     | 0.23                | 0.38       |
| (1,1840) | 1:A:55:VAL:HG21 | 1:A:75:PHE:HA   | 13                  | 0.36     | 0.12                | 0.38       |
| (1,1840) | 1:A:55:VAL:HG22 | 1:A:75:PHE:HA   | 13                  | 0.36     | 0.12                | 0.38       |
| (1,1840) | 1:A:55:VAL:HG23 | 1:A:75:PHE:HA   | 13                  | 0.36     | 0.12                | 0.38       |
| (1,1840) | 1:A:74:ARG:HB2  | 1:A:75:PHE:HA   | 13                  | 0.36     | 0.12                | 0.38       |
| (1,1840) | 1:A:35:LEU:HD11 | 1:A:2:LYS:HA    | 13                  | 0.36     | 0.12                | 0.38       |
| (1,1840) | 1:A:35:LEU:HD12 | 1:A:2:LYS:HA    | 13                  | 0.36     | 0.12                | 0.38       |
| (1,1840) | 1:A:35:LEU:HD13 | 1:A:2:LYS:HA    | 13                  | 0.36     | 0.12                | 0.38       |
| (1,1840) | 1:A:35:LEU:HD21 | 1:A:2:LYS:HA    | 13                  | 0.36     | 0.12                | 0.38       |
| (1,1840) | 1:A:35:LEU:HD22 | 1:A:2:LYS:HA    | 13                  | 0.36     | 0.12                | 0.38       |
| (1,1840) | 1:A:35:LEU:HD23 | 1:A:2:LYS:HA    | 13                  | 0.36     | 0.12                | 0.38       |
| (1,1840) | 1:A:89:ILE:HG21 | 1:A:87:ALA:HA   | 13                  | 0.36     | 0.12                | 0.38       |
| (1,1840) | 1:A:89:ILE:HG22 | 1:A:87:ALA:HA   | 13                  | 0.36     | 0.12                | 0.38       |
| (1,1840) | 1:A:89:ILE:HG23 | 1:A:87:ALA:HA   | 13                  | 0.36     | 0.12                | 0.38       |

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| Key      | Atom-1          | Atom-2          | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|-----------------|-----------------|---------------------|----------|---------------------|------------|
| (1,1840) | 1:A:85:VAL:HG11 | 1:A:87:ALA:HA   | 13                  | 0.36     | 0.12                | 0.38       |
| (1,1840) | 1:A:85:VAL:HG12 | 1:A:87:ALA:HA   | 13                  | 0.36     | 0.12                | 0.38       |
| (1,1840) | 1:A:85:VAL:HG13 | 1:A:87:ALA:HA   | 13                  | 0.36     | 0.12                | 0.38       |
| (1,598)  | 1:A:23:GLN:H    | 1:A:23:GLN:HB3  | 13                  | 0.3      | 0.02                | 0.29       |
| (1,1296) | 1:A:81:LEU:HB3  | 1:A:99:ALA:HA   | 13                  | 0.13     | 0.01                | 0.13       |
| (1,1286) | 1:A:25:LEU:HD11 | 1:A:22:ALA:HA   | 12                  | 2.14     | 0.08                | 2.14       |
| (1,1286) | 1:A:25:LEU:HD12 | 1:A:22:ALA:HA   | 12                  | 2.14     | 0.08                | 2.14       |
| (1,1286) | 1:A:25:LEU:HD13 | 1:A:22:ALA:HA   | 12                  | 2.14     | 0.08                | 2.14       |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD11 | 12                  | 0.79     | 0.04                | 0.8        |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD12 | 12                  | 0.79     | 0.04                | 0.8        |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD13 | 12                  | 0.79     | 0.04                | 0.8        |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD11 | 12                  | 0.79     | 0.17                | 0.74       |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD12 | 12                  | 0.79     | 0.17                | 0.74       |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD13 | 12                  | 0.79     | 0.17                | 0.74       |
| (1,1269) | 1:A:25:LEU:HD21 | 1:A:25:LEU:HA   | 12                  | 0.29     | 0.02                | 0.29       |
| (1,1269) | 1:A:25:LEU:HD22 | 1:A:25:LEU:HA   | 12                  | 0.29     | 0.02                | 0.29       |
| (1,1269) | 1:A:25:LEU:HD23 | 1:A:25:LEU:HA   | 12                  | 0.29     | 0.02                | 0.29       |
| (1,1396) | 1:A:18:THR:HG21 | 1:A:42:GLY:HA3  | 11                  | 0.62     | 0.32                | 0.63       |
| (1,1396) | 1:A:18:THR:HG22 | 1:A:42:GLY:HA3  | 11                  | 0.62     | 0.32                | 0.63       |
| (1,1396) | 1:A:18:THR:HG23 | 1:A:42:GLY:HA3  | 11                  | 0.62     | 0.32                | 0.63       |
| (1,168)  | 1:A:57:ILE:H    | 1:A:57:ILE:HG13 | 11                  | 0.29     | 0.08                | 0.28       |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD11 | 10                  | 0.31     | 0.11                | 0.35       |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD12 | 10                  | 0.31     | 0.11                | 0.35       |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD13 | 10                  | 0.31     | 0.11                | 0.35       |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD11 | 10                  | 0.31     | 0.11                | 0.35       |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD12 | 10                  | 0.31     | 0.11                | 0.35       |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD13 | 10                  | 0.31     | 0.11                | 0.35       |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD11 | 10                  | 0.31     | 0.11                | 0.35       |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD12 | 10                  | 0.31     | 0.11                | 0.35       |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD13 | 10                  | 0.31     | 0.11                | 0.35       |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD11 | 10                  | 0.31     | 0.11                | 0.35       |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD12 | 10                  | 0.31     | 0.11                | 0.35       |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD13 | 10                  | 0.31     | 0.11                | 0.35       |
| (1,1280) | 1:A:39:GLU:HG2  | 1:A:49:GLU:HA   | 10                  | 0.23     | 0.08                | 0.22       |
| (1,216)  | 1:A:75:PHE:H    | 1:A:6:ILE:HG13  | 10                  | 0.14     | 0.03                | 0.13       |
| (1,216)  | 1:A:75:PHE:H    | 1:A:6:ILE:HG12  | 10                  | 0.14     | 0.03                | 0.13       |
| (1,1435) | 1:A:80:VAL:HG11 | 1:A:62:ILE:HA   | 9                   | 0.52     | 0.16                | 0.47       |
| (1,1435) | 1:A:80:VAL:HG12 | 1:A:62:ILE:HA   | 9                   | 0.52     | 0.16                | 0.47       |
| (1,1435) | 1:A:80:VAL:HG13 | 1:A:62:ILE:HA   | 9                   | 0.52     | 0.16                | 0.47       |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG11 | 9                   | 0.41     | 0.31                | 0.22       |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG12 | 9                   | 0.41     | 0.31                | 0.22       |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG13 | 9                   | 0.41     | 0.31                | 0.22       |

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| Key      | Atom-1          | Atom-2          | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|-----------------|-----------------|---------------------|----------|---------------------|------------|
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG11 | 9                   | 0.41     | 0.31                | 0.22       |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG12 | 9                   | 0.41     | 0.31                | 0.22       |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG13 | 9                   | 0.41     | 0.31                | 0.22       |
| (1,787)  | 1:A:79:VAL:H    | 1:A:79:VAL:HG21 | 9                   | 0.4      | 0.02                | 0.4        |
| (1,787)  | 1:A:79:VAL:H    | 1:A:79:VAL:HG22 | 9                   | 0.4      | 0.02                | 0.4        |
| (1,787)  | 1:A:79:VAL:H    | 1:A:79:VAL:HG23 | 9                   | 0.4      | 0.02                | 0.4        |
| (1,1144) | 1:A:105:GLU:HA  | 1:A:105:GLU:HB2 | 9                   | 0.32     | 0.01                | 0.32       |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG11 | 9                   | 0.25     | 0.06                | 0.24       |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG12 | 9                   | 0.25     | 0.06                | 0.24       |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG13 | 9                   | 0.25     | 0.06                | 0.24       |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG21 | 8                   | 1.15     | 0.41                | 1.06       |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG22 | 8                   | 1.15     | 0.41                | 1.06       |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG23 | 8                   | 1.15     | 0.41                | 1.06       |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG11 | 8                   | 0.83     | 0.17                | 0.85       |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG12 | 8                   | 0.83     | 0.17                | 0.85       |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG13 | 8                   | 0.83     | 0.17                | 0.85       |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG21 | 8                   | 0.61     | 0.12                | 0.63       |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG22 | 8                   | 0.61     | 0.12                | 0.63       |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG23 | 8                   | 0.61     | 0.12                | 0.63       |
| (1,1117) | 1:A:96:ILE:HG21 | 1:A:32:MET:HB3  | 8                   | 0.53     | 0.23                | 0.62       |
| (1,1117) | 1:A:96:ILE:HG22 | 1:A:32:MET:HB3  | 8                   | 0.53     | 0.23                | 0.62       |
| (1,1117) | 1:A:96:ILE:HG23 | 1:A:32:MET:HB3  | 8                   | 0.53     | 0.23                | 0.62       |
| (1,1117) | 1:A:96:ILE:HD11 | 1:A:32:MET:HB3  | 8                   | 0.53     | 0.23                | 0.62       |
| (1,1117) | 1:A:96:ILE:HD12 | 1:A:32:MET:HB3  | 8                   | 0.53     | 0.23                | 0.62       |
| (1,1117) | 1:A:96:ILE:HD13 | 1:A:32:MET:HB3  | 8                   | 0.53     | 0.23                | 0.62       |
| (1,1658) | 1:A:69:VAL:H    | 1:A:69:VAL:HB   | 8                   | 0.5      | 0.08                | 0.51       |
| (1,1658) | 1:A:69:VAL:H    | 1:A:68:LYS:HG2  | 8                   | 0.5      | 0.08                | 0.51       |
| (1,161)  | 1:A:45:GLY:H    | 1:A:42:GLY:HA2  | 8                   | 0.49     | 0.24                | 0.53       |
| (1,556)  | 1:A:27:LYS:H    | 1:A:27:LYS:HD3  | 8                   | 0.45     | 0.45                | 0.19       |
| (1,355)  | 1:A:53:LYS:H    | 1:A:52:GLU:HB3  | 8                   | 0.38     | 0.1                 | 0.38       |
| (1,1873) | 1:A:8:VAL:HG11  | 1:A:7:ALA:HA    | 8                   | 0.36     | 0.08                | 0.36       |
| (1,1873) | 1:A:8:VAL:HG12  | 1:A:7:ALA:HA    | 8                   | 0.36     | 0.08                | 0.36       |
| (1,1873) | 1:A:8:VAL:HG13  | 1:A:7:ALA:HA    | 8                   | 0.36     | 0.08                | 0.36       |
| (1,1873) | 1:A:61:VAL:HG21 | 1:A:7:ALA:HA    | 8                   | 0.36     | 0.08                | 0.36       |
| (1,1873) | 1:A:61:VAL:HG22 | 1:A:7:ALA:HA    | 8                   | 0.36     | 0.08                | 0.36       |
| (1,1873) | 1:A:61:VAL:HG23 | 1:A:7:ALA:HA    | 8                   | 0.36     | 0.08                | 0.36       |
| (1,1873) | 1:A:25:LEU:HD21 | 1:A:7:ALA:HA    | 8                   | 0.36     | 0.08                | 0.36       |
| (1,1873) | 1:A:25:LEU:HD22 | 1:A:7:ALA:HA    | 8                   | 0.36     | 0.08                | 0.36       |
| (1,1873) | 1:A:25:LEU:HD23 | 1:A:7:ALA:HA    | 8                   | 0.36     | 0.08                | 0.36       |
| (1,1097) | 1:A:80:VAL:HG11 | 1:A:61:VAL:HB   | 8                   | 0.3      | 0.03                | 0.31       |
| (1,1097) | 1:A:80:VAL:HG12 | 1:A:61:VAL:HB   | 8                   | 0.3      | 0.03                | 0.31       |
| (1,1097) | 1:A:80:VAL:HG13 | 1:A:61:VAL:HB   | 8                   | 0.3      | 0.03                | 0.31       |

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| Key      | Atom-1          | Atom-2          | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|-----------------|-----------------|---------------------|----------|---------------------|------------|
| (1,423)  | 1:A:105:GLU:H   | 1:A:105:GLU:HB3 | 8                   | 0.28     | 0.03                | 0.27       |
| (1,1830) | 1:A:104:ASP:HB3 | 1:A:101:ALA:HA  | 8                   | 0.18     | 0.05                | 0.16       |
| (1,1830) | 1:A:97:ASN:HB3  | 1:A:98:ALA:HA   | 8                   | 0.18     | 0.05                | 0.16       |
| (1,936)  | 1:A:75:PHE:HE1  | 1:A:69:VAL:HG21 | 7                   | 1.39     | 0.13                | 1.34       |
| (1,936)  | 1:A:75:PHE:HE1  | 1:A:69:VAL:HG22 | 7                   | 1.39     | 0.13                | 1.34       |
| (1,936)  | 1:A:75:PHE:HE1  | 1:A:69:VAL:HG23 | 7                   | 1.39     | 0.13                | 1.34       |
| (1,936)  | 1:A:75:PHE:HE2  | 1:A:69:VAL:HG21 | 7                   | 1.39     | 0.13                | 1.34       |
| (1,936)  | 1:A:75:PHE:HE2  | 1:A:69:VAL:HG22 | 7                   | 1.39     | 0.13                | 1.34       |
| (1,936)  | 1:A:75:PHE:HE2  | 1:A:69:VAL:HG23 | 7                   | 1.39     | 0.13                | 1.34       |
| (1,1171) | 1:A:69:VAL:HG11 | 1:A:65:VAL:HB   | 7                   | 1.15     | 0.14                | 1.16       |
| (1,1171) | 1:A:69:VAL:HG12 | 1:A:65:VAL:HB   | 7                   | 1.15     | 0.14                | 1.16       |
| (1,1171) | 1:A:69:VAL:HG13 | 1:A:65:VAL:HB   | 7                   | 1.15     | 0.14                | 1.16       |
| (1,1310) | 1:A:69:VAL:HG21 | 1:A:72:LYS:HA   | 7                   | 0.98     | 0.2                 | 0.91       |
| (1,1310) | 1:A:69:VAL:HG22 | 1:A:72:LYS:HA   | 7                   | 0.98     | 0.2                 | 0.91       |
| (1,1310) | 1:A:69:VAL:HG23 | 1:A:72:LYS:HA   | 7                   | 0.98     | 0.2                 | 0.91       |
| (1,1193) | 1:A:101:ALA:HA  | 1:A:104:ASP:HB3 | 7                   | 0.68     | 0.26                | 0.66       |
| (1,1852) | 1:A:55:VAL:HG21 | 1:A:56:ASN:HA   | 7                   | 0.62     | 0.34                | 0.6        |
| (1,1852) | 1:A:55:VAL:HG22 | 1:A:56:ASN:HA   | 7                   | 0.62     | 0.34                | 0.6        |
| (1,1852) | 1:A:55:VAL:HG23 | 1:A:56:ASN:HA   | 7                   | 0.62     | 0.34                | 0.6        |
| (1,1852) | 1:A:100:LEU:HG  | 1:A:97:ASN:HA   | 7                   | 0.62     | 0.34                | 0.6        |
| (1,852)  | 1:A:59:GLU:H    | 1:A:59:GLU:HG2  | 7                   | 0.57     | 0.14                | 0.51       |
| (1,1293) | 1:A:94:LYS:HG2  | 1:A:94:LYS:HA   | 7                   | 0.46     | 0.07                | 0.5        |
| (1,552)  | 1:A:69:VAL:H    | 1:A:69:VAL:HG11 | 7                   | 0.46     | 0.02                | 0.46       |
| (1,552)  | 1:A:69:VAL:H    | 1:A:69:VAL:HG12 | 7                   | 0.46     | 0.02                | 0.46       |
| (1,552)  | 1:A:69:VAL:H    | 1:A:69:VAL:HG13 | 7                   | 0.46     | 0.02                | 0.46       |
| (1,289)  | 1:A:30:LYS:H    | 1:A:30:LYS:HB3  | 7                   | 0.42     | 0.06                | 0.42       |
| (1,1255) | 1:A:6:ILE:HD11  | 1:A:58:GLY:HA3  | 7                   | 0.17     | 0.04                | 0.18       |
| (1,1255) | 1:A:6:ILE:HD12  | 1:A:58:GLY:HA3  | 7                   | 0.17     | 0.04                | 0.18       |
| (1,1255) | 1:A:6:ILE:HD13  | 1:A:58:GLY:HA3  | 7                   | 0.17     | 0.04                | 0.18       |
| (1,1207) | 1:A:31:LYS:HB3  | 1:A:32:MET:HG2  | 6                   | 1.12     | 0.45                | 1.33       |
| (1,458)  | 1:A:24:ALA:H    | 1:A:89:ILE:HG13 | 6                   | 0.57     | 0.22                | 0.58       |
| (1,1016) | 1:A:37:LYS:HB2  | 1:A:50:LEU:HD21 | 6                   | 0.56     | 0.2                 | 0.67       |
| (1,1016) | 1:A:37:LYS:HB2  | 1:A:50:LEU:HD22 | 6                   | 0.56     | 0.2                 | 0.67       |
| (1,1016) | 1:A:37:LYS:HB2  | 1:A:50:LEU:HD23 | 6                   | 0.56     | 0.2                 | 0.67       |
| (1,1366) | 1:A:79:VAL:HG11 | 1:A:60:VAL:HA   | 6                   | 0.28     | 0.08                | 0.3        |
| (1,1366) | 1:A:79:VAL:HG12 | 1:A:60:VAL:HA   | 6                   | 0.28     | 0.08                | 0.3        |
| (1,1366) | 1:A:79:VAL:HG13 | 1:A:60:VAL:HA   | 6                   | 0.28     | 0.08                | 0.3        |
| (1,230)  | 1:A:94:LYS:H    | 1:A:93:GLU:HB3  | 6                   | 0.23     | 0.09                | 0.21       |
| (1,494)  | 1:A:34:ASN:H    | 1:A:34:ASN:HB2  | 5                   | 0.66     | 0.08                | 0.63       |
| (1,1664) | 1:A:36:ILE:H    | 1:A:34:ASN:HB3  | 5                   | 0.59     | 0.23                | 0.49       |
| (1,1664) | 1:A:36:ILE:H    | 1:A:25:LEU:HB2  | 5                   | 0.59     | 0.23                | 0.49       |
| (1,977)  | 1:A:26:LYS:HB2  | 1:A:36:ILE:HG21 | 5                   | 0.58     | 0.21                | 0.67       |

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| Key      | Atom-1          | Atom-2          | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|-----------------|-----------------|---------------------|----------|---------------------|------------|
| (1,977)  | 1:A:26:LYS:HB2  | 1:A:36:ILE:HG22 | 5                   | 0.58     | 0.21                | 0.67       |
| (1,977)  | 1:A:26:LYS:HB2  | 1:A:36:ILE:HG23 | 5                   | 0.58     | 0.21                | 0.67       |
| (1,782)  | 1:A:4:LYS:H     | 1:A:59:GLU:HG2  | 5                   | 0.37     | 0.18                | 0.37       |
| (1,1624) | 1:A:65:VAL:H    | 1:A:82:GLU:HG3  | 5                   | 0.35     | 0.14                | 0.28       |
| (1,1624) | 1:A:65:VAL:H    | 1:A:82:GLU:HB2  | 5                   | 0.35     | 0.14                | 0.28       |
| (1,1624) | 1:A:65:VAL:H    | 1:A:84:PRO:HG3  | 5                   | 0.35     | 0.14                | 0.28       |
| (1,1135) | 1:A:69:VAL:HG21 | 1:A:72:LYS:HB2  | 5                   | 0.34     | 0.25                | 0.16       |
| (1,1135) | 1:A:69:VAL:HG22 | 1:A:72:LYS:HB2  | 5                   | 0.34     | 0.25                | 0.16       |
| (1,1135) | 1:A:69:VAL:HG23 | 1:A:72:LYS:HB2  | 5                   | 0.34     | 0.25                | 0.16       |
| (1,651)  | 1:A:93:GLU:H    | 1:A:91:ASP:HB2  | 5                   | 0.26     | 0.17                | 0.21       |
| (1,1835) | 1:A:30:LYS:HE2  | 1:A:30:LYS:HA   | 5                   | 0.23     | 0.1                 | 0.2        |
| (1,1835) | 1:A:30:LYS:HE3  | 1:A:30:LYS:HA   | 5                   | 0.23     | 0.1                 | 0.2        |
| (1,1835) | 1:A:75:PHE:HB3  | 1:A:73:GLU:HA   | 5                   | 0.23     | 0.1                 | 0.2        |
| (1,1835) | 1:A:72:LYS:HE3  | 1:A:73:GLU:HA   | 5                   | 0.23     | 0.1                 | 0.2        |
| (1,1835) | 1:A:17:HIS:HB3  | 1:A:20:MET:HA   | 5                   | 0.23     | 0.1                 | 0.2        |
| (1,1266) | 1:A:26:LYS:HB2  | 1:A:26:LYS:HA   | 5                   | 0.22     | 0.0                 | 0.22       |
| (1,847)  | 1:A:63:PHE:H    | 1:A:80:VAL:HG11 | 5                   | 0.18     | 0.07                | 0.15       |
| (1,847)  | 1:A:63:PHE:H    | 1:A:80:VAL:HG12 | 5                   | 0.18     | 0.07                | 0.15       |
| (1,847)  | 1:A:63:PHE:H    | 1:A:80:VAL:HG13 | 5                   | 0.18     | 0.07                | 0.15       |
| (1,2)    | 1:A:34:ASN:HD21 | 1:A:32:MET:HB2  | 5                   | 0.14     | 0.04                | 0.13       |
| (1,226)  | 1:A:94:LYS:H    | 1:A:95:VAL:HG21 | 4                   | 1.88     | 0.03                | 1.87       |
| (1,226)  | 1:A:94:LYS:H    | 1:A:95:VAL:HG22 | 4                   | 1.88     | 0.03                | 1.87       |
| (1,226)  | 1:A:94:LYS:H    | 1:A:95:VAL:HG23 | 4                   | 1.88     | 0.03                | 1.87       |
| (1,1001) | 1:A:4:LYS:HE2   | 1:A:35:LEU:HD11 | 4                   | 1.15     | 0.69                | 1.06       |
| (1,1001) | 1:A:4:LYS:HE2   | 1:A:35:LEU:HD12 | 4                   | 1.15     | 0.69                | 1.06       |
| (1,1001) | 1:A:4:LYS:HE2   | 1:A:35:LEU:HD13 | 4                   | 1.15     | 0.69                | 1.06       |
| (1,1001) | 1:A:4:LYS:HE3   | 1:A:35:LEU:HD11 | 4                   | 1.15     | 0.69                | 1.06       |
| (1,1001) | 1:A:4:LYS:HE3   | 1:A:35:LEU:HD12 | 4                   | 1.15     | 0.69                | 1.06       |
| (1,1001) | 1:A:4:LYS:HE3   | 1:A:35:LEU:HD13 | 4                   | 1.15     | 0.69                | 1.06       |
| (1,1384) | 1:A:81:LEU:HD21 | 1:A:81:LEU:HA   | 4                   | 1.12     | 0.01                | 1.12       |
| (1,1384) | 1:A:81:LEU:HD22 | 1:A:81:LEU:HA   | 4                   | 1.12     | 0.01                | 1.12       |
| (1,1384) | 1:A:81:LEU:HD23 | 1:A:81:LEU:HA   | 4                   | 1.12     | 0.01                | 1.12       |
| (1,38)   | 1:A:48:ASN:HD22 | 1:A:37:LYS:HD3  | 4                   | 1.0      | 0.09                | 1.0        |
| (1,38)   | 1:A:48:ASN:HD22 | 1:A:37:LYS:HD2  | 4                   | 1.0      | 0.09                | 1.0        |
| (1,885)  | 1:A:83:VAL:H    | 1:A:81:LEU:HD11 | 4                   | 0.82     | 0.15                | 0.79       |
| (1,885)  | 1:A:83:VAL:H    | 1:A:81:LEU:HD12 | 4                   | 0.82     | 0.15                | 0.79       |
| (1,885)  | 1:A:83:VAL:H    | 1:A:81:LEU:HD13 | 4                   | 0.82     | 0.15                | 0.79       |
| (1,1537) | 1:A:56:ASN:HD22 | 1:A:55:VAL:HG21 | 4                   | 0.55     | 0.21                | 0.59       |
| (1,1537) | 1:A:56:ASN:HD22 | 1:A:55:VAL:HG22 | 4                   | 0.55     | 0.21                | 0.59       |
| (1,1537) | 1:A:56:ASN:HD22 | 1:A:55:VAL:HG23 | 4                   | 0.55     | 0.21                | 0.59       |
| (1,1537) | 1:A:56:ASN:HD22 | 1:A:74:ARG:HB2  | 4                   | 0.55     | 0.21                | 0.59       |
| (1,679)  | 1:A:82:GLU:H    | 1:A:81:LEU:HD21 | 4                   | 0.47     | 0.08                | 0.51       |

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| Key      | Atom-1          | Atom-2           | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|-----------------|------------------|---------------------|----------|---------------------|------------|
| (1,679)  | 1:A:82:GLU:H    | 1:A:81:LEU:HD22  | 4                   | 0.47     | 0.08                | 0.51       |
| (1,679)  | 1:A:82:GLU:H    | 1:A:81:LEU:HD23  | 4                   | 0.47     | 0.08                | 0.51       |
| (1,1409) | 1:A:47:GLU:HG2  | 1:A:47:GLU:HA    | 4                   | 0.44     | 0.32                | 0.44       |
| (1,1656) | 1:A:69:VAL:H    | 1:A:68:LYS:HE3   | 4                   | 0.43     | 0.18                | 0.5        |
| (1,1656) | 1:A:69:VAL:H    | 1:A:72:LYS:HE3   | 4                   | 0.43     | 0.18                | 0.5        |
| (1,1656) | 1:A:69:VAL:H    | 1:A:72:LYS:HE2   | 4                   | 0.43     | 0.18                | 0.5        |
| (1,1559) | 1:A:75:PHE:H    | 1:A:6:ILE:HD11   | 4                   | 0.41     | 0.21                | 0.44       |
| (1,1559) | 1:A:75:PHE:H    | 1:A:6:ILE:HD12   | 4                   | 0.41     | 0.21                | 0.44       |
| (1,1559) | 1:A:75:PHE:H    | 1:A:6:ILE:HD13   | 4                   | 0.41     | 0.21                | 0.44       |
| (1,1559) | 1:A:75:PHE:H    | 1:A:50:LEU:HD11  | 4                   | 0.41     | 0.21                | 0.44       |
| (1,1559) | 1:A:75:PHE:H    | 1:A:50:LEU:HD12  | 4                   | 0.41     | 0.21                | 0.44       |
| (1,1559) | 1:A:75:PHE:H    | 1:A:50:LEU:HD13  | 4                   | 0.41     | 0.21                | 0.44       |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:8:VAL:HG21   | 4                   | 0.4      | 0.17                | 0.43       |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:8:VAL:HG22   | 4                   | 0.4      | 0.17                | 0.43       |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:8:VAL:HG23   | 4                   | 0.4      | 0.17                | 0.43       |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:65:VAL:HG11  | 4                   | 0.4      | 0.17                | 0.43       |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:65:VAL:HG12  | 4                   | 0.4      | 0.17                | 0.43       |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:65:VAL:HG13  | 4                   | 0.4      | 0.17                | 0.43       |
| (1,24)   | 1:A:74:ARG:H    | 1:A:74:ARG:HG2   | 4                   | 0.38     | 0.23                | 0.34       |
| (1,796)  | 1:A:79:VAL:H    | 1:A:78:LYS:HE3   | 4                   | 0.34     | 0.14                | 0.3        |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:8:VAL:HG21   | 4                   | 0.34     | 0.17                | 0.28       |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:8:VAL:HG22   | 4                   | 0.34     | 0.17                | 0.28       |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:8:VAL:HG23   | 4                   | 0.34     | 0.17                | 0.28       |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:65:VAL:HG11  | 4                   | 0.34     | 0.17                | 0.28       |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:65:VAL:HG12  | 4                   | 0.34     | 0.17                | 0.28       |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:65:VAL:HG13  | 4                   | 0.34     | 0.17                | 0.28       |
| (1,906)  | 1:A:70:ARG:H    | 1:A:8:VAL:HG21   | 4                   | 0.3      | 0.21                | 0.22       |
| (1,906)  | 1:A:70:ARG:H    | 1:A:8:VAL:HG22   | 4                   | 0.3      | 0.21                | 0.22       |
| (1,906)  | 1:A:70:ARG:H    | 1:A:8:VAL:HG23   | 4                   | 0.3      | 0.21                | 0.22       |
| (1,1570) | 1:A:78:LYS:H    | 1:A:78:LYS:HE2   | 4                   | 0.29     | 0.14                | 0.29       |
| (1,1570) | 1:A:78:LYS:H    | 1:A:75:PHE:HB2   | 4                   | 0.29     | 0.14                | 0.29       |
| (1,285)  | 1:A:10:ALA:H    | 1:A:69:VAL:HG11  | 4                   | 0.28     | 0.1                 | 0.28       |
| (1,285)  | 1:A:10:ALA:H    | 1:A:69:VAL:HG12  | 4                   | 0.28     | 0.1                 | 0.28       |
| (1,285)  | 1:A:10:ALA:H    | 1:A:69:VAL:HG13  | 4                   | 0.28     | 0.1                 | 0.28       |
| (1,1063) | 1:A:74:ARG:HD2  | 1:A:74:ARG:HG3   | 4                   | 0.28     | 0.04                | 0.29       |
| (1,562)  | 1:A:96:ILE:H    | 1:A:95:VAL:HB    | 4                   | 0.27     | 0.01                | 0.27       |
| (1,940)  | 1:A:25:LEU:HB2  | 1:A:36:ILE:HD11  | 4                   | 0.24     | 0.06                | 0.27       |
| (1,940)  | 1:A:25:LEU:HB2  | 1:A:36:ILE:HD12  | 4                   | 0.24     | 0.06                | 0.27       |
| (1,940)  | 1:A:25:LEU:HB2  | 1:A:36:ILE:HD13  | 4                   | 0.24     | 0.06                | 0.27       |
| (1,27)   | 1:A:74:ARG:H    | 1:A:74:ARG:HB3   | 4                   | 0.17     | 0.03                | 0.18       |
| (2,19)   | 1:A:73:GLU:H    | 1:A:70:ARG:H     | 4                   | 0.14     | 0.02                | 0.13       |
| (1,1616) | 1:A:105:GLU:H   | 1:A:103:ILE:HD11 | 4                   | 0.13     | 0.03                | 0.12       |

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| Key      | Atom-1          | Atom-2           | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|-----------------|------------------|---------------------|----------|---------------------|------------|
| (1,1616) | 1:A:105:GLU:H   | 1:A:103:ILE:HD12 | 4                   | 0.13     | 0.03                | 0.12       |
| (1,1616) | 1:A:105:GLU:H   | 1:A:103:ILE:HD13 | 4                   | 0.13     | 0.03                | 0.12       |
| (1,1616) | 1:A:105:GLU:H   | 1:A:100:LEU:HG   | 4                   | 0.13     | 0.03                | 0.12       |
| (1,1616) | 1:A:105:GLU:H   | 1:A:102:LEU:HD21 | 4                   | 0.13     | 0.03                | 0.12       |
| (1,1616) | 1:A:105:GLU:H   | 1:A:102:LEU:HD22 | 4                   | 0.13     | 0.03                | 0.12       |
| (1,1616) | 1:A:105:GLU:H   | 1:A:102:LEU:HD23 | 4                   | 0.13     | 0.03                | 0.12       |
| (1,646)  | 1:A:93:GLU:H    | 1:A:93:GLU:HB3   | 4                   | 0.12     | 0.01                | 0.12       |
| (1,100)  | 1:A:76:ASP:H    | 1:A:78:LYS:HD2   | 4                   | 0.11     | 0.0                 | 0.11       |
| (1,100)  | 1:A:76:ASP:H    | 1:A:78:LYS:HD3   | 4                   | 0.11     | 0.0                 | 0.11       |
| (1,1162) | 1:A:50:LEU:HD11 | 1:A:6:ILE:HB     | 3                   | 0.99     | 0.54                | 0.76       |
| (1,1162) | 1:A:50:LEU:HD12 | 1:A:6:ILE:HB     | 3                   | 0.99     | 0.54                | 0.76       |
| (1,1162) | 1:A:50:LEU:HD13 | 1:A:6:ILE:HB     | 3                   | 0.99     | 0.54                | 0.76       |
| (1,841)  | 1:A:39:GLU:H    | 1:A:50:LEU:HD11  | 3                   | 0.77     | 0.3                 | 0.81       |
| (1,841)  | 1:A:39:GLU:H    | 1:A:50:LEU:HD12  | 3                   | 0.77     | 0.3                 | 0.81       |
| (1,841)  | 1:A:39:GLU:H    | 1:A:50:LEU:HD13  | 3                   | 0.77     | 0.3                 | 0.81       |
| (1,1505) | 1:A:48:ASN:HD22 | 1:A:50:LEU:HD11  | 3                   | 0.67     | 0.29                | 0.49       |
| (1,1505) | 1:A:48:ASN:HD22 | 1:A:50:LEU:HD12  | 3                   | 0.67     | 0.29                | 0.49       |
| (1,1505) | 1:A:48:ASN:HD22 | 1:A:50:LEU:HD13  | 3                   | 0.67     | 0.29                | 0.49       |
| (1,1505) | 1:A:48:ASN:HD22 | 1:A:37:LYS:HG3   | 3                   | 0.67     | 0.29                | 0.49       |
| (1,1505) | 1:A:48:ASN:HD22 | 1:A:37:LYS:HG2   | 3                   | 0.67     | 0.29                | 0.49       |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:55:VAL:HG21  | 3                   | 0.66     | 0.42                | 0.75       |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:55:VAL:HG22  | 3                   | 0.66     | 0.42                | 0.75       |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:55:VAL:HG23  | 3                   | 0.66     | 0.42                | 0.75       |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:74:ARG:HB2   | 3                   | 0.66     | 0.42                | 0.75       |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:57:ILE:HG21  | 3                   | 0.66     | 0.42                | 0.75       |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:57:ILE:HG22  | 3                   | 0.66     | 0.42                | 0.75       |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:57:ILE:HG23  | 3                   | 0.66     | 0.42                | 0.75       |
| (1,350)  | 1:A:53:LYS:H    | 1:A:53:LYS:HB2   | 3                   | 0.5      | 0.01                | 0.5        |
| (1,462)  | 1:A:24:ALA:H    | 1:A:23:GLN:HG3   | 3                   | 0.49     | 0.11                | 0.56       |
| (1,1416) | 1:A:50:LEU:HD21 | 1:A:50:LEU:HA    | 3                   | 0.48     | 0.04                | 0.47       |
| (1,1416) | 1:A:50:LEU:HD22 | 1:A:50:LEU:HA    | 3                   | 0.48     | 0.04                | 0.47       |
| (1,1416) | 1:A:50:LEU:HD23 | 1:A:50:LEU:HA    | 3                   | 0.48     | 0.04                | 0.47       |
| (1,39)   | 1:A:48:ASN:HD22 | 1:A:38:VAL:H     | 3                   | 0.46     | 0.2                 | 0.32       |
| (1,934)  | 1:A:72:LYS:HG3  | 1:A:69:VAL:HG21  | 3                   | 0.39     | 0.21                | 0.46       |
| (1,934)  | 1:A:72:LYS:HG3  | 1:A:69:VAL:HG22  | 3                   | 0.39     | 0.21                | 0.46       |
| (1,934)  | 1:A:72:LYS:HG3  | 1:A:69:VAL:HG23  | 3                   | 0.39     | 0.21                | 0.46       |
| (1,934)  | 1:A:72:LYS:HG2  | 1:A:69:VAL:HG21  | 3                   | 0.39     | 0.21                | 0.46       |
| (1,934)  | 1:A:72:LYS:HG2  | 1:A:69:VAL:HG22  | 3                   | 0.39     | 0.21                | 0.46       |
| (1,934)  | 1:A:72:LYS:HG2  | 1:A:69:VAL:HG23  | 3                   | 0.39     | 0.21                | 0.46       |
| (1,961)  | 1:A:78:LYS:HE3  | 1:A:61:VAL:HG21  | 3                   | 0.38     | 0.15                | 0.36       |
| (1,961)  | 1:A:78:LYS:HE3  | 1:A:61:VAL:HG22  | 3                   | 0.38     | 0.15                | 0.36       |
| (1,961)  | 1:A:78:LYS:HE3  | 1:A:61:VAL:HG23  | 3                   | 0.38     | 0.15                | 0.36       |

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| Key      | Atom-1          | Atom-2          | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|-----------------|-----------------|---------------------|----------|---------------------|------------|
| (1,1696) | 1:A:7:ALA:H     | 1:A:50:LEU:HD11 | 3                   | 0.34     | 0.16                | 0.39       |
| (1,1696) | 1:A:7:ALA:H     | 1:A:50:LEU:HD12 | 3                   | 0.34     | 0.16                | 0.39       |
| (1,1696) | 1:A:7:ALA:H     | 1:A:50:LEU:HD13 | 3                   | 0.34     | 0.16                | 0.39       |
| (1,1696) | 1:A:7:ALA:H     | 1:A:6:ILE:HD11  | 3                   | 0.34     | 0.16                | 0.39       |
| (1,1696) | 1:A:7:ALA:H     | 1:A:6:ILE:HD12  | 3                   | 0.34     | 0.16                | 0.39       |
| (1,1696) | 1:A:7:ALA:H     | 1:A:6:ILE:HD13  | 3                   | 0.34     | 0.16                | 0.39       |
| (1,1506) | 1:A:48:ASN:HD22 | 1:A:38:VAL:HB   | 3                   | 0.27     | 0.11                | 0.22       |
| (1,1506) | 1:A:48:ASN:HD22 | 1:A:47:GLU:HB2  | 3                   | 0.27     | 0.11                | 0.22       |
| (1,1506) | 1:A:48:ASN:HD22 | 1:A:47:GLU:HB3  | 3                   | 0.27     | 0.11                | 0.22       |
| (1,1407) | 1:A:3:ARG:HD3   | 1:A:3:ARG:HA    | 3                   | 0.25     | 0.09                | 0.31       |
| (1,1503) | 1:A:71:ASN:HD21 | 1:A:70:ARG:HB3  | 3                   | 0.24     | 0.08                | 0.21       |
| (1,1503) | 1:A:71:ASN:HD21 | 1:A:74:ARG:HG3  | 3                   | 0.24     | 0.08                | 0.21       |
| (1,828)  | 1:A:47:GLU:H    | 1:A:39:GLU:HG2  | 3                   | 0.16     | 0.05                | 0.13       |
| (1,633)  | 1:A:40:THR:H    | 1:A:47:GLU:H    | 3                   | 0.13     | 0.01                | 0.13       |
| (1,614)  | 1:A:41:GLN:H    | 1:A:65:VAL:HG11 | 3                   | 0.12     | 0.01                | 0.12       |
| (1,614)  | 1:A:41:GLN:H    | 1:A:65:VAL:HG12 | 3                   | 0.12     | 0.01                | 0.12       |
| (1,614)  | 1:A:41:GLN:H    | 1:A:65:VAL:HG13 | 3                   | 0.12     | 0.01                | 0.12       |
| (1,1256) | 1:A:6:ILE:HG21  | 1:A:58:GLY:HA3  | 3                   | 0.12     | 0.0                 | 0.12       |
| (1,1256) | 1:A:6:ILE:HG22  | 1:A:58:GLY:HA3  | 3                   | 0.12     | 0.0                 | 0.12       |
| (1,1256) | 1:A:6:ILE:HG23  | 1:A:58:GLY:HA3  | 3                   | 0.12     | 0.0                 | 0.12       |
| (1,851)  | 1:A:59:GLU:H    | 1:A:60:VAL:HG21 | 2                   | 1.72     | 0.1                 | 1.72       |
| (1,851)  | 1:A:59:GLU:H    | 1:A:60:VAL:HG22 | 2                   | 1.72     | 0.1                 | 1.72       |
| (1,851)  | 1:A:59:GLU:H    | 1:A:60:VAL:HG23 | 2                   | 1.72     | 0.1                 | 1.72       |
| (1,980)  | 1:A:70:ARG:HD2  | 1:A:46:ILE:HD11 | 2                   | 0.87     | 0.17                | 0.87       |
| (1,980)  | 1:A:70:ARG:HD2  | 1:A:46:ILE:HD12 | 2                   | 0.87     | 0.17                | 0.87       |
| (1,980)  | 1:A:70:ARG:HD2  | 1:A:46:ILE:HD13 | 2                   | 0.87     | 0.17                | 0.87       |
| (1,970)  | 1:A:74:ARG:HD3  | 1:A:55:VAL:HG11 | 2                   | 0.69     | 0.03                | 0.69       |
| (1,970)  | 1:A:74:ARG:HD3  | 1:A:55:VAL:HG12 | 2                   | 0.69     | 0.03                | 0.69       |
| (1,970)  | 1:A:74:ARG:HD3  | 1:A:55:VAL:HG13 | 2                   | 0.69     | 0.03                | 0.69       |
| (1,1018) | 1:A:37:LYS:HE3  | 1:A:50:LEU:HD21 | 2                   | 0.63     | 0.1                 | 0.63       |
| (1,1018) | 1:A:37:LYS:HE3  | 1:A:50:LEU:HD22 | 2                   | 0.63     | 0.1                 | 0.63       |
| (1,1018) | 1:A:37:LYS:HE3  | 1:A:50:LEU:HD23 | 2                   | 0.63     | 0.1                 | 0.63       |
| (1,1018) | 1:A:37:LYS:HE2  | 1:A:50:LEU:HD21 | 2                   | 0.63     | 0.1                 | 0.63       |
| (1,1018) | 1:A:37:LYS:HE2  | 1:A:50:LEU:HD22 | 2                   | 0.63     | 0.1                 | 0.63       |
| (1,1018) | 1:A:37:LYS:HE2  | 1:A:50:LEU:HD23 | 2                   | 0.63     | 0.1                 | 0.63       |
| (1,250)  | 1:A:78:LYS:H    | 1:A:80:VAL:HG21 | 2                   | 0.53     | 0.3                 | 0.53       |
| (1,250)  | 1:A:78:LYS:H    | 1:A:80:VAL:HG22 | 2                   | 0.53     | 0.3                 | 0.53       |
| (1,250)  | 1:A:78:LYS:H    | 1:A:80:VAL:HG23 | 2                   | 0.53     | 0.3                 | 0.53       |
| (1,1401) | 1:A:50:LEU:HD21 | 1:A:37:LYS:HA   | 2                   | 0.52     | 0.02                | 0.52       |
| (1,1401) | 1:A:50:LEU:HD22 | 1:A:37:LYS:HA   | 2                   | 0.52     | 0.02                | 0.52       |
| (1,1401) | 1:A:50:LEU:HD23 | 1:A:37:LYS:HA   | 2                   | 0.52     | 0.02                | 0.52       |
| (1,201)  | 1:A:60:VAL:H    | 1:A:60:VAL:HG21 | 2                   | 0.51     | 0.03                | 0.51       |

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| Key      | Atom-1          | Atom-2          | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|-----------------|-----------------|---------------------|----------|---------------------|------------|
| (1,201)  | 1:A:60:VAL:H    | 1:A:60:VAL:HG22 | 2                   | 0.51     | 0.03                | 0.51       |
| (1,201)  | 1:A:60:VAL:H    | 1:A:60:VAL:HG23 | 2                   | 0.51     | 0.03                | 0.51       |
| (1,863)  | 1:A:41:GLN:HE22 | 1:A:70:ARG:HB3  | 2                   | 0.51     | 0.09                | 0.51       |
| (1,1151) | 1:A:38:VAL:HG21 | 1:A:25:LEU:HB2  | 2                   | 0.5      | 0.22                | 0.5        |
| (1,1151) | 1:A:38:VAL:HG22 | 1:A:25:LEU:HB2  | 2                   | 0.5      | 0.22                | 0.5        |
| (1,1151) | 1:A:38:VAL:HG23 | 1:A:25:LEU:HB2  | 2                   | 0.5      | 0.22                | 0.5        |
| (1,1151) | 1:A:38:VAL:HG11 | 1:A:25:LEU:HB2  | 2                   | 0.5      | 0.22                | 0.5        |
| (1,1151) | 1:A:38:VAL:HG12 | 1:A:25:LEU:HB2  | 2                   | 0.5      | 0.22                | 0.5        |
| (1,1151) | 1:A:38:VAL:HG13 | 1:A:25:LEU:HB2  | 2                   | 0.5      | 0.22                | 0.5        |
| (1,1858) | 1:A:79:VAL:HG21 | 1:A:80:VAL:HA   | 2                   | 0.45     | 0.27                | 0.45       |
| (1,1858) | 1:A:79:VAL:HG22 | 1:A:80:VAL:HA   | 2                   | 0.45     | 0.27                | 0.45       |
| (1,1858) | 1:A:79:VAL:HG23 | 1:A:80:VAL:HA   | 2                   | 0.45     | 0.27                | 0.45       |
| (1,1858) | 1:A:60:VAL:HG11 | 1:A:80:VAL:HA   | 2                   | 0.45     | 0.27                | 0.45       |
| (1,1858) | 1:A:60:VAL:HG12 | 1:A:80:VAL:HA   | 2                   | 0.45     | 0.27                | 0.45       |
| (1,1858) | 1:A:60:VAL:HG13 | 1:A:80:VAL:HA   | 2                   | 0.45     | 0.27                | 0.45       |
| (1,108)  | 1:A:74:ARG:HE   | 1:A:74:ARG:HB3  | 2                   | 0.36     | 0.19                | 0.36       |
| (1,247)  | 1:A:78:LYS:H    | 1:A:76:ASP:HB3  | 2                   | 0.36     | 0.08                | 0.36       |
| (1,129)  | 1:A:32:MET:H    | 1:A:32:MET:HG2  | 2                   | 0.29     | 0.01                | 0.29       |
| (1,865)  | 1:A:41:GLN:HE22 | 1:A:69:VAL:HG21 | 2                   | 0.25     | 0.03                | 0.25       |
| (1,865)  | 1:A:41:GLN:HE22 | 1:A:69:VAL:HG22 | 2                   | 0.25     | 0.03                | 0.25       |
| (1,865)  | 1:A:41:GLN:HE22 | 1:A:69:VAL:HG23 | 2                   | 0.25     | 0.03                | 0.25       |
| (1,969)  | 1:A:28:GLY:HA2  | 1:A:96:ILE:HD11 | 2                   | 0.22     | 0.11                | 0.22       |
| (1,969)  | 1:A:28:GLY:HA2  | 1:A:96:ILE:HD12 | 2                   | 0.22     | 0.11                | 0.22       |
| (1,969)  | 1:A:28:GLY:HA2  | 1:A:96:ILE:HD13 | 2                   | 0.22     | 0.11                | 0.22       |
| (1,1279) | 1:A:49:GLU:HG3  | 1:A:49:GLU:HA   | 2                   | 0.22     | 0.01                | 0.22       |
| (1,1279) | 1:A:49:GLU:HG2  | 1:A:49:GLU:HA   | 2                   | 0.22     | 0.01                | 0.22       |
| (1,499)  | 1:A:13:THR:H    | 1:A:11:CYS:HB2  | 2                   | 0.2      | 0.0                 | 0.2        |
| (1,888)  | 1:A:50:LEU:H    | 1:A:50:LEU:HG   | 2                   | 0.2      | 0.01                | 0.2        |
| (1,1784) | 1:A:50:LEU:HD21 | 1:A:37:LYS:HB2  | 2                   | 0.2      | 0.09                | 0.2        |
| (1,1784) | 1:A:50:LEU:HD22 | 1:A:37:LYS:HB2  | 2                   | 0.2      | 0.09                | 0.2        |
| (1,1784) | 1:A:50:LEU:HD23 | 1:A:37:LYS:HB2  | 2                   | 0.2      | 0.09                | 0.2        |
| (1,1784) | 1:A:6:ILE:HG21  | 1:A:37:LYS:HB2  | 2                   | 0.2      | 0.09                | 0.2        |
| (1,1784) | 1:A:6:ILE:HG22  | 1:A:37:LYS:HB2  | 2                   | 0.2      | 0.09                | 0.2        |
| (1,1784) | 1:A:6:ILE:HG23  | 1:A:37:LYS:HB2  | 2                   | 0.2      | 0.09                | 0.2        |
| (1,1865) | 1:A:81:LEU:HB3  | 1:A:61:VAL:HA   | 2                   | 0.18     | 0.02                | 0.18       |
| (1,1865) | 1:A:50:LEU:HD11 | 1:A:61:VAL:HA   | 2                   | 0.18     | 0.02                | 0.18       |
| (1,1865) | 1:A:50:LEU:HD12 | 1:A:61:VAL:HA   | 2                   | 0.18     | 0.02                | 0.18       |
| (1,1865) | 1:A:50:LEU:HD13 | 1:A:61:VAL:HA   | 2                   | 0.18     | 0.02                | 0.18       |
| (1,1654) | 1:A:29:ALA:H    | 1:A:96:ILE:HB   | 2                   | 0.16     | 0.04                | 0.16       |
| (1,1654) | 1:A:29:ALA:H    | 1:A:25:LEU:HG   | 2                   | 0.16     | 0.04                | 0.16       |
| (1,1654) | 1:A:29:ALA:H    | 1:A:30:LYS:HD2  | 2                   | 0.16     | 0.04                | 0.16       |
| (1,1654) | 1:A:29:ALA:H    | 1:A:30:LYS:HD3  | 2                   | 0.16     | 0.04                | 0.16       |

