



# Full wwPDB NMR Structure Validation Report ⓘ

Jun 4, 2023 – 12:47 AM EDT

PDB ID : 2L9B  
BMRB ID : 17161  
Title : Heterodimer between Rna14p monkeytail domain and Rna15p hinge domain of the yeast CF IA complex  
Authors : Moreno-Morcillo, M.; Minvielle-Sebastia, L.; Fribourg, S.; Mackereth, C.D.  
Deposited on : 2011-02-07

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

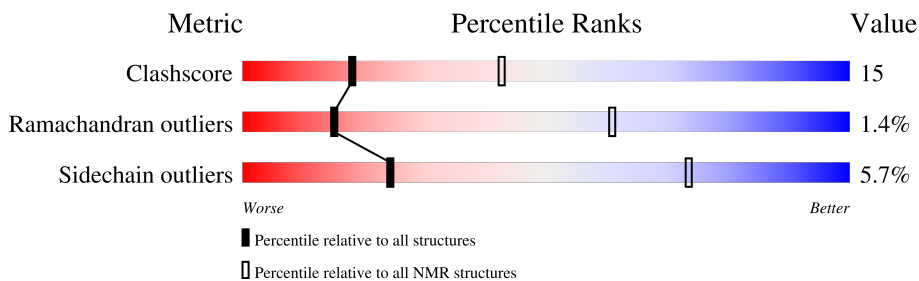
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*SOLUTION NMR*

The overall completeness of chemical shifts assignment is 96%.

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     | 109    |                  |
| 2   | B     | 53     |                  |

## 2 Ensemble composition and analysis

This entry contains 10 models. Model 8 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:141-A:228, B:630-B:647,<br>B:652-B:669 (124) | 0.72              | 8            |

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 2 single-model clusters were found.

| Cluster number        | Models        |
|-----------------------|---------------|
| 1                     | 1, 2, 6, 8, 9 |
| 2                     | 3, 4, 5       |
| Single-model clusters | 7; 10         |

### 3 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 2100 atoms, of which 1064 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called mRNA 3'-end-processing protein RNA15.

| Mol | Chain | Residues | Atoms |     |     |     |     | Trace |   |
|-----|-------|----------|-------|-----|-----|-----|-----|-------|---|
|     |       |          | Total | C   | H   | N   | O   |       | S |
| 1   | A     | 91       | 1439  | 458 | 730 | 113 | 133 | 5     | 0 |

There are 4 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment        | Reference  |
|-------|---------|----------|--------|----------------|------------|
| A     | 124     | GLY      | -      | expression tag | UNP P25299 |
| A     | 125     | HIS      | -      | expression tag | UNP P25299 |
| A     | 126     | MET      | -      | expression tag | UNP P25299 |
| A     | 196     | ALA      | VAL    | variant        | UNP P25299 |

- Molecule 2 is a protein called mRNA 3'-end-processing protein RNA14.

| Mol | Chain | Residues | Atoms |     |     |    |    | Trace |
|-----|-------|----------|-------|-----|-----|----|----|-------|
|     |       |          | Total | C   | H   | N  | O  |       |
| 2   | B     | 40       | 661   | 212 | 334 | 52 | 63 | 0     |

There is a discrepancy between the modelled and reference sequences:

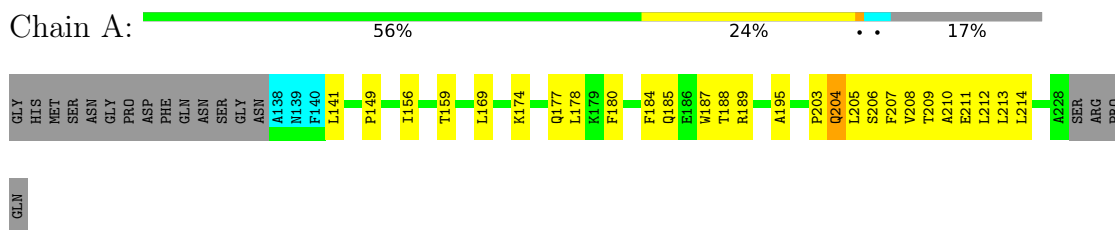
| Chain | Residue | Modelled | Actual | Comment               | Reference  |
|-------|---------|----------|--------|-----------------------|------------|
| B     | 625     | MET      | -      | initiating methionine | UNP P25298 |

## 4 Residue-property plots

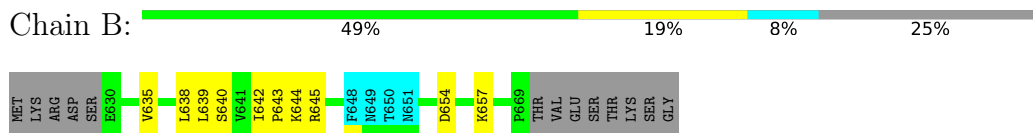
### 4.1 Average score per residue in the NMR ensemble

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: mRNA 3'-end-processing protein RNA15



- Molecule 2: mRNA 3'-end-processing protein RNA14

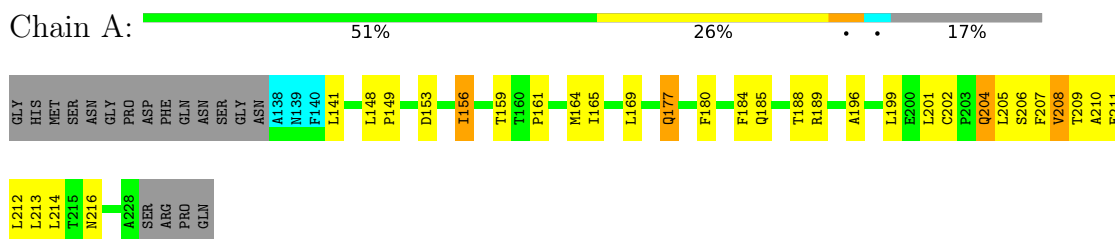


### 4.2 Scores per residue for each member of the ensemble

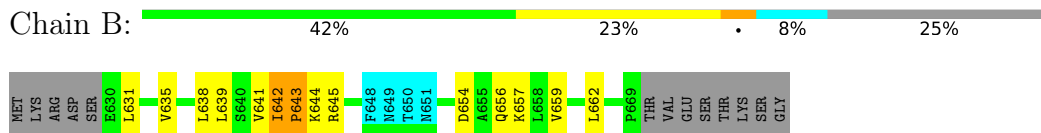
Colouring as in section 4.1 above.

#### 4.2.1 Score per residue for model 1

- Molecule 1: mRNA 3'-end-processing protein RNA15

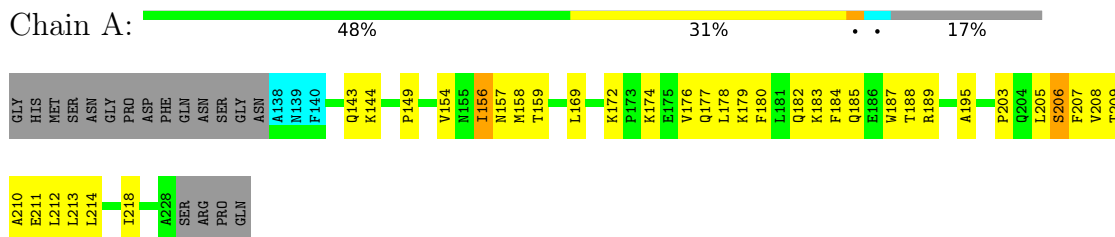


- Molecule 2: mRNA 3'-end-processing protein RNA14

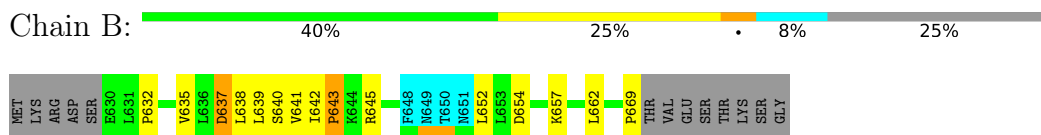


#### 4.2.2 Score per residue for model 2

- Molecule 1: mRNA 3'-end-processing protein RNA15

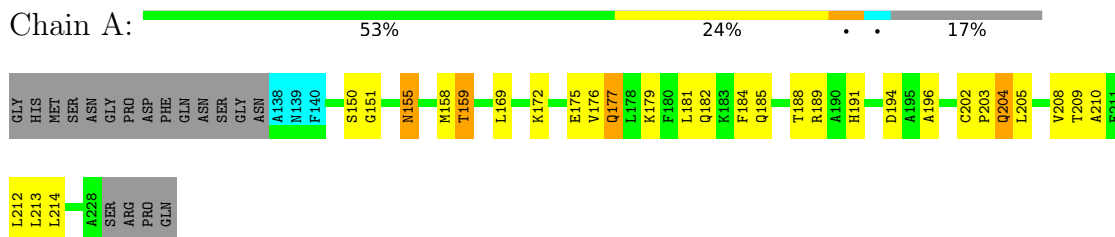


- Molecule 2: mRNA 3'-end-processing protein RNA14

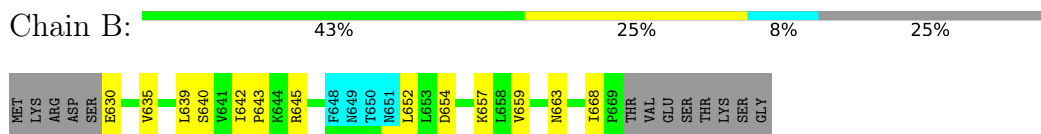


#### 4.2.3 Score per residue for model 3

- Molecule 1: mRNA 3'-end-processing protein RNA15

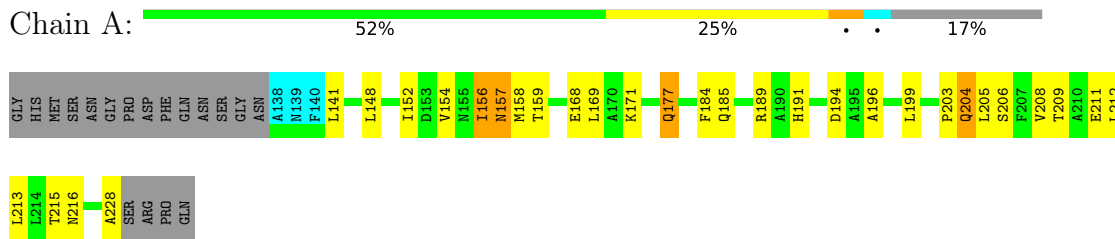


- Molecule 2: mRNA 3'-end-processing protein RNA14

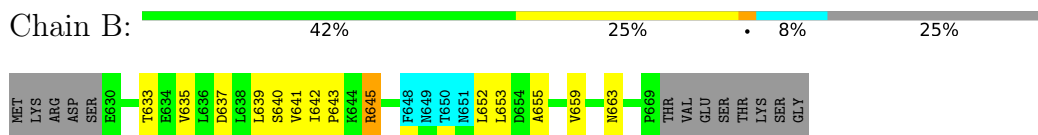


#### 4.2.4 Score per residue for model 4

- Molecule 1: mRNA 3'-end-processing protein RNA15

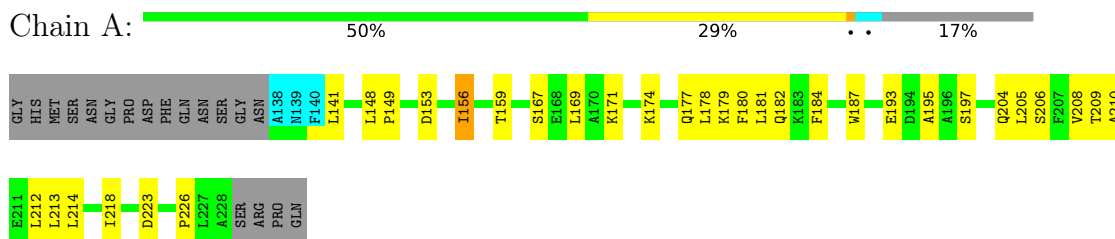


- Molecule 2: mRNA 3'-end-processing protein RNA14

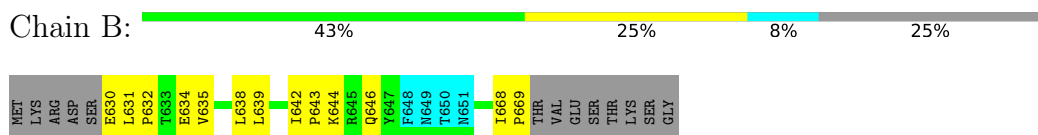


#### 4.2.5 Score per residue for model 5

- Molecule 1: mRNA 3'-end-processing protein RNA15

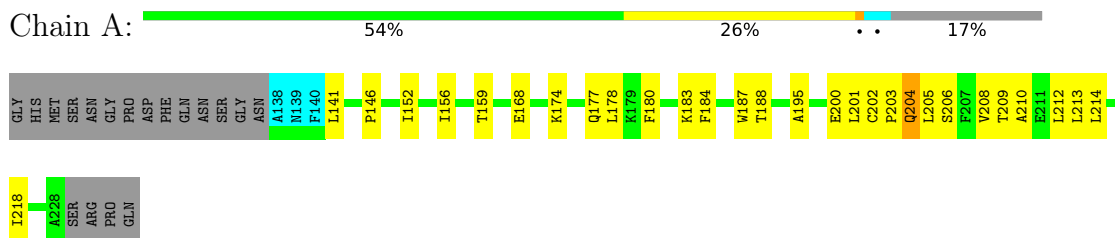


- Molecule 2: mRNA 3'-end-processing protein RNA14

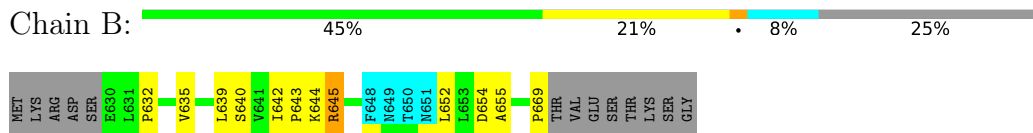


#### 4.2.6 Score per residue for model 6

- Molecule 1: mRNA 3'-end-processing protein RNA15

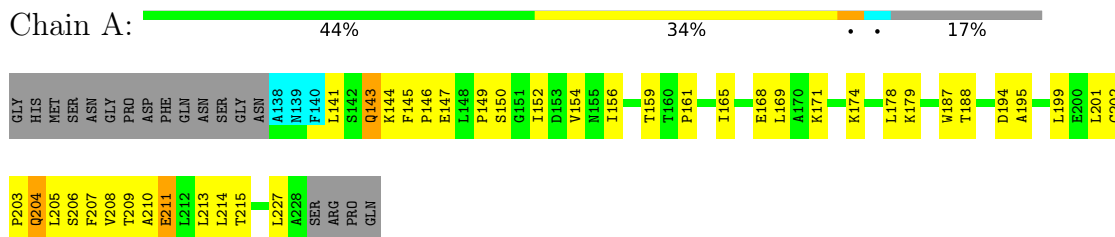


- Molecule 2: mRNA 3'-end-processing protein RNA14

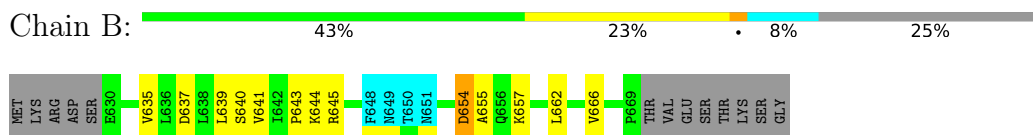


#### 4.2.7 Score per residue for model 7

- Molecule 1: mRNA 3'-end-processing protein RNA15

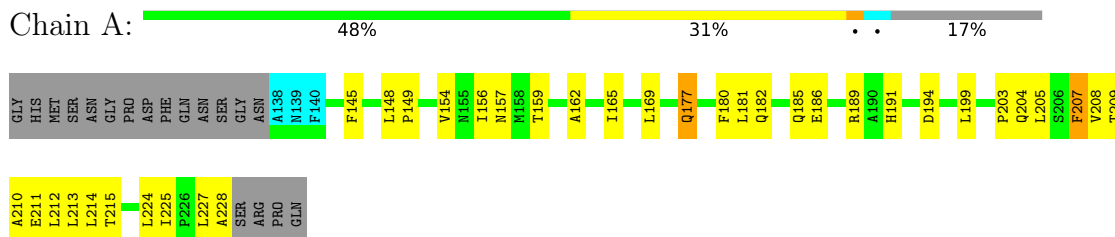


- Molecule 2: mRNA 3'-end-processing protein RNA14

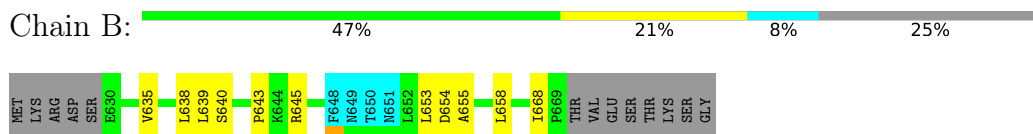


#### 4.2.8 Score per residue for model 8 (medoid)

- Molecule 1: mRNA 3'-end-processing protein RNA15



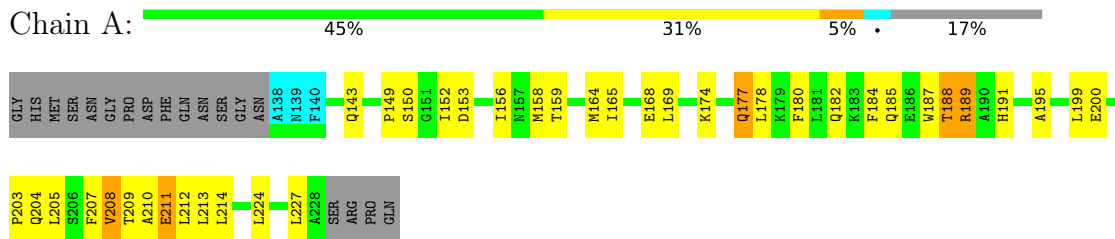
- Molecule 2: mRNA 3'-end-processing protein RNA14



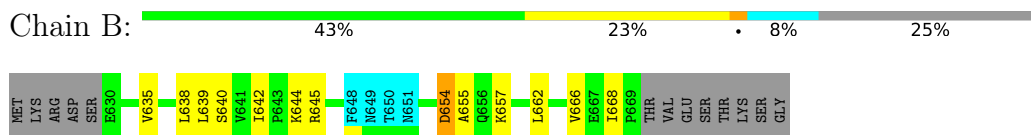
#### 4.2.9 Score per residue for model 9

- Molecule 1: mRNA 3'-end-processing protein RNA15



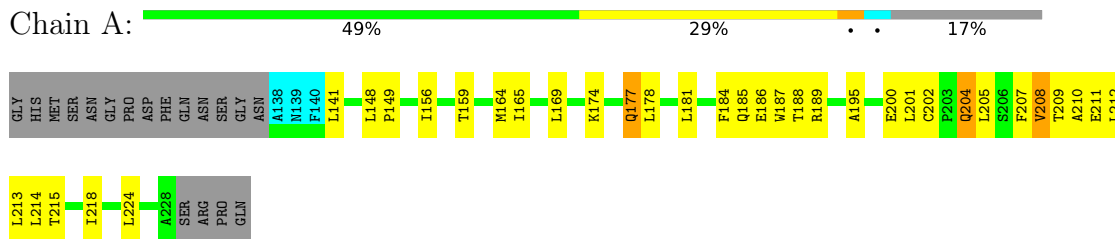


- Molecule 2: mRNA 3'-end-processing protein RNA14

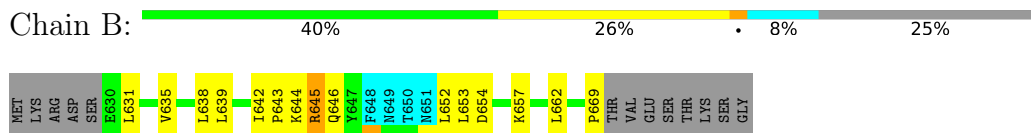


#### 4.2.10 Score per residue for model 10

- Molecule 1: mRNA 3'-end-processing protein RNA15



- Molecule 2: mRNA 3'-end-processing protein RNA14



## 5 Refinement protocol and experimental data overview

The models were refined using the following method: *DGSA-distance geometry simulated annealing*.

Of the 20 calculated structures, 10 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     |
| CNS            | refinement         | 1.1     |
| ARIA1.2/CNS1.1 | refinement         |         |

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

| Chemical shift file(s)                       | working_cs.cif |
|--|----------------|
| Number of chemical shift lists               | 1              |
| Total number of shifts                       | 2077           |
| Number of shifts mapped to atoms             | 1767           |
| Number of unparsed shifts                    | 0              |
| Number of shifts with mapping errors         | 310            |
| Number of shifts with mapping warnings       | 0              |
| Assignment completeness (well-defined parts) | 96%            |

## 6 Model quality [i](#)

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

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 5$  is considered an outlier worth inspection. RMSZ is the (average) root-mean-square of all Z scores of the bond lengths (or angles).

| Mol | Chain | Bond lengths |                      | Bond angles |                      |
|-----|-------|--------------|----------------------|-------------|----------------------|
|     |       | RMSZ         | #Z>5                 | RMSZ        | #Z>5                 |
| 1   | A     | 0.31±0.03    | 0±0/698 ( 0.0± 0.0%) | 0.43±0.02   | 0±0/947 ( 0.0± 0.0%) |
| 2   | B     | 0.33±0.04    | 0±0/297 ( 0.0± 0.0%) | 0.49±0.02   | 0±0/405 ( 0.0± 0.0%) |
| All | All   | 0.32         | 1/9950 ( 0.0%)       | 0.45        | 0/13520 ( 0.0%)      |

All unique bond outliers are listed below.

| Mol | Chain | Res | Type | Atoms  | Z    | Observed(Å) | Ideal(Å) | Models |       |
|-----|-------|-----|------|--------|------|-------------|----------|--------|-------|
|     |       |     |      |        |      |             |          | Worst  | Total |
| 1   | A     | 207 | PHE  | CE1-CZ | 5.38 | 1.47        | 1.37     | 8      | 1     |

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     | 685   | 711      | 710      | 26±4    |
| 2   | B     | 293   | 306      | 306      | 14±2    |
| All | All   | 9780  | 10170    | 10160    | 296     |

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 15.

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

| Atom-1           | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|------------------|------------------|----------|-------------|--------|-------|
|                  |                  |          |             | Worst  | Total |
| 1:A:189:ARG:HH12 | 2:B:662:LEU:HG   | 0.72     | 1.44        | 9      | 1     |
| 1:A:177:GLN:HB3  | 1:A:212:LEU:HD22 | 0.70     | 1.62        | 1      | 9     |
| 1:A:204:GLN:O    | 1:A:208:VAL:HB   | 0.67     | 1.88        | 1      | 2     |
| 1:A:177:GLN:HB2  | 1:A:216:ASN:HD21 | 0.66     | 1.50        | 4      | 2     |
| 1:A:188:THR:HG21 | 2:B:662:LEU:HD23 | 0.66     | 1.67        | 2      | 4     |
| 1:A:149:PRO:HG2  | 2:B:639:LEU:HB2  | 0.66     | 1.67        | 9      | 3     |
| 1:A:169:LEU:HD21 | 1:A:208:VAL:HG22 | 0.64     | 1.69        | 3      | 5     |
| 1:A:203:PRO:HD2  | 2:B:645:ARG:HB2  | 0.61     | 1.73        | 4      | 3     |
| 1:A:156:ILE:HA   | 1:A:159:THR:O    | 0.60     | 1.97        | 2      | 8     |
| 2:B:635:VAL:O    | 2:B:639:LEU:HG   | 0.60     | 1.97        | 3      | 10    |
| 1:A:185:GLN:O    | 1:A:189:ARG:HD2  | 0.59     | 1.97        | 9      | 1     |
| 1:A:183:LYS:HD3  | 2:B:632:PRO:HB3  | 0.59     | 1.73        | 2      | 1     |
| 1:A:141:LEU:HD12 | 1:A:201:LEU:HD23 | 0.59     | 1.74        | 6      | 1     |
| 1:A:185:GLN:HG3  | 1:A:189:ARG:HH11 | 0.59     | 1.56        | 9      | 1     |
| 1:A:189:ARG:HG2  | 2:B:663:ASN:HB2  | 0.58     | 1.73        | 3      | 1     |
| 1:A:174:LYS:O    | 1:A:177:GLN:HG2  | 0.57     | 1.99        | 10     | 3     |
| 1:A:184:PHE:O    | 1:A:188:THR:HG22 | 0.57     | 1.99        | 9      | 2     |
| 2:B:642:ILE:HB   | 2:B:643:PRO:HD2  | 0.57     | 1.77        | 6      | 6     |
| 1:A:169:LEU:CD2  | 2:B:638:LEU:HD11 | 0.57     | 2.30        | 9      | 6     |
| 2:B:662:LEU:HA   | 2:B:666:VAL:HB   | 0.57     | 1.75        | 9      | 2     |
| 1:A:158:MET:O    | 1:A:159:THR:HB   | 0.57     | 1.99        | 3      | 1     |
| 1:A:143:GLN:HE21 | 1:A:143:GLN:HA   | 0.56     | 1.59        | 7      | 1     |
| 1:A:205:LEU:HD13 | 2:B:639:LEU:HD21 | 0.56     | 1.77        | 10     | 9     |
| 1:A:209:THR:O    | 1:A:213:LEU:HG   | 0.56     | 1.99        | 10     | 10    |
| 1:A:167:SER:O    | 1:A:171:LYS:HB3  | 0.56     | 2.01        | 5      | 1     |
| 1:A:227:LEU:O    | 2:B:654:ASP:HB2  | 0.56     | 2.01        | 7      | 2     |
| 1:A:227:LEU:O    | 2:B:654:ASP:HB3  | 0.56     | 2.01        | 8      | 1     |
| 1:A:169:LEU:HD12 | 1:A:211:GLU:HB2  | 0.56     | 1.76        | 10     | 2     |
| 1:A:211:GLU:O    | 1:A:215:THR:HG23 | 0.55     | 2.01        | 7      | 3     |
| 1:A:154:VAL:HG21 | 2:B:643:PRO:HB3  | 0.55     | 1.77        | 4      | 2     |
| 1:A:184:PHE:CE1  | 1:A:205:LEU:HD21 | 0.55     | 2.36        | 2      | 5     |
| 1:A:172:LYS:HD3  | 1:A:176:VAL:HG11 | 0.55     | 1.78        | 2      | 2     |
| 1:A:187:TRP:CH2  | 1:A:195:ALA:HA   | 0.54     | 2.37        | 5      | 6     |
| 2:B:644:LYS:HB2  | 2:B:646:GLN:HG2  | 0.53     | 1.78        | 5      | 1     |
| 1:A:143:GLN:HG3  | 1:A:144:LYS:HG3  | 0.53     | 1.80        | 2      | 1     |
| 1:A:158:MET:HG3  | 1:A:159:THR:H    | 0.52     | 1.64        | 9      | 1     |
| 1:A:169:LEU:HD12 | 1:A:211:GLU:HB3  | 0.52     | 1.80        | 1      | 2     |
| 1:A:205:LEU:HA   | 1:A:208:VAL:HB   | 0.52     | 1.81        | 5      | 7     |
| 1:A:218:ILE:HG13 | 2:B:669:PRO:HD3  | 0.52     | 1.82        | 10     | 4     |
| 1:A:175:GLU:O    | 1:A:179:LYS:HG2  | 0.52     | 2.05        | 3      | 1     |
| 2:B:654:ASP:HB3  | 2:B:657:LYS:HG2  | 0.51     | 1.80        | 9      | 1     |
| 1:A:228:ALA:HB2  | 2:B:653:LEU:HD23 | 0.51     | 1.81        | 4      | 1     |

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| Atom-1           | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|------------------|------------------|----------|-------------|--------|-------|
|                  |                  |          |             | Worst  | Total |
| 1:A:185:GLN:O    | 1:A:189:ARG:HG3  | 0.51     | 2.06        | 2      | 5     |
| 1:A:182:GLN:NE2  | 2:B:668:ILE:HB   | 0.51     | 2.20        | 9      | 2     |
| 1:A:150:SER:O    | 2:B:644:LYS:HA   | 0.51     | 2.06        | 9      | 2     |
| 1:A:210:ALA:O    | 1:A:214:LEU:HG   | 0.51     | 2.06        | 2      | 9     |
| 1:A:169:LEU:HD11 | 1:A:208:VAL:HA   | 0.51     | 1.81        | 8      | 1     |
| 1:A:152:ILE:O    | 2:B:644:LYS:HG3  | 0.50     | 2.06        | 9      | 2     |
| 1:A:210:ALA:HB2  | 2:B:653:LEU:HD11 | 0.50     | 1.83        | 10     | 1     |
| 1:A:169:LEU:HD23 | 2:B:638:LEU:HD11 | 0.50     | 1.83        | 5      | 2     |
| 1:A:180:PHE:HA   | 2:B:634:GLU:HG3  | 0.50     | 1.83        | 5      | 1     |
| 1:A:161:PRO:O    | 1:A:165:ILE:HG13 | 0.49     | 2.07        | 1      | 2     |
| 1:A:174:LYS:O    | 1:A:178:LEU:HG   | 0.49     | 2.08        | 10     | 6     |
| 1:A:184:PHE:O    | 1:A:188:THR:HG23 | 0.49     | 2.06        | 3      | 2     |
| 1:A:228:ALA:HB2  | 2:B:653:LEU:HA   | 0.49     | 1.85        | 8      | 1     |
| 1:A:191:HIS:HB3  | 1:A:194:ASP:HB2  | 0.49     | 1.84        | 4      | 3     |
| 1:A:202:CYS:HB3  | 1:A:204:GLN:OE1  | 0.49     | 2.08        | 7      | 3     |
| 1:A:155:ASN:O    | 1:A:159:THR:HG22 | 0.49     | 2.08        | 3      | 1     |
| 1:A:182:GLN:HG3  | 2:B:668:ILE:HB   | 0.48     | 1.84        | 5      | 1     |
| 1:A:200:GLU:HG3  | 2:B:655:ALA:HB3  | 0.48     | 1.85        | 6      | 1     |
| 1:A:149:PRO:CB   | 2:B:640:SER:HB3  | 0.48     | 2.39        | 2      | 1     |
| 1:A:204:GLN:HG3  | 2:B:642:ILE:HD11 | 0.48     | 1.85        | 1      | 1     |
| 1:A:180:PHE:HE2  | 2:B:635:VAL:HA   | 0.48     | 1.69        | 5      | 5     |
| 1:A:154:VAL:HG21 | 2:B:643:PRO:HG3  | 0.47     | 1.85        | 7      | 2     |
| 1:A:199:LEU:HB2  | 2:B:655:ALA:HB1  | 0.47     | 1.86        | 9      | 4     |
| 1:A:196:ALA:CA   | 2:B:659:VAL:HG21 | 0.47     | 2.39        | 1      | 3     |
| 1:A:189:ARG:HG2  | 2:B:663:ASN:CB   | 0.47     | 2.39        | 3      | 1     |
| 1:A:177:GLN:O    | 1:A:181:LEU:HG   | 0.47     | 2.09        | 10     | 2     |
| 1:A:169:LEU:HD12 | 1:A:211:GLU:CB   | 0.47     | 2.40        | 9      | 1     |
| 2:B:654:ASP:CG   | 2:B:657:LYS:HG2  | 0.47     | 2.29        | 1      | 1     |
| 1:A:199:LEU:CD2  | 1:A:205:LEU:HG   | 0.47     | 2.40        | 9      | 1     |
| 1:A:181:LEU:O    | 1:A:185:GLN:HB2  | 0.47     | 2.10        | 3      | 2     |
| 1:A:152:ILE:HG23 | 2:B:640:SER:O    | 0.47     | 2.10        | 7      | 4     |
| 1:A:165:ILE:O    | 1:A:169:LEU:HG   | 0.46     | 2.10        | 10     | 1     |
| 2:B:638:LEU:O    | 2:B:641:VAL:HG22 | 0.46     | 2.10        | 1      | 1     |
| 1:A:149:PRO:CB   | 2:B:640:SER:HB2  | 0.46     | 2.41        | 8      | 2     |
| 1:A:169:LEU:HB3  | 1:A:212:LEU:HD21 | 0.46     | 1.87        | 10     | 1     |
| 2:B:654:ASP:OD2  | 2:B:657:LYS:HG2  | 0.46     | 2.09        | 10     | 1     |
| 1:A:157:ASN:ND2  | 1:A:158:MET:HG3  | 0.46     | 2.26        | 2      | 1     |
| 2:B:654:ASP:OD1  | 2:B:657:LYS:HG2  | 0.46     | 2.11        | 2      | 2     |
| 1:A:184:PHE:CZ   | 1:A:205:LEU:HD21 | 0.46     | 2.46        | 3      | 2     |
| 1:A:178:LEU:HD22 | 2:B:669:PRO:O    | 0.46     | 2.11        | 6      | 1     |
| 1:A:141:LEU:CD1  | 1:A:201:LEU:HD23 | 0.46     | 2.41        | 10     | 3     |