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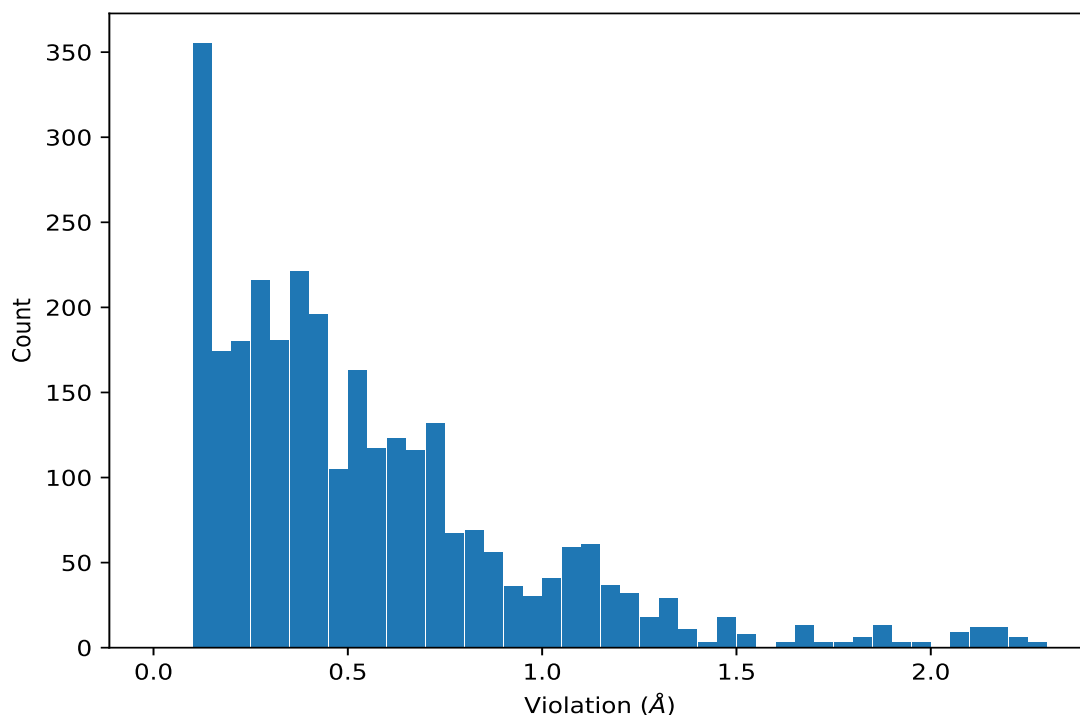
| Key      | Atom-1          | Atom-2          | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|-----------------|-----------------|---------------------|----------|---------------------|------------|
| (1,162)  | 1:A:45:GLY:H    | 1:A:41:GLN:HA   | 2                   | 0.15     | 0.0                 | 0.15       |
| (1,346)  | 1:A:42:GLY:H    | 1:A:41:GLN:HG3  | 2                   | 0.15     | 0.03                | 0.15       |
| (1,1661) | 1:A:27:LYS:H    | 1:A:27:LYS:HB3  | 2                   | 0.14     | 0.02                | 0.14       |
| (1,1661) | 1:A:27:LYS:H    | 1:A:26:LYS:HB3  | 2                   | 0.14     | 0.02                | 0.14       |
| (1,1398) | 1:A:37:LYS:HD2  | 1:A:37:LYS:HA   | 2                   | 0.14     | 0.02                | 0.14       |
| (1,1398) | 1:A:37:LYS:HD3  | 1:A:37:LYS:HA   | 2                   | 0.14     | 0.02                | 0.14       |
| (1,1575) | 1:A:19:TYR:H    | 1:A:17:HIS:HD2  | 2                   | 0.14     | 0.01                | 0.14       |
| (1,1575) | 1:A:19:TYR:H    | 1:A:23:GLN:HE21 | 2                   | 0.14     | 0.01                | 0.14       |
| (1,1592) | 1:A:71:ASN:HD22 | 1:A:70:ARG:HB3  | 2                   | 0.14     | 0.02                | 0.14       |
| (1,1592) | 1:A:71:ASN:HD22 | 1:A:74:ARG:HG3  | 2                   | 0.14     | 0.02                | 0.14       |
| (1,1863) | 1:A:81:LEU:HB2  | 1:A:62:ILE:HA   | 2                   | 0.14     | 0.01                | 0.14       |
| (1,1863) | 1:A:61:VAL:HB   | 1:A:62:ILE:HA   | 2                   | 0.14     | 0.01                | 0.14       |
| (1,576)  | 1:A:72:LYS:H    | 1:A:73:GLU:HG3  | 2                   | 0.12     | 0.01                | 0.12       |
| (1,576)  | 1:A:72:LYS:H    | 1:A:73:GLU:HG2  | 2                   | 0.12     | 0.01                | 0.12       |
| (1,1275) | 1:A:96:ILE:HB   | 1:A:93:GLU:HA   | 2                   | 0.12     | 0.02                | 0.12       |
| (1,526)  | 1:A:100:LEU:H   | 1:A:100:LEU:HG  | 2                   | 0.12     | 0.0                 | 0.12       |
| (1,1762) | 1:A:92:ALA:HA   | 1:A:95:VAL:HG11 | 2                   | 0.12     | 0.0                 | 0.12       |
| (1,1762) | 1:A:92:ALA:HA   | 1:A:95:VAL:HG12 | 2                   | 0.12     | 0.0                 | 0.12       |
| (1,1762) | 1:A:92:ALA:HA   | 1:A:95:VAL:HG13 | 2                   | 0.12     | 0.0                 | 0.12       |
| (1,1762) | 1:A:25:LEU:HA   | 1:A:95:VAL:HG11 | 2                   | 0.12     | 0.0                 | 0.12       |
| (1,1762) | 1:A:25:LEU:HA   | 1:A:95:VAL:HG12 | 2                   | 0.12     | 0.0                 | 0.12       |
| (1,1762) | 1:A:25:LEU:HA   | 1:A:95:VAL:HG13 | 2                   | 0.12     | 0.0                 | 0.12       |
| (1,1824) | 1:A:27:LYS:HB2  | 1:A:27:LYS:HA   | 2                   | 0.12     | 0.0                 | 0.12       |
| (1,1824) | 1:A:89:ILE:HB   | 1:A:86:SER:HA   | 2                   | 0.12     | 0.0                 | 0.12       |
| (1,196)  | 1:A:58:GLY:H    | 1:A:4:LYS:HA    | 2                   | 0.11     | 0.0                 | 0.11       |
| (1,530)  | 1:A:15:VAL:H    | 1:A:15:VAL:HB   | 2                   | 0.11     | 0.0                 | 0.11       |
| (1,581)  | 1:A:72:LYS:H    | 1:A:69:VAL:HG11 | 2                   | 0.11     | 0.0                 | 0.11       |
| (1,581)  | 1:A:72:LYS:H    | 1:A:69:VAL:HG12 | 2                   | 0.11     | 0.0                 | 0.11       |
| (1,581)  | 1:A:72:LYS:H    | 1:A:69:VAL:HG13 | 2                   | 0.11     | 0.0                 | 0.11       |

<sup>1</sup>Number of violated models, <sup>2</sup>Standard deviation

## 9.5 All violated distance restraints [\(i\)](#)

### 9.5.1 Histogram : Distribution of distance violations [\(i\)](#)

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



### 9.5.2 Table : All distance violations [i](#)

The following table lists the absolute value of the violation for each restraint in the ensemble sorted by its value. The Key (restraint list ID, restraint ID) is the unique identifier for a given restraint. Rows with same key represent combinatorial or ambiguous restraints and are counted as a single restraint.

| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1286) | 1:A:25:LEU:HD11 | 1:A:22:ALA:HA   | 13       | 2.26          |
| (1,1286) | 1:A:25:LEU:HD12 | 1:A:22:ALA:HA   | 13       | 2.26          |
| (1,1286) | 1:A:25:LEU:HD13 | 1:A:22:ALA:HA   | 13       | 2.26          |
| (1,1286) | 1:A:25:LEU:HD11 | 1:A:22:ALA:HA   | 1        | 2.22          |
| (1,1286) | 1:A:25:LEU:HD12 | 1:A:22:ALA:HA   | 1        | 2.22          |
| (1,1286) | 1:A:25:LEU:HD13 | 1:A:22:ALA:HA   | 1        | 2.22          |
| (1,1286) | 1:A:25:LEU:HD11 | 1:A:22:ALA:HA   | 2        | 2.22          |
| (1,1286) | 1:A:25:LEU:HD12 | 1:A:22:ALA:HA   | 2        | 2.22          |
| (1,1286) | 1:A:25:LEU:HD13 | 1:A:22:ALA:HA   | 2        | 2.22          |
| (1,1286) | 1:A:25:LEU:HD11 | 1:A:22:ALA:HA   | 12       | 2.19          |
| (1,1286) | 1:A:25:LEU:HD12 | 1:A:22:ALA:HA   | 12       | 2.19          |
| (1,1286) | 1:A:25:LEU:HD13 | 1:A:22:ALA:HA   | 12       | 2.19          |
| (1,1286) | 1:A:25:LEU:HD11 | 1:A:22:ALA:HA   | 8        | 2.18          |
| (1,1286) | 1:A:25:LEU:HD12 | 1:A:22:ALA:HA   | 8        | 2.18          |
| (1,1286) | 1:A:25:LEU:HD13 | 1:A:22:ALA:HA   | 8        | 2.18          |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG21 | 1        | 2.16          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG22 | 1        | 2.16          |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG23 | 1        | 2.16          |
| (1,1286) | 1:A:25:LEU:HD11 | 1:A:22:ALA:HA   | 5        | 2.16          |
| (1,1286) | 1:A:25:LEU:HD12 | 1:A:22:ALA:HA   | 5        | 2.16          |
| (1,1286) | 1:A:25:LEU:HD13 | 1:A:22:ALA:HA   | 5        | 2.16          |
| (1,1286) | 1:A:25:LEU:HD11 | 1:A:22:ALA:HA   | 10       | 2.13          |
| (1,1286) | 1:A:25:LEU:HD12 | 1:A:22:ALA:HA   | 10       | 2.13          |
| (1,1286) | 1:A:25:LEU:HD13 | 1:A:22:ALA:HA   | 10       | 2.13          |
| (1,1286) | 1:A:25:LEU:HD11 | 1:A:22:ALA:HA   | 4        | 2.11          |
| (1,1286) | 1:A:25:LEU:HD12 | 1:A:22:ALA:HA   | 4        | 2.11          |
| (1,1286) | 1:A:25:LEU:HD13 | 1:A:22:ALA:HA   | 4        | 2.11          |
| (1,1001) | 1:A:4:LYS:HE2   | 1:A:35:LEU:HD11 | 16       | 2.11          |
| (1,1001) | 1:A:4:LYS:HE2   | 1:A:35:LEU:HD12 | 16       | 2.11          |
| (1,1001) | 1:A:4:LYS:HE2   | 1:A:35:LEU:HD13 | 16       | 2.11          |
| (1,1001) | 1:A:4:LYS:HE3   | 1:A:35:LEU:HD11 | 16       | 2.11          |
| (1,1001) | 1:A:4:LYS:HE3   | 1:A:35:LEU:HD12 | 16       | 2.11          |
| (1,1001) | 1:A:4:LYS:HE3   | 1:A:35:LEU:HD13 | 16       | 2.11          |
| (1,1286) | 1:A:25:LEU:HD11 | 1:A:22:ALA:HA   | 14       | 2.08          |
| (1,1286) | 1:A:25:LEU:HD12 | 1:A:22:ALA:HA   | 14       | 2.08          |
| (1,1286) | 1:A:25:LEU:HD13 | 1:A:22:ALA:HA   | 14       | 2.08          |
| (1,1286) | 1:A:25:LEU:HD11 | 1:A:22:ALA:HA   | 15       | 2.08          |
| (1,1286) | 1:A:25:LEU:HD12 | 1:A:22:ALA:HA   | 15       | 2.08          |
| (1,1286) | 1:A:25:LEU:HD13 | 1:A:22:ALA:HA   | 15       | 2.08          |
| (1,1286) | 1:A:25:LEU:HD11 | 1:A:22:ALA:HA   | 9        | 2.07          |
| (1,1286) | 1:A:25:LEU:HD12 | 1:A:22:ALA:HA   | 9        | 2.07          |
| (1,1286) | 1:A:25:LEU:HD13 | 1:A:22:ALA:HA   | 9        | 2.07          |
| (1,1286) | 1:A:25:LEU:HD11 | 1:A:22:ALA:HA   | 19       | 1.96          |
| (1,1286) | 1:A:25:LEU:HD12 | 1:A:22:ALA:HA   | 19       | 1.96          |
| (1,1286) | 1:A:25:LEU:HD13 | 1:A:22:ALA:HA   | 19       | 1.96          |
| (1,226)  | 1:A:94:LYS:H    | 1:A:95:VAL:HG21 | 2        | 1.93          |
| (1,226)  | 1:A:94:LYS:H    | 1:A:95:VAL:HG22 | 2        | 1.93          |
| (1,226)  | 1:A:94:LYS:H    | 1:A:95:VAL:HG23 | 2        | 1.93          |
| (1,414)  | 1:A:25:LEU:H    | 1:A:20:MET:HG2  | 3        | 1.88          |
| (1,414)  | 1:A:25:LEU:H    | 1:A:20:MET:HG2  | 6        | 1.87          |
| (1,414)  | 1:A:25:LEU:H    | 1:A:20:MET:HG2  | 20       | 1.87          |
| (1,226)  | 1:A:94:LYS:H    | 1:A:95:VAL:HG21 | 6        | 1.87          |
| (1,226)  | 1:A:94:LYS:H    | 1:A:95:VAL:HG22 | 6        | 1.87          |
| (1,226)  | 1:A:94:LYS:H    | 1:A:95:VAL:HG23 | 6        | 1.87          |
| (1,226)  | 1:A:94:LYS:H    | 1:A:95:VAL:HG21 | 18       | 1.86          |
| (1,226)  | 1:A:94:LYS:H    | 1:A:95:VAL:HG22 | 18       | 1.86          |
| (1,226)  | 1:A:94:LYS:H    | 1:A:95:VAL:HG23 | 18       | 1.86          |
| (1,414)  | 1:A:25:LEU:H    | 1:A:20:MET:HG2  | 17       | 1.85          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,226)  | 1:A:94:LYS:H    | 1:A:95:VAL:HG21 | 3        | 1.85          |
| (1,226)  | 1:A:94:LYS:H    | 1:A:95:VAL:HG22 | 3        | 1.85          |
| (1,226)  | 1:A:94:LYS:H    | 1:A:95:VAL:HG23 | 3        | 1.85          |
| (1,414)  | 1:A:25:LEU:H    | 1:A:20:MET:HG2  | 16       | 1.84          |
| (1,414)  | 1:A:25:LEU:H    | 1:A:20:MET:HG2  | 13       | 1.83          |
| (1,851)  | 1:A:59:GLU:H    | 1:A:60:VAL:HG21 | 13       | 1.82          |
| (1,851)  | 1:A:59:GLU:H    | 1:A:60:VAL:HG22 | 13       | 1.82          |
| (1,851)  | 1:A:59:GLU:H    | 1:A:60:VAL:HG23 | 13       | 1.82          |
| (1,414)  | 1:A:25:LEU:H    | 1:A:20:MET:HG2  | 8        | 1.8           |
| (1,414)  | 1:A:25:LEU:H    | 1:A:20:MET:HG2  | 4        | 1.79          |
| (1,414)  | 1:A:25:LEU:H    | 1:A:20:MET:HG2  | 1        | 1.78          |
| (1,414)  | 1:A:25:LEU:H    | 1:A:20:MET:HG2  | 9        | 1.78          |
| (1,1162) | 1:A:50:LEU:HD11 | 1:A:6:ILE:HB    | 18       | 1.74          |
| (1,1162) | 1:A:50:LEU:HD12 | 1:A:6:ILE:HB    | 18       | 1.74          |
| (1,1162) | 1:A:50:LEU:HD13 | 1:A:6:ILE:HB    | 18       | 1.74          |
| (1,414)  | 1:A:25:LEU:H    | 1:A:20:MET:HG2  | 12       | 1.68          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG11  | 9        | 1.67          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG12  | 9        | 1.67          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG13  | 9        | 1.67          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG11  | 9        | 1.67          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG12  | 9        | 1.67          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG13  | 9        | 1.67          |
| (1,936)  | 1:A:75:PHE:HE1  | 1:A:69:VAL:HG21 | 5        | 1.66          |
| (1,936)  | 1:A:75:PHE:HE1  | 1:A:69:VAL:HG22 | 5        | 1.66          |
| (1,936)  | 1:A:75:PHE:HE1  | 1:A:69:VAL:HG23 | 5        | 1.66          |
| (1,936)  | 1:A:75:PHE:HE2  | 1:A:69:VAL:HG21 | 5        | 1.66          |
| (1,936)  | 1:A:75:PHE:HE2  | 1:A:69:VAL:HG22 | 5        | 1.66          |
| (1,936)  | 1:A:75:PHE:HE2  | 1:A:69:VAL:HG23 | 5        | 1.66          |
| (1,851)  | 1:A:59:GLU:H    | 1:A:60:VAL:HG21 | 17       | 1.61          |
| (1,851)  | 1:A:59:GLU:H    | 1:A:60:VAL:HG22 | 17       | 1.61          |
| (1,851)  | 1:A:59:GLU:H    | 1:A:60:VAL:HG23 | 17       | 1.61          |
| (2,36)   | 1:A:78:LYS:HE3  | 1:A:74:ARG:HG2  | 11       | 1.53          |
| (1,1288) | 1:A:31:LYS:HB2  | 1:A:28:GLY:HA3  | 20       | 1.53          |
| (1,936)  | 1:A:75:PHE:HE1  | 1:A:69:VAL:HG21 | 2        | 1.51          |
| (1,936)  | 1:A:75:PHE:HE1  | 1:A:69:VAL:HG22 | 2        | 1.51          |
| (1,936)  | 1:A:75:PHE:HE1  | 1:A:69:VAL:HG23 | 2        | 1.51          |
| (1,936)  | 1:A:75:PHE:HE2  | 1:A:69:VAL:HG21 | 2        | 1.51          |
| (1,936)  | 1:A:75:PHE:HE2  | 1:A:69:VAL:HG22 | 2        | 1.51          |
| (1,936)  | 1:A:75:PHE:HE2  | 1:A:69:VAL:HG23 | 2        | 1.51          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG11  | 8        | 1.48          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG12  | 8        | 1.48          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG13  | 8        | 1.48          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG11  | 8        | 1.48          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG12  | 8        | 1.48          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG13  | 8        | 1.48          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG11  | 10       | 1.48          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG12  | 10       | 1.48          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG13  | 10       | 1.48          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG11  | 10       | 1.48          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG12  | 10       | 1.48          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG13  | 10       | 1.48          |
| (1,1001) | 1:A:4:LYS:HE2   | 1:A:35:LEU:HD11 | 14       | 1.48          |
| (1,1001) | 1:A:4:LYS:HE2   | 1:A:35:LEU:HD12 | 14       | 1.48          |
| (1,1001) | 1:A:4:LYS:HE2   | 1:A:35:LEU:HD13 | 14       | 1.48          |
| (1,1001) | 1:A:4:LYS:HE3   | 1:A:35:LEU:HD11 | 14       | 1.48          |
| (1,1001) | 1:A:4:LYS:HE3   | 1:A:35:LEU:HD12 | 14       | 1.48          |
| (1,1001) | 1:A:4:LYS:HE3   | 1:A:35:LEU:HD13 | 14       | 1.48          |
| (1,1171) | 1:A:69:VAL:HG11 | 1:A:65:VAL:HB   | 1        | 1.41          |
| (1,1171) | 1:A:69:VAL:HG12 | 1:A:65:VAL:HB   | 1        | 1.41          |
| (1,1171) | 1:A:69:VAL:HG13 | 1:A:65:VAL:HB   | 1        | 1.41          |
| (1,1288) | 1:A:31:LYS:HB2  | 1:A:28:GLY:HA3  | 11       | 1.39          |
| (1,1288) | 1:A:31:LYS:HB2  | 1:A:28:GLY:HA3  | 14       | 1.39          |
| (1,1207) | 1:A:31:LYS:HB3  | 1:A:32:MET:HG2  | 10       | 1.38          |
| (2,36)   | 1:A:78:LYS:HE3  | 1:A:74:ARG:HG2  | 15       | 1.37          |
| (1,936)  | 1:A:75:PHE:HE1  | 1:A:69:VAL:HG21 | 16       | 1.37          |
| (1,936)  | 1:A:75:PHE:HE1  | 1:A:69:VAL:HG22 | 16       | 1.37          |
| (1,936)  | 1:A:75:PHE:HE1  | 1:A:69:VAL:HG23 | 16       | 1.37          |
| (1,936)  | 1:A:75:PHE:HE2  | 1:A:69:VAL:HG21 | 16       | 1.37          |
| (1,936)  | 1:A:75:PHE:HE2  | 1:A:69:VAL:HG22 | 16       | 1.37          |
| (1,936)  | 1:A:75:PHE:HE2  | 1:A:69:VAL:HG23 | 16       | 1.37          |
| (1,1207) | 1:A:31:LYS:HB3  | 1:A:32:MET:HG2  | 6        | 1.36          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG11  | 14       | 1.34          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG12  | 14       | 1.34          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG13  | 14       | 1.34          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG11  | 14       | 1.34          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG12  | 14       | 1.34          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG13  | 14       | 1.34          |
| (1,936)  | 1:A:75:PHE:HE1  | 1:A:69:VAL:HG21 | 8        | 1.34          |
| (1,936)  | 1:A:75:PHE:HE1  | 1:A:69:VAL:HG22 | 8        | 1.34          |
| (1,936)  | 1:A:75:PHE:HE1  | 1:A:69:VAL:HG23 | 8        | 1.34          |
| (1,936)  | 1:A:75:PHE:HE2  | 1:A:69:VAL:HG21 | 8        | 1.34          |
| (1,936)  | 1:A:75:PHE:HE2  | 1:A:69:VAL:HG22 | 8        | 1.34          |
| (1,936)  | 1:A:75:PHE:HE2  | 1:A:69:VAL:HG23 | 8        | 1.34          |
| (1,1207) | 1:A:31:LYS:HB3  | 1:A:32:MET:HG2  | 11       | 1.34          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,936)  | 1:A:75:PHE:HE1  | 1:A:69:VAL:HG21 | 13       | 1.33          |
| (1,936)  | 1:A:75:PHE:HE1  | 1:A:69:VAL:HG22 | 13       | 1.33          |
| (1,936)  | 1:A:75:PHE:HE1  | 1:A:69:VAL:HG23 | 13       | 1.33          |
| (1,936)  | 1:A:75:PHE:HE2  | 1:A:69:VAL:HG21 | 13       | 1.33          |
| (1,936)  | 1:A:75:PHE:HE2  | 1:A:69:VAL:HG22 | 13       | 1.33          |
| (1,936)  | 1:A:75:PHE:HE2  | 1:A:69:VAL:HG23 | 13       | 1.33          |
| (1,1288) | 1:A:31:LYS:HB2  | 1:A:28:GLY:HA3  | 1        | 1.33          |
| (1,1288) | 1:A:31:LYS:HB2  | 1:A:28:GLY:HA3  | 9        | 1.33          |
| (1,1207) | 1:A:31:LYS:HB3  | 1:A:32:MET:HG2  | 18       | 1.31          |
| (1,936)  | 1:A:75:PHE:HE1  | 1:A:69:VAL:HG21 | 1        | 1.3           |
| (1,936)  | 1:A:75:PHE:HE1  | 1:A:69:VAL:HG22 | 1        | 1.3           |
| (1,936)  | 1:A:75:PHE:HE1  | 1:A:69:VAL:HG23 | 1        | 1.3           |
| (1,936)  | 1:A:75:PHE:HE2  | 1:A:69:VAL:HG21 | 1        | 1.3           |
| (1,936)  | 1:A:75:PHE:HE2  | 1:A:69:VAL:HG22 | 1        | 1.3           |
| (1,936)  | 1:A:75:PHE:HE2  | 1:A:69:VAL:HG23 | 1        | 1.3           |
| (1,1288) | 1:A:31:LYS:HB2  | 1:A:28:GLY:HA3  | 7        | 1.3           |
| (1,338)  | 1:A:42:GLY:H    | 1:A:41:GLN:HE22 | 19       | 1.29          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG11  | 2        | 1.28          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG12  | 2        | 1.28          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG13  | 2        | 1.28          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG11  | 2        | 1.28          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG12  | 2        | 1.28          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG13  | 2        | 1.28          |
| (1,1852) | 1:A:55:VAL:HG21 | 1:A:56:ASN:HA   | 19       | 1.27          |
| (1,1852) | 1:A:55:VAL:HG22 | 1:A:56:ASN:HA   | 19       | 1.27          |
| (1,1852) | 1:A:55:VAL:HG23 | 1:A:56:ASN:HA   | 19       | 1.27          |
| (1,1852) | 1:A:100:LEU:HG  | 1:A:97:ASN:HA   | 19       | 1.27          |
| (1,1288) | 1:A:31:LYS:HB2  | 1:A:28:GLY:HA3  | 5        | 1.27          |
| (2,36)   | 1:A:78:LYS:HE3  | 1:A:74:ARG:HG2  | 5        | 1.26          |
| (1,1485) | 1:A:83:VAL:HG21 | 1:A:82:GLU:HA   | 18       | 1.26          |
| (1,1485) | 1:A:83:VAL:HG22 | 1:A:82:GLU:HA   | 18       | 1.26          |
| (1,1485) | 1:A:83:VAL:HG23 | 1:A:82:GLU:HA   | 18       | 1.26          |
| (1,556)  | 1:A:27:LYS:H    | 1:A:27:LYS:HD3  | 13       | 1.25          |
| (1,1288) | 1:A:31:LYS:HB2  | 1:A:28:GLY:HA3  | 19       | 1.25          |
| (2,36)   | 1:A:78:LYS:HE3  | 1:A:74:ARG:HG2  | 14       | 1.24          |
| (1,936)  | 1:A:75:PHE:HE1  | 1:A:69:VAL:HG21 | 19       | 1.24          |
| (1,936)  | 1:A:75:PHE:HE1  | 1:A:69:VAL:HG22 | 19       | 1.24          |
| (1,936)  | 1:A:75:PHE:HE1  | 1:A:69:VAL:HG23 | 19       | 1.24          |
| (1,936)  | 1:A:75:PHE:HE2  | 1:A:69:VAL:HG21 | 19       | 1.24          |
| (1,936)  | 1:A:75:PHE:HE2  | 1:A:69:VAL:HG22 | 19       | 1.24          |
| (1,936)  | 1:A:75:PHE:HE2  | 1:A:69:VAL:HG23 | 19       | 1.24          |
| (1,1310) | 1:A:69:VAL:HG21 | 1:A:72:LYS:HA   | 5        | 1.24          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1310) | 1:A:69:VAL:HG22 | 1:A:72:LYS:HA   | 5        | 1.24          |
| (1,1310) | 1:A:69:VAL:HG23 | 1:A:72:LYS:HA   | 5        | 1.24          |
| (1,1310) | 1:A:69:VAL:HG21 | 1:A:72:LYS:HA   | 13       | 1.24          |
| (1,1310) | 1:A:69:VAL:HG22 | 1:A:72:LYS:HA   | 13       | 1.24          |
| (1,1310) | 1:A:69:VAL:HG23 | 1:A:72:LYS:HA   | 13       | 1.24          |
| (1,1171) | 1:A:69:VAL:HG11 | 1:A:65:VAL:HB   | 2        | 1.23          |
| (1,1171) | 1:A:69:VAL:HG12 | 1:A:65:VAL:HB   | 2        | 1.23          |
| (1,1171) | 1:A:69:VAL:HG13 | 1:A:65:VAL:HB   | 2        | 1.23          |
| (2,36)   | 1:A:78:LYS:HE3  | 1:A:74:ARG:HG2  | 2        | 1.22          |
| (2,36)   | 1:A:78:LYS:HE3  | 1:A:74:ARG:HG2  | 4        | 1.22          |
| (2,36)   | 1:A:78:LYS:HE3  | 1:A:74:ARG:HG2  | 6        | 1.22          |
| (1,312)  | 1:A:106:LYS:H   | 1:A:104:ASP:HB2 | 13       | 1.22          |
| (1,1814) | 1:A:32:MET:HB3  | 1:A:29:ALA:HA   | 3        | 1.22          |
| (1,1814) | 1:A:31:LYS:HB3  | 1:A:29:ALA:HA   | 3        | 1.22          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG11  | 19       | 1.21          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG12  | 19       | 1.21          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG13  | 19       | 1.21          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG11  | 19       | 1.21          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG12  | 19       | 1.21          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG13  | 19       | 1.21          |
| (1,556)  | 1:A:27:LYS:H    | 1:A:27:LYS:HD3  | 20       | 1.21          |
| (1,1814) | 1:A:32:MET:HB3  | 1:A:29:ALA:HA   | 10       | 1.2           |
| (1,1814) | 1:A:31:LYS:HB3  | 1:A:29:ALA:HA   | 10       | 1.2           |
| (1,1288) | 1:A:31:LYS:HB2  | 1:A:28:GLY:HA3  | 16       | 1.2           |
| (1,338)  | 1:A:42:GLY:H    | 1:A:41:GLN:HE22 | 5        | 1.19          |
| (1,1288) | 1:A:31:LYS:HB2  | 1:A:28:GLY:HA3  | 18       | 1.19          |
| (1,1207) | 1:A:31:LYS:HB3  | 1:A:32:MET:HG2  | 9        | 1.19          |
| (1,1171) | 1:A:69:VAL:HG11 | 1:A:65:VAL:HB   | 19       | 1.19          |
| (1,1171) | 1:A:69:VAL:HG12 | 1:A:65:VAL:HB   | 19       | 1.19          |
| (1,1171) | 1:A:69:VAL:HG13 | 1:A:65:VAL:HB   | 19       | 1.19          |
| (2,36)   | 1:A:78:LYS:HE3  | 1:A:74:ARG:HG2  | 1        | 1.18          |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG21 | 12       | 1.18          |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG22 | 12       | 1.18          |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG23 | 12       | 1.18          |
| (1,1814) | 1:A:32:MET:HB3  | 1:A:29:ALA:HA   | 18       | 1.18          |
| (1,1814) | 1:A:31:LYS:HB3  | 1:A:29:ALA:HA   | 18       | 1.18          |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:31:LYS:HB3  | 20       | 1.18          |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HB2  | 20       | 1.18          |
| (1,338)  | 1:A:42:GLY:H    | 1:A:41:GLN:HE22 | 17       | 1.17          |
| (1,1288) | 1:A:31:LYS:HB2  | 1:A:28:GLY:HA3  | 8        | 1.17          |
| (2,36)   | 1:A:78:LYS:HE3  | 1:A:74:ARG:HG2  | 12       | 1.16          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG11  | 12       | 1.16          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG12  | 12       | 1.16          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG13  | 12       | 1.16          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG11  | 12       | 1.16          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG12  | 12       | 1.16          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG13  | 12       | 1.16          |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG21 | 11       | 1.16          |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG22 | 11       | 1.16          |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG23 | 11       | 1.16          |
| (1,1814) | 1:A:32:MET:HB3  | 1:A:29:ALA:HA   | 5        | 1.16          |
| (1,1814) | 1:A:31:LYS:HB3  | 1:A:29:ALA:HA   | 5        | 1.16          |
| (1,1487) | 1:A:82:GLU:HG2  | 1:A:82:GLU:HA   | 19       | 1.16          |
| (1,1171) | 1:A:69:VAL:HG11 | 1:A:65:VAL:HB   | 5        | 1.16          |
| (1,1171) | 1:A:69:VAL:HG12 | 1:A:65:VAL:HB   | 5        | 1.16          |
| (1,1171) | 1:A:69:VAL:HG13 | 1:A:65:VAL:HB   | 5        | 1.16          |
| (2,36)   | 1:A:78:LYS:HE3  | 1:A:74:ARG:HG2  | 8        | 1.15          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD11 | 5        | 1.15          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD12 | 5        | 1.15          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD13 | 5        | 1.15          |
| (1,1257) | 1:A:4:LYS:HB2   | 1:A:58:GLY:HA3  | 11       | 1.15          |
| (1,338)  | 1:A:42:GLY:H    | 1:A:41:GLN:HE22 | 13       | 1.14          |
| (1,1288) | 1:A:31:LYS:HB2  | 1:A:28:GLY:HA3  | 10       | 1.14          |
| (1,1288) | 1:A:31:LYS:HB2  | 1:A:28:GLY:HA3  | 15       | 1.14          |
| (2,36)   | 1:A:78:LYS:HE3  | 1:A:74:ARG:HG2  | 19       | 1.13          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG11  | 1        | 1.13          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG12  | 1        | 1.13          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG13  | 1        | 1.13          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG11  | 1        | 1.13          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG12  | 1        | 1.13          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG13  | 1        | 1.13          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG11  | 16       | 1.13          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG12  | 16       | 1.13          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG13  | 16       | 1.13          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG11  | 16       | 1.13          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG12  | 16       | 1.13          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG13  | 16       | 1.13          |
| (1,38)   | 1:A:48:ASN:HD22 | 1:A:37:LYS:HD3  | 18       | 1.13          |
| (1,38)   | 1:A:48:ASN:HD22 | 1:A:37:LYS:HD2  | 18       | 1.13          |
| (1,1814) | 1:A:32:MET:HB3  | 1:A:29:ALA:HA   | 13       | 1.13          |
| (1,1814) | 1:A:31:LYS:HB3  | 1:A:29:ALA:HA   | 13       | 1.13          |
| (1,1384) | 1:A:81:LEU:HD21 | 1:A:81:LEU:HA   | 5        | 1.13          |
| (1,1384) | 1:A:81:LEU:HD22 | 1:A:81:LEU:HA   | 5        | 1.13          |
| (1,1384) | 1:A:81:LEU:HD23 | 1:A:81:LEU:HA   | 5        | 1.13          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (2,36)   | 1:A:78:LYS:HE3  | 1:A:74:ARG:HG2  | 9        | 1.12          |
| (1,841)  | 1:A:39:GLU:H    | 1:A:50:LEU:HD11 | 5        | 1.12          |
| (1,841)  | 1:A:39:GLU:H    | 1:A:50:LEU:HD12 | 5        | 1.12          |
| (1,841)  | 1:A:39:GLU:H    | 1:A:50:LEU:HD13 | 5        | 1.12          |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG11 | 5        | 1.12          |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG12 | 5        | 1.12          |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG13 | 5        | 1.12          |
| (1,1814) | 1:A:32:MET:HB3  | 1:A:29:ALA:HA   | 6        | 1.12          |
| (1,1814) | 1:A:31:LYS:HB3  | 1:A:29:ALA:HA   | 6        | 1.12          |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:55:VAL:HG21 | 7        | 1.12          |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:55:VAL:HG22 | 7        | 1.12          |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:55:VAL:HG23 | 7        | 1.12          |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:74:ARG:HB2  | 7        | 1.12          |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:57:ILE:HG21 | 7        | 1.12          |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:57:ILE:HG22 | 7        | 1.12          |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:57:ILE:HG23 | 7        | 1.12          |
| (1,1384) | 1:A:81:LEU:HD21 | 1:A:81:LEU:HA   | 6        | 1.12          |
| (1,1384) | 1:A:81:LEU:HD22 | 1:A:81:LEU:HA   | 6        | 1.12          |
| (1,1384) | 1:A:81:LEU:HD23 | 1:A:81:LEU:HA   | 6        | 1.12          |
| (1,1384) | 1:A:81:LEU:HD21 | 1:A:81:LEU:HA   | 13       | 1.12          |
| (1,1384) | 1:A:81:LEU:HD22 | 1:A:81:LEU:HA   | 13       | 1.12          |
| (1,1384) | 1:A:81:LEU:HD23 | 1:A:81:LEU:HA   | 13       | 1.12          |
| (1,1288) | 1:A:31:LYS:HB2  | 1:A:28:GLY:HA3  | 12       | 1.12          |
| (1,1814) | 1:A:32:MET:HB3  | 1:A:29:ALA:HA   | 7        | 1.11          |
| (1,1814) | 1:A:31:LYS:HB3  | 1:A:29:ALA:HA   | 7        | 1.11          |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG11 | 16       | 1.11          |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG12 | 16       | 1.11          |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG13 | 16       | 1.11          |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG11 | 16       | 1.11          |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG12 | 16       | 1.11          |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG13 | 16       | 1.11          |
| (1,1310) | 1:A:69:VAL:HG21 | 1:A:72:LYS:HA   | 2        | 1.11          |
| (1,1310) | 1:A:69:VAL:HG22 | 1:A:72:LYS:HA   | 2        | 1.11          |
| (1,1310) | 1:A:69:VAL:HG23 | 1:A:72:LYS:HA   | 2        | 1.11          |
| (1,1288) | 1:A:31:LYS:HB2  | 1:A:28:GLY:HA3  | 2        | 1.11          |
| (1,1384) | 1:A:81:LEU:HD21 | 1:A:81:LEU:HA   | 18       | 1.1           |
| (1,1384) | 1:A:81:LEU:HD22 | 1:A:81:LEU:HA   | 18       | 1.1           |
| (1,1384) | 1:A:81:LEU:HD23 | 1:A:81:LEU:HA   | 18       | 1.1           |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG21 | 6        | 1.09          |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG22 | 6        | 1.09          |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG23 | 6        | 1.09          |
| (1,1288) | 1:A:31:LYS:HB2  | 1:A:28:GLY:HA3  | 17       | 1.09          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1257) | 1:A:4:LYS:HB2   | 1:A:58:GLY:HA3  | 1        | 1.09          |
| (1,1257) | 1:A:4:LYS:HB2   | 1:A:58:GLY:HA3  | 17       | 1.09          |
| (1,1814) | 1:A:32:MET:HB3  | 1:A:29:ALA:HA   | 4        | 1.08          |
| (1,1814) | 1:A:31:LYS:HB3  | 1:A:29:ALA:HA   | 4        | 1.08          |
| (1,1814) | 1:A:32:MET:HB3  | 1:A:29:ALA:HA   | 14       | 1.08          |
| (1,1814) | 1:A:31:LYS:HB3  | 1:A:29:ALA:HA   | 14       | 1.08          |
| (1,1505) | 1:A:48:ASN:HD22 | 1:A:50:LEU:HD11 | 20       | 1.08          |
| (1,1505) | 1:A:48:ASN:HD22 | 1:A:50:LEU:HD12 | 20       | 1.08          |
| (1,1505) | 1:A:48:ASN:HD22 | 1:A:50:LEU:HD13 | 20       | 1.08          |
| (1,1505) | 1:A:48:ASN:HD22 | 1:A:37:LYS:HG3  | 20       | 1.08          |
| (1,1505) | 1:A:48:ASN:HD22 | 1:A:37:LYS:HG2  | 20       | 1.08          |
| (1,1396) | 1:A:18:THR:HG21 | 1:A:42:GLY:HA3  | 20       | 1.08          |
| (1,1396) | 1:A:18:THR:HG22 | 1:A:42:GLY:HA3  | 20       | 1.08          |
| (1,1396) | 1:A:18:THR:HG23 | 1:A:42:GLY:HA3  | 20       | 1.08          |
| (1,1193) | 1:A:101:ALA:HA  | 1:A:104:ASP:HB3 | 2        | 1.08          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG11  | 3        | 1.07          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG12  | 3        | 1.07          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG13  | 3        | 1.07          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG11  | 3        | 1.07          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG12  | 3        | 1.07          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG13  | 3        | 1.07          |
| (1,338)  | 1:A:42:GLY:H    | 1:A:41:GLN:HE22 | 8        | 1.07          |
| (1,1814) | 1:A:32:MET:HB3  | 1:A:29:ALA:HA   | 12       | 1.07          |
| (1,1814) | 1:A:31:LYS:HB3  | 1:A:29:ALA:HA   | 12       | 1.07          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG11 | 15       | 1.07          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG12 | 15       | 1.07          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG13 | 15       | 1.07          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG11  | 15       | 1.07          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG12  | 15       | 1.07          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG13  | 15       | 1.07          |
| (1,1288) | 1:A:31:LYS:HB2  | 1:A:28:GLY:HA3  | 13       | 1.07          |
| (1,1257) | 1:A:4:LYS:HB2   | 1:A:58:GLY:HA3  | 7        | 1.07          |
| (2,36)   | 1:A:78:LYS:HE3  | 1:A:74:ARG:HG2  | 20       | 1.06          |
| (1,338)  | 1:A:42:GLY:H    | 1:A:41:GLN:HE22 | 10       | 1.06          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG21 | 8        | 1.06          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG22 | 8        | 1.06          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG23 | 8        | 1.06          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG11 | 8        | 1.06          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG12 | 8        | 1.06          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG13 | 8        | 1.06          |
| (1,1171) | 1:A:69:VAL:HG11 | 1:A:65:VAL:HB   | 16       | 1.06          |
| (1,1171) | 1:A:69:VAL:HG12 | 1:A:65:VAL:HB   | 16       | 1.06          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1171) | 1:A:69:VAL:HG13 | 1:A:65:VAL:HB   | 16       | 1.06          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG11  | 6        | 1.05          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG12  | 6        | 1.05          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG13  | 6        | 1.05          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG11  | 6        | 1.05          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG12  | 6        | 1.05          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG13  | 6        | 1.05          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG11  | 18       | 1.05          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG12  | 18       | 1.05          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG13  | 18       | 1.05          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG11  | 18       | 1.05          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG12  | 18       | 1.05          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG13  | 18       | 1.05          |
| (1,980)  | 1:A:70:ARG:HD2  | 1:A:46:ILE:HD11 | 15       | 1.04          |
| (1,980)  | 1:A:70:ARG:HD2  | 1:A:46:ILE:HD12 | 15       | 1.04          |
| (1,980)  | 1:A:70:ARG:HD2  | 1:A:46:ILE:HD13 | 15       | 1.04          |
| (1,1814) | 1:A:32:MET:HB3  | 1:A:29:ALA:HA   | 8        | 1.04          |
| (1,1814) | 1:A:31:LYS:HB3  | 1:A:29:ALA:HA   | 8        | 1.04          |
| (1,885)  | 1:A:83:VAL:H    | 1:A:81:LEU:HD11 | 18       | 1.03          |
| (1,885)  | 1:A:83:VAL:H    | 1:A:81:LEU:HD12 | 18       | 1.03          |
| (1,885)  | 1:A:83:VAL:H    | 1:A:81:LEU:HD13 | 18       | 1.03          |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG21 | 9        | 1.03          |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG22 | 9        | 1.03          |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG23 | 9        | 1.03          |
| (1,1814) | 1:A:32:MET:HB3  | 1:A:29:ALA:HA   | 9        | 1.03          |
| (1,1814) | 1:A:31:LYS:HB3  | 1:A:29:ALA:HA   | 9        | 1.03          |
| (1,1814) | 1:A:32:MET:HB3  | 1:A:29:ALA:HA   | 16       | 1.03          |
| (1,1814) | 1:A:31:LYS:HB3  | 1:A:29:ALA:HA   | 16       | 1.03          |
| (1,1171) | 1:A:69:VAL:HG11 | 1:A:65:VAL:HB   | 13       | 1.02          |
| (1,1171) | 1:A:69:VAL:HG12 | 1:A:65:VAL:HB   | 13       | 1.02          |
| (1,1171) | 1:A:69:VAL:HG13 | 1:A:65:VAL:HB   | 13       | 1.02          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG11  | 7        | 1.01          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG12  | 7        | 1.01          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG13  | 7        | 1.01          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG11  | 7        | 1.01          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG12  | 7        | 1.01          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG13  | 7        | 1.01          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD11 | 10       | 1.01          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD12 | 10       | 1.01          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD13 | 10       | 1.01          |
| (1,38)   | 1:A:48:ASN:HD22 | 1:A:37:LYS:HD3  | 19       | 1.01          |
| (1,38)   | 1:A:48:ASN:HD22 | 1:A:37:LYS:HD2  | 19       | 1.01          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:31:LYS:HB3  | 1        | 1.01          |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HB2  | 1        | 1.01          |
| (1,1396) | 1:A:18:THR:HG21 | 1:A:42:GLY:HA3  | 1        | 1.01          |
| (1,1396) | 1:A:18:THR:HG22 | 1:A:42:GLY:HA3  | 1        | 1.01          |
| (1,1396) | 1:A:18:THR:HG23 | 1:A:42:GLY:HA3  | 1        | 1.01          |
| (2,36)   | 1:A:78:LYS:HE3  | 1:A:74:ARG:HG2  | 10       | 1.0           |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG11  | 13       | 1.0           |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG12  | 13       | 1.0           |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG13  | 13       | 1.0           |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG11  | 13       | 1.0           |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG12  | 13       | 1.0           |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG13  | 13       | 1.0           |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG21 | 2        | 0.99          |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG22 | 2        | 0.99          |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG23 | 2        | 0.99          |
| (1,1814) | 1:A:32:MET:HB3  | 1:A:29:ALA:HA   | 17       | 0.99          |
| (1,1814) | 1:A:31:LYS:HB3  | 1:A:29:ALA:HA   | 17       | 0.99          |
| (1,1664) | 1:A:36:ILE:H    | 1:A:34:ASN:HB3  | 2        | 0.99          |
| (1,1664) | 1:A:36:ILE:H    | 1:A:25:LEU:HB2  | 2        | 0.99          |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:31:LYS:HB3  | 16       | 0.99          |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HB2  | 16       | 0.99          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB1  | 20       | 0.99          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB2  | 20       | 0.99          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB3  | 20       | 0.99          |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG11 | 6        | 0.98          |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG12 | 6        | 0.98          |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG13 | 6        | 0.98          |
| (1,38)   | 1:A:48:ASN:HD22 | 1:A:37:LYS:HD3  | 20       | 0.98          |
| (1,38)   | 1:A:48:ASN:HD22 | 1:A:37:LYS:HD2  | 20       | 0.98          |
| (1,1396) | 1:A:18:THR:HG21 | 1:A:42:GLY:HA3  | 3        | 0.98          |
| (1,1396) | 1:A:18:THR:HG22 | 1:A:42:GLY:HA3  | 3        | 0.98          |
| (1,1396) | 1:A:18:THR:HG23 | 1:A:42:GLY:HA3  | 3        | 0.98          |
| (1,338)  | 1:A:42:GLY:H    | 1:A:41:GLN:HE22 | 11       | 0.97          |
| (1,1814) | 1:A:32:MET:HB3  | 1:A:29:ALA:HA   | 1        | 0.97          |
| (1,1814) | 1:A:31:LYS:HB3  | 1:A:29:ALA:HA   | 1        | 0.97          |
| (1,1814) | 1:A:32:MET:HB3  | 1:A:29:ALA:HA   | 19       | 0.95          |
| (1,1814) | 1:A:31:LYS:HB3  | 1:A:29:ALA:HA   | 19       | 0.95          |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:31:LYS:HB3  | 19       | 0.95          |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HB2  | 19       | 0.95          |
| (1,1171) | 1:A:69:VAL:HG11 | 1:A:65:VAL:HB   | 8        | 0.95          |
| (1,1171) | 1:A:69:VAL:HG12 | 1:A:65:VAL:HB   | 8        | 0.95          |
| (1,1171) | 1:A:69:VAL:HG13 | 1:A:65:VAL:HB   | 8        | 0.95          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1814) | 1:A:32:MET:HB3  | 1:A:29:ALA:HA   | 15       | 0.94          |
| (1,1814) | 1:A:31:LYS:HB3  | 1:A:29:ALA:HA   | 15       | 0.94          |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:31:LYS:HB3  | 10       | 0.94          |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HB2  | 10       | 0.94          |
| (1,1814) | 1:A:32:MET:HB3  | 1:A:29:ALA:HA   | 2        | 0.93          |
| (1,1814) | 1:A:31:LYS:HB3  | 1:A:29:ALA:HA   | 2        | 0.93          |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:31:LYS:HB3  | 5        | 0.93          |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HB2  | 5        | 0.93          |
| (1,1435) | 1:A:80:VAL:HG11 | 1:A:62:ILE:HA   | 13       | 0.93          |
| (1,1435) | 1:A:80:VAL:HG12 | 1:A:62:ILE:HA   | 13       | 0.93          |
| (1,1435) | 1:A:80:VAL:HG13 | 1:A:62:ILE:HA   | 13       | 0.93          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD11 | 14       | 0.92          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD12 | 14       | 0.92          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD13 | 14       | 0.92          |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG11 | 9        | 0.92          |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG12 | 9        | 0.92          |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG13 | 9        | 0.92          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:75:PHE:HB2  | 7        | 0.92          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:78:LYS:HE2  | 7        | 0.92          |
| (1,1288) | 1:A:31:LYS:HB2  | 1:A:28:GLY:HA3  | 3        | 0.92          |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG11 | 12       | 0.91          |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG12 | 12       | 0.91          |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG13 | 12       | 0.91          |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG21 | 5        | 0.91          |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG22 | 5        | 0.91          |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG23 | 5        | 0.91          |
| (1,1852) | 1:A:55:VAL:HG21 | 1:A:56:ASN:HA   | 8        | 0.91          |
| (1,1852) | 1:A:55:VAL:HG22 | 1:A:56:ASN:HA   | 8        | 0.91          |
| (1,1852) | 1:A:55:VAL:HG23 | 1:A:56:ASN:HA   | 8        | 0.91          |
| (1,1852) | 1:A:100:LEU:HG  | 1:A:97:ASN:HA   | 8        | 0.91          |
| (1,1814) | 1:A:32:MET:HB3  | 1:A:29:ALA:HA   | 20       | 0.91          |
| (1,1814) | 1:A:31:LYS:HB3  | 1:A:29:ALA:HA   | 20       | 0.91          |
| (1,1310) | 1:A:69:VAL:HG21 | 1:A:72:LYS:HA   | 16       | 0.91          |
| (1,1310) | 1:A:69:VAL:HG22 | 1:A:72:LYS:HA   | 16       | 0.91          |
| (1,1310) | 1:A:69:VAL:HG23 | 1:A:72:LYS:HA   | 16       | 0.91          |
| (1,458)  | 1:A:24:ALA:H    | 1:A:89:ILE:HG13 | 3        | 0.9           |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG11  | 5        | 0.89          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG12  | 5        | 0.89          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG13  | 5        | 0.89          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG11  | 5        | 0.89          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG12  | 5        | 0.89          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG13  | 5        | 0.89          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG11  | 15       | 0.89          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG12  | 15       | 0.89          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG13  | 15       | 0.89          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG11  | 15       | 0.89          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG12  | 15       | 0.89          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG13  | 15       | 0.89          |
| (1,885)  | 1:A:83:VAL:H    | 1:A:81:LEU:HD11 | 5        | 0.89          |
| (1,885)  | 1:A:83:VAL:H    | 1:A:81:LEU:HD12 | 5        | 0.89          |
| (1,885)  | 1:A:83:VAL:H    | 1:A:81:LEU:HD13 | 5        | 0.89          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG11 | 6        | 0.89          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG12 | 6        | 0.89          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG13 | 6        | 0.89          |
| (1,38)   | 1:A:48:ASN:HD22 | 1:A:37:LYS:HD3  | 16       | 0.89          |
| (1,38)   | 1:A:48:ASN:HD22 | 1:A:37:LYS:HD2  | 16       | 0.89          |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:33:GLY:HA3  | 15       | 0.89          |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HA   | 15       | 0.89          |
| (1,1288) | 1:A:31:LYS:HB2  | 1:A:28:GLY:HA3  | 4        | 0.89          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD11 | 13       | 0.88          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD12 | 13       | 0.88          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD13 | 13       | 0.88          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD11 | 19       | 0.88          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD12 | 19       | 0.88          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD13 | 19       | 0.88          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG11 | 6        | 0.88          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG12 | 6        | 0.88          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG13 | 6        | 0.88          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG11  | 6        | 0.88          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG12  | 6        | 0.88          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG13  | 6        | 0.88          |
| (2,40)   | 1:A:74:ARG:HG2  | 1:A:78:LYS:HE2  | 11       | 0.87          |
| (1,1814) | 1:A:32:MET:HB3  | 1:A:29:ALA:HA   | 11       | 0.87          |
| (1,1814) | 1:A:31:LYS:HB3  | 1:A:29:ALA:HA   | 11       | 0.87          |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD11 | 2        | 0.86          |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD12 | 2        | 0.86          |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD13 | 2        | 0.86          |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD11 | 8        | 0.86          |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD12 | 8        | 0.86          |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD13 | 8        | 0.86          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG11 | 10       | 0.85          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG12 | 10       | 0.85          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG13 | 10       | 0.85          |
| (1,852)  | 1:A:59:GLU:H    | 1:A:59:GLU:HG2  | 16       | 0.85          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,338)  | 1:A:42:GLY:H    | 1:A:41:GLN:HE22 | 4        | 0.85          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG11 | 10       | 0.85          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG12 | 10       | 0.85          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG13 | 10       | 0.85          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG11  | 10       | 0.85          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG12  | 10       | 0.85          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG13  | 10       | 0.85          |
| (1,1257) | 1:A:4:LYS:HB2   | 1:A:58:GLY:HA3  | 15       | 0.85          |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD11 | 14       | 0.84          |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD12 | 14       | 0.84          |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD13 | 14       | 0.84          |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:31:LYS:HB3  | 17       | 0.84          |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HB2  | 17       | 0.84          |
| (1,1310) | 1:A:69:VAL:HG21 | 1:A:72:LYS:HA   | 8        | 0.84          |
| (1,1310) | 1:A:69:VAL:HG22 | 1:A:72:LYS:HA   | 8        | 0.84          |
| (1,1310) | 1:A:69:VAL:HG23 | 1:A:72:LYS:HA   | 8        | 0.84          |
| (1,1257) | 1:A:4:LYS:HB2   | 1:A:58:GLY:HA3  | 6        | 0.84          |
| (1,250)  | 1:A:78:LYS:H    | 1:A:80:VAL:HG21 | 13       | 0.83          |
| (1,250)  | 1:A:78:LYS:H    | 1:A:80:VAL:HG22 | 13       | 0.83          |
| (1,250)  | 1:A:78:LYS:H    | 1:A:80:VAL:HG23 | 13       | 0.83          |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:31:LYS:HB3  | 18       | 0.83          |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HB2  | 18       | 0.83          |
| (1,1396) | 1:A:18:THR:HG21 | 1:A:42:GLY:HA3  | 7        | 0.83          |
| (1,1396) | 1:A:18:THR:HG22 | 1:A:42:GLY:HA3  | 7        | 0.83          |
| (1,1396) | 1:A:18:THR:HG23 | 1:A:42:GLY:HA3  | 7        | 0.83          |
| (1,1310) | 1:A:69:VAL:HG21 | 1:A:72:LYS:HA   | 19       | 0.83          |
| (1,1310) | 1:A:69:VAL:HG22 | 1:A:72:LYS:HA   | 19       | 0.83          |
| (1,1310) | 1:A:69:VAL:HG23 | 1:A:72:LYS:HA   | 19       | 0.83          |
| (1,1257) | 1:A:4:LYS:HB2   | 1:A:58:GLY:HA3  | 10       | 0.83          |
| (1,1193) | 1:A:101:ALA:HA  | 1:A:104:ASP:HB3 | 19       | 0.83          |
| (1,1117) | 1:A:96:ILE:HG21 | 1:A:32:MET:HB3  | 7        | 0.83          |
| (1,1117) | 1:A:96:ILE:HG22 | 1:A:32:MET:HB3  | 7        | 0.83          |
| (1,1117) | 1:A:96:ILE:HG23 | 1:A:32:MET:HB3  | 7        | 0.83          |
| (1,1117) | 1:A:96:ILE:HD11 | 1:A:32:MET:HB3  | 7        | 0.83          |
| (1,1117) | 1:A:96:ILE:HD12 | 1:A:32:MET:HB3  | 7        | 0.83          |
| (1,1117) | 1:A:96:ILE:HD13 | 1:A:32:MET:HB3  | 7        | 0.83          |
| (1,161)  | 1:A:45:GLY:H    | 1:A:42:GLY:HA2  | 4        | 0.82          |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:31:LYS:HB3  | 13       | 0.82          |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HB2  | 13       | 0.82          |
| (1,841)  | 1:A:39:GLU:H    | 1:A:50:LEU:HD11 | 7        | 0.81          |
| (1,841)  | 1:A:39:GLU:H    | 1:A:50:LEU:HD12 | 7        | 0.81          |
| (1,841)  | 1:A:39:GLU:H    | 1:A:50:LEU:HD13 | 7        | 0.81          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,338)  | 1:A:42:GLY:H    | 1:A:41:GLN:HE22 | 1        | 0.81          |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD11 | 13       | 0.81          |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD12 | 13       | 0.81          |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD13 | 13       | 0.81          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG11 | 1        | 0.81          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG12 | 1        | 0.81          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG13 | 1        | 0.81          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG11  | 1        | 0.81          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG12  | 1        | 0.81          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG13  | 1        | 0.81          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:75:PHE:HB2  | 1        | 0.81          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:78:LYS:HE2  | 1        | 0.81          |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:33:GLY:HA3  | 7        | 0.81          |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HA   | 7        | 0.81          |
| (1,1193) | 1:A:101:ALA:HA  | 1:A:104:ASP:HB3 | 13       | 0.81          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG11  | 17       | 0.8           |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG12  | 17       | 0.8           |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG13  | 17       | 0.8           |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG11  | 17       | 0.8           |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG12  | 17       | 0.8           |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG13  | 17       | 0.8           |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG21 | 1        | 0.8           |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG22 | 1        | 0.8           |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG23 | 1        | 0.8           |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD11 | 1        | 0.8           |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD12 | 1        | 0.8           |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD13 | 1        | 0.8           |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD11 | 10       | 0.8           |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD12 | 10       | 0.8           |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD13 | 10       | 0.8           |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD11 | 12       | 0.8           |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD12 | 12       | 0.8           |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD13 | 12       | 0.8           |
| (1,1409) | 1:A:47:GLU:HG2  | 1:A:47:GLU:HA   | 11       | 0.8           |
| (1,123)  | 1:A:102:LEU:H   | 1:A:102:LEU:HB2 | 20       | 0.8           |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG11 | 2        | 0.79          |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG12 | 2        | 0.79          |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG13 | 2        | 0.79          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG21 | 5        | 0.79          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG22 | 5        | 0.79          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG23 | 5        | 0.79          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG11 | 5        | 0.79          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1519) | 1:A:76:ASP:H     | 1:A:79:VAL:HG12  | 5        | 0.79          |
| (1,1519) | 1:A:76:ASP:H     | 1:A:79:VAL:HG13  | 5        | 0.79          |
| (1,1257) | 1:A:4:LYS:HB2    | 1:A:58:GLY:HA3   | 14       | 0.79          |
| (1,977)  | 1:A:26:LYS:HB2   | 1:A:36:ILE:HG21  | 14       | 0.78          |
| (1,977)  | 1:A:26:LYS:HB2   | 1:A:36:ILE:HG22  | 14       | 0.78          |
| (1,977)  | 1:A:26:LYS:HB2   | 1:A:36:ILE:HG23  | 14       | 0.78          |
| (1,875)  | 1:A:51:THR:H     | 1:A:55:VAL:HG11  | 19       | 0.78          |
| (1,875)  | 1:A:51:THR:H     | 1:A:55:VAL:HG12  | 19       | 0.78          |
| (1,875)  | 1:A:51:THR:H     | 1:A:55:VAL:HG13  | 19       | 0.78          |
| (1,494)  | 1:A:34:ASN:H     | 1:A:34:ASN:HB2   | 9        | 0.78          |
| (1,1537) | 1:A:56:ASN:HD22  | 1:A:55:VAL:HG21  | 7        | 0.78          |
| (1,1537) | 1:A:56:ASN:HD22  | 1:A:55:VAL:HG22  | 7        | 0.78          |
| (1,1537) | 1:A:56:ASN:HD22  | 1:A:55:VAL:HG23  | 7        | 0.78          |
| (1,1537) | 1:A:56:ASN:HD22  | 1:A:74:ARG:HB2   | 7        | 0.78          |
| (1,1287) | 1:A:100:LEU:HD21 | 1:A:100:LEU:HA   | 19       | 0.78          |
| (1,1287) | 1:A:100:LEU:HD22 | 1:A:100:LEU:HA   | 19       | 0.78          |
| (1,1287) | 1:A:100:LEU:HD23 | 1:A:100:LEU:HA   | 19       | 0.78          |
| (1,1257) | 1:A:4:LYS:HB2    | 1:A:58:GLY:HA3   | 4        | 0.78          |
| (1,987)  | 1:A:102:LEU:HA   | 1:A:102:LEU:HD21 | 20       | 0.77          |
| (1,987)  | 1:A:102:LEU:HA   | 1:A:102:LEU:HD22 | 20       | 0.77          |
| (1,987)  | 1:A:102:LEU:HA   | 1:A:102:LEU:HD23 | 20       | 0.77          |
| (1,213)  | 1:A:22:ALA:H     | 1:A:25:LEU:HD11  | 5        | 0.77          |
| (1,213)  | 1:A:22:ALA:H     | 1:A:25:LEU:HD12  | 5        | 0.77          |
| (1,213)  | 1:A:22:ALA:H     | 1:A:25:LEU:HD13  | 5        | 0.77          |
| (1,213)  | 1:A:22:ALA:H     | 1:A:25:LEU:HD11  | 15       | 0.77          |
| (1,213)  | 1:A:22:ALA:H     | 1:A:25:LEU:HD12  | 15       | 0.77          |
| (1,213)  | 1:A:22:ALA:H     | 1:A:25:LEU:HD13  | 15       | 0.77          |
| (1,1396) | 1:A:18:THR:HG21  | 1:A:42:GLY:HA3   | 9        | 0.77          |
| (1,1396) | 1:A:18:THR:HG22  | 1:A:42:GLY:HA3   | 9        | 0.77          |
| (1,1396) | 1:A:18:THR:HG23  | 1:A:42:GLY:HA3   | 9        | 0.77          |
| (1,875)  | 1:A:51:THR:H     | 1:A:55:VAL:HG11  | 14       | 0.76          |
| (1,875)  | 1:A:51:THR:H     | 1:A:55:VAL:HG12  | 14       | 0.76          |
| (1,875)  | 1:A:51:THR:H     | 1:A:55:VAL:HG13  | 14       | 0.76          |
| (1,213)  | 1:A:22:ALA:H     | 1:A:25:LEU:HD11  | 9        | 0.76          |
| (1,213)  | 1:A:22:ALA:H     | 1:A:25:LEU:HD12  | 9        | 0.76          |
| (1,213)  | 1:A:22:ALA:H     | 1:A:25:LEU:HD13  | 9        | 0.76          |
| (1,1257) | 1:A:4:LYS:HB2    | 1:A:58:GLY:HA3   | 5        | 0.76          |
| (1,1162) | 1:A:50:LEU:HD11  | 1:A:6:ILE:HB     | 7        | 0.76          |
| (1,1162) | 1:A:50:LEU:HD12  | 1:A:6:ILE:HB     | 7        | 0.76          |
| (1,1162) | 1:A:50:LEU:HD13  | 1:A:6:ILE:HB     | 7        | 0.76          |
| (1,729)  | 1:A:7:ALA:H      | 1:A:25:LEU:HD11  | 9        | 0.75          |
| (1,729)  | 1:A:7:ALA:H      | 1:A:25:LEU:HD12  | 9        | 0.75          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD13 | 9        | 0.75          |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD11 | 4        | 0.75          |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD12 | 4        | 0.75          |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD13 | 4        | 0.75          |
| (1,1808) | 1:A:5:ILE:HB    | 1:A:58:GLY:HA3  | 10       | 0.75          |
| (1,1808) | 1:A:3:ARG:HG3   | 1:A:58:GLY:HA3  | 10       | 0.75          |
| (1,1808) | 1:A:3:ARG:HG2   | 1:A:58:GLY:HA3  | 10       | 0.75          |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:55:VAL:HG21 | 11       | 0.75          |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:55:VAL:HG22 | 11       | 0.75          |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:55:VAL:HG23 | 11       | 0.75          |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:74:ARG:HB2  | 11       | 0.75          |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:57:ILE:HG21 | 11       | 0.75          |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:57:ILE:HG22 | 11       | 0.75          |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:57:ILE:HG23 | 11       | 0.75          |
| (1,1257) | 1:A:4:LYS:HB2   | 1:A:58:GLY:HA3  | 2        | 0.75          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB1  | 1        | 0.75          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB2  | 1        | 0.75          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB3  | 1        | 0.75          |
| (2,40)   | 1:A:74:ARG:HG2  | 1:A:78:LYS:HE2  | 1        | 0.74          |
| (1,39)   | 1:A:48:ASN:HD22 | 1:A:38:VAL:H    | 20       | 0.74          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:75:PHE:HB2  | 13       | 0.74          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:78:LYS:HE2  | 13       | 0.74          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG21 | 11       | 0.74          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG22 | 11       | 0.74          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG23 | 11       | 0.74          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG11 | 11       | 0.74          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG12 | 11       | 0.74          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG13 | 11       | 0.74          |
| (1,1016) | 1:A:37:LYS:HB2  | 1:A:50:LEU:HD21 | 12       | 0.74          |
| (1,1016) | 1:A:37:LYS:HB2  | 1:A:50:LEU:HD22 | 12       | 0.74          |
| (1,1016) | 1:A:37:LYS:HB2  | 1:A:50:LEU:HD23 | 12       | 0.74          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG11  | 11       | 0.73          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG12  | 11       | 0.73          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG13  | 11       | 0.73          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG11  | 11       | 0.73          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG12  | 11       | 0.73          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG13  | 11       | 0.73          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD11 | 12       | 0.73          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD12 | 12       | 0.73          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD13 | 12       | 0.73          |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG11 | 11       | 0.73          |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG12 | 11       | 0.73          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG13 | 11       | 0.73          |
| (1,21)   | 1:A:74:ARG:H    | 1:A:74:ARG:HD3  | 13       | 0.73          |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:31:LYS:HB3  | 8        | 0.73          |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HB2  | 8        | 0.73          |
| (1,1409) | 1:A:47:GLU:HG2  | 1:A:47:GLU:HA   | 14       | 0.73          |
| (1,1018) | 1:A:37:LYS:HE3  | 1:A:50:LEU:HD21 | 7        | 0.73          |
| (1,1018) | 1:A:37:LYS:HE3  | 1:A:50:LEU:HD22 | 7        | 0.73          |
| (1,1018) | 1:A:37:LYS:HE3  | 1:A:50:LEU:HD23 | 7        | 0.73          |
| (1,1018) | 1:A:37:LYS:HE2  | 1:A:50:LEU:HD21 | 7        | 0.73          |
| (1,1018) | 1:A:37:LYS:HE2  | 1:A:50:LEU:HD22 | 7        | 0.73          |
| (1,1018) | 1:A:37:LYS:HE2  | 1:A:50:LEU:HD23 | 7        | 0.73          |
| (1,970)  | 1:A:74:ARG:HD3  | 1:A:55:VAL:HG11 | 18       | 0.72          |
| (1,970)  | 1:A:74:ARG:HD3  | 1:A:55:VAL:HG12 | 18       | 0.72          |
| (1,970)  | 1:A:74:ARG:HD3  | 1:A:55:VAL:HG13 | 18       | 0.72          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG11  | 20       | 0.72          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG12  | 20       | 0.72          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG13  | 20       | 0.72          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG11  | 20       | 0.72          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG12  | 20       | 0.72          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG13  | 20       | 0.72          |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG21 | 11       | 0.72          |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG22 | 11       | 0.72          |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG23 | 11       | 0.72          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG11 | 2        | 0.72          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG12 | 2        | 0.72          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG13 | 2        | 0.72          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG11 | 20       | 0.72          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG12 | 20       | 0.72          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG13 | 20       | 0.72          |
| (1,494)  | 1:A:34:ASN:H    | 1:A:34:ASN:HB2  | 6        | 0.72          |
| (1,1858) | 1:A:79:VAL:HG21 | 1:A:80:VAL:HA   | 17       | 0.72          |
| (1,1858) | 1:A:79:VAL:HG22 | 1:A:80:VAL:HA   | 17       | 0.72          |
| (1,1858) | 1:A:79:VAL:HG23 | 1:A:80:VAL:HA   | 17       | 0.72          |
| (1,1858) | 1:A:60:VAL:HG11 | 1:A:80:VAL:HA   | 17       | 0.72          |
| (1,1858) | 1:A:60:VAL:HG12 | 1:A:80:VAL:HA   | 17       | 0.72          |
| (1,1858) | 1:A:60:VAL:HG13 | 1:A:80:VAL:HA   | 17       | 0.72          |
| (1,1310) | 1:A:69:VAL:HG21 | 1:A:72:LYS:HA   | 1        | 0.72          |
| (1,1310) | 1:A:69:VAL:HG22 | 1:A:72:LYS:HA   | 1        | 0.72          |
| (1,1310) | 1:A:69:VAL:HG23 | 1:A:72:LYS:HA   | 1        | 0.72          |
| (1,1257) | 1:A:4:LYS:HB2   | 1:A:58:GLY:HA3  | 12       | 0.72          |
| (1,1151) | 1:A:38:VAL:HG21 | 1:A:25:LEU:HB2  | 12       | 0.72          |
| (1,1151) | 1:A:38:VAL:HG22 | 1:A:25:LEU:HB2  | 12       | 0.72          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1151) | 1:A:38:VAL:HG23 | 1:A:25:LEU:HB2  | 12       | 0.72          |
| (1,1151) | 1:A:38:VAL:HG11 | 1:A:25:LEU:HB2  | 12       | 0.72          |
| (1,1151) | 1:A:38:VAL:HG12 | 1:A:25:LEU:HB2  | 12       | 0.72          |
| (1,1151) | 1:A:38:VAL:HG13 | 1:A:25:LEU:HB2  | 12       | 0.72          |
| (1,1135) | 1:A:69:VAL:HG21 | 1:A:72:LYS:HB2  | 13       | 0.72          |
| (1,1135) | 1:A:69:VAL:HG22 | 1:A:72:LYS:HB2  | 13       | 0.72          |
| (1,1135) | 1:A:69:VAL:HG23 | 1:A:72:LYS:HB2  | 13       | 0.72          |
| (1,1117) | 1:A:96:ILE:HG21 | 1:A:32:MET:HB3  | 20       | 0.72          |
| (1,1117) | 1:A:96:ILE:HG22 | 1:A:32:MET:HB3  | 20       | 0.72          |
| (1,1117) | 1:A:96:ILE:HG23 | 1:A:32:MET:HB3  | 20       | 0.72          |
| (1,1117) | 1:A:96:ILE:HD11 | 1:A:32:MET:HB3  | 20       | 0.72          |
| (1,1117) | 1:A:96:ILE:HD12 | 1:A:32:MET:HB3  | 20       | 0.72          |
| (1,1117) | 1:A:96:ILE:HD13 | 1:A:32:MET:HB3  | 20       | 0.72          |
| (2,40)   | 1:A:74:ARG:HG2  | 1:A:78:LYS:HE2  | 14       | 0.71          |
| (2,40)   | 1:A:74:ARG:HG2  | 1:A:78:LYS:HE2  | 19       | 0.71          |
| (1,977)  | 1:A:26:LYS:HB2  | 1:A:36:ILE:HG21 | 18       | 0.71          |
| (1,977)  | 1:A:26:LYS:HB2  | 1:A:36:ILE:HG22 | 18       | 0.71          |
| (1,977)  | 1:A:26:LYS:HB2  | 1:A:36:ILE:HG23 | 18       | 0.71          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD11 | 2        | 0.71          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD12 | 2        | 0.71          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD13 | 2        | 0.71          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG11 | 3        | 0.71          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG12 | 3        | 0.71          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG13 | 3        | 0.71          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG11  | 3        | 0.71          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG12  | 3        | 0.71          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG13  | 3        | 0.71          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG11 | 20       | 0.71          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG12 | 20       | 0.71          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG13 | 20       | 0.71          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG11  | 20       | 0.71          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG12  | 20       | 0.71          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG13  | 20       | 0.71          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:75:PHE:HB2  | 10       | 0.71          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:78:LYS:HE2  | 10       | 0.71          |
| (1,1016) | 1:A:37:LYS:HB2  | 1:A:50:LEU:HD21 | 14       | 0.71          |
| (1,1016) | 1:A:37:LYS:HB2  | 1:A:50:LEU:HD22 | 14       | 0.71          |
| (1,1016) | 1:A:37:LYS:HB2  | 1:A:50:LEU:HD23 | 14       | 0.71          |
| (1,980)  | 1:A:70:ARG:HD2  | 1:A:46:ILE:HD11 | 9        | 0.7           |
| (1,980)  | 1:A:70:ARG:HD2  | 1:A:46:ILE:HD12 | 9        | 0.7           |
| (1,980)  | 1:A:70:ARG:HD2  | 1:A:46:ILE:HD13 | 9        | 0.7           |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG11 | 7        | 0.7           |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG12 | 7        | 0.7           |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG13 | 7        | 0.7           |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG21 | 3        | 0.7           |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG22 | 3        | 0.7           |
| (1,221)  | 1:A:75:PHE:H    | 1:A:80:VAL:HG23 | 3        | 0.7           |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD11 | 19       | 0.7           |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD12 | 19       | 0.7           |
| (1,213)  | 1:A:22:ALA:H    | 1:A:25:LEU:HD13 | 19       | 0.7           |
| (1,1808) | 1:A:5:ILE:HB    | 1:A:58:GLY:HA3  | 11       | 0.7           |
| (1,1808) | 1:A:3:ARG:HG3   | 1:A:58:GLY:HA3  | 11       | 0.7           |
| (1,1808) | 1:A:3:ARG:HG2   | 1:A:58:GLY:HA3  | 11       | 0.7           |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG11 | 19       | 0.7           |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG12 | 19       | 0.7           |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG13 | 19       | 0.7           |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG11 | 19       | 0.7           |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG12 | 19       | 0.7           |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG13 | 19       | 0.7           |
| (1,1709) | 1:A:79:VAL:H    | 1:A:75:PHE:HB2  | 8        | 0.7           |
| (1,1709) | 1:A:79:VAL:H    | 1:A:78:LYS:HE2  | 8        | 0.7           |
| (1,1664) | 1:A:36:ILE:H    | 1:A:34:ASN:HB3  | 14       | 0.7           |
| (1,1664) | 1:A:36:ILE:H    | 1:A:25:LEU:HB2  | 14       | 0.7           |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:31:LYS:HB3  | 11       | 0.7           |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HB2  | 11       | 0.7           |
| (1,1288) | 1:A:31:LYS:HB2  | 1:A:28:GLY:HA3  | 6        | 0.7           |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG11  | 4        | 0.69          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG12  | 4        | 0.69          |
| (1,966)  | 1:A:75:PHE:HE1  | 1:A:8:VAL:HG13  | 4        | 0.69          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG11  | 4        | 0.69          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG12  | 4        | 0.69          |
| (1,966)  | 1:A:75:PHE:HE2  | 1:A:8:VAL:HG13  | 4        | 0.69          |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG21 | 9        | 0.69          |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG22 | 9        | 0.69          |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG23 | 9        | 0.69          |
| (1,885)  | 1:A:83:VAL:H    | 1:A:81:LEU:HD11 | 6        | 0.69          |
| (1,885)  | 1:A:83:VAL:H    | 1:A:81:LEU:HD12 | 6        | 0.69          |
| (1,885)  | 1:A:83:VAL:H    | 1:A:81:LEU:HD13 | 6        | 0.69          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG11 | 9        | 0.69          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG12 | 9        | 0.69          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG13 | 9        | 0.69          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG11  | 9        | 0.69          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG12  | 9        | 0.69          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG13  | 9        | 0.69          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1537) | 1:A:56:ASN:HD22 | 1:A:55:VAL:HG21 | 3        | 0.69          |
| (1,1537) | 1:A:56:ASN:HD22 | 1:A:55:VAL:HG22 | 3        | 0.69          |
| (1,1537) | 1:A:56:ASN:HD22 | 1:A:55:VAL:HG23 | 3        | 0.69          |
| (1,1537) | 1:A:56:ASN:HD22 | 1:A:74:ARG:HB2  | 3        | 0.69          |
| (1,1257) | 1:A:4:LYS:HB2   | 1:A:58:GLY:HA3  | 13       | 0.69          |
| (1,1117) | 1:A:96:ILE:HG21 | 1:A:32:MET:HB3  | 10       | 0.69          |
| (1,1117) | 1:A:96:ILE:HG22 | 1:A:32:MET:HB3  | 10       | 0.69          |
| (1,1117) | 1:A:96:ILE:HG23 | 1:A:32:MET:HB3  | 10       | 0.69          |
| (1,1117) | 1:A:96:ILE:HD11 | 1:A:32:MET:HB3  | 10       | 0.69          |
| (1,1117) | 1:A:96:ILE:HD12 | 1:A:32:MET:HB3  | 10       | 0.69          |
| (1,1117) | 1:A:96:ILE:HD13 | 1:A:32:MET:HB3  | 10       | 0.69          |
| (2,40)   | 1:A:74:ARG:HG2  | 1:A:78:LYS:HE2  | 12       | 0.68          |
| (1,1808) | 1:A:5:ILE:HB    | 1:A:58:GLY:HA3  | 16       | 0.68          |
| (1,1808) | 1:A:3:ARG:HG3   | 1:A:58:GLY:HA3  | 16       | 0.68          |
| (1,1808) | 1:A:3:ARG:HG2   | 1:A:58:GLY:HA3  | 16       | 0.68          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG11 | 5        | 0.68          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG12 | 5        | 0.68          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG13 | 5        | 0.68          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG11  | 5        | 0.68          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG12  | 5        | 0.68          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG13  | 5        | 0.68          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG21 | 15       | 0.68          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG22 | 15       | 0.68          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG23 | 15       | 0.68          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG11 | 15       | 0.68          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG12 | 15       | 0.68          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG13 | 15       | 0.68          |
| (1,1117) | 1:A:96:ILE:HG21 | 1:A:32:MET:HB3  | 11       | 0.68          |
| (1,1117) | 1:A:96:ILE:HG22 | 1:A:32:MET:HB3  | 11       | 0.68          |
| (1,1117) | 1:A:96:ILE:HG23 | 1:A:32:MET:HB3  | 11       | 0.68          |
| (1,1117) | 1:A:96:ILE:HD11 | 1:A:32:MET:HB3  | 11       | 0.68          |
| (1,1117) | 1:A:96:ILE:HD12 | 1:A:32:MET:HB3  | 11       | 0.68          |
| (1,1117) | 1:A:96:ILE:HD13 | 1:A:32:MET:HB3  | 11       | 0.68          |
| (2,40)   | 1:A:74:ARG:HG2  | 1:A:78:LYS:HE2  | 6        | 0.67          |
| (1,977)  | 1:A:26:LYS:HB2  | 1:A:36:ILE:HG21 | 15       | 0.67          |
| (1,977)  | 1:A:26:LYS:HB2  | 1:A:36:ILE:HG22 | 15       | 0.67          |
| (1,977)  | 1:A:26:LYS:HB2  | 1:A:36:ILE:HG23 | 15       | 0.67          |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG21 | 2        | 0.67          |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG22 | 2        | 0.67          |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG23 | 2        | 0.67          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG11 | 12       | 0.67          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG12 | 12       | 0.67          |

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| Key      | Atom-1         | Atom-2          | Model ID | Violation (Å) |
|----------|----------------|-----------------|----------|---------------|
| (1,875)  | 1:A:51:THR:H   | 1:A:55:VAL:HG13 | 12       | 0.67          |
| (1,875)  | 1:A:51:THR:H   | 1:A:55:VAL:HG11 | 15       | 0.67          |
| (1,875)  | 1:A:51:THR:H   | 1:A:55:VAL:HG12 | 15       | 0.67          |
| (1,875)  | 1:A:51:THR:H   | 1:A:55:VAL:HG13 | 15       | 0.67          |
| (1,729)  | 1:A:7:ALA:H    | 1:A:25:LEU:HD11 | 4        | 0.67          |
| (1,729)  | 1:A:7:ALA:H    | 1:A:25:LEU:HD12 | 4        | 0.67          |
| (1,729)  | 1:A:7:ALA:H    | 1:A:25:LEU:HD13 | 4        | 0.67          |
| (1,24)   | 1:A:74:ARG:H   | 1:A:74:ARG:HG2  | 18       | 0.67          |
| (1,161)  | 1:A:45:GLY:H   | 1:A:42:GLY:HA2  | 2        | 0.67          |
| (1,161)  | 1:A:45:GLY:H   | 1:A:42:GLY:HA2  | 12       | 0.67          |
| (1,161)  | 1:A:45:GLY:H   | 1:A:42:GLY:HA2  | 15       | 0.67          |
| (1,1519) | 1:A:76:ASP:H   | 1:A:55:VAL:HG21 | 20       | 0.67          |
| (1,1519) | 1:A:76:ASP:H   | 1:A:55:VAL:HG22 | 20       | 0.67          |
| (1,1519) | 1:A:76:ASP:H   | 1:A:55:VAL:HG23 | 20       | 0.67          |
| (1,1519) | 1:A:76:ASP:H   | 1:A:79:VAL:HG11 | 20       | 0.67          |
| (1,1519) | 1:A:76:ASP:H   | 1:A:79:VAL:HG12 | 20       | 0.67          |
| (1,1519) | 1:A:76:ASP:H   | 1:A:79:VAL:HG13 | 20       | 0.67          |
| (1,1257) | 1:A:4:LYS:HB2  | 1:A:58:GLY:HA3  | 20       | 0.67          |
| (1,1016) | 1:A:37:LYS:HB2 | 1:A:50:LEU:HD21 | 4        | 0.67          |
| (1,1016) | 1:A:37:LYS:HB2 | 1:A:50:LEU:HD22 | 4        | 0.67          |
| (1,1016) | 1:A:37:LYS:HB2 | 1:A:50:LEU:HD23 | 4        | 0.67          |
| (1,1016) | 1:A:37:LYS:HB2 | 1:A:50:LEU:HD21 | 19       | 0.67          |
| (1,1016) | 1:A:37:LYS:HB2 | 1:A:50:LEU:HD22 | 19       | 0.67          |
| (1,1016) | 1:A:37:LYS:HB2 | 1:A:50:LEU:HD23 | 19       | 0.67          |
| (1,970)  | 1:A:74:ARG:HD3 | 1:A:55:VAL:HG11 | 3        | 0.66          |
| (1,970)  | 1:A:74:ARG:HD3 | 1:A:55:VAL:HG12 | 3        | 0.66          |
| (1,970)  | 1:A:74:ARG:HD3 | 1:A:55:VAL:HG13 | 3        | 0.66          |
| (1,852)  | 1:A:59:GLU:H   | 1:A:59:GLU:HG2  | 13       | 0.66          |
| (1,458)  | 1:A:24:ALA:H   | 1:A:89:ILE:HG13 | 16       | 0.66          |
| (1,1808) | 1:A:5:ILE:HB   | 1:A:58:GLY:HA3  | 4        | 0.66          |
| (1,1808) | 1:A:3:ARG:HG3  | 1:A:58:GLY:HA3  | 4        | 0.66          |
| (1,1808) | 1:A:3:ARG:HG2  | 1:A:58:GLY:HA3  | 4        | 0.66          |
| (1,1735) | 1:A:50:LEU:H   | 1:A:55:VAL:HG11 | 11       | 0.66          |
| (1,1735) | 1:A:50:LEU:H   | 1:A:55:VAL:HG12 | 11       | 0.66          |
| (1,1735) | 1:A:50:LEU:H   | 1:A:55:VAL:HG13 | 11       | 0.66          |
| (1,1735) | 1:A:50:LEU:H   | 1:A:8:VAL:HG11  | 11       | 0.66          |
| (1,1735) | 1:A:50:LEU:H   | 1:A:8:VAL:HG12  | 11       | 0.66          |
| (1,1735) | 1:A:50:LEU:H   | 1:A:8:VAL:HG13  | 11       | 0.66          |
| (1,1735) | 1:A:50:LEU:H   | 1:A:55:VAL:HG11 | 17       | 0.66          |
| (1,1735) | 1:A:50:LEU:H   | 1:A:55:VAL:HG12 | 17       | 0.66          |
| (1,1735) | 1:A:50:LEU:H   | 1:A:55:VAL:HG13 | 17       | 0.66          |
| (1,1735) | 1:A:50:LEU:H   | 1:A:8:VAL:HG11  | 17       | 0.66          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG12  | 17       | 0.66          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG13  | 17       | 0.66          |
| (1,1193) | 1:A:101:ALA:HA  | 1:A:104:ASP:HB3 | 16       | 0.66          |
| (1,906)  | 1:A:70:ARG:H    | 1:A:8:VAL:HG21  | 18       | 0.65          |
| (1,906)  | 1:A:70:ARG:H    | 1:A:8:VAL:HG22  | 18       | 0.65          |
| (1,906)  | 1:A:70:ARG:H    | 1:A:8:VAL:HG23  | 18       | 0.65          |
| (1,885)  | 1:A:83:VAL:H    | 1:A:81:LEU:HD11 | 13       | 0.65          |
| (1,885)  | 1:A:83:VAL:H    | 1:A:81:LEU:HD12 | 13       | 0.65          |
| (1,885)  | 1:A:83:VAL:H    | 1:A:81:LEU:HD13 | 13       | 0.65          |
| (1,1852) | 1:A:55:VAL:HG21 | 1:A:56:ASN:HA   | 2        | 0.65          |
| (1,1852) | 1:A:55:VAL:HG22 | 1:A:56:ASN:HA   | 2        | 0.65          |
| (1,1852) | 1:A:55:VAL:HG23 | 1:A:56:ASN:HA   | 2        | 0.65          |
| (1,1852) | 1:A:100:LEU:HG  | 1:A:97:ASN:HA   | 2        | 0.65          |
| (1,1257) | 1:A:4:LYS:HB2   | 1:A:58:GLY:HA3  | 8        | 0.65          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG11 | 12       | 0.64          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG12 | 12       | 0.64          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG13 | 12       | 0.64          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG11  | 12       | 0.64          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG12  | 12       | 0.64          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG13  | 12       | 0.64          |
| (1,1193) | 1:A:101:ALA:HA  | 1:A:104:ASP:HB3 | 6        | 0.64          |
| (1,1001) | 1:A:4:LYS:HE2   | 1:A:35:LEU:HD11 | 9        | 0.64          |
| (1,1001) | 1:A:4:LYS:HE2   | 1:A:35:LEU:HD12 | 9        | 0.64          |
| (1,1001) | 1:A:4:LYS:HE2   | 1:A:35:LEU:HD13 | 9        | 0.64          |
| (1,1001) | 1:A:4:LYS:HE3   | 1:A:35:LEU:HD11 | 9        | 0.64          |
| (1,1001) | 1:A:4:LYS:HE3   | 1:A:35:LEU:HD12 | 9        | 0.64          |
| (1,1001) | 1:A:4:LYS:HE3   | 1:A:35:LEU:HD13 | 9        | 0.64          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG11 | 17       | 0.63          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG12 | 17       | 0.63          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG13 | 17       | 0.63          |
| (1,494)  | 1:A:34:ASN:H    | 1:A:34:ASN:HB2  | 14       | 0.63          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG21 | 2        | 0.63          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG22 | 2        | 0.63          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG23 | 2        | 0.63          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG11 | 2        | 0.63          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG12 | 2        | 0.63          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG13 | 2        | 0.63          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG21 | 6        | 0.63          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG22 | 6        | 0.63          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG23 | 6        | 0.63          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG11 | 6        | 0.63          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG12 | 6        | 0.63          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG13 | 6        | 0.63          |
| (1,1396) | 1:A:18:THR:HG21 | 1:A:42:GLY:HA3  | 17       | 0.63          |
| (1,1396) | 1:A:18:THR:HG22 | 1:A:42:GLY:HA3  | 17       | 0.63          |
| (1,1396) | 1:A:18:THR:HG23 | 1:A:42:GLY:HA3  | 17       | 0.63          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG11 | 1        | 0.62          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG12 | 1        | 0.62          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG13 | 1        | 0.62          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG11 | 4        | 0.62          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG12 | 4        | 0.62          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG13 | 4        | 0.62          |
| (1,1624) | 1:A:65:VAL:H    | 1:A:82:GLU:HG3  | 14       | 0.62          |
| (1,1624) | 1:A:65:VAL:H    | 1:A:82:GLU:HB2  | 14       | 0.62          |
| (1,1624) | 1:A:65:VAL:H    | 1:A:84:PRO:HG3  | 14       | 0.62          |
| (1,1559) | 1:A:75:PHE:H    | 1:A:6:ILE:HD11  | 5        | 0.62          |
| (1,1559) | 1:A:75:PHE:H    | 1:A:6:ILE:HD12  | 5        | 0.62          |
| (1,1559) | 1:A:75:PHE:H    | 1:A:6:ILE:HD13  | 5        | 0.62          |
| (1,1559) | 1:A:75:PHE:H    | 1:A:50:LEU:HD11 | 5        | 0.62          |
| (1,1559) | 1:A:75:PHE:H    | 1:A:50:LEU:HD12 | 5        | 0.62          |
| (1,1559) | 1:A:75:PHE:H    | 1:A:50:LEU:HD13 | 5        | 0.62          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB1  | 17       | 0.62          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB2  | 17       | 0.62          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB3  | 17       | 0.62          |
| (1,934)  | 1:A:72:LYS:HG3  | 1:A:69:VAL:HG21 | 1        | 0.61          |
| (1,934)  | 1:A:72:LYS:HG3  | 1:A:69:VAL:HG22 | 1        | 0.61          |
| (1,934)  | 1:A:72:LYS:HG3  | 1:A:69:VAL:HG23 | 1        | 0.61          |
| (1,934)  | 1:A:72:LYS:HG2  | 1:A:69:VAL:HG21 | 1        | 0.61          |
| (1,934)  | 1:A:72:LYS:HG2  | 1:A:69:VAL:HG22 | 1        | 0.61          |
| (1,934)  | 1:A:72:LYS:HG2  | 1:A:69:VAL:HG23 | 1        | 0.61          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG11 | 5        | 0.61          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG12 | 5        | 0.61          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG13 | 5        | 0.61          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD11 | 1        | 0.61          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD12 | 1        | 0.61          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD13 | 1        | 0.61          |
| (1,494)  | 1:A:34:ASN:H    | 1:A:34:ASN:HB2  | 3        | 0.61          |
| (1,1808) | 1:A:5:ILE:HB    | 1:A:58:GLY:HA3  | 9        | 0.61          |
| (1,1808) | 1:A:3:ARG:HG3   | 1:A:58:GLY:HA3  | 9        | 0.61          |
| (1,1808) | 1:A:3:ARG:HG2   | 1:A:58:GLY:HA3  | 9        | 0.61          |
| (1,1804) | 1:A:55:VAL:HG21 | 1:A:78:LYS:HE2  | 16       | 0.61          |
| (1,1804) | 1:A:55:VAL:HG22 | 1:A:78:LYS:HE2  | 16       | 0.61          |
| (1,1804) | 1:A:55:VAL:HG23 | 1:A:78:LYS:HE2  | 16       | 0.61          |
| (1,1804) | 1:A:74:ARG:HB2  | 1:A:78:LYS:HE2  | 16       | 0.61          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG11 | 8        | 0.61          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG12 | 8        | 0.61          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG13 | 8        | 0.61          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG11  | 8        | 0.61          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG12  | 8        | 0.61          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG13  | 8        | 0.61          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG11 | 18       | 0.61          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG12 | 18       | 0.61          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG13 | 18       | 0.61          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG11  | 18       | 0.61          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG12  | 18       | 0.61          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG13  | 18       | 0.61          |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:8:VAL:HG21  | 18       | 0.61          |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:8:VAL:HG22  | 18       | 0.61          |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:8:VAL:HG23  | 18       | 0.61          |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:65:VAL:HG11 | 18       | 0.61          |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:65:VAL:HG12 | 18       | 0.61          |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:65:VAL:HG13 | 18       | 0.61          |
| (1,1257) | 1:A:4:LYS:HB2   | 1:A:58:GLY:HA3  | 9        | 0.61          |
| (1,863)  | 1:A:41:GLN:HE22 | 1:A:70:ARG:HB3  | 7        | 0.6           |
| (1,852)  | 1:A:59:GLU:H    | 1:A:59:GLU:HG2  | 10       | 0.6           |
| (1,782)  | 1:A:4:LYS:H     | 1:A:59:GLU:HG2  | 13       | 0.6           |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD11 | 8        | 0.6           |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD12 | 8        | 0.6           |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD13 | 8        | 0.6           |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG11 | 1        | 0.6           |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG12 | 1        | 0.6           |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG13 | 1        | 0.6           |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG11 | 3        | 0.6           |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG12 | 3        | 0.6           |
| (1,682)  | 1:A:82:GLU:H    | 1:A:80:VAL:HG13 | 3        | 0.6           |
| (1,458)  | 1:A:24:ALA:H    | 1:A:89:ILE:HG13 | 17       | 0.6           |
| (1,21)   | 1:A:74:ARG:H    | 1:A:74:ARG:HD3  | 18       | 0.6           |
| (1,1852) | 1:A:55:VAL:HG21 | 1:A:56:ASN:HA   | 15       | 0.6           |
| (1,1852) | 1:A:55:VAL:HG22 | 1:A:56:ASN:HA   | 15       | 0.6           |
| (1,1852) | 1:A:55:VAL:HG23 | 1:A:56:ASN:HA   | 15       | 0.6           |
| (1,1852) | 1:A:100:LEU:HG  | 1:A:97:ASN:HA   | 15       | 0.6           |
| (1,1808) | 1:A:5:ILE:HB    | 1:A:58:GLY:HA3  | 5        | 0.6           |
| (1,1808) | 1:A:3:ARG:HG3   | 1:A:58:GLY:HA3  | 5        | 0.6           |
| (1,1808) | 1:A:3:ARG:HG2   | 1:A:58:GLY:HA3  | 5        | 0.6           |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG21 | 4        | 0.6           |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG22 | 4        | 0.6           |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG23 | 4        | 0.6           |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG11 | 4        | 0.6           |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG12 | 4        | 0.6           |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG13 | 4        | 0.6           |
| (1,1435) | 1:A:80:VAL:HG11 | 1:A:62:ILE:HA   | 6        | 0.6           |
| (1,1435) | 1:A:80:VAL:HG12 | 1:A:62:ILE:HA   | 6        | 0.6           |
| (1,1435) | 1:A:80:VAL:HG13 | 1:A:62:ILE:HA   | 6        | 0.6           |
| (1,1396) | 1:A:18:THR:HG21 | 1:A:42:GLY:HA3  | 18       | 0.6           |
| (1,1396) | 1:A:18:THR:HG22 | 1:A:42:GLY:HA3  | 18       | 0.6           |
| (1,1396) | 1:A:18:THR:HG23 | 1:A:42:GLY:HA3  | 18       | 0.6           |
| (1,1257) | 1:A:4:LYS:HB2   | 1:A:58:GLY:HA3  | 3        | 0.6           |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG21 | 12       | 0.59          |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG22 | 12       | 0.59          |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG23 | 12       | 0.59          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG11 | 8        | 0.59          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG12 | 8        | 0.59          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG13 | 8        | 0.59          |
| (1,768)  | 1:A:92:ALA:H    | 1:A:93:GLU:HB3  | 15       | 0.59          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD11 | 15       | 0.59          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD12 | 15       | 0.59          |
| (1,729)  | 1:A:7:ALA:H     | 1:A:25:LEU:HD13 | 15       | 0.59          |
| (1,1808) | 1:A:5:ILE:HB    | 1:A:58:GLY:HA3  | 12       | 0.59          |
| (1,1808) | 1:A:3:ARG:HG3   | 1:A:58:GLY:HA3  | 12       | 0.59          |
| (1,1808) | 1:A:3:ARG:HG2   | 1:A:58:GLY:HA3  | 12       | 0.59          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG11 | 16       | 0.59          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG12 | 16       | 0.59          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG13 | 16       | 0.59          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG11  | 16       | 0.59          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG12  | 16       | 0.59          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG13  | 16       | 0.59          |
| (1,1658) | 1:A:69:VAL:H    | 1:A:69:VAL:HB   | 17       | 0.59          |
| (1,1658) | 1:A:69:VAL:H    | 1:A:68:LYS:HG2  | 17       | 0.59          |
| (1,1559) | 1:A:75:PHE:H    | 1:A:6:ILE:HD11  | 18       | 0.59          |
| (1,1559) | 1:A:75:PHE:H    | 1:A:6:ILE:HD12  | 18       | 0.59          |
| (1,1559) | 1:A:75:PHE:H    | 1:A:6:ILE:HD13  | 18       | 0.59          |
| (1,1559) | 1:A:75:PHE:H    | 1:A:50:LEU:HD11 | 18       | 0.59          |
| (1,1559) | 1:A:75:PHE:H    | 1:A:50:LEU:HD12 | 18       | 0.59          |
| (1,1559) | 1:A:75:PHE:H    | 1:A:50:LEU:HD13 | 18       | 0.59          |
| (1,1435) | 1:A:80:VAL:HG11 | 1:A:62:ILE:HA   | 5        | 0.59          |
| (1,1435) | 1:A:80:VAL:HG12 | 1:A:62:ILE:HA   | 5        | 0.59          |
| (1,1435) | 1:A:80:VAL:HG13 | 1:A:62:ILE:HA   | 5        | 0.59          |
| (1,1319) | 1:A:105:GLU:HG2 | 1:A:101:ALA:HA  | 10       | 0.59          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (2,40)   | 1:A:74:ARG:HG2  | 1:A:78:LYS:HE2  | 5        | 0.58          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG11 | 11       | 0.58          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG12 | 11       | 0.58          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG13 | 11       | 0.58          |
| (1,796)  | 1:A:79:VAL:H    | 1:A:78:LYS:HE3  | 16       | 0.58          |
| (1,462)  | 1:A:24:ALA:H    | 1:A:23:GLN:HG3  | 16       | 0.58          |
| (1,1808) | 1:A:5:ILE:HB    | 1:A:58:GLY:HA3  | 2        | 0.58          |
| (1,1808) | 1:A:3:ARG:HG3   | 1:A:58:GLY:HA3  | 2        | 0.58          |
| (1,1808) | 1:A:3:ARG:HG2   | 1:A:58:GLY:HA3  | 2        | 0.58          |
| (1,1656) | 1:A:69:VAL:H    | 1:A:68:LYS:HE3  | 6        | 0.58          |
| (1,1656) | 1:A:69:VAL:H    | 1:A:72:LYS:HE3  | 6        | 0.58          |
| (1,1656) | 1:A:69:VAL:H    | 1:A:72:LYS:HE2  | 6        | 0.58          |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:33:GLY:HA3  | 8        | 0.58          |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HA   | 8        | 0.58          |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:8:VAL:HG21  | 15       | 0.58          |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:8:VAL:HG22  | 15       | 0.58          |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:8:VAL:HG23  | 15       | 0.58          |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:65:VAL:HG11 | 15       | 0.58          |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:65:VAL:HG12 | 15       | 0.58          |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:65:VAL:HG13 | 15       | 0.58          |
| (1,1193) | 1:A:101:ALA:HA  | 1:A:104:ASP:HB3 | 15       | 0.58          |
| (1,961)  | 1:A:78:LYS:HE3  | 1:A:61:VAL:HG21 | 3        | 0.57          |
| (1,961)  | 1:A:78:LYS:HE3  | 1:A:61:VAL:HG22 | 3        | 0.57          |
| (1,961)  | 1:A:78:LYS:HE3  | 1:A:61:VAL:HG23 | 3        | 0.57          |
| (1,651)  | 1:A:93:GLU:H    | 1:A:91:ASP:HB2  | 7        | 0.57          |
| (1,494)  | 1:A:34:ASN:H    | 1:A:34:ASN:HB2  | 2        | 0.57          |
| (1,458)  | 1:A:24:ALA:H    | 1:A:89:ILE:HG13 | 20       | 0.57          |
| (1,1808) | 1:A:5:ILE:HB    | 1:A:58:GLY:HA3  | 8        | 0.57          |
| (1,1808) | 1:A:3:ARG:HG3   | 1:A:58:GLY:HA3  | 8        | 0.57          |
| (1,1808) | 1:A:3:ARG:HG2   | 1:A:58:GLY:HA3  | 8        | 0.57          |
| (1,1808) | 1:A:5:ILE:HB    | 1:A:58:GLY:HA3  | 13       | 0.57          |
| (1,1808) | 1:A:3:ARG:HG3   | 1:A:58:GLY:HA3  | 13       | 0.57          |
| (1,1808) | 1:A:3:ARG:HG2   | 1:A:58:GLY:HA3  | 13       | 0.57          |
| (1,1658) | 1:A:69:VAL:H    | 1:A:69:VAL:HB   | 10       | 0.57          |
| (1,1658) | 1:A:69:VAL:H    | 1:A:68:LYS:HG2  | 10       | 0.57          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG21 | 9        | 0.57          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG22 | 9        | 0.57          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG23 | 9        | 0.57          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG11 | 9        | 0.57          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG12 | 9        | 0.57          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG13 | 9        | 0.57          |
| (1,1257) | 1:A:4:LYS:HB2   | 1:A:58:GLY:HA3  | 18       | 0.57          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (2,40)   | 1:A:74:ARG:HG2  | 1:A:78:LYS:HE2  | 8        | 0.56          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG11 | 13       | 0.56          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG12 | 13       | 0.56          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG13 | 13       | 0.56          |
| (1,462)  | 1:A:24:ALA:H    | 1:A:23:GLN:HG3  | 20       | 0.56          |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:33:GLY:HA3  | 19       | 0.56          |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HA   | 19       | 0.56          |
| (1,1487) | 1:A:82:GLU:HG2  | 1:A:82:GLU:HA   | 3        | 0.56          |
| (1,1487) | 1:A:82:GLU:HG2  | 1:A:82:GLU:HA   | 11       | 0.56          |
| (1,1135) | 1:A:69:VAL:HG21 | 1:A:72:LYS:HB2  | 5        | 0.56          |
| (1,1135) | 1:A:69:VAL:HG22 | 1:A:72:LYS:HB2  | 5        | 0.56          |
| (1,1135) | 1:A:69:VAL:HG23 | 1:A:72:LYS:HB2  | 5        | 0.56          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB1  | 3        | 0.56          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB2  | 3        | 0.56          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB3  | 3        | 0.56          |
| (2,40)   | 1:A:74:ARG:HG2  | 1:A:78:LYS:HE2  | 20       | 0.55          |
| (1,782)  | 1:A:4:LYS:H     | 1:A:59:GLU:HG2  | 19       | 0.55          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG11 | 14       | 0.55          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG12 | 14       | 0.55          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG13 | 14       | 0.55          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG11  | 14       | 0.55          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG12  | 14       | 0.55          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG13  | 14       | 0.55          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:75:PHE:HB2  | 3        | 0.55          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:78:LYS:HE2  | 3        | 0.55          |
| (1,1658) | 1:A:69:VAL:H    | 1:A:69:VAL:HB   | 15       | 0.55          |
| (1,1658) | 1:A:69:VAL:H    | 1:A:68:LYS:HG2  | 15       | 0.55          |
| (1,1656) | 1:A:69:VAL:H    | 1:A:68:LYS:HE3  | 8        | 0.55          |
| (1,1656) | 1:A:69:VAL:H    | 1:A:72:LYS:HE3  | 8        | 0.55          |
| (1,1656) | 1:A:69:VAL:H    | 1:A:72:LYS:HE2  | 8        | 0.55          |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:8:VAL:HG21  | 7        | 0.55          |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:8:VAL:HG22  | 7        | 0.55          |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:8:VAL:HG23  | 7        | 0.55          |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:65:VAL:HG11 | 7        | 0.55          |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:65:VAL:HG12 | 7        | 0.55          |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:65:VAL:HG13 | 7        | 0.55          |
| (1,1257) | 1:A:4:LYS:HB2   | 1:A:58:GLY:HA3  | 16       | 0.55          |
| (1,1117) | 1:A:96:ILE:HG21 | 1:A:32:MET:HB3  | 8        | 0.55          |
| (1,1117) | 1:A:96:ILE:HG22 | 1:A:32:MET:HB3  | 8        | 0.55          |
| (1,1117) | 1:A:96:ILE:HG23 | 1:A:32:MET:HB3  | 8        | 0.55          |
| (1,1117) | 1:A:96:ILE:HD11 | 1:A:32:MET:HB3  | 8        | 0.55          |
| (1,1117) | 1:A:96:ILE:HD12 | 1:A:32:MET:HB3  | 8        | 0.55          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1117) | 1:A:96:ILE:HD13 | 1:A:32:MET:HB3  | 8        | 0.55          |
| (1,108)  | 1:A:74:ARG:HE   | 1:A:74:ARG:HB3  | 7        | 0.55          |
| (2,40)   | 1:A:74:ARG:HG2  | 1:A:78:LYS:HE2  | 2        | 0.54          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG11 | 3        | 0.54          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG12 | 3        | 0.54          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG13 | 3        | 0.54          |
| (1,24)   | 1:A:74:ARG:H    | 1:A:74:ARG:HG2  | 3        | 0.54          |
| (1,201)  | 1:A:60:VAL:H    | 1:A:60:VAL:HG21 | 17       | 0.54          |
| (1,201)  | 1:A:60:VAL:H    | 1:A:60:VAL:HG22 | 17       | 0.54          |
| (1,201)  | 1:A:60:VAL:H    | 1:A:60:VAL:HG23 | 17       | 0.54          |
| (1,1840) | 1:A:55:VAL:HG21 | 1:A:75:PHE:HA   | 5        | 0.54          |
| (1,1840) | 1:A:55:VAL:HG22 | 1:A:75:PHE:HA   | 5        | 0.54          |
| (1,1840) | 1:A:55:VAL:HG23 | 1:A:75:PHE:HA   | 5        | 0.54          |
| (1,1840) | 1:A:74:ARG:HB2  | 1:A:75:PHE:HA   | 5        | 0.54          |
| (1,1840) | 1:A:35:LEU:HD11 | 1:A:2:LYS:HA    | 5        | 0.54          |
| (1,1840) | 1:A:35:LEU:HD12 | 1:A:2:LYS:HA    | 5        | 0.54          |
| (1,1840) | 1:A:35:LEU:HD13 | 1:A:2:LYS:HA    | 5        | 0.54          |
| (1,1840) | 1:A:35:LEU:HD21 | 1:A:2:LYS:HA    | 5        | 0.54          |
| (1,1840) | 1:A:35:LEU:HD22 | 1:A:2:LYS:HA    | 5        | 0.54          |
| (1,1840) | 1:A:35:LEU:HD23 | 1:A:2:LYS:HA    | 5        | 0.54          |
| (1,1840) | 1:A:89:ILE:HG21 | 1:A:87:ALA:HA   | 5        | 0.54          |
| (1,1840) | 1:A:89:ILE:HG22 | 1:A:87:ALA:HA   | 5        | 0.54          |
| (1,1840) | 1:A:89:ILE:HG23 | 1:A:87:ALA:HA   | 5        | 0.54          |
| (1,1840) | 1:A:85:VAL:HG11 | 1:A:87:ALA:HA   | 5        | 0.54          |
| (1,1840) | 1:A:85:VAL:HG12 | 1:A:87:ALA:HA   | 5        | 0.54          |
| (1,1840) | 1:A:85:VAL:HG13 | 1:A:87:ALA:HA   | 5        | 0.54          |
| (1,1808) | 1:A:5:ILE:HB    | 1:A:58:GLY:HA3  | 6        | 0.54          |
| (1,1808) | 1:A:3:ARG:HG3   | 1:A:58:GLY:HA3  | 6        | 0.54          |
| (1,1808) | 1:A:3:ARG:HG2   | 1:A:58:GLY:HA3  | 6        | 0.54          |
| (1,1487) | 1:A:82:GLU:HG2  | 1:A:82:GLU:HA   | 6        | 0.54          |
| (1,1416) | 1:A:50:LEU:HD21 | 1:A:50:LEU:HA   | 18       | 0.54          |
| (1,1416) | 1:A:50:LEU:HD22 | 1:A:50:LEU:HA   | 18       | 0.54          |
| (1,1416) | 1:A:50:LEU:HD23 | 1:A:50:LEU:HA   | 18       | 0.54          |
| (1,1401) | 1:A:50:LEU:HD21 | 1:A:37:LYS:HA   | 7        | 0.54          |
| (1,1401) | 1:A:50:LEU:HD22 | 1:A:37:LYS:HA   | 7        | 0.54          |
| (1,1401) | 1:A:50:LEU:HD23 | 1:A:37:LYS:HA   | 7        | 0.54          |
| (2,40)   | 1:A:74:ARG:HG2  | 1:A:78:LYS:HE2  | 15       | 0.53          |
| (1,977)  | 1:A:26:LYS:HB2  | 1:A:36:ILE:HG21 | 3        | 0.53          |
| (1,977)  | 1:A:26:LYS:HB2  | 1:A:36:ILE:HG22 | 3        | 0.53          |
| (1,977)  | 1:A:26:LYS:HB2  | 1:A:36:ILE:HG23 | 3        | 0.53          |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG21 | 3        | 0.53          |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG22 | 3        | 0.53          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG23 | 3        | 0.53          |
| (1,679)  | 1:A:82:GLU:H    | 1:A:81:LEU:HD21 | 18       | 0.53          |
| (1,679)  | 1:A:82:GLU:H    | 1:A:81:LEU:HD22 | 18       | 0.53          |
| (1,679)  | 1:A:82:GLU:H    | 1:A:81:LEU:HD23 | 18       | 0.53          |
| (1,355)  | 1:A:53:LYS:H    | 1:A:52:GLU:HB3  | 10       | 0.53          |
| (1,338)  | 1:A:42:GLY:H    | 1:A:41:GLN:HE22 | 9        | 0.53          |
| (1,1840) | 1:A:55:VAL:HG21 | 1:A:75:PHE:HA   | 10       | 0.53          |
| (1,1840) | 1:A:55:VAL:HG22 | 1:A:75:PHE:HA   | 10       | 0.53          |
| (1,1840) | 1:A:55:VAL:HG23 | 1:A:75:PHE:HA   | 10       | 0.53          |
| (1,1840) | 1:A:74:ARG:HB2  | 1:A:75:PHE:HA   | 10       | 0.53          |
| (1,1840) | 1:A:35:LEU:HD11 | 1:A:2:LYS:HA    | 10       | 0.53          |
| (1,1840) | 1:A:35:LEU:HD12 | 1:A:2:LYS:HA    | 10       | 0.53          |
| (1,1840) | 1:A:35:LEU:HD13 | 1:A:2:LYS:HA    | 10       | 0.53          |
| (1,1840) | 1:A:35:LEU:HD21 | 1:A:2:LYS:HA    | 10       | 0.53          |
| (1,1840) | 1:A:35:LEU:HD22 | 1:A:2:LYS:HA    | 10       | 0.53          |
| (1,1840) | 1:A:35:LEU:HD23 | 1:A:2:LYS:HA    | 10       | 0.53          |
| (1,1840) | 1:A:89:ILE:HG21 | 1:A:87:ALA:HA   | 10       | 0.53          |
| (1,1840) | 1:A:89:ILE:HG22 | 1:A:87:ALA:HA   | 10       | 0.53          |
| (1,1840) | 1:A:89:ILE:HG23 | 1:A:87:ALA:HA   | 10       | 0.53          |
| (1,1840) | 1:A:85:VAL:HG11 | 1:A:87:ALA:HA   | 10       | 0.53          |
| (1,1840) | 1:A:85:VAL:HG12 | 1:A:87:ALA:HA   | 10       | 0.53          |
| (1,1840) | 1:A:85:VAL:HG13 | 1:A:87:ALA:HA   | 10       | 0.53          |
| (1,1293) | 1:A:94:LYS:HG2  | 1:A:94:LYS:HA   | 8        | 0.53          |
| (1,1018) | 1:A:37:LYS:HE3  | 1:A:50:LEU:HD21 | 5        | 0.53          |
| (1,1018) | 1:A:37:LYS:HE3  | 1:A:50:LEU:HD22 | 5        | 0.53          |
| (1,1018) | 1:A:37:LYS:HE3  | 1:A:50:LEU:HD23 | 5        | 0.53          |
| (1,1018) | 1:A:37:LYS:HE2  | 1:A:50:LEU:HD21 | 5        | 0.53          |
| (1,1018) | 1:A:37:LYS:HE2  | 1:A:50:LEU:HD22 | 5        | 0.53          |
| (1,1018) | 1:A:37:LYS:HE2  | 1:A:50:LEU:HD23 | 5        | 0.53          |
| (1,768)  | 1:A:92:ALA:H    | 1:A:93:GLU:HB3  | 18       | 0.52          |
| (1,458)  | 1:A:24:ALA:H    | 1:A:89:ILE:HG13 | 11       | 0.52          |
| (1,350)  | 1:A:53:LYS:H    | 1:A:53:LYS:HB2  | 3        | 0.52          |
| (1,1873) | 1:A:8:VAL:HG11  | 1:A:7:ALA:HA    | 20       | 0.52          |
| (1,1873) | 1:A:8:VAL:HG12  | 1:A:7:ALA:HA    | 20       | 0.52          |
| (1,1873) | 1:A:8:VAL:HG13  | 1:A:7:ALA:HA    | 20       | 0.52          |
| (1,1873) | 1:A:61:VAL:HG21 | 1:A:7:ALA:HA    | 20       | 0.52          |
| (1,1873) | 1:A:61:VAL:HG22 | 1:A:7:ALA:HA    | 20       | 0.52          |
| (1,1873) | 1:A:61:VAL:HG23 | 1:A:7:ALA:HA    | 20       | 0.52          |
| (1,1873) | 1:A:25:LEU:HD21 | 1:A:7:ALA:HA    | 20       | 0.52          |
| (1,1873) | 1:A:25:LEU:HD22 | 1:A:7:ALA:HA    | 20       | 0.52          |
| (1,1873) | 1:A:25:LEU:HD23 | 1:A:7:ALA:HA    | 20       | 0.52          |
| (1,1808) | 1:A:5:ILE:HB    | 1:A:58:GLY:HA3  | 7        | 0.52          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1808) | 1:A:3:ARG:HG3   | 1:A:58:GLY:HA3  | 7        | 0.52          |
| (1,1808) | 1:A:3:ARG:HG2   | 1:A:58:GLY:HA3  | 7        | 0.52          |
| (1,1435) | 1:A:80:VAL:HG11 | 1:A:62:ILE:HA   | 3        | 0.52          |
| (1,1435) | 1:A:80:VAL:HG12 | 1:A:62:ILE:HA   | 3        | 0.52          |
| (1,1435) | 1:A:80:VAL:HG13 | 1:A:62:ILE:HA   | 3        | 0.52          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB1  | 13       | 0.52          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB2  | 13       | 0.52          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB3  | 13       | 0.52          |
| (1,931)  | 1:A:75:PHE:HB2  | 1:A:80:VAL:HG21 | 1        | 0.51          |
| (1,931)  | 1:A:75:PHE:HB2  | 1:A:80:VAL:HG22 | 1        | 0.51          |
| (1,931)  | 1:A:75:PHE:HB2  | 1:A:80:VAL:HG23 | 1        | 0.51          |
| (1,852)  | 1:A:59:GLU:H    | 1:A:59:GLU:HG2  | 4        | 0.51          |
| (1,679)  | 1:A:82:GLU:H    | 1:A:81:LEU:HD21 | 6        | 0.51          |
| (1,679)  | 1:A:82:GLU:H    | 1:A:81:LEU:HD22 | 6        | 0.51          |
| (1,679)  | 1:A:82:GLU:H    | 1:A:81:LEU:HD23 | 6        | 0.51          |
| (1,679)  | 1:A:82:GLU:H    | 1:A:81:LEU:HD21 | 13       | 0.51          |
| (1,679)  | 1:A:82:GLU:H    | 1:A:81:LEU:HD22 | 13       | 0.51          |
| (1,679)  | 1:A:82:GLU:H    | 1:A:81:LEU:HD23 | 13       | 0.51          |
| (1,289)  | 1:A:30:LYS:H    | 1:A:30:LYS:HB3  | 3        | 0.51          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG11 | 2        | 0.51          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG12 | 2        | 0.51          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG13 | 2        | 0.51          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG11  | 2        | 0.51          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG12  | 2        | 0.51          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG13  | 2        | 0.51          |
| (1,1658) | 1:A:69:VAL:H    | 1:A:69:VAL:HB   | 6        | 0.51          |
| (1,1658) | 1:A:69:VAL:H    | 1:A:68:LYS:HG2  | 6        | 0.51          |
| (1,1658) | 1:A:69:VAL:H    | 1:A:69:VAL:HB   | 9        | 0.51          |
| (1,1658) | 1:A:69:VAL:H    | 1:A:68:LYS:HG2  | 9        | 0.51          |
| (1,1658) | 1:A:69:VAL:H    | 1:A:69:VAL:HB   | 20       | 0.51          |
| (1,1658) | 1:A:69:VAL:H    | 1:A:68:LYS:HG2  | 20       | 0.51          |
| (1,1293) | 1:A:94:LYS:HG2  | 1:A:94:LYS:HA   | 2        | 0.51          |
| (1,1293) | 1:A:94:LYS:HG2  | 1:A:94:LYS:HA   | 20       | 0.51          |
| (1,768)  | 1:A:92:ALA:H    | 1:A:93:GLU:HB3  | 1        | 0.5           |
| (1,768)  | 1:A:92:ALA:H    | 1:A:93:GLU:HB3  | 6        | 0.5           |
| (1,768)  | 1:A:92:ALA:H    | 1:A:93:GLU:HB3  | 16       | 0.5           |
| (1,350)  | 1:A:53:LYS:H    | 1:A:53:LYS:HB2  | 11       | 0.5           |
| (1,1840) | 1:A:55:VAL:HG21 | 1:A:75:PHE:HA   | 4        | 0.5           |
| (1,1840) | 1:A:55:VAL:HG22 | 1:A:75:PHE:HA   | 4        | 0.5           |
| (1,1840) | 1:A:55:VAL:HG23 | 1:A:75:PHE:HA   | 4        | 0.5           |
| (1,1840) | 1:A:74:ARG:HB2  | 1:A:75:PHE:HA   | 4        | 0.5           |
| (1,1840) | 1:A:35:LEU:HD11 | 1:A:2:LYS:HA    | 4        | 0.5           |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1840) | 1:A:35:LEU:HD12 | 1:A:2:LYS:HA    | 4        | 0.5           |
| (1,1840) | 1:A:35:LEU:HD13 | 1:A:2:LYS:HA    | 4        | 0.5           |
| (1,1840) | 1:A:35:LEU:HD21 | 1:A:2:LYS:HA    | 4        | 0.5           |
| (1,1840) | 1:A:35:LEU:HD22 | 1:A:2:LYS:HA    | 4        | 0.5           |
| (1,1840) | 1:A:35:LEU:HD23 | 1:A:2:LYS:HA    | 4        | 0.5           |
| (1,1840) | 1:A:89:ILE:HG21 | 1:A:87:ALA:HA   | 4        | 0.5           |
| (1,1840) | 1:A:89:ILE:HG22 | 1:A:87:ALA:HA   | 4        | 0.5           |
| (1,1840) | 1:A:89:ILE:HG23 | 1:A:87:ALA:HA   | 4        | 0.5           |
| (1,1840) | 1:A:85:VAL:HG11 | 1:A:87:ALA:HA   | 4        | 0.5           |
| (1,1840) | 1:A:85:VAL:HG12 | 1:A:87:ALA:HA   | 4        | 0.5           |
| (1,1840) | 1:A:85:VAL:HG13 | 1:A:87:ALA:HA   | 4        | 0.5           |
| (1,1808) | 1:A:5:ILE:HB    | 1:A:58:GLY:HA3  | 18       | 0.5           |
| (1,1808) | 1:A:3:ARG:HG3   | 1:A:58:GLY:HA3  | 18       | 0.5           |
| (1,1808) | 1:A:3:ARG:HG2   | 1:A:58:GLY:HA3  | 18       | 0.5           |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG11 | 4        | 0.5           |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG12 | 4        | 0.5           |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG13 | 4        | 0.5           |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG11  | 4        | 0.5           |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG12  | 4        | 0.5           |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG13  | 4        | 0.5           |
| (1,1723) | 1:A:63:PHE:H    | 1:A:83:VAL:HG21 | 18       | 0.5           |
| (1,1723) | 1:A:63:PHE:H    | 1:A:83:VAL:HG22 | 18       | 0.5           |
| (1,1723) | 1:A:63:PHE:H    | 1:A:83:VAL:HG23 | 18       | 0.5           |
| (1,1723) | 1:A:63:PHE:H    | 1:A:62:ILE:HG12 | 18       | 0.5           |
| (1,1723) | 1:A:63:PHE:H    | 1:A:62:ILE:HG13 | 18       | 0.5           |
| (1,1709) | 1:A:79:VAL:H    | 1:A:75:PHE:HB2  | 18       | 0.5           |
| (1,1709) | 1:A:79:VAL:H    | 1:A:78:LYS:HE2  | 18       | 0.5           |
| (1,1696) | 1:A:7:ALA:H     | 1:A:50:LEU:HD11 | 18       | 0.5           |
| (1,1696) | 1:A:7:ALA:H     | 1:A:50:LEU:HD12 | 18       | 0.5           |
| (1,1696) | 1:A:7:ALA:H     | 1:A:50:LEU:HD13 | 18       | 0.5           |
| (1,1696) | 1:A:7:ALA:H     | 1:A:6:ILE:HD11  | 18       | 0.5           |
| (1,1696) | 1:A:7:ALA:H     | 1:A:6:ILE:HD12  | 18       | 0.5           |
| (1,1696) | 1:A:7:ALA:H     | 1:A:6:ILE:HD13  | 18       | 0.5           |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:33:GLY:HA3  | 11       | 0.5           |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HA   | 11       | 0.5           |
| (1,1401) | 1:A:50:LEU:HD21 | 1:A:37:LYS:HA   | 5        | 0.5           |
| (1,1401) | 1:A:50:LEU:HD22 | 1:A:37:LYS:HA   | 5        | 0.5           |
| (1,1401) | 1:A:50:LEU:HD23 | 1:A:37:LYS:HA   | 5        | 0.5           |
| (1,1293) | 1:A:94:LYS:HG2  | 1:A:94:LYS:HA   | 7        | 0.5           |
| (2,40)   | 1:A:74:ARG:HG2  | 1:A:78:LYS:HE2  | 16       | 0.49          |
| (1,852)  | 1:A:59:GLU:H    | 1:A:59:GLU:HG2  | 7        | 0.49          |
| (1,552)  | 1:A:69:VAL:H    | 1:A:69:VAL:HG11 | 19       | 0.49          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,552)  | 1:A:69:VAL:H    | 1:A:69:VAL:HG12 | 19       | 0.49          |
| (1,552)  | 1:A:69:VAL:H    | 1:A:69:VAL:HG13 | 19       | 0.49          |
| (1,355)  | 1:A:53:LYS:H    | 1:A:52:GLU:HB3  | 7        | 0.49          |
| (1,350)  | 1:A:53:LYS:H    | 1:A:53:LYS:HB2  | 6        | 0.49          |
| (1,289)  | 1:A:30:LYS:H    | 1:A:30:LYS:HB3  | 5        | 0.49          |
| (1,1664) | 1:A:36:ILE:H    | 1:A:34:ASN:HB3  | 9        | 0.49          |
| (1,1664) | 1:A:36:ILE:H    | 1:A:25:LEU:HB2  | 9        | 0.49          |
| (1,1537) | 1:A:56:ASN:HD22 | 1:A:55:VAL:HG21 | 13       | 0.49          |
| (1,1537) | 1:A:56:ASN:HD22 | 1:A:55:VAL:HG22 | 13       | 0.49          |
| (1,1537) | 1:A:56:ASN:HD22 | 1:A:55:VAL:HG23 | 13       | 0.49          |
| (1,1537) | 1:A:56:ASN:HD22 | 1:A:74:ARG:HB2  | 13       | 0.49          |
| (1,1505) | 1:A:48:ASN:HD22 | 1:A:50:LEU:HD11 | 16       | 0.49          |
| (1,1505) | 1:A:48:ASN:HD22 | 1:A:50:LEU:HD12 | 16       | 0.49          |
| (1,1505) | 1:A:48:ASN:HD22 | 1:A:50:LEU:HD13 | 16       | 0.49          |
| (1,1505) | 1:A:48:ASN:HD22 | 1:A:37:LYS:HG3  | 16       | 0.49          |
| (1,1505) | 1:A:48:ASN:HD22 | 1:A:37:LYS:HG2  | 16       | 0.49          |
| (1,1257) | 1:A:4:LYS:HB2   | 1:A:58:GLY:HA3  | 19       | 0.49          |
| (1,552)  | 1:A:69:VAL:H    | 1:A:69:VAL:HG11 | 8        | 0.48          |
| (1,552)  | 1:A:69:VAL:H    | 1:A:69:VAL:HG12 | 8        | 0.48          |
| (1,552)  | 1:A:69:VAL:H    | 1:A:69:VAL:HG13 | 8        | 0.48          |
| (1,201)  | 1:A:60:VAL:H    | 1:A:60:VAL:HG21 | 13       | 0.48          |
| (1,201)  | 1:A:60:VAL:H    | 1:A:60:VAL:HG22 | 13       | 0.48          |
| (1,201)  | 1:A:60:VAL:H    | 1:A:60:VAL:HG23 | 13       | 0.48          |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG11 | 2        | 0.48          |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG12 | 2        | 0.48          |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG13 | 2        | 0.48          |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG11 | 2        | 0.48          |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG12 | 2        | 0.48          |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG13 | 2        | 0.48          |
| (1,1664) | 1:A:36:ILE:H    | 1:A:34:ASN:HB3  | 6        | 0.48          |
| (1,1664) | 1:A:36:ILE:H    | 1:A:25:LEU:HB2  | 6        | 0.48          |
| (1,1658) | 1:A:69:VAL:H    | 1:A:69:VAL:HB   | 4        | 0.48          |
| (1,1658) | 1:A:69:VAL:H    | 1:A:68:LYS:HG2  | 4        | 0.48          |
| (1,1162) | 1:A:50:LEU:HD11 | 1:A:6:ILE:HB    | 5        | 0.48          |
| (1,1162) | 1:A:50:LEU:HD12 | 1:A:6:ILE:HB    | 5        | 0.48          |
| (1,1162) | 1:A:50:LEU:HD13 | 1:A:6:ILE:HB    | 5        | 0.48          |
| (1,768)  | 1:A:92:ALA:H    | 1:A:93:GLU:HB3  | 11       | 0.47          |
| (1,552)  | 1:A:69:VAL:H    | 1:A:69:VAL:HG11 | 16       | 0.47          |
| (1,552)  | 1:A:69:VAL:H    | 1:A:69:VAL:HG12 | 16       | 0.47          |
| (1,552)  | 1:A:69:VAL:H    | 1:A:69:VAL:HG13 | 16       | 0.47          |
| (1,338)  | 1:A:42:GLY:H    | 1:A:41:GLN:HE22 | 6        | 0.47          |
| (1,1808) | 1:A:5:ILE:HB    | 1:A:58:GLY:HA3  | 19       | 0.47          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1808) | 1:A:3:ARG:HG3   | 1:A:58:GLY:HA3  | 19       | 0.47          |
| (1,1808) | 1:A:3:ARG:HG2   | 1:A:58:GLY:HA3  | 19       | 0.47          |
| (1,1487) | 1:A:82:GLU:HG2  | 1:A:82:GLU:HA   | 17       | 0.47          |
| (1,1435) | 1:A:80:VAL:HG11 | 1:A:62:ILE:HA   | 9        | 0.47          |
| (1,1435) | 1:A:80:VAL:HG12 | 1:A:62:ILE:HA   | 9        | 0.47          |
| (1,1435) | 1:A:80:VAL:HG13 | 1:A:62:ILE:HA   | 9        | 0.47          |
| (1,1416) | 1:A:50:LEU:HD21 | 1:A:50:LEU:HA   | 7        | 0.47          |
| (1,1416) | 1:A:50:LEU:HD22 | 1:A:50:LEU:HA   | 7        | 0.47          |
| (1,1416) | 1:A:50:LEU:HD23 | 1:A:50:LEU:HA   | 7        | 0.47          |
| (1,934)  | 1:A:72:LYS:HG3  | 1:A:69:VAL:HG21 | 16       | 0.46          |
| (1,934)  | 1:A:72:LYS:HG3  | 1:A:69:VAL:HG22 | 16       | 0.46          |
| (1,934)  | 1:A:72:LYS:HG3  | 1:A:69:VAL:HG23 | 16       | 0.46          |
| (1,934)  | 1:A:72:LYS:HG2  | 1:A:69:VAL:HG21 | 16       | 0.46          |
| (1,934)  | 1:A:72:LYS:HG2  | 1:A:69:VAL:HG22 | 16       | 0.46          |
| (1,934)  | 1:A:72:LYS:HG2  | 1:A:69:VAL:HG23 | 16       | 0.46          |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG21 | 6        | 0.46          |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG22 | 6        | 0.46          |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG23 | 6        | 0.46          |
| (1,768)  | 1:A:92:ALA:H    | 1:A:93:GLU:HB3  | 7        | 0.46          |
| (1,552)  | 1:A:69:VAL:H    | 1:A:69:VAL:HG11 | 5        | 0.46          |
| (1,552)  | 1:A:69:VAL:H    | 1:A:69:VAL:HG12 | 5        | 0.46          |
| (1,552)  | 1:A:69:VAL:H    | 1:A:69:VAL:HG13 | 5        | 0.46          |
| (1,289)  | 1:A:30:LYS:H    | 1:A:30:LYS:HB3  | 20       | 0.46          |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG11 | 1        | 0.46          |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG12 | 1        | 0.46          |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG13 | 1        | 0.46          |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG11 | 1        | 0.46          |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG12 | 1        | 0.46          |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG13 | 1        | 0.46          |
| (1,1656) | 1:A:69:VAL:H    | 1:A:68:LYS:HE3  | 7        | 0.46          |
| (1,1656) | 1:A:69:VAL:H    | 1:A:72:LYS:HE3  | 7        | 0.46          |
| (1,1656) | 1:A:69:VAL:H    | 1:A:72:LYS:HE2  | 7        | 0.46          |
| (1,1570) | 1:A:78:LYS:H    | 1:A:78:LYS:HE2  | 12       | 0.46          |
| (1,1570) | 1:A:78:LYS:H    | 1:A:75:PHE:HB2  | 12       | 0.46          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG21 | 13       | 0.46          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG22 | 13       | 0.46          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG23 | 13       | 0.46          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG11 | 13       | 0.46          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG12 | 13       | 0.46          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG13 | 13       | 0.46          |
| (1,1487) | 1:A:82:GLU:HG2  | 1:A:82:GLU:HA   | 5        | 0.46          |
| (1,1487) | 1:A:82:GLU:HG2  | 1:A:82:GLU:HA   | 10       | 0.46          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1293) | 1:A:94:LYS:HG2  | 1:A:94:LYS:HA   | 4        | 0.46          |
| (1,787)  | 1:A:79:VAL:H    | 1:A:79:VAL:HG21 | 16       | 0.45          |
| (1,787)  | 1:A:79:VAL:H    | 1:A:79:VAL:HG22 | 16       | 0.45          |
| (1,787)  | 1:A:79:VAL:H    | 1:A:79:VAL:HG23 | 16       | 0.45          |
| (1,768)  | 1:A:92:ALA:H    | 1:A:93:GLU:HB3  | 19       | 0.45          |
| (1,552)  | 1:A:69:VAL:H    | 1:A:69:VAL:HG11 | 1        | 0.45          |
| (1,552)  | 1:A:69:VAL:H    | 1:A:69:VAL:HG12 | 1        | 0.45          |
| (1,552)  | 1:A:69:VAL:H    | 1:A:69:VAL:HG13 | 1        | 0.45          |
| (1,552)  | 1:A:69:VAL:H    | 1:A:69:VAL:HG11 | 2        | 0.45          |
| (1,552)  | 1:A:69:VAL:H    | 1:A:69:VAL:HG12 | 2        | 0.45          |
| (1,552)  | 1:A:69:VAL:H    | 1:A:69:VAL:HG13 | 2        | 0.45          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:75:PHE:HB2  | 4        | 0.45          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:78:LYS:HE2  | 4        | 0.45          |
| (1,1487) | 1:A:82:GLU:HG2  | 1:A:82:GLU:HA   | 4        | 0.45          |
| (1,1487) | 1:A:82:GLU:HG2  | 1:A:82:GLU:HA   | 8        | 0.45          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB1  | 2        | 0.45          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB2  | 2        | 0.45          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB3  | 2        | 0.45          |
| (1,999)  | 1:A:75:PHE:HA   | 1:A:55:VAL:HG21 | 8        | 0.44          |
| (1,999)  | 1:A:75:PHE:HA   | 1:A:55:VAL:HG22 | 8        | 0.44          |
| (1,999)  | 1:A:75:PHE:HA   | 1:A:55:VAL:HG23 | 8        | 0.44          |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG21 | 5        | 0.44          |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG22 | 5        | 0.44          |
| (1,932)  | 1:A:61:VAL:HB   | 1:A:80:VAL:HG23 | 5        | 0.44          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG11 | 9        | 0.44          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG12 | 9        | 0.44          |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG13 | 9        | 0.44          |
| (1,247)  | 1:A:78:LYS:H    | 1:A:76:ASP:HB3  | 10       | 0.44          |
| (1,1840) | 1:A:55:VAL:HG21 | 1:A:75:PHE:HA   | 17       | 0.44          |
| (1,1840) | 1:A:55:VAL:HG22 | 1:A:75:PHE:HA   | 17       | 0.44          |
| (1,1840) | 1:A:55:VAL:HG23 | 1:A:75:PHE:HA   | 17       | 0.44          |
| (1,1840) | 1:A:74:ARG:HB2  | 1:A:75:PHE:HA   | 17       | 0.44          |
| (1,1840) | 1:A:35:LEU:HD11 | 1:A:2:LYS:HA    | 17       | 0.44          |
| (1,1840) | 1:A:35:LEU:HD12 | 1:A:2:LYS:HA    | 17       | 0.44          |
| (1,1840) | 1:A:35:LEU:HD13 | 1:A:2:LYS:HA    | 17       | 0.44          |
| (1,1840) | 1:A:35:LEU:HD21 | 1:A:2:LYS:HA    | 17       | 0.44          |
| (1,1840) | 1:A:35:LEU:HD22 | 1:A:2:LYS:HA    | 17       | 0.44          |
| (1,1840) | 1:A:35:LEU:HD23 | 1:A:2:LYS:HA    | 17       | 0.44          |
| (1,1840) | 1:A:89:ILE:HG21 | 1:A:87:ALA:HA   | 17       | 0.44          |
| (1,1840) | 1:A:89:ILE:HG22 | 1:A:87:ALA:HA   | 17       | 0.44          |
| (1,1840) | 1:A:89:ILE:HG23 | 1:A:87:ALA:HA   | 17       | 0.44          |
| (1,1840) | 1:A:85:VAL:HG11 | 1:A:87:ALA:HA   | 17       | 0.44          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1840) | 1:A:85:VAL:HG12 | 1:A:87:ALA:HA   | 17       | 0.44          |
| (1,1840) | 1:A:85:VAL:HG13 | 1:A:87:ALA:HA   | 17       | 0.44          |
| (1,1808) | 1:A:5:ILE:HB    | 1:A:58:GLY:HA3  | 14       | 0.44          |
| (1,1808) | 1:A:3:ARG:HG3   | 1:A:58:GLY:HA3  | 14       | 0.44          |
| (1,1808) | 1:A:3:ARG:HG2   | 1:A:58:GLY:HA3  | 14       | 0.44          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD11 | 14       | 0.44          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD12 | 14       | 0.44          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD13 | 14       | 0.44          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD11 | 14       | 0.44          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD12 | 14       | 0.44          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD13 | 14       | 0.44          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD11 | 14       | 0.44          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD12 | 14       | 0.44          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD13 | 14       | 0.44          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD11 | 14       | 0.44          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD12 | 14       | 0.44          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD13 | 14       | 0.44          |
| (1,1505) | 1:A:48:ASN:HD22 | 1:A:50:LEU:HD11 | 19       | 0.44          |
| (1,1505) | 1:A:48:ASN:HD22 | 1:A:50:LEU:HD12 | 19       | 0.44          |
| (1,1505) | 1:A:48:ASN:HD22 | 1:A:50:LEU:HD13 | 19       | 0.44          |
| (1,1505) | 1:A:48:ASN:HD22 | 1:A:37:LYS:HG3  | 19       | 0.44          |
| (1,1505) | 1:A:48:ASN:HD22 | 1:A:37:LYS:HG2  | 19       | 0.44          |
| (1,1416) | 1:A:50:LEU:HD21 | 1:A:50:LEU:HA   | 5        | 0.44          |
| (1,1416) | 1:A:50:LEU:HD22 | 1:A:50:LEU:HA   | 5        | 0.44          |
| (1,1416) | 1:A:50:LEU:HD23 | 1:A:50:LEU:HA   | 5        | 0.44          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB1  | 16       | 0.44          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB2  | 16       | 0.44          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB3  | 16       | 0.44          |
| (1,1003) | 1:A:39:GLU:HG2  | 1:A:46:ILE:HG21 | 17       | 0.44          |
| (1,1003) | 1:A:39:GLU:HG2  | 1:A:46:ILE:HG22 | 17       | 0.44          |
| (1,1003) | 1:A:39:GLU:HG2  | 1:A:46:ILE:HG23 | 17       | 0.44          |
| (1,852)  | 1:A:59:GLU:H    | 1:A:59:GLU:HG2  | 19       | 0.43          |
| (1,552)  | 1:A:69:VAL:H    | 1:A:69:VAL:HG11 | 13       | 0.43          |
| (1,552)  | 1:A:69:VAL:H    | 1:A:69:VAL:HG12 | 13       | 0.43          |
| (1,552)  | 1:A:69:VAL:H    | 1:A:69:VAL:HG13 | 13       | 0.43          |
| (1,1808) | 1:A:5:ILE:HB    | 1:A:58:GLY:HA3  | 15       | 0.43          |
| (1,1808) | 1:A:3:ARG:HG3   | 1:A:58:GLY:HA3  | 15       | 0.43          |
| (1,1808) | 1:A:3:ARG:HG2   | 1:A:58:GLY:HA3  | 15       | 0.43          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD11 | 9        | 0.43          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD12 | 9        | 0.43          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD13 | 9        | 0.43          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD11 | 9        | 0.43          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD12 | 9        | 0.43          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD13 | 9        | 0.43          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD11 | 9        | 0.43          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD12 | 9        | 0.43          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD13 | 9        | 0.43          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD11 | 9        | 0.43          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD12 | 9        | 0.43          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD13 | 9        | 0.43          |
| (1,168)  | 1:A:57:ILE:H    | 1:A:57:ILE:HG13 | 15       | 0.43          |
| (1,1487) | 1:A:82:GLU:HG2  | 1:A:82:GLU:HA   | 2        | 0.43          |
| (1,1352) | 1:A:2:LYS:HB2   | 1:A:2:LYS:HA    | 5        | 0.43          |
| (1,1352) | 1:A:2:LYS:HB2   | 1:A:2:LYS:HA    | 7        | 0.43          |
| (1,1352) | 1:A:2:LYS:HB2   | 1:A:2:LYS:HA    | 15       | 0.43          |
| (2,40)   | 1:A:74:ARG:HG2  | 1:A:78:LYS:HE2  | 4        | 0.42          |
| (1,863)  | 1:A:41:GLN:HE22 | 1:A:70:ARG:HB3  | 6        | 0.42          |
| (1,852)  | 1:A:59:GLU:H    | 1:A:59:GLU:HG2  | 2        | 0.42          |
| (1,787)  | 1:A:79:VAL:H    | 1:A:79:VAL:HG21 | 12       | 0.42          |
| (1,787)  | 1:A:79:VAL:H    | 1:A:79:VAL:HG22 | 12       | 0.42          |
| (1,787)  | 1:A:79:VAL:H    | 1:A:79:VAL:HG23 | 12       | 0.42          |
| (1,768)  | 1:A:92:ALA:H    | 1:A:93:GLU:HB3  | 20       | 0.42          |
| (1,355)  | 1:A:53:LYS:H    | 1:A:52:GLU:HB3  | 15       | 0.42          |
| (1,289)  | 1:A:30:LYS:H    | 1:A:30:LYS:HB3  | 16       | 0.42          |
| (1,285)  | 1:A:10:ALA:H    | 1:A:69:VAL:HG11 | 16       | 0.42          |
| (1,285)  | 1:A:10:ALA:H    | 1:A:69:VAL:HG12 | 16       | 0.42          |
| (1,285)  | 1:A:10:ALA:H    | 1:A:69:VAL:HG13 | 16       | 0.42          |
| (1,1873) | 1:A:8:VAL:HG11  | 1:A:7:ALA:HA    | 17       | 0.42          |
| (1,1873) | 1:A:8:VAL:HG12  | 1:A:7:ALA:HA    | 17       | 0.42          |
| (1,1873) | 1:A:8:VAL:HG13  | 1:A:7:ALA:HA    | 17       | 0.42          |
| (1,1873) | 1:A:61:VAL:HG21 | 1:A:7:ALA:HA    | 17       | 0.42          |
| (1,1873) | 1:A:61:VAL:HG22 | 1:A:7:ALA:HA    | 17       | 0.42          |
| (1,1873) | 1:A:61:VAL:HG23 | 1:A:7:ALA:HA    | 17       | 0.42          |
| (1,1873) | 1:A:25:LEU:HD21 | 1:A:7:ALA:HA    | 17       | 0.42          |
| (1,1873) | 1:A:25:LEU:HD22 | 1:A:7:ALA:HA    | 17       | 0.42          |
| (1,1873) | 1:A:25:LEU:HD23 | 1:A:7:ALA:HA    | 17       | 0.42          |
| (1,1840) | 1:A:55:VAL:HG21 | 1:A:75:PHE:HA   | 20       | 0.42          |
| (1,1840) | 1:A:55:VAL:HG22 | 1:A:75:PHE:HA   | 20       | 0.42          |
| (1,1840) | 1:A:55:VAL:HG23 | 1:A:75:PHE:HA   | 20       | 0.42          |
| (1,1840) | 1:A:74:ARG:HB2  | 1:A:75:PHE:HA   | 20       | 0.42          |
| (1,1840) | 1:A:35:LEU:HD11 | 1:A:2:LYS:HA    | 20       | 0.42          |
| (1,1840) | 1:A:35:LEU:HD12 | 1:A:2:LYS:HA    | 20       | 0.42          |
| (1,1840) | 1:A:35:LEU:HD13 | 1:A:2:LYS:HA    | 20       | 0.42          |
| (1,1840) | 1:A:35:LEU:HD21 | 1:A:2:LYS:HA    | 20       | 0.42          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1840) | 1:A:35:LEU:HD22 | 1:A:2:LYS:HA    | 20       | 0.42          |
| (1,1840) | 1:A:35:LEU:HD23 | 1:A:2:LYS:HA    | 20       | 0.42          |
| (1,1840) | 1:A:89:ILE:HG21 | 1:A:87:ALA:HA   | 20       | 0.42          |
| (1,1840) | 1:A:89:ILE:HG22 | 1:A:87:ALA:HA   | 20       | 0.42          |
| (1,1840) | 1:A:89:ILE:HG23 | 1:A:87:ALA:HA   | 20       | 0.42          |
| (1,1840) | 1:A:85:VAL:HG11 | 1:A:87:ALA:HA   | 20       | 0.42          |
| (1,1840) | 1:A:85:VAL:HG12 | 1:A:87:ALA:HA   | 20       | 0.42          |
| (1,1840) | 1:A:85:VAL:HG13 | 1:A:87:ALA:HA   | 20       | 0.42          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG11 | 19       | 0.42          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG12 | 19       | 0.42          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG13 | 19       | 0.42          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG11  | 19       | 0.42          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG12  | 19       | 0.42          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG13  | 19       | 0.42          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:75:PHE:HB2  | 2        | 0.42          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:78:LYS:HE2  | 2        | 0.42          |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:31:LYS:HB3  | 15       | 0.42          |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HB2  | 15       | 0.42          |
| (1,1506) | 1:A:48:ASN:HD22 | 1:A:38:VAL:HB   | 12       | 0.42          |
| (1,1506) | 1:A:48:ASN:HD22 | 1:A:47:GLU:HB2  | 12       | 0.42          |
| (1,1506) | 1:A:48:ASN:HD22 | 1:A:47:GLU:HB3  | 12       | 0.42          |
| (1,1487) | 1:A:82:GLU:HG2  | 1:A:82:GLU:HA   | 18       | 0.42          |
| (1,1435) | 1:A:80:VAL:HG11 | 1:A:62:ILE:HA   | 1        | 0.42          |
| (1,1435) | 1:A:80:VAL:HG12 | 1:A:62:ILE:HA   | 1        | 0.42          |
| (1,1435) | 1:A:80:VAL:HG13 | 1:A:62:ILE:HA   | 1        | 0.42          |
| (1,1352) | 1:A:2:LYS:HB2   | 1:A:2:LYS:HA    | 1        | 0.42          |
| (1,1352) | 1:A:2:LYS:HB2   | 1:A:2:LYS:HA    | 4        | 0.42          |
| (1,1352) | 1:A:2:LYS:HB2   | 1:A:2:LYS:HA    | 6        | 0.42          |
| (1,1352) | 1:A:2:LYS:HB2   | 1:A:2:LYS:HA    | 9        | 0.42          |
| (1,1352) | 1:A:2:LYS:HB2   | 1:A:2:LYS:HA    | 10       | 0.42          |
| (1,1352) | 1:A:2:LYS:HB2   | 1:A:2:LYS:HA    | 11       | 0.42          |
| (1,1352) | 1:A:2:LYS:HB2   | 1:A:2:LYS:HA    | 12       | 0.42          |
| (1,1352) | 1:A:2:LYS:HB2   | 1:A:2:LYS:HA    | 16       | 0.42          |
| (1,1352) | 1:A:2:LYS:HB2   | 1:A:2:LYS:HA    | 17       | 0.42          |
| (1,1352) | 1:A:2:LYS:HB2   | 1:A:2:LYS:HA    | 18       | 0.42          |
| (1,1352) | 1:A:2:LYS:HB2   | 1:A:2:LYS:HA    | 19       | 0.42          |
| (1,1352) | 1:A:2:LYS:HB2   | 1:A:2:LYS:HA    | 20       | 0.42          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB1  | 6        | 0.42          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB2  | 6        | 0.42          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB3  | 6        | 0.42          |
| (1,787)  | 1:A:79:VAL:H    | 1:A:79:VAL:HG21 | 1        | 0.41          |
| (1,787)  | 1:A:79:VAL:H    | 1:A:79:VAL:HG22 | 1        | 0.41          |