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| Atom-1           | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|------------------|------------------|----------|-------------|--------|-------|
|                  |                  |          |             | Worst  | Total |
| 1:A:144:LYS:C    | 1:A:146:PRO:HD3  | 0.46     | 2.31        | 7      | 1     |
| 2:B:632:PRO:HB2  | 2:B:634:GLU:OE2  | 0.45     | 2.12        | 5      | 1     |
| 1:A:169:LEU:HD22 | 2:B:638:LEU:HD11 | 0.45     | 1.87        | 1      | 1     |
| 2:B:642:ILE:HB   | 2:B:643:PRO:CD   | 0.45     | 2.41        | 5      | 2     |
| 1:A:186:GLU:HA   | 1:A:186:GLU:OE1  | 0.45     | 2.11        | 8      | 1     |
| 1:A:169:LEU:CD1  | 1:A:208:VAL:HA   | 0.45     | 2.42        | 8      | 1     |
| 1:A:153:ASP:HA   | 2:B:644:LYS:HE2  | 0.45     | 1.88        | 1      | 1     |
| 1:A:199:LEU:HD12 | 2:B:659:VAL:HG23 | 0.45     | 1.88        | 1      | 1     |
| 2:B:637:ASP:O    | 2:B:641:VAL:HG13 | 0.45     | 2.11        | 7      | 3     |
| 1:A:210:ALA:HB1  | 1:A:224:LEU:HD13 | 0.45     | 1.88        | 8      | 3     |
| 1:A:199:LEU:HD21 | 1:A:205:LEU:HG   | 0.45     | 1.89        | 4      | 1     |
| 1:A:208:VAL:O    | 1:A:212:LEU:HG   | 0.44     | 2.12        | 3      | 3     |
| 1:A:154:VAL:CG2  | 2:B:643:PRO:HB3  | 0.44     | 2.41        | 4      | 1     |
| 1:A:203:PRO:HD2  | 2:B:645:ARG:HD2  | 0.44     | 1.89        | 8      | 1     |
| 1:A:177:GLN:CB   | 1:A:212:LEU:HD22 | 0.44     | 2.41        | 10     | 1     |
| 1:A:186:GLU:HG2  | 1:A:189:ARG:HH21 | 0.44     | 1.73        | 10     | 1     |
| 1:A:189:ARG:NH1  | 2:B:662:LEU:HG   | 0.44     | 2.22        | 9      | 1     |
| 1:A:210:ALA:HB2  | 2:B:653:LEU:CD1  | 0.43     | 2.43        | 10     | 1     |
| 1:A:189:ARG:HG2  | 2:B:663:ASN:OD1  | 0.43     | 2.13        | 4      | 1     |
| 1:A:158:MET:HG3  | 1:A:159:THR:N    | 0.43     | 2.28        | 9      | 1     |
| 1:A:179:LYS:O    | 1:A:183:LYS:HG2  | 0.43     | 2.14        | 2      | 1     |
| 1:A:148:LEU:HD13 | 1:A:202:CYS:SG   | 0.43     | 2.53        | 1      | 2     |
| 1:A:180:PHE:HE1  | 2:B:635:VAL:HA   | 0.43     | 1.74        | 1      | 1     |
| 1:A:168:GLU:HA   | 1:A:171:LYS:HE3  | 0.43     | 1.90        | 4      | 1     |
| 2:B:631:LEU:HD22 | 2:B:635:VAL:HG11 | 0.43     | 1.90        | 10     | 3     |
| 1:A:181:LEU:HB3  | 2:B:668:ILE:HD12 | 0.43     | 1.91        | 3      | 1     |
| 1:A:227:LEU:HD13 | 2:B:658:LEU:HD13 | 0.43     | 1.91        | 8      | 1     |
| 1:A:178:LEU:CD2  | 2:B:669:PRO:HG2  | 0.42     | 2.44        | 5      | 1     |
| 1:A:200:GLU:HB2  | 2:B:655:ALA:HB3  | 0.42     | 1.91        | 9      | 1     |
| 1:A:178:LEU:O    | 1:A:182:GLN:HG2  | 0.42     | 2.14        | 2      | 1     |
| 2:B:654:ASP:CB   | 2:B:657:LYS:HG2  | 0.42     | 2.44        | 9      | 1     |
| 1:A:141:LEU:HD11 | 1:A:201:LEU:HD23 | 0.42     | 1.90        | 1      | 1     |
| 1:A:149:PRO:HB2  | 2:B:640:SER:HB3  | 0.42     | 1.90        | 2      | 1     |
| 1:A:157:ASN:ND2  | 1:A:158:MET:HG2  | 0.42     | 2.29        | 4      | 1     |
| 1:A:183:LYS:HE2  | 2:B:632:PRO:HB3  | 0.42     | 1.91        | 6      | 1     |
| 1:A:218:ILE:CG1  | 2:B:669:PRO:HD3  | 0.42     | 2.45        | 2      | 1     |
| 1:A:151:GLY:HA2  | 2:B:640:SER:CA   | 0.42     | 2.45        | 3      | 1     |
| 1:A:203:PRO:HA   | 1:A:206:SER:OG   | 0.42     | 2.14        | 2      | 1     |
| 1:A:158:MET:O    | 1:A:159:THR:CB   | 0.42     | 2.68        | 3      | 1     |
| 1:A:152:ILE:HG12 | 2:B:642:ILE:C    | 0.42     | 2.35        | 9      | 1     |
| 1:A:208:VAL:HG23 | 2:B:642:ILE:HD13 | 0.41     | 1.92        | 10     | 1     |

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| Atom-1           | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|------------------|------------------|----------|-------------|--------|-------|
|                  |                  |          |             | Worst  | Total |
| 1:A:145:PHE:N    | 1:A:146:PRO:HD3  | 0.41     | 2.31        | 7      | 1     |
| 1:A:162:ALA:O    | 1:A:165:ILE:HB   | 0.41     | 2.16        | 8      | 1     |
| 1:A:185:GLN:HG2  | 2:B:662:LEU:HG   | 0.41     | 1.92        | 10     | 1     |
| 1:A:223:ASP:C    | 1:A:226:PRO:HD2  | 0.41     | 2.36        | 5      | 1     |
| 1:A:145:PHE:O    | 1:A:148:LEU:HG   | 0.41     | 2.16        | 8      | 1     |
| 1:A:169:LEU:HB3  | 1:A:212:LEU:CD2  | 0.41     | 2.46        | 1      | 1     |
| 1:A:169:LEU:CD1  | 1:A:211:GLU:HB3  | 0.41     | 2.46        | 2      | 1     |
| 1:A:211:GLU:O    | 1:A:215:THR:HG22 | 0.41     | 2.16        | 4      | 1     |
| 1:A:181:LEU:HD11 | 1:A:212:LEU:CB   | 0.41     | 2.45        | 5      | 1     |
| 1:A:164:MET:O    | 1:A:168:GLU:HG2  | 0.41     | 2.16        | 9      | 1     |
| 1:A:188:THR:HG23 | 1:A:189:ARG:CZ   | 0.41     | 2.46        | 9      | 1     |
| 1:A:203:PRO:HD2  | 2:B:645:ARG:CB   | 0.40     | 2.46        | 3      | 1     |
| 1:A:185:GLN:OE1  | 2:B:668:ILE:HG12 | 0.40     | 2.15        | 9      | 1     |
| 2:B:644:LYS:HD3  | 2:B:646:GLN:OE1  | 0.40     | 2.16        | 10     | 1     |
| 1:A:196:ALA:HA   | 2:B:659:VAL:HG21 | 0.40     | 1.94        | 3      | 1     |
| 1:A:182:GLN:CG   | 2:B:668:ILE:HB   | 0.40     | 2.46        | 5      | 2     |
| 1:A:208:VAL:HG21 | 2:B:638:LEU:HG   | 0.40     | 1.94        | 10     | 1     |
| 1:A:151:GLY:HA2  | 2:B:640:SER:HA   | 0.40     | 1.93        | 3      | 1     |
| 1:A:141:LEU:HD13 | 1:A:148:LEU:HD12 | 0.40     | 1.93        | 4      | 2     |
| 1:A:168:GLU:O    | 1:A:171:LYS:HG2  | 0.40     | 2.17        | 7      | 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     | 87/109 (80%)    | 82±2 (95±3%) | 4±2 (4±2%) | 1±0 (1±1%) | 24          | 71 |
| 2   | B     | 34/53 (64%)     | 30±1 (89±3%) | 3±1 (8±4%) | 1±1 (3±3%) | 7           | 41 |
| All | All   | 1210/1620 (75%) | 1128 (93%)   | 65 (5%)    | 17 (1%)    | 15          | 61 |

All 6 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     | 156 | ILE  | 5              |

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| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 2   | B     | 645 | ARG  | 4              |
| 2   | B     | 652 | LEU  | 4              |
| 2   | B     | 643 | PRO  | 2              |
| 1   | A     | 159 | THR  | 1              |
| 1   | A     | 146 | PRO  | 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     | 79/96 (82%)     | 74±2 (93±3%) | 5±2 (7±3%) | 20 68       |
| 2   | B     | 35/51 (69%)     | 34±1 (97±2%) | 1±1 (3±2%) | 40 87       |
| All | All   | 1140/1470 (78%) | 1075 (94%)   | 65 (6%)    | 24 73       |

All 30 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     | 204 | GLN  | 9              |
| 1   | A     | 177 | GLN  | 6              |
| 1   | A     | 206 | SER  | 6              |
| 1   | A     | 207 | PHE  | 6              |
| 1   | A     | 208 | VAL  | 3              |
| 2   | B     | 654 | ASP  | 3              |
| 1   | A     | 164 | MET  | 2              |
| 2   | B     | 642 | ILE  | 2              |
| 2   | B     | 630 | GLU  | 2              |
| 1   | A     | 157 | ASN  | 2              |
| 1   | A     | 153 | ASP  | 2              |
| 1   | A     | 179 | LYS  | 2              |
| 1   | A     | 143 | GLN  | 2              |
| 1   | A     | 211 | GLU  | 2              |
| 2   | B     | 656 | GLN  | 1              |
| 2   | B     | 637 | ASP  | 1              |
| 1   | A     | 150 | SER  | 1              |
| 1   | A     | 155 | ASN  | 1              |
| 2   | B     | 633 | THR  | 1              |

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| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 2   | B     | 645 | ARG  | 1              |
| 1   | A     | 149 | PRO  | 1              |
| 1   | A     | 193 | GLU  | 1              |
| 1   | A     | 168 | GLU  | 1              |
| 1   | A     | 147 | GLU  | 1              |
| 2   | B     | 657 | LYS  | 1              |
| 1   | A     | 225 | ILE  | 1              |
| 1   | A     | 188 | THR  | 1              |
| 1   | A     | 189 | ARG  | 1              |
| 1   | A     | 191 | HIS  | 1              |
| 1   | A     | 200 | GLU  | 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 96% for the well-defined parts and 96% for the entire structure.

### 7.1 Chemical shift list 1

File name: working\_cs.cif

Chemical shift list name: 17161\_chemshifts\_PDB.str

#### 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                  | 2077 |
| Number of shifts mapped to atoms        | 1767 |
| Number of unparsed shifts               | 0    |
| Number of shifts with mapping errors    | 310  |
| Number of shifts with mapping warnings  | 0    |
| Number of shift outliers (ShiftChecker) | 0    |

The following assigned chemical shifts were not mapped to the molecules present in the coordinate file.

- No matching atom found in the structure. All 310 occurrences are reported below.

| List ID | Chain | Res | Type | Atom | Shift Data |             |           |
|---------|-------|-----|------|------|------------|-------------|-----------|
|         |       |     |      |      | Value      | Uncertainty | Ambiguity |
| 1       | B     | 625 | MET  | HA   | 4.62       | 0.02        | 1         |
| 1       | B     | 625 | MET  | HB2  | 3.06       | 0.02        | 1         |
| 1       | B     | 625 | MET  | HB3  | 3.06       | 0.02        | 1         |
| 1       | B     | 625 | MET  | HG2  | 3.08       | 0.02        | 1         |
| 1       | B     | 625 | MET  | HG3  | 3.08       | 0.02        | 1         |
| 1       | B     | 625 | MET  | C    | 175.23     | 0.2         | 1         |
| 1       | B     | 625 | MET  | CA   | 57.34      | 0.2         | 1         |
| 1       | B     | 625 | MET  | CB   | 39.74      | 0.2         | 1         |
| 1       | B     | 626 | LYS  | H    | 8.2        | 0.02        | 1         |
| 1       | B     | 626 | LYS  | HA   | 4.3        | 0.02        | 1         |
| 1       | B     | 626 | LYS  | HB2  | 1.78       | 0.02        | 1         |
| 1       | B     | 626 | LYS  | HB3  | 1.78       | 0.02        | 1         |
| 1       | B     | 626 | LYS  | HD2  | 1.71       | 0.02        | 1         |
| 1       | B     | 626 | LYS  | HD3  | 1.71       | 0.02        | 1         |

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| List ID | Chain | Res | Type | Atom | Shift Data |             |           |
|---------|-------|-----|------|------|------------|-------------|-----------|
|         |       |     |      |      | Value      | Uncertainty | Ambiguity |
| 1       | B     | 626 | LYS  | HE2  | 3.0        | 0.02        | 1         |
| 1       | B     | 626 | LYS  | HE3  | 3.0        | 0.02        | 1         |
| 1       | B     | 626 | LYS  | HG2  | 1.39       | 0.02        | 1         |
| 1       | B     | 626 | LYS  | HG3  | 1.39       | 0.02        | 1         |
| 1       | B     | 626 | LYS  | C    | 175.93     | 0.2         | 1         |
| 1       | B     | 626 | LYS  | CA   | 55.91      | 0.2         | 1         |
| 1       | B     | 626 | LYS  | CB   | 33.04      | 0.2         | 1         |
| 1       | B     | 626 | LYS  | CD   | 29.17      | 0.2         | 1         |
| 1       | B     | 626 | LYS  | CE   | 42.12      | 0.2         | 1         |
| 1       | B     | 626 | LYS  | CG   | 24.53      | 0.2         | 1         |
| 1       | B     | 626 | LYS  | N    | 123.67     | 0.2         | 1         |
| 1       | B     | 627 | ARG  | H    | 8.4        | 0.02        | 1         |
| 1       | B     | 627 | ARG  | HA   | 4.34       | 0.02        | 1         |
| 1       | B     | 627 | ARG  | HB2  | 1.89       | 0.02        | 2         |
| 1       | B     | 627 | ARG  | HB3  | 1.78       | 0.02        | 2         |
| 1       | B     | 627 | ARG  | HD2  | 3.2        | 0.02        | 1         |
| 1       | B     | 627 | ARG  | HD3  | 3.2        | 0.02        | 1         |
| 1       | B     | 627 | ARG  | HG2  | 1.67       | 0.02        | 1         |
| 1       | B     | 627 | ARG  | HG3  | 1.67       | 0.02        | 1         |
| 1       | B     | 627 | ARG  | C    | 176.12     | 0.2         | 1         |
| 1       | B     | 627 | ARG  | CA   | 56.0       | 0.2         | 1         |
| 1       | B     | 627 | ARG  | CB   | 30.8       | 0.2         | 1         |
| 1       | B     | 627 | ARG  | CD   | 43.8       | 0.2         | 1         |
| 1       | B     | 627 | ARG  | CG   | 27.17      | 0.2         | 1         |
| 1       | B     | 627 | ARG  | N    | 123.14     | 0.2         | 1         |
| 1       | B     | 628 | ASP  | H    | 8.5        | 0.02        | 1         |
| 1       | B     | 628 | ASP  | HA   | 4.64       | 0.02        | 1         |
| 1       | B     | 628 | ASP  | HB2  | 2.75       | 0.02        | 1         |
| 1       | B     | 628 | ASP  | HB3  | 2.75       | 0.02        | 1         |
| 1       | B     | 628 | ASP  | C    | 176.29     | 0.2         | 1         |
| 1       | B     | 628 | ASP  | CA   | 54.67      | 0.2         | 1         |
| 1       | B     | 628 | ASP  | CB   | 41.12      | 0.2         | 1         |
| 1       | B     | 628 | ASP  | N    | 122.08     | 0.2         | 1         |
| 1       | B     | 629 | SER  | H    | 8.22       | 0.02        | 1         |
| 1       | B     | 629 | SER  | HA   | 4.38       | 0.02        | 1         |
| 1       | B     | 629 | SER  | HB2  | 3.84       | 0.02        | 2         |
| 1       | B     | 629 | SER  | HB3  | 3.91       | 0.02        | 2         |
| 1       | B     | 629 | SER  | C    | 174.61     | 0.2         | 1         |
| 1       | B     | 629 | SER  | CA   | 58.43      | 0.2         | 1         |
| 1       | B     | 629 | SER  | CB   | 63.94      | 0.2         | 1         |
| 1       | B     | 629 | SER  | N    | 114.75     | 0.2         | 1         |

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| List ID | Chain | Res | Type | Atom | Shift Data |             |           |
|---------|-------|-----|------|------|------------|-------------|-----------|
|         |       |     |      |      | Value      | Uncertainty | Ambiguity |
| 1       | B     | 630 | GLU  | H    | 8.37       | 0.02        | 1         |
| 1       | B     | 670 | THR  | H    | 8.05       | 0.02        | 1         |
| 1       | B     | 670 | THR  | HA   | 4.37       | 0.02        | 1         |
| 1       | B     | 670 | THR  | HB   | 4.25       | 0.02        | 1         |
| 1       | B     | 670 | THR  | HG21 | 1.23       | 0.02        | 1         |
| 1       | B     | 670 | THR  | HG22 | 1.23       | 0.02        | 1         |
| 1       | B     | 670 | THR  | HG23 | 1.23       | 0.02        | 1         |
| 1       | B     | 670 | THR  | C    | 175.17     | 0.2         | 1         |
| 1       | B     | 670 | THR  | CA   | 61.2       | 0.2         | 1         |
| 1       | B     | 670 | THR  | CB   | 70.09      | 0.2         | 1         |
| 1       | B     | 670 | THR  | CG2  | 21.53      | 0.2         | 1         |
| 1       | B     | 670 | THR  | N    | 112.39     | 0.2         | 1         |
| 1       | B     | 671 | VAL  | H    | 8.34       | 0.02        | 1         |
| 1       | B     | 671 | VAL  | HA   | 4.13       | 0.02        | 1         |
| 1       | B     | 671 | VAL  | HB   | 2.12       | 0.02        | 1         |
| 1       | B     | 671 | VAL  | HG11 | 0.96       | 0.02        | 2         |
| 1       | B     | 671 | VAL  | HG12 | 0.96       | 0.02        | 2         |
| 1       | B     | 671 | VAL  | HG13 | 0.96       | 0.02        | 2         |
| 1       | B     | 671 | VAL  | HG21 | 0.96       | 0.02        | 2         |
| 1       | B     | 671 | VAL  | HG22 | 0.96       | 0.02        | 2         |
| 1       | B     | 671 | VAL  | HG23 | 0.96       | 0.02        | 2         |
| 1       | B     | 671 | VAL  | C    | 176.24     | 0.2         | 1         |
| 1       | B     | 671 | VAL  | CA   | 62.37      | 0.2         | 1         |
| 1       | B     | 671 | VAL  | CB   | 32.71      | 0.2         | 1         |
| 1       | B     | 671 | VAL  | CG1  | 21.35      | 0.2         | 1         |
| 1       | B     | 671 | VAL  | CG2  | 20.86      | 0.2         | 1         |
| 1       | B     | 671 | VAL  | N    | 121.96     | 0.2         | 1         |
| 1       | B     | 672 | GLU  | H    | 8.59       | 0.02        | 1         |
| 1       | B     | 672 | GLU  | HA   | 4.32       | 0.02        | 1         |
| 1       | B     | 672 | GLU  | HB2  | 2.09       | 0.02        | 2         |
| 1       | B     | 672 | GLU  | HB3  | 1.98       | 0.02        | 2         |
| 1       | B     | 672 | GLU  | HG2  | 2.29       | 0.02        | 1         |
| 1       | B     | 672 | GLU  | HG3  | 2.29       | 0.02        | 1         |
| 1       | B     | 672 | GLU  | C    | 176.69     | 0.2         | 1         |
| 1       | B     | 672 | GLU  | CA   | 56.72      | 0.2         | 1         |
| 1       | B     | 672 | GLU  | CB   | 29.92      | 0.2         | 1         |
| 1       | B     | 672 | GLU  | CG   | 36.35      | 0.2         | 1         |
| 1       | B     | 672 | GLU  | N    | 124.31     | 0.2         | 1         |
| 1       | B     | 673 | SER  | H    | 8.37       | 0.02        | 1         |
| 1       | B     | 673 | SER  | HA   | 4.5        | 0.02        | 1         |
| 1       | B     | 673 | SER  | HB2  | 3.93       | 0.02        | 1         |

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| List ID | Chain | Res | Type | Atom | Shift Data |             |           |
|---------|-------|-----|------|------|------------|-------------|-----------|
|         |       |     |      |      | Value      | Uncertainty | Ambiguity |
| 1       | B     | 673 | SER  | HB3  | 3.93       | 0.02        | 1         |
| 1       | B     | 673 | SER  | C    | 174.97     | 0.2         | 1         |
| 1       | B     | 673 | SER  | CA   | 58.58      | 0.2         | 1         |
| 1       | B     | 673 | SER  | CB   | 63.86      | 0.2         | 1         |
| 1       | B     | 673 | SER  | N    | 117.25     | 0.2         | 1         |
| 1       | B     | 674 | THR  | H    | 8.18       | 0.02        | 1         |
| 1       | B     | 674 | THR  | HA   | 4.38       | 0.02        | 1         |
| 1       | B     | 674 | THR  | HB   | 4.27       | 0.02        | 1         |
| 1       | B     | 674 | THR  | HG21 | 1.23       | 0.02        | 1         |
| 1       | B     | 674 | THR  | HG22 | 1.23       | 0.02        | 1         |
| 1       | B     | 674 | THR  | HG23 | 1.23       | 0.02        | 1         |
| 1       | B     | 674 | THR  | C    | 174.58     | 0.2         | 1         |
| 1       | B     | 674 | THR  | CA   | 62.01      | 0.2         | 1         |
| 1       | B     | 674 | THR  | CB   | 69.62      | 0.2         | 1         |
| 1       | B     | 674 | THR  | CG2  | 21.6       | 0.2         | 1         |
| 1       | B     | 674 | THR  | N    | 116.1      | 0.2         | 1         |
| 1       | B     | 675 | LYS  | H    | 8.27       | 0.02        | 1         |
| 1       | B     | 675 | LYS  | HA   | 4.43       | 0.02        | 1         |
| 1       | B     | 675 | LYS  | HB2  | 1.88       | 0.02        | 1         |
| 1       | B     | 675 | LYS  | HB3  | 1.88       | 0.02        | 1         |
| 1       | B     | 675 | LYS  | HD2  | 1.73       | 0.02        | 1         |
| 1       | B     | 675 | LYS  | HD3  | 1.73       | 0.02        | 1         |
| 1       | B     | 675 | LYS  | HE2  | 3.01       | 0.02        | 1         |
| 1       | B     | 675 | LYS  | HE3  | 3.01       | 0.02        | 1         |
| 1       | B     | 675 | LYS  | HG2  | 1.47       | 0.02        | 1         |
| 1       | B     | 675 | LYS  | HG3  | 1.47       | 0.02        | 1         |
| 1       | B     | 675 | LYS  | C    | 176.47     | 0.2         | 1         |
| 1       | B     | 675 | LYS  | CA   | 56.21      | 0.2         | 1         |
| 1       | B     | 675 | LYS  | CB   | 32.91      | 0.2         | 1         |
| 1       | B     | 675 | LYS  | CD   | 28.96      | 0.2         | 1         |
| 1       | B     | 675 | LYS  | CE   | 41.99      | 0.2         | 1         |
| 1       | B     | 675 | LYS  | CG   | 24.61      | 0.2         | 1         |
| 1       | B     | 675 | LYS  | N    | 123.91     | 0.2         | 1         |
| 1       | B     | 676 | SER  | H    | 8.36       | 0.02        | 1         |
| 1       | B     | 676 | SER  | HA   | 4.5        | 0.02        | 1         |
| 1       | B     | 676 | SER  | HB2  | 3.89       | 0.02        | 1         |
| 1       | B     | 676 | SER  | HB3  | 3.89       | 0.02        | 1         |
| 1       | B     | 676 | SER  | C    | 174.02     | 0.2         | 1         |
| 1       | B     | 676 | SER  | CA   | 58.16      | 0.2         | 1         |
| 1       | B     | 676 | SER  | CB   | 64.06      | 0.2         | 1         |
| 1       | B     | 676 | SER  | N    | 117.91     | 0.2         | 1         |

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| List ID | Chain | Res | Type | Atom | Shift Data |             |           |
|---------|-------|-----|------|------|------------|-------------|-----------|
|         |       |     |      |      | Value      | Uncertainty | Ambiguity |
| 1       | B     | 677 | GLY  | H    | 8.01       | 0.02        | 1         |
| 1       | B     | 677 | GLY  | HA2  | 3.79       | 0.02        | 1         |
| 1       | B     | 677 | GLY  | HA3  | 3.79       | 0.02        | 1         |
| 1       | B     | 677 | GLY  | C    | 179.02     | 0.2         | 1         |
| 1       | B     | 677 | GLY  | CA   | 46.12      | 0.2         | 1         |
| 1       | B     | 677 | GLY  | N    | 117.26     | 0.2         | 1         |
| 1       | A     | 125 | HIS  | HA   | 4.68       | 0.02        | 1         |
| 1       | A     | 125 | HIS  | HB2  | 3.12       | 0.02        | 1         |
| 1       | A     | 125 | HIS  | HB3  | 3.12       | 0.02        | 1         |
| 1       | A     | 125 | HIS  | HD2  | 7.07       | 0.02        | 1         |
| 1       | A     | 125 | HIS  | HE1  | 7.96       | 0.02        | 1         |
| 1       | A     | 125 | HIS  | CB   | 30.74      | 0.2         | 1         |
| 1       | A     | 125 | HIS  | CD2  | 119.44     | 0.2         | 1         |
| 1       | A     | 125 | HIS  | CE1  | 137.6      | 0.2         | 1         |
| 1       | A     | 127 | SER  | HA   | 4.41       | 0.02        | 1         |
| 1       | A     | 127 | SER  | HB2  | 3.84       | 0.02        | 1         |
| 1       | A     | 127 | SER  | HB3  | 3.84       | 0.02        | 1         |
| 1       | A     | 127 | SER  | C    | 174.09     | 0.2         | 1         |
| 1       | A     | 127 | SER  | CA   | 58.26      | 0.2         | 1         |
| 1       | A     | 127 | SER  | CB   | 63.83      | 0.2         | 1         |
| 1       | A     | 128 | ASN  | H    | 8.45       | 0.02        | 1         |
| 1       | A     | 128 | ASN  | HA   | 4.79       | 0.02        | 1         |
| 1       | A     | 128 | ASN  | HB2  | 2.76       | 0.02        | 2         |
| 1       | A     | 128 | ASN  | HB3  | 2.83       | 0.02        | 2         |
| 1       | A     | 128 | ASN  | HD21 | 7.62       | 0.02        | 2         |
| 1       | A     | 128 | ASN  | HD22 | 6.94       | 0.02        | 2         |
| 1       | A     | 128 | ASN  | C    | 175.18     | 0.2         | 1         |
| 1       | A     | 128 | ASN  | CA   | 53.09      | 0.2         | 1         |
| 1       | A     | 128 | ASN  | CB   | 39.08      | 0.2         | 1         |
| 1       | A     | 128 | ASN  | CG   | 177.0      | 0.2         | 1         |
| 1       | A     | 128 | ASN  | N    | 120.6      | 0.2         | 1         |
| 1       | A     | 128 | ASN  | ND2  | 112.67     | 0.2         | 1         |
| 1       | A     | 129 | GLY  | H    | 8.18       | 0.02        | 1         |
| 1       | A     | 129 | GLY  | HA2  | 4.13       | 0.02        | 1         |
| 1       | A     | 129 | GLY  | HA3  | 4.13       | 0.02        | 1         |
| 1       | A     | 129 | GLY  | C    | 171.97     | 0.2         | 1         |
| 1       | A     | 129 | GLY  | CA   | 44.5       | 0.2         | 1         |
| 1       | A     | 129 | GLY  | N    | 109.07     | 0.2         | 1         |
| 1       | A     | 130 | PRO  | HA   | 4.38       | 0.02        | 1         |
| 1       | A     | 130 | PRO  | HB2  | 1.79       | 0.02        | 2         |
| 1       | A     | 130 | PRO  | HB3  | 2.2        | 0.02        | 2         |

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| List ID | Chain | Res | Type | Atom | Shift Data |             |           |
|---------|-------|-----|------|------|------------|-------------|-----------|
|         |       |     |      |      | Value      | Uncertainty | Ambiguity |
| 1       | A     | 130 | PRO  | HD2  | 3.62       | 0.02        | 1         |
| 1       | A     | 130 | PRO  | HD3  | 3.62       | 0.02        | 1         |
| 1       | A     | 130 | PRO  | HG2  | 1.98       | 0.02        | 1         |
| 1       | A     | 130 | PRO  | HG3  | 1.98       | 0.02        | 1         |
| 1       | A     | 130 | PRO  | C    | 176.8      | 0.2         | 1         |
| 1       | A     | 130 | PRO  | CA   | 63.4       | 0.2         | 1         |
| 1       | A     | 130 | PRO  | CB   | 31.99      | 0.2         | 1         |
| 1       | A     | 130 | PRO  | CD   | 49.79      | 0.2         | 1         |
| 1       | A     | 130 | PRO  | CG   | 27.16      | 0.2         | 1         |
| 1       | A     | 131 | ASP  | H    | 8.37       | 0.02        | 1         |
| 1       | A     | 131 | ASP  | HA   | 4.56       | 0.02        | 1         |
| 1       | A     | 131 | ASP  | HB2  | 2.57       | 0.02        | 2         |
| 1       | A     | 131 | ASP  | HB3  | 2.66       | 0.02        | 2         |
| 1       | A     | 131 | ASP  | C    | 176.35     | 0.2         | 1         |
| 1       | A     | 131 | ASP  | CA   | 54.15      | 0.2         | 1         |
| 1       | A     | 131 | ASP  | CB   | 40.76      | 0.2         | 1         |
| 1       | A     | 131 | ASP  | N    | 119.64     | 0.2         | 1         |
| 1       | A     | 132 | PHE  | H    | 8.07       | 0.02        | 1         |
| 1       | A     | 132 | PHE  | HA   | 4.55       | 0.02        | 1         |
| 1       | A     | 132 | PHE  | HB2  | 3.15       | 0.02        | 2         |
| 1       | A     | 132 | PHE  | HB3  | 3.05       | 0.02        | 2         |
| 1       | A     | 132 | PHE  | HD1  | 7.25       | 0.02        | 1         |
| 1       | A     | 132 | PHE  | HD2  | 7.25       | 0.02        | 1         |
| 1       | A     | 132 | PHE  | C    | 176.03     | 0.2         | 1         |
| 1       | A     | 132 | PHE  | CA   | 58.17      | 0.2         | 1         |
| 1       | A     | 132 | PHE  | CB   | 39.34      | 0.2         | 1         |
| 1       | A     | 132 | PHE  | CD1  | 131.71     | 0.2         | 1         |
| 1       | A     | 132 | PHE  | CD2  | 131.71     | 0.2         | 1         |
| 1       | A     | 132 | PHE  | N    | 120.51     | 0.2         | 1         |
| 1       | A     | 133 | GLN  | H    | 8.24       | 0.02        | 1         |
| 1       | A     | 133 | GLN  | HA   | 4.25       | 0.02        | 1         |
| 1       | A     | 133 | GLN  | HB2  | 2.07       | 0.02        | 1         |
| 1       | A     | 133 | GLN  | HB3  | 2.07       | 0.02        | 1         |
| 1       | A     | 133 | GLN  | HE21 | 7.5        | 0.02        | 2         |
| 1       | A     | 133 | GLN  | HE22 | 6.83       | 0.02        | 2         |
| 1       | A     | 133 | GLN  | HG2  | 2.28       | 0.02        | 1         |
| 1       | A     | 133 | GLN  | HG3  | 2.28       | 0.02        | 1         |
| 1       | A     | 133 | GLN  | C    | 175.73     | 0.2         | 1         |
| 1       | A     | 133 | GLN  | CA   | 56.05      | 0.2         | 1         |
| 1       | A     | 133 | GLN  | CB   | 28.99      | 0.2         | 1         |
| 1       | A     | 133 | GLN  | CD   | 180.27     | 0.2         | 1         |