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| Key      | Atom-1           | Atom-2          | Model ID | Violation (Å) |
|----------|------------------|-----------------|----------|---------------|
| (1,787)  | 1:A:79:VAL:H     | 1:A:79:VAL:HG23 | 1        | 0.41          |
| (1,787)  | 1:A:79:VAL:H     | 1:A:79:VAL:HG21 | 2        | 0.41          |
| (1,787)  | 1:A:79:VAL:H     | 1:A:79:VAL:HG22 | 2        | 0.41          |
| (1,787)  | 1:A:79:VAL:H     | 1:A:79:VAL:HG23 | 2        | 0.41          |
| (1,768)  | 1:A:92:ALA:H     | 1:A:93:GLU:HB3  | 3        | 0.41          |
| (1,768)  | 1:A:92:ALA:H     | 1:A:93:GLU:HB3  | 5        | 0.41          |
| (1,768)  | 1:A:92:ALA:H     | 1:A:93:GLU:HB3  | 10       | 0.41          |
| (1,1835) | 1:A:30:LYS:HE2   | 1:A:30:LYS:HA   | 4        | 0.41          |
| (1,1835) | 1:A:30:LYS:HE3   | 1:A:30:LYS:HA   | 4        | 0.41          |
| (1,1835) | 1:A:75:PHE:HB3   | 1:A:73:GLU:HA   | 4        | 0.41          |
| (1,1835) | 1:A:72:LYS:HE3   | 1:A:73:GLU:HA   | 4        | 0.41          |
| (1,1835) | 1:A:17:HIS:HB3   | 1:A:20:MET:HA   | 4        | 0.41          |
| (1,1709) | 1:A:79:VAL:H     | 1:A:75:PHE:HB2  | 9        | 0.41          |
| (1,1709) | 1:A:79:VAL:H     | 1:A:78:LYS:HE2  | 9        | 0.41          |
| (1,1709) | 1:A:79:VAL:H     | 1:A:75:PHE:HB2  | 15       | 0.41          |
| (1,1709) | 1:A:79:VAL:H     | 1:A:78:LYS:HE2  | 15       | 0.41          |
| (1,1435) | 1:A:80:VAL:HG11  | 1:A:62:ILE:HA   | 11       | 0.41          |
| (1,1435) | 1:A:80:VAL:HG12  | 1:A:62:ILE:HA   | 11       | 0.41          |
| (1,1435) | 1:A:80:VAL:HG13  | 1:A:62:ILE:HA   | 11       | 0.41          |
| (1,1352) | 1:A:2:LYS:HB2    | 1:A:2:LYS:HA    | 3        | 0.41          |
| (1,1352) | 1:A:2:LYS:HB2    | 1:A:2:LYS:HA    | 8        | 0.41          |
| (1,1352) | 1:A:2:LYS:HB2    | 1:A:2:LYS:HA    | 14       | 0.41          |
| (1,1322) | 1:A:102:LEU:HD21 | 1:A:102:LEU:HA  | 20       | 0.41          |
| (1,1322) | 1:A:102:LEU:HD22 | 1:A:102:LEU:HA  | 20       | 0.41          |
| (1,1322) | 1:A:102:LEU:HD23 | 1:A:102:LEU:HA  | 20       | 0.41          |
| (1,1322) | 1:A:102:LEU:HG   | 1:A:102:LEU:HA  | 20       | 0.41          |
| (1,787)  | 1:A:79:VAL:H     | 1:A:79:VAL:HG21 | 19       | 0.4           |
| (1,787)  | 1:A:79:VAL:H     | 1:A:79:VAL:HG22 | 19       | 0.4           |
| (1,787)  | 1:A:79:VAL:H     | 1:A:79:VAL:HG23 | 19       | 0.4           |
| (1,768)  | 1:A:92:ALA:H     | 1:A:93:GLU:HB3  | 8        | 0.4           |
| (1,355)  | 1:A:53:LYS:H     | 1:A:52:GLU:HB3  | 5        | 0.4           |
| (1,1873) | 1:A:8:VAL:HG11   | 1:A:7:ALA:HA    | 16       | 0.4           |
| (1,1873) | 1:A:8:VAL:HG12   | 1:A:7:ALA:HA    | 16       | 0.4           |
| (1,1873) | 1:A:8:VAL:HG13   | 1:A:7:ALA:HA    | 16       | 0.4           |
| (1,1873) | 1:A:61:VAL:HG21  | 1:A:7:ALA:HA    | 16       | 0.4           |
| (1,1873) | 1:A:61:VAL:HG22  | 1:A:7:ALA:HA    | 16       | 0.4           |
| (1,1873) | 1:A:61:VAL:HG23  | 1:A:7:ALA:HA    | 16       | 0.4           |
| (1,1873) | 1:A:25:LEU:HD21  | 1:A:7:ALA:HA    | 16       | 0.4           |
| (1,1873) | 1:A:25:LEU:HD22  | 1:A:7:ALA:HA    | 16       | 0.4           |
| (1,1873) | 1:A:25:LEU:HD23  | 1:A:7:ALA:HA    | 16       | 0.4           |
| (1,1435) | 1:A:80:VAL:HG11  | 1:A:62:ILE:HA   | 12       | 0.4           |
| (1,1435) | 1:A:80:VAL:HG12  | 1:A:62:ILE:HA   | 12       | 0.4           |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1435) | 1:A:80:VAL:HG13 | 1:A:62:ILE:HA   | 12       | 0.4           |
| (1,1366) | 1:A:79:VAL:HG11 | 1:A:60:VAL:HA   | 8        | 0.4           |
| (1,1366) | 1:A:79:VAL:HG12 | 1:A:60:VAL:HA   | 8        | 0.4           |
| (1,1366) | 1:A:79:VAL:HG13 | 1:A:60:VAL:HA   | 8        | 0.4           |
| (1,841)  | 1:A:39:GLU:H    | 1:A:50:LEU:HD11 | 18       | 0.39          |
| (1,841)  | 1:A:39:GLU:H    | 1:A:50:LEU:HD12 | 18       | 0.39          |
| (1,841)  | 1:A:39:GLU:H    | 1:A:50:LEU:HD13 | 18       | 0.39          |
| (1,787)  | 1:A:79:VAL:H    | 1:A:79:VAL:HG21 | 15       | 0.39          |
| (1,787)  | 1:A:79:VAL:H    | 1:A:79:VAL:HG22 | 15       | 0.39          |
| (1,787)  | 1:A:79:VAL:H    | 1:A:79:VAL:HG23 | 15       | 0.39          |
| (1,768)  | 1:A:92:ALA:H    | 1:A:93:GLU:HB3  | 14       | 0.39          |
| (1,1840) | 1:A:55:VAL:HG21 | 1:A:75:PHE:HA   | 2        | 0.39          |
| (1,1840) | 1:A:55:VAL:HG22 | 1:A:75:PHE:HA   | 2        | 0.39          |
| (1,1840) | 1:A:55:VAL:HG23 | 1:A:75:PHE:HA   | 2        | 0.39          |
| (1,1840) | 1:A:74:ARG:HB2  | 1:A:75:PHE:HA   | 2        | 0.39          |
| (1,1840) | 1:A:35:LEU:HD11 | 1:A:2:LYS:HA    | 2        | 0.39          |
| (1,1840) | 1:A:35:LEU:HD12 | 1:A:2:LYS:HA    | 2        | 0.39          |
| (1,1840) | 1:A:35:LEU:HD13 | 1:A:2:LYS:HA    | 2        | 0.39          |
| (1,1840) | 1:A:35:LEU:HD21 | 1:A:2:LYS:HA    | 2        | 0.39          |
| (1,1840) | 1:A:35:LEU:HD22 | 1:A:2:LYS:HA    | 2        | 0.39          |
| (1,1840) | 1:A:35:LEU:HD23 | 1:A:2:LYS:HA    | 2        | 0.39          |
| (1,1840) | 1:A:89:ILE:HG21 | 1:A:87:ALA:HA   | 2        | 0.39          |
| (1,1840) | 1:A:89:ILE:HG22 | 1:A:87:ALA:HA   | 2        | 0.39          |
| (1,1840) | 1:A:89:ILE:HG23 | 1:A:87:ALA:HA   | 2        | 0.39          |
| (1,1840) | 1:A:85:VAL:HG11 | 1:A:87:ALA:HA   | 2        | 0.39          |
| (1,1840) | 1:A:85:VAL:HG12 | 1:A:87:ALA:HA   | 2        | 0.39          |
| (1,1840) | 1:A:85:VAL:HG13 | 1:A:87:ALA:HA   | 2        | 0.39          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD11 | 19       | 0.39          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD12 | 19       | 0.39          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD13 | 19       | 0.39          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD11 | 19       | 0.39          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD12 | 19       | 0.39          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD13 | 19       | 0.39          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD11 | 19       | 0.39          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD12 | 19       | 0.39          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD13 | 19       | 0.39          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD11 | 19       | 0.39          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD12 | 19       | 0.39          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD13 | 19       | 0.39          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:75:PHE:HB2  | 5        | 0.39          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:78:LYS:HE2  | 5        | 0.39          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:75:PHE:HB2  | 12       | 0.39          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1709) | 1:A:79:VAL:H    | 1:A:78:LYS:HE2  | 12       | 0.39          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:75:PHE:HB2  | 19       | 0.39          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:78:LYS:HE2  | 19       | 0.39          |
| (1,1696) | 1:A:7:ALA:H     | 1:A:50:LEU:HD11 | 7        | 0.39          |
| (1,1696) | 1:A:7:ALA:H     | 1:A:50:LEU:HD12 | 7        | 0.39          |
| (1,1696) | 1:A:7:ALA:H     | 1:A:50:LEU:HD13 | 7        | 0.39          |
| (1,1696) | 1:A:7:ALA:H     | 1:A:6:ILE:HD11  | 7        | 0.39          |
| (1,1696) | 1:A:7:ALA:H     | 1:A:6:ILE:HD12  | 7        | 0.39          |
| (1,1696) | 1:A:7:ALA:H     | 1:A:6:ILE:HD13  | 7        | 0.39          |
| (1,161)  | 1:A:45:GLY:H    | 1:A:42:GLY:HA2  | 9        | 0.39          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG21 | 17       | 0.39          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG22 | 17       | 0.39          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG23 | 17       | 0.39          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG11 | 17       | 0.39          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG12 | 17       | 0.39          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG13 | 17       | 0.39          |
| (1,1352) | 1:A:2:LYS:HB2   | 1:A:2:LYS:HA    | 13       | 0.39          |
| (1,1293) | 1:A:94:LYS:HG2  | 1:A:94:LYS:HA   | 1        | 0.39          |
| (1,1224) | 1:A:6:ILE:HG21  | 1:A:58:GLY:HA2  | 3        | 0.39          |
| (1,1224) | 1:A:6:ILE:HG22  | 1:A:58:GLY:HA2  | 3        | 0.39          |
| (1,1224) | 1:A:6:ILE:HG23  | 1:A:58:GLY:HA2  | 3        | 0.39          |
| (1,787)  | 1:A:79:VAL:H    | 1:A:79:VAL:HG21 | 10       | 0.38          |
| (1,787)  | 1:A:79:VAL:H    | 1:A:79:VAL:HG22 | 10       | 0.38          |
| (1,787)  | 1:A:79:VAL:H    | 1:A:79:VAL:HG23 | 10       | 0.38          |
| (1,787)  | 1:A:79:VAL:H    | 1:A:79:VAL:HG21 | 18       | 0.38          |
| (1,787)  | 1:A:79:VAL:H    | 1:A:79:VAL:HG22 | 18       | 0.38          |
| (1,787)  | 1:A:79:VAL:H    | 1:A:79:VAL:HG23 | 18       | 0.38          |
| (1,768)  | 1:A:92:ALA:H    | 1:A:93:GLU:HB3  | 9        | 0.38          |
| (1,338)  | 1:A:42:GLY:H    | 1:A:41:GLN:HE22 | 20       | 0.38          |
| (1,289)  | 1:A:30:LYS:H    | 1:A:30:LYS:HB3  | 6        | 0.38          |
| (1,1840) | 1:A:55:VAL:HG21 | 1:A:75:PHE:HA   | 19       | 0.38          |
| (1,1840) | 1:A:55:VAL:HG22 | 1:A:75:PHE:HA   | 19       | 0.38          |
| (1,1840) | 1:A:55:VAL:HG23 | 1:A:75:PHE:HA   | 19       | 0.38          |
| (1,1840) | 1:A:74:ARG:HB2  | 1:A:75:PHE:HA   | 19       | 0.38          |
| (1,1840) | 1:A:35:LEU:HD11 | 1:A:2:LYS:HA    | 19       | 0.38          |
| (1,1840) | 1:A:35:LEU:HD12 | 1:A:2:LYS:HA    | 19       | 0.38          |
| (1,1840) | 1:A:35:LEU:HD13 | 1:A:2:LYS:HA    | 19       | 0.38          |
| (1,1840) | 1:A:35:LEU:HD21 | 1:A:2:LYS:HA    | 19       | 0.38          |
| (1,1840) | 1:A:35:LEU:HD22 | 1:A:2:LYS:HA    | 19       | 0.38          |
| (1,1840) | 1:A:35:LEU:HD23 | 1:A:2:LYS:HA    | 19       | 0.38          |
| (1,1840) | 1:A:89:ILE:HG21 | 1:A:87:ALA:HA   | 19       | 0.38          |
| (1,1840) | 1:A:89:ILE:HG22 | 1:A:87:ALA:HA   | 19       | 0.38          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1840) | 1:A:89:ILE:HG23 | 1:A:87:ALA:HA   | 19       | 0.38          |
| (1,1840) | 1:A:85:VAL:HG11 | 1:A:87:ALA:HA   | 19       | 0.38          |
| (1,1840) | 1:A:85:VAL:HG12 | 1:A:87:ALA:HA   | 19       | 0.38          |
| (1,1840) | 1:A:85:VAL:HG13 | 1:A:87:ALA:HA   | 19       | 0.38          |
| (1,1808) | 1:A:5:ILE:HB    | 1:A:58:GLY:HA3  | 17       | 0.38          |
| (1,1808) | 1:A:3:ARG:HG3   | 1:A:58:GLY:HA3  | 17       | 0.38          |
| (1,1808) | 1:A:3:ARG:HG2   | 1:A:58:GLY:HA3  | 17       | 0.38          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD11 | 1        | 0.38          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD12 | 1        | 0.38          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD13 | 1        | 0.38          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD11 | 1        | 0.38          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD12 | 1        | 0.38          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD13 | 1        | 0.38          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD11 | 1        | 0.38          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD12 | 1        | 0.38          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD13 | 1        | 0.38          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD11 | 1        | 0.38          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD12 | 1        | 0.38          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD13 | 1        | 0.38          |
| (1,161)  | 1:A:45:GLY:H    | 1:A:42:GLY:HA2  | 5        | 0.38          |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:33:GLY:HA3  | 6        | 0.38          |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HA   | 6        | 0.38          |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:33:GLY:HA3  | 12       | 0.38          |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HA   | 12       | 0.38          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG21 | 19       | 0.38          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG22 | 19       | 0.38          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG23 | 19       | 0.38          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG11 | 19       | 0.38          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG12 | 19       | 0.38          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG13 | 19       | 0.38          |
| (1,1117) | 1:A:96:ILE:HG21 | 1:A:32:MET:HB3  | 16       | 0.38          |
| (1,1117) | 1:A:96:ILE:HG22 | 1:A:32:MET:HB3  | 16       | 0.38          |
| (1,1117) | 1:A:96:ILE:HG23 | 1:A:32:MET:HB3  | 16       | 0.38          |
| (1,1117) | 1:A:96:ILE:HD11 | 1:A:32:MET:HB3  | 16       | 0.38          |
| (1,1117) | 1:A:96:ILE:HD12 | 1:A:32:MET:HB3  | 16       | 0.38          |
| (1,1117) | 1:A:96:ILE:HD13 | 1:A:32:MET:HB3  | 16       | 0.38          |
| (2,40)   | 1:A:74:ARG:HG2  | 1:A:78:LYS:HE2  | 9        | 0.37          |
| (1,787)  | 1:A:79:VAL:H    | 1:A:79:VAL:HG21 | 8        | 0.37          |
| (1,787)  | 1:A:79:VAL:H    | 1:A:79:VAL:HG22 | 8        | 0.37          |
| (1,787)  | 1:A:79:VAL:H    | 1:A:79:VAL:HG23 | 8        | 0.37          |
| (1,782)  | 1:A:4:LYS:H     | 1:A:59:GLU:HG2  | 2        | 0.37          |
| (1,768)  | 1:A:92:ALA:H    | 1:A:93:GLU:HB3  | 13       | 0.37          |

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| Key      | Atom-1          | Atom-2           | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,67)   | 1:A:103:ILE:H   | 1:A:100:LEU:HD21 | 19       | 0.37          |
| (1,67)   | 1:A:103:ILE:H   | 1:A:100:LEU:HD22 | 19       | 0.37          |
| (1,67)   | 1:A:103:ILE:H   | 1:A:100:LEU:HD23 | 19       | 0.37          |
| (1,355)  | 1:A:53:LYS:H    | 1:A:52:GLU:HB3   | 14       | 0.37          |
| (1,1873) | 1:A:8:VAL:HG11  | 1:A:7:ALA:HA     | 3        | 0.37          |
| (1,1873) | 1:A:8:VAL:HG12  | 1:A:7:ALA:HA     | 3        | 0.37          |
| (1,1873) | 1:A:8:VAL:HG13  | 1:A:7:ALA:HA     | 3        | 0.37          |
| (1,1873) | 1:A:61:VAL:HG21 | 1:A:7:ALA:HA     | 3        | 0.37          |
| (1,1873) | 1:A:61:VAL:HG22 | 1:A:7:ALA:HA     | 3        | 0.37          |
| (1,1873) | 1:A:61:VAL:HG23 | 1:A:7:ALA:HA     | 3        | 0.37          |
| (1,1873) | 1:A:25:LEU:HD21 | 1:A:7:ALA:HA     | 3        | 0.37          |
| (1,1873) | 1:A:25:LEU:HD22 | 1:A:7:ALA:HA     | 3        | 0.37          |
| (1,1873) | 1:A:25:LEU:HD23 | 1:A:7:ALA:HA     | 3        | 0.37          |
| (1,1852) | 1:A:55:VAL:HG21 | 1:A:56:ASN:HA    | 17       | 0.37          |
| (1,1852) | 1:A:55:VAL:HG22 | 1:A:56:ASN:HA    | 17       | 0.37          |
| (1,1852) | 1:A:55:VAL:HG23 | 1:A:56:ASN:HA    | 17       | 0.37          |
| (1,1852) | 1:A:100:LEU:HG  | 1:A:97:ASN:HA    | 17       | 0.37          |
| (1,1840) | 1:A:55:VAL:HG21 | 1:A:75:PHE:HA    | 7        | 0.37          |
| (1,1840) | 1:A:55:VAL:HG22 | 1:A:75:PHE:HA    | 7        | 0.37          |
| (1,1840) | 1:A:55:VAL:HG23 | 1:A:75:PHE:HA    | 7        | 0.37          |
| (1,1840) | 1:A:74:ARG:HB2  | 1:A:75:PHE:HA    | 7        | 0.37          |
| (1,1840) | 1:A:35:LEU:HD11 | 1:A:2:LYS:HA     | 7        | 0.37          |
| (1,1840) | 1:A:35:LEU:HD12 | 1:A:2:LYS:HA     | 7        | 0.37          |
| (1,1840) | 1:A:35:LEU:HD13 | 1:A:2:LYS:HA     | 7        | 0.37          |
| (1,1840) | 1:A:35:LEU:HD21 | 1:A:2:LYS:HA     | 7        | 0.37          |
| (1,1840) | 1:A:35:LEU:HD22 | 1:A:2:LYS:HA     | 7        | 0.37          |
| (1,1840) | 1:A:35:LEU:HD23 | 1:A:2:LYS:HA     | 7        | 0.37          |
| (1,1840) | 1:A:89:ILE:HG21 | 1:A:87:ALA:HA    | 7        | 0.37          |
| (1,1840) | 1:A:89:ILE:HG22 | 1:A:87:ALA:HA    | 7        | 0.37          |
| (1,1840) | 1:A:89:ILE:HG23 | 1:A:87:ALA:HA    | 7        | 0.37          |
| (1,1840) | 1:A:85:VAL:HG11 | 1:A:87:ALA:HA    | 7        | 0.37          |
| (1,1840) | 1:A:85:VAL:HG12 | 1:A:87:ALA:HA    | 7        | 0.37          |
| (1,1840) | 1:A:85:VAL:HG13 | 1:A:87:ALA:HA    | 7        | 0.37          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:75:PHE:HB2   | 17       | 0.37          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:78:LYS:HE2   | 17       | 0.37          |
| (1,168)  | 1:A:57:ILE:H    | 1:A:57:ILE:HG13  | 17       | 0.37          |
| (1,1624) | 1:A:65:VAL:H    | 1:A:82:GLU:HG3   | 9        | 0.37          |
| (1,1624) | 1:A:65:VAL:H    | 1:A:82:GLU:HB2   | 9        | 0.37          |
| (1,1624) | 1:A:65:VAL:H    | 1:A:84:PRO:HG3   | 9        | 0.37          |
| (1,1570) | 1:A:78:LYS:H    | 1:A:78:LYS:HE2   | 11       | 0.37          |
| (1,1570) | 1:A:78:LYS:H    | 1:A:75:PHE:HB2   | 11       | 0.37          |
| (1,961)  | 1:A:78:LYS:HE3  | 1:A:61:VAL:HG21  | 16       | 0.36          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,961)  | 1:A:78:LYS:HE3  | 1:A:61:VAL:HG22 | 16       | 0.36          |
| (1,961)  | 1:A:78:LYS:HE3  | 1:A:61:VAL:HG23 | 16       | 0.36          |
| (1,77)   | 1:A:95:VAL:H    | 1:A:91:ASP:HB3  | 12       | 0.36          |
| (1,289)  | 1:A:30:LYS:H    | 1:A:30:LYS:HB3  | 7        | 0.36          |
| (1,1808) | 1:A:5:ILE:HB    | 1:A:58:GLY:HA3  | 20       | 0.36          |
| (1,1808) | 1:A:3:ARG:HG3   | 1:A:58:GLY:HA3  | 20       | 0.36          |
| (1,1808) | 1:A:3:ARG:HG2   | 1:A:58:GLY:HA3  | 20       | 0.36          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD11 | 5        | 0.36          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD12 | 5        | 0.36          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD13 | 5        | 0.36          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD11 | 5        | 0.36          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD12 | 5        | 0.36          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD13 | 5        | 0.36          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD11 | 5        | 0.36          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD12 | 5        | 0.36          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD13 | 5        | 0.36          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD11 | 5        | 0.36          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD12 | 5        | 0.36          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD13 | 5        | 0.36          |
| (1,168)  | 1:A:57:ILE:H    | 1:A:57:ILE:HG13 | 19       | 0.36          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG21 | 14       | 0.36          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG22 | 14       | 0.36          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG23 | 14       | 0.36          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG11 | 14       | 0.36          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG12 | 14       | 0.36          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG13 | 14       | 0.36          |
| (1,1435) | 1:A:80:VAL:HG11 | 1:A:62:ILE:HA   | 2        | 0.36          |
| (1,1435) | 1:A:80:VAL:HG12 | 1:A:62:ILE:HA   | 2        | 0.36          |
| (1,1435) | 1:A:80:VAL:HG13 | 1:A:62:ILE:HA   | 2        | 0.36          |
| (1,1001) | 1:A:4:LYS:HE2   | 1:A:35:LEU:HD11 | 17       | 0.36          |
| (1,1001) | 1:A:4:LYS:HE2   | 1:A:35:LEU:HD12 | 17       | 0.36          |
| (1,1001) | 1:A:4:LYS:HE2   | 1:A:35:LEU:HD13 | 17       | 0.36          |
| (1,1001) | 1:A:4:LYS:HE3   | 1:A:35:LEU:HD11 | 17       | 0.36          |
| (1,1001) | 1:A:4:LYS:HE3   | 1:A:35:LEU:HD12 | 17       | 0.36          |
| (1,1001) | 1:A:4:LYS:HE3   | 1:A:35:LEU:HD13 | 17       | 0.36          |
| (1,768)  | 1:A:92:ALA:H    | 1:A:93:GLU:HB3  | 12       | 0.35          |
| (1,429)  | 1:A:105:GLU:H   | 1:A:105:GLU:HG2 | 10       | 0.35          |
| (1,355)  | 1:A:53:LYS:H    | 1:A:52:GLU:HB3  | 2        | 0.35          |
| (1,289)  | 1:A:30:LYS:H    | 1:A:30:LYS:HB3  | 12       | 0.35          |
| (1,230)  | 1:A:94:LYS:H    | 1:A:93:GLU:HB3  | 4        | 0.35          |
| (1,230)  | 1:A:94:LYS:H    | 1:A:93:GLU:HB3  | 15       | 0.35          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:75:PHE:HB2  | 20       | 0.35          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1709) | 1:A:79:VAL:H    | 1:A:78:LYS:HE2  | 20       | 0.35          |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:33:GLY:HA3  | 9        | 0.35          |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HA   | 9        | 0.35          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG21 | 7        | 0.35          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG22 | 7        | 0.35          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG23 | 7        | 0.35          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG11 | 7        | 0.35          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG12 | 7        | 0.35          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG13 | 7        | 0.35          |
| (1,1503) | 1:A:71:ASN:HD21 | 1:A:70:ARG:HB3  | 18       | 0.35          |
| (1,1503) | 1:A:71:ASN:HD21 | 1:A:74:ARG:HG3  | 18       | 0.35          |
| (1,1366) | 1:A:79:VAL:HG11 | 1:A:60:VAL:HA   | 19       | 0.35          |
| (1,1366) | 1:A:79:VAL:HG12 | 1:A:60:VAL:HA   | 19       | 0.35          |
| (1,1366) | 1:A:79:VAL:HG13 | 1:A:60:VAL:HA   | 19       | 0.35          |
| (1,1280) | 1:A:39:GLU:HG2  | 1:A:49:GLU:HA   | 6        | 0.35          |
| (1,679)  | 1:A:82:GLU:H    | 1:A:81:LEU:HD21 | 5        | 0.34          |
| (1,679)  | 1:A:82:GLU:H    | 1:A:81:LEU:HD22 | 5        | 0.34          |
| (1,679)  | 1:A:82:GLU:H    | 1:A:81:LEU:HD23 | 5        | 0.34          |
| (1,598)  | 1:A:23:GLN:H    | 1:A:23:GLN:HB3  | 1        | 0.34          |
| (1,462)  | 1:A:24:ALA:H    | 1:A:23:GLN:HG3  | 1        | 0.34          |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG11 | 18       | 0.34          |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG12 | 18       | 0.34          |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG13 | 18       | 0.34          |
| (1,308)  | 1:A:34:ASN:HD22 | 1:A:32:MET:HB2  | 12       | 0.34          |
| (1,1873) | 1:A:8:VAL:HG11  | 1:A:7:ALA:HA    | 11       | 0.34          |
| (1,1873) | 1:A:8:VAL:HG12  | 1:A:7:ALA:HA    | 11       | 0.34          |
| (1,1873) | 1:A:8:VAL:HG13  | 1:A:7:ALA:HA    | 11       | 0.34          |
| (1,1873) | 1:A:61:VAL:HG21 | 1:A:7:ALA:HA    | 11       | 0.34          |
| (1,1873) | 1:A:61:VAL:HG22 | 1:A:7:ALA:HA    | 11       | 0.34          |
| (1,1873) | 1:A:61:VAL:HG23 | 1:A:7:ALA:HA    | 11       | 0.34          |
| (1,1873) | 1:A:25:LEU:HD21 | 1:A:7:ALA:HA    | 11       | 0.34          |
| (1,1873) | 1:A:25:LEU:HD22 | 1:A:7:ALA:HA    | 11       | 0.34          |
| (1,1873) | 1:A:25:LEU:HD23 | 1:A:7:ALA:HA    | 11       | 0.34          |
| (1,1849) | 1:A:79:VAL:HB   | 1:A:60:VAL:HA   | 1        | 0.34          |
| (1,1849) | 1:A:59:GLU:HB3  | 1:A:60:VAL:HA   | 1        | 0.34          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD11 | 2        | 0.34          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD12 | 2        | 0.34          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD13 | 2        | 0.34          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD11 | 2        | 0.34          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD12 | 2        | 0.34          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD13 | 2        | 0.34          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD11 | 2        | 0.34          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD12 | 2        | 0.34          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD13 | 2        | 0.34          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD11 | 2        | 0.34          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD12 | 2        | 0.34          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD13 | 2        | 0.34          |
| (1,1366) | 1:A:79:VAL:HG11 | 1:A:60:VAL:HA   | 15       | 0.34          |
| (1,1366) | 1:A:79:VAL:HG12 | 1:A:60:VAL:HA   | 15       | 0.34          |
| (1,1366) | 1:A:79:VAL:HG13 | 1:A:60:VAL:HA   | 15       | 0.34          |
| (1,1293) | 1:A:94:LYS:HG2  | 1:A:94:LYS:HA   | 6        | 0.34          |
| (1,969)  | 1:A:28:GLY:HA2  | 1:A:96:ILE:HD11 | 3        | 0.33          |
| (1,969)  | 1:A:28:GLY:HA2  | 1:A:96:ILE:HD12 | 3        | 0.33          |
| (1,969)  | 1:A:28:GLY:HA2  | 1:A:96:ILE:HD13 | 3        | 0.33          |
| (1,796)  | 1:A:79:VAL:H    | 1:A:78:LYS:HE3  | 17       | 0.33          |
| (1,423)  | 1:A:105:GLU:H   | 1:A:105:GLU:HB3 | 8        | 0.33          |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:8:VAL:HG21  | 7        | 0.33          |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:8:VAL:HG22  | 7        | 0.33          |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:8:VAL:HG23  | 7        | 0.33          |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:65:VAL:HG11 | 7        | 0.33          |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:65:VAL:HG12 | 7        | 0.33          |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:65:VAL:HG13 | 7        | 0.33          |
| (1,168)  | 1:A:57:ILE:H    | 1:A:57:ILE:HG13 | 8        | 0.33          |
| (1,168)  | 1:A:57:ILE:H    | 1:A:57:ILE:HG13 | 9        | 0.33          |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:31:LYS:HB3  | 7        | 0.33          |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HB2  | 7        | 0.33          |
| (1,1144) | 1:A:105:GLU:HA  | 1:A:105:GLU:HB2 | 5        | 0.33          |
| (1,1144) | 1:A:105:GLU:HA  | 1:A:105:GLU:HB2 | 19       | 0.33          |
| (1,1097) | 1:A:80:VAL:HG11 | 1:A:61:VAL:HB   | 1        | 0.33          |
| (1,1097) | 1:A:80:VAL:HG12 | 1:A:61:VAL:HB   | 1        | 0.33          |
| (1,1097) | 1:A:80:VAL:HG13 | 1:A:61:VAL:HB   | 1        | 0.33          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB1  | 9        | 0.33          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB2  | 9        | 0.33          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB3  | 9        | 0.33          |
| (1,598)  | 1:A:23:GLN:H    | 1:A:23:GLN:HB3  | 16       | 0.32          |
| (1,39)   | 1:A:48:ASN:HD22 | 1:A:38:VAL:H    | 7        | 0.32          |
| (1,1280) | 1:A:39:GLU:HG2  | 1:A:49:GLU:HA   | 5        | 0.32          |
| (1,1269) | 1:A:25:LEU:HD21 | 1:A:25:LEU:HA   | 13       | 0.32          |
| (1,1269) | 1:A:25:LEU:HD22 | 1:A:25:LEU:HA   | 13       | 0.32          |
| (1,1269) | 1:A:25:LEU:HD23 | 1:A:25:LEU:HA   | 13       | 0.32          |
| (1,1144) | 1:A:105:GLU:HA  | 1:A:105:GLU:HB2 | 2        | 0.32          |
| (1,1144) | 1:A:105:GLU:HA  | 1:A:105:GLU:HB2 | 6        | 0.32          |
| (1,1144) | 1:A:105:GLU:HA  | 1:A:105:GLU:HB2 | 7        | 0.32          |
| (1,1144) | 1:A:105:GLU:HA  | 1:A:105:GLU:HB2 | 9        | 0.32          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1144) | 1:A:105:GLU:HA  | 1:A:105:GLU:HB2 | 17       | 0.32          |
| (1,1097) | 1:A:80:VAL:HG11 | 1:A:61:VAL:HB   | 2        | 0.32          |
| (1,1097) | 1:A:80:VAL:HG12 | 1:A:61:VAL:HB   | 2        | 0.32          |
| (1,1097) | 1:A:80:VAL:HG13 | 1:A:61:VAL:HB   | 2        | 0.32          |
| (1,1097) | 1:A:80:VAL:HG11 | 1:A:61:VAL:HB   | 3        | 0.32          |
| (1,1097) | 1:A:80:VAL:HG12 | 1:A:61:VAL:HB   | 3        | 0.32          |
| (1,1097) | 1:A:80:VAL:HG13 | 1:A:61:VAL:HB   | 3        | 0.32          |
| (1,1063) | 1:A:74:ARG:HD2  | 1:A:74:ARG:HG3  | 18       | 0.32          |
| (1,847)  | 1:A:63:PHE:H    | 1:A:80:VAL:HG11 | 9        | 0.31          |
| (1,847)  | 1:A:63:PHE:H    | 1:A:80:VAL:HG12 | 9        | 0.31          |
| (1,847)  | 1:A:63:PHE:H    | 1:A:80:VAL:HG13 | 9        | 0.31          |
| (1,598)  | 1:A:23:GLN:H    | 1:A:23:GLN:HB3  | 3        | 0.31          |
| (1,556)  | 1:A:27:LYS:H    | 1:A:27:LYS:HD3  | 9        | 0.31          |
| (1,423)  | 1:A:105:GLU:H   | 1:A:105:GLU:HB3 | 9        | 0.31          |
| (1,39)   | 1:A:48:ASN:HD22 | 1:A:38:VAL:H    | 19       | 0.31          |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG11 | 16       | 0.31          |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG12 | 16       | 0.31          |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG13 | 16       | 0.31          |
| (1,21)   | 1:A:74:ARG:H    | 1:A:74:ARG:HD3  | 7        | 0.31          |
| (1,1873) | 1:A:8:VAL:HG11  | 1:A:7:ALA:HA    | 6        | 0.31          |
| (1,1873) | 1:A:8:VAL:HG12  | 1:A:7:ALA:HA    | 6        | 0.31          |
| (1,1873) | 1:A:8:VAL:HG13  | 1:A:7:ALA:HA    | 6        | 0.31          |
| (1,1873) | 1:A:61:VAL:HG21 | 1:A:7:ALA:HA    | 6        | 0.31          |
| (1,1873) | 1:A:61:VAL:HG22 | 1:A:7:ALA:HA    | 6        | 0.31          |
| (1,1873) | 1:A:61:VAL:HG23 | 1:A:7:ALA:HA    | 6        | 0.31          |
| (1,1873) | 1:A:25:LEU:HD21 | 1:A:7:ALA:HA    | 6        | 0.31          |
| (1,1873) | 1:A:25:LEU:HD22 | 1:A:7:ALA:HA    | 6        | 0.31          |
| (1,1873) | 1:A:25:LEU:HD23 | 1:A:7:ALA:HA    | 6        | 0.31          |
| (1,1873) | 1:A:8:VAL:HG11  | 1:A:7:ALA:HA    | 7        | 0.31          |
| (1,1873) | 1:A:8:VAL:HG12  | 1:A:7:ALA:HA    | 7        | 0.31          |
| (1,1873) | 1:A:8:VAL:HG13  | 1:A:7:ALA:HA    | 7        | 0.31          |
| (1,1873) | 1:A:61:VAL:HG21 | 1:A:7:ALA:HA    | 7        | 0.31          |
| (1,1873) | 1:A:61:VAL:HG22 | 1:A:7:ALA:HA    | 7        | 0.31          |
| (1,1873) | 1:A:61:VAL:HG23 | 1:A:7:ALA:HA    | 7        | 0.31          |
| (1,1873) | 1:A:25:LEU:HD21 | 1:A:7:ALA:HA    | 7        | 0.31          |
| (1,1873) | 1:A:25:LEU:HD22 | 1:A:7:ALA:HA    | 7        | 0.31          |
| (1,1873) | 1:A:25:LEU:HD23 | 1:A:7:ALA:HA    | 7        | 0.31          |
| (1,1808) | 1:A:5:ILE:HB    | 1:A:58:GLY:HA3  | 1        | 0.31          |
| (1,1808) | 1:A:3:ARG:HG3   | 1:A:58:GLY:HA3  | 1        | 0.31          |
| (1,1808) | 1:A:3:ARG:HG2   | 1:A:58:GLY:HA3  | 1        | 0.31          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:75:PHE:HB2  | 6        | 0.31          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:78:LYS:HE2  | 6        | 0.31          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1709) | 1:A:79:VAL:H    | 1:A:75:PHE:HB2  | 11       | 0.31          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:78:LYS:HE2  | 11       | 0.31          |
| (1,1664) | 1:A:36:ILE:H    | 1:A:34:ASN:HB3  | 3        | 0.31          |
| (1,1664) | 1:A:36:ILE:H    | 1:A:25:LEU:HB2  | 3        | 0.31          |
| (1,1658) | 1:A:69:VAL:H    | 1:A:69:VAL:HB   | 14       | 0.31          |
| (1,1658) | 1:A:69:VAL:H    | 1:A:68:LYS:HG2  | 14       | 0.31          |
| (1,1487) | 1:A:82:GLU:HG2  | 1:A:82:GLU:HA   | 16       | 0.31          |
| (1,1407) | 1:A:3:ARG:HD3   | 1:A:3:ARG:HA    | 5        | 0.31          |
| (1,1407) | 1:A:3:ARG:HD3   | 1:A:3:ARG:HA    | 10       | 0.31          |
| (1,1269) | 1:A:25:LEU:HD21 | 1:A:25:LEU:HA   | 1        | 0.31          |
| (1,1269) | 1:A:25:LEU:HD22 | 1:A:25:LEU:HA   | 1        | 0.31          |
| (1,1269) | 1:A:25:LEU:HD23 | 1:A:25:LEU:HA   | 1        | 0.31          |
| (1,1269) | 1:A:25:LEU:HD21 | 1:A:25:LEU:HA   | 2        | 0.31          |
| (1,1269) | 1:A:25:LEU:HD22 | 1:A:25:LEU:HA   | 2        | 0.31          |
| (1,1269) | 1:A:25:LEU:HD23 | 1:A:25:LEU:HA   | 2        | 0.31          |
| (1,1144) | 1:A:105:GLU:HA  | 1:A:105:GLU:HB2 | 8        | 0.31          |
| (1,1097) | 1:A:80:VAL:HG11 | 1:A:61:VAL:HB   | 6        | 0.31          |
| (1,1097) | 1:A:80:VAL:HG12 | 1:A:61:VAL:HB   | 6        | 0.31          |
| (1,1097) | 1:A:80:VAL:HG13 | 1:A:61:VAL:HB   | 6        | 0.31          |
| (1,1097) | 1:A:80:VAL:HG11 | 1:A:61:VAL:HB   | 9        | 0.31          |
| (1,1097) | 1:A:80:VAL:HG12 | 1:A:61:VAL:HB   | 9        | 0.31          |
| (1,1097) | 1:A:80:VAL:HG13 | 1:A:61:VAL:HB   | 9        | 0.31          |
| (1,1097) | 1:A:80:VAL:HG11 | 1:A:61:VAL:HB   | 12       | 0.31          |
| (1,1097) | 1:A:80:VAL:HG12 | 1:A:61:VAL:HB   | 12       | 0.31          |
| (1,1097) | 1:A:80:VAL:HG13 | 1:A:61:VAL:HB   | 12       | 0.31          |
| (1,1063) | 1:A:74:ARG:HD2  | 1:A:74:ARG:HG3  | 3        | 0.31          |
| (1,651)  | 1:A:93:GLU:H    | 1:A:91:ASP:HB2  | 1        | 0.3           |
| (1,598)  | 1:A:23:GLN:H    | 1:A:23:GLN:HB3  | 2        | 0.3           |
| (1,598)  | 1:A:23:GLN:H    | 1:A:23:GLN:HB3  | 9        | 0.3           |
| (1,598)  | 1:A:23:GLN:H    | 1:A:23:GLN:HB3  | 19       | 0.3           |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG11 | 12       | 0.3           |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG12 | 12       | 0.3           |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG13 | 12       | 0.3           |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG11 | 7        | 0.3           |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG12 | 7        | 0.3           |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG13 | 7        | 0.3           |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG11  | 7        | 0.3           |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG12  | 7        | 0.3           |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG13  | 7        | 0.3           |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:33:GLY:HA3  | 18       | 0.3           |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HA   | 18       | 0.3           |
| (1,1559) | 1:A:75:PHE:H    | 1:A:6:ILE:HD11  | 7        | 0.3           |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1559) | 1:A:75:PHE:H    | 1:A:6:ILE:HD12  | 7        | 0.3           |
| (1,1559) | 1:A:75:PHE:H    | 1:A:6:ILE:HD13  | 7        | 0.3           |
| (1,1559) | 1:A:75:PHE:H    | 1:A:50:LEU:HD11 | 7        | 0.3           |
| (1,1559) | 1:A:75:PHE:H    | 1:A:50:LEU:HD12 | 7        | 0.3           |
| (1,1559) | 1:A:75:PHE:H    | 1:A:50:LEU:HD13 | 7        | 0.3           |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:8:VAL:HG21  | 20       | 0.3           |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:8:VAL:HG22  | 20       | 0.3           |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:8:VAL:HG23  | 20       | 0.3           |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:65:VAL:HG11 | 20       | 0.3           |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:65:VAL:HG12 | 20       | 0.3           |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:65:VAL:HG13 | 20       | 0.3           |
| (1,1396) | 1:A:18:THR:HG21 | 1:A:42:GLY:HA3  | 4        | 0.3           |
| (1,1396) | 1:A:18:THR:HG22 | 1:A:42:GLY:HA3  | 4        | 0.3           |
| (1,1396) | 1:A:18:THR:HG23 | 1:A:42:GLY:HA3  | 4        | 0.3           |
| (1,129)  | 1:A:32:MET:H    | 1:A:32:MET:HG2  | 6        | 0.3           |
| (1,1280) | 1:A:39:GLU:HG2  | 1:A:49:GLU:HA   | 14       | 0.3           |
| (1,1269) | 1:A:25:LEU:HD21 | 1:A:25:LEU:HA   | 8        | 0.3           |
| (1,1269) | 1:A:25:LEU:HD22 | 1:A:25:LEU:HA   | 8        | 0.3           |
| (1,1269) | 1:A:25:LEU:HD23 | 1:A:25:LEU:HA   | 8        | 0.3           |
| (1,1117) | 1:A:96:ILE:HG21 | 1:A:32:MET:HB3  | 19       | 0.3           |
| (1,1117) | 1:A:96:ILE:HG22 | 1:A:32:MET:HB3  | 19       | 0.3           |
| (1,1117) | 1:A:96:ILE:HG23 | 1:A:32:MET:HB3  | 19       | 0.3           |
| (1,1117) | 1:A:96:ILE:HD11 | 1:A:32:MET:HB3  | 19       | 0.3           |
| (1,1117) | 1:A:96:ILE:HD12 | 1:A:32:MET:HB3  | 19       | 0.3           |
| (1,1117) | 1:A:96:ILE:HD13 | 1:A:32:MET:HB3  | 19       | 0.3           |
| (1,1097) | 1:A:80:VAL:HG11 | 1:A:61:VAL:HB   | 11       | 0.3           |
| (1,1097) | 1:A:80:VAL:HG12 | 1:A:61:VAL:HB   | 11       | 0.3           |
| (1,1097) | 1:A:80:VAL:HG13 | 1:A:61:VAL:HB   | 11       | 0.3           |
| (1,940)  | 1:A:25:LEU:HB2  | 1:A:36:ILE:HD11 | 8        | 0.29          |
| (1,940)  | 1:A:25:LEU:HB2  | 1:A:36:ILE:HD12 | 8        | 0.29          |
| (1,940)  | 1:A:25:LEU:HB2  | 1:A:36:ILE:HD13 | 8        | 0.29          |
| (1,598)  | 1:A:23:GLN:H    | 1:A:23:GLN:HB3  | 6        | 0.29          |
| (1,598)  | 1:A:23:GLN:H    | 1:A:23:GLN:HB3  | 8        | 0.29          |
| (1,598)  | 1:A:23:GLN:H    | 1:A:23:GLN:HB3  | 10       | 0.29          |
| (1,578)  | 1:A:72:LYS:H    | 1:A:72:LYS:HB3  | 13       | 0.29          |
| (1,423)  | 1:A:105:GLU:H   | 1:A:105:GLU:HB3 | 7        | 0.29          |
| (1,285)  | 1:A:10:ALA:H    | 1:A:69:VAL:HG11 | 1        | 0.29          |
| (1,285)  | 1:A:10:ALA:H    | 1:A:69:VAL:HG12 | 1        | 0.29          |
| (1,285)  | 1:A:10:ALA:H    | 1:A:69:VAL:HG13 | 1        | 0.29          |
| (1,21)   | 1:A:74:ARG:H    | 1:A:74:ARG:HD3  | 3        | 0.29          |
| (1,1487) | 1:A:82:GLU:HG2  | 1:A:82:GLU:HA   | 1        | 0.29          |
| (1,1269) | 1:A:25:LEU:HD21 | 1:A:25:LEU:HA   | 5        | 0.29          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1269) | 1:A:25:LEU:HD22 | 1:A:25:LEU:HA   | 5        | 0.29          |
| (1,1269) | 1:A:25:LEU:HD23 | 1:A:25:LEU:HA   | 5        | 0.29          |
| (1,1269) | 1:A:25:LEU:HD21 | 1:A:25:LEU:HA   | 10       | 0.29          |
| (1,1269) | 1:A:25:LEU:HD22 | 1:A:25:LEU:HA   | 10       | 0.29          |
| (1,1269) | 1:A:25:LEU:HD23 | 1:A:25:LEU:HA   | 10       | 0.29          |
| (1,1269) | 1:A:25:LEU:HD21 | 1:A:25:LEU:HA   | 12       | 0.29          |
| (1,1269) | 1:A:25:LEU:HD22 | 1:A:25:LEU:HA   | 12       | 0.29          |
| (1,1269) | 1:A:25:LEU:HD23 | 1:A:25:LEU:HA   | 12       | 0.29          |
| (1,1144) | 1:A:105:GLU:HA  | 1:A:105:GLU:HB2 | 12       | 0.29          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB1  | 12       | 0.29          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB2  | 12       | 0.29          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB3  | 12       | 0.29          |
| (1,1016) | 1:A:37:LYS:HB2  | 1:A:50:LEU:HD21 | 2        | 0.29          |
| (1,1016) | 1:A:37:LYS:HB2  | 1:A:50:LEU:HD22 | 2        | 0.29          |
| (1,1016) | 1:A:37:LYS:HB2  | 1:A:50:LEU:HD23 | 2        | 0.29          |
| (1,906)  | 1:A:70:ARG:H    | 1:A:8:VAL:HG21  | 16       | 0.28          |
| (1,906)  | 1:A:70:ARG:H    | 1:A:8:VAL:HG22  | 16       | 0.28          |
| (1,906)  | 1:A:70:ARG:H    | 1:A:8:VAL:HG23  | 16       | 0.28          |
| (1,865)  | 1:A:41:GLN:HE22 | 1:A:69:VAL:HG21 | 6        | 0.28          |
| (1,865)  | 1:A:41:GLN:HE22 | 1:A:69:VAL:HG22 | 6        | 0.28          |
| (1,865)  | 1:A:41:GLN:HE22 | 1:A:69:VAL:HG23 | 6        | 0.28          |
| (1,598)  | 1:A:23:GLN:H    | 1:A:23:GLN:HB3  | 5        | 0.28          |
| (1,598)  | 1:A:23:GLN:H    | 1:A:23:GLN:HB3  | 15       | 0.28          |
| (1,598)  | 1:A:23:GLN:H    | 1:A:23:GLN:HB3  | 20       | 0.28          |
| (1,562)  | 1:A:96:ILE:H    | 1:A:95:VAL:HB   | 2        | 0.28          |
| (1,423)  | 1:A:105:GLU:H   | 1:A:105:GLU:HB3 | 19       | 0.28          |
| (1,338)  | 1:A:42:GLY:H    | 1:A:41:GLN:HE22 | 12       | 0.28          |
| (1,247)  | 1:A:78:LYS:H    | 1:A:76:ASP:HB3  | 8        | 0.28          |
| (1,188)  | 1:A:60:VAL:H    | 1:A:60:VAL:HG11 | 1        | 0.28          |
| (1,188)  | 1:A:60:VAL:H    | 1:A:60:VAL:HG12 | 1        | 0.28          |
| (1,188)  | 1:A:60:VAL:H    | 1:A:60:VAL:HG13 | 1        | 0.28          |
| (1,1784) | 1:A:50:LEU:HD21 | 1:A:37:LYS:HB2  | 1        | 0.28          |
| (1,1784) | 1:A:50:LEU:HD22 | 1:A:37:LYS:HB2  | 1        | 0.28          |
| (1,1784) | 1:A:50:LEU:HD23 | 1:A:37:LYS:HB2  | 1        | 0.28          |
| (1,1784) | 1:A:6:ILE:HG21  | 1:A:37:LYS:HB2  | 1        | 0.28          |
| (1,1784) | 1:A:6:ILE:HG22  | 1:A:37:LYS:HB2  | 1        | 0.28          |
| (1,1784) | 1:A:6:ILE:HG23  | 1:A:37:LYS:HB2  | 1        | 0.28          |
| (1,168)  | 1:A:57:ILE:H    | 1:A:57:ILE:HG13 | 5        | 0.28          |
| (1,1624) | 1:A:65:VAL:H    | 1:A:82:GLU:HG3  | 12       | 0.28          |
| (1,1624) | 1:A:65:VAL:H    | 1:A:82:GLU:HB2  | 12       | 0.28          |
| (1,1624) | 1:A:65:VAL:H    | 1:A:84:PRO:HG3  | 12       | 0.28          |
| (1,1396) | 1:A:18:THR:HG21 | 1:A:42:GLY:HA3  | 13       | 0.28          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1396) | 1:A:18:THR:HG22 | 1:A:42:GLY:HA3  | 13       | 0.28          |
| (1,1396) | 1:A:18:THR:HG23 | 1:A:42:GLY:HA3  | 13       | 0.28          |
| (1,1269) | 1:A:25:LEU:HD21 | 1:A:25:LEU:HA   | 4        | 0.28          |
| (1,1269) | 1:A:25:LEU:HD22 | 1:A:25:LEU:HA   | 4        | 0.28          |
| (1,1269) | 1:A:25:LEU:HD23 | 1:A:25:LEU:HA   | 4        | 0.28          |
| (1,1269) | 1:A:25:LEU:HD21 | 1:A:25:LEU:HA   | 9        | 0.28          |
| (1,1269) | 1:A:25:LEU:HD22 | 1:A:25:LEU:HA   | 9        | 0.28          |
| (1,1269) | 1:A:25:LEU:HD23 | 1:A:25:LEU:HA   | 9        | 0.28          |
| (1,1269) | 1:A:25:LEU:HD21 | 1:A:25:LEU:HA   | 15       | 0.28          |
| (1,1269) | 1:A:25:LEU:HD22 | 1:A:25:LEU:HA   | 15       | 0.28          |
| (1,1269) | 1:A:25:LEU:HD23 | 1:A:25:LEU:HA   | 15       | 0.28          |
| (1,1151) | 1:A:38:VAL:HG21 | 1:A:25:LEU:HB2  | 4        | 0.28          |
| (1,1151) | 1:A:38:VAL:HG22 | 1:A:25:LEU:HB2  | 4        | 0.28          |
| (1,1151) | 1:A:38:VAL:HG23 | 1:A:25:LEU:HB2  | 4        | 0.28          |
| (1,1151) | 1:A:38:VAL:HG11 | 1:A:25:LEU:HB2  | 4        | 0.28          |
| (1,1151) | 1:A:38:VAL:HG12 | 1:A:25:LEU:HB2  | 4        | 0.28          |
| (1,1151) | 1:A:38:VAL:HG13 | 1:A:25:LEU:HB2  | 4        | 0.28          |
| (1,940)  | 1:A:25:LEU:HB2  | 1:A:36:ILE:HD11 | 13       | 0.27          |
| (1,940)  | 1:A:25:LEU:HB2  | 1:A:36:ILE:HD12 | 13       | 0.27          |
| (1,940)  | 1:A:25:LEU:HB2  | 1:A:36:ILE:HD13 | 13       | 0.27          |
| (1,940)  | 1:A:25:LEU:HB2  | 1:A:36:ILE:HD11 | 15       | 0.27          |
| (1,940)  | 1:A:25:LEU:HB2  | 1:A:36:ILE:HD12 | 15       | 0.27          |
| (1,940)  | 1:A:25:LEU:HB2  | 1:A:36:ILE:HD13 | 15       | 0.27          |
| (1,768)  | 1:A:92:ALA:H    | 1:A:93:GLU:HB3  | 2        | 0.27          |
| (1,598)  | 1:A:23:GLN:H    | 1:A:23:GLN:HB3  | 17       | 0.27          |
| (1,562)  | 1:A:96:ILE:H    | 1:A:95:VAL:HB   | 6        | 0.27          |
| (1,562)  | 1:A:96:ILE:H    | 1:A:95:VAL:HB   | 18       | 0.27          |
| (1,355)  | 1:A:53:LYS:H    | 1:A:52:GLU:HB3  | 8        | 0.27          |
| (1,1852) | 1:A:55:VAL:HG21 | 1:A:56:ASN:HA   | 4        | 0.27          |
| (1,1852) | 1:A:55:VAL:HG22 | 1:A:56:ASN:HA   | 4        | 0.27          |
| (1,1852) | 1:A:55:VAL:HG23 | 1:A:56:ASN:HA   | 4        | 0.27          |
| (1,1852) | 1:A:100:LEU:HG  | 1:A:97:ASN:HA   | 4        | 0.27          |
| (1,1852) | 1:A:55:VAL:HG21 | 1:A:56:ASN:HA   | 20       | 0.27          |
| (1,1852) | 1:A:55:VAL:HG22 | 1:A:56:ASN:HA   | 20       | 0.27          |
| (1,1852) | 1:A:55:VAL:HG23 | 1:A:56:ASN:HA   | 20       | 0.27          |
| (1,1852) | 1:A:100:LEU:HG  | 1:A:97:ASN:HA   | 20       | 0.27          |
| (1,1835) | 1:A:30:LYS:HE2  | 1:A:30:LYS:HA   | 2        | 0.27          |
| (1,1835) | 1:A:30:LYS:HE3  | 1:A:30:LYS:HA   | 2        | 0.27          |
| (1,1835) | 1:A:75:PHE:HB3  | 1:A:73:GLU:HA   | 2        | 0.27          |
| (1,1835) | 1:A:72:LYS:HE3  | 1:A:73:GLU:HA   | 2        | 0.27          |
| (1,1835) | 1:A:17:HIS:HB3  | 1:A:20:MET:HA   | 2        | 0.27          |
| (1,1808) | 1:A:5:ILE:HB    | 1:A:58:GLY:HA3  | 3        | 0.27          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1808) | 1:A:3:ARG:HG3   | 1:A:58:GLY:HA3  | 3        | 0.27          |
| (1,1808) | 1:A:3:ARG:HG2   | 1:A:58:GLY:HA3  | 3        | 0.27          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG11 | 13       | 0.27          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG12 | 13       | 0.27          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:55:VAL:HG13 | 13       | 0.27          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG11  | 13       | 0.27          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG12  | 13       | 0.27          |
| (1,1735) | 1:A:50:LEU:H    | 1:A:8:VAL:HG13  | 13       | 0.27          |
| (1,168)  | 1:A:57:ILE:H    | 1:A:57:ILE:HG13 | 14       | 0.27          |
| (1,1636) | 1:A:55:VAL:H    | 1:A:50:LEU:HB3  | 5        | 0.27          |
| (1,1636) | 1:A:55:VAL:H    | 1:A:57:ILE:HG13 | 5        | 0.27          |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:31:LYS:HB3  | 4        | 0.27          |
| (1,1588) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HB2  | 4        | 0.27          |
| (1,1396) | 1:A:18:THR:HG21 | 1:A:42:GLY:HA3  | 5        | 0.27          |
| (1,1396) | 1:A:18:THR:HG22 | 1:A:42:GLY:HA3  | 5        | 0.27          |
| (1,1396) | 1:A:18:THR:HG23 | 1:A:42:GLY:HA3  | 5        | 0.27          |
| (1,129)  | 1:A:32:MET:H    | 1:A:32:MET:HG2  | 10       | 0.27          |
| (1,1269) | 1:A:25:LEU:HD21 | 1:A:25:LEU:HA   | 14       | 0.27          |
| (1,1269) | 1:A:25:LEU:HD22 | 1:A:25:LEU:HA   | 14       | 0.27          |
| (1,1269) | 1:A:25:LEU:HD23 | 1:A:25:LEU:HA   | 14       | 0.27          |
| (1,1269) | 1:A:25:LEU:HD21 | 1:A:25:LEU:HA   | 19       | 0.27          |
| (1,1269) | 1:A:25:LEU:HD22 | 1:A:25:LEU:HA   | 19       | 0.27          |
| (1,1269) | 1:A:25:LEU:HD23 | 1:A:25:LEU:HA   | 19       | 0.27          |
| (1,1016) | 1:A:37:LYS:HB2  | 1:A:50:LEU:HD21 | 5        | 0.27          |
| (1,1016) | 1:A:37:LYS:HB2  | 1:A:50:LEU:HD22 | 5        | 0.27          |
| (1,1016) | 1:A:37:LYS:HB2  | 1:A:50:LEU:HD23 | 5        | 0.27          |
| (1,796)  | 1:A:79:VAL:H    | 1:A:78:LYS:HE3  | 3        | 0.26          |
| (1,423)  | 1:A:105:GLU:H   | 1:A:105:GLU:HB3 | 5        | 0.26          |
| (1,423)  | 1:A:105:GLU:H   | 1:A:105:GLU:HB3 | 12       | 0.26          |
| (1,423)  | 1:A:105:GLU:H   | 1:A:105:GLU:HB3 | 17       | 0.26          |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG11 | 8        | 0.26          |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG12 | 8        | 0.26          |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG13 | 8        | 0.26          |
| (1,285)  | 1:A:10:ALA:H    | 1:A:69:VAL:HG11 | 13       | 0.26          |
| (1,285)  | 1:A:10:ALA:H    | 1:A:69:VAL:HG12 | 13       | 0.26          |
| (1,285)  | 1:A:10:ALA:H    | 1:A:69:VAL:HG13 | 13       | 0.26          |
| (1,1840) | 1:A:55:VAL:HG21 | 1:A:75:PHE:HA   | 13       | 0.26          |
| (1,1840) | 1:A:55:VAL:HG22 | 1:A:75:PHE:HA   | 13       | 0.26          |
| (1,1840) | 1:A:55:VAL:HG23 | 1:A:75:PHE:HA   | 13       | 0.26          |
| (1,1840) | 1:A:74:ARG:HB2  | 1:A:75:PHE:HA   | 13       | 0.26          |
| (1,1840) | 1:A:35:LEU:HD11 | 1:A:2:LYS:HA    | 13       | 0.26          |
| (1,1840) | 1:A:35:LEU:HD12 | 1:A:2:LYS:HA    | 13       | 0.26          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1840) | 1:A:35:LEU:HD13 | 1:A:2:LYS:HA    | 13       | 0.26          |
| (1,1840) | 1:A:35:LEU:HD21 | 1:A:2:LYS:HA    | 13       | 0.26          |
| (1,1840) | 1:A:35:LEU:HD22 | 1:A:2:LYS:HA    | 13       | 0.26          |
| (1,1840) | 1:A:35:LEU:HD23 | 1:A:2:LYS:HA    | 13       | 0.26          |
| (1,1840) | 1:A:89:ILE:HG21 | 1:A:87:ALA:HA   | 13       | 0.26          |
| (1,1840) | 1:A:89:ILE:HG22 | 1:A:87:ALA:HA   | 13       | 0.26          |
| (1,1840) | 1:A:89:ILE:HG23 | 1:A:87:ALA:HA   | 13       | 0.26          |
| (1,1840) | 1:A:85:VAL:HG11 | 1:A:87:ALA:HA   | 13       | 0.26          |
| (1,1840) | 1:A:85:VAL:HG12 | 1:A:87:ALA:HA   | 13       | 0.26          |
| (1,1840) | 1:A:85:VAL:HG13 | 1:A:87:ALA:HA   | 13       | 0.26          |
| (1,1830) | 1:A:104:ASP:HB3 | 1:A:101:ALA:HA  | 19       | 0.26          |
| (1,1830) | 1:A:97:ASN:HB3  | 1:A:98:ALA:HA   | 19       | 0.26          |
| (1,1624) | 1:A:65:VAL:H    | 1:A:82:GLU:HG3  | 15       | 0.26          |
| (1,1624) | 1:A:65:VAL:H    | 1:A:82:GLU:HB2  | 15       | 0.26          |
| (1,1624) | 1:A:65:VAL:H    | 1:A:84:PRO:HG3  | 15       | 0.26          |
| (1,1094) | 1:A:70:ARG:HA   | 1:A:70:ARG:HG2  | 3        | 0.26          |
| (1,1063) | 1:A:74:ARG:HD2  | 1:A:74:ARG:HG3  | 13       | 0.26          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB1  | 11       | 0.26          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB2  | 11       | 0.26          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB3  | 11       | 0.26          |
| (1,562)  | 1:A:96:ILE:H    | 1:A:95:VAL:HB   | 3        | 0.25          |
| (1,423)  | 1:A:105:GLU:H   | 1:A:105:GLU:HB3 | 6        | 0.25          |
| (1,1840) | 1:A:55:VAL:HG21 | 1:A:75:PHE:HA   | 1        | 0.25          |
| (1,1840) | 1:A:55:VAL:HG22 | 1:A:75:PHE:HA   | 1        | 0.25          |
| (1,1840) | 1:A:55:VAL:HG23 | 1:A:75:PHE:HA   | 1        | 0.25          |
| (1,1840) | 1:A:74:ARG:HB2  | 1:A:75:PHE:HA   | 1        | 0.25          |
| (1,1840) | 1:A:35:LEU:HD11 | 1:A:2:LYS:HA    | 1        | 0.25          |
| (1,1840) | 1:A:35:LEU:HD12 | 1:A:2:LYS:HA    | 1        | 0.25          |
| (1,1840) | 1:A:35:LEU:HD13 | 1:A:2:LYS:HA    | 1        | 0.25          |
| (1,1840) | 1:A:35:LEU:HD21 | 1:A:2:LYS:HA    | 1        | 0.25          |
| (1,1840) | 1:A:35:LEU:HD22 | 1:A:2:LYS:HA    | 1        | 0.25          |
| (1,1840) | 1:A:35:LEU:HD23 | 1:A:2:LYS:HA    | 1        | 0.25          |
| (1,1840) | 1:A:89:ILE:HG21 | 1:A:87:ALA:HA   | 1        | 0.25          |
| (1,1840) | 1:A:89:ILE:HG22 | 1:A:87:ALA:HA   | 1        | 0.25          |
| (1,1840) | 1:A:89:ILE:HG23 | 1:A:87:ALA:HA   | 1        | 0.25          |
| (1,1840) | 1:A:85:VAL:HG11 | 1:A:87:ALA:HA   | 1        | 0.25          |
| (1,1840) | 1:A:85:VAL:HG12 | 1:A:87:ALA:HA   | 1        | 0.25          |
| (1,1840) | 1:A:85:VAL:HG13 | 1:A:87:ALA:HA   | 1        | 0.25          |
| (1,1840) | 1:A:55:VAL:HG21 | 1:A:75:PHE:HA   | 18       | 0.25          |
| (1,1840) | 1:A:55:VAL:HG22 | 1:A:75:PHE:HA   | 18       | 0.25          |
| (1,1840) | 1:A:55:VAL:HG23 | 1:A:75:PHE:HA   | 18       | 0.25          |
| (1,1840) | 1:A:74:ARG:HB2  | 1:A:75:PHE:HA   | 18       | 0.25          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1840) | 1:A:35:LEU:HD11 | 1:A:2:LYS:HA    | 18       | 0.25          |
| (1,1840) | 1:A:35:LEU:HD12 | 1:A:2:LYS:HA    | 18       | 0.25          |
| (1,1840) | 1:A:35:LEU:HD13 | 1:A:2:LYS:HA    | 18       | 0.25          |
| (1,1840) | 1:A:35:LEU:HD21 | 1:A:2:LYS:HA    | 18       | 0.25          |
| (1,1840) | 1:A:35:LEU:HD22 | 1:A:2:LYS:HA    | 18       | 0.25          |
| (1,1840) | 1:A:35:LEU:HD23 | 1:A:2:LYS:HA    | 18       | 0.25          |
| (1,1840) | 1:A:89:ILE:HG21 | 1:A:87:ALA:HA   | 18       | 0.25          |
| (1,1840) | 1:A:89:ILE:HG22 | 1:A:87:ALA:HA   | 18       | 0.25          |
| (1,1840) | 1:A:89:ILE:HG23 | 1:A:87:ALA:HA   | 18       | 0.25          |
| (1,1840) | 1:A:85:VAL:HG11 | 1:A:87:ALA:HA   | 18       | 0.25          |
| (1,1840) | 1:A:85:VAL:HG12 | 1:A:87:ALA:HA   | 18       | 0.25          |
| (1,1840) | 1:A:85:VAL:HG13 | 1:A:87:ALA:HA   | 18       | 0.25          |
| (1,1830) | 1:A:104:ASP:HB3 | 1:A:101:ALA:HA  | 16       | 0.25          |
| (1,1830) | 1:A:97:ASN:HB3  | 1:A:98:ALA:HA   | 16       | 0.25          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD11 | 12       | 0.25          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD12 | 12       | 0.25          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD13 | 12       | 0.25          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD11 | 12       | 0.25          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD12 | 12       | 0.25          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD13 | 12       | 0.25          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD11 | 12       | 0.25          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD12 | 12       | 0.25          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD13 | 12       | 0.25          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD11 | 12       | 0.25          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD12 | 12       | 0.25          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD13 | 12       | 0.25          |
| (1,168)  | 1:A:57:ILE:H    | 1:A:57:ILE:HG13 | 4        | 0.25          |
| (1,1366) | 1:A:79:VAL:HG11 | 1:A:60:VAL:HA   | 10       | 0.25          |
| (1,1366) | 1:A:79:VAL:HG12 | 1:A:60:VAL:HA   | 10       | 0.25          |
| (1,1366) | 1:A:79:VAL:HG13 | 1:A:60:VAL:HA   | 10       | 0.25          |
| (1,1280) | 1:A:39:GLU:HG2  | 1:A:49:GLU:HA   | 3        | 0.25          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB1  | 7        | 0.25          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB2  | 7        | 0.25          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB3  | 7        | 0.25          |
| (1,828)  | 1:A:47:GLU:H    | 1:A:39:GLU:HG2  | 1        | 0.24          |
| (1,82)   | 1:A:97:ASN:HD22 | 1:A:93:GLU:HB3  | 4        | 0.24          |
| (1,414)  | 1:A:25:LEU:H    | 1:A:20:MET:HG2  | 11       | 0.24          |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG11 | 2        | 0.24          |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG12 | 2        | 0.24          |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG13 | 2        | 0.24          |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG11 | 10       | 0.24          |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG12 | 10       | 0.24          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG13 | 10       | 0.24          |
| (1,21)   | 1:A:74:ARG:H    | 1:A:74:ARG:HD3  | 15       | 0.24          |
| (1,1861) | 1:A:41:GLN:HG3  | 1:A:46:ILE:HA   | 14       | 0.24          |
| (1,1861) | 1:A:39:GLU:HG2  | 1:A:46:ILE:HA   | 14       | 0.24          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG21 | 10       | 0.24          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG22 | 10       | 0.24          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG23 | 10       | 0.24          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG11 | 10       | 0.24          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG12 | 10       | 0.24          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG13 | 10       | 0.24          |
| (1,1280) | 1:A:39:GLU:HG2  | 1:A:49:GLU:HA   | 7        | 0.24          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB1  | 19       | 0.24          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB2  | 19       | 0.24          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB3  | 19       | 0.24          |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG11 | 19       | 0.23          |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG12 | 19       | 0.23          |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG13 | 19       | 0.23          |
| (1,250)  | 1:A:78:LYS:H    | 1:A:80:VAL:HG21 | 3        | 0.23          |
| (1,250)  | 1:A:78:LYS:H    | 1:A:80:VAL:HG22 | 3        | 0.23          |
| (1,250)  | 1:A:78:LYS:H    | 1:A:80:VAL:HG23 | 3        | 0.23          |
| (1,21)   | 1:A:74:ARG:H    | 1:A:74:ARG:HD3  | 1        | 0.23          |
| (1,1873) | 1:A:8:VAL:HG11  | 1:A:7:ALA:HA    | 18       | 0.23          |
| (1,1873) | 1:A:8:VAL:HG12  | 1:A:7:ALA:HA    | 18       | 0.23          |
| (1,1873) | 1:A:8:VAL:HG13  | 1:A:7:ALA:HA    | 18       | 0.23          |
| (1,1873) | 1:A:61:VAL:HG21 | 1:A:7:ALA:HA    | 18       | 0.23          |
| (1,1873) | 1:A:61:VAL:HG22 | 1:A:7:ALA:HA    | 18       | 0.23          |
| (1,1873) | 1:A:61:VAL:HG23 | 1:A:7:ALA:HA    | 18       | 0.23          |
| (1,1873) | 1:A:25:LEU:HD21 | 1:A:7:ALA:HA    | 18       | 0.23          |
| (1,1873) | 1:A:25:LEU:HD22 | 1:A:7:ALA:HA    | 18       | 0.23          |
| (1,1873) | 1:A:25:LEU:HD23 | 1:A:7:ALA:HA    | 18       | 0.23          |
| (1,1840) | 1:A:55:VAL:HG21 | 1:A:75:PHE:HA   | 3        | 0.23          |
| (1,1840) | 1:A:55:VAL:HG22 | 1:A:75:PHE:HA   | 3        | 0.23          |
| (1,1840) | 1:A:55:VAL:HG23 | 1:A:75:PHE:HA   | 3        | 0.23          |
| (1,1840) | 1:A:74:ARG:HB2  | 1:A:75:PHE:HA   | 3        | 0.23          |
| (1,1840) | 1:A:35:LEU:HD11 | 1:A:2:LYS:HA    | 3        | 0.23          |
| (1,1840) | 1:A:35:LEU:HD12 | 1:A:2:LYS:HA    | 3        | 0.23          |
| (1,1840) | 1:A:35:LEU:HD13 | 1:A:2:LYS:HA    | 3        | 0.23          |
| (1,1840) | 1:A:35:LEU:HD21 | 1:A:2:LYS:HA    | 3        | 0.23          |
| (1,1840) | 1:A:35:LEU:HD22 | 1:A:2:LYS:HA    | 3        | 0.23          |
| (1,1840) | 1:A:35:LEU:HD23 | 1:A:2:LYS:HA    | 3        | 0.23          |
| (1,1840) | 1:A:89:ILE:HG21 | 1:A:87:ALA:HA   | 3        | 0.23          |
| (1,1840) | 1:A:89:ILE:HG22 | 1:A:87:ALA:HA   | 3        | 0.23          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1840) | 1:A:89:ILE:HG23 | 1:A:87:ALA:HA   | 3        | 0.23          |
| (1,1840) | 1:A:85:VAL:HG11 | 1:A:87:ALA:HA   | 3        | 0.23          |
| (1,1840) | 1:A:85:VAL:HG12 | 1:A:87:ALA:HA   | 3        | 0.23          |
| (1,1840) | 1:A:85:VAL:HG13 | 1:A:87:ALA:HA   | 3        | 0.23          |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:8:VAL:HG21  | 3        | 0.23          |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:8:VAL:HG22  | 3        | 0.23          |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:8:VAL:HG23  | 3        | 0.23          |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:65:VAL:HG11 | 3        | 0.23          |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:65:VAL:HG12 | 3        | 0.23          |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:65:VAL:HG13 | 3        | 0.23          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:75:PHE:HB2  | 14       | 0.23          |
| (1,1709) | 1:A:79:VAL:H    | 1:A:78:LYS:HE2  | 14       | 0.23          |
| (1,1624) | 1:A:65:VAL:H    | 1:A:82:GLU:HG3  | 7        | 0.23          |
| (1,1624) | 1:A:65:VAL:H    | 1:A:82:GLU:HB2  | 7        | 0.23          |
| (1,1624) | 1:A:65:VAL:H    | 1:A:84:PRO:HG3  | 7        | 0.23          |
| (1,1537) | 1:A:56:ASN:HD22 | 1:A:55:VAL:HG21 | 18       | 0.23          |
| (1,1537) | 1:A:56:ASN:HD22 | 1:A:55:VAL:HG22 | 18       | 0.23          |
| (1,1537) | 1:A:56:ASN:HD22 | 1:A:55:VAL:HG23 | 18       | 0.23          |
| (1,1537) | 1:A:56:ASN:HD22 | 1:A:74:ARG:HB2  | 18       | 0.23          |
| (1,1255) | 1:A:6:ILE:HD11  | 1:A:58:GLY:HA3  | 11       | 0.23          |
| (1,1255) | 1:A:6:ILE:HD12  | 1:A:58:GLY:HA3  | 11       | 0.23          |
| (1,1255) | 1:A:6:ILE:HD13  | 1:A:58:GLY:HA3  | 11       | 0.23          |
| (1,1097) | 1:A:80:VAL:HG11 | 1:A:61:VAL:HB   | 5        | 0.23          |
| (1,1097) | 1:A:80:VAL:HG12 | 1:A:61:VAL:HB   | 5        | 0.23          |
| (1,1097) | 1:A:80:VAL:HG13 | 1:A:61:VAL:HB   | 5        | 0.23          |
| (2,40)   | 1:A:74:ARG:HG2  | 1:A:78:LYS:HE2  | 10       | 0.22          |
| (1,865)  | 1:A:41:GLN:HE22 | 1:A:69:VAL:HG21 | 7        | 0.22          |
| (1,865)  | 1:A:41:GLN:HE22 | 1:A:69:VAL:HG22 | 7        | 0.22          |
| (1,865)  | 1:A:41:GLN:HE22 | 1:A:69:VAL:HG23 | 7        | 0.22          |
| (1,847)  | 1:A:63:PHE:H    | 1:A:80:VAL:HG11 | 11       | 0.22          |
| (1,847)  | 1:A:63:PHE:H    | 1:A:80:VAL:HG12 | 11       | 0.22          |
| (1,847)  | 1:A:63:PHE:H    | 1:A:80:VAL:HG13 | 11       | 0.22          |
| (1,21)   | 1:A:74:ARG:H    | 1:A:74:ARG:HD3  | 17       | 0.22          |
| (1,2)    | 1:A:34:ASN:HD21 | 1:A:32:MET:HB2  | 16       | 0.22          |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG11 | 13       | 0.22          |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG12 | 13       | 0.22          |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG13 | 13       | 0.22          |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG11 | 13       | 0.22          |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG12 | 13       | 0.22          |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG13 | 13       | 0.22          |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:33:GLY:HA3  | 3        | 0.22          |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HA   | 3        | 0.22          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1506) | 1:A:48:ASN:HD22 | 1:A:38:VAL:HB   | 7        | 0.22          |
| (1,1506) | 1:A:48:ASN:HD22 | 1:A:47:GLU:HB2  | 7        | 0.22          |
| (1,1506) | 1:A:48:ASN:HD22 | 1:A:47:GLU:HB3  | 7        | 0.22          |
| (1,1279) | 1:A:49:GLU:HG3  | 1:A:49:GLU:HA   | 11       | 0.22          |
| (1,1279) | 1:A:49:GLU:HG2  | 1:A:49:GLU:HA   | 11       | 0.22          |
| (1,1266) | 1:A:26:LYS:HB2  | 1:A:26:LYS:HA   | 3        | 0.22          |
| (1,1266) | 1:A:26:LYS:HB2  | 1:A:26:LYS:HA   | 15       | 0.22          |
| (1,1266) | 1:A:26:LYS:HB2  | 1:A:26:LYS:HA   | 16       | 0.22          |
| (1,1266) | 1:A:26:LYS:HB2  | 1:A:26:LYS:HA   | 18       | 0.22          |
| (1,1063) | 1:A:74:ARG:HD2  | 1:A:74:ARG:HG3  | 7        | 0.22          |
| (1,961)  | 1:A:78:LYS:HE3  | 1:A:61:VAL:HG21 | 18       | 0.21          |
| (1,961)  | 1:A:78:LYS:HE3  | 1:A:61:VAL:HG22 | 18       | 0.21          |
| (1,961)  | 1:A:78:LYS:HE3  | 1:A:61:VAL:HG23 | 18       | 0.21          |
| (1,796)  | 1:A:79:VAL:H    | 1:A:78:LYS:HE3  | 18       | 0.21          |
| (1,768)  | 1:A:92:ALA:H    | 1:A:93:GLU:HB3  | 17       | 0.21          |
| (1,651)  | 1:A:93:GLU:H    | 1:A:91:ASP:HB2  | 19       | 0.21          |
| (1,556)  | 1:A:27:LYS:H    | 1:A:27:LYS:HD3  | 17       | 0.21          |
| (1,499)  | 1:A:13:THR:H    | 1:A:11:CYS:HB2  | 1        | 0.21          |
| (1,230)  | 1:A:94:LYS:H    | 1:A:93:GLU:HB3  | 1        | 0.21          |
| (1,230)  | 1:A:94:LYS:H    | 1:A:93:GLU:HB3  | 3        | 0.21          |
| (1,21)   | 1:A:74:ARG:H    | 1:A:74:ARG:HD3  | 8        | 0.21          |
| (1,1830) | 1:A:104:ASP:HB3 | 1:A:101:ALA:HA  | 13       | 0.21          |
| (1,1830) | 1:A:97:ASN:HB3  | 1:A:98:ALA:HA   | 13       | 0.21          |
| (1,161)  | 1:A:45:GLY:H    | 1:A:42:GLY:HA2  | 3        | 0.21          |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:33:GLY:HA3  | 10       | 0.21          |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HA   | 10       | 0.21          |
| (1,1570) | 1:A:78:LYS:H    | 1:A:78:LYS:HE2  | 1        | 0.21          |
| (1,1570) | 1:A:78:LYS:H    | 1:A:75:PHE:HB2  | 1        | 0.21          |
| (1,1503) | 1:A:71:ASN:HD21 | 1:A:70:ARG:HB3  | 3        | 0.21          |
| (1,1503) | 1:A:71:ASN:HD21 | 1:A:74:ARG:HG3  | 3        | 0.21          |
| (1,1366) | 1:A:79:VAL:HG11 | 1:A:60:VAL:HA   | 16       | 0.21          |
| (1,1366) | 1:A:79:VAL:HG12 | 1:A:60:VAL:HA   | 16       | 0.21          |
| (1,1366) | 1:A:79:VAL:HG13 | 1:A:60:VAL:HA   | 16       | 0.21          |
| (1,1280) | 1:A:39:GLU:HG2  | 1:A:49:GLU:HA   | 2        | 0.21          |
| (1,1279) | 1:A:49:GLU:HG3  | 1:A:49:GLU:HA   | 3        | 0.21          |
| (1,1279) | 1:A:49:GLU:HG2  | 1:A:49:GLU:HA   | 3        | 0.21          |
| (1,1266) | 1:A:26:LYS:HB2  | 1:A:26:LYS:HA   | 14       | 0.21          |
| (1,1255) | 1:A:6:ILE:HD11  | 1:A:58:GLY:HA3  | 18       | 0.21          |
| (1,1255) | 1:A:6:ILE:HD12  | 1:A:58:GLY:HA3  | 18       | 0.21          |
| (1,1255) | 1:A:6:ILE:HD13  | 1:A:58:GLY:HA3  | 18       | 0.21          |
| (1,1158) | 1:A:50:LEU:HD11 | 1:A:39:GLU:HB3  | 5        | 0.21          |
| (1,1158) | 1:A:50:LEU:HD12 | 1:A:39:GLU:HB3  | 5        | 0.21          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1158) | 1:A:50:LEU:HD13 | 1:A:39:GLU:HB3  | 5        | 0.21          |
| (1,888)  | 1:A:50:LEU:H    | 1:A:50:LEU:HG   | 5        | 0.2           |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG11 | 18       | 0.2           |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG12 | 18       | 0.2           |
| (1,875)  | 1:A:51:THR:H    | 1:A:55:VAL:HG13 | 18       | 0.2           |
| (1,791)  | 1:A:79:VAL:H    | 1:A:80:VAL:HG21 | 13       | 0.2           |
| (1,791)  | 1:A:79:VAL:H    | 1:A:80:VAL:HG22 | 13       | 0.2           |
| (1,791)  | 1:A:79:VAL:H    | 1:A:80:VAL:HG23 | 13       | 0.2           |
| (1,499)  | 1:A:13:THR:H    | 1:A:11:CYS:HB2  | 18       | 0.2           |
| (1,21)   | 1:A:74:ARG:H    | 1:A:74:ARG:HD3  | 4        | 0.2           |
| (1,21)   | 1:A:74:ARG:H    | 1:A:74:ARG:HD3  | 16       | 0.2           |
| (1,1865) | 1:A:81:LEU:HB3  | 1:A:61:VAL:HA   | 18       | 0.2           |
| (1,1865) | 1:A:50:LEU:HD11 | 1:A:61:VAL:HA   | 18       | 0.2           |
| (1,1865) | 1:A:50:LEU:HD12 | 1:A:61:VAL:HA   | 18       | 0.2           |
| (1,1865) | 1:A:50:LEU:HD13 | 1:A:61:VAL:HA   | 18       | 0.2           |
| (1,1835) | 1:A:30:LYS:HE2  | 1:A:30:LYS:HA   | 8        | 0.2           |
| (1,1835) | 1:A:30:LYS:HE3  | 1:A:30:LYS:HA   | 8        | 0.2           |
| (1,1835) | 1:A:75:PHE:HB3  | 1:A:73:GLU:HA   | 8        | 0.2           |
| (1,1835) | 1:A:72:LYS:HE3  | 1:A:73:GLU:HA   | 8        | 0.2           |
| (1,1835) | 1:A:17:HIS:HB3  | 1:A:20:MET:HA   | 8        | 0.2           |
| (1,1809) | 1:A:32:MET:HG2  | 1:A:29:ALA:HA   | 9        | 0.2           |
| (1,1809) | 1:A:34:ASN:HB2  | 1:A:29:ALA:HA   | 9        | 0.2           |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD11 | 15       | 0.2           |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD12 | 15       | 0.2           |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD13 | 15       | 0.2           |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD11 | 15       | 0.2           |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD12 | 15       | 0.2           |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD13 | 15       | 0.2           |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD11 | 15       | 0.2           |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD12 | 15       | 0.2           |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD13 | 15       | 0.2           |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD11 | 15       | 0.2           |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD12 | 15       | 0.2           |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD13 | 15       | 0.2           |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG11 | 5        | 0.2           |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG12 | 5        | 0.2           |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG13 | 5        | 0.2           |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG11 | 5        | 0.2           |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG12 | 5        | 0.2           |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG13 | 5        | 0.2           |
| (1,168)  | 1:A:57:ILE:H    | 1:A:57:ILE:HG13 | 16       | 0.2           |
| (1,1654) | 1:A:29:ALA:H    | 1:A:96:ILE:HB   | 18       | 0.2           |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1654) | 1:A:29:ALA:H    | 1:A:25:LEU:HG   | 18       | 0.2           |
| (1,1654) | 1:A:29:ALA:H    | 1:A:30:LYS:HD2  | 18       | 0.2           |
| (1,1654) | 1:A:29:ALA:H    | 1:A:30:LYS:HD3  | 18       | 0.2           |
| (1,13)   | 1:A:41:GLN:HE21 | 1:A:69:VAL:HA   | 17       | 0.2           |
| (1,982)  | 1:A:100:LEU:HB2 | 1:A:100:LEU:HG  | 19       | 0.19          |
| (1,977)  | 1:A:26:LYS:HB2  | 1:A:36:ILE:HG21 | 16       | 0.19          |
| (1,977)  | 1:A:26:LYS:HB2  | 1:A:36:ILE:HG22 | 16       | 0.19          |
| (1,977)  | 1:A:26:LYS:HB2  | 1:A:36:ILE:HG23 | 16       | 0.19          |
| (1,888)  | 1:A:50:LEU:H    | 1:A:50:LEU:HG   | 7        | 0.19          |
| (1,782)  | 1:A:4:LYS:H     | 1:A:59:GLU:HG2  | 16       | 0.19          |
| (1,355)  | 1:A:53:LYS:H    | 1:A:52:GLU:HB3  | 1        | 0.19          |
| (1,27)   | 1:A:74:ARG:H    | 1:A:74:ARG:HB3  | 7        | 0.19          |
| (1,27)   | 1:A:74:ARG:H    | 1:A:74:ARG:HB3  | 13       | 0.19          |
| (1,21)   | 1:A:74:ARG:H    | 1:A:74:ARG:HD3  | 2        | 0.19          |
| (1,21)   | 1:A:74:ARG:H    | 1:A:74:ARG:HD3  | 5        | 0.19          |
| (1,168)  | 1:A:57:ILE:H    | 1:A:57:ILE:HG13 | 20       | 0.19          |
| (1,1280) | 1:A:39:GLU:HG2  | 1:A:49:GLU:HA   | 15       | 0.19          |
| (1,1255) | 1:A:6:ILE:HD11  | 1:A:58:GLY:HA3  | 12       | 0.19          |
| (1,1255) | 1:A:6:ILE:HD12  | 1:A:58:GLY:HA3  | 12       | 0.19          |
| (1,1255) | 1:A:6:ILE:HD13  | 1:A:58:GLY:HA3  | 12       | 0.19          |
| (1,513)  | 1:A:3:ARG:H     | 1:A:3:ARG:HB2   | 3        | 0.18          |
| (1,345)  | 1:A:42:GLY:H    | 1:A:46:ILE:HG21 | 4        | 0.18          |
| (1,345)  | 1:A:42:GLY:H    | 1:A:46:ILE:HG22 | 4        | 0.18          |
| (1,345)  | 1:A:42:GLY:H    | 1:A:46:ILE:HG23 | 4        | 0.18          |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG11 | 1        | 0.18          |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG12 | 1        | 0.18          |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG13 | 1        | 0.18          |
| (1,27)   | 1:A:74:ARG:H    | 1:A:74:ARG:HB3  | 3        | 0.18          |
| (1,216)  | 1:A:75:PHE:H    | 1:A:6:ILE:HG13  | 8        | 0.18          |
| (1,216)  | 1:A:75:PHE:H    | 1:A:6:ILE:HG12  | 8        | 0.18          |
| (1,216)  | 1:A:75:PHE:H    | 1:A:6:ILE:HG13  | 11       | 0.18          |
| (1,216)  | 1:A:75:PHE:H    | 1:A:6:ILE:HG12  | 11       | 0.18          |
| (1,1858) | 1:A:79:VAL:HG21 | 1:A:80:VAL:HA   | 13       | 0.18          |
| (1,1858) | 1:A:79:VAL:HG22 | 1:A:80:VAL:HA   | 13       | 0.18          |
| (1,1858) | 1:A:79:VAL:HG23 | 1:A:80:VAL:HA   | 13       | 0.18          |
| (1,1858) | 1:A:60:VAL:HG11 | 1:A:80:VAL:HA   | 13       | 0.18          |
| (1,1858) | 1:A:60:VAL:HG12 | 1:A:80:VAL:HA   | 13       | 0.18          |
| (1,1858) | 1:A:60:VAL:HG13 | 1:A:80:VAL:HA   | 13       | 0.18          |
| (1,1827) | 1:A:72:LYS:HB2  | 1:A:72:LYS:HA   | 13       | 0.18          |
| (1,1827) | 1:A:31:LYS:HB3  | 1:A:31:LYS:HA   | 13       | 0.18          |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG11 | 3        | 0.18          |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG12 | 3        | 0.18          |