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| List ID | Chain | Res | Type | Atom | Shift Data |             |           |
|---------|-------|-----|------|------|------------|-------------|-----------|
|         |       |     |      |      | Value      | Uncertainty | Ambiguity |
| 1       | A     | 133 | GLN  | CG   | 33.79      | 0.2         | 1         |
| 1       | A     | 133 | GLN  | N    | 120.83     | 0.2         | 1         |
| 1       | A     | 133 | GLN  | NE2  | 112.36     | 0.2         | 1         |
| 1       | A     | 134 | ASN  | H    | 8.29       | 0.02        | 1         |
| 1       | A     | 134 | ASN  | HA   | 4.72       | 0.02        | 1         |
| 1       | A     | 134 | ASN  | HB2  | 2.76       | 0.02        | 2         |
| 1       | A     | 134 | ASN  | HB3  | 2.88       | 0.02        | 2         |
| 1       | A     | 134 | ASN  | HD21 | 7.69       | 0.02        | 2         |
| 1       | A     | 134 | ASN  | HD22 | 6.93       | 0.02        | 2         |
| 1       | A     | 134 | ASN  | C    | 175.41     | 0.2         | 1         |
| 1       | A     | 134 | ASN  | CA   | 53.29      | 0.2         | 1         |
| 1       | A     | 134 | ASN  | CB   | 38.85      | 0.2         | 1         |
| 1       | A     | 134 | ASN  | CG   | 177.15     | 0.2         | 1         |
| 1       | A     | 134 | ASN  | N    | 119.46     | 0.2         | 1         |
| 1       | A     | 134 | ASN  | ND2  | 113.16     | 0.2         | 1         |
| 1       | A     | 135 | SER  | H    | 8.28       | 0.02        | 1         |
| 1       | A     | 135 | SER  | HA   | 4.42       | 0.02        | 1         |
| 1       | A     | 135 | SER  | HB2  | 3.91       | 0.02        | 1         |
| 1       | A     | 135 | SER  | HB3  | 3.91       | 0.02        | 1         |
| 1       | A     | 135 | SER  | C    | 175.24     | 0.2         | 1         |
| 1       | A     | 135 | SER  | CA   | 58.84      | 0.2         | 1         |
| 1       | A     | 135 | SER  | CB   | 63.83      | 0.2         | 1         |
| 1       | A     | 135 | SER  | N    | 116.3      | 0.2         | 1         |
| 1       | A     | 136 | GLY  | H    | 8.47       | 0.02        | 1         |
| 1       | A     | 136 | GLY  | HA2  | 3.98       | 0.02        | 1         |
| 1       | A     | 136 | GLY  | HA3  | 3.98       | 0.02        | 1         |
| 1       | A     | 136 | GLY  | C    | 174.28     | 0.2         | 1         |
| 1       | A     | 136 | GLY  | CA   | 45.43      | 0.2         | 1         |
| 1       | A     | 136 | GLY  | N    | 110.62     | 0.2         | 1         |
| 1       | A     | 137 | ASN  | H    | 8.25       | 0.02        | 1         |
| 1       | A     | 137 | ASN  | HA   | 4.73       | 0.02        | 1         |
| 1       | A     | 137 | ASN  | HB2  | 2.83       | 0.02        | 1         |
| 1       | A     | 137 | ASN  | HB3  | 2.83       | 0.02        | 1         |
| 1       | A     | 137 | ASN  | HD21 | 7.62       | 0.02        | 2         |
| 1       | A     | 137 | ASN  | HD22 | 6.94       | 0.02        | 2         |
| 1       | A     | 137 | ASN  | C    | 175.51     | 0.2         | 1         |
| 1       | A     | 137 | ASN  | CA   | 53.3       | 0.2         | 1         |
| 1       | A     | 137 | ASN  | CB   | 38.85      | 0.2         | 1         |
| 1       | A     | 137 | ASN  | CG   | 176.93     | 0.2         | 1         |
| 1       | A     | 137 | ASN  | N    | 119.06     | 0.2         | 1         |
| 1       | A     | 137 | ASN  | ND2  | 112.57     | 0.2         | 1         |

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| List ID | Chain | Res | Type | Atom | Shift Data |             |           |
|---------|-------|-----|------|------|------------|-------------|-----------|
|         |       |     |      |      | Value      | Uncertainty | Ambiguity |
| 1       | A     | 138 | ALA  | H    | 8.31       | 0.02        | 1         |
| 1       | A     | 229 | SER  | H    | 8.23       | 0.02        | 1         |
| 1       | A     | 229 | SER  | HA   | 4.39       | 0.02        | 1         |
| 1       | A     | 229 | SER  | HB2  | 3.76       | 0.02        | 1         |
| 1       | A     | 229 | SER  | HB3  | 3.76       | 0.02        | 1         |
| 1       | A     | 229 | SER  | C    | 174.27     | 0.2         | 1         |
| 1       | A     | 229 | SER  | CA   | 58.72      | 0.2         | 1         |
| 1       | A     | 229 | SER  | CB   | 63.74      | 0.2         | 1         |
| 1       | A     | 229 | SER  | N    | 116.28     | 0.2         | 1         |
| 1       | A     | 230 | ARG  | H    | 8.44       | 0.02        | 1         |
| 1       | A     | 230 | ARG  | HA   | 4.74       | 0.02        | 1         |
| 1       | A     | 230 | ARG  | HB2  | 1.89       | 0.02        | 2         |
| 1       | A     | 230 | ARG  | HB3  | 1.76       | 0.02        | 2         |
| 1       | A     | 230 | ARG  | HD2  | 3.24       | 0.02        | 1         |
| 1       | A     | 230 | ARG  | HD3  | 3.24       | 0.02        | 1         |
| 1       | A     | 230 | ARG  | HG2  | 1.68       | 0.02        | 1         |
| 1       | A     | 230 | ARG  | HG3  | 1.68       | 0.02        | 1         |
| 1       | A     | 230 | ARG  | C    | 174.04     | 0.2         | 1         |
| 1       | A     | 230 | ARG  | CA   | 53.59      | 0.2         | 1         |
| 1       | A     | 230 | ARG  | CB   | 30.49      | 0.2         | 1         |
| 1       | A     | 230 | ARG  | CD   | 43.81      | 0.2         | 1         |
| 1       | A     | 230 | ARG  | CG   | 26.71      | 0.2         | 1         |
| 1       | A     | 230 | ARG  | N    | 124.16     | 0.2         | 1         |
| 1       | A     | 231 | PRO  | HA   | 4.46       | 0.02        | 1         |
| 1       | A     | 231 | PRO  | HB2  | 2.32       | 0.02        | 2         |
| 1       | A     | 231 | PRO  | HB3  | 1.99       | 0.02        | 2         |
| 1       | A     | 231 | PRO  | HD2  | 3.67       | 0.02        | 2         |
| 1       | A     | 231 | PRO  | HD3  | 3.82       | 0.02        | 2         |
| 1       | A     | 231 | PRO  | HG2  | 2.08       | 0.02        | 2         |
| 1       | A     | 231 | PRO  | HG3  | 2.01       | 0.02        | 2         |
| 1       | A     | 231 | PRO  | C    | 176.24     | 0.2         | 1         |
| 1       | A     | 231 | PRO  | CA   | 63.39      | 0.2         | 1         |
| 1       | A     | 231 | PRO  | CB   | 31.82      | 0.2         | 1         |
| 1       | A     | 231 | PRO  | CD   | 50.67      | 0.2         | 1         |
| 1       | A     | 231 | PRO  | CG   | 27.22      | 0.2         | 1         |
| 1       | A     | 232 | GLN  | H    | 8.03       | 0.02        | 1         |
| 1       | A     | 232 | GLN  | HA   | 4.16       | 0.02        | 1         |
| 1       | A     | 232 | GLN  | HB2  | 2.14       | 0.02        | 1         |
| 1       | A     | 232 | GLN  | HB3  | 2.14       | 0.02        | 1         |
| 1       | A     | 232 | GLN  | HE21 | 7.54       | 0.02        | 2         |
| 1       | A     | 232 | GLN  | HE22 | 6.83       | 0.02        | 2         |

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| List ID | Chain | Res | Type | Atom | Shift Data |             |           |
|---------|-------|-----|------|------|------------|-------------|-----------|
|         |       |     |      |      | Value      | Uncertainty | Ambiguity |
| 1       | A     | 232 | GLN  | HG2  | 2.35       | 0.02        | 1         |
| 1       | A     | 232 | GLN  | HG3  | 2.35       | 0.02        | 1         |
| 1       | A     | 232 | GLN  | C    | 180.74     | 0.2         | 1         |
| 1       | A     | 232 | GLN  | CA   | 57.32      | 0.2         | 1         |
| 1       | A     | 232 | GLN  | CB   | 30.27      | 0.2         | 1         |
| 1       | A     | 232 | GLN  | CD   | 181.35     | 0.2         | 1         |
| 1       | A     | 232 | GLN  | CG   | 34.32      | 0.2         | 1         |
| 1       | A     | 232 | GLN  | N    | 125.68     | 0.2         | 1         |
| 1       | A     | 232 | GLN  | NE2  | 112.2      | 0.2         | 1         |

### 7.1.2 Chemical shift referencing [i](#)

The following table shows the suggested chemical shift referencing corrections.

| Nucleus                | # values | Correction $\pm$ precision, ppm | Suggested action           |
|------------------------|----------|---------------------------------|----------------------------|
| $^{13}\text{C}_\alpha$ | 159      | $-0.31 \pm 0.22$                | None needed ( $< 0.5$ ppm) |
| $^{13}\text{C}_\beta$  | 155      | $0.37 \pm 0.11$                 | None needed ( $< 0.5$ ppm) |
| $^{13}\text{C}'$       | 156      | $-0.27 \pm 0.11$                | None needed ( $< 0.5$ ppm) |
| $^{15}\text{N}$        | 143      | $1.14 \pm 0.35$                 | 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 96%, i.e. 1679 atoms were assigned a chemical shift out of a possible 1743. 0 out of 30 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

|           | Total           | $^1\text{H}$   | $^{13}\text{C}$ | $^{15}\text{N}$ |
|-----------|-----------------|----------------|-----------------|-----------------|
| Backbone  | 597/602 (99%)   | 239/240 (100%) | 245/248 (99%)   | 113/114 (99%)   |
| Sidechain | 1008/1062 (95%) | 678/696 (97%)  | 316/338 (93%)   | 14/28 (50%)     |
| Aromatic  | 74/79 (94%)     | 37/39 (95%)    | 36/37 (97%)     | 1/3 (33%)       |
| Overall   | 1679/1743 (96%) | 954/975 (98%)  | 597/623 (96%)   | 128/145 (88%)   |

The following table shows the completeness of the chemical shift assignments for the full structure. The overall completeness is 96%, i.e. 1769 atoms were assigned a chemical shift out of a possible 1835. 0 out of 30 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

|           | Total           | $^1\text{H}$  | $^{13}\text{C}$ | $^{15}\text{N}$ |
|-----------|-----------------|---------------|-----------------|-----------------|
| Backbone  | 630/637 (99%)   | 252/254 (99%) | 259/262 (99%)   | 119/121 (98%)   |
| Sidechain | 1045/1099 (95%) | 701/719 (97%) | 327/349 (94%)   | 17/31 (55%)     |

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|          | Total           | $^1\text{H}$    | $^{13}\text{C}$ | $^{15}\text{N}$ |
|----------|-----------------|-----------------|-----------------|-----------------|
| Aromatic | 94/99 (95%)     | 47/49 (96%)     | 46/47 (98%)     | 1/3 (33%)       |
| Overall  | 1769/1835 (96%) | 1000/1022 (98%) | 632/658 (96%)   | 137/155 (88%)   |

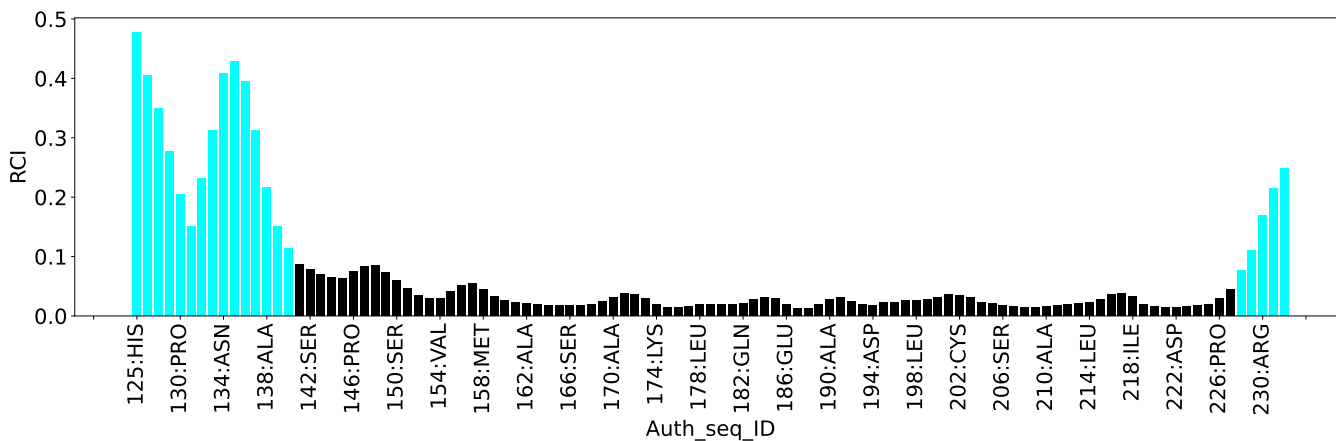
#### 7.1.4 Statistically unusual chemical shifts [i](#)

There are no statistically unusual chemical shifts.

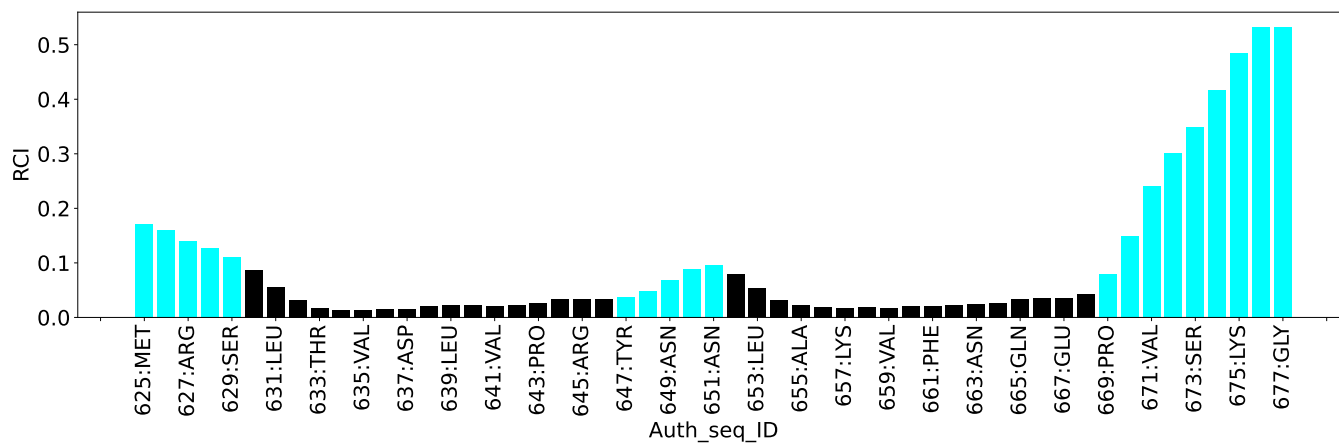
#### 7.1.5 Random Coil Index (RCI) plots [i](#)

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:



Random coil index (RCI) for chain B:



## 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                                | 4260  |
| Intra-residue ( $ i-j =0$ )                              | 1629  |
| Sequential ( $ i-j =1$ )                                 | 765   |
| Medium range ( $ i-j >1$ and $ i-j <5$ )                 | 786   |
| Long range ( $ i-j \geq 5$ )                             | 382   |
| Inter-chain  | 598   |
| Hydrogen bond restraints                                 | 100   |
| Disulfide bond restraints                                | 0     |
| Total dihedral-angle restraints                          | 270   |
| Number of unmapped restraints                            | 261   |
| Number of restraints per residue                         | 28.0  |
| Number of long range restraints per residue <sup>1</sup> | 2.4   |

<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)  | 36.1                                   | 0.2     |
| 0.2-0.5 (Medium) | 21.3                                   | 0.5     |
| >0.5 (Large)     | 24.6                                   | 3.44    |

### 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)   | 6.6                                    | 5.2     |
| 10.0-20.0 (Medium) | None                                   | None    |
| >20.0 (Large)      | None                                   | None    |

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

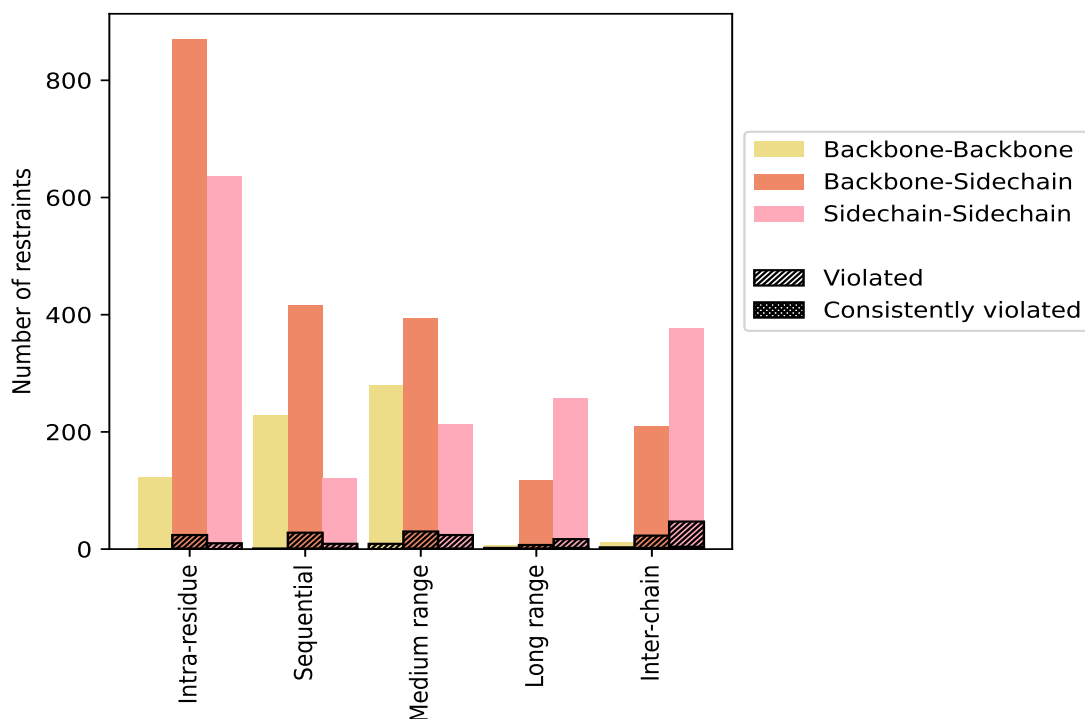
### 9.1 Summary of distance violations [i](#)

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>1629</b> | <b>38.2</b>    | <b>34</b>             | <b>2.1</b>     | <b>0.8</b>     | <b>1</b>                           | <b>0.1</b>     | <b>0.0</b>     |
| Backbone-Backbone   | 123         | 2.9            | 0                     | 0.0            | 0.0            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 870         | 20.4           | 24                    | 2.8            | 0.6            | 1                                  | 0.1            | 0.0            |
| Sidechain-Sidechain   | 636         | 14.9           | 10                    | 1.6            | 0.2            | 0                                  | 0.0            | 0.0            |
| <b>Sequential (<math> i-j =1</math>)</b>                                    | <b>765</b>  | <b>18.0</b>    | <b>38</b>             | <b>5.0</b>     | <b>0.9</b>     | <b>2</b>                           | <b>0.3</b>     | <b>0.0</b>     |
| Backbone-Backbone   | 228         | 5.4            | 1                     | 0.4            | 0.0            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 416         | 9.8            | 28                    | 6.7            | 0.7            | 1                                  | 0.2            | 0.0            |
| Sidechain-Sidechain   | 121         | 2.8            | 9                     | 7.4            | 0.2            | 1                                  | 0.8            | 0.0            |
| <b>Medium range (<math> i-j &gt;1</math> &amp; <math> i-j &lt;5</math>)</b> | <b>786</b>  | <b>18.5</b>    | <b>55</b>             | <b>7.0</b>     | <b>1.3</b>     | <b>2</b>                           | <b>0.3</b>     | <b>0.0</b>     |
| Backbone-Backbone   | 180         | 4.2            | 1                     | 0.6            | 0.0            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 394         | 9.2            | 30                    | 7.6            | 0.7            | 1                                  | 0.3            | 0.0            |
| Sidechain-Sidechain   | 212         | 5.0            | 24                    | 11.3           | 0.6            | 1                                  | 0.5            | 0.0            |
| <b>Long range (<math> i-j \geq 5</math>)</b>                                | <b>382</b>  | <b>9.0</b>     | <b>26</b>             | <b>6.8</b>     | <b>0.6</b>     | <b>3</b>                           | <b>0.8</b>     | <b>0.1</b>     |
| Backbone-Backbone   | 7           | 0.2            | 2                     | 28.6           | 0.0            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 118         | 2.8            | 7                     | 5.9            | 0.2            | 1                                  | 0.8            | 0.0            |
| Sidechain-Sidechain   | 257         | 6.0            | 17                    | 6.6            | 0.4            | 2                                  | 0.8            | 0.0            |
| <b>Inter-chain</b>  | <b>598</b>  | <b>14.0</b>    | <b>73</b>             | <b>12.2</b>    | <b>1.7</b>     | <b>6</b>                           | <b>1.0</b>     | <b>0.1</b>     |
| Backbone-Backbone   | 12          | 0.3            | 3                     | 25.0           | 0.1            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 209         | 4.9            | 23                    | 11.0           | 0.5            | 2                                  | 1.0            | 0.0            |
| Sidechain-Sidechain   | 377         | 8.8            | 47                    | 12.5           | 1.1            | 4                                  | 1.1            | 0.1            |
| <b>Hydrogen bond</b>  | <b>100</b>  | <b>2.3</b>     | <b>8</b>              | <b>8.0</b>     | <b>0.2</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>4260</b> | <b>100.0</b>   | <b>234</b>            | <b>5.5</b>     | <b>5.5</b>     | <b>14</b>                          | <b>0.3</b>     | <b>0.3</b>     |
| Backbone-Backbone   | 650         | 15.3           | 15                    | 2.3            | 0.4            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 2007        | 47.1           | 112                   | 5.6            | 2.6            | 6                                  | 0.3            | 0.1            |
| Sidechain-Sidechain   | 1603        | 37.6           | 107                   | 6.7            | 2.5            | 8                                  | 0.5            | 0.2            |

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

### 9.1.1 Bar chart : Distribution of distance restraints and violations [i](#)



Violated and consistently violated restraints are shown using different hatch patterns in their respective categories. The hydrogen bonds and disulfid bonds are counted in their appropriate category on the x-axis

## 9.2 Distance violation statistics for each model [i](#)

The following table provides the distance violation statistics for each model in the ensemble. Violations less than 0.1 Å are not included in the statistics.

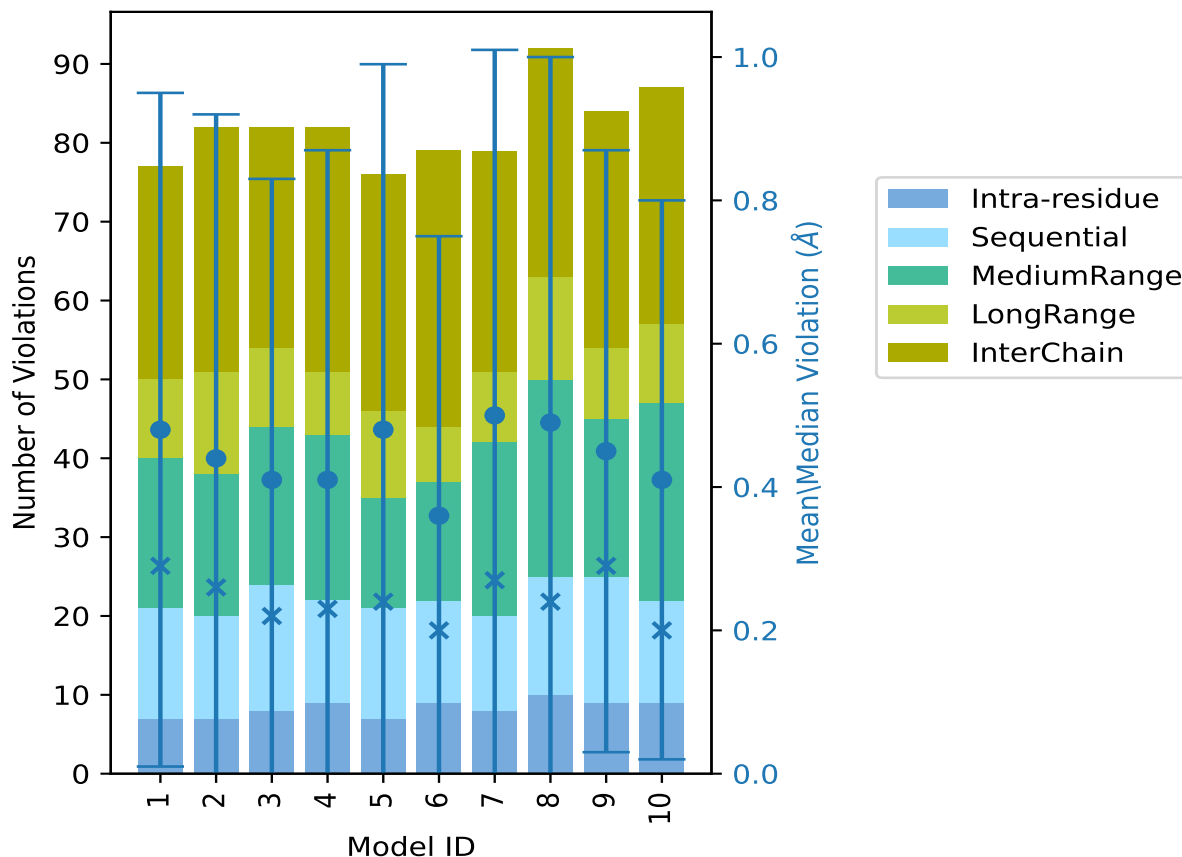
| Model ID | Number of violations |                 |                 |                 |                 |       | Mean (Å) | Max (Å) | SD <sup>6</sup> (Å) | Median (Å) |
|----------|----------------------|-----------------|-----------------|-----------------|-----------------|-------|----------|---------|---------------------|------------|
|          | IR <sup>1</sup>      | SQ <sup>2</sup> | MR <sup>3</sup> | LR <sup>4</sup> | IC <sup>5</sup> | Total |          |         |                     |            |
| 1        | 7                    | 14              | 19              | 10              | 27              | 77    | 0.48     | 2.54    | 0.47                | 0.29       |
| 2        | 7                    | 13              | 18              | 13              | 31              | 82    | 0.44     | 2.74    | 0.48                | 0.26       |
| 3        | 8                    | 16              | 20              | 10              | 28              | 82    | 0.41     | 2.54    | 0.42                | 0.22       |
| 4        | 9                    | 13              | 21              | 8               | 31              | 82    | 0.41     | 3.07    | 0.46                | 0.23       |
| 5        | 7                    | 14              | 14              | 11              | 30              | 76    | 0.48     | 2.36    | 0.51                | 0.24       |
| 6        | 9                    | 13              | 15              | 7               | 35              | 79    | 0.36     | 2.49    | 0.39                | 0.2        |
| 7        | 8                    | 12              | 22              | 9               | 28              | 79    | 0.5      | 3.44    | 0.51                | 0.27       |
| 8        | 10                   | 15              | 25              | 13              | 29              | 92    | 0.49     | 2.83    | 0.51                | 0.24       |
| 9        | 9                    | 16              | 20              | 9               | 30              | 84    | 0.45     | 2.6     | 0.42                | 0.29       |
| 10       | 9                    | 13              | 25              | 10              | 30              | 87    | 0.41     | 1.82    | 0.39                | 0.2        |

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



<sup>5</sup>Inter-chain restraints, <sup>6</sup>Standard deviation

### 9.2.1 Bar graph : Distance Violation statistics for each model [i](#)



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

### 9.3 Distance violation statistics for the ensemble [i](#)

Violation analysis may find that some restraints are violated in few models and some are violated in most of models. The following table provides this information as number of violated restraints for a given fraction of the ensemble. In total, 3934(IR:1595, SQ:727, MR:731, LR:356, IC:525) 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>       | %    |
| 18                            | 14              | 23              | 7               | 24              | 86    | 1                        | 10.0 |
| 4                             | 3               | 10              | 5               | 9               | 31    | 2                        | 20.0 |
| 6                             | 5               | 4               | 4               | 7               | 26    | 3                        | 30.0 |
| 2                             | 6               | 4               | 2               | 4               | 18    | 4                        | 40.0 |

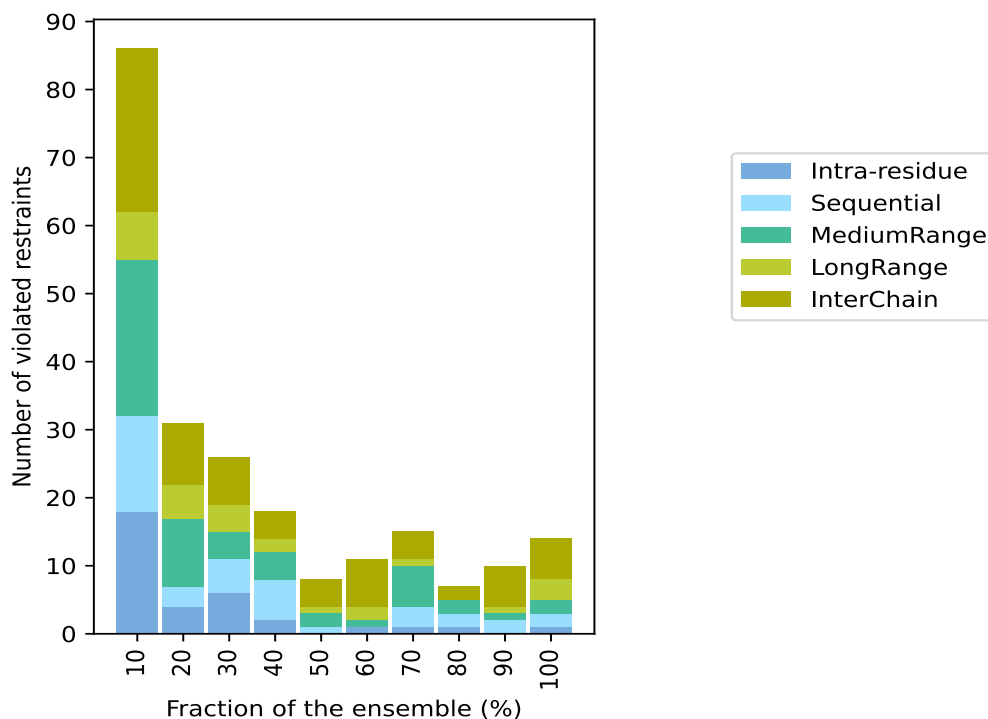
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| Number of violated restraints |                 |                 |                 |                 |       | Fraction of the ensemble |       |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|-------|--------------------------|-------|
| IR <sup>1</sup>               | SQ <sup>2</sup> | MR <sup>3</sup> | LR <sup>4</sup> | IC <sup>5</sup> | Total | Count <sup>6</sup>       | %     |
| 0                             | 1               | 2               | 1               | 4               | 8     | 5                        | 50.0  |
| 1                             | 0               | 1               | 2               | 7               | 11    | 6                        | 60.0  |
| 1                             | 3               | 6               | 1               | 4               | 15    | 7                        | 70.0  |
| 1                             | 2               | 2               | 0               | 2               | 7     | 8                        | 80.0  |
| 0                             | 2               | 1               | 1               | 6               | 10    | 9                        | 90.0  |
| 1                             | 2               | 2               | 3               | 6               | 14    | 10                       | 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

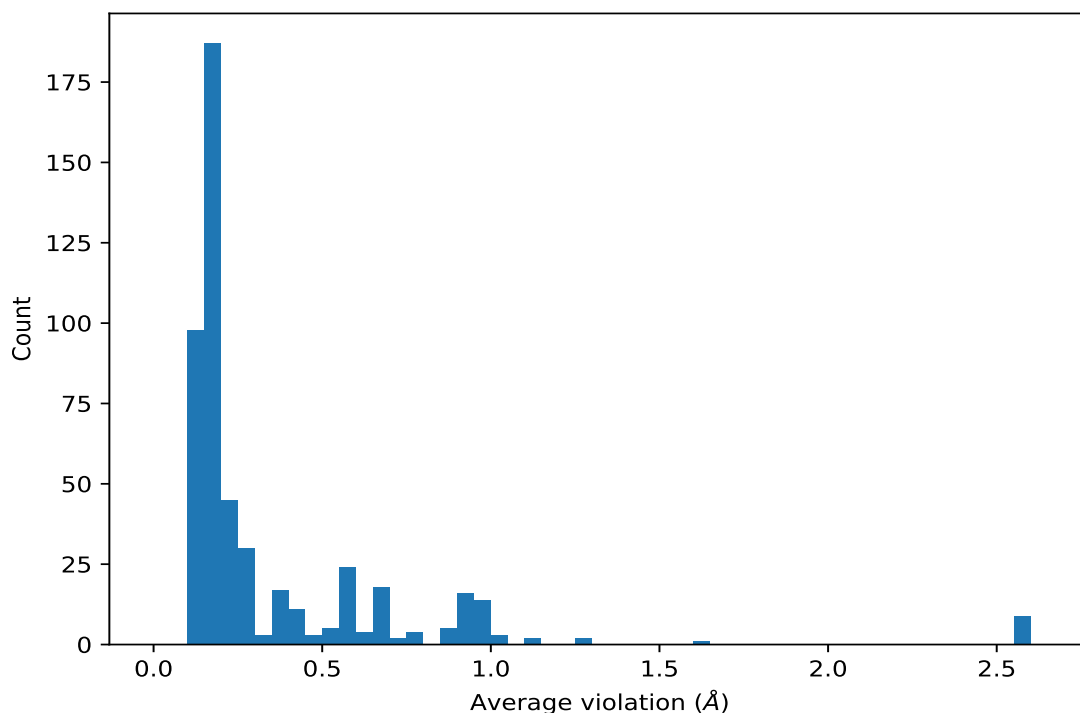
### 9.3.1 Bar graph : Distance violation statistics for the ensemble [i](#)



## 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) |
|----------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:643:PRO:HB3  | 10                  | 2.56     | 0.59                | 2.57       |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:643:PRO:HB3  | 10                  | 2.56     | 0.59                | 2.57       |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:643:PRO:HB3  | 10                  | 2.56     | 0.59                | 2.57       |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:656:GLN:HB2  | 10                  | 2.56     | 0.59                | 2.57       |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:656:GLN:HB2  | 10                  | 2.56     | 0.59                | 2.57       |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:656:GLN:HB2  | 10                  | 2.56     | 0.59                | 2.57       |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:659:VAL:HB   | 10                  | 2.56     | 0.59                | 2.57       |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:659:VAL:HB   | 10                  | 2.56     | 0.59                | 2.57       |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:659:VAL:HB   | 10                  | 2.56     | 0.59                | 2.57       |
| (1,3199) | 1:A:192:PRO:HB3  | 2:B:660:ASN:HA   | 10                  | 1.64     | 0.26                | 1.74       |
| (1,557)  | 2:B:634:GLU:HB2  | 1:A:184:PHE:HB3  | 10                  | 1.14     | 0.4                 | 1.32       |
| (1,557)  | 2:B:634:GLU:HB3  | 1:A:184:PHE:HB3  | 10                  | 1.14     | 0.4                 | 1.32       |
| (2,54)   | 2:B:646:GLN:H    | 1:A:203:PRO:HD3  | 10                  | 1.0      | 0.35                | 1.13       |
| (1,585)  | 1:A:140:PHE:HZ   | 1:A:145:PHE:HB3  | 10                  | 0.98     | 0.15                | 0.99       |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD11 | 10                  | 0.95     | 0.12                | 0.97       |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD12 | 10                  | 0.95     | 0.12                | 0.97       |