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| Key      | Atom-1          | Atom-2           | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG13  | 3        | 0.18          |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG11  | 3        | 0.18          |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG12  | 3        | 0.18          |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG13  | 3        | 0.18          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:103:ILE:HD11 | 12       | 0.18          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:103:ILE:HD12 | 12       | 0.18          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:103:ILE:HD13 | 12       | 0.18          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:100:LEU:HG   | 12       | 0.18          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:102:LEU:HD21 | 12       | 0.18          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:102:LEU:HD22 | 12       | 0.18          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:102:LEU:HD23 | 12       | 0.18          |
| (1,1280) | 1:A:39:GLU:HG2  | 1:A:49:GLU:HA    | 1        | 0.18          |
| (1,1255) | 1:A:6:ILE:HD11  | 1:A:58:GLY:HA3   | 7        | 0.18          |
| (1,1255) | 1:A:6:ILE:HD12  | 1:A:58:GLY:HA3   | 7        | 0.18          |
| (1,1255) | 1:A:6:ILE:HD13  | 1:A:58:GLY:HA3   | 7        | 0.18          |
| (1,12)   | 1:A:41:GLN:HE21 | 1:A:46:ILE:HD11  | 18       | 0.18          |
| (1,12)   | 1:A:41:GLN:HE21 | 1:A:46:ILE:HD12  | 18       | 0.18          |
| (1,12)   | 1:A:41:GLN:HE21 | 1:A:46:ILE:HD13  | 18       | 0.18          |
| (1,108)  | 1:A:74:ARG:HE   | 1:A:74:ARG:HB3   | 13       | 0.18          |
| (2,36)   | 1:A:78:LYS:HE3  | 1:A:74:ARG:HG2   | 7        | 0.17          |
| (2,19)   | 1:A:73:GLU:H    | 1:A:70:ARG:H     | 13       | 0.17          |
| (1,556)  | 1:A:27:LYS:H    | 1:A:27:LYS:HD3   | 3        | 0.17          |
| (1,556)  | 1:A:27:LYS:H    | 1:A:27:LYS:HD3   | 10       | 0.17          |
| (1,346)  | 1:A:42:GLY:H    | 1:A:41:GLN:HG3   | 4        | 0.17          |
| (1,21)   | 1:A:74:ARG:H    | 1:A:74:ARG:HD3   | 11       | 0.17          |
| (1,1830) | 1:A:104:ASP:HB3 | 1:A:101:ALA:HA   | 2        | 0.17          |
| (1,1830) | 1:A:97:ASN:HB3  | 1:A:98:ALA:HA    | 2        | 0.17          |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:8:VAL:HG21   | 15       | 0.17          |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:8:VAL:HG22   | 15       | 0.17          |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:8:VAL:HG23   | 15       | 0.17          |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:65:VAL:HG11  | 15       | 0.17          |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:65:VAL:HG12  | 15       | 0.17          |
| (1,1729) | 1:A:41:GLN:HE22 | 1:A:65:VAL:HG13  | 15       | 0.17          |
| (1,1506) | 1:A:48:ASN:HD22 | 1:A:38:VAL:HB    | 6        | 0.17          |
| (1,1506) | 1:A:48:ASN:HD22 | 1:A:47:GLU:HB2   | 6        | 0.17          |
| (1,1506) | 1:A:48:ASN:HD22 | 1:A:47:GLU:HB3   | 6        | 0.17          |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:8:VAL:HG21   | 3        | 0.17          |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:8:VAL:HG22   | 3        | 0.17          |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:8:VAL:HG23   | 3        | 0.17          |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:65:VAL:HG11  | 3        | 0.17          |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:65:VAL:HG12  | 3        | 0.17          |
| (1,1499) | 1:A:41:GLN:HE21 | 1:A:65:VAL:HG13  | 3        | 0.17          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB1  | 5        | 0.17          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB2  | 5        | 0.17          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB3  | 5        | 0.17          |
| (1,972)  | 1:A:75:PHE:HE1  | 1:A:55:VAL:HG11 | 1        | 0.16          |
| (1,972)  | 1:A:75:PHE:HE1  | 1:A:55:VAL:HG12 | 1        | 0.16          |
| (1,972)  | 1:A:75:PHE:HE1  | 1:A:55:VAL:HG13 | 1        | 0.16          |
| (1,972)  | 1:A:75:PHE:HE2  | 1:A:55:VAL:HG11 | 1        | 0.16          |
| (1,972)  | 1:A:75:PHE:HE2  | 1:A:55:VAL:HG12 | 1        | 0.16          |
| (1,972)  | 1:A:75:PHE:HE2  | 1:A:55:VAL:HG13 | 1        | 0.16          |
| (1,556)  | 1:A:27:LYS:H    | 1:A:27:LYS:HD3  | 1        | 0.16          |
| (1,1865) | 1:A:81:LEU:HB3  | 1:A:61:VAL:HA   | 7        | 0.16          |
| (1,1865) | 1:A:50:LEU:HD11 | 1:A:61:VAL:HA   | 7        | 0.16          |
| (1,1865) | 1:A:50:LEU:HD12 | 1:A:61:VAL:HA   | 7        | 0.16          |
| (1,1865) | 1:A:50:LEU:HD13 | 1:A:61:VAL:HA   | 7        | 0.16          |
| (1,1830) | 1:A:104:ASP:HB3 | 1:A:101:ALA:HA  | 6        | 0.16          |
| (1,1830) | 1:A:97:ASN:HB3  | 1:A:98:ALA:HA   | 6        | 0.16          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD11 | 10       | 0.16          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD12 | 10       | 0.16          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD13 | 10       | 0.16          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD11 | 10       | 0.16          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD12 | 10       | 0.16          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD13 | 10       | 0.16          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD11 | 10       | 0.16          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD12 | 10       | 0.16          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD13 | 10       | 0.16          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD11 | 10       | 0.16          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD12 | 10       | 0.16          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD13 | 10       | 0.16          |
| (1,1661) | 1:A:27:LYS:H    | 1:A:27:LYS:HB3  | 3        | 0.16          |
| (1,1661) | 1:A:27:LYS:H    | 1:A:26:LYS:HB3  | 3        | 0.16          |
| (1,1503) | 1:A:71:ASN:HD21 | 1:A:70:ARG:HB3  | 11       | 0.16          |
| (1,1503) | 1:A:71:ASN:HD21 | 1:A:74:ARG:HG3  | 11       | 0.16          |
| (1,1398) | 1:A:37:LYS:HD2  | 1:A:37:LYS:HA   | 11       | 0.16          |
| (1,1398) | 1:A:37:LYS:HD3  | 1:A:37:LYS:HA   | 11       | 0.16          |
| (1,1366) | 1:A:79:VAL:HG11 | 1:A:60:VAL:HA   | 18       | 0.16          |
| (1,1366) | 1:A:79:VAL:HG12 | 1:A:60:VAL:HA   | 18       | 0.16          |
| (1,1366) | 1:A:79:VAL:HG13 | 1:A:60:VAL:HA   | 18       | 0.16          |
| (1,1193) | 1:A:101:ALA:HA  | 1:A:104:ASP:HB3 | 18       | 0.16          |
| (1,1135) | 1:A:69:VAL:HG21 | 1:A:72:LYS:HB2  | 4        | 0.16          |
| (1,1135) | 1:A:69:VAL:HG22 | 1:A:72:LYS:HB2  | 4        | 0.16          |
| (1,1135) | 1:A:69:VAL:HG23 | 1:A:72:LYS:HB2  | 4        | 0.16          |
| (1,906)  | 1:A:70:ARG:H    | 1:A:8:VAL:HG21  | 14       | 0.15          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,906)  | 1:A:70:ARG:H    | 1:A:8:VAL:HG22  | 14       | 0.15          |
| (1,906)  | 1:A:70:ARG:H    | 1:A:8:VAL:HG23  | 14       | 0.15          |
| (1,847)  | 1:A:63:PHE:H    | 1:A:80:VAL:HG11 | 3        | 0.15          |
| (1,847)  | 1:A:63:PHE:H    | 1:A:80:VAL:HG12 | 3        | 0.15          |
| (1,847)  | 1:A:63:PHE:H    | 1:A:80:VAL:HG13 | 3        | 0.15          |
| (1,653)  | 1:A:93:GLU:H    | 1:A:28:GLY:HA2  | 20       | 0.15          |
| (1,458)  | 1:A:24:ALA:H    | 1:A:89:ILE:HG13 | 6        | 0.15          |
| (1,285)  | 1:A:10:ALA:H    | 1:A:69:VAL:HG11 | 19       | 0.15          |
| (1,285)  | 1:A:10:ALA:H    | 1:A:69:VAL:HG12 | 19       | 0.15          |
| (1,285)  | 1:A:10:ALA:H    | 1:A:69:VAL:HG13 | 19       | 0.15          |
| (1,24)   | 1:A:74:ARG:H    | 1:A:74:ARG:HG2  | 7        | 0.15          |
| (1,216)  | 1:A:75:PHE:H    | 1:A:6:ILE:HG13  | 9        | 0.15          |
| (1,216)  | 1:A:75:PHE:H    | 1:A:6:ILE:HG12  | 9        | 0.15          |
| (1,216)  | 1:A:75:PHE:H    | 1:A:6:ILE:HG13  | 19       | 0.15          |
| (1,216)  | 1:A:75:PHE:H    | 1:A:6:ILE:HG12  | 19       | 0.15          |
| (1,1835) | 1:A:30:LYS:HE2  | 1:A:30:LYS:HA   | 13       | 0.15          |
| (1,1835) | 1:A:30:LYS:HE3  | 1:A:30:LYS:HA   | 13       | 0.15          |
| (1,1835) | 1:A:75:PHE:HB3  | 1:A:73:GLU:HA   | 13       | 0.15          |
| (1,1835) | 1:A:72:LYS:HE3  | 1:A:73:GLU:HA   | 13       | 0.15          |
| (1,1835) | 1:A:17:HIS:HB3  | 1:A:20:MET:HA   | 13       | 0.15          |
| (1,1830) | 1:A:104:ASP:HB3 | 1:A:101:ALA:HA  | 15       | 0.15          |
| (1,1830) | 1:A:97:ASN:HB3  | 1:A:98:ALA:HA   | 15       | 0.15          |
| (1,1788) | 1:A:55:VAL:HG11 | 1:A:50:LEU:HB2  | 15       | 0.15          |
| (1,1788) | 1:A:55:VAL:HG12 | 1:A:50:LEU:HB2  | 15       | 0.15          |
| (1,1788) | 1:A:55:VAL:HG13 | 1:A:50:LEU:HB2  | 15       | 0.15          |
| (1,1788) | 1:A:8:VAL:HG11  | 1:A:50:LEU:HB2  | 15       | 0.15          |
| (1,1788) | 1:A:8:VAL:HG12  | 1:A:50:LEU:HB2  | 15       | 0.15          |
| (1,1788) | 1:A:8:VAL:HG13  | 1:A:50:LEU:HB2  | 15       | 0.15          |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG11 | 7        | 0.15          |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG12 | 7        | 0.15          |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG13 | 7        | 0.15          |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG11 | 7        | 0.15          |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG12 | 7        | 0.15          |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG13 | 7        | 0.15          |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG11 | 8        | 0.15          |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG12 | 8        | 0.15          |
| (1,1737) | 1:A:63:PHE:HB3  | 1:A:69:VAL:HG13 | 8        | 0.15          |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG11 | 8        | 0.15          |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG12 | 8        | 0.15          |
| (1,1737) | 1:A:72:LYS:HE3  | 1:A:69:VAL:HG13 | 8        | 0.15          |
| (1,1714) | 1:A:8:VAL:H     | 1:A:9:THR:HG21  | 13       | 0.15          |
| (1,1714) | 1:A:8:VAL:H     | 1:A:9:THR:HG22  | 13       | 0.15          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1714) | 1:A:8:VAL:H     | 1:A:9:THR:HG23  | 13       | 0.15          |
| (1,1714) | 1:A:8:VAL:H     | 1:A:64:ALA:HB1  | 13       | 0.15          |
| (1,1714) | 1:A:8:VAL:H     | 1:A:64:ALA:HB2  | 13       | 0.15          |
| (1,1714) | 1:A:8:VAL:H     | 1:A:64:ALA:HB3  | 13       | 0.15          |
| (1,162)  | 1:A:45:GLY:H    | 1:A:41:GLN:HA   | 15       | 0.15          |
| (1,1592) | 1:A:71:ASN:HD22 | 1:A:70:ARG:HB3  | 11       | 0.15          |
| (1,1592) | 1:A:71:ASN:HD22 | 1:A:74:ARG:HG3  | 11       | 0.15          |
| (1,1135) | 1:A:69:VAL:HG21 | 1:A:72:LYS:HB2  | 2        | 0.15          |
| (1,1135) | 1:A:69:VAL:HG22 | 1:A:72:LYS:HB2  | 2        | 0.15          |
| (1,1135) | 1:A:69:VAL:HG23 | 1:A:72:LYS:HB2  | 2        | 0.15          |
| (1,940)  | 1:A:25:LEU:HB2  | 1:A:36:ILE:HD11 | 2        | 0.14          |
| (1,940)  | 1:A:25:LEU:HB2  | 1:A:36:ILE:HD12 | 2        | 0.14          |
| (1,940)  | 1:A:25:LEU:HB2  | 1:A:36:ILE:HD13 | 2        | 0.14          |
| (1,782)  | 1:A:4:LYS:H     | 1:A:59:GLU:HG2  | 4        | 0.14          |
| (1,639)  | 1:A:40:THR:H    | 1:A:39:GLU:HG2  | 6        | 0.14          |
| (1,633)  | 1:A:40:THR:H    | 1:A:47:GLU:H    | 10       | 0.14          |
| (1,614)  | 1:A:41:GLN:H    | 1:A:65:VAL:HG11 | 5        | 0.14          |
| (1,614)  | 1:A:41:GLN:H    | 1:A:65:VAL:HG12 | 5        | 0.14          |
| (1,614)  | 1:A:41:GLN:H    | 1:A:65:VAL:HG13 | 5        | 0.14          |
| (1,414)  | 1:A:25:LEU:H    | 1:A:20:MET:HG2  | 18       | 0.14          |
| (1,371)  | 1:A:99:ALA:H    | 1:A:60:VAL:HG21 | 1        | 0.14          |
| (1,371)  | 1:A:99:ALA:H    | 1:A:60:VAL:HG22 | 1        | 0.14          |
| (1,371)  | 1:A:99:ALA:H    | 1:A:60:VAL:HG23 | 1        | 0.14          |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG11 | 15       | 0.14          |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG12 | 15       | 0.14          |
| (1,322)  | 1:A:80:VAL:H    | 1:A:79:VAL:HG13 | 15       | 0.14          |
| (1,255)  | 1:A:91:ASP:H    | 1:A:91:ASP:HB2  | 12       | 0.14          |
| (1,24)   | 1:A:74:ARG:H    | 1:A:74:ARG:HG2  | 13       | 0.14          |
| (1,230)  | 1:A:94:LYS:H    | 1:A:93:GLU:HB3  | 5        | 0.14          |
| (1,230)  | 1:A:94:LYS:H    | 1:A:93:GLU:HB3  | 18       | 0.14          |
| (1,21)   | 1:A:74:ARG:H    | 1:A:74:ARG:HD3  | 19       | 0.14          |
| (1,2)    | 1:A:34:ASN:HD21 | 1:A:32:MET:HB2  | 20       | 0.14          |
| (1,1863) | 1:A:81:LEU:HB2  | 1:A:62:ILE:HA   | 15       | 0.14          |
| (1,1863) | 1:A:61:VAL:HB   | 1:A:62:ILE:HA   | 15       | 0.14          |
| (1,1830) | 1:A:104:ASP:HB3 | 1:A:101:ALA:HA  | 18       | 0.14          |
| (1,1830) | 1:A:97:ASN:HB3  | 1:A:98:ALA:HA   | 18       | 0.14          |
| (1,1722) | 1:A:63:PHE:H    | 1:A:82:GLU:HG2  | 19       | 0.14          |
| (1,1722) | 1:A:63:PHE:H    | 1:A:83:VAL:HB   | 19       | 0.14          |
| (1,168)  | 1:A:57:ILE:H    | 1:A:57:ILE:HG13 | 3        | 0.14          |
| (1,162)  | 1:A:45:GLY:H    | 1:A:41:GLN:HA   | 12       | 0.14          |
| (1,1575) | 1:A:19:TYR:H    | 1:A:17:HIS:HD2  | 4        | 0.14          |
| (1,1575) | 1:A:19:TYR:H    | 1:A:23:GLN:HE21 | 4        | 0.14          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1409) | 1:A:47:GLU:HG2  | 1:A:47:GLU:HA   | 2        | 0.14          |
| (1,1296) | 1:A:81:LEU:HB3  | 1:A:99:ALA:HA   | 2        | 0.14          |
| (1,1296) | 1:A:81:LEU:HB3  | 1:A:99:ALA:HA   | 5        | 0.14          |
| (1,1296) | 1:A:81:LEU:HB3  | 1:A:99:ALA:HA   | 6        | 0.14          |
| (1,1296) | 1:A:81:LEU:HB3  | 1:A:99:ALA:HA   | 7        | 0.14          |
| (1,1296) | 1:A:81:LEU:HB3  | 1:A:99:ALA:HA   | 12       | 0.14          |
| (1,1275) | 1:A:96:ILE:HB   | 1:A:93:GLU:HA   | 10       | 0.14          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB1  | 14       | 0.14          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB2  | 14       | 0.14          |
| (1,1052) | 1:A:28:GLY:HA2  | 1:A:92:ALA:HB3  | 14       | 0.14          |
| (2,45)   | 1:A:75:PHE:HA   | 1:A:78:LYS:HA   | 16       | 0.13          |
| (2,19)   | 1:A:73:GLU:H    | 1:A:70:ARG:H    | 12       | 0.13          |
| (2,19)   | 1:A:73:GLU:H    | 1:A:70:ARG:H    | 14       | 0.13          |
| (1,828)  | 1:A:47:GLU:H    | 1:A:39:GLU:HG2  | 3        | 0.13          |
| (1,651)  | 1:A:93:GLU:H    | 1:A:91:ASP:HB2  | 16       | 0.13          |
| (1,646)  | 1:A:93:GLU:H    | 1:A:93:GLU:HB3  | 15       | 0.13          |
| (1,646)  | 1:A:93:GLU:H    | 1:A:93:GLU:HB3  | 18       | 0.13          |
| (1,633)  | 1:A:40:THR:H    | 1:A:47:GLU:H    | 2        | 0.13          |
| (1,576)  | 1:A:72:LYS:H    | 1:A:73:GLU:HG3  | 15       | 0.13          |
| (1,576)  | 1:A:72:LYS:H    | 1:A:73:GLU:HG2  | 15       | 0.13          |
| (1,216)  | 1:A:75:PHE:H    | 1:A:6:ILE:HG13  | 4        | 0.13          |
| (1,216)  | 1:A:75:PHE:H    | 1:A:6:ILE:HG12  | 4        | 0.13          |
| (1,216)  | 1:A:75:PHE:H    | 1:A:6:ILE:HG13  | 10       | 0.13          |
| (1,216)  | 1:A:75:PHE:H    | 1:A:6:ILE:HG12  | 10       | 0.13          |
| (1,21)   | 1:A:74:ARG:H    | 1:A:74:ARG:HD3  | 6        | 0.13          |
| (1,21)   | 1:A:74:ARG:H    | 1:A:74:ARG:HD3  | 10       | 0.13          |
| (1,2)    | 1:A:34:ASN:HD21 | 1:A:32:MET:HB2  | 6        | 0.13          |
| (1,1863) | 1:A:81:LEU:HB2  | 1:A:62:ILE:HA   | 7        | 0.13          |
| (1,1863) | 1:A:61:VAL:HB   | 1:A:62:ILE:HA   | 7        | 0.13          |
| (1,1830) | 1:A:104:ASP:HB3 | 1:A:101:ALA:HA  | 5        | 0.13          |
| (1,1830) | 1:A:97:ASN:HB3  | 1:A:98:ALA:HA   | 5        | 0.13          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD11 | 4        | 0.13          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD12 | 4        | 0.13          |
| (1,1743) | 1:A:62:ILE:HB   | 1:A:25:LEU:HD13 | 4        | 0.13          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD11 | 4        | 0.13          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD12 | 4        | 0.13          |
| (1,1743) | 1:A:21:ALA:HB1  | 1:A:25:LEU:HD13 | 4        | 0.13          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD11 | 4        | 0.13          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD12 | 4        | 0.13          |
| (1,1743) | 1:A:21:ALA:HB2  | 1:A:25:LEU:HD13 | 4        | 0.13          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD11 | 4        | 0.13          |
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD12 | 4        | 0.13          |

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| Key      | Atom-1          | Atom-2           | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,1743) | 1:A:21:ALA:HB3  | 1:A:25:LEU:HD13  | 4        | 0.13          |
| (1,1696) | 1:A:7:ALA:H     | 1:A:50:LEU:HD11  | 5        | 0.13          |
| (1,1696) | 1:A:7:ALA:H     | 1:A:50:LEU:HD12  | 5        | 0.13          |
| (1,1696) | 1:A:7:ALA:H     | 1:A:50:LEU:HD13  | 5        | 0.13          |
| (1,1696) | 1:A:7:ALA:H     | 1:A:6:ILE:HD11   | 5        | 0.13          |
| (1,1696) | 1:A:7:ALA:H     | 1:A:6:ILE:HD12   | 5        | 0.13          |
| (1,1696) | 1:A:7:ALA:H     | 1:A:6:ILE:HD13   | 5        | 0.13          |
| (1,1648) | 1:A:15:VAL:H    | 1:A:13:THR:HB    | 4        | 0.13          |
| (1,1648) | 1:A:15:VAL:H    | 1:A:19:TYR:HA    | 4        | 0.13          |
| (1,1617) | 1:A:105:GLU:H   | 1:A:103:ILE:HG21 | 13       | 0.13          |
| (1,1617) | 1:A:105:GLU:H   | 1:A:103:ILE:HG22 | 13       | 0.13          |
| (1,1617) | 1:A:105:GLU:H   | 1:A:103:ILE:HG23 | 13       | 0.13          |
| (1,1617) | 1:A:105:GLU:H   | 1:A:60:VAL:HG11  | 13       | 0.13          |
| (1,1617) | 1:A:105:GLU:H   | 1:A:60:VAL:HG12  | 13       | 0.13          |
| (1,1617) | 1:A:105:GLU:H   | 1:A:60:VAL:HG13  | 13       | 0.13          |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:33:GLY:HA3   | 20       | 0.13          |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HA    | 20       | 0.13          |
| (1,1576) | 1:A:19:TYR:H    | 1:A:11:CYS:HB3   | 9        | 0.13          |
| (1,1576) | 1:A:19:TYR:H    | 1:A:20:MET:HG2   | 9        | 0.13          |
| (1,1575) | 1:A:19:TYR:H    | 1:A:17:HIS:HD2   | 6        | 0.13          |
| (1,1575) | 1:A:19:TYR:H    | 1:A:23:GLN:HE21  | 6        | 0.13          |
| (1,1296) | 1:A:81:LEU:HB3  | 1:A:99:ALA:HA    | 11       | 0.13          |
| (1,1296) | 1:A:81:LEU:HB3  | 1:A:99:ALA:HA    | 13       | 0.13          |
| (1,1296) | 1:A:81:LEU:HB3  | 1:A:99:ALA:HA    | 19       | 0.13          |
| (1,1255) | 1:A:6:ILE:HD11  | 1:A:58:GLY:HA3   | 14       | 0.13          |
| (1,1255) | 1:A:6:ILE:HD12  | 1:A:58:GLY:HA3   | 14       | 0.13          |
| (1,1255) | 1:A:6:ILE:HD13  | 1:A:58:GLY:HA3   | 14       | 0.13          |
| (1,106)  | 1:A:74:ARG:HE   | 1:A:71:ASN:HB3   | 13       | 0.13          |
| (1,919)  | 1:A:72:LYS:HG3  | 1:A:69:VAL:HG11  | 4        | 0.12          |
| (1,919)  | 1:A:72:LYS:HG3  | 1:A:69:VAL:HG12  | 4        | 0.12          |
| (1,919)  | 1:A:72:LYS:HG3  | 1:A:69:VAL:HG13  | 4        | 0.12          |
| (1,919)  | 1:A:72:LYS:HG2  | 1:A:69:VAL:HG11  | 4        | 0.12          |
| (1,919)  | 1:A:72:LYS:HG2  | 1:A:69:VAL:HG12  | 4        | 0.12          |
| (1,919)  | 1:A:72:LYS:HG2  | 1:A:69:VAL:HG13  | 4        | 0.12          |
| (1,847)  | 1:A:63:PHE:H    | 1:A:80:VAL:HG11  | 2        | 0.12          |
| (1,847)  | 1:A:63:PHE:H    | 1:A:80:VAL:HG12  | 2        | 0.12          |
| (1,847)  | 1:A:63:PHE:H    | 1:A:80:VAL:HG13  | 2        | 0.12          |
| (1,828)  | 1:A:47:GLU:H    | 1:A:39:GLU:HG2   | 11       | 0.12          |
| (1,646)  | 1:A:93:GLU:H    | 1:A:93:GLU:HB3   | 3        | 0.12          |
| (1,619)  | 1:A:46:ILE:H    | 1:A:45:GLY:HA3   | 19       | 0.12          |
| (1,614)  | 1:A:41:GLN:H    | 1:A:65:VAL:HG11  | 10       | 0.12          |
| (1,614)  | 1:A:41:GLN:H    | 1:A:65:VAL:HG12  | 10       | 0.12          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,614)  | 1:A:41:GLN:H    | 1:A:65:VAL:HG13 | 10       | 0.12          |
| (1,576)  | 1:A:72:LYS:H    | 1:A:73:GLU:HG3  | 11       | 0.12          |
| (1,576)  | 1:A:72:LYS:H    | 1:A:73:GLU:HG2  | 11       | 0.12          |
| (1,556)  | 1:A:27:LYS:H    | 1:A:27:LYS:HD3  | 11       | 0.12          |
| (1,526)  | 1:A:100:LEU:H   | 1:A:100:LEU:HG  | 8        | 0.12          |
| (1,526)  | 1:A:100:LEU:H   | 1:A:100:LEU:HG  | 17       | 0.12          |
| (1,519)  | 1:A:3:ARG:H     | 1:A:34:ASN:HD22 | 3        | 0.12          |
| (1,414)  | 1:A:25:LEU:H    | 1:A:20:MET:HG2  | 10       | 0.12          |
| (1,346)  | 1:A:42:GLY:H    | 1:A:41:GLN:HG3  | 3        | 0.12          |
| (1,1840) | 1:A:55:VAL:HG21 | 1:A:75:PHE:HA   | 15       | 0.12          |
| (1,1840) | 1:A:55:VAL:HG22 | 1:A:75:PHE:HA   | 15       | 0.12          |
| (1,1840) | 1:A:55:VAL:HG23 | 1:A:75:PHE:HA   | 15       | 0.12          |
| (1,1840) | 1:A:74:ARG:HB2  | 1:A:75:PHE:HA   | 15       | 0.12          |
| (1,1840) | 1:A:35:LEU:HD11 | 1:A:2:LYS:HA    | 15       | 0.12          |
| (1,1840) | 1:A:35:LEU:HD12 | 1:A:2:LYS:HA    | 15       | 0.12          |
| (1,1840) | 1:A:35:LEU:HD13 | 1:A:2:LYS:HA    | 15       | 0.12          |
| (1,1840) | 1:A:35:LEU:HD21 | 1:A:2:LYS:HA    | 15       | 0.12          |
| (1,1840) | 1:A:35:LEU:HD22 | 1:A:2:LYS:HA    | 15       | 0.12          |
| (1,1840) | 1:A:35:LEU:HD23 | 1:A:2:LYS:HA    | 15       | 0.12          |
| (1,1840) | 1:A:89:ILE:HG21 | 1:A:87:ALA:HA   | 15       | 0.12          |
| (1,1840) | 1:A:89:ILE:HG22 | 1:A:87:ALA:HA   | 15       | 0.12          |
| (1,1840) | 1:A:89:ILE:HG23 | 1:A:87:ALA:HA   | 15       | 0.12          |
| (1,1840) | 1:A:85:VAL:HG11 | 1:A:87:ALA:HA   | 15       | 0.12          |
| (1,1840) | 1:A:85:VAL:HG12 | 1:A:87:ALA:HA   | 15       | 0.12          |
| (1,1840) | 1:A:85:VAL:HG13 | 1:A:87:ALA:HA   | 15       | 0.12          |
| (1,1835) | 1:A:30:LYS:HE2  | 1:A:30:LYS:HA   | 3        | 0.12          |
| (1,1835) | 1:A:30:LYS:HE3  | 1:A:30:LYS:HA   | 3        | 0.12          |
| (1,1835) | 1:A:75:PHE:HB3  | 1:A:73:GLU:HA   | 3        | 0.12          |
| (1,1835) | 1:A:72:LYS:HE3  | 1:A:73:GLU:HA   | 3        | 0.12          |
| (1,1835) | 1:A:17:HIS:HB3  | 1:A:20:MET:HA   | 3        | 0.12          |
| (1,1824) | 1:A:27:LYS:HB2  | 1:A:27:LYS:HA   | 18       | 0.12          |
| (1,1824) | 1:A:89:ILE:HB   | 1:A:86:SER:HA   | 18       | 0.12          |
| (1,1762) | 1:A:92:ALA:HA   | 1:A:95:VAL:HG11 | 15       | 0.12          |
| (1,1762) | 1:A:92:ALA:HA   | 1:A:95:VAL:HG12 | 15       | 0.12          |
| (1,1762) | 1:A:92:ALA:HA   | 1:A:95:VAL:HG13 | 15       | 0.12          |
| (1,1762) | 1:A:25:LEU:HA   | 1:A:95:VAL:HG11 | 15       | 0.12          |
| (1,1762) | 1:A:25:LEU:HA   | 1:A:95:VAL:HG12 | 15       | 0.12          |
| (1,1762) | 1:A:25:LEU:HA   | 1:A:95:VAL:HG13 | 15       | 0.12          |
| (1,1728) | 1:A:59:GLU:H    | 1:A:5:ILE:HG12  | 5        | 0.12          |
| (1,1728) | 1:A:59:GLU:H    | 1:A:6:ILE:HG21  | 5        | 0.12          |
| (1,1728) | 1:A:59:GLU:H    | 1:A:6:ILE:HG22  | 5        | 0.12          |
| (1,1728) | 1:A:59:GLU:H    | 1:A:6:ILE:HG23  | 5        | 0.12          |

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| Key      | Atom-1          | Atom-2           | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,1661) | 1:A:27:LYS:H    | 1:A:27:LYS:HB3   | 18       | 0.12          |
| (1,1661) | 1:A:27:LYS:H    | 1:A:26:LYS:HB3   | 18       | 0.12          |
| (1,1656) | 1:A:69:VAL:H    | 1:A:68:LYS:HE3   | 16       | 0.12          |
| (1,1656) | 1:A:69:VAL:H    | 1:A:72:LYS:HE3   | 16       | 0.12          |
| (1,1656) | 1:A:69:VAL:H    | 1:A:72:LYS:HE2   | 16       | 0.12          |
| (1,1654) | 1:A:29:ALA:H    | 1:A:96:ILE:HB    | 11       | 0.12          |
| (1,1654) | 1:A:29:ALA:H    | 1:A:25:LEU:HG    | 11       | 0.12          |
| (1,1654) | 1:A:29:ALA:H    | 1:A:30:LYS:HD2   | 11       | 0.12          |
| (1,1654) | 1:A:29:ALA:H    | 1:A:30:LYS:HD3   | 11       | 0.12          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:103:ILE:HD11 | 5        | 0.12          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:103:ILE:HD12 | 5        | 0.12          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:103:ILE:HD13 | 5        | 0.12          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:100:LEU:HG   | 5        | 0.12          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:102:LEU:HD21 | 5        | 0.12          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:102:LEU:HD22 | 5        | 0.12          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:102:LEU:HD23 | 5        | 0.12          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:103:ILE:HD11 | 17       | 0.12          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:103:ILE:HD12 | 17       | 0.12          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:103:ILE:HD13 | 17       | 0.12          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:100:LEU:HG   | 17       | 0.12          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:102:LEU:HD21 | 17       | 0.12          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:102:LEU:HD22 | 17       | 0.12          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:102:LEU:HD23 | 17       | 0.12          |
| (1,161)  | 1:A:45:GLY:H    | 1:A:42:GLY:HA2   | 20       | 0.12          |
| (1,1592) | 1:A:71:ASN:HD22 | 1:A:70:ARG:HB3   | 3        | 0.12          |
| (1,1592) | 1:A:71:ASN:HD22 | 1:A:74:ARG:HG3   | 3        | 0.12          |
| (1,1559) | 1:A:75:PHE:H    | 1:A:6:ILE:HD11   | 15       | 0.12          |
| (1,1559) | 1:A:75:PHE:H    | 1:A:6:ILE:HD12   | 15       | 0.12          |
| (1,1559) | 1:A:75:PHE:H    | 1:A:6:ILE:HD13   | 15       | 0.12          |
| (1,1559) | 1:A:75:PHE:H    | 1:A:50:LEU:HD11  | 15       | 0.12          |
| (1,1559) | 1:A:75:PHE:H    | 1:A:50:LEU:HD12  | 15       | 0.12          |
| (1,1559) | 1:A:75:PHE:H    | 1:A:50:LEU:HD13  | 15       | 0.12          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG21  | 3        | 0.12          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG22  | 3        | 0.12          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:55:VAL:HG23  | 3        | 0.12          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG11  | 3        | 0.12          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG12  | 3        | 0.12          |
| (1,1519) | 1:A:76:ASP:H    | 1:A:79:VAL:HG13  | 3        | 0.12          |
| (1,15)   | 1:A:41:GLN:HE21 | 1:A:69:VAL:HG21  | 15       | 0.12          |
| (1,15)   | 1:A:41:GLN:HE21 | 1:A:69:VAL:HG22  | 15       | 0.12          |
| (1,15)   | 1:A:41:GLN:HE21 | 1:A:69:VAL:HG23  | 15       | 0.12          |
| (1,1407) | 1:A:3:ARG:HD3   | 1:A:3:ARG:HA     | 1        | 0.12          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1296) | 1:A:81:LEU:HB3  | 1:A:99:ALA:HA   | 9        | 0.12          |
| (1,1296) | 1:A:81:LEU:HB3  | 1:A:99:ALA:HA   | 16       | 0.12          |
| (1,1256) | 1:A:6:ILE:HG21  | 1:A:58:GLY:HA3  | 7        | 0.12          |
| (1,1256) | 1:A:6:ILE:HG22  | 1:A:58:GLY:HA3  | 7        | 0.12          |
| (1,1256) | 1:A:6:ILE:HG23  | 1:A:58:GLY:HA3  | 7        | 0.12          |
| (1,1256) | 1:A:6:ILE:HG21  | 1:A:58:GLY:HA3  | 12       | 0.12          |
| (1,1256) | 1:A:6:ILE:HG22  | 1:A:58:GLY:HA3  | 12       | 0.12          |
| (1,1256) | 1:A:6:ILE:HG23  | 1:A:58:GLY:HA3  | 12       | 0.12          |
| (1,1255) | 1:A:6:ILE:HD11  | 1:A:58:GLY:HA3  | 2        | 0.12          |
| (1,1255) | 1:A:6:ILE:HD12  | 1:A:58:GLY:HA3  | 2        | 0.12          |
| (1,1255) | 1:A:6:ILE:HD13  | 1:A:58:GLY:HA3  | 2        | 0.12          |
| (1,1255) | 1:A:6:ILE:HD11  | 1:A:58:GLY:HA3  | 9        | 0.12          |
| (1,1255) | 1:A:6:ILE:HD12  | 1:A:58:GLY:HA3  | 9        | 0.12          |
| (1,1255) | 1:A:6:ILE:HD13  | 1:A:58:GLY:HA3  | 9        | 0.12          |
| (2,36)   | 1:A:78:LYS:HE3  | 1:A:74:ARG:HG2  | 13       | 0.11          |
| (2,19)   | 1:A:73:GLU:H    | 1:A:70:ARG:H    | 17       | 0.11          |
| (2,1)    | 1:A:56:ASN:HD21 | 1:A:52:GLU:HG3  | 7        | 0.11          |
| (1,969)  | 1:A:28:GLY:HA2  | 1:A:96:ILE:HD11 | 18       | 0.11          |
| (1,969)  | 1:A:28:GLY:HA2  | 1:A:96:ILE:HD12 | 18       | 0.11          |
| (1,969)  | 1:A:28:GLY:HA2  | 1:A:96:ILE:HD13 | 18       | 0.11          |
| (1,953)  | 1:A:96:ILE:HA   | 1:A:5:ILE:HD11  | 16       | 0.11          |
| (1,953)  | 1:A:96:ILE:HA   | 1:A:5:ILE:HD12  | 16       | 0.11          |
| (1,953)  | 1:A:96:ILE:HA   | 1:A:5:ILE:HD13  | 16       | 0.11          |
| (1,934)  | 1:A:72:LYS:HG3  | 1:A:69:VAL:HG21 | 2        | 0.11          |
| (1,934)  | 1:A:72:LYS:HG3  | 1:A:69:VAL:HG22 | 2        | 0.11          |
| (1,934)  | 1:A:72:LYS:HG3  | 1:A:69:VAL:HG23 | 2        | 0.11          |
| (1,934)  | 1:A:72:LYS:HG2  | 1:A:69:VAL:HG21 | 2        | 0.11          |
| (1,934)  | 1:A:72:LYS:HG2  | 1:A:69:VAL:HG22 | 2        | 0.11          |
| (1,934)  | 1:A:72:LYS:HG2  | 1:A:69:VAL:HG23 | 2        | 0.11          |
| (1,910)  | 1:A:73:GLU:H    | 1:A:73:GLU:HG3  | 7        | 0.11          |
| (1,910)  | 1:A:73:GLU:H    | 1:A:73:GLU:HG2  | 7        | 0.11          |
| (1,906)  | 1:A:70:ARG:H    | 1:A:8:VAL:HG21  | 11       | 0.11          |
| (1,906)  | 1:A:70:ARG:H    | 1:A:8:VAL:HG22  | 11       | 0.11          |
| (1,906)  | 1:A:70:ARG:H    | 1:A:8:VAL:HG23  | 11       | 0.11          |
| (1,847)  | 1:A:63:PHE:H    | 1:A:80:VAL:HG11 | 12       | 0.11          |
| (1,847)  | 1:A:63:PHE:H    | 1:A:80:VAL:HG12 | 12       | 0.11          |
| (1,847)  | 1:A:63:PHE:H    | 1:A:80:VAL:HG13 | 12       | 0.11          |
| (1,785)  | 1:A:79:VAL:H    | 1:A:78:LYS:HB2  | 17       | 0.11          |
| (1,651)  | 1:A:93:GLU:H    | 1:A:91:ASP:HB2  | 20       | 0.11          |
| (1,646)  | 1:A:93:GLU:H    | 1:A:93:GLU:HB3  | 6        | 0.11          |
| (1,633)  | 1:A:40:THR:H    | 1:A:47:GLU:H    | 14       | 0.11          |
| (1,614)  | 1:A:41:GLN:H    | 1:A:65:VAL:HG11 | 17       | 0.11          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,614)  | 1:A:41:GLN:H    | 1:A:65:VAL:HG12 | 17       | 0.11          |
| (1,614)  | 1:A:41:GLN:H    | 1:A:65:VAL:HG13 | 17       | 0.11          |
| (1,581)  | 1:A:72:LYS:H    | 1:A:69:VAL:HG11 | 1        | 0.11          |
| (1,581)  | 1:A:72:LYS:H    | 1:A:69:VAL:HG12 | 1        | 0.11          |
| (1,581)  | 1:A:72:LYS:H    | 1:A:69:VAL:HG13 | 1        | 0.11          |
| (1,581)  | 1:A:72:LYS:H    | 1:A:69:VAL:HG11 | 16       | 0.11          |
| (1,581)  | 1:A:72:LYS:H    | 1:A:69:VAL:HG12 | 16       | 0.11          |
| (1,581)  | 1:A:72:LYS:H    | 1:A:69:VAL:HG13 | 16       | 0.11          |
| (1,530)  | 1:A:15:VAL:H    | 1:A:15:VAL:HB   | 1        | 0.11          |
| (1,530)  | 1:A:15:VAL:H    | 1:A:15:VAL:HB   | 12       | 0.11          |
| (1,356)  | 1:A:42:GLY:H    | 1:A:46:ILE:HG12 | 10       | 0.11          |
| (1,356)  | 1:A:42:GLY:H    | 1:A:46:ILE:HG13 | 10       | 0.11          |
| (1,341)  | 1:A:42:GLY:H    | 1:A:46:ILE:HA   | 12       | 0.11          |
| (1,27)   | 1:A:74:ARG:H    | 1:A:74:ARG:HB3  | 18       | 0.11          |
| (1,239)  | 1:A:49:GLU:H    | 1:A:48:ASN:H    | 9        | 0.11          |
| (1,216)  | 1:A:75:PHE:H    | 1:A:6:ILE:HG13  | 1        | 0.11          |
| (1,216)  | 1:A:75:PHE:H    | 1:A:6:ILE:HG12  | 1        | 0.11          |
| (1,216)  | 1:A:75:PHE:H    | 1:A:6:ILE:HG13  | 6        | 0.11          |
| (1,216)  | 1:A:75:PHE:H    | 1:A:6:ILE:HG12  | 6        | 0.11          |
| (1,216)  | 1:A:75:PHE:H    | 1:A:6:ILE:HG13  | 16       | 0.11          |
| (1,216)  | 1:A:75:PHE:H    | 1:A:6:ILE:HG12  | 16       | 0.11          |
| (1,216)  | 1:A:75:PHE:H    | 1:A:6:ILE:HG13  | 20       | 0.11          |
| (1,216)  | 1:A:75:PHE:H    | 1:A:6:ILE:HG12  | 20       | 0.11          |
| (1,2)    | 1:A:34:ASN:HD21 | 1:A:32:MET:HB2  | 18       | 0.11          |
| (1,2)    | 1:A:34:ASN:HD21 | 1:A:32:MET:HB2  | 19       | 0.11          |
| (1,196)  | 1:A:58:GLY:H    | 1:A:4:LYS:HA    | 18       | 0.11          |
| (1,196)  | 1:A:58:GLY:H    | 1:A:4:LYS:HA    | 19       | 0.11          |
| (1,1837) | 1:A:89:ILE:HD11 | 1:A:20:MET:HA   | 17       | 0.11          |
| (1,1837) | 1:A:89:ILE:HD12 | 1:A:20:MET:HA   | 17       | 0.11          |
| (1,1837) | 1:A:89:ILE:HD13 | 1:A:20:MET:HA   | 17       | 0.11          |
| (1,1837) | 1:A:74:ARG:HB2  | 1:A:73:GLU:HA   | 17       | 0.11          |
| (1,1824) | 1:A:27:LYS:HB2  | 1:A:27:LYS:HA   | 4        | 0.11          |
| (1,1824) | 1:A:89:ILE:HB   | 1:A:86:SER:HA   | 4        | 0.11          |
| (1,1784) | 1:A:50:LEU:HD21 | 1:A:37:LYS:HB2  | 19       | 0.11          |
| (1,1784) | 1:A:50:LEU:HD22 | 1:A:37:LYS:HB2  | 19       | 0.11          |
| (1,1784) | 1:A:50:LEU:HD23 | 1:A:37:LYS:HB2  | 19       | 0.11          |
| (1,1784) | 1:A:6:ILE:HG21  | 1:A:37:LYS:HB2  | 19       | 0.11          |
| (1,1784) | 1:A:6:ILE:HG22  | 1:A:37:LYS:HB2  | 19       | 0.11          |
| (1,1784) | 1:A:6:ILE:HG23  | 1:A:37:LYS:HB2  | 19       | 0.11          |
| (1,1762) | 1:A:92:ALA:HA   | 1:A:95:VAL:HG11 | 16       | 0.11          |
| (1,1762) | 1:A:92:ALA:HA   | 1:A:95:VAL:HG12 | 16       | 0.11          |
| (1,1762) | 1:A:92:ALA:HA   | 1:A:95:VAL:HG13 | 16       | 0.11          |