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| Key      | Atom-1           | Atom-2           | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD13 | 10                  | 0.95     | 0.12                | 0.97       |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD11 | 10                  | 0.95     | 0.12                | 0.97       |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD12 | 10                  | 0.95     | 0.12                | 0.97       |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD13 | 10                  | 0.95     | 0.12                | 0.97       |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD21 | 10                  | 0.95     | 0.12                | 0.97       |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD22 | 10                  | 0.95     | 0.12                | 0.97       |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD23 | 10                  | 0.95     | 0.12                | 0.97       |
| (1,3600) | 1:A:204:GLN:HA   | 2:B:639:LEU:HB2  | 10                  | 0.87     | 0.04                | 0.88       |
| (1,3600) | 1:A:204:GLN:HA   | 2:B:638:LEU:HG   | 10                  | 0.87     | 0.04                | 0.88       |
| (1,3418) | 1:A:150:SER:HA   | 1:A:149:PRO:HD3  | 10                  | 0.59     | 0.09                | 0.62       |
| (1,3418) | 1:A:142:SER:HA   | 1:A:149:PRO:HD3  | 10                  | 0.59     | 0.09                | 0.62       |
| (2,26)   | 1:A:141:LEU:H    | 1:A:145:PHE:HB3  | 10                  | 0.58     | 0.16                | 0.6        |
| (1,2903) | 1:A:227:LEU:HD21 | 1:A:226:PRO:HB3  | 10                  | 0.57     | 0.13                | 0.52       |
| (1,2903) | 1:A:227:LEU:HD22 | 1:A:226:PRO:HB3  | 10                  | 0.57     | 0.13                | 0.52       |
| (1,2903) | 1:A:227:LEU:HD23 | 1:A:226:PRO:HB3  | 10                  | 0.57     | 0.13                | 0.52       |
| (1,2903) | 1:A:227:LEU:HD21 | 2:B:656:GLN:HG3  | 10                  | 0.57     | 0.13                | 0.52       |
| (1,2903) | 1:A:227:LEU:HD22 | 2:B:656:GLN:HG3  | 10                  | 0.57     | 0.13                | 0.52       |
| (1,2903) | 1:A:227:LEU:HD23 | 2:B:656:GLN:HG3  | 10                  | 0.57     | 0.13                | 0.52       |
| (1,2903) | 1:A:227:LEU:HD21 | 1:A:200:GLU:HG2  | 10                  | 0.57     | 0.13                | 0.52       |
| (1,2903) | 1:A:227:LEU:HD22 | 1:A:200:GLU:HG2  | 10                  | 0.57     | 0.13                | 0.52       |
| (1,2903) | 1:A:227:LEU:HD23 | 1:A:200:GLU:HG2  | 10                  | 0.57     | 0.13                | 0.52       |
| (1,3513) | 2:B:640:SER:HB2  | 1:A:204:GLN:HG3  | 10                  | 0.55     | 0.61                | 0.24       |
| (1,3513) | 1:A:150:SER:HB2  | 1:A:204:GLN:HG3  | 10                  | 0.55     | 0.61                | 0.24       |
| (1,3513) | 1:A:150:SER:HB3  | 1:A:204:GLN:HG3  | 10                  | 0.55     | 0.61                | 0.24       |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:179:LYS:HB2  | 10                  | 0.22     | 0.15                | 0.16       |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:179:LYS:HB2  | 10                  | 0.22     | 0.15                | 0.16       |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:179:LYS:HB2  | 10                  | 0.22     | 0.15                | 0.16       |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:174:LYS:HB3  | 10                  | 0.22     | 0.15                | 0.16       |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:174:LYS:HB3  | 10                  | 0.22     | 0.15                | 0.16       |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:174:LYS:HB3  | 10                  | 0.22     | 0.15                | 0.16       |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:177:GLN:HB2  | 10                  | 0.22     | 0.15                | 0.16       |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:177:GLN:HB2  | 10                  | 0.22     | 0.15                | 0.16       |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:177:GLN:HB2  | 10                  | 0.22     | 0.15                | 0.16       |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:168:GLU:HB2  | 10                  | 0.19     | 0.05                | 0.18       |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:168:GLU:HB3  | 10                  | 0.19     | 0.05                | 0.18       |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:177:GLN:HB2  | 10                  | 0.19     | 0.05                | 0.18       |
| (1,3481) | 1:A:208:VAL:HA   | 2:B:643:PRO:HG3  | 10                  | 0.19     | 0.05                | 0.18       |
| (1,551)  | 1:A:213:LEU:HD11 | 1:A:207:PHE:HD1  | 10                  | 0.16     | 0.03                | 0.16       |
| (1,551)  | 1:A:213:LEU:HD11 | 1:A:207:PHE:HD2  | 10                  | 0.16     | 0.03                | 0.16       |
| (1,551)  | 1:A:213:LEU:HD12 | 1:A:207:PHE:HD1  | 10                  | 0.16     | 0.03                | 0.16       |
| (1,551)  | 1:A:213:LEU:HD12 | 1:A:207:PHE:HD2  | 10                  | 0.16     | 0.03                | 0.16       |
| (1,551)  | 1:A:213:LEU:HD13 | 1:A:207:PHE:HD1  | 10                  | 0.16     | 0.03                | 0.16       |

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| Key      | Atom-1           | Atom-2           | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,551)  | 1:A:213:LEU:HD13 | 1:A:207:PHE:HD2  | 10                  | 0.16     | 0.03                | 0.16       |
| (1,3058) | 1:A:141:LEU:HD11 | 1:A:200:GLU:HB3  | 9                   | 0.91     | 0.39                | 0.98       |
| (1,3058) | 1:A:141:LEU:HD12 | 1:A:200:GLU:HB3  | 9                   | 0.91     | 0.39                | 0.98       |
| (1,3058) | 1:A:141:LEU:HD13 | 1:A:200:GLU:HB3  | 9                   | 0.91     | 0.39                | 0.98       |
| (1,3058) | 1:A:141:LEU:HD11 | 1:A:149:PRO:HG2  | 9                   | 0.91     | 0.39                | 0.98       |
| (1,3058) | 1:A:141:LEU:HD12 | 1:A:149:PRO:HG2  | 9                   | 0.91     | 0.39                | 0.98       |
| (1,3058) | 1:A:141:LEU:HD13 | 1:A:149:PRO:HG2  | 9                   | 0.91     | 0.39                | 0.98       |
| (1,3718) | 1:A:193:GLU:H    | 2:B:663:ASN:HD21 | 9                   | 0.52     | 0.16                | 0.51       |
| (1,3718) | 1:A:193:GLU:H    | 1:A:145:PHE:HZ   | 9                   | 0.52     | 0.16                | 0.51       |
| (1,664)  | 1:A:152:ILE:HD11 | 2:B:643:PRO:HB2  | 9                   | 0.44     | 0.24                | 0.54       |
| (1,664)  | 1:A:152:ILE:HD12 | 2:B:643:PRO:HB2  | 9                   | 0.44     | 0.24                | 0.54       |
| (1,664)  | 1:A:152:ILE:HD13 | 2:B:643:PRO:HB2  | 9                   | 0.44     | 0.24                | 0.54       |
| (1,1651) | 1:A:154:VAL:H    | 1:A:155:ASN:HB3  | 9                   | 0.36     | 0.3                 | 0.17       |
| (1,3912) | 1:A:205:LEU:H    | 2:B:642:ILE:HG12 | 9                   | 0.29     | 0.12                | 0.26       |
| (1,3912) | 1:A:205:LEU:H    | 2:B:638:LEU:HG   | 9                   | 0.29     | 0.12                | 0.26       |
| (2,50)   | 1:A:225:ILE:H    | 1:A:226:PRO:HB3  | 9                   | 0.28     | 0.06                | 0.3        |
| (1,3208) | 1:A:193:GLU:HG2  | 1:A:196:ALA:HA   | 9                   | 0.24     | 0.18                | 0.18       |
| (1,3208) | 1:A:147:GLU:HG2  | 1:A:144:LYS:HA   | 9                   | 0.24     | 0.18                | 0.18       |
| (1,3208) | 1:A:147:GLU:HG3  | 1:A:144:LYS:HA   | 9                   | 0.24     | 0.18                | 0.18       |
| (1,3208) | 1:A:147:GLU:HG3  | 2:B:640:SER:HB2  | 9                   | 0.24     | 0.18                | 0.18       |
| (1,3208) | 1:A:147:GLU:HG2  | 2:B:640:SER:HB2  | 9                   | 0.24     | 0.18                | 0.18       |
| (1,3208) | 1:A:147:GLU:HG3  | 1:A:150:SER:HB2  | 9                   | 0.24     | 0.18                | 0.18       |
| (1,3208) | 1:A:193:GLU:HG2  | 1:A:199:LEU:HA   | 9                   | 0.24     | 0.18                | 0.18       |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD21 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD22 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD23 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD21 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD22 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD23 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD21 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD22 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD23 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD11 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD12 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD13 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD11 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD12 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD13 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD11 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD12 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD13 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD11 | 9                   | 0.18     | 0.07                | 0.19       |

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| Key      | Atom-1           | Atom-2           | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD12 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD13 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD11 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD12 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD13 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD11 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD12 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD13 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD21 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD22 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD23 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD21 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD22 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD23 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD21 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD22 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD23 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD11 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD12 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD13 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD11 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD12 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD13 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD11 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD12 | 9                   | 0.18     | 0.07                | 0.19       |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD13 | 9                   | 0.18     | 0.07                | 0.19       |
| (2,7)    | 2:B:638:LEU:HD21 | 1:A:204:GLN:HG3  | 9                   | 0.17     | 0.03                | 0.18       |
| (2,7)    | 2:B:638:LEU:HD22 | 1:A:204:GLN:HG3  | 9                   | 0.17     | 0.03                | 0.18       |
| (2,7)    | 2:B:638:LEU:HD23 | 1:A:204:GLN:HG3  | 9                   | 0.17     | 0.03                | 0.18       |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG11 | 9                   | 0.15     | 0.04                | 0.14       |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG12 | 9                   | 0.15     | 0.04                | 0.14       |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG13 | 9                   | 0.15     | 0.04                | 0.14       |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD21 | 9                   | 0.15     | 0.04                | 0.14       |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD22 | 9                   | 0.15     | 0.04                | 0.14       |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD23 | 9                   | 0.15     | 0.04                | 0.14       |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD21 | 9                   | 0.15     | 0.04                | 0.14       |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD22 | 9                   | 0.15     | 0.04                | 0.14       |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD23 | 9                   | 0.15     | 0.04                | 0.14       |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG21 | 9                   | 0.15     | 0.04                | 0.14       |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG22 | 9                   | 0.15     | 0.04                | 0.14       |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG23 | 9                   | 0.15     | 0.04                | 0.14       |
| (2,72)   | 2:B:663:ASN:HD22 | 2:B:664:ASP:HB3  | 8                   | 0.99     | 0.57                | 1.0        |

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| Key      | Atom-1           | Atom-2           | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,3800) | 1:A:178:LEU:H    | 1:A:182:GLN:HG2  | 8                   | 0.88     | 0.57                | 1.24       |
| (1,3800) | 1:A:178:LEU:H    | 2:B:669:PRO:HB3  | 8                   | 0.88     | 0.57                | 1.24       |
| (1,3232) | 2:B:633:THR:HG21 | 2:B:632:PRO:HG3  | 8                   | 0.49     | 0.31                | 0.45       |
| (1,3232) | 2:B:633:THR:HG22 | 2:B:632:PRO:HG3  | 8                   | 0.49     | 0.31                | 0.45       |
| (1,3232) | 2:B:633:THR:HG23 | 2:B:632:PRO:HG3  | 8                   | 0.49     | 0.31                | 0.45       |
| (1,4065) | 2:B:665:GLN:H    | 2:B:667:GLU:HG2  | 8                   | 0.41     | 0.16                | 0.38       |
| (1,4065) | 2:B:665:GLN:H    | 1:A:185:GLN:HG3  | 8                   | 0.41     | 0.16                | 0.38       |
| (1,2247) | 1:A:215:THR:H    | 1:A:216:ASN:HB3  | 8                   | 0.28     | 0.06                | 0.29       |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD21 | 8                   | 0.15     | 0.04                | 0.14       |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD22 | 8                   | 0.15     | 0.04                | 0.14       |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD23 | 8                   | 0.15     | 0.04                | 0.14       |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD21 | 8                   | 0.15     | 0.04                | 0.14       |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD22 | 8                   | 0.15     | 0.04                | 0.14       |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD23 | 8                   | 0.15     | 0.04                | 0.14       |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD21 | 8                   | 0.15     | 0.04                | 0.14       |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD22 | 8                   | 0.15     | 0.04                | 0.14       |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD23 | 8                   | 0.15     | 0.04                | 0.14       |
| (1,1131) | 1:A:227:LEU:HD11 | 1:A:227:LEU:HB3  | 8                   | 0.12     | 0.01                | 0.12       |
| (1,1131) | 1:A:227:LEU:HD12 | 1:A:227:LEU:HB3  | 8                   | 0.12     | 0.01                | 0.12       |
| (1,1131) | 1:A:227:LEU:HD13 | 1:A:227:LEU:HB3  | 8                   | 0.12     | 0.01                | 0.12       |
| (1,3344) | 1:A:183:LYS:HE2  | 1:A:183:LYS:HB2  | 7                   | 1.28     | 0.6                 | 1.29       |
| (2,68)   | 2:B:660:ASN:HD21 | 2:B:657:LYS:HG3  | 7                   | 1.04     | 0.43                | 0.9        |
| (1,3458) | 1:A:168:GLU:HG3  | 1:A:165:ILE:HG12 | 7                   | 0.96     | 0.52                | 1.29       |
| (1,3458) | 1:A:168:GLU:HG2  | 1:A:165:ILE:HG12 | 7                   | 0.96     | 0.52                | 1.29       |
| (1,1508) | 1:A:227:LEU:H    | 2:B:657:LYS:HG2  | 7                   | 0.87     | 0.14                | 0.89       |
| (1,4063) | 2:B:665:GLN:H    | 2:B:663:ASN:HB2  | 7                   | 0.65     | 0.14                | 0.7        |
| (1,4063) | 2:B:665:GLN:H    | 2:B:660:ASN:HB2  | 7                   | 0.65     | 0.14                | 0.7        |
| (1,1958) | 1:A:186:GLU:H    | 1:A:185:GLN:HE22 | 7                   | 0.64     | 0.19                | 0.66       |
| (1,554)  | 1:A:174:LYS:HG3  | 1:A:216:ASN:HB2  | 7                   | 0.53     | 0.15                | 0.55       |
| (1,3727) | 1:A:189:ARG:H    | 2:B:663:ASN:H    | 7                   | 0.42     | 0.12                | 0.36       |
| (1,3727) | 1:A:189:ARG:H    | 1:A:185:GLN:HE22 | 7                   | 0.42     | 0.12                | 0.36       |
| (1,3887) | 1:A:198:LEU:H    | 1:A:194:ASP:HB2  | 7                   | 0.38     | 0.13                | 0.35       |
| (1,3887) | 1:A:198:LEU:H    | 2:B:660:ASN:HB2  | 7                   | 0.38     | 0.13                | 0.35       |
| (1,2433) | 2:B:633:THR:H    | 2:B:632:PRO:HB2  | 7                   | 0.37     | 0.21                | 0.26       |
| (1,3522) | 2:B:655:ALA:HB1  | 2:B:657:LYS:HD3  | 7                   | 0.26     | 0.06                | 0.26       |
| (1,3522) | 2:B:655:ALA:HB2  | 2:B:657:LYS:HD3  | 7                   | 0.26     | 0.06                | 0.26       |
| (1,3522) | 2:B:655:ALA:HB3  | 2:B:657:LYS:HD3  | 7                   | 0.26     | 0.06                | 0.26       |
| (1,3522) | 2:B:655:ALA:HB1  | 2:B:657:LYS:HD2  | 7                   | 0.26     | 0.06                | 0.26       |
| (1,3522) | 2:B:655:ALA:HB2  | 2:B:657:LYS:HD2  | 7                   | 0.26     | 0.06                | 0.26       |
| (1,3522) | 2:B:655:ALA:HB3  | 2:B:657:LYS:HD2  | 7                   | 0.26     | 0.06                | 0.26       |
| (1,3522) | 2:B:655:ALA:HB1  | 1:A:227:LEU:HB2  | 7                   | 0.26     | 0.06                | 0.26       |
| (1,3522) | 2:B:655:ALA:HB2  | 1:A:227:LEU:HB2  | 7                   | 0.26     | 0.06                | 0.26       |

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| Key      | Atom-1          | Atom-2           | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|-----------------|------------------|---------------------|----------|---------------------|------------|
| (1,3522) | 2:B:655:ALA:HB3 | 1:A:227:LEU:HB2  | 7                   | 0.26     | 0.06                | 0.26       |
| (1,3393) | 1:A:179:LYS:HA  | 1:A:182:GLN:HB3  | 7                   | 0.24     | 0.09                | 0.25       |
| (1,3393) | 1:A:179:LYS:HA  | 1:A:181:LEU:HB3  | 7                   | 0.24     | 0.09                | 0.25       |
| (1,3934) | 1:A:210:ALA:H   | 2:B:658:LEU:HG   | 7                   | 0.22     | 0.06                | 0.2        |
| (1,3934) | 1:A:156:ILE:H   | 1:A:161:PRO:HB2  | 7                   | 0.22     | 0.06                | 0.2        |
| (1,3934) | 1:A:210:ALA:H   | 2:B:662:LEU:HG   | 7                   | 0.22     | 0.06                | 0.2        |
| (1,3813) | 1:A:180:PHE:H   | 1:A:181:LEU:HB3  | 7                   | 0.16     | 0.05                | 0.14       |
| (1,3813) | 1:A:180:PHE:H   | 2:B:632:PRO:HG3  | 7                   | 0.16     | 0.05                | 0.14       |
| (1,3813) | 1:A:180:PHE:H   | 1:A:185:GLN:HB3  | 7                   | 0.16     | 0.05                | 0.14       |
| (1,353)  | 2:B:638:LEU:HA  | 1:A:180:PHE:HD1  | 7                   | 0.14     | 0.02                | 0.13       |
| (1,353)  | 2:B:638:LEU:HA  | 1:A:180:PHE:HD2  | 7                   | 0.14     | 0.02                | 0.13       |
| (3,54)   | 1:A:197:SER:O   | 1:A:201:LEU:H    | 7                   | 0.12     | 0.01                | 0.12       |
| (1,3343) | 1:A:183:LYS:HE2 | 2:B:634:GLU:HB3  | 6                   | 0.71     | 0.37                | 0.64       |
| (1,3343) | 1:A:183:LYS:HE2 | 2:B:634:GLU:HB2  | 6                   | 0.71     | 0.37                | 0.64       |
| (1,511)  | 1:A:183:LYS:HE2 | 2:B:632:PRO:HG3  | 6                   | 0.65     | 0.53                | 0.48       |
| (1,1168) | 2:B:630:GLU:HB2 | 1:A:187:TRP:HD1  | 6                   | 0.52     | 0.22                | 0.53       |
| (1,1712) | 1:A:160:THR:H   | 1:A:163:MET:HB2  | 6                   | 0.5      | 0.21                | 0.55       |
| (1,1510) | 1:A:218:ILE:H   | 2:B:669:PRO:HB3  | 6                   | 0.38     | 0.27                | 0.36       |
| (1,3747) | 1:A:206:SER:H   | 2:B:655:ALA:HA   | 6                   | 0.17     | 0.02                | 0.17       |
| (1,3747) | 1:A:206:SER:H   | 1:A:196:ALA:HA   | 6                   | 0.17     | 0.02                | 0.17       |
| (1,3738) | 1:A:213:LEU:H   | 1:A:177:GLN:HB3  | 6                   | 0.17     | 0.04                | 0.18       |
| (1,3738) | 1:A:213:LEU:H   | 1:A:224:LEU:HB3  | 6                   | 0.17     | 0.04                | 0.18       |
| (1,3738) | 1:A:218:ILE:H   | 2:B:666:VAL:HB   | 6                   | 0.17     | 0.04                | 0.18       |
| (1,3738) | 1:A:213:LEU:H   | 2:B:666:VAL:HB   | 6                   | 0.17     | 0.04                | 0.18       |
| (1,3738) | 1:A:213:LEU:H   | 1:A:227:LEU:HB2  | 6                   | 0.17     | 0.04                | 0.18       |
| (1,3279) | 1:A:170:ALA:HB1 | 1:A:165:ILE:HG21 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3279) | 1:A:170:ALA:HB1 | 1:A:165:ILE:HG22 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3279) | 1:A:170:ALA:HB1 | 1:A:165:ILE:HG23 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3279) | 1:A:170:ALA:HB2 | 1:A:165:ILE:HG21 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3279) | 1:A:170:ALA:HB2 | 1:A:165:ILE:HG22 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3279) | 1:A:170:ALA:HB2 | 1:A:165:ILE:HG23 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3279) | 1:A:170:ALA:HB3 | 1:A:165:ILE:HG21 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3279) | 1:A:170:ALA:HB3 | 1:A:165:ILE:HG22 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3279) | 1:A:170:ALA:HB3 | 1:A:165:ILE:HG23 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3279) | 1:A:170:ALA:HB1 | 1:A:181:LEU:HD11 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3279) | 1:A:170:ALA:HB1 | 1:A:181:LEU:HD12 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3279) | 1:A:170:ALA:HB1 | 1:A:181:LEU:HD13 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3279) | 1:A:170:ALA:HB2 | 1:A:181:LEU:HD11 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3279) | 1:A:170:ALA:HB2 | 1:A:181:LEU:HD12 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3279) | 1:A:170:ALA:HB2 | 1:A:181:LEU:HD13 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3279) | 1:A:170:ALA:HB3 | 1:A:181:LEU:HD11 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3279) | 1:A:170:ALA:HB3 | 1:A:181:LEU:HD12 | 6                   | 0.16     | 0.04                | 0.15       |

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| Key      | Atom-1           | Atom-2           | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,3279) | 1:A:170:ALA:HB3  | 1:A:181:LEU:HD13 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3279) | 1:A:170:ALA:HB1  | 2:B:641:VAL:HG21 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3279) | 1:A:170:ALA:HB1  | 2:B:641:VAL:HG22 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3279) | 1:A:170:ALA:HB1  | 2:B:641:VAL:HG23 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3279) | 1:A:170:ALA:HB2  | 2:B:641:VAL:HG21 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3279) | 1:A:170:ALA:HB2  | 2:B:641:VAL:HG22 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3279) | 1:A:170:ALA:HB2  | 2:B:641:VAL:HG23 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3279) | 1:A:170:ALA:HB3  | 2:B:641:VAL:HG21 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3279) | 1:A:170:ALA:HB3  | 2:B:641:VAL:HG22 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3279) | 1:A:170:ALA:HB3  | 2:B:641:VAL:HG23 | 6                   | 0.16     | 0.04                | 0.15       |
| (1,3228) | 1:A:196:ALA:HB1  | 2:B:658:LEU:HG   | 6                   | 0.15     | 0.03                | 0.16       |
| (1,3228) | 1:A:196:ALA:HB2  | 2:B:658:LEU:HG   | 6                   | 0.15     | 0.03                | 0.16       |
| (1,3228) | 1:A:196:ALA:HB3  | 2:B:658:LEU:HG   | 6                   | 0.15     | 0.03                | 0.16       |
| (1,3228) | 1:A:196:ALA:HB1  | 2:B:662:LEU:HG   | 6                   | 0.15     | 0.03                | 0.16       |
| (1,3228) | 1:A:196:ALA:HB2  | 2:B:662:LEU:HG   | 6                   | 0.15     | 0.03                | 0.16       |
| (1,3228) | 1:A:196:ALA:HB3  | 2:B:662:LEU:HG   | 6                   | 0.15     | 0.03                | 0.16       |
| (1,3283) | 2:B:666:VAL:HG21 | 1:A:213:LEU:HD11 | 6                   | 0.13     | 0.03                | 0.12       |
| (1,3283) | 2:B:666:VAL:HG21 | 1:A:213:LEU:HD12 | 6                   | 0.13     | 0.03                | 0.12       |
| (1,3283) | 2:B:666:VAL:HG21 | 1:A:213:LEU:HD13 | 6                   | 0.13     | 0.03                | 0.12       |
| (1,3283) | 2:B:666:VAL:HG22 | 1:A:213:LEU:HD11 | 6                   | 0.13     | 0.03                | 0.12       |
| (1,3283) | 2:B:666:VAL:HG22 | 1:A:213:LEU:HD12 | 6                   | 0.13     | 0.03                | 0.12       |
| (1,3283) | 2:B:666:VAL:HG22 | 1:A:213:LEU:HD13 | 6                   | 0.13     | 0.03                | 0.12       |
| (1,3283) | 2:B:666:VAL:HG23 | 1:A:213:LEU:HD11 | 6                   | 0.13     | 0.03                | 0.12       |
| (1,3283) | 2:B:666:VAL:HG23 | 1:A:213:LEU:HD12 | 6                   | 0.13     | 0.03                | 0.12       |
| (1,3283) | 2:B:666:VAL:HG23 | 1:A:213:LEU:HD13 | 6                   | 0.13     | 0.03                | 0.12       |
| (1,3283) | 2:B:666:VAL:HG21 | 2:B:658:LEU:HD11 | 6                   | 0.13     | 0.03                | 0.12       |
| (1,3283) | 2:B:666:VAL:HG21 | 2:B:658:LEU:HD12 | 6                   | 0.13     | 0.03                | 0.12       |
| (1,3283) | 2:B:666:VAL:HG21 | 2:B:658:LEU:HD13 | 6                   | 0.13     | 0.03                | 0.12       |
| (1,3283) | 2:B:666:VAL:HG22 | 2:B:658:LEU:HD11 | 6                   | 0.13     | 0.03                | 0.12       |
| (1,3283) | 2:B:666:VAL:HG22 | 2:B:658:LEU:HD12 | 6                   | 0.13     | 0.03                | 0.12       |
| (1,3283) | 2:B:666:VAL:HG22 | 2:B:658:LEU:HD13 | 6                   | 0.13     | 0.03                | 0.12       |
| (1,3283) | 2:B:666:VAL:HG23 | 2:B:658:LEU:HD11 | 6                   | 0.13     | 0.03                | 0.12       |
| (1,3283) | 2:B:666:VAL:HG23 | 2:B:658:LEU:HD12 | 6                   | 0.13     | 0.03                | 0.12       |
| (1,3283) | 2:B:666:VAL:HG23 | 2:B:658:LEU:HD13 | 6                   | 0.13     | 0.03                | 0.12       |
| (3,84)   | 2:B:636:LEU:O    | 2:B:640:SER:H    | 6                   | 0.12     | 0.01                | 0.12       |
| (1,1216) | 2:B:638:LEU:HD11 | 1:A:204:GLN:HG2  | 6                   | 0.12     | 0.01                | 0.12       |
| (1,1216) | 2:B:638:LEU:HD12 | 1:A:204:GLN:HG2  | 6                   | 0.12     | 0.01                | 0.12       |
| (1,1216) | 2:B:638:LEU:HD13 | 1:A:204:GLN:HG2  | 6                   | 0.12     | 0.01                | 0.12       |
| (1,2027) | 1:A:189:ARG:HE   | 2:B:663:ASN:HB3  | 5                   | 1.25     | 0.17                | 1.32       |
| (1,3820) | 1:A:182:GLN:H    | 1:A:183:LYS:HG3  | 5                   | 0.6      | 0.11                | 0.53       |
| (1,3820) | 1:A:182:GLN:H    | 2:B:662:LEU:HG   | 5                   | 0.6      | 0.11                | 0.53       |
| (1,471)  | 1:A:178:LEU:HD11 | 1:A:174:LYS:HE2  | 5                   | 0.35     | 0.23                | 0.29       |

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| Key      | Atom-1           | Atom-2           | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,471)  | 1:A:178:LEU:HD12 | 1:A:174:LYS:HE2  | 5                   | 0.35     | 0.23                | 0.29       |
| (1,471)  | 1:A:178:LEU:HD13 | 1:A:174:LYS:HE2  | 5                   | 0.35     | 0.23                | 0.29       |
| (1,3869) | 1:A:194:ASP:H    | 2:B:656:GLN:HE21 | 5                   | 0.25     | 0.06                | 0.26       |
| (1,3869) | 1:A:194:ASP:H    | 1:A:187:TRP:HZ2  | 5                   | 0.25     | 0.06                | 0.26       |
| (1,3869) | 1:A:189:ARG:H    | 1:A:187:TRP:HZ2  | 5                   | 0.25     | 0.06                | 0.26       |
| (1,3114) | 2:B:631:LEU:HD11 | 1:A:195:ALA:HA   | 5                   | 0.2      | 0.05                | 0.23       |
| (1,3114) | 2:B:631:LEU:HD12 | 1:A:195:ALA:HA   | 5                   | 0.2      | 0.05                | 0.23       |
| (1,3114) | 2:B:631:LEU:HD13 | 1:A:195:ALA:HA   | 5                   | 0.2      | 0.05                | 0.23       |
| (3,18)   | 1:A:167:SER:O    | 1:A:171:LYS:H    | 5                   | 0.19     | 0.04                | 0.19       |
| (1,3487) | 1:A:200:GLU:HA   | 2:B:656:GLN:HG3  | 5                   | 0.14     | 0.03                | 0.14       |
| (1,3487) | 1:A:200:GLU:HA   | 1:A:202:CYS:HB2  | 5                   | 0.14     | 0.03                | 0.14       |
| (1,4025) | 2:B:644:LYS:H    | 2:B:642:ILE:HB   | 5                   | 0.13     | 0.01                | 0.13       |
| (1,4025) | 2:B:644:LYS:H    | 1:A:203:PRO:HB2  | 5                   | 0.13     | 0.01                | 0.13       |
| (1,161)  | 1:A:198:LEU:HD11 | 1:A:184:PHE:HZ   | 5                   | 0.12     | 0.02                | 0.11       |
| (1,161)  | 1:A:198:LEU:HD12 | 1:A:184:PHE:HZ   | 5                   | 0.12     | 0.02                | 0.11       |
| (1,161)  | 1:A:198:LEU:HD13 | 1:A:184:PHE:HZ   | 5                   | 0.12     | 0.02                | 0.11       |
| (1,4039) | 2:B:656:GLN:HE22 | 2:B:659:VAL:HG11 | 4                   | 0.93     | 0.16                | 0.98       |
| (1,4039) | 2:B:656:GLN:HE22 | 2:B:659:VAL:HG12 | 4                   | 0.93     | 0.16                | 0.98       |
| (1,4039) | 2:B:656:GLN:HE22 | 2:B:659:VAL:HG13 | 4                   | 0.93     | 0.16                | 0.98       |
| (1,4039) | 2:B:665:GLN:HE22 | 2:B:659:VAL:HG11 | 4                   | 0.93     | 0.16                | 0.98       |
| (1,4039) | 2:B:665:GLN:HE22 | 2:B:659:VAL:HG12 | 4                   | 0.93     | 0.16                | 0.98       |
| (1,4039) | 2:B:665:GLN:HE22 | 2:B:659:VAL:HG13 | 4                   | 0.93     | 0.16                | 0.98       |
| (1,4039) | 2:B:649:ASN:HD22 | 1:A:165:ILE:HD11 | 4                   | 0.93     | 0.16                | 0.98       |
| (1,4039) | 2:B:649:ASN:HD22 | 1:A:165:ILE:HD12 | 4                   | 0.93     | 0.16                | 0.98       |
| (1,4039) | 2:B:649:ASN:HD22 | 1:A:165:ILE:HD13 | 4                   | 0.93     | 0.16                | 0.98       |
| (1,2748) | 2:B:665:GLN:HE21 | 2:B:664:ASP:HB2  | 4                   | 0.75     | 0.6                 | 0.56       |
| (1,3253) | 1:A:176:VAL:HG21 | 1:A:172:LYS:HG2  | 4                   | 0.67     | 0.2                 | 0.75       |
| (1,3253) | 1:A:176:VAL:HG22 | 1:A:172:LYS:HG2  | 4                   | 0.67     | 0.2                 | 0.75       |
| (1,3253) | 1:A:176:VAL:HG23 | 1:A:172:LYS:HG2  | 4                   | 0.67     | 0.2                 | 0.75       |
| (1,3253) | 1:A:176:VAL:HG21 | 1:A:178:LEU:HB2  | 4                   | 0.67     | 0.2                 | 0.75       |
| (1,3253) | 1:A:176:VAL:HG22 | 1:A:178:LEU:HB2  | 4                   | 0.67     | 0.2                 | 0.75       |
| (1,3253) | 1:A:176:VAL:HG23 | 1:A:178:LEU:HB2  | 4                   | 0.67     | 0.2                 | 0.75       |
| (1,3516) | 2:B:650:THR:HG21 | 2:B:651:ASN:HB3  | 4                   | 0.58     | 0.19                | 0.58       |
| (1,3516) | 2:B:650:THR:HG22 | 2:B:651:ASN:HB3  | 4                   | 0.58     | 0.19                | 0.58       |
| (1,3516) | 2:B:650:THR:HG23 | 2:B:651:ASN:HB3  | 4                   | 0.58     | 0.19                | 0.58       |
| (1,1783) | 1:A:171:LYS:H    | 1:A:171:LYS:HG3  | 4                   | 0.37     | 0.38                | 0.16       |
| (1,3962) | 1:A:216:ASN:HD22 | 2:B:669:PRO:HB2  | 4                   | 0.37     | 0.16                | 0.32       |
| (1,3962) | 1:A:216:ASN:HD22 | 2:B:668:ILE:HB   | 4                   | 0.37     | 0.16                | 0.32       |
| (1,1927) | 1:A:185:GLN:H    | 1:A:183:LYS:HG3  | 4                   | 0.34     | 0.08                | 0.34       |
| (1,3088) | 2:B:631:LEU:HD21 | 1:A:149:PRO:HD3  | 4                   | 0.26     | 0.23                | 0.14       |
| (1,3088) | 2:B:631:LEU:HD22 | 1:A:149:PRO:HD3  | 4                   | 0.26     | 0.23                | 0.14       |
| (1,3088) | 2:B:631:LEU:HD23 | 1:A:149:PRO:HD3  | 4                   | 0.26     | 0.23                | 0.14       |

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| Key      | Atom-1           | Atom-2           | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,3088) | 2:B:631:LEU:HD21 | 1:A:180:PHE:HA   | 4                   | 0.26     | 0.23                | 0.14       |
| (1,3088) | 2:B:631:LEU:HD22 | 1:A:180:PHE:HA   | 4                   | 0.26     | 0.23                | 0.14       |
| (1,3088) | 2:B:631:LEU:HD23 | 1:A:180:PHE:HA   | 4                   | 0.26     | 0.23                | 0.14       |
| (1,3407) | 1:A:163:MET:HA   | 1:A:164:MET:HB3  | 4                   | 0.25     | 0.07                | 0.22       |
| (1,3407) | 1:A:163:MET:HA   | 1:A:211:GLU:HG3  | 4                   | 0.25     | 0.07                | 0.22       |
| (1,3407) | 1:A:163:MET:HA   | 1:A:211:GLU:HG2  | 4                   | 0.25     | 0.07                | 0.22       |
| (1,3407) | 1:A:163:MET:HA   | 2:B:643:PRO:HB2  | 4                   | 0.25     | 0.07                | 0.22       |
| (1,1072) | 1:A:218:ILE:HD11 | 1:A:218:ILE:HA   | 4                   | 0.23     | 0.01                | 0.23       |
| (1,1072) | 1:A:218:ILE:HD12 | 1:A:218:ILE:HA   | 4                   | 0.23     | 0.01                | 0.23       |
| (1,1072) | 1:A:218:ILE:HD13 | 1:A:218:ILE:HA   | 4                   | 0.23     | 0.01                | 0.23       |
| (1,3592) | 1:A:187:TRP:HZ2  | 1:A:188:THR:HB   | 4                   | 0.18     | 0.06                | 0.18       |
| (1,3592) | 1:A:187:TRP:HZ2  | 1:A:198:LEU:HA   | 4                   | 0.18     | 0.06                | 0.18       |
| (1,3113) | 1:A:169:LEU:HD21 | 1:A:204:GLN:HG3  | 4                   | 0.17     | 0.05                | 0.16       |
| (1,3113) | 1:A:169:LEU:HD22 | 1:A:204:GLN:HG3  | 4                   | 0.17     | 0.05                | 0.16       |
| (1,3113) | 1:A:169:LEU:HD23 | 1:A:204:GLN:HG3  | 4                   | 0.17     | 0.05                | 0.16       |
| (1,3113) | 1:A:169:LEU:HD21 | 1:A:216:ASN:HB2  | 4                   | 0.17     | 0.05                | 0.16       |
| (1,3113) | 1:A:169:LEU:HD22 | 1:A:216:ASN:HB2  | 4                   | 0.17     | 0.05                | 0.16       |
| (1,3113) | 1:A:169:LEU:HD23 | 1:A:216:ASN:HB2  | 4                   | 0.17     | 0.05                | 0.16       |
| (1,3674) | 2:B:657:LYS:H    | 1:A:200:GLU:HG3  | 4                   | 0.14     | 0.02                | 0.14       |
| (1,3674) | 2:B:657:LYS:H    | 1:A:200:GLU:HG2  | 4                   | 0.14     | 0.02                | 0.14       |
| (1,3674) | 2:B:657:LYS:H    | 1:A:226:PRO:HB3  | 4                   | 0.14     | 0.02                | 0.14       |
| (1,1976) | 1:A:187:TRP:HE1  | 1:A:188:THR:HA   | 4                   | 0.14     | 0.01                | 0.14       |
| (1,3828) | 1:A:183:LYS:H    | 1:A:178:LEU:HA   | 4                   | 0.14     | 0.02                | 0.14       |
| (1,3828) | 1:A:183:LYS:H    | 2:B:669:PRO:HD2  | 4                   | 0.14     | 0.02                | 0.14       |
| (1,3828) | 2:B:657:LYS:H    | 1:A:206:SER:HB2  | 4                   | 0.14     | 0.02                | 0.14       |
| (1,3828) | 2:B:657:LYS:H    | 1:A:206:SER:HA   | 4                   | 0.14     | 0.02                | 0.14       |
| (1,3303) | 2:B:638:LEU:HG   | 1:A:176:VAL:HG11 | 4                   | 0.12     | 0.02                | 0.12       |
| (1,3303) | 2:B:638:LEU:HG   | 1:A:176:VAL:HG12 | 4                   | 0.12     | 0.02                | 0.12       |
| (1,3303) | 2:B:638:LEU:HG   | 1:A:176:VAL:HG13 | 4                   | 0.12     | 0.02                | 0.12       |
| (1,3303) | 2:B:668:ILE:HG13 | 2:B:658:LEU:HD21 | 4                   | 0.12     | 0.02                | 0.12       |
| (1,3303) | 2:B:668:ILE:HG13 | 2:B:658:LEU:HD22 | 4                   | 0.12     | 0.02                | 0.12       |
| (1,3303) | 2:B:668:ILE:HG13 | 2:B:658:LEU:HD23 | 4                   | 0.12     | 0.02                | 0.12       |
| (1,3303) | 2:B:638:LEU:HG   | 2:B:658:LEU:HD21 | 4                   | 0.12     | 0.02                | 0.12       |
| (1,3303) | 2:B:638:LEU:HG   | 2:B:658:LEU:HD22 | 4                   | 0.12     | 0.02                | 0.12       |
| (1,3303) | 2:B:638:LEU:HG   | 2:B:658:LEU:HD23 | 4                   | 0.12     | 0.02                | 0.12       |
| (1,1492) | 2:B:641:VAL:HG21 | 2:B:638:LEU:HD21 | 4                   | 0.12     | 0.0                 | 0.12       |
| (1,1492) | 2:B:641:VAL:HG21 | 2:B:638:LEU:HD22 | 4                   | 0.12     | 0.0                 | 0.12       |
| (1,1492) | 2:B:641:VAL:HG21 | 2:B:638:LEU:HD23 | 4                   | 0.12     | 0.0                 | 0.12       |
| (1,1492) | 2:B:641:VAL:HG22 | 2:B:638:LEU:HD21 | 4                   | 0.12     | 0.0                 | 0.12       |
| (1,1492) | 2:B:641:VAL:HG22 | 2:B:638:LEU:HD22 | 4                   | 0.12     | 0.0                 | 0.12       |
| (1,1492) | 2:B:641:VAL:HG22 | 2:B:638:LEU:HD23 | 4                   | 0.12     | 0.0                 | 0.12       |
| (1,1492) | 2:B:641:VAL:HG23 | 2:B:638:LEU:HD21 | 4                   | 0.12     | 0.0                 | 0.12       |

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| Key      | Atom-1           | Atom-2           | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,1492) | 2:B:641:VAL:HG23 | 2:B:638:LEU:HD22 | 4                   | 0.12     | 0.0                 | 0.12       |
| (1,1492) | 2:B:641:VAL:HG23 | 2:B:638:LEU:HD23 | 4                   | 0.12     | 0.0                 | 0.12       |
| (2,22)   | 2:B:658:LEU:HA   | 2:B:659:VAL:HG11 | 4                   | 0.12     | 0.0                 | 0.12       |
| (2,22)   | 2:B:658:LEU:HA   | 2:B:659:VAL:HG12 | 4                   | 0.12     | 0.0                 | 0.12       |
| (2,22)   | 2:B:658:LEU:HA   | 2:B:659:VAL:HG13 | 4                   | 0.12     | 0.0                 | 0.12       |
| (2,69)   | 2:B:660:ASN:HD22 | 2:B:663:ASN:HD21 | 3                   | 1.03     | 0.51                | 0.71       |
| (1,1924) | 1:A:184:PHE:H    | 2:B:632:PRO:HG3  | 3                   | 0.96     | 0.24                | 1.02       |
| (2,59)   | 2:B:649:ASN:HD22 | 2:B:652:LEU:HD11 | 3                   | 0.77     | 0.4                 | 0.97       |
| (2,59)   | 2:B:649:ASN:HD22 | 2:B:652:LEU:HD12 | 3                   | 0.77     | 0.4                 | 0.97       |
| (2,59)   | 2:B:649:ASN:HD22 | 2:B:652:LEU:HD13 | 3                   | 0.77     | 0.4                 | 0.97       |
| (1,3287) | 2:B:669:PRO:HG2  | 1:A:178:LEU:HD11 | 3                   | 0.67     | 0.35                | 0.78       |
| (1,3287) | 2:B:669:PRO:HG2  | 1:A:178:LEU:HD12 | 3                   | 0.67     | 0.35                | 0.78       |
| (1,3287) | 2:B:669:PRO:HG2  | 1:A:178:LEU:HD13 | 3                   | 0.67     | 0.35                | 0.78       |
| (1,3287) | 2:B:669:PRO:HG3  | 1:A:213:LEU:HD21 | 3                   | 0.67     | 0.35                | 0.78       |
| (1,3287) | 2:B:669:PRO:HG3  | 1:A:213:LEU:HD22 | 3                   | 0.67     | 0.35                | 0.78       |
| (1,3287) | 2:B:669:PRO:HG3  | 1:A:213:LEU:HD23 | 3                   | 0.67     | 0.35                | 0.78       |
| (1,3287) | 2:B:669:PRO:HG3  | 1:A:178:LEU:HD11 | 3                   | 0.67     | 0.35                | 0.78       |
| (1,3287) | 2:B:669:PRO:HG3  | 1:A:178:LEU:HD12 | 3                   | 0.67     | 0.35                | 0.78       |
| (1,3287) | 2:B:669:PRO:HG3  | 1:A:178:LEU:HD13 | 3                   | 0.67     | 0.35                | 0.78       |
| (1,1234) | 2:B:641:VAL:HG11 | 2:B:640:SER:HB3  | 3                   | 0.57     | 0.14                | 0.57       |
| (1,1234) | 2:B:641:VAL:HG12 | 2:B:640:SER:HB3  | 3                   | 0.57     | 0.14                | 0.57       |
| (1,1234) | 2:B:641:VAL:HG13 | 2:B:640:SER:HB3  | 3                   | 0.57     | 0.14                | 0.57       |
| (1,289)  | 1:A:227:LEU:HD21 | 2:B:654:ASP:HB2  | 3                   | 0.4      | 0.12                | 0.38       |
| (1,289)  | 1:A:227:LEU:HD22 | 2:B:654:ASP:HB2  | 3                   | 0.4      | 0.12                | 0.38       |
| (1,289)  | 1:A:227:LEU:HD23 | 2:B:654:ASP:HB2  | 3                   | 0.4      | 0.12                | 0.38       |
| (1,1071) | 1:A:218:ILE:HD11 | 1:A:216:ASN:HB2  | 3                   | 0.36     | 0.1                 | 0.31       |
| (1,1071) | 1:A:218:ILE:HD12 | 1:A:216:ASN:HB2  | 3                   | 0.36     | 0.1                 | 0.31       |
| (1,1071) | 1:A:218:ILE:HD13 | 1:A:216:ASN:HB2  | 3                   | 0.36     | 0.1                 | 0.31       |
| (1,1226) | 2:B:640:SER:HB3  | 1:A:152:ILE:HG21 | 3                   | 0.26     | 0.08                | 0.26       |
| (1,1226) | 2:B:640:SER:HB3  | 1:A:152:ILE:HG22 | 3                   | 0.26     | 0.08                | 0.26       |
| (1,1226) | 2:B:640:SER:HB3  | 1:A:152:ILE:HG23 | 3                   | 0.26     | 0.08                | 0.26       |
| (1,3598) | 1:A:203:PRO:HG3  | 1:A:203:PRO:HD2  | 3                   | 0.24     | 0.04                | 0.24       |
| (1,3598) | 2:B:645:ARG:HB2  | 1:A:203:PRO:HD2  | 3                   | 0.24     | 0.04                | 0.24       |
| (1,3598) | 2:B:645:ARG:HB2  | 2:B:645:ARG:HD2  | 3                   | 0.24     | 0.04                | 0.24       |
| (1,3808) | 1:A:180:PHE:H    | 2:B:634:GLU:HA   | 3                   | 0.23     | 0.06                | 0.2        |
| (1,3808) | 2:B:652:LEU:H    | 1:A:206:SER:HB2  | 3                   | 0.23     | 0.06                | 0.2        |
| (1,3808) | 2:B:652:LEU:H    | 1:A:207:PHE:HA   | 3                   | 0.23     | 0.06                | 0.2        |
| (2,14)   | 1:A:215:THR:HG21 | 1:A:181:LEU:HG   | 3                   | 0.22     | 0.01                | 0.22       |
| (2,14)   | 1:A:215:THR:HG22 | 1:A:181:LEU:HG   | 3                   | 0.22     | 0.01                | 0.22       |
| (2,14)   | 1:A:215:THR:HG23 | 1:A:181:LEU:HG   | 3                   | 0.22     | 0.01                | 0.22       |
| (1,2061) | 1:A:193:GLU:H    | 1:A:194:ASP:HB3  | 3                   | 0.22     | 0.07                | 0.18       |
| (1,1962) | 1:A:186:GLU:H    | 1:A:186:GLU:HG2  | 3                   | 0.19     | 0.03                | 0.21       |

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| Key      | Atom-1           | Atom-2           | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,1962) | 1:A:186:GLU:H    | 1:A:186:GLU:HG3  | 3                   | 0.19     | 0.03                | 0.21       |
| (1,4057) | 2:B:662:LEU:H    | 2:B:663:ASN:HD21 | 3                   | 0.18     | 0.05                | 0.17       |
| (1,4057) | 2:B:662:LEU:H    | 2:B:665:GLN:HE21 | 3                   | 0.18     | 0.05                | 0.17       |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:225:ILE:HG21 | 3                   | 0.17     | 0.09                | 0.11       |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:225:ILE:HG22 | 3                   | 0.17     | 0.09                | 0.11       |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:225:ILE:HG23 | 3                   | 0.17     | 0.09                | 0.11       |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:165:ILE:HG21 | 3                   | 0.17     | 0.09                | 0.11       |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:165:ILE:HG22 | 3                   | 0.17     | 0.09                | 0.11       |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:165:ILE:HG23 | 3                   | 0.17     | 0.09                | 0.11       |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:225:ILE:HD11 | 3                   | 0.17     | 0.09                | 0.11       |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:225:ILE:HD12 | 3                   | 0.17     | 0.09                | 0.11       |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:225:ILE:HD13 | 3                   | 0.17     | 0.09                | 0.11       |
| (1,3556) | 1:A:204:GLN:HB3  | 2:B:639:LEU:HA   | 3                   | 0.17     | 0.01                | 0.17       |
| (1,361)  | 2:B:638:LEU:HD11 | 1:A:180:PHE:HB3  | 3                   | 0.16     | 0.01                | 0.17       |
| (1,361)  | 2:B:638:LEU:HD12 | 1:A:180:PHE:HB3  | 3                   | 0.16     | 0.01                | 0.17       |
| (1,361)  | 2:B:638:LEU:HD13 | 1:A:180:PHE:HB3  | 3                   | 0.16     | 0.01                | 0.17       |
| (1,755)  | 1:A:163:MET:HG2  | 1:A:163:MET:HA   | 3                   | 0.16     | 0.03                | 0.15       |
| (1,3882) | 1:A:197:SER:H    | 1:A:192:PRO:HA   | 3                   | 0.16     | 0.02                | 0.15       |
| (1,3882) | 1:A:197:SER:H    | 1:A:201:LEU:HA   | 3                   | 0.16     | 0.02                | 0.15       |
| (1,3219) | 1:A:228:ALA:HB1  | 1:A:225:ILE:HB   | 3                   | 0.15     | 0.01                | 0.14       |
| (1,3219) | 1:A:228:ALA:HB2  | 1:A:225:ILE:HB   | 3                   | 0.15     | 0.01                | 0.14       |
| (1,3219) | 1:A:228:ALA:HB3  | 1:A:225:ILE:HB   | 3                   | 0.15     | 0.01                | 0.14       |
| (1,3219) | 1:A:228:ALA:HB1  | 2:B:658:LEU:HB3  | 3                   | 0.15     | 0.01                | 0.14       |
| (1,3219) | 1:A:228:ALA:HB2  | 2:B:658:LEU:HB3  | 3                   | 0.15     | 0.01                | 0.14       |
| (1,3219) | 1:A:228:ALA:HB3  | 2:B:658:LEU:HB3  | 3                   | 0.15     | 0.01                | 0.14       |
| (1,2547) | 2:B:646:GLN:HE21 | 2:B:646:GLN:HB3  | 3                   | 0.14     | 0.04                | 0.12       |
| (1,2547) | 2:B:646:GLN:HE21 | 2:B:646:GLN:HB2  | 3                   | 0.14     | 0.04                | 0.12       |
| (1,2607) | 2:B:655:ALA:H    | 1:A:227:LEU:HB3  | 3                   | 0.13     | 0.01                | 0.14       |
| (2,64)   | 2:B:659:VAL:H    | 2:B:660:ASN:HB3  | 3                   | 0.13     | 0.02                | 0.13       |
| (2,75)   | 2:B:663:ASN:HD21 | 1:A:192:PRO:HD2  | 3                   | 0.13     | 0.02                | 0.14       |
| (1,1781) | 1:A:171:LYS:H    | 1:A:171:LYS:HB2  | 3                   | 0.11     | 0.0                 | 0.11       |
| (1,1077) | 1:A:218:ILE:HG13 | 1:A:218:ILE:HG21 | 3                   | 0.11     | 0.0                 | 0.11       |
| (1,1077) | 1:A:218:ILE:HG13 | 1:A:218:ILE:HG22 | 3                   | 0.11     | 0.0                 | 0.11       |
| (1,1077) | 1:A:218:ILE:HG13 | 1:A:218:ILE:HG23 | 3                   | 0.11     | 0.0                 | 0.11       |
| (1,1849) | 1:A:178:LEU:H    | 1:A:216:ASN:HD22 | 2                   | 0.94     | 0.03                | 0.94       |
| (1,2258) | 1:A:216:ASN:HD22 | 1:A:177:GLN:HB3  | 2                   | 0.62     | 0.16                | 0.62       |
| (1,3676) | 1:A:183:LYS:H    | 1:A:183:LYS:HB2  | 2                   | 0.56     | 0.01                | 0.56       |
| (1,3676) | 1:A:183:LYS:H    | 1:A:183:LYS:HG3  | 2                   | 0.56     | 0.01                | 0.56       |
| (1,3676) | 2:B:657:LYS:H    | 2:B:657:LYS:HG2  | 2                   | 0.56     | 0.01                | 0.56       |
| (1,2234) | 1:A:214:LEU:H    | 1:A:216:ASN:HD21 | 2                   | 0.4      | 0.12                | 0.4        |
| (1,3861) | 1:A:189:ARG:H    | 1:A:185:GLN:HG3  | 2                   | 0.39     | 0.03                | 0.39       |
| (1,3861) | 1:A:194:ASP:H    | 2:B:659:VAL:HB   | 2                   | 0.39     | 0.03                | 0.39       |

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| Key      | Atom-1           | Atom-2           | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,3861) | 1:A:189:ARG:H    | 2:B:659:VAL:HB   | 2                   | 0.39     | 0.03                | 0.39       |
| (1,1229) | 2:B:640:SER:HB2  | 1:A:149:PRO:HG2  | 2                   | 0.34     | 0.16                | 0.34       |
| (1,1775) | 1:A:170:ALA:H    | 1:A:172:LYS:HG3  | 2                   | 0.32     | 0.06                | 0.32       |
| (1,2356) | 1:A:225:ILE:H    | 1:A:225:ILE:HG12 | 2                   | 0.27     | 0.16                | 0.27       |
| (1,3630) | 2:B:648:PHE:HZ   | 2:B:643:PRO:HD3  | 2                   | 0.24     | 0.06                | 0.24       |
| (1,3630) | 2:B:648:PHE:HZ   | 1:A:162:ALA:HA   | 2                   | 0.24     | 0.06                | 0.24       |
| (1,3630) | 2:B:648:PHE:HZ   | 1:A:161:PRO:HD3  | 2                   | 0.24     | 0.06                | 0.24       |
| (1,1844) | 1:A:177:GLN:HE22 | 1:A:212:LEU:HB3  | 2                   | 0.23     | 0.01                | 0.23       |
| (2,29)   | 1:A:159:THR:H    | 1:A:155:ASN:HB2  | 2                   | 0.22     | 0.11                | 0.22       |
| (1,1953) | 1:A:186:GLU:H    | 1:A:183:LYS:HG3  | 2                   | 0.22     | 0.1                 | 0.22       |
| (1,1036) | 1:A:207:PHE:HA   | 1:A:207:PHE:HD1  | 2                   | 0.2      | 0.08                | 0.2        |
| (1,1036) | 1:A:207:PHE:HA   | 1:A:207:PHE:HD2  | 2                   | 0.2      | 0.08                | 0.2        |
| (1,1371) | 2:B:655:ALA:HB1  | 1:A:200:GLU:HB2  | 2                   | 0.19     | 0.02                | 0.19       |
| (1,1371) | 2:B:655:ALA:HB2  | 1:A:200:GLU:HB2  | 2                   | 0.19     | 0.02                | 0.19       |
| (1,1371) | 2:B:655:ALA:HB3  | 1:A:200:GLU:HB2  | 2                   | 0.19     | 0.02                | 0.19       |
| (1,3837) | 1:A:185:GLN:H    | 1:A:182:GLN:HG2  | 2                   | 0.19     | 0.07                | 0.19       |
| (1,3837) | 2:B:637:ASP:H    | 1:A:149:PRO:HB2  | 2                   | 0.19     | 0.07                | 0.19       |
| (1,1687) | 1:A:157:ASN:HD22 | 1:A:159:THR:HG21 | 2                   | 0.18     | 0.03                | 0.18       |
| (1,1687) | 1:A:157:ASN:HD22 | 1:A:159:THR:HG22 | 2                   | 0.18     | 0.03                | 0.18       |
| (1,1687) | 1:A:157:ASN:HD22 | 1:A:159:THR:HG23 | 2                   | 0.18     | 0.03                | 0.18       |
| (1,682)  | 1:A:154:VAL:HG11 | 2:B:643:PRO:HD3  | 2                   | 0.17     | 0.04                | 0.17       |
| (1,682)  | 1:A:154:VAL:HG12 | 2:B:643:PRO:HD3  | 2                   | 0.17     | 0.04                | 0.17       |
| (1,682)  | 1:A:154:VAL:HG13 | 2:B:643:PRO:HD3  | 2                   | 0.17     | 0.04                | 0.17       |
| (1,3528) | 2:B:652:LEU:HD21 | 1:A:203:PRO:HG2  | 2                   | 0.17     | 0.01                | 0.17       |
| (1,3528) | 2:B:652:LEU:HD22 | 1:A:203:PRO:HG2  | 2                   | 0.17     | 0.01                | 0.17       |
| (1,3528) | 2:B:652:LEU:HD23 | 1:A:203:PRO:HG2  | 2                   | 0.17     | 0.01                | 0.17       |
| (1,3528) | 1:A:141:LEU:HD21 | 1:A:147:GLU:HG2  | 2                   | 0.17     | 0.01                | 0.17       |
| (1,3528) | 1:A:141:LEU:HD22 | 1:A:147:GLU:HG2  | 2                   | 0.17     | 0.01                | 0.17       |
| (1,3528) | 1:A:141:LEU:HD23 | 1:A:147:GLU:HG2  | 2                   | 0.17     | 0.01                | 0.17       |
| (1,3528) | 1:A:141:LEU:HD21 | 1:A:147:GLU:HG3  | 2                   | 0.17     | 0.01                | 0.17       |
| (1,3528) | 1:A:141:LEU:HD22 | 1:A:147:GLU:HG3  | 2                   | 0.17     | 0.01                | 0.17       |
| (1,3528) | 1:A:141:LEU:HD23 | 1:A:147:GLU:HG3  | 2                   | 0.17     | 0.01                | 0.17       |
| (1,3528) | 1:A:141:LEU:HD21 | 1:A:146:PRO:HB3  | 2                   | 0.17     | 0.01                | 0.17       |
| (1,3528) | 1:A:141:LEU:HD22 | 1:A:146:PRO:HB3  | 2                   | 0.17     | 0.01                | 0.17       |
| (1,3528) | 1:A:141:LEU:HD23 | 1:A:146:PRO:HB3  | 2                   | 0.17     | 0.01                | 0.17       |
| (1,3528) | 1:A:141:LEU:HD21 | 1:A:200:GLU:HB2  | 2                   | 0.17     | 0.01                | 0.17       |
| (1,3528) | 1:A:141:LEU:HD22 | 1:A:200:GLU:HB2  | 2                   | 0.17     | 0.01                | 0.17       |
| (1,3528) | 1:A:141:LEU:HD23 | 1:A:200:GLU:HB2  | 2                   | 0.17     | 0.01                | 0.17       |
| (1,1990) | 1:A:187:TRP:HE1  | 2:B:632:PRO:HG3  | 2                   | 0.16     | 0.02                | 0.16       |
| (2,2)    | 2:B:631:LEU:HD11 | 2:B:630:GLU:HA   | 2                   | 0.16     | 0.04                | 0.16       |
| (2,2)    | 2:B:631:LEU:HD12 | 2:B:630:GLU:HA   | 2                   | 0.16     | 0.04                | 0.16       |
| (2,2)    | 2:B:631:LEU:HD13 | 2:B:630:GLU:HA   | 2                   | 0.16     | 0.04                | 0.16       |

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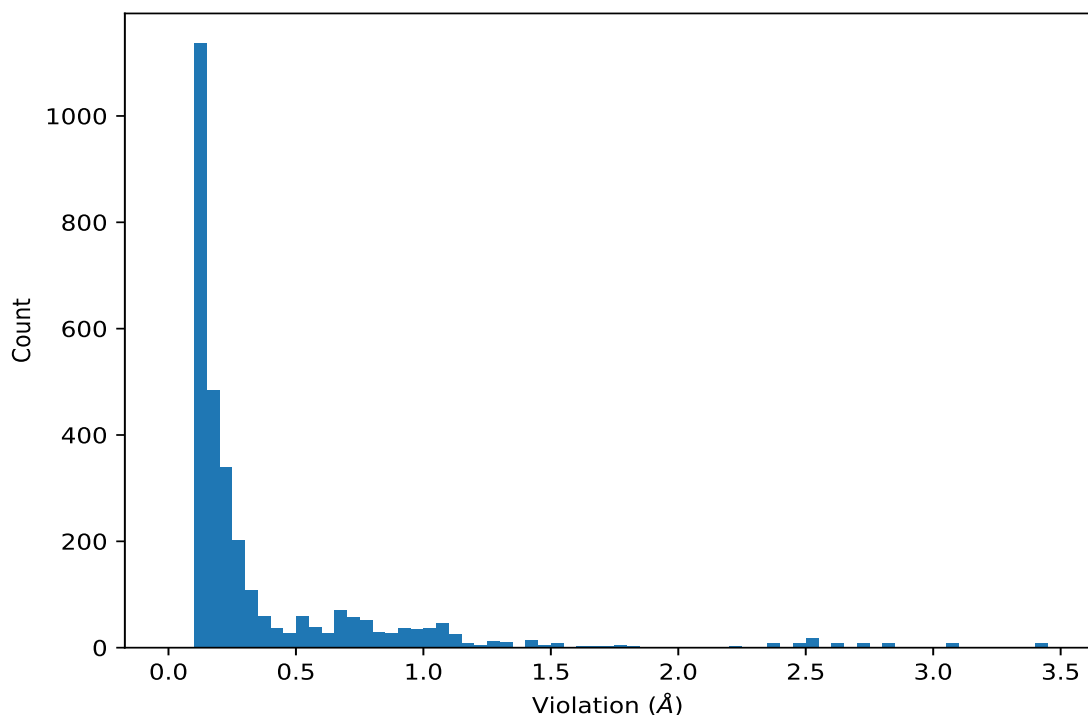
| Key      | Atom-1           | Atom-2          | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|------------------|-----------------|---------------------|----------|---------------------|------------|
| (2,66)   | 2:B:660:ASN:HD22 | 2:B:656:GLN:HG3 | 2                   | 0.14     | 0.01                | 0.14       |
| (1,1199) | 2:B:635:VAL:HA   | 1:A:180:PHE:HE1 | 2                   | 0.13     | 0.02                | 0.13       |
| (1,1199) | 2:B:635:VAL:HA   | 1:A:180:PHE:HE2 | 2                   | 0.13     | 0.02                | 0.13       |
| (1,894)  | 1:A:187:TRP:HD1  | 1:A:191:HIS:HE1 | 2                   | 0.12     | 0.01                | 0.12       |
| (1,3901) | 1:A:201:LEU:H    | 2:B:655:ALA:HB1 | 2                   | 0.12     | 0.02                | 0.12       |
| (1,3901) | 1:A:201:LEU:H    | 2:B:655:ALA:HB2 | 2                   | 0.12     | 0.02                | 0.12       |
| (1,3901) | 1:A:201:LEU:H    | 2:B:655:ALA:HB3 | 2                   | 0.12     | 0.02                | 0.12       |
| (1,3901) | 1:A:201:LEU:H    | 1:A:199:LEU:HB2 | 2                   | 0.12     | 0.02                | 0.12       |
| (1,276)  | 1:A:227:LEU:HA   | 2:B:661:PHE:HD1 | 2                   | 0.12     | 0.0                 | 0.12       |
| (1,276)  | 1:A:227:LEU:HA   | 2:B:661:PHE:HD2 | 2                   | 0.12     | 0.0                 | 0.12       |
| (1,2253) | 1:A:216:ASN:H    | 1:A:216:ASN:HB2 | 2                   | 0.12     | 0.01                | 0.12       |
| (1,4002) | 2:B:638:LEU:H    | 2:B:639:LEU:HB3 | 2                   | 0.12     | 0.01                | 0.12       |
| (1,4002) | 2:B:638:LEU:H    | 1:A:205:LEU:HB2 | 2                   | 0.12     | 0.01                | 0.12       |
| (3,12)   | 1:A:164:MET:O    | 1:A:168:GLU:H   | 2                   | 0.12     | 0.0                 | 0.12       |
| (1,1861) | 1:A:179:LYS:H    | 1:A:177:GLN:HG3 | 2                   | 0.12     | 0.0                 | 0.12       |
| (1,2625) | 2:B:656:GLN:H    | 2:B:657:LYS:HG2 | 2                   | 0.12     | 0.0                 | 0.12       |
| (3,86)   | 2:B:637:ASP:O    | 2:B:641:VAL:H   | 2                   | 0.12     | 0.0                 | 0.12       |
| (1,1203) | 2:B:635:VAL:HG21 | 1:A:180:PHE:HD1 | 2                   | 0.11     | 0.0                 | 0.11       |
| (1,1203) | 2:B:635:VAL:HG21 | 1:A:180:PHE:HD2 | 2                   | 0.11     | 0.0                 | 0.11       |
| (1,1203) | 2:B:635:VAL:HG22 | 1:A:180:PHE:HD1 | 2                   | 0.11     | 0.0                 | 0.11       |
| (1,1203) | 2:B:635:VAL:HG22 | 1:A:180:PHE:HD2 | 2                   | 0.11     | 0.0                 | 0.11       |
| (1,1203) | 2:B:635:VAL:HG23 | 1:A:180:PHE:HD1 | 2                   | 0.11     | 0.0                 | 0.11       |
| (1,1203) | 2:B:635:VAL:HG23 | 1:A:180:PHE:HD2 | 2                   | 0.11     | 0.0                 | 0.11       |
| (1,3520) | 1:A:174:LYS:HG2  | 1:A:216:ASN:HB2 | 2                   | 0.11     | 0.0                 | 0.11       |
| (1,3520) | 1:A:172:LYS:HG2  | 1:A:171:LYS:HE2 | 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) |
|----------|------------------|-----------------|----------|---------------|
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:643:PRO:HB3 | 7        | 3.44          |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:643:PRO:HB3 | 7        | 3.44          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:643:PRO:HB3 | 7        | 3.44          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:656:GLN:HB2 | 7        | 3.44          |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:656:GLN:HB2 | 7        | 3.44          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:656:GLN:HB2 | 7        | 3.44          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:659:VAL:HB  | 7        | 3.44          |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:659:VAL:HB  | 7        | 3.44          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:659:VAL:HB  | 7        | 3.44          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:643:PRO:HB3 | 4        | 3.07          |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:643:PRO:HB3 | 4        | 3.07          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:643:PRO:HB3 | 4        | 3.07          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:656:GLN:HB2 | 4        | 3.07          |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:656:GLN:HB2 | 4        | 3.07          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:656:GLN:HB2 | 4        | 3.07          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:659:VAL:HB  | 4        | 3.07          |

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| Key      | Atom-1           | Atom-2          | Model ID | Violation (Å) |
|----------|------------------|-----------------|----------|---------------|
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:659:VAL:HB  | 4        | 3.07          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:659:VAL:HB  | 4        | 3.07          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:643:PRO:HB3 | 8        | 2.83          |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:643:PRO:HB3 | 8        | 2.83          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:643:PRO:HB3 | 8        | 2.83          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:656:GLN:HB2 | 8        | 2.83          |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:656:GLN:HB2 | 8        | 2.83          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:656:GLN:HB2 | 8        | 2.83          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:659:VAL:HB  | 8        | 2.83          |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:659:VAL:HB  | 8        | 2.83          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:659:VAL:HB  | 8        | 2.83          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:643:PRO:HB3 | 2        | 2.74          |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:643:PRO:HB3 | 2        | 2.74          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:643:PRO:HB3 | 2        | 2.74          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:656:GLN:HB2 | 2        | 2.74          |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:656:GLN:HB2 | 2        | 2.74          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:656:GLN:HB2 | 2        | 2.74          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:659:VAL:HB  | 2        | 2.74          |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:659:VAL:HB  | 2        | 2.74          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:659:VAL:HB  | 2        | 2.74          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:643:PRO:HB3 | 9        | 2.6           |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:643:PRO:HB3 | 9        | 2.6           |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:643:PRO:HB3 | 9        | 2.6           |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:656:GLN:HB2 | 9        | 2.6           |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:656:GLN:HB2 | 9        | 2.6           |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:656:GLN:HB2 | 9        | 2.6           |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:659:VAL:HB  | 9        | 2.6           |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:659:VAL:HB  | 9        | 2.6           |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:659:VAL:HB  | 9        | 2.6           |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:643:PRO:HB3 | 1        | 2.54          |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:643:PRO:HB3 | 1        | 2.54          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:643:PRO:HB3 | 1        | 2.54          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:656:GLN:HB2 | 1        | 2.54          |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:656:GLN:HB2 | 1        | 2.54          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:656:GLN:HB2 | 1        | 2.54          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:659:VAL:HB  | 1        | 2.54          |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:659:VAL:HB  | 1        | 2.54          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:659:VAL:HB  | 1        | 2.54          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:643:PRO:HB3 | 3        | 2.54          |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:643:PRO:HB3 | 3        | 2.54          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:643:PRO:HB3 | 3        | 2.54          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:656:GLN:HB2 | 3        | 2.54          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:656:GLN:HB2  | 3        | 2.54          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:656:GLN:HB2  | 3        | 2.54          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:659:VAL:HB   | 3        | 2.54          |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:659:VAL:HB   | 3        | 2.54          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:659:VAL:HB   | 3        | 2.54          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:643:PRO:HB3  | 6        | 2.49          |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:643:PRO:HB3  | 6        | 2.49          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:643:PRO:HB3  | 6        | 2.49          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:656:GLN:HB2  | 6        | 2.49          |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:656:GLN:HB2  | 6        | 2.49          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:656:GLN:HB2  | 6        | 2.49          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:659:VAL:HB   | 6        | 2.49          |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:659:VAL:HB   | 6        | 2.49          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:659:VAL:HB   | 6        | 2.49          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:643:PRO:HB3  | 5        | 2.36          |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:643:PRO:HB3  | 5        | 2.36          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:643:PRO:HB3  | 5        | 2.36          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:656:GLN:HB2  | 5        | 2.36          |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:656:GLN:HB2  | 5        | 2.36          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:656:GLN:HB2  | 5        | 2.36          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:659:VAL:HB   | 5        | 2.36          |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:659:VAL:HB   | 5        | 2.36          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:659:VAL:HB   | 5        | 2.36          |
| (1,3513) | 2:B:640:SER:HB2  | 1:A:204:GLN:HG3  | 2        | 2.21          |
| (1,3513) | 1:A:150:SER:HB2  | 1:A:204:GLN:HG3  | 2        | 2.21          |
| (1,3513) | 1:A:150:SER:HB3  | 1:A:204:GLN:HG3  | 2        | 2.21          |
| (1,3344) | 1:A:183:LYS:HE2  | 1:A:183:LYS:HB2  | 5        | 2.12          |
| (2,68)   | 2:B:660:ASN:HD21 | 2:B:657:LYS:HG3  | 8        | 2.06          |
| (1,3344) | 1:A:183:LYS:HE2  | 1:A:183:LYS:HB2  | 8        | 1.99          |
| (1,3199) | 1:A:192:PRO:HB3  | 2:B:660:ASN:HA   | 5        | 1.84          |
| (1,3199) | 1:A:192:PRO:HB3  | 2:B:660:ASN:HA   | 10       | 1.82          |
| (2,72)   | 2:B:663:ASN:HD22 | 2:B:664:ASP:HB3  | 5        | 1.79          |
| (1,3199) | 1:A:192:PRO:HB3  | 2:B:660:ASN:HA   | 1        | 1.77          |
| (1,3199) | 1:A:192:PRO:HB3  | 2:B:660:ASN:HA   | 2        | 1.77          |
| (1,3199) | 1:A:192:PRO:HB3  | 2:B:660:ASN:HA   | 9        | 1.77          |
| (2,69)   | 2:B:660:ASN:HD22 | 2:B:663:ASN:HD21 | 10       | 1.74          |
| (1,511)  | 1:A:183:LYS:HE2  | 2:B:632:PRO:HG3  | 5        | 1.72          |
| (1,3199) | 1:A:192:PRO:HB3  | 2:B:660:ASN:HA   | 4        | 1.7           |
| (1,3199) | 1:A:192:PRO:HB3  | 2:B:660:ASN:HA   | 8        | 1.7           |
| (1,2748) | 2:B:665:GLN:HE21 | 2:B:664:ASP:HB2  | 10       | 1.69          |
| (2,72)   | 2:B:663:ASN:HD22 | 2:B:664:ASP:HB3  | 2        | 1.6           |
| (1,3199) | 1:A:192:PRO:HB3  | 2:B:660:ASN:HA   | 7        | 1.6           |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,557)  | 2:B:634:GLU:HB2  | 1:A:184:PHE:HB3  | 1        | 1.54          |
| (1,557)  | 2:B:634:GLU:HB3  | 1:A:184:PHE:HB3  | 1        | 1.54          |
| (1,557)  | 2:B:634:GLU:HB2  | 1:A:184:PHE:HB3  | 8        | 1.54          |
| (1,557)  | 2:B:634:GLU:HB3  | 1:A:184:PHE:HB3  | 8        | 1.54          |
| (1,557)  | 2:B:634:GLU:HB2  | 1:A:184:PHE:HB3  | 7        | 1.53          |
| (1,557)  | 2:B:634:GLU:HB3  | 1:A:184:PHE:HB3  | 7        | 1.53          |
| (1,3458) | 1:A:168:GLU:HG3  | 1:A:165:ILE:HG12 | 7        | 1.52          |
| (1,3458) | 1:A:168:GLU:HG2  | 1:A:165:ILE:HG12 | 7        | 1.52          |
| (1,3199) | 1:A:192:PRO:HB3  | 2:B:660:ASN:HA   | 3        | 1.49          |
| (2,72)   | 2:B:663:ASN:HD22 | 2:B:664:ASP:HB3  | 1        | 1.47          |
| (2,54)   | 2:B:646:GLN:H    | 1:A:203:PRO:HD3  | 2        | 1.47          |
| (1,557)  | 2:B:634:GLU:HB2  | 1:A:184:PHE:HB3  | 10       | 1.47          |
| (1,557)  | 2:B:634:GLU:HB3  | 1:A:184:PHE:HB3  | 10       | 1.47          |
| (1,3058) | 1:A:141:LEU:HD11 | 1:A:200:GLU:HB3  | 3        | 1.42          |
| (1,3058) | 1:A:141:LEU:HD12 | 1:A:200:GLU:HB3  | 3        | 1.42          |
| (1,3058) | 1:A:141:LEU:HD13 | 1:A:200:GLU:HB3  | 3        | 1.42          |
| (1,3058) | 1:A:141:LEU:HD11 | 1:A:149:PRO:HG2  | 3        | 1.42          |
| (1,3058) | 1:A:141:LEU:HD12 | 1:A:149:PRO:HG2  | 3        | 1.42          |
| (1,3058) | 1:A:141:LEU:HD13 | 1:A:149:PRO:HG2  | 3        | 1.42          |
| (1,3800) | 1:A:178:LEU:H    | 1:A:182:GLN:HG2  | 1        | 1.41          |
| (1,3800) | 1:A:178:LEU:H    | 2:B:669:PRO:HB3  | 1        | 1.41          |
| (1,3800) | 1:A:178:LEU:H    | 1:A:182:GLN:HG2  | 8        | 1.41          |
| (1,3800) | 1:A:178:LEU:H    | 2:B:669:PRO:HB3  | 8        | 1.41          |
| (1,3458) | 1:A:168:GLU:HG3  | 1:A:165:ILE:HG12 | 5        | 1.41          |
| (1,3458) | 1:A:168:GLU:HG2  | 1:A:165:ILE:HG12 | 5        | 1.41          |
| (1,2027) | 1:A:189:ARG:HE   | 2:B:663:ASN:HB3  | 6        | 1.41          |
| (1,2027) | 1:A:189:ARG:HE   | 2:B:663:ASN:HB3  | 8        | 1.41          |
| (2,54)   | 2:B:646:GLN:H    | 1:A:203:PRO:HD3  | 8        | 1.37          |
| (1,557)  | 2:B:634:GLU:HB2  | 1:A:184:PHE:HB3  | 3        | 1.33          |
| (1,557)  | 2:B:634:GLU:HB3  | 1:A:184:PHE:HB3  | 3        | 1.33          |
| (1,3458) | 1:A:168:GLU:HG3  | 1:A:165:ILE:HG12 | 3        | 1.33          |
| (1,3458) | 1:A:168:GLU:HG2  | 1:A:165:ILE:HG12 | 3        | 1.33          |
| (1,3344) | 1:A:183:LYS:HE2  | 1:A:183:LYS:HB2  | 1        | 1.33          |
| (1,2027) | 1:A:189:ARG:HE   | 2:B:663:ASN:HB3  | 4        | 1.32          |
| (1,557)  | 2:B:634:GLU:HB2  | 1:A:184:PHE:HB3  | 4        | 1.31          |
| (1,557)  | 2:B:634:GLU:HB3  | 1:A:184:PHE:HB3  | 4        | 1.31          |
| (1,3343) | 1:A:183:LYS:HE2  | 2:B:634:GLU:HB3  | 2        | 1.31          |
| (1,3343) | 1:A:183:LYS:HE2  | 2:B:634:GLU:HB2  | 2        | 1.31          |
| (1,3458) | 1:A:168:GLU:HG3  | 1:A:165:ILE:HG12 | 6        | 1.29          |
| (1,3458) | 1:A:168:GLU:HG2  | 1:A:165:ILE:HG12 | 6        | 1.29          |
| (1,3344) | 1:A:183:LYS:HE2  | 1:A:183:LYS:HB2  | 7        | 1.29          |
| (1,3800) | 1:A:178:LEU:H    | 1:A:182:GLN:HG2  | 7        | 1.28          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3800) | 1:A:178:LEU:H    | 2:B:669:PRO:HB3  | 7        | 1.28          |
| (1,3800) | 1:A:178:LEU:H    | 1:A:182:GLN:HG2  | 4        | 1.26          |
| (1,3800) | 1:A:178:LEU:H    | 2:B:669:PRO:HB3  | 4        | 1.26          |
| (1,3058) | 1:A:141:LEU:HD11 | 1:A:200:GLU:HB3  | 1        | 1.26          |
| (1,3058) | 1:A:141:LEU:HD12 | 1:A:200:GLU:HB3  | 1        | 1.26          |
| (1,3058) | 1:A:141:LEU:HD13 | 1:A:200:GLU:HB3  | 1        | 1.26          |
| (1,3058) | 1:A:141:LEU:HD11 | 1:A:149:PRO:HG2  | 1        | 1.26          |
| (1,3058) | 1:A:141:LEU:HD12 | 1:A:149:PRO:HG2  | 1        | 1.26          |
| (1,3058) | 1:A:141:LEU:HD13 | 1:A:149:PRO:HG2  | 1        | 1.26          |
| (1,3344) | 1:A:183:LYS:HE2  | 1:A:183:LYS:HB2  | 3        | 1.23          |
| (1,3800) | 1:A:178:LEU:H    | 1:A:182:GLN:HG2  | 5        | 1.22          |
| (1,3800) | 1:A:178:LEU:H    | 2:B:669:PRO:HB3  | 5        | 1.22          |
| (1,1924) | 1:A:184:PHE:H    | 2:B:632:PRO:HG3  | 5        | 1.21          |
| (2,54)   | 2:B:646:GLN:H    | 1:A:203:PRO:HD3  | 1        | 1.17          |
| (2,54)   | 2:B:646:GLN:H    | 1:A:203:PRO:HD3  | 6        | 1.17          |
| (1,3058) | 1:A:141:LEU:HD11 | 1:A:200:GLU:HB3  | 9        | 1.16          |
| (1,3058) | 1:A:141:LEU:HD12 | 1:A:200:GLU:HB3  | 9        | 1.16          |
| (1,3058) | 1:A:141:LEU:HD13 | 1:A:200:GLU:HB3  | 9        | 1.16          |
| (1,3058) | 1:A:141:LEU:HD11 | 1:A:149:PRO:HG2  | 9        | 1.16          |
| (1,3058) | 1:A:141:LEU:HD12 | 1:A:149:PRO:HG2  | 9        | 1.16          |
| (1,3058) | 1:A:141:LEU:HD13 | 1:A:149:PRO:HG2  | 9        | 1.16          |
| (2,54)   | 2:B:646:GLN:H    | 1:A:203:PRO:HD3  | 9        | 1.15          |
| (1,3058) | 1:A:141:LEU:HD11 | 1:A:200:GLU:HB3  | 5        | 1.15          |
| (1,3058) | 1:A:141:LEU:HD12 | 1:A:200:GLU:HB3  | 5        | 1.15          |
| (1,3058) | 1:A:141:LEU:HD13 | 1:A:200:GLU:HB3  | 5        | 1.15          |
| (1,3058) | 1:A:141:LEU:HD11 | 1:A:149:PRO:HG2  | 5        | 1.15          |
| (1,3058) | 1:A:141:LEU:HD12 | 1:A:149:PRO:HG2  | 5        | 1.15          |
| (1,3058) | 1:A:141:LEU:HD13 | 1:A:149:PRO:HG2  | 5        | 1.15          |
| (1,585)  | 1:A:140:PHE:HZ   | 1:A:145:PHE:HB3  | 6        | 1.14          |
| (2,59)   | 2:B:649:ASN:HD22 | 2:B:652:LEU:HD11 | 8        | 1.12          |
| (2,59)   | 2:B:649:ASN:HD22 | 2:B:652:LEU:HD12 | 8        | 1.12          |
| (2,59)   | 2:B:649:ASN:HD22 | 2:B:652:LEU:HD13 | 8        | 1.12          |
| (2,54)   | 2:B:646:GLN:H    | 1:A:203:PRO:HD3  | 10       | 1.11          |
| (1,585)  | 1:A:140:PHE:HZ   | 1:A:145:PHE:HB3  | 7        | 1.11          |
| (2,21)   | 2:B:650:THR:HG21 | 2:B:648:PHE:HB3  | 8        | 1.1           |
| (2,21)   | 2:B:650:THR:HG22 | 2:B:648:PHE:HB3  | 8        | 1.1           |
| (2,21)   | 2:B:650:THR:HG23 | 2:B:648:PHE:HB3  | 8        | 1.1           |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD11 | 5        | 1.1           |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD12 | 5        | 1.1           |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD13 | 5        | 1.1           |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD11 | 5        | 1.1           |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD12 | 5        | 1.1           |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD13 | 5        | 1.1           |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD21 | 5        | 1.1           |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD22 | 5        | 1.1           |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD23 | 5        | 1.1           |
| (1,2027) | 1:A:189:ARG:HE   | 2:B:663:ASN:HB3  | 10       | 1.1           |
| (1,4039) | 2:B:656:GLN:HE22 | 2:B:659:VAL:HG11 | 7        | 1.09          |
| (1,4039) | 2:B:656:GLN:HE22 | 2:B:659:VAL:HG12 | 7        | 1.09          |
| (1,4039) | 2:B:656:GLN:HE22 | 2:B:659:VAL:HG13 | 7        | 1.09          |
| (1,4039) | 2:B:665:GLN:HE22 | 2:B:659:VAL:HG11 | 7        | 1.09          |
| (1,4039) | 2:B:665:GLN:HE22 | 2:B:659:VAL:HG12 | 7        | 1.09          |
| (1,4039) | 2:B:665:GLN:HE22 | 2:B:659:VAL:HG13 | 7        | 1.09          |
| (1,4039) | 2:B:649:ASN:HD22 | 1:A:165:ILE:HD11 | 7        | 1.09          |
| (1,4039) | 2:B:649:ASN:HD22 | 1:A:165:ILE:HD12 | 7        | 1.09          |
| (1,4039) | 2:B:649:ASN:HD22 | 1:A:165:ILE:HD13 | 7        | 1.09          |
| (1,120)  | 1:A:178:LEU:HD21 | 1:A:182:GLN:HG3  | 4        | 1.09          |
| (1,120)  | 1:A:178:LEU:HD22 | 1:A:182:GLN:HG3  | 4        | 1.09          |
| (1,120)  | 1:A:178:LEU:HD23 | 1:A:182:GLN:HG3  | 4        | 1.09          |
| (1,585)  | 1:A:140:PHE:HZ   | 1:A:145:PHE:HB3  | 1        | 1.08          |
| (1,4039) | 2:B:656:GLN:HE22 | 2:B:659:VAL:HG11 | 9        | 1.07          |
| (1,4039) | 2:B:656:GLN:HE22 | 2:B:659:VAL:HG12 | 9        | 1.07          |
| (1,4039) | 2:B:656:GLN:HE22 | 2:B:659:VAL:HG13 | 9        | 1.07          |
| (1,4039) | 2:B:665:GLN:HE22 | 2:B:659:VAL:HG11 | 9        | 1.07          |
| (1,4039) | 2:B:665:GLN:HE22 | 2:B:659:VAL:HG12 | 9        | 1.07          |
| (1,4039) | 2:B:665:GLN:HE22 | 2:B:659:VAL:HG13 | 9        | 1.07          |
| (1,4039) | 2:B:649:ASN:HD22 | 1:A:165:ILE:HD11 | 9        | 1.07          |
| (1,4039) | 2:B:649:ASN:HD22 | 1:A:165:ILE:HD12 | 9        | 1.07          |
| (1,4039) | 2:B:649:ASN:HD22 | 1:A:165:ILE:HD13 | 9        | 1.07          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD11 | 4        | 1.07          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD12 | 4        | 1.07          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD13 | 4        | 1.07          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD11 | 4        | 1.07          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD12 | 4        | 1.07          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD13 | 4        | 1.07          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD21 | 4        | 1.07          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD22 | 4        | 1.07          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD23 | 4        | 1.07          |
| (1,3513) | 2:B:640:SER:HB2  | 1:A:204:GLN:HG3  | 3        | 1.07          |
| (1,3513) | 1:A:150:SER:HB2  | 1:A:204:GLN:HG3  | 3        | 1.07          |
| (1,3513) | 1:A:150:SER:HB3  | 1:A:204:GLN:HG3  | 3        | 1.07          |
| (1,585)  | 1:A:140:PHE:HZ   | 1:A:145:PHE:HB3  | 5        | 1.05          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD11 | 3        | 1.05          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD12 | 3        | 1.05          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD13 | 3        | 1.05          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD11 | 3        | 1.05          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD12 | 3        | 1.05          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD13 | 3        | 1.05          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD21 | 3        | 1.05          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD22 | 3        | 1.05          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD23 | 3        | 1.05          |
| (1,3232) | 2:B:633:THR:HG21 | 2:B:632:PRO:HG3  | 4        | 1.05          |
| (1,3232) | 2:B:633:THR:HG22 | 2:B:632:PRO:HG3  | 4        | 1.05          |
| (1,3232) | 2:B:633:THR:HG23 | 2:B:632:PRO:HG3  | 4        | 1.05          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD11 | 7        | 1.03          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD12 | 7        | 1.03          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD13 | 7        | 1.03          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD11 | 7        | 1.03          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD12 | 7        | 1.03          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD13 | 7        | 1.03          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD21 | 7        | 1.03          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD22 | 7        | 1.03          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD23 | 7        | 1.03          |
| (1,3287) | 2:B:669:PRO:HG2  | 1:A:178:LEU:HD11 | 8        | 1.03          |
| (1,3287) | 2:B:669:PRO:HG2  | 1:A:178:LEU:HD12 | 8        | 1.03          |
| (1,3287) | 2:B:669:PRO:HG2  | 1:A:178:LEU:HD13 | 8        | 1.03          |
| (1,3287) | 2:B:669:PRO:HG3  | 1:A:213:LEU:HD21 | 8        | 1.03          |
| (1,3287) | 2:B:669:PRO:HG3  | 1:A:213:LEU:HD22 | 8        | 1.03          |
| (1,3287) | 2:B:669:PRO:HG3  | 1:A:213:LEU:HD23 | 8        | 1.03          |
| (1,3287) | 2:B:669:PRO:HG3  | 1:A:178:LEU:HD11 | 8        | 1.03          |
| (1,3287) | 2:B:669:PRO:HG3  | 1:A:178:LEU:HD12 | 8        | 1.03          |
| (1,3287) | 2:B:669:PRO:HG3  | 1:A:178:LEU:HD13 | 8        | 1.03          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:643:PRO:HB3  | 10       | 1.03          |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:643:PRO:HB3  | 10       | 1.03          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:643:PRO:HB3  | 10       | 1.03          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:656:GLN:HB2  | 10       | 1.03          |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:656:GLN:HB2  | 10       | 1.03          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:656:GLN:HB2  | 10       | 1.03          |
| (1,3065) | 2:B:652:LEU:HD21 | 2:B:659:VAL:HB   | 10       | 1.03          |
| (1,3065) | 2:B:652:LEU:HD22 | 2:B:659:VAL:HB   | 10       | 1.03          |
| (1,3065) | 2:B:652:LEU:HD23 | 2:B:659:VAL:HB   | 10       | 1.03          |
| (1,1783) | 1:A:171:LYS:H    | 1:A:171:LYS:HG3  | 5        | 1.03          |
| (1,1508) | 1:A:227:LEU:H    | 2:B:657:LYS:HG2  | 1        | 1.03          |
| (1,1924) | 1:A:184:PHE:H    | 2:B:632:PRO:HG3  | 1        | 1.02          |
| (1,1508) | 1:A:227:LEU:H    | 2:B:657:LYS:HG2  | 8        | 1.02          |
| (1,3343) | 1:A:183:LYS:HE2  | 2:B:634:GLU:HB3  | 7        | 1.01          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3343) | 1:A:183:LYS:HE2  | 2:B:634:GLU:HB2  | 7        | 1.01          |
| (2,72)   | 2:B:663:ASN:HD22 | 2:B:664:ASP:HB3  | 7        | 1.0           |
| (2,72)   | 2:B:663:ASN:HD22 | 2:B:664:ASP:HB3  | 9        | 1.0           |
| (1,585)  | 1:A:140:PHE:HZ   | 1:A:145:PHE:HB3  | 3        | 1.0           |
| (2,68)   | 2:B:660:ASN:HD21 | 2:B:657:LYS:HG3  | 9        | 0.99          |
| (1,2027) | 1:A:189:ARG:HE   | 2:B:663:ASN:HB3  | 7        | 0.99          |
| (2,54)   | 2:B:646:GLN:H    | 1:A:203:PRO:HD3  | 7        | 0.98          |
| (1,585)  | 1:A:140:PHE:HZ   | 1:A:145:PHE:HB3  | 10       | 0.98          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD11 | 9        | 0.98          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD12 | 9        | 0.98          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD13 | 9        | 0.98          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD11 | 9        | 0.98          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD12 | 9        | 0.98          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD13 | 9        | 0.98          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD21 | 9        | 0.98          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD22 | 9        | 0.98          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD23 | 9        | 0.98          |
| (1,3058) | 1:A:141:LEU:HD11 | 1:A:200:GLU:HB3  | 4        | 0.98          |
| (1,3058) | 1:A:141:LEU:HD12 | 1:A:200:GLU:HB3  | 4        | 0.98          |
| (1,3058) | 1:A:141:LEU:HD13 | 1:A:200:GLU:HB3  | 4        | 0.98          |
| (1,3058) | 1:A:141:LEU:HD11 | 1:A:149:PRO:HG2  | 4        | 0.98          |
| (1,3058) | 1:A:141:LEU:HD12 | 1:A:149:PRO:HG2  | 4        | 0.98          |
| (1,3058) | 1:A:141:LEU:HD13 | 1:A:149:PRO:HG2  | 4        | 0.98          |
| (2,68)   | 2:B:660:ASN:HD21 | 2:B:657:LYS:HG3  | 2        | 0.97          |
| (2,59)   | 2:B:649:ASN:HD22 | 2:B:652:LEU:HD11 | 7        | 0.97          |
| (2,59)   | 2:B:649:ASN:HD22 | 2:B:652:LEU:HD12 | 7        | 0.97          |
| (2,59)   | 2:B:649:ASN:HD22 | 2:B:652:LEU:HD13 | 7        | 0.97          |
| (1,1849) | 1:A:178:LEU:H    | 1:A:216:ASN:HD22 | 2        | 0.97          |
| (1,1508) | 1:A:227:LEU:H    | 2:B:657:LYS:HG2  | 9        | 0.97          |
| (1,585)  | 1:A:140:PHE:HZ   | 1:A:145:PHE:HB3  | 8        | 0.96          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD11 | 6        | 0.96          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD12 | 6        | 0.96          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD13 | 6        | 0.96          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD11 | 6        | 0.96          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD12 | 6        | 0.96          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD13 | 6        | 0.96          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD21 | 6        | 0.96          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD22 | 6        | 0.96          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD23 | 6        | 0.96          |
| (1,3600) | 1:A:204:GLN:HA   | 2:B:639:LEU:HB2  | 6        | 0.93          |
| (1,3600) | 1:A:204:GLN:HA   | 2:B:638:LEU:HG   | 6        | 0.93          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD11 | 8        | 0.93          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD12 | 8        | 0.93          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD13 | 8        | 0.93          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD11 | 8        | 0.93          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD12 | 8        | 0.93          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD13 | 8        | 0.93          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD21 | 8        | 0.93          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD22 | 8        | 0.93          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD23 | 8        | 0.93          |
| (1,3199) | 1:A:192:PRO:HB3  | 2:B:660:ASN:HA   | 6        | 0.93          |
| (1,3058) | 1:A:141:LEU:HD11 | 1:A:200:GLU:HB3  | 8        | 0.93          |
| (1,3058) | 1:A:141:LEU:HD12 | 1:A:200:GLU:HB3  | 8        | 0.93          |
| (1,3058) | 1:A:141:LEU:HD13 | 1:A:200:GLU:HB3  | 8        | 0.93          |
| (1,3058) | 1:A:141:LEU:HD11 | 1:A:149:PRO:HG2  | 8        | 0.93          |
| (1,3058) | 1:A:141:LEU:HD12 | 1:A:149:PRO:HG2  | 8        | 0.93          |
| (1,3058) | 1:A:141:LEU:HD13 | 1:A:149:PRO:HG2  | 8        | 0.93          |
| (1,585)  | 1:A:140:PHE:HZ   | 1:A:145:PHE:HB3  | 2        | 0.92          |
| (1,585)  | 1:A:140:PHE:HZ   | 1:A:145:PHE:HB3  | 9        | 0.92          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD11 | 1        | 0.92          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD12 | 1        | 0.92          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD13 | 1        | 0.92          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD11 | 1        | 0.92          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD12 | 1        | 0.92          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD13 | 1        | 0.92          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD21 | 1        | 0.92          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD22 | 1        | 0.92          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD23 | 1        | 0.92          |
| (1,1958) | 1:A:186:GLU:H    | 1:A:185:GLN:HE22 | 9        | 0.92          |
| (1,3600) | 1:A:204:GLN:HA   | 2:B:639:LEU:HB2  | 3        | 0.91          |
| (1,3600) | 1:A:204:GLN:HA   | 2:B:638:LEU:HG   | 3        | 0.91          |
| (2,68)   | 2:B:660:ASN:HD21 | 2:B:657:LYS:HG3  | 4        | 0.9           |
| (1,3600) | 1:A:204:GLN:HA   | 2:B:639:LEU:HB2  | 1        | 0.9           |
| (1,3600) | 1:A:204:GLN:HA   | 2:B:638:LEU:HG   | 1        | 0.9           |
| (1,1849) | 1:A:178:LEU:H    | 1:A:216:ASN:HD22 | 10       | 0.9           |
| (2,68)   | 2:B:660:ASN:HD21 | 2:B:657:LYS:HG3  | 1        | 0.89          |
| (2,68)   | 2:B:660:ASN:HD21 | 2:B:657:LYS:HG3  | 10       | 0.89          |
| (1,3600) | 1:A:204:GLN:HA   | 2:B:639:LEU:HB2  | 2        | 0.89          |
| (1,3600) | 1:A:204:GLN:HA   | 2:B:638:LEU:HG   | 2        | 0.89          |
| (1,3600) | 1:A:204:GLN:HA   | 2:B:639:LEU:HB2  | 8        | 0.89          |
| (1,3600) | 1:A:204:GLN:HA   | 2:B:638:LEU:HG   | 8        | 0.89          |
| (1,1508) | 1:A:227:LEU:H    | 2:B:657:LYS:HG2  | 10       | 0.89          |
| (1,1418) | 2:B:663:ASN:HA   | 1:A:189:ARG:HG2  | 9        | 0.89          |
| (1,4039) | 2:B:656:GLN:HE22 | 2:B:659:VAL:HG11 | 5        | 0.88          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,4039) | 2:B:656:GLN:HE22 | 2:B:659:VAL:HG12 | 5        | 0.88          |
| (1,4039) | 2:B:656:GLN:HE22 | 2:B:659:VAL:HG13 | 5        | 0.88          |
| (1,4039) | 2:B:665:GLN:HE22 | 2:B:659:VAL:HG11 | 5        | 0.88          |
| (1,4039) | 2:B:665:GLN:HE22 | 2:B:659:VAL:HG12 | 5        | 0.88          |
| (1,4039) | 2:B:665:GLN:HE22 | 2:B:659:VAL:HG13 | 5        | 0.88          |
| (1,4039) | 2:B:649:ASN:HD22 | 1:A:165:ILE:HD11 | 5        | 0.88          |
| (1,4039) | 2:B:649:ASN:HD22 | 1:A:165:ILE:HD12 | 5        | 0.88          |
| (1,4039) | 2:B:649:ASN:HD22 | 1:A:165:ILE:HD13 | 5        | 0.88          |
| (1,3600) | 1:A:204:GLN:HA   | 2:B:639:LEU:HB2  | 10       | 0.88          |
| (1,3600) | 1:A:204:GLN:HA   | 2:B:638:LEU:HG   | 10       | 0.88          |
| (1,3232) | 2:B:633:THR:HG21 | 2:B:632:PRO:HG3  | 8        | 0.87          |
| (1,3232) | 2:B:633:THR:HG22 | 2:B:632:PRO:HG3  | 8        | 0.87          |
| (1,3232) | 2:B:633:THR:HG23 | 2:B:632:PRO:HG3  | 8        | 0.87          |
| (1,2748) | 2:B:665:GLN:HE21 | 2:B:664:ASP:HB2  | 7        | 0.87          |
| (1,557)  | 2:B:634:GLU:HB2  | 1:A:184:PHE:HB3  | 2        | 0.86          |
| (1,557)  | 2:B:634:GLU:HB3  | 1:A:184:PHE:HB3  | 2        | 0.86          |
| (1,3600) | 1:A:204:GLN:HA   | 2:B:639:LEU:HB2  | 4        | 0.86          |
| (1,3600) | 1:A:204:GLN:HA   | 2:B:638:LEU:HG   | 4        | 0.86          |
| (1,511)  | 1:A:183:LYS:HE2  | 2:B:632:PRO:HG3  | 1        | 0.85          |
| (1,4063) | 2:B:665:GLN:H    | 2:B:663:ASN:HB2  | 6        | 0.84          |
| (1,4063) | 2:B:665:GLN:H    | 2:B:660:ASN:HB2  | 6        | 0.84          |
| (1,3600) | 1:A:204:GLN:HA   | 2:B:639:LEU:HB2  | 9        | 0.84          |
| (1,3600) | 1:A:204:GLN:HA   | 2:B:638:LEU:HG   | 9        | 0.84          |
| (1,3343) | 1:A:183:LYS:HE2  | 2:B:634:GLU:HB3  | 9        | 0.84          |
| (1,3343) | 1:A:183:LYS:HE2  | 2:B:634:GLU:HB2  | 9        | 0.84          |
| (1,3253) | 1:A:176:VAL:HG21 | 1:A:172:LYS:HG2  | 7        | 0.84          |
| (1,3253) | 1:A:176:VAL:HG22 | 1:A:172:LYS:HG2  | 7        | 0.84          |
| (1,3253) | 1:A:176:VAL:HG23 | 1:A:172:LYS:HG2  | 7        | 0.84          |
| (1,3253) | 1:A:176:VAL:HG21 | 1:A:178:LEU:HB2  | 7        | 0.84          |
| (1,3253) | 1:A:176:VAL:HG22 | 1:A:178:LEU:HB2  | 7        | 0.84          |
| (1,3253) | 1:A:176:VAL:HG23 | 1:A:178:LEU:HB2  | 7        | 0.84          |
| (2,54)   | 2:B:646:GLN:H    | 1:A:203:PRO:HD3  | 3        | 0.83          |
| (1,1651) | 1:A:154:VAL:H    | 1:A:155:ASN:HB3  | 4        | 0.83          |
| (1,3253) | 1:A:176:VAL:HG21 | 1:A:172:LYS:HG2  | 4        | 0.82          |
| (1,3253) | 1:A:176:VAL:HG22 | 1:A:172:LYS:HG2  | 4        | 0.82          |
| (1,3253) | 1:A:176:VAL:HG23 | 1:A:172:LYS:HG2  | 4        | 0.82          |
| (1,3253) | 1:A:176:VAL:HG21 | 1:A:178:LEU:HB2  | 4        | 0.82          |
| (1,3253) | 1:A:176:VAL:HG22 | 1:A:178:LEU:HB2  | 4        | 0.82          |
| (1,3253) | 1:A:176:VAL:HG23 | 1:A:178:LEU:HB2  | 4        | 0.82          |
| (1,2594) | 2:B:654:ASP:H    | 1:A:206:SER:HB3  | 9        | 0.82          |
| (1,3718) | 1:A:193:GLU:H    | 2:B:663:ASN:HD21 | 9        | 0.81          |
| (1,3718) | 1:A:193:GLU:H    | 1:A:145:PHE:HZ   | 9        | 0.81          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3600) | 1:A:204:GLN:HA   | 2:B:639:LEU:HB2  | 5        | 0.81          |
| (1,3600) | 1:A:204:GLN:HA   | 2:B:638:LEU:HG   | 5        | 0.81          |
| (1,3600) | 1:A:204:GLN:HA   | 2:B:639:LEU:HB2  | 7        | 0.81          |
| (1,3600) | 1:A:204:GLN:HA   | 2:B:638:LEU:HG   | 7        | 0.81          |
| (1,1508) | 1:A:227:LEU:H    | 2:B:657:LYS:HG2  | 2        | 0.81          |
| (1,1712) | 1:A:160:THR:H    | 1:A:163:MET:HB2  | 1        | 0.8           |
| (2,26)   | 1:A:141:LEU:H    | 1:A:145:PHE:HB3  | 9        | 0.79          |
| (1,471)  | 1:A:178:LEU:HD11 | 1:A:174:LYS:HE2  | 7        | 0.79          |
| (1,471)  | 1:A:178:LEU:HD12 | 1:A:174:LYS:HE2  | 7        | 0.79          |
| (1,471)  | 1:A:178:LEU:HD13 | 1:A:174:LYS:HE2  | 7        | 0.79          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD11 | 2        | 0.79          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD12 | 2        | 0.79          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD13 | 2        | 0.79          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD11 | 2        | 0.79          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD12 | 2        | 0.79          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD13 | 2        | 0.79          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD21 | 2        | 0.79          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD22 | 2        | 0.79          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD23 | 2        | 0.79          |
| (1,3058) | 1:A:141:LEU:HD11 | 1:A:200:GLU:HB3  | 2        | 0.79          |
| (1,3058) | 1:A:141:LEU:HD12 | 1:A:200:GLU:HB3  | 2        | 0.79          |
| (1,3058) | 1:A:141:LEU:HD13 | 1:A:200:GLU:HB3  | 2        | 0.79          |
| (1,3058) | 1:A:141:LEU:HD11 | 1:A:149:PRO:HG2  | 2        | 0.79          |
| (1,3058) | 1:A:141:LEU:HD12 | 1:A:149:PRO:HG2  | 2        | 0.79          |
| (1,3058) | 1:A:141:LEU:HD13 | 1:A:149:PRO:HG2  | 2        | 0.79          |
| (1,4065) | 2:B:665:GLN:H    | 2:B:667:GLU:HG2  | 10       | 0.78          |
| (1,4065) | 2:B:665:GLN:H    | 1:A:185:GLN:HG3  | 10       | 0.78          |
| (1,3516) | 2:B:650:THR:HG21 | 2:B:651:ASN:HB3  | 7        | 0.78          |
| (1,3516) | 2:B:650:THR:HG22 | 2:B:651:ASN:HB3  | 7        | 0.78          |
| (1,3516) | 2:B:650:THR:HG23 | 2:B:651:ASN:HB3  | 7        | 0.78          |
| (1,3287) | 2:B:669:PRO:HG2  | 1:A:178:LEU:HD11 | 1        | 0.78          |
| (1,3287) | 2:B:669:PRO:HG2  | 1:A:178:LEU:HD12 | 1        | 0.78          |
| (1,3287) | 2:B:669:PRO:HG2  | 1:A:178:LEU:HD13 | 1        | 0.78          |
| (1,3287) | 2:B:669:PRO:HG3  | 1:A:213:LEU:HD21 | 1        | 0.78          |
| (1,3287) | 2:B:669:PRO:HG3  | 1:A:213:LEU:HD22 | 1        | 0.78          |
| (1,3287) | 2:B:669:PRO:HG3  | 1:A:213:LEU:HD23 | 1        | 0.78          |
| (1,3287) | 2:B:669:PRO:HG3  | 1:A:178:LEU:HD11 | 1        | 0.78          |
| (1,3287) | 2:B:669:PRO:HG3  | 1:A:178:LEU:HD12 | 1        | 0.78          |
| (1,3287) | 2:B:669:PRO:HG3  | 1:A:178:LEU:HD13 | 1        | 0.78          |
| (1,2258) | 1:A:216:ASN:HD22 | 1:A:177:GLN:HB3  | 10       | 0.78          |
| (1,1651) | 1:A:154:VAL:H    | 1:A:155:ASN:HB3  | 8        | 0.78          |
| (1,1168) | 2:B:630:GLU:HB2  | 1:A:187:TRP:HD1  | 5        | 0.78          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,664)  | 1:A:152:ILE:HD11 | 2:B:643:PRO:HB2  | 10       | 0.77          |
| (1,664)  | 1:A:152:ILE:HD12 | 2:B:643:PRO:HB2  | 10       | 0.77          |
| (1,664)  | 1:A:152:ILE:HD13 | 2:B:643:PRO:HB2  | 10       | 0.77          |
| (1,1651) | 1:A:154:VAL:H    | 1:A:155:ASN:HB3  | 7        | 0.77          |
| (1,1508) | 1:A:227:LEU:H    | 2:B:657:LYS:HG2  | 3        | 0.77          |
| (1,557)  | 2:B:634:GLU:HB2  | 1:A:184:PHE:HB3  | 5        | 0.76          |
| (1,557)  | 2:B:634:GLU:HB3  | 1:A:184:PHE:HB3  | 5        | 0.76          |
| (1,3516) | 2:B:650:THR:HG21 | 2:B:651:ASN:HB3  | 8        | 0.76          |
| (1,3516) | 2:B:650:THR:HG22 | 2:B:651:ASN:HB3  | 8        | 0.76          |
| (1,3516) | 2:B:650:THR:HG23 | 2:B:651:ASN:HB3  | 8        | 0.76          |
| (1,17)   | 2:B:638:LEU:HD11 | 1:A:172:LYS:HE2  | 9        | 0.76          |
| (1,17)   | 2:B:638:LEU:HD12 | 1:A:172:LYS:HE2  | 9        | 0.76          |
| (1,17)   | 2:B:638:LEU:HD13 | 1:A:172:LYS:HE2  | 9        | 0.76          |
| (1,554)  | 1:A:174:LYS:HG3  | 1:A:216:ASN:HB2  | 7        | 0.75          |
| (1,1958) | 1:A:186:GLU:H    | 1:A:185:GLN:HE22 | 8        | 0.75          |
| (2,26)   | 1:A:141:LEU:H    | 1:A:145:PHE:HB3  | 1        | 0.74          |
| (1,3820) | 1:A:182:GLN:H    | 1:A:183:LYS:HG3  | 10       | 0.74          |
| (1,3820) | 1:A:182:GLN:H    | 2:B:662:LEU:HG   | 10       | 0.74          |
| (1,1234) | 2:B:641:VAL:HG11 | 2:B:640:SER:HB3  | 3        | 0.74          |
| (1,1234) | 2:B:641:VAL:HG12 | 2:B:640:SER:HB3  | 3        | 0.74          |
| (1,1234) | 2:B:641:VAL:HG13 | 2:B:640:SER:HB3  | 3        | 0.74          |
| (2,26)   | 1:A:141:LEU:H    | 1:A:145:PHE:HB3  | 8        | 0.73          |
| (1,4063) | 2:B:665:GLN:H    | 2:B:663:ASN:HB2  | 4        | 0.73          |
| (1,4063) | 2:B:665:GLN:H    | 2:B:660:ASN:HB2  | 4        | 0.73          |
| (1,3418) | 1:A:150:SER:HA   | 1:A:149:PRO:HD3  | 3        | 0.73          |
| (1,3418) | 1:A:142:SER:HA   | 1:A:149:PRO:HD3  | 3        | 0.73          |
| (1,2903) | 1:A:227:LEU:HD21 | 1:A:226:PRO:HB3  | 7        | 0.73          |
| (1,2903) | 1:A:227:LEU:HD22 | 1:A:226:PRO:HB3  | 7        | 0.73          |
| (1,2903) | 1:A:227:LEU:HD23 | 1:A:226:PRO:HB3  | 7        | 0.73          |
| (1,2903) | 1:A:227:LEU:HD21 | 2:B:656:GLN:HG3  | 7        | 0.73          |
| (1,2903) | 1:A:227:LEU:HD22 | 2:B:656:GLN:HG3  | 7        | 0.73          |
| (1,2903) | 1:A:227:LEU:HD23 | 2:B:656:GLN:HG3  | 7        | 0.73          |
| (1,2903) | 1:A:227:LEU:HD21 | 1:A:200:GLU:HG2  | 7        | 0.73          |
| (1,2903) | 1:A:227:LEU:HD22 | 1:A:200:GLU:HG2  | 7        | 0.73          |
| (1,2903) | 1:A:227:LEU:HD23 | 1:A:200:GLU:HG2  | 7        | 0.73          |
| (1,2903) | 1:A:227:LEU:HD21 | 1:A:226:PRO:HB3  | 8        | 0.73          |
| (1,2903) | 1:A:227:LEU:HD22 | 1:A:226:PRO:HB3  | 8        | 0.73          |
| (1,2903) | 1:A:227:LEU:HD23 | 1:A:226:PRO:HB3  | 8        | 0.73          |
| (1,2903) | 1:A:227:LEU:HD21 | 2:B:656:GLN:HG3  | 8        | 0.73          |
| (1,2903) | 1:A:227:LEU:HD22 | 2:B:656:GLN:HG3  | 8        | 0.73          |
| (1,2903) | 1:A:227:LEU:HD23 | 2:B:656:GLN:HG3  | 8        | 0.73          |
| (1,2903) | 1:A:227:LEU:HD21 | 1:A:200:GLU:HG2  | 8        | 0.73          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,2903) | 1:A:227:LEU:HD22 | 1:A:200:GLU:HG2  | 8        | 0.73          |
| (1,2903) | 1:A:227:LEU:HD23 | 1:A:200:GLU:HG2  | 8        | 0.73          |
| (1,1958) | 1:A:186:GLU:H    | 1:A:185:GLN:HE22 | 7        | 0.73          |
| (1,1168) | 2:B:630:GLU:HB2  | 1:A:187:TRP:HD1  | 8        | 0.73          |
| (1,3820) | 1:A:182:GLN:H    | 1:A:183:LYS:HG3  | 9        | 0.72          |
| (1,3820) | 1:A:182:GLN:H    | 2:B:662:LEU:HG   | 9        | 0.72          |
| (1,3208) | 1:A:193:GLU:HG2  | 1:A:196:ALA:HA   | 6        | 0.72          |
| (1,3208) | 1:A:147:GLU:HG2  | 1:A:144:LYS:HA   | 6        | 0.72          |
| (1,3208) | 1:A:147:GLU:HG3  | 1:A:144:LYS:HA   | 6        | 0.72          |
| (1,3208) | 1:A:147:GLU:HG3  | 2:B:640:SER:HB2  | 6        | 0.72          |
| (1,3208) | 1:A:147:GLU:HG2  | 2:B:640:SER:HB2  | 6        | 0.72          |
| (1,3208) | 1:A:147:GLU:HG3  | 1:A:150:SER:HB2  | 6        | 0.72          |
| (1,3208) | 1:A:193:GLU:HG2  | 1:A:199:LEU:HA   | 6        | 0.72          |
| (2,69)   | 2:B:660:ASN:HD22 | 2:B:663:ASN:HD21 | 8        | 0.71          |
| (1,561)  | 1:A:172:LYS:HE2  | 2:B:638:LEU:HD21 | 9        | 0.71          |
| (1,561)  | 1:A:172:LYS:HE2  | 2:B:638:LEU:HD22 | 9        | 0.71          |
| (1,561)  | 1:A:172:LYS:HE2  | 2:B:638:LEU:HD23 | 9        | 0.71          |
| (1,4063) | 2:B:665:GLN:H    | 2:B:663:ASN:HB2  | 7        | 0.71          |
| (1,4063) | 2:B:665:GLN:H    | 2:B:660:ASN:HB2  | 7        | 0.71          |
| (1,3718) | 1:A:193:GLU:H    | 2:B:663:ASN:HD21 | 10       | 0.71          |
| (1,3718) | 1:A:193:GLU:H    | 1:A:145:PHE:HZ   | 10       | 0.71          |
| (1,2903) | 1:A:227:LEU:HD21 | 1:A:226:PRO:HB3  | 9        | 0.71          |
| (1,2903) | 1:A:227:LEU:HD22 | 1:A:226:PRO:HB3  | 9        | 0.71          |
| (1,2903) | 1:A:227:LEU:HD23 | 1:A:226:PRO:HB3  | 9        | 0.71          |
| (1,2903) | 1:A:227:LEU:HD21 | 2:B:656:GLN:HG3  | 9        | 0.71          |
| (1,2903) | 1:A:227:LEU:HD22 | 2:B:656:GLN:HG3  | 9        | 0.71          |
| (1,2903) | 1:A:227:LEU:HD23 | 2:B:656:GLN:HG3  | 9        | 0.71          |
| (1,2903) | 1:A:227:LEU:HD21 | 1:A:200:GLU:HG2  | 9        | 0.71          |
| (1,2903) | 1:A:227:LEU:HD22 | 1:A:200:GLU:HG2  | 9        | 0.71          |
| (1,2903) | 1:A:227:LEU:HD23 | 1:A:200:GLU:HG2  | 9        | 0.71          |
| (1,1510) | 1:A:218:ILE:H    | 2:B:669:PRO:HB3  | 4        | 0.71          |
| (1,664)  | 1:A:152:ILE:HD11 | 2:B:643:PRO:HB2  | 1        | 0.7           |
| (1,664)  | 1:A:152:ILE:HD12 | 2:B:643:PRO:HB2  | 1        | 0.7           |
| (1,664)  | 1:A:152:ILE:HD13 | 2:B:643:PRO:HB2  | 1        | 0.7           |
| (1,4063) | 2:B:665:GLN:H    | 2:B:663:ASN:HB2  | 3        | 0.7           |
| (1,4063) | 2:B:665:GLN:H    | 2:B:660:ASN:HB2  | 3        | 0.7           |
| (1,4039) | 2:B:656:GLN:HE22 | 2:B:659:VAL:HG11 | 8        | 0.69          |
| (1,4039) | 2:B:656:GLN:HE22 | 2:B:659:VAL:HG12 | 8        | 0.69          |
| (1,4039) | 2:B:656:GLN:HE22 | 2:B:659:VAL:HG13 | 8        | 0.69          |
| (1,4039) | 2:B:665:GLN:HE22 | 2:B:659:VAL:HG11 | 8        | 0.69          |
| (1,4039) | 2:B:665:GLN:HE22 | 2:B:659:VAL:HG12 | 8        | 0.69          |
| (1,4039) | 2:B:665:GLN:HE22 | 2:B:659:VAL:HG13 | 8        | 0.69          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,4039) | 2:B:649:ASN:HD22 | 1:A:165:ILE:HD11 | 8        | 0.69          |
| (1,4039) | 2:B:649:ASN:HD22 | 1:A:165:ILE:HD12 | 8        | 0.69          |
| (1,4039) | 2:B:649:ASN:HD22 | 1:A:165:ILE:HD13 | 8        | 0.69          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD11 | 10       | 0.69          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD12 | 10       | 0.69          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:156:ILE:HD13 | 10       | 0.69          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD11 | 10       | 0.69          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD12 | 10       | 0.69          |
| (1,3542) | 2:B:644:LYS:HB3  | 1:A:165:ILE:HD13 | 10       | 0.69          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD21 | 10       | 0.69          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD22 | 10       | 0.69          |
| (1,3542) | 2:B:644:LYS:HB3  | 2:B:652:LEU:HD23 | 10       | 0.69          |
| (1,3458) | 1:A:168:GLU:HG3  | 1:A:165:ILE:HG12 | 4        | 0.69          |
| (1,3458) | 1:A:168:GLU:HG2  | 1:A:165:ILE:HG12 | 4        | 0.69          |
| (1,3418) | 1:A:150:SER:HA   | 1:A:149:PRO:HD3  | 10       | 0.69          |
| (1,3418) | 1:A:142:SER:HA   | 1:A:149:PRO:HD3  | 10       | 0.69          |
| (1,3253) | 1:A:176:VAL:HG21 | 1:A:172:LYS:HG2  | 8        | 0.69          |
| (1,3253) | 1:A:176:VAL:HG22 | 1:A:172:LYS:HG2  | 8        | 0.69          |
| (1,3253) | 1:A:176:VAL:HG23 | 1:A:172:LYS:HG2  | 8        | 0.69          |
| (1,3253) | 1:A:176:VAL:HG21 | 1:A:178:LEU:HB2  | 8        | 0.69          |
| (1,3253) | 1:A:176:VAL:HG22 | 1:A:178:LEU:HB2  | 8        | 0.69          |
| (1,3253) | 1:A:176:VAL:HG23 | 1:A:178:LEU:HB2  | 8        | 0.69          |
| (2,72)   | 2:B:663:ASN:HD22 | 2:B:664:ASP:HB3  | 10       | 0.68          |
| (1,3344) | 1:A:183:LYS:HE2  | 1:A:183:LYS:HB2  | 4        | 0.68          |
| (2,26)   | 1:A:141:LEU:H    | 1:A:145:PHE:HB3  | 3        | 0.67          |
| (1,4063) | 2:B:665:GLN:H    | 2:B:663:ASN:HB2  | 8        | 0.67          |
| (1,4063) | 2:B:665:GLN:H    | 2:B:660:ASN:HB2  | 8        | 0.67          |
| (1,3887) | 1:A:198:LEU:H    | 1:A:194:ASP:HB2  | 9        | 0.67          |
| (1,3887) | 1:A:198:LEU:H    | 2:B:660:ASN:HB2  | 9        | 0.67          |
| (1,1228) | 2:B:640:SER:HB2  | 1:A:149:PRO:HB2  | 6        | 0.67          |
| (1,3418) | 1:A:150:SER:HA   | 1:A:149:PRO:HD3  | 6        | 0.66          |
| (1,3418) | 1:A:142:SER:HA   | 1:A:149:PRO:HD3  | 6        | 0.66          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:179:LYS:HB2  | 2        | 0.66          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:179:LYS:HB2  | 2        | 0.66          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:179:LYS:HB2  | 2        | 0.66          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:174:LYS:HB3  | 2        | 0.66          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:174:LYS:HB3  | 2        | 0.66          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:174:LYS:HB3  | 2        | 0.66          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:177:GLN:HB2  | 2        | 0.66          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:177:GLN:HB2  | 2        | 0.66          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:177:GLN:HB2  | 2        | 0.66          |
| (1,2903) | 1:A:227:LEU:HD21 | 1:A:226:PRO:HB3  | 10       | 0.66          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,2903) | 1:A:227:LEU:HD22 | 1:A:226:PRO:HB3  | 10       | 0.66          |
| (1,2903) | 1:A:227:LEU:HD23 | 1:A:226:PRO:HB3  | 10       | 0.66          |
| (1,2903) | 1:A:227:LEU:HD21 | 2:B:656:GLN:HG3  | 10       | 0.66          |
| (1,2903) | 1:A:227:LEU:HD22 | 2:B:656:GLN:HG3  | 10       | 0.66          |
| (1,2903) | 1:A:227:LEU:HD23 | 2:B:656:GLN:HG3  | 10       | 0.66          |
| (1,2903) | 1:A:227:LEU:HD21 | 1:A:200:GLU:HG2  | 10       | 0.66          |
| (1,2903) | 1:A:227:LEU:HD22 | 1:A:200:GLU:HG2  | 10       | 0.66          |
| (1,2903) | 1:A:227:LEU:HD23 | 1:A:200:GLU:HG2  | 10       | 0.66          |
| (1,1958) | 1:A:186:GLU:H    | 1:A:185:GLN:HE22 | 1        | 0.66          |
| (1,3418) | 1:A:150:SER:HA   | 1:A:149:PRO:HD3  | 1        | 0.65          |
| (1,3418) | 1:A:142:SER:HA   | 1:A:149:PRO:HD3  | 1        | 0.65          |
| (1,3088) | 2:B:631:LEU:HD21 | 1:A:149:PRO:HD3  | 9        | 0.65          |
| (1,3088) | 2:B:631:LEU:HD22 | 1:A:149:PRO:HD3  | 9        | 0.65          |
| (1,3088) | 2:B:631:LEU:HD23 | 1:A:149:PRO:HD3  | 9        | 0.65          |
| (1,3088) | 2:B:631:LEU:HD21 | 1:A:180:PHE:HA   | 9        | 0.65          |
| (1,3088) | 2:B:631:LEU:HD22 | 1:A:180:PHE:HA   | 9        | 0.65          |
| (1,3088) | 2:B:631:LEU:HD23 | 1:A:180:PHE:HA   | 9        | 0.65          |
| (1,1510) | 1:A:218:ILE:H    | 2:B:669:PRO:HB3  | 1        | 0.65          |
| (1,3418) | 1:A:150:SER:HA   | 1:A:149:PRO:HD3  | 9        | 0.64          |
| (1,3418) | 1:A:142:SER:HA   | 1:A:149:PRO:HD3  | 9        | 0.64          |
| (1,1924) | 1:A:184:PHE:H    | 2:B:632:PRO:HG3  | 10       | 0.64          |
| (2,69)   | 2:B:660:ASN:HD22 | 2:B:663:ASN:HD21 | 3        | 0.63          |
| (1,3727) | 1:A:189:ARG:H    | 2:B:663:ASN:H    | 8        | 0.63          |
| (1,3727) | 1:A:189:ARG:H    | 1:A:185:GLN:HE22 | 8        | 0.63          |
| (1,2433) | 2:B:633:THR:H    | 2:B:632:PRO:HB2  | 2        | 0.63          |
| (1,2303) | 1:A:220:LYS:H    | 1:A:219:CYS:HB3  | 3        | 0.63          |
| (1,1869) | 1:A:180:PHE:H    | 1:A:179:LYS:HB2  | 2        | 0.63          |
| (2,26)   | 1:A:141:LEU:H    | 1:A:145:PHE:HB3  | 5        | 0.62          |
| (1,664)  | 1:A:152:ILE:HD11 | 2:B:643:PRO:HB2  | 6        | 0.62          |
| (1,664)  | 1:A:152:ILE:HD12 | 2:B:643:PRO:HB2  | 6        | 0.62          |
| (1,664)  | 1:A:152:ILE:HD13 | 2:B:643:PRO:HB2  | 6        | 0.62          |
| (1,557)  | 2:B:634:GLU:HB2  | 1:A:184:PHE:HB3  | 6        | 0.62          |
| (1,557)  | 2:B:634:GLU:HB3  | 1:A:184:PHE:HB3  | 6        | 0.62          |
| (1,554)  | 1:A:174:LYS:HG3  | 1:A:216:ASN:HB2  | 3        | 0.62          |
| (1,3962) | 1:A:216:ASN:HD22 | 2:B:669:PRO:HB2  | 3        | 0.62          |
| (1,3962) | 1:A:216:ASN:HD22 | 2:B:668:ILE:HB   | 3        | 0.62          |
| (1,3781) | 1:A:169:LEU:H    | 1:A:211:GLU:HG3  | 3        | 0.62          |
| (1,3781) | 1:A:169:LEU:H    | 1:A:172:LYS:HB3  | 3        | 0.62          |
| (1,3781) | 1:A:169:LEU:H    | 1:A:211:GLU:HG2  | 3        | 0.62          |
| (1,3781) | 1:A:169:LEU:H    | 1:A:208:VAL:HB   | 3        | 0.62          |
| (1,1958) | 1:A:186:GLU:H    | 1:A:185:GLN:HE22 | 5        | 0.62          |
| (1,1712) | 1:A:160:THR:H    | 1:A:163:MET:HB2  | 2        | 0.62          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1168) | 2:B:630:GLU:HB2  | 1:A:187:TRP:HD1  | 9        | 0.62          |
| (1,3718) | 1:A:193:GLU:H    | 2:B:663:ASN:HD21 | 8        | 0.61          |
| (1,3718) | 1:A:193:GLU:H    | 1:A:145:PHE:HZ   | 8        | 0.61          |
| (1,2433) | 2:B:633:THR:H    | 2:B:632:PRO:HB2  | 10       | 0.61          |
| (1,1712) | 1:A:160:THR:H    | 1:A:163:MET:HB2  | 3        | 0.6           |
| (1,1510) | 1:A:218:ILE:H    | 2:B:669:PRO:HB3  | 8        | 0.6           |
| (1,1508) | 1:A:227:LEU:H    | 2:B:657:LYS:HG2  | 4        | 0.6           |
| (2,26)   | 1:A:141:LEU:H    | 1:A:145:PHE:HB3  | 10       | 0.59          |
| (1,585)  | 1:A:140:PHE:HZ   | 1:A:145:PHE:HB3  | 4        | 0.59          |
| (1,554)  | 1:A:174:LYS:HG3  | 1:A:216:ASN:HB2  | 6        | 0.59          |
| (1,3418) | 1:A:150:SER:HA   | 1:A:149:PRO:HD3  | 7        | 0.59          |
| (1,3418) | 1:A:142:SER:HA   | 1:A:149:PRO:HD3  | 7        | 0.59          |
| (1,2433) | 2:B:633:THR:H    | 2:B:632:PRO:HB2  | 9        | 0.59          |
| (2,68)   | 2:B:660:ASN:HD21 | 2:B:657:LYS:HG3  | 3        | 0.58          |
| (1,664)  | 1:A:152:ILE:HD11 | 2:B:643:PRO:HB2  | 3        | 0.58          |
| (1,664)  | 1:A:152:ILE:HD12 | 2:B:643:PRO:HB2  | 3        | 0.58          |
| (1,664)  | 1:A:152:ILE:HD13 | 2:B:643:PRO:HB2  | 3        | 0.58          |
| (1,511)  | 1:A:183:LYS:HE2  | 2:B:632:PRO:HG3  | 9        | 0.57          |
| (1,3718) | 1:A:193:GLU:H    | 2:B:663:ASN:HD21 | 4        | 0.57          |
| (1,3718) | 1:A:193:GLU:H    | 1:A:145:PHE:HZ   | 4        | 0.57          |
| (1,3676) | 1:A:183:LYS:H    | 1:A:183:LYS:HB2  | 5        | 0.57          |
| (1,3676) | 1:A:183:LYS:H    | 1:A:183:LYS:HG3  | 5        | 0.57          |
| (1,3676) | 2:B:657:LYS:H    | 2:B:657:LYS:HG2  | 5        | 0.57          |
| (1,1380) | 2:B:657:LYS:HA   | 2:B:660:ASN:HB2  | 10       | 0.57          |
| (1,1234) | 2:B:641:VAL:HG11 | 2:B:640:SER:HB3  | 2        | 0.57          |
| (1,1234) | 2:B:641:VAL:HG12 | 2:B:640:SER:HB3  | 2        | 0.57          |
| (1,1234) | 2:B:641:VAL:HG13 | 2:B:640:SER:HB3  | 2        | 0.57          |
| (1,3912) | 1:A:205:LEU:H    | 2:B:642:ILE:HG12 | 2        | 0.56          |
| (1,3912) | 1:A:205:LEU:H    | 2:B:638:LEU:HG   | 2        | 0.56          |
| (1,289)  | 1:A:227:LEU:HD21 | 2:B:654:ASP:HB2  | 8        | 0.56          |
| (1,289)  | 1:A:227:LEU:HD22 | 2:B:654:ASP:HB2  | 8        | 0.56          |
| (1,289)  | 1:A:227:LEU:HD23 | 2:B:654:ASP:HB2  | 8        | 0.56          |
| (1,554)  | 1:A:174:LYS:HG3  | 1:A:216:ASN:HB2  | 8        | 0.55          |
| (1,3727) | 1:A:189:ARG:H    | 2:B:663:ASN:H    | 9        | 0.55          |
| (1,3727) | 1:A:189:ARG:H    | 1:A:185:GLN:HE22 | 9        | 0.55          |
| (1,3676) | 1:A:183:LYS:H    | 1:A:183:LYS:HB2  | 6        | 0.55          |
| (1,3676) | 1:A:183:LYS:H    | 1:A:183:LYS:HG3  | 6        | 0.55          |
| (1,3676) | 2:B:657:LYS:H    | 2:B:657:LYS:HG2  | 6        | 0.55          |
| (1,3418) | 1:A:150:SER:HA   | 1:A:149:PRO:HD3  | 2        | 0.55          |
| (1,3418) | 1:A:142:SER:HA   | 1:A:149:PRO:HD3  | 2        | 0.55          |
| (1,3232) | 2:B:633:THR:HG21 | 2:B:632:PRO:HG3  | 5        | 0.55          |
| (1,3232) | 2:B:633:THR:HG22 | 2:B:632:PRO:HG3  | 5        | 0.55          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3232) | 2:B:633:THR:HG23 | 2:B:632:PRO:HG3  | 5        | 0.55          |
| (1,664)  | 1:A:152:ILE:HD11 | 2:B:643:PRO:HB2  | 5        | 0.54          |
| (1,664)  | 1:A:152:ILE:HD12 | 2:B:643:PRO:HB2  | 5        | 0.54          |
| (1,664)  | 1:A:152:ILE:HD13 | 2:B:643:PRO:HB2  | 5        | 0.54          |
| (1,2903) | 1:A:227:LEU:HD21 | 1:A:226:PRO:HB3  | 6        | 0.54          |
| (1,2903) | 1:A:227:LEU:HD22 | 1:A:226:PRO:HB3  | 6        | 0.54          |
| (1,2903) | 1:A:227:LEU:HD23 | 1:A:226:PRO:HB3  | 6        | 0.54          |
| (1,2903) | 1:A:227:LEU:HD21 | 2:B:656:GLN:HG3  | 6        | 0.54          |
| (1,2903) | 1:A:227:LEU:HD22 | 2:B:656:GLN:HG3  | 6        | 0.54          |
| (1,2903) | 1:A:227:LEU:HD23 | 2:B:656:GLN:HG3  | 6        | 0.54          |
| (1,2903) | 1:A:227:LEU:HD21 | 1:A:200:GLU:HG2  | 6        | 0.54          |
| (1,2903) | 1:A:227:LEU:HD22 | 1:A:200:GLU:HG2  | 6        | 0.54          |
| (1,2903) | 1:A:227:LEU:HD23 | 1:A:200:GLU:HG2  | 6        | 0.54          |
| (1,1668) | 1:A:155:ASN:HD21 | 1:A:158:MET:HG3  | 1        | 0.54          |
| (1,3820) | 1:A:182:GLN:H    | 1:A:183:LYS:HG3  | 7        | 0.53          |
| (1,3820) | 1:A:182:GLN:H    | 2:B:662:LEU:HG   | 7        | 0.53          |
| (1,3232) | 2:B:633:THR:HG21 | 2:B:632:PRO:HG3  | 9        | 0.53          |
| (1,3232) | 2:B:633:THR:HG22 | 2:B:632:PRO:HG3  | 9        | 0.53          |
| (1,3232) | 2:B:633:THR:HG23 | 2:B:632:PRO:HG3  | 9        | 0.53          |
| (1,2234) | 1:A:214:LEU:H    | 1:A:216:ASN:HD21 | 10       | 0.53          |
| (1,554)  | 1:A:174:LYS:HG3  | 1:A:216:ASN:HB2  | 5        | 0.52          |
| (1,55)   | 1:A:141:LEU:HA   | 1:A:144:LYS:HG3  | 6        | 0.52          |
| (1,3820) | 1:A:182:GLN:H    | 1:A:183:LYS:HG3  | 8        | 0.52          |
| (1,3820) | 1:A:182:GLN:H    | 2:B:662:LEU:HG   | 8        | 0.52          |
| (1,3911) | 1:A:205:LEU:H    | 1:A:204:GLN:HG2  | 2        | 0.51          |
| (1,3911) | 1:A:205:LEU:H    | 1:A:199:LEU:HG   | 2        | 0.51          |
| (1,3718) | 1:A:193:GLU:H    | 2:B:663:ASN:HD21 | 1        | 0.51          |
| (1,3718) | 1:A:193:GLU:H    | 1:A:145:PHE:HZ   | 1        | 0.51          |
| (1,2903) | 1:A:227:LEU:HD21 | 1:A:226:PRO:HB3  | 5        | 0.51          |
| (1,2903) | 1:A:227:LEU:HD22 | 1:A:226:PRO:HB3  | 5        | 0.51          |
| (1,2903) | 1:A:227:LEU:HD23 | 1:A:226:PRO:HB3  | 5        | 0.51          |
| (1,2903) | 1:A:227:LEU:HD21 | 2:B:656:GLN:HG3  | 5        | 0.51          |
| (1,2903) | 1:A:227:LEU:HD22 | 2:B:656:GLN:HG3  | 5        | 0.51          |
| (1,2903) | 1:A:227:LEU:HD23 | 2:B:656:GLN:HG3  | 5        | 0.51          |
| (1,2903) | 1:A:227:LEU:HD21 | 1:A:200:GLU:HG2  | 5        | 0.51          |
| (1,2903) | 1:A:227:LEU:HD22 | 1:A:200:GLU:HG2  | 5        | 0.51          |
| (1,2903) | 1:A:227:LEU:HD23 | 1:A:200:GLU:HG2  | 5        | 0.51          |
| (1,1712) | 1:A:160:THR:H    | 1:A:163:MET:HB2  | 7        | 0.51          |
| (1,2903) | 1:A:227:LEU:HD21 | 1:A:226:PRO:HB3  | 1        | 0.5           |
| (1,2903) | 1:A:227:LEU:HD22 | 1:A:226:PRO:HB3  | 1        | 0.5           |
| (1,2903) | 1:A:227:LEU:HD23 | 1:A:226:PRO:HB3  | 1        | 0.5           |
| (1,2903) | 1:A:227:LEU:HD21 | 2:B:656:GLN:HG3  | 1        | 0.5           |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,2903) | 1:A:227:LEU:HD22 | 2:B:656:GLN:HG3  | 1        | 0.5           |
| (1,2903) | 1:A:227:LEU:HD23 | 2:B:656:GLN:HG3  | 1        | 0.5           |
| (1,2903) | 1:A:227:LEU:HD21 | 1:A:200:GLU:HG2  | 1        | 0.5           |
| (1,2903) | 1:A:227:LEU:HD22 | 1:A:200:GLU:HG2  | 1        | 0.5           |
| (1,2903) | 1:A:227:LEU:HD23 | 1:A:200:GLU:HG2  | 1        | 0.5           |
| (1,2903) | 1:A:227:LEU:HD21 | 1:A:226:PRO:HB3  | 4        | 0.5           |
| (1,2903) | 1:A:227:LEU:HD22 | 1:A:226:PRO:HB3  | 4        | 0.5           |
| (1,2903) | 1:A:227:LEU:HD23 | 1:A:226:PRO:HB3  | 4        | 0.5           |
| (1,2903) | 1:A:227:LEU:HD21 | 2:B:656:GLN:HG3  | 4        | 0.5           |
| (1,2903) | 1:A:227:LEU:HD22 | 2:B:656:GLN:HG3  | 4        | 0.5           |
| (1,2903) | 1:A:227:LEU:HD23 | 2:B:656:GLN:HG3  | 4        | 0.5           |
| (1,2903) | 1:A:227:LEU:HD21 | 1:A:200:GLU:HG2  | 4        | 0.5           |
| (1,2903) | 1:A:227:LEU:HD22 | 1:A:200:GLU:HG2  | 4        | 0.5           |
| (1,2903) | 1:A:227:LEU:HD23 | 1:A:200:GLU:HG2  | 4        | 0.5           |
| (1,1958) | 1:A:186:GLU:H    | 1:A:185:GLN:HE22 | 2        | 0.5           |
| (1,1229) | 2:B:640:SER:HB2  | 1:A:149:PRO:HG2  | 2        | 0.5           |
| (1,1071) | 1:A:218:ILE:HD11 | 1:A:216:ASN:HB2  | 5        | 0.5           |
| (1,1071) | 1:A:218:ILE:HD12 | 1:A:216:ASN:HB2  | 5        | 0.5           |
| (1,1071) | 1:A:218:ILE:HD13 | 1:A:216:ASN:HB2  | 5        | 0.5           |
| (2,26)   | 1:A:141:LEU:H    | 1:A:145:PHE:HB3  | 2        | 0.49          |
| (2,26)   | 1:A:141:LEU:H    | 1:A:145:PHE:HB3  | 7        | 0.49          |
| (1,4065) | 2:B:665:GLN:H    | 2:B:667:GLU:HG2  | 1        | 0.49          |
| (1,4065) | 2:B:665:GLN:H    | 1:A:185:GLN:HG3  | 1        | 0.49          |
| (1,3513) | 2:B:640:SER:HB2  | 1:A:204:GLN:HG3  | 6        | 0.49          |
| (1,3513) | 1:A:150:SER:HB2  | 1:A:204:GLN:HG3  | 6        | 0.49          |
| (1,3513) | 1:A:150:SER:HB3  | 1:A:204:GLN:HG3  | 6        | 0.49          |
| (1,3820) | 1:A:182:GLN:H    | 1:A:183:LYS:HG3  | 1        | 0.48          |
| (1,3820) | 1:A:182:GLN:H    | 2:B:662:LEU:HG   | 1        | 0.48          |
| (1,3727) | 1:A:189:ARG:H    | 2:B:663:ASN:H    | 7        | 0.48          |
| (1,3727) | 1:A:189:ARG:H    | 1:A:185:GLN:HE22 | 7        | 0.48          |
| (1,3418) | 1:A:150:SER:HA   | 1:A:149:PRO:HD3  | 5        | 0.48          |
| (1,3418) | 1:A:142:SER:HA   | 1:A:149:PRO:HD3  | 5        | 0.48          |
| (1,1635) | 1:A:152:ILE:H    | 2:B:644:LYS:HG2  | 6        | 0.48          |
| (1,554)  | 1:A:174:LYS:HG3  | 1:A:216:ASN:HB2  | 9        | 0.47          |
| (1,3418) | 1:A:150:SER:HA   | 1:A:149:PRO:HD3  | 4        | 0.47          |
| (1,3418) | 1:A:142:SER:HA   | 1:A:149:PRO:HD3  | 4        | 0.47          |
| (1,3418) | 1:A:150:SER:HA   | 1:A:149:PRO:HD3  | 8        | 0.47          |
| (1,3418) | 1:A:142:SER:HA   | 1:A:149:PRO:HD3  | 8        | 0.47          |
| (1,4063) | 2:B:665:GLN:H    | 2:B:663:ASN:HB2  | 10       | 0.46          |
| (1,4063) | 2:B:665:GLN:H    | 2:B:660:ASN:HB2  | 10       | 0.46          |
| (1,3887) | 1:A:198:LEU:H    | 1:A:194:ASP:HB2  | 10       | 0.46          |
| (1,3887) | 1:A:198:LEU:H    | 2:B:660:ASN:HB2  | 10       | 0.46          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,2258) | 1:A:216:ASN:HD22 | 1:A:177:GLN:HB3  | 2        | 0.46          |
| (1,557)  | 2:B:634:GLU:HB2  | 1:A:184:PHE:HB3  | 9        | 0.45          |
| (1,557)  | 2:B:634:GLU:HB3  | 1:A:184:PHE:HB3  | 9        | 0.45          |
| (1,1927) | 1:A:185:GLN:H    | 1:A:183:LYS:HG3  | 9        | 0.45          |
| (2,54)   | 2:B:646:GLN:H    | 1:A:203:PRO:HD3  | 5        | 0.44          |
| (1,3718) | 1:A:193:GLU:H    | 2:B:663:ASN:HD21 | 7        | 0.44          |
| (1,3718) | 1:A:193:GLU:H    | 1:A:145:PHE:HZ   | 7        | 0.44          |
| (1,3343) | 1:A:183:LYS:HE2  | 2:B:634:GLU:HB3  | 10       | 0.44          |
| (1,3343) | 1:A:183:LYS:HE2  | 2:B:634:GLU:HB2  | 10       | 0.44          |
| (1,1701) | 1:A:159:THR:H    | 1:A:158:MET:HG3  | 9        | 0.44          |
| (1,1168) | 2:B:630:GLU:HB2  | 1:A:187:TRP:HD1  | 7        | 0.44          |
| (1,4065) | 2:B:665:GLN:H    | 2:B:667:GLU:HG2  | 9        | 0.43          |
| (1,4065) | 2:B:665:GLN:H    | 1:A:185:GLN:HG3  | 9        | 0.43          |
| (1,4063) | 2:B:665:GLN:H    | 2:B:663:ASN:HB2  | 9        | 0.43          |
| (1,4063) | 2:B:665:GLN:H    | 2:B:660:ASN:HB2  | 9        | 0.43          |
| (1,2903) | 1:A:227:LEU:HD21 | 1:A:226:PRO:HB3  | 2        | 0.43          |
| (1,2903) | 1:A:227:LEU:HD22 | 1:A:226:PRO:HB3  | 2        | 0.43          |
| (1,2903) | 1:A:227:LEU:HD23 | 1:A:226:PRO:HB3  | 2        | 0.43          |
| (1,2903) | 1:A:227:LEU:HD21 | 2:B:656:GLN:HG3  | 2        | 0.43          |
| (1,2903) | 1:A:227:LEU:HD22 | 2:B:656:GLN:HG3  | 2        | 0.43          |
| (1,2903) | 1:A:227:LEU:HD23 | 2:B:656:GLN:HG3  | 2        | 0.43          |
| (1,2903) | 1:A:227:LEU:HD21 | 1:A:200:GLU:HG2  | 2        | 0.43          |
| (1,2903) | 1:A:227:LEU:HD22 | 1:A:200:GLU:HG2  | 2        | 0.43          |
| (1,2903) | 1:A:227:LEU:HD23 | 1:A:200:GLU:HG2  | 2        | 0.43          |
| (1,2356) | 1:A:225:ILE:H    | 1:A:225:ILE:HG12 | 7        | 0.43          |
| (1,3861) | 1:A:189:ARG:H    | 1:A:185:GLN:HG3  | 3        | 0.42          |
| (1,3861) | 1:A:194:ASP:H    | 2:B:659:VAL:HB   | 3        | 0.42          |
| (1,3861) | 1:A:189:ARG:H    | 2:B:659:VAL:HB   | 3        | 0.42          |
| (1,1168) | 2:B:630:GLU:HB2  | 1:A:187:TRP:HD1  | 6        | 0.42          |
| (1,840)  | 1:A:180:PHE:HA   | 1:A:183:LYS:HB2  | 5        | 0.41          |
| (1,3962) | 1:A:216:ASN:HD22 | 2:B:669:PRO:HB2  | 1        | 0.4           |
| (1,3962) | 1:A:216:ASN:HD22 | 2:B:668:ILE:HB   | 1        | 0.4           |
| (1,3516) | 2:B:650:THR:HG21 | 2:B:651:ASN:HB3  | 1        | 0.4           |
| (1,3516) | 2:B:650:THR:HG22 | 2:B:651:ASN:HB3  | 1        | 0.4           |
| (1,3516) | 2:B:650:THR:HG23 | 2:B:651:ASN:HB3  | 1        | 0.4           |
| (1,3393) | 1:A:179:LYS:HA   | 1:A:182:GLN:HB3  | 9        | 0.4           |
| (1,3393) | 1:A:179:LYS:HA   | 1:A:181:LEU:HB3  | 9        | 0.4           |
| (1,1927) | 1:A:185:GLN:H    | 1:A:183:LYS:HG3  | 1        | 0.4           |
| (1,1234) | 2:B:641:VAL:HG11 | 2:B:640:SER:HB3  | 6        | 0.4           |
| (1,1234) | 2:B:641:VAL:HG12 | 2:B:640:SER:HB3  | 6        | 0.4           |
| (1,1234) | 2:B:641:VAL:HG13 | 2:B:640:SER:HB3  | 6        | 0.4           |
| (1,4065) | 2:B:665:GLN:H    | 2:B:667:GLU:HG2  | 5        | 0.39          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,4065) | 2:B:665:GLN:H    | 1:A:185:GLN:HG3  | 5        | 0.39          |
| (1,3718) | 1:A:193:GLU:H    | 2:B:663:ASN:HD21 | 2        | 0.39          |
| (1,3718) | 1:A:193:GLU:H    | 1:A:145:PHE:HZ   | 2        | 0.39          |
| (1,3392) | 2:B:647:TYR:HA   | 2:B:643:PRO:HB3  | 4        | 0.39          |
| (1,3392) | 1:A:193:GLU:HA   | 2:B:656:GLN:HB2  | 4        | 0.39          |
| (1,1775) | 1:A:170:ALA:H    | 1:A:172:LYS:HG3  | 4        | 0.39          |
| (1,511)  | 1:A:183:LYS:HE2  | 2:B:632:PRO:HG3  | 7        | 0.38          |
| (1,3887) | 1:A:198:LEU:H    | 1:A:194:ASP:HB2  | 7        | 0.38          |
| (1,3887) | 1:A:198:LEU:H    | 2:B:660:ASN:HB2  | 7        | 0.38          |
| (1,289)  | 1:A:227:LEU:HD21 | 2:B:654:ASP:HB2  | 5        | 0.38          |
| (1,289)  | 1:A:227:LEU:HD22 | 2:B:654:ASP:HB2  | 5        | 0.38          |
| (1,289)  | 1:A:227:LEU:HD23 | 2:B:654:ASP:HB2  | 5        | 0.38          |
| (1,2334) | 1:A:224:LEU:H    | 1:A:219:CYS:HB3  | 3        | 0.38          |
| (2,50)   | 1:A:225:ILE:H    | 1:A:226:PRO:HB3  | 4        | 0.37          |
| (1,3912) | 1:A:205:LEU:H    | 2:B:642:ILE:HG12 | 9        | 0.37          |
| (1,3912) | 1:A:205:LEU:H    | 2:B:638:LEU:HG   | 9        | 0.37          |
| (1,3516) | 2:B:650:THR:HG21 | 2:B:651:ASN:HB3  | 2        | 0.37          |
| (1,3516) | 2:B:650:THR:HG22 | 2:B:651:ASN:HB3  | 2        | 0.37          |
| (1,3516) | 2:B:650:THR:HG23 | 2:B:651:ASN:HB3  | 2        | 0.37          |
| (1,3407) | 1:A:163:MET:HA   | 1:A:164:MET:HB3  | 3        | 0.37          |
| (1,3407) | 1:A:163:MET:HA   | 1:A:211:GLU:HG3  | 3        | 0.37          |
| (1,3407) | 1:A:163:MET:HA   | 1:A:211:GLU:HG2  | 3        | 0.37          |
| (1,3407) | 1:A:163:MET:HA   | 2:B:643:PRO:HB2  | 3        | 0.37          |
| (1,3232) | 2:B:633:THR:HG21 | 2:B:632:PRO:HG3  | 2        | 0.37          |
| (1,3232) | 2:B:633:THR:HG22 | 2:B:632:PRO:HG3  | 2        | 0.37          |
| (1,3232) | 2:B:633:THR:HG23 | 2:B:632:PRO:HG3  | 2        | 0.37          |
| (1,2883) | 1:A:178:LEU:HD21 | 2:B:668:ILE:HA   | 6        | 0.37          |
| (1,2883) | 1:A:178:LEU:HD22 | 2:B:668:ILE:HA   | 6        | 0.37          |
| (1,2883) | 1:A:178:LEU:HD23 | 2:B:668:ILE:HA   | 6        | 0.37          |
| (1,4065) | 2:B:665:GLN:H    | 2:B:667:GLU:HG2  | 8        | 0.36          |
| (1,4065) | 2:B:665:GLN:H    | 1:A:185:GLN:HG3  | 8        | 0.36          |
| (1,3912) | 1:A:205:LEU:H    | 2:B:642:ILE:HG12 | 7        | 0.36          |
| (1,3912) | 1:A:205:LEU:H    | 2:B:638:LEU:HG   | 7        | 0.36          |
| (1,3861) | 1:A:189:ARG:H    | 1:A:185:GLN:HG3  | 10       | 0.36          |
| (1,3861) | 1:A:194:ASP:H    | 2:B:659:VAL:HB   | 10       | 0.36          |
| (1,3861) | 1:A:189:ARG:H    | 2:B:659:VAL:HB   | 10       | 0.36          |
| (1,3727) | 1:A:189:ARG:H    | 2:B:663:ASN:H    | 4        | 0.36          |
| (1,3727) | 1:A:189:ARG:H    | 1:A:185:GLN:HE22 | 4        | 0.36          |
| (1,3343) | 1:A:183:LYS:HE2  | 2:B:634:GLU:HB3  | 5        | 0.36          |
| (1,3343) | 1:A:183:LYS:HE2  | 2:B:634:GLU:HB2  | 5        | 0.36          |
| (1,3058) | 1:A:141:LEU:HD11 | 1:A:200:GLU:HB3  | 7        | 0.36          |
| (1,3058) | 1:A:141:LEU:HD12 | 1:A:200:GLU:HB3  | 7        | 0.36          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3058) | 1:A:141:LEU:HD13 | 1:A:200:GLU:HB3  | 7        | 0.36          |
| (1,3058) | 1:A:141:LEU:HD11 | 1:A:149:PRO:HG2  | 7        | 0.36          |
| (1,3058) | 1:A:141:LEU:HD12 | 1:A:149:PRO:HG2  | 7        | 0.36          |
| (1,3058) | 1:A:141:LEU:HD13 | 1:A:149:PRO:HG2  | 7        | 0.36          |
| (1,2903) | 1:A:227:LEU:HD21 | 1:A:226:PRO:HB3  | 3        | 0.36          |
| (1,2903) | 1:A:227:LEU:HD22 | 1:A:226:PRO:HB3  | 3        | 0.36          |
| (1,2903) | 1:A:227:LEU:HD23 | 1:A:226:PRO:HB3  | 3        | 0.36          |
| (1,2903) | 1:A:227:LEU:HD21 | 2:B:656:GLN:HG3  | 3        | 0.36          |
| (1,2903) | 1:A:227:LEU:HD22 | 2:B:656:GLN:HG3  | 3        | 0.36          |
| (1,2903) | 1:A:227:LEU:HD23 | 2:B:656:GLN:HG3  | 3        | 0.36          |
| (1,2903) | 1:A:227:LEU:HD21 | 1:A:200:GLU:HG2  | 3        | 0.36          |
| (1,2903) | 1:A:227:LEU:HD22 | 1:A:200:GLU:HG2  | 3        | 0.36          |
| (1,2903) | 1:A:227:LEU:HD23 | 1:A:200:GLU:HG2  | 3        | 0.36          |
| (1,1226) | 2:B:640:SER:HB3  | 1:A:152:ILE:HG21 | 2        | 0.36          |
| (1,1226) | 2:B:640:SER:HB3  | 1:A:152:ILE:HG22 | 2        | 0.36          |
| (1,1226) | 2:B:640:SER:HB3  | 1:A:152:ILE:HG23 | 2        | 0.36          |
| (2,54)   | 2:B:646:GLN:H    | 1:A:203:PRO:HD3  | 4        | 0.35          |
| (1,3934) | 1:A:210:ALA:H    | 2:B:658:LEU:HG   | 7        | 0.35          |
| (1,3934) | 1:A:156:ILE:H    | 1:A:161:PRO:HB2  | 7        | 0.35          |
| (1,3934) | 1:A:210:ALA:H    | 2:B:662:LEU:HG   | 7        | 0.35          |
| (1,3887) | 1:A:198:LEU:H    | 1:A:194:ASP:HB2  | 1        | 0.35          |
| (1,3887) | 1:A:198:LEU:H    | 2:B:660:ASN:HB2  | 1        | 0.35          |
| (1,3727) | 1:A:189:ARG:H    | 2:B:663:ASN:H    | 5        | 0.35          |
| (1,3727) | 1:A:189:ARG:H    | 1:A:185:GLN:HE22 | 5        | 0.35          |
| (1,3522) | 2:B:655:ALA:HB1  | 2:B:657:LYS:HD3  | 8        | 0.35          |
| (1,3522) | 2:B:655:ALA:HB2  | 2:B:657:LYS:HD3  | 8        | 0.35          |
| (1,3522) | 2:B:655:ALA:HB3  | 2:B:657:LYS:HD3  | 8        | 0.35          |
| (1,3522) | 2:B:655:ALA:HB1  | 2:B:657:LYS:HD2  | 8        | 0.35          |
| (1,3522) | 2:B:655:ALA:HB2  | 2:B:657:LYS:HD2  | 8        | 0.35          |
| (1,3522) | 2:B:655:ALA:HB3  | 2:B:657:LYS:HD2  | 8        | 0.35          |
| (1,3522) | 2:B:655:ALA:HB1  | 1:A:227:LEU:HB2  | 8        | 0.35          |
| (1,3522) | 2:B:655:ALA:HB2  | 1:A:227:LEU:HB2  | 8        | 0.35          |
| (1,3522) | 2:B:655:ALA:HB3  | 1:A:227:LEU:HB2  | 8        | 0.35          |
| (1,2715) | 2:B:663:ASN:H    | 2:B:663:ASN:HB2  | 3        | 0.35          |
| (2,50)   | 1:A:225:ILE:H    | 1:A:226:PRO:HB3  | 6        | 0.34          |
| (2,26)   | 1:A:141:LEU:H    | 1:A:145:PHE:HB3  | 4        | 0.34          |
| (1,3912) | 1:A:205:LEU:H    | 2:B:642:ILE:HG12 | 4        | 0.34          |
| (1,3912) | 1:A:205:LEU:H    | 2:B:638:LEU:HG   | 4        | 0.34          |
| (1,3869) | 1:A:194:ASP:H    | 2:B:656:GLN:HE21 | 4        | 0.34          |
| (1,3869) | 1:A:194:ASP:H    | 1:A:187:TRP:HZ2  | 4        | 0.34          |
| (1,3869) | 1:A:189:ARG:H    | 1:A:187:TRP:HZ2  | 4        | 0.34          |
| (1,3718) | 1:A:193:GLU:H    | 2:B:663:ASN:HD21 | 5        | 0.34          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3718) | 1:A:193:GLU:H    | 1:A:145:PHE:HZ   | 5        | 0.34          |
| (1,3253) | 1:A:176:VAL:HG21 | 1:A:172:LYS:HG2  | 9        | 0.34          |
| (1,3253) | 1:A:176:VAL:HG22 | 1:A:172:LYS:HG2  | 9        | 0.34          |
| (1,3253) | 1:A:176:VAL:HG23 | 1:A:172:LYS:HG2  | 9        | 0.34          |
| (1,3253) | 1:A:176:VAL:HG21 | 1:A:178:LEU:HB2  | 9        | 0.34          |
| (1,3253) | 1:A:176:VAL:HG22 | 1:A:178:LEU:HB2  | 9        | 0.34          |
| (1,3253) | 1:A:176:VAL:HG23 | 1:A:178:LEU:HB2  | 9        | 0.34          |
| (1,2247) | 1:A:215:THR:H    | 1:A:216:ASN:HB3  | 1        | 0.34          |
| (1,2247) | 1:A:215:THR:H    | 1:A:216:ASN:HB3  | 9        | 0.34          |
| (2,50)   | 1:A:225:ILE:H    | 1:A:226:PRO:HB3  | 9        | 0.33          |
| (2,29)   | 1:A:159:THR:H    | 1:A:155:ASN:HB2  | 4        | 0.33          |
| (2,26)   | 1:A:141:LEU:H    | 1:A:145:PHE:HB3  | 6        | 0.32          |
| (1,471)  | 1:A:178:LEU:HD11 | 1:A:174:LYS:HE2  | 2        | 0.32          |
| (1,471)  | 1:A:178:LEU:HD12 | 1:A:174:LYS:HE2  | 2        | 0.32          |
| (1,471)  | 1:A:178:LEU:HD13 | 1:A:174:LYS:HE2  | 2        | 0.32          |
| (1,4065) | 2:B:665:GLN:H    | 2:B:667:GLU:HG2  | 3        | 0.32          |
| (1,4065) | 2:B:665:GLN:H    | 1:A:185:GLN:HG3  | 3        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD21 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD22 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD23 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD21 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD22 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD23 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD21 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD22 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD23 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD11 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD12 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD13 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD11 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD12 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD13 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD11 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD12 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD13 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD11 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD12 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD13 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD11 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD12 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD13 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD11 | 1        | 0.32          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD12 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD13 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD21 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD22 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD23 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD21 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD22 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD23 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD21 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD22 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD23 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD11 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD12 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD13 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD11 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD12 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD13 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD11 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD12 | 1        | 0.32          |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD13 | 1        | 0.32          |
| (1,3513) | 2:B:640:SER:HB2  | 1:A:204:GLN:HG3  | 8        | 0.32          |
| (1,3513) | 1:A:150:SER:HB2  | 1:A:204:GLN:HG3  | 8        | 0.32          |
| (1,3513) | 1:A:150:SER:HB3  | 1:A:204:GLN:HG3  | 8        | 0.32          |
| (1,3344) | 1:A:183:LYS:HE2  | 1:A:183:LYS:HB2  | 6        | 0.32          |
| (1,2247) | 1:A:215:THR:H    | 1:A:216:ASN:HB3  | 4        | 0.32          |
| (1,2061) | 1:A:193:GLU:H    | 1:A:194:ASP:HB3  | 1        | 0.32          |
| (1,2013) | 1:A:189:ARG:H    | 1:A:189:ARG:HG3  | 9        | 0.32          |
| (1,1953) | 1:A:186:GLU:H    | 1:A:183:LYS:HG3  | 6        | 0.32          |
| (1,1712) | 1:A:160:THR:H    | 1:A:163:MET:HB2  | 10       | 0.32          |
| (1,3808) | 1:A:180:PHE:H    | 2:B:634:GLU:HA   | 5        | 0.31          |
| (1,3808) | 2:B:652:LEU:H    | 1:A:206:SER:HB2  | 5        | 0.31          |
| (1,3808) | 2:B:652:LEU:H    | 1:A:207:PHE:HA   | 5        | 0.31          |
| (1,3393) | 1:A:179:LYS:HA   | 1:A:182:GLN:HB3  | 1        | 0.31          |
| (1,3393) | 1:A:179:LYS:HA   | 1:A:181:LEU:HB3  | 1        | 0.31          |
| (1,1947) | 1:A:185:GLN:HE21 | 2:B:666:VAL:HG21 | 9        | 0.31          |
| (1,1947) | 1:A:185:GLN:HE21 | 2:B:666:VAL:HG22 | 9        | 0.31          |
| (1,1947) | 1:A:185:GLN:HE21 | 2:B:666:VAL:HG23 | 9        | 0.31          |
| (1,1071) | 1:A:218:ILE:HD11 | 1:A:216:ASN:HB2  | 7        | 0.31          |
| (1,1071) | 1:A:218:ILE:HD12 | 1:A:216:ASN:HB2  | 7        | 0.31          |
| (1,1071) | 1:A:218:ILE:HD13 | 1:A:216:ASN:HB2  | 7        | 0.31          |
| (2,50)   | 1:A:225:ILE:H    | 1:A:226:PRO:HB3  | 7        | 0.3           |
| (2,50)   | 1:A:225:ILE:H    | 1:A:226:PRO:HB3  | 10       | 0.3           |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3630) | 2:B:648:PHE:HZ   | 2:B:643:PRO:HD3  | 8        | 0.3           |
| (1,3630) | 2:B:648:PHE:HZ   | 1:A:162:ALA:HA   | 8        | 0.3           |
| (1,3630) | 2:B:648:PHE:HZ   | 1:A:161:PRO:HD3  | 8        | 0.3           |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:225:ILE:HG21 | 3        | 0.3           |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:225:ILE:HG22 | 3        | 0.3           |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:225:ILE:HG23 | 3        | 0.3           |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:165:ILE:HG21 | 3        | 0.3           |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:165:ILE:HG22 | 3        | 0.3           |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:165:ILE:HG23 | 3        | 0.3           |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:225:ILE:HD11 | 3        | 0.3           |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:225:ILE:HD12 | 3        | 0.3           |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:225:ILE:HD13 | 3        | 0.3           |
| (1,3522) | 2:B:655:ALA:HB1  | 2:B:657:LYS:HD3  | 1        | 0.3           |
| (1,3522) | 2:B:655:ALA:HB2  | 2:B:657:LYS:HD3  | 1        | 0.3           |
| (1,3522) | 2:B:655:ALA:HB3  | 2:B:657:LYS:HD3  | 1        | 0.3           |
| (1,3522) | 2:B:655:ALA:HB1  | 2:B:657:LYS:HD2  | 1        | 0.3           |
| (1,3522) | 2:B:655:ALA:HB2  | 2:B:657:LYS:HD2  | 1        | 0.3           |
| (1,3522) | 2:B:655:ALA:HB3  | 2:B:657:LYS:HD2  | 1        | 0.3           |
| (1,3522) | 2:B:655:ALA:HB1  | 1:A:227:LEU:HB2  | 1        | 0.3           |
| (1,3522) | 2:B:655:ALA:HB2  | 1:A:227:LEU:HB2  | 1        | 0.3           |
| (1,3522) | 2:B:655:ALA:HB3  | 1:A:227:LEU:HB2  | 1        | 0.3           |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:168:GLU:HB2  | 1        | 0.3           |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:168:GLU:HB3  | 1        | 0.3           |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:177:GLN:HB2  | 1        | 0.3           |
| (1,3481) | 1:A:208:VAL:HA   | 2:B:643:PRO:HG3  | 1        | 0.3           |
| (1,3343) | 1:A:183:LYS:HE2  | 2:B:634:GLU:HB3  | 3        | 0.3           |
| (1,3343) | 1:A:183:LYS:HE2  | 2:B:634:GLU:HB2  | 3        | 0.3           |
| (1,1698) | 1:A:159:THR:H    | 1:A:158:MET:H    | 3        | 0.3           |
| (1,471)  | 1:A:178:LEU:HD11 | 1:A:174:LYS:HE2  | 1        | 0.29          |
| (1,471)  | 1:A:178:LEU:HD12 | 1:A:174:LYS:HE2  | 1        | 0.29          |
| (1,471)  | 1:A:178:LEU:HD13 | 1:A:174:LYS:HE2  | 1        | 0.29          |
| (1,3887) | 1:A:198:LEU:H    | 1:A:194:ASP:HB2  | 2        | 0.29          |
| (1,3887) | 1:A:198:LEU:H    | 2:B:660:ASN:HB2  | 2        | 0.29          |
| (1,3727) | 1:A:189:ARG:H    | 2:B:663:ASN:H    | 1        | 0.29          |
| (1,3727) | 1:A:189:ARG:H    | 1:A:185:GLN:HE22 | 1        | 0.29          |
| (1,3727) | 1:A:189:ARG:H    | 2:B:663:ASN:H    | 2        | 0.29          |
| (1,3727) | 1:A:189:ARG:H    | 1:A:185:GLN:HE22 | 2        | 0.29          |
| (1,3718) | 1:A:193:GLU:H    | 2:B:663:ASN:HD21 | 6        | 0.29          |
| (1,3718) | 1:A:193:GLU:H    | 1:A:145:PHE:HZ   | 6        | 0.29          |
| (1,3598) | 1:A:203:PRO:HG3  | 1:A:203:PRO:HD2  | 4        | 0.29          |
| (1,3598) | 2:B:645:ARG:HB2  | 1:A:203:PRO:HD2  | 4        | 0.29          |
| (1,3598) | 2:B:645:ARG:HB2  | 2:B:645:ARG:HD2  | 4        | 0.29          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3232) | 2:B:633:THR:HG21 | 2:B:632:PRO:HG3  | 1        | 0.29          |
| (1,3232) | 2:B:633:THR:HG22 | 2:B:632:PRO:HG3  | 1        | 0.29          |
| (1,3232) | 2:B:633:THR:HG23 | 2:B:632:PRO:HG3  | 1        | 0.29          |
| (1,2247) | 1:A:215:THR:H    | 1:A:216:ASN:HB3  | 3        | 0.29          |
| (1,3550) | 2:B:631:LEU:HD11 | 1:A:147:GLU:HB2  | 6        | 0.28          |
| (1,3550) | 2:B:631:LEU:HD12 | 1:A:147:GLU:HB2  | 6        | 0.28          |
| (1,3550) | 2:B:631:LEU:HD13 | 1:A:147:GLU:HB2  | 6        | 0.28          |
| (1,3550) | 2:B:631:LEU:HD11 | 1:A:208:VAL:HB   | 6        | 0.28          |
| (1,3550) | 2:B:631:LEU:HD12 | 1:A:208:VAL:HB   | 6        | 0.28          |
| (1,3550) | 2:B:631:LEU:HD13 | 1:A:208:VAL:HB   | 6        | 0.28          |
| (1,3522) | 2:B:655:ALA:HB1  | 2:B:657:LYS:HD3  | 4        | 0.28          |
| (1,3522) | 2:B:655:ALA:HB2  | 2:B:657:LYS:HD3  | 4        | 0.28          |
| (1,3522) | 2:B:655:ALA:HB3  | 2:B:657:LYS:HD3  | 4        | 0.28          |
| (1,3522) | 2:B:655:ALA:HB1  | 2:B:657:LYS:HD2  | 4        | 0.28          |
| (1,3522) | 2:B:655:ALA:HB2  | 2:B:657:LYS:HD2  | 4        | 0.28          |
| (1,3522) | 2:B:655:ALA:HB3  | 2:B:657:LYS:HD2  | 4        | 0.28          |
| (1,3522) | 2:B:655:ALA:HB1  | 1:A:227:LEU:HB2  | 4        | 0.28          |
| (1,3522) | 2:B:655:ALA:HB2  | 1:A:227:LEU:HB2  | 4        | 0.28          |
| (1,3522) | 2:B:655:ALA:HB3  | 1:A:227:LEU:HB2  | 4        | 0.28          |
| (1,3458) | 1:A:168:GLU:HG3  | 1:A:165:ILE:HG12 | 2        | 0.28          |
| (1,3458) | 1:A:168:GLU:HG2  | 1:A:165:ILE:HG12 | 2        | 0.28          |
| (1,2247) | 1:A:215:THR:H    | 1:A:216:ASN:HB3  | 8        | 0.28          |
| (1,2234) | 1:A:214:LEU:H    | 1:A:216:ASN:HD21 | 2        | 0.28          |
| (1,1958) | 1:A:186:GLU:H    | 1:A:185:GLN:HE22 | 4        | 0.28          |
| (1,1715) | 1:A:162:ALA:H    | 2:B:643:PRO:HG2  | 4        | 0.28          |
| (1,1071) | 1:A:218:ILE:HD11 | 1:A:216:ASN:HB2  | 6        | 0.28          |
| (1,1071) | 1:A:218:ILE:HD12 | 1:A:216:ASN:HB2  | 6        | 0.28          |
| (1,1071) | 1:A:218:ILE:HD13 | 1:A:216:ASN:HB2  | 6        | 0.28          |
| (1,511)  | 1:A:183:LYS:HE2  | 2:B:632:PRO:HG3  | 10       | 0.27          |
| (1,4065) | 2:B:665:GLN:H    | 2:B:667:GLU:HG2  | 2        | 0.27          |
| (1,4065) | 