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| Key      | Atom-1          | Atom-2           | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,1762) | 1:A:25:LEU:HA   | 1:A:95:VAL:HG11  | 16       | 0.11          |
| (1,1762) | 1:A:25:LEU:HA   | 1:A:95:VAL:HG12  | 16       | 0.11          |
| (1,1762) | 1:A:25:LEU:HA   | 1:A:95:VAL:HG13  | 16       | 0.11          |
| (1,1760) | 1:A:11:CYS:HB2  | 1:A:85:VAL:HG11  | 17       | 0.11          |
| (1,1760) | 1:A:11:CYS:HB2  | 1:A:85:VAL:HG12  | 17       | 0.11          |
| (1,1760) | 1:A:11:CYS:HB2  | 1:A:85:VAL:HG13  | 17       | 0.11          |
| (1,1760) | 1:A:66:ASP:HB2  | 1:A:85:VAL:HG11  | 17       | 0.11          |
| (1,1760) | 1:A:66:ASP:HB2  | 1:A:85:VAL:HG12  | 17       | 0.11          |
| (1,1760) | 1:A:66:ASP:HB2  | 1:A:85:VAL:HG13  | 17       | 0.11          |
| (1,1731) | 1:A:51:THR:H    | 1:A:37:LYS:HE2   | 16       | 0.11          |
| (1,1731) | 1:A:51:THR:H    | 1:A:37:LYS:HE3   | 16       | 0.11          |
| (1,1731) | 1:A:51:THR:H    | 1:A:71:ASN:HB3   | 16       | 0.11          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:103:ILE:HD11 | 10       | 0.11          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:103:ILE:HD12 | 10       | 0.11          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:103:ILE:HD13 | 10       | 0.11          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:100:LEU:HG   | 10       | 0.11          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:102:LEU:HD21 | 10       | 0.11          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:102:LEU:HD22 | 10       | 0.11          |
| (1,1616) | 1:A:105:GLU:H   | 1:A:102:LEU:HD23 | 10       | 0.11          |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:33:GLY:HA3   | 2        | 0.11          |
| (1,1589) | 1:A:34:ASN:HD22 | 1:A:30:LYS:HA    | 2        | 0.11          |
| (1,1570) | 1:A:78:LYS:H    | 1:A:78:LYS:HE2   | 14       | 0.11          |
| (1,1570) | 1:A:78:LYS:H    | 1:A:75:PHE:HB2   | 14       | 0.11          |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:55:VAL:HG21  | 13       | 0.11          |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:55:VAL:HG22  | 13       | 0.11          |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:55:VAL:HG23  | 13       | 0.11          |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:74:ARG:HB2   | 13       | 0.11          |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:57:ILE:HG21  | 13       | 0.11          |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:57:ILE:HG22  | 13       | 0.11          |
| (1,1510) | 1:A:56:ASN:HD21 | 1:A:57:ILE:HG23  | 13       | 0.11          |
| (1,1409) | 1:A:47:GLU:HG2  | 1:A:47:GLU:HA    | 3        | 0.11          |
| (1,1398) | 1:A:37:LYS:HD2  | 1:A:37:LYS:HA    | 18       | 0.11          |
| (1,1398) | 1:A:37:LYS:HD3  | 1:A:37:LYS:HA    | 18       | 0.11          |
| (1,1396) | 1:A:18:THR:HG21 | 1:A:42:GLY:HA3   | 2        | 0.11          |
| (1,1396) | 1:A:18:THR:HG22 | 1:A:42:GLY:HA3   | 2        | 0.11          |
| (1,1396) | 1:A:18:THR:HG23 | 1:A:42:GLY:HA3   | 2        | 0.11          |
| (1,1359) | 1:A:17:HIS:HD2  | 1:A:17:HIS:HA    | 17       | 0.11          |
| (1,1308) | 1:A:75:PHE:HD1  | 1:A:72:LYS:HA    | 5        | 0.11          |
| (1,1308) | 1:A:75:PHE:HD2  | 1:A:72:LYS:HA    | 5        | 0.11          |
| (1,1303) | 1:A:26:LYS:HD2  | 1:A:23:GLN:HA    | 9        | 0.11          |
| (1,1303) | 1:A:26:LYS:HD3  | 1:A:23:GLN:HA    | 9        | 0.11          |
| (1,1296) | 1:A:81:LEU:HB3  | 1:A:99:ALA:HA    | 8        | 0.11          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1296) | 1:A:81:LEU:HB3  | 1:A:99:ALA:HA   | 14       | 0.11          |
| (1,1296) | 1:A:81:LEU:HB3  | 1:A:99:ALA:HA   | 18       | 0.11          |
| (1,1280) | 1:A:39:GLU:HG2  | 1:A:49:GLU:HA   | 9        | 0.11          |
| (1,1280) | 1:A:39:GLU:HG2  | 1:A:49:GLU:HA   | 10       | 0.11          |
| (1,1275) | 1:A:96:ILE:HB   | 1:A:93:GLU:HA   | 2        | 0.11          |
| (1,1256) | 1:A:6:ILE:HG21  | 1:A:58:GLY:HA3  | 10       | 0.11          |
| (1,1256) | 1:A:6:ILE:HG22  | 1:A:58:GLY:HA3  | 10       | 0.11          |
| (1,1256) | 1:A:6:ILE:HG23  | 1:A:58:GLY:HA3  | 10       | 0.11          |
| (1,1207) | 1:A:31:LYS:HB3  | 1:A:32:MET:HG2  | 2        | 0.11          |
| (1,1135) | 1:A:69:VAL:HG21 | 1:A:72:LYS:HB2  | 17       | 0.11          |
| (1,1135) | 1:A:69:VAL:HG22 | 1:A:72:LYS:HB2  | 17       | 0.11          |
| (1,1135) | 1:A:69:VAL:HG23 | 1:A:72:LYS:HB2  | 17       | 0.11          |
| (1,1117) | 1:A:96:ILE:HG21 | 1:A:32:MET:HB3  | 5        | 0.11          |
| (1,1117) | 1:A:96:ILE:HG22 | 1:A:32:MET:HB3  | 5        | 0.11          |
| (1,1117) | 1:A:96:ILE:HG23 | 1:A:32:MET:HB3  | 5        | 0.11          |
| (1,1117) | 1:A:96:ILE:HD11 | 1:A:32:MET:HB3  | 5        | 0.11          |
| (1,1117) | 1:A:96:ILE:HD12 | 1:A:32:MET:HB3  | 5        | 0.11          |
| (1,1117) | 1:A:96:ILE:HD13 | 1:A:32:MET:HB3  | 5        | 0.11          |
| (1,1022) | 1:A:99:ALA:HA   | 1:A:60:VAL:HG11 | 17       | 0.11          |
| (1,1022) | 1:A:99:ALA:HA   | 1:A:60:VAL:HG12 | 17       | 0.11          |
| (1,1022) | 1:A:99:ALA:HA   | 1:A:60:VAL:HG13 | 17       | 0.11          |
| (1,100)  | 1:A:76:ASP:H    | 1:A:78:LYS:HD2  | 12       | 0.11          |
| (1,100)  | 1:A:76:ASP:H    | 1:A:78:LYS:HD3  | 12       | 0.11          |
| (1,100)  | 1:A:76:ASP:H    | 1:A:78:LYS:HD2  | 14       | 0.11          |
| (1,100)  | 1:A:76:ASP:H    | 1:A:78:LYS:HD3  | 14       | 0.11          |
| (1,100)  | 1:A:76:ASP:H    | 1:A:78:LYS:HD2  | 16       | 0.11          |
| (1,100)  | 1:A:76:ASP:H    | 1:A:78:LYS:HD3  | 16       | 0.11          |
| (1,100)  | 1:A:76:ASP:H    | 1:A:78:LYS:HD2  | 18       | 0.11          |
| (1,100)  | 1:A:76:ASP:H    | 1:A:78:LYS:HD3  | 18       | 0.11          |

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

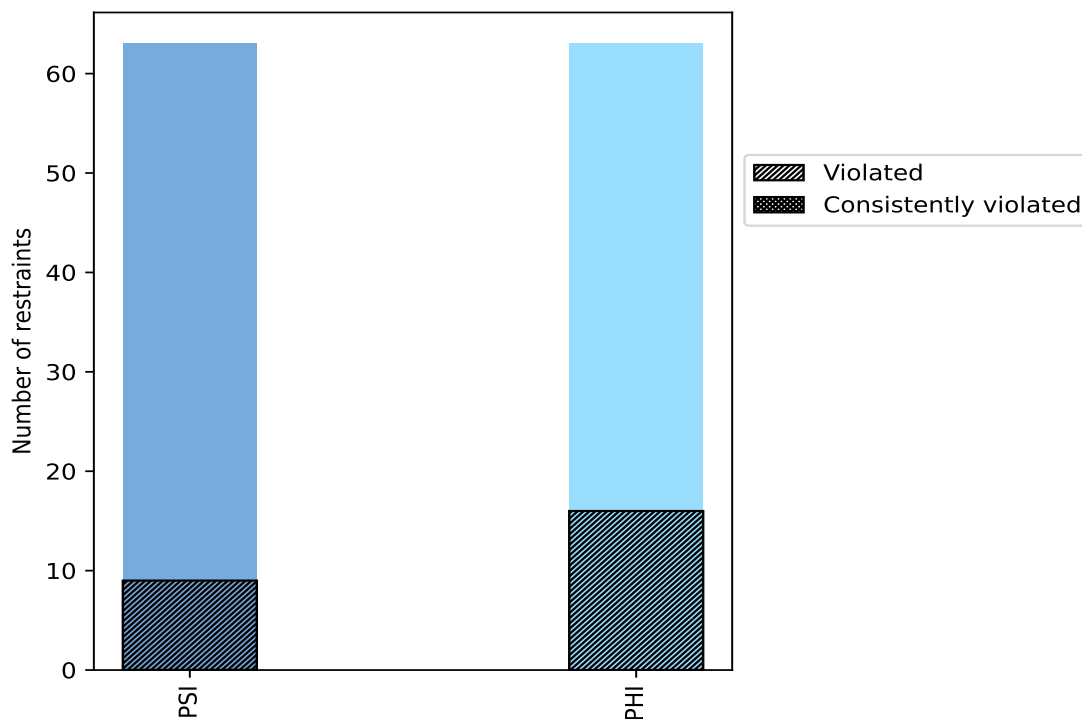
### 10.1 Summary of dihedral-angle violations [i](#)

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> |
| PSI        | 63    | 50.0           | 9                     | 14.3           | 7.1            | 0                                  | 0.0            | 0.0            |
| PHI        | 63    | 50.0           | 16                    | 25.4           | 12.7           | 0                                  | 0.0            | 0.0            |
| Total      | 126   | 100.0          | 25                    | 19.8           | 19.8           | 0                                  | 0.0            | 0.0            |

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

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



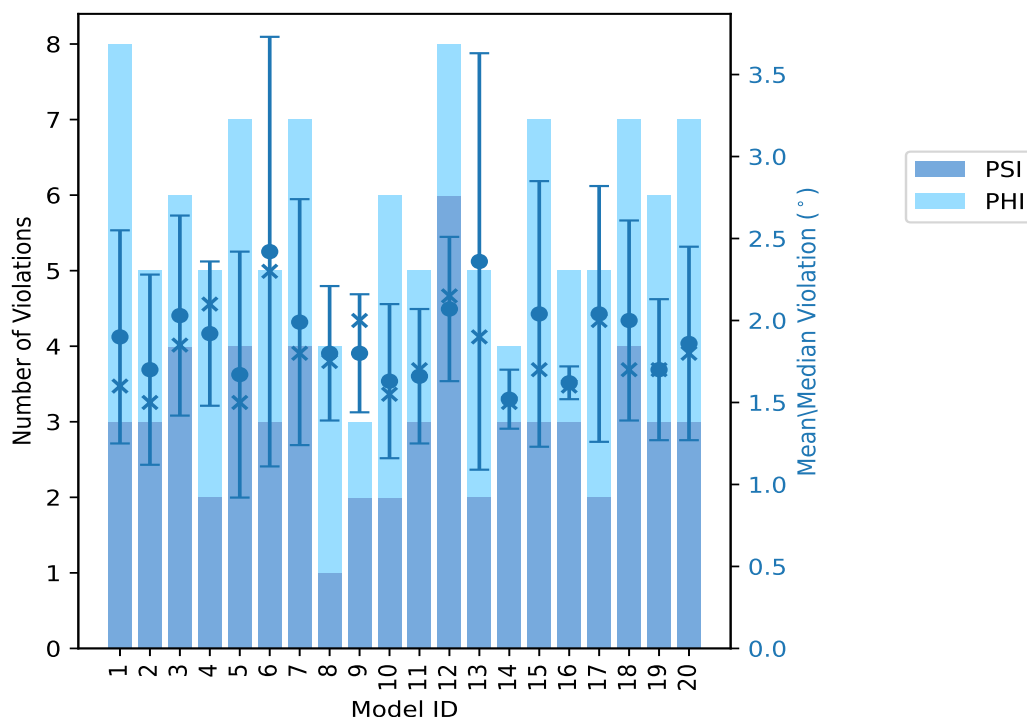
Violated and consistently violated restraints are shown using different hatch patterns in their respective categories

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

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

| Model ID | Number of violations |     |       | Mean (°) | Max (°) | SD (°) | Median (°) |
|----------|----------------------|-----|-------|----------|---------|--------|------------|
|          | PSI                  | PHI | Total |          |         |        |            |
| 1        | 3                    | 5   | 8     | 1.9      | 3.1     | 0.65   | 1.6        |
| 2        | 3                    | 2   | 5     | 1.7      | 2.8     | 0.58   | 1.5        |
| 3        | 4                    | 2   | 6     | 2.03     | 3.2     | 0.61   | 1.85       |
| 4        | 2                    | 3   | 5     | 1.92     | 2.5     | 0.44   | 2.1        |
| 5        | 4                    | 3   | 7     | 1.67     | 3.4     | 0.75   | 1.5        |
| 6        | 3                    | 2   | 5     | 2.42     | 4.7     | 1.31   | 2.3        |
| 7        | 4                    | 3   | 7     | 1.99     | 3.3     | 0.75   | 1.8        |
| 8        | 1                    | 3   | 4     | 1.8      | 2.4     | 0.41   | 1.75       |
| 9        | 2                    | 1   | 3     | 1.8      | 2.1     | 0.36   | 2.0        |
| 10       | 2                    | 4   | 6     | 1.63     | 2.5     | 0.47   | 1.55       |
| 11       | 3                    | 2   | 5     | 1.66     | 2.1     | 0.41   | 1.7        |
| 12       | 6                    | 2   | 8     | 2.07     | 2.8     | 0.44   | 2.15       |
| 13       | 2                    | 3   | 5     | 2.36     | 4.2     | 1.27   | 1.9        |
| 14       | 3                    | 1   | 4     | 1.52     | 1.8     | 0.18   | 1.5        |
| 15       | 3                    | 4   | 7     | 2.04     | 3.3     | 0.81   | 1.7        |
| 16       | 3                    | 2   | 5     | 1.62     | 1.8     | 0.1    | 1.6        |
| 17       | 2                    | 3   | 5     | 2.04     | 3.3     | 0.78   | 2.0        |
| 18       | 4                    | 3   | 7     | 2.0      | 2.9     | 0.61   | 1.7        |
| 19       | 3                    | 3   | 6     | 1.7      | 2.3     | 0.43   | 1.7        |
| 20       | 3                    | 4   | 7     | 1.86     | 2.9     | 0.59   | 1.8        |

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

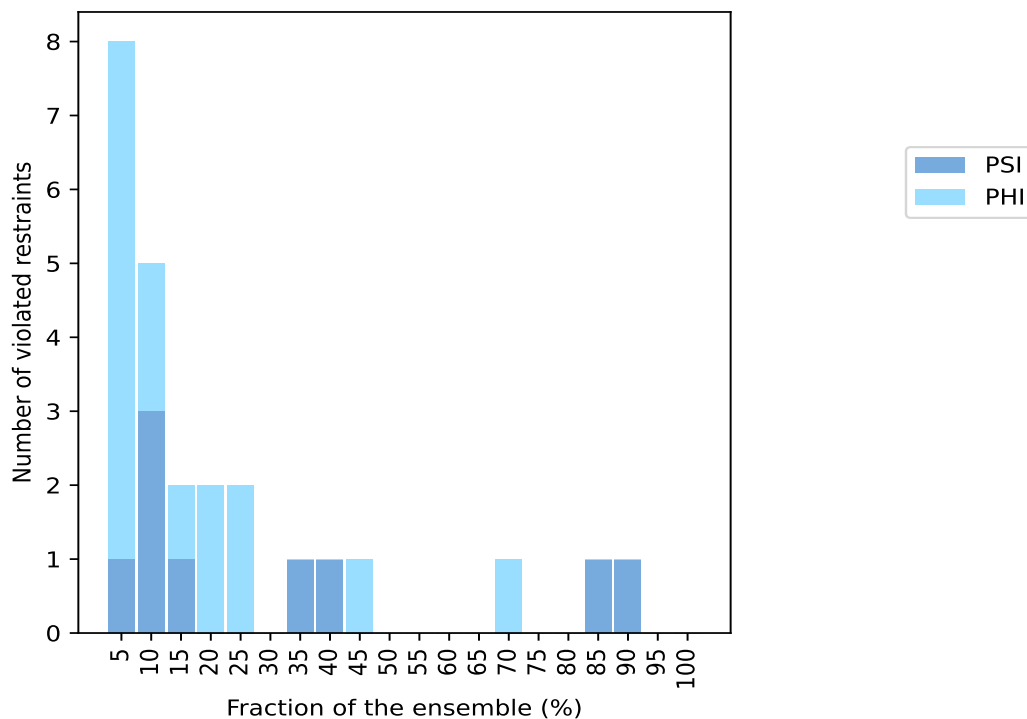
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| Number of violated restraints |     |       | Fraction of the ensemble |       |
|-------------------------------|-----|-------|--------------------------|-------|
| PSI                           | PHI | Total | Count <sup>1</sup>       | %     |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

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

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



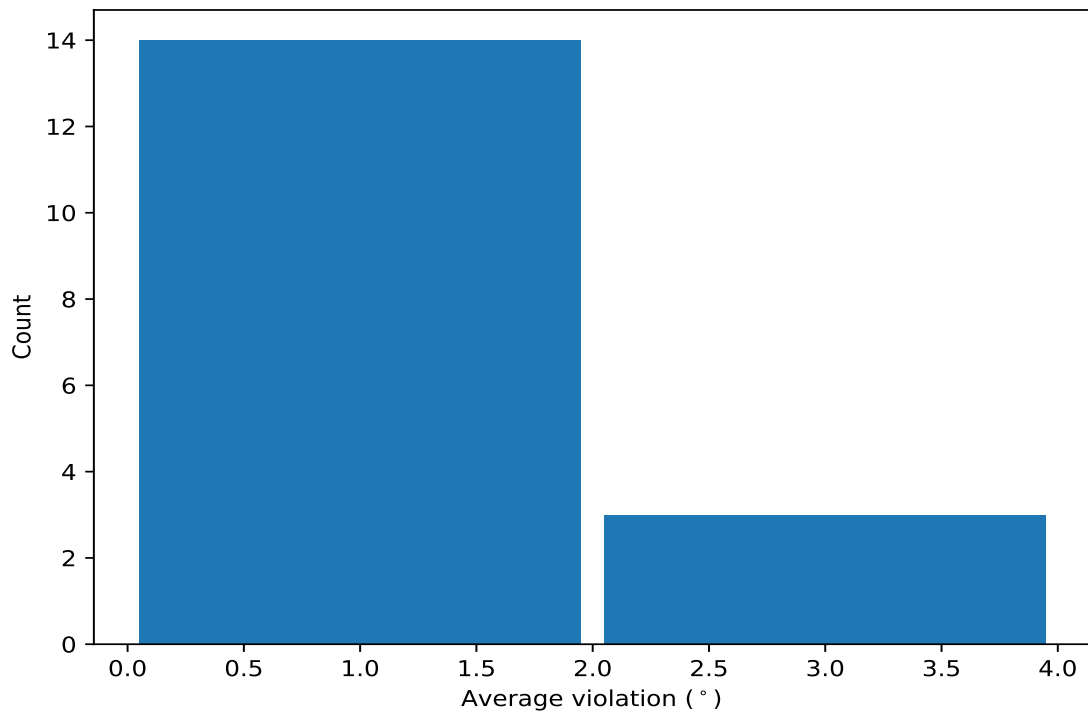
## 10.4 Most violated dihedral-angle restraints in the ensemble [i](#)

### 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.

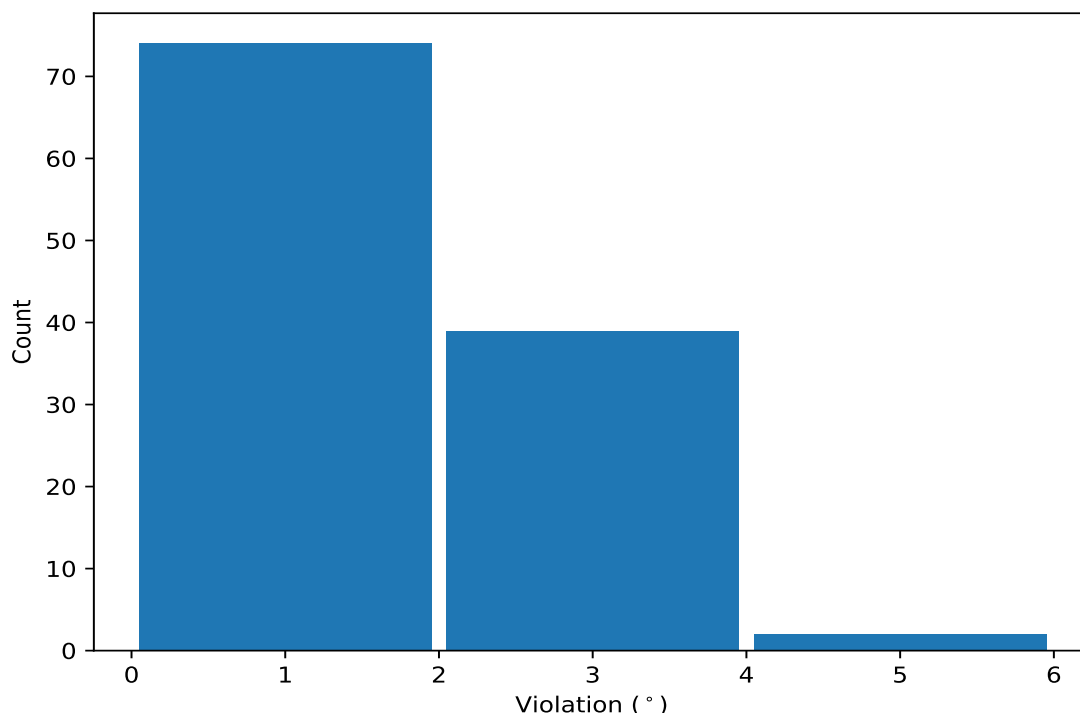
| Key     | Atom-1        | Atom-2         | Atom-3        | Atom-4        | Models <sup>1</sup> | Mean | SD <sup>2</sup> | Median |
|---------|---------------|----------------|---------------|---------------|---------------------|------|-----------------|--------|
| (1,104) | 1:A:71:ASN:N  | 1:A:71:ASN:CA  | 1:A:71:ASN:C  | 1:A:72:LYS:N  | 18                  | 2.56 | 0.92            | 2.8    |
| (1,101) | 1:A:64:ALA:N  | 1:A:64:ALA:CA  | 1:A:64:ALA:C  | 1:A:65:VAL:N  | 17                  | 2.06 | 0.63            | 2.1    |
| (1,48)  | 1:A:85:VAL:C  | 1:A:86:SER:N   | 1:A:86:SER:CA | 1:A:86:SER:C  | 14                  | 1.82 | 0.46            | 1.8    |
| (1,52)  | 1:A:89:ILE:C  | 1:A:90:LYS:N   | 1:A:90:LYS:CA | 1:A:90:LYS:C  | 9                   | 1.71 | 0.63            | 1.6    |
| (1,116) | 1:A:91:ASP:N  | 1:A:91:ASP:CA  | 1:A:91:ASP:C  | 1:A:92:ALA:N  | 8                   | 2.33 | 0.39            | 2.25   |
| (1,105) | 1:A:72:LYS:N  | 1:A:72:LYS:CA  | 1:A:72:LYS:C  | 1:A:73:GLU:N  | 7                   | 1.81 | 0.32            | 1.8    |
| (1,54)  | 1:A:91:ASP:C  | 1:A:92:ALA:N   | 1:A:92:ALA:CA | 1:A:92:ALA:C  | 5                   | 1.4  | 0.18            | 1.3    |
| (1,27)  | 1:A:38:VAL:C  | 1:A:39:GLU:N   | 1:A:39:GLU:CA | 1:A:39:GLU:C  | 5                   | 1.38 | 0.15            | 1.4    |
| (1,40)  | 1:A:69:VAL:C  | 1:A:70:ARG:N   | 1:A:70:ARG:CA | 1:A:70:ARG:C  | 4                   | 1.88 | 0.46            | 2.05   |
| (1,25)  | 1:A:36:ILE:C  | 1:A:37:LYS:N   | 1:A:37:LYS:CA | 1:A:37:LYS:C  | 4                   | 1.4  | 0.12            | 1.35   |
| (1,56)  | 1:A:93:GLU:C  | 1:A:94:LYS:N   | 1:A:94:LYS:CA | 1:A:94:LYS:C  | 3                   | 1.43 | 0.21            | 1.4    |
| (1,111) | 1:A:86:SER:N  | 1:A:86:SER:CA  | 1:A:86:SER:C  | 1:A:87:ALA:N  | 3                   | 1.43 | 0.25            | 1.5    |
| (1,34)  | 1:A:59:GLU:C  | 1:A:60:VAL:N   | 1:A:60:VAL:CA | 1:A:60:VAL:C  | 2                   | 1.55 | 0.05            | 1.55   |
| (1,125) | 1:A:100:LEU:N | 1:A:100:LEU:CA | 1:A:100:LEU:C | 1:A:101:ALA:N | 2                   | 1.55 | 0.35            | 1.55   |
| (1,126) | 1:A:101:ALA:N | 1:A:101:ALA:CA | 1:A:101:ALA:C | 1:A:102:LEU:N | 2                   | 1.45 | 0.35            | 1.45   |
| (1,117) | 1:A:92:ALA:N  | 1:A:92:ALA:CA  | 1:A:92:ALA:C  | 1:A:93:GLU:N  | 2                   | 1.4  | 0.2             | 1.4    |
| (1,35)  | 1:A:60:VAL:C  | 1:A:61:VAL:N   | 1:A:61:VAL:CA | 1:A:61:VAL:C  | 2                   | 1.1  | 0.0             | 1.1    |

<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 (°) |
|---------|--------------|---------------|---------------|--------------|----------|---------------|
| (1,104) | 1:A:71:ASN:N | 1:A:71:ASN:CA | 1:A:71:ASN:C  | 1:A:72:LYS:N | 6        | 4.7           |
| (1,41)  | 1:A:70:ARG:C | 1:A:71:ASN:N  | 1:A:71:ASN:CA | 1:A:71:ASN:C | 13       | 4.2           |
| (1,101) | 1:A:64:ALA:N | 1:A:64:ALA:CA | 1:A:64:ALA:C  | 1:A:65:VAL:N | 13       | 3.5           |
| (1,104) | 1:A:71:ASN:N | 1:A:71:ASN:CA | 1:A:71:ASN:C  | 1:A:72:LYS:N | 5        | 3.4           |
| (1,52)  | 1:A:89:ILE:C | 1:A:90:LYS:N  | 1:A:90:LYS:CA | 1:A:90:LYS:C | 15       | 3.3           |
| (1,104) | 1:A:71:ASN:N | 1:A:71:ASN:CA | 1:A:71:ASN:C  | 1:A:72:LYS:N | 7        | 3.3           |
| (1,104) | 1:A:71:ASN:N | 1:A:71:ASN:CA | 1:A:71:ASN:C  | 1:A:72:LYS:N | 17       | 3.3           |
| (1,104) | 1:A:71:ASN:N | 1:A:71:ASN:CA | 1:A:71:ASN:C  | 1:A:72:LYS:N | 3        | 3.2           |
| (1,104) | 1:A:71:ASN:N | 1:A:71:ASN:CA | 1:A:71:ASN:C  | 1:A:72:LYS:N | 1        | 3.1           |
| (1,104) | 1:A:71:ASN:N | 1:A:71:ASN:CA | 1:A:71:ASN:C  | 1:A:72:LYS:N | 15       | 3.1           |
| (1,116) | 1:A:91:ASP:N | 1:A:91:ASP:CA | 1:A:91:ASP:C  | 1:A:92:ALA:N | 1        | 2.9           |
| (1,116) | 1:A:91:ASP:N | 1:A:91:ASP:CA | 1:A:91:ASP:C  | 1:A:92:ALA:N | 18       | 2.9           |
| (1,104) | 1:A:71:ASN:N | 1:A:71:ASN:CA | 1:A:71:ASN:C  | 1:A:72:LYS:N | 20       | 2.9           |
| (1,104) | 1:A:71:ASN:N | 1:A:71:ASN:CA | 1:A:71:ASN:C  | 1:A:72:LYS:N | 2        | 2.8           |

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| Key     | Atom-1        | Atom-2         | Atom-3         | Atom-4        | Model ID | Violation (°) |
|---------|---------------|----------------|----------------|---------------|----------|---------------|
| (1,104) | 1:A:71:ASN:N  | 1:A:71:ASN:CA  | 1:A:71:ASN:C   | 1:A:72:LYS:N  | 12       | 2.8           |
| (1,101) | 1:A:64:ALA:N  | 1:A:64:ALA:CA  | 1:A:64:ALA:C   | 1:A:65:VAL:N  | 6        | 2.8           |
| (1,101) | 1:A:64:ALA:N  | 1:A:64:ALA:CA  | 1:A:64:ALA:C   | 1:A:65:VAL:N  | 7        | 2.7           |
| (1,101) | 1:A:64:ALA:N  | 1:A:64:ALA:CA  | 1:A:64:ALA:C   | 1:A:65:VAL:N  | 18       | 2.6           |
| (1,48)  | 1:A:85:VAL:C  | 1:A:86:SER:N   | 1:A:86:SER:CA  | 1:A:86:SER:C  | 10       | 2.5           |
| (1,116) | 1:A:91:ASP:N  | 1:A:91:ASP:CA  | 1:A:91:ASP:C   | 1:A:92:ALA:N  | 4        | 2.5           |
| (1,104) | 1:A:71:ASN:N  | 1:A:71:ASN:CA  | 1:A:71:ASN:C   | 1:A:72:LYS:N  | 18       | 2.5           |
| (1,101) | 1:A:64:ALA:N  | 1:A:64:ALA:CA  | 1:A:64:ALA:C   | 1:A:65:VAL:N  | 20       | 2.5           |
| (1,48)  | 1:A:85:VAL:C  | 1:A:86:SER:N   | 1:A:86:SER:CA  | 1:A:86:SER:C  | 3        | 2.4           |
| (1,48)  | 1:A:85:VAL:C  | 1:A:86:SER:N   | 1:A:86:SER:CA  | 1:A:86:SER:C  | 8        | 2.4           |
| (1,105) | 1:A:72:LYS:N  | 1:A:72:LYS:CA  | 1:A:72:LYS:C   | 1:A:73:GLU:N  | 12       | 2.4           |
| (1,101) | 1:A:64:ALA:N  | 1:A:64:ALA:CA  | 1:A:64:ALA:C   | 1:A:65:VAL:N  | 17       | 2.4           |
| (1,88)  | 1:A:37:LYS:N  | 1:A:37:LYS:CA  | 1:A:37:LYS:C   | 1:A:38:VAL:N  | 12       | 2.3           |
| (1,48)  | 1:A:85:VAL:C  | 1:A:86:SER:N   | 1:A:86:SER:CA  | 1:A:86:SER:C  | 7        | 2.3           |
| (1,40)  | 1:A:69:VAL:C  | 1:A:70:ARG:N   | 1:A:70:ARG:CA  | 1:A:70:ARG:C  | 15       | 2.3           |
| (1,116) | 1:A:91:ASP:N  | 1:A:91:ASP:CA  | 1:A:91:ASP:C   | 1:A:92:ALA:N  | 6        | 2.3           |
| (1,101) | 1:A:64:ALA:N  | 1:A:64:ALA:CA  | 1:A:64:ALA:C   | 1:A:65:VAL:N  | 19       | 2.3           |
| (1,116) | 1:A:91:ASP:N  | 1:A:91:ASP:CA  | 1:A:91:ASP:C   | 1:A:92:ALA:N  | 12       | 2.2           |
| (1,52)  | 1:A:89:ILE:C  | 1:A:90:LYS:N   | 1:A:90:LYS:CA  | 1:A:90:LYS:C  | 12       | 2.1           |
| (1,48)  | 1:A:85:VAL:C  | 1:A:86:SER:N   | 1:A:86:SER:CA  | 1:A:86:SER:C  | 4        | 2.1           |
| (1,40)  | 1:A:69:VAL:C  | 1:A:70:ARG:N   | 1:A:70:ARG:CA  | 1:A:70:ARG:C  | 4        | 2.1           |
| (1,116) | 1:A:91:ASP:N  | 1:A:91:ASP:CA  | 1:A:91:ASP:C   | 1:A:92:ALA:N  | 19       | 2.1           |
| (1,105) | 1:A:72:LYS:N  | 1:A:72:LYS:CA  | 1:A:72:LYS:C   | 1:A:73:GLU:N  | 11       | 2.1           |
| (1,101) | 1:A:64:ALA:N  | 1:A:64:ALA:CA  | 1:A:64:ALA:C   | 1:A:65:VAL:N  | 9        | 2.1           |
| (1,101) | 1:A:64:ALA:N  | 1:A:64:ALA:CA  | 1:A:64:ALA:C   | 1:A:65:VAL:N  | 11       | 2.1           |
| (1,48)  | 1:A:85:VAL:C  | 1:A:86:SER:N   | 1:A:86:SER:CA  | 1:A:86:SER:C  | 9        | 2.0           |
| (1,40)  | 1:A:69:VAL:C  | 1:A:70:ARG:N   | 1:A:70:ARG:CA  | 1:A:70:ARG:C  | 17       | 2.0           |
| (1,48)  | 1:A:85:VAL:C  | 1:A:86:SER:N   | 1:A:86:SER:CA  | 1:A:86:SER:C  | 13       | 1.9           |
| (1,125) | 1:A:100:LEU:N | 1:A:100:LEU:CA | 1:A:100:LEU:C  | 1:A:101:ALA:N | 3        | 1.9           |
| (1,116) | 1:A:91:ASP:N  | 1:A:91:ASP:CA  | 1:A:91:ASP:C   | 1:A:92:ALA:N  | 10       | 1.9           |
| (1,104) | 1:A:71:ASN:N  | 1:A:71:ASN:CA  | 1:A:71:ASN:C   | 1:A:72:LYS:N  | 8        | 1.9           |
| (1,104) | 1:A:71:ASN:N  | 1:A:71:ASN:CA  | 1:A:71:ASN:C   | 1:A:72:LYS:N  | 19       | 1.9           |
| (1,101) | 1:A:64:ALA:N  | 1:A:64:ALA:CA  | 1:A:64:ALA:C   | 1:A:65:VAL:N  | 12       | 1.9           |
| (1,52)  | 1:A:89:ILE:C  | 1:A:90:LYS:N   | 1:A:90:LYS:CA  | 1:A:90:LYS:C  | 14       | 1.8           |
| (1,26)  | 1:A:37:LYS:C  | 1:A:38:VAL:N   | 1:A:38:VAL:CA  | 1:A:38:VAL:C  | 20       | 1.8           |
| (1,126) | 1:A:101:ALA:N | 1:A:101:ALA:CA | 1:A:101:ALA:C  | 1:A:102:LEU:N | 7        | 1.8           |
| (1,116) | 1:A:91:ASP:N  | 1:A:91:ASP:CA  | 1:A:91:ASP:C   | 1:A:92:ALA:N  | 3        | 1.8           |
| (1,105) | 1:A:72:LYS:N  | 1:A:72:LYS:CA  | 1:A:72:LYS:C   | 1:A:73:GLU:N  | 5        | 1.8           |
| (1,105) | 1:A:72:LYS:N  | 1:A:72:LYS:CA  | 1:A:72:LYS:C   | 1:A:73:GLU:N  | 20       | 1.8           |
| (1,104) | 1:A:71:ASN:N  | 1:A:71:ASN:CA  | 1:A:71:ASN:C   | 1:A:72:LYS:N  | 16       | 1.8           |
| (1,56)  | 1:A:93:GLU:C  | 1:A:94:LYS:N   | 1:A:94:LYS:CA  | 1:A:94:LYS:C  | 18       | 1.7           |
| (1,54)  | 1:A:91:ASP:C  | 1:A:92:ALA:N   | 1:A:92:ALA:CA  | 1:A:92:ALA:C  | 10       | 1.7           |
| (1,48)  | 1:A:85:VAL:C  | 1:A:86:SER:N   | 1:A:86:SER:CA  | 1:A:86:SER:C  | 1        | 1.7           |
| (1,48)  | 1:A:85:VAL:C  | 1:A:86:SER:N   | 1:A:86:SER:CA  | 1:A:86:SER:C  | 18       | 1.7           |
| (1,111) | 1:A:86:SER:N  | 1:A:86:SER:CA  | 1:A:86:SER:C   | 1:A:87:ALA:N  | 15       | 1.7           |
| (1,105) | 1:A:72:LYS:N  | 1:A:72:LYS:CA  | 1:A:72:LYS:C   | 1:A:73:GLU:N  | 2        | 1.7           |
| (1,104) | 1:A:71:ASN:N  | 1:A:71:ASN:CA  | 1:A:71:ASN:C   | 1:A:72:LYS:N  | 11       | 1.7           |
| (1,101) | 1:A:64:ALA:N  | 1:A:64:ALA:CA  | 1:A:64:ALA:C   | 1:A:65:VAL:N  | 4        | 1.7           |
| (1,62)  | 1:A:99:ALA:C  | 1:A:100:LEU:N  | 1:A:100:LEU:CA | 1:A:100:LEU:C | 20       | 1.6           |
| (1,52)  | 1:A:89:ILE:C  | 1:A:90:LYS:N   | 1:A:90:LYS:CA  | 1:A:90:LYS:C  | 8        | 1.6           |
| (1,52)  | 1:A:89:ILE:C  | 1:A:90:LYS:N   | 1:A:90:LYS:CA  | 1:A:90:LYS:C  | 16       | 1.6           |

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| Key     | Atom-1        | Atom-2         | Atom-3        | Atom-4        | Model ID | Violation (°) |
|---------|---------------|----------------|---------------|---------------|----------|---------------|
| (1,45)  | 1:A:80:VAL:C  | 1:A:81:LEU:N   | 1:A:81:LEU:CA | 1:A:81:LEU:C  | 16       | 1.6           |
| (1,34)  | 1:A:59:GLU:C  | 1:A:60:VAL:N   | 1:A:60:VAL:CA | 1:A:60:VAL:C  | 1        | 1.6           |
| (1,25)  | 1:A:36:ILE:C  | 1:A:37:LYS:N   | 1:A:37:LYS:CA | 1:A:37:LYS:C  | 5        | 1.6           |
| (1,117) | 1:A:92:ALA:N  | 1:A:92:ALA:CA  | 1:A:92:ALA:C  | 1:A:93:GLU:N  | 16       | 1.6           |
| (1,101) | 1:A:64:ALA:N  | 1:A:64:ALA:CA  | 1:A:64:ALA:C  | 1:A:65:VAL:N  | 1        | 1.6           |
| (1,54)  | 1:A:91:ASP:C  | 1:A:92:ALA:N   | 1:A:92:ALA:CA | 1:A:92:ALA:C  | 1        | 1.5           |
| (1,48)  | 1:A:85:VAL:C  | 1:A:86:SER:N   | 1:A:86:SER:CA | 1:A:86:SER:C  | 2        | 1.5           |
| (1,34)  | 1:A:59:GLU:C  | 1:A:60:VAL:N   | 1:A:60:VAL:CA | 1:A:60:VAL:C  | 19       | 1.5           |
| (1,27)  | 1:A:38:VAL:C  | 1:A:39:GLU:N   | 1:A:39:GLU:CA | 1:A:39:GLU:C  | 1        | 1.5           |
| (1,27)  | 1:A:38:VAL:C  | 1:A:39:GLU:N   | 1:A:39:GLU:CA | 1:A:39:GLU:C  | 5        | 1.5           |
| (1,111) | 1:A:86:SER:N  | 1:A:86:SER:CA  | 1:A:86:SER:C  | 1:A:87:ALA:N  | 12       | 1.5           |
| (1,105) | 1:A:72:LYS:N  | 1:A:72:LYS:CA  | 1:A:72:LYS:C  | 1:A:73:GLU:N  | 14       | 1.5           |
| (1,101) | 1:A:64:ALA:N  | 1:A:64:ALA:CA  | 1:A:64:ALA:C  | 1:A:65:VAL:N  | 3        | 1.5           |
| (1,101) | 1:A:64:ALA:N  | 1:A:64:ALA:CA  | 1:A:64:ALA:C  | 1:A:65:VAL:N  | 14       | 1.5           |
| (1,101) | 1:A:64:ALA:N  | 1:A:64:ALA:CA  | 1:A:64:ALA:C  | 1:A:65:VAL:N  | 16       | 1.5           |
| (1,56)  | 1:A:93:GLU:C  | 1:A:94:LYS:N   | 1:A:94:LYS:CA | 1:A:94:LYS:C  | 3        | 1.4           |
| (1,52)  | 1:A:89:ILE:C  | 1:A:90:LYS:N   | 1:A:90:LYS:CA | 1:A:90:LYS:C  | 2        | 1.4           |
| (1,48)  | 1:A:85:VAL:C  | 1:A:86:SER:N   | 1:A:86:SER:CA | 1:A:86:SER:C  | 12       | 1.4           |
| (1,42)  | 1:A:71:ASN:C  | 1:A:72:LYS:N   | 1:A:72:LYS:CA | 1:A:72:LYS:C  | 17       | 1.4           |
| (1,27)  | 1:A:38:VAL:C  | 1:A:39:GLU:N   | 1:A:39:GLU:CA | 1:A:39:GLU:C  | 7        | 1.4           |
| (1,27)  | 1:A:38:VAL:C  | 1:A:39:GLU:N   | 1:A:39:GLU:CA | 1:A:39:GLU:C  | 15       | 1.4           |
| (1,25)  | 1:A:36:ILE:C  | 1:A:37:LYS:N   | 1:A:37:LYS:CA | 1:A:37:LYS:C  | 10       | 1.4           |
| (1,105) | 1:A:72:LYS:N  | 1:A:72:LYS:CA  | 1:A:72:LYS:C  | 1:A:73:GLU:N  | 18       | 1.4           |
| (1,54)  | 1:A:91:ASP:C  | 1:A:92:ALA:N   | 1:A:92:ALA:CA | 1:A:92:ALA:C  | 11       | 1.3           |
| (1,54)  | 1:A:91:ASP:C  | 1:A:92:ALA:N   | 1:A:92:ALA:CA | 1:A:92:ALA:C  | 19       | 1.3           |
| (1,52)  | 1:A:89:ILE:C  | 1:A:90:LYS:N   | 1:A:90:LYS:CA | 1:A:90:LYS:C  | 20       | 1.3           |
| (1,48)  | 1:A:85:VAL:C  | 1:A:86:SER:N   | 1:A:86:SER:CA | 1:A:86:SER:C  | 15       | 1.3           |
| (1,25)  | 1:A:36:ILE:C  | 1:A:37:LYS:N   | 1:A:37:LYS:CA | 1:A:37:LYS:C  | 1        | 1.3           |
| (1,25)  | 1:A:36:ILE:C  | 1:A:37:LYS:N   | 1:A:37:LYS:CA | 1:A:37:LYS:C  | 8        | 1.3           |
| (1,104) | 1:A:71:ASN:N  | 1:A:71:ASN:CA  | 1:A:71:ASN:C  | 1:A:72:LYS:N  | 9        | 1.3           |
| (1,104) | 1:A:71:ASN:N  | 1:A:71:ASN:CA  | 1:A:71:ASN:C  | 1:A:72:LYS:N  | 14       | 1.3           |
| (1,56)  | 1:A:93:GLU:C  | 1:A:94:LYS:N   | 1:A:94:LYS:CA | 1:A:94:LYS:C  | 6        | 1.2           |
| (1,54)  | 1:A:91:ASP:C  | 1:A:92:ALA:N   | 1:A:92:ALA:CA | 1:A:92:ALA:C  | 7        | 1.2           |
| (1,52)  | 1:A:89:ILE:C  | 1:A:90:LYS:N   | 1:A:90:LYS:CA | 1:A:90:LYS:C  | 4        | 1.2           |
| (1,48)  | 1:A:85:VAL:C  | 1:A:86:SER:N   | 1:A:86:SER:CA | 1:A:86:SER:C  | 5        | 1.2           |
| (1,15)  | 1:A:22:ALA:C  | 1:A:23:GLN:N   | 1:A:23:GLN:CA | 1:A:23:GLN:C  | 18       | 1.2           |
| (1,125) | 1:A:100:LEU:N | 1:A:100:LEU:CA | 1:A:100:LEU:C | 1:A:101:ALA:N | 15       | 1.2           |
| (1,117) | 1:A:92:ALA:N  | 1:A:92:ALA:CA  | 1:A:92:ALA:C  | 1:A:93:GLU:N  | 7        | 1.2           |
| (1,101) | 1:A:64:ALA:N  | 1:A:64:ALA:CA  | 1:A:64:ALA:C  | 1:A:65:VAL:N  | 10       | 1.2           |
| (1,52)  | 1:A:89:ILE:C  | 1:A:90:LYS:N   | 1:A:90:LYS:CA | 1:A:90:LYS:C  | 11       | 1.1           |
| (1,48)  | 1:A:85:VAL:C  | 1:A:86:SER:N   | 1:A:86:SER:CA | 1:A:86:SER:C  | 20       | 1.1           |
| (1,40)  | 1:A:69:VAL:C  | 1:A:70:ARG:N   | 1:A:70:ARG:CA | 1:A:70:ARG:C  | 6        | 1.1           |
| (1,35)  | 1:A:60:VAL:C  | 1:A:61:VAL:N   | 1:A:61:VAL:CA | 1:A:61:VAL:C  | 10       | 1.1           |
| (1,35)  | 1:A:60:VAL:C  | 1:A:61:VAL:N   | 1:A:61:VAL:CA | 1:A:61:VAL:C  | 19       | 1.1           |
| (1,33)  | 1:A:55:VAL:C  | 1:A:56:ASN:N   | 1:A:56:ASN:CA | 1:A:56:ASN:C  | 17       | 1.1           |
| (1,27)  | 1:A:38:VAL:C  | 1:A:39:GLU:N   | 1:A:39:GLU:CA | 1:A:39:GLU:C  | 13       | 1.1           |
| (1,126) | 1:A:101:ALA:N | 1:A:101:ALA:CA | 1:A:101:ALA:C | 1:A:102:LEU:N | 5        | 1.1           |
| (1,111) | 1:A:86:SER:N  | 1:A:86:SER:CA  | 1:A:86:SER:C  | 1:A:87:ALA:N  | 5        | 1.1           |
| (1,104) | 1:A:71:ASN:N  | 1:A:71:ASN:CA  | 1:A:71:ASN:C  | 1:A:72:LYS:N  | 13       | 1.1           |
| (1,101) | 1:A:64:ALA:N  | 1:A:64:ALA:CA  | 1:A:64:ALA:C  | 1:A:65:VAL:N  | 2        | 1.1           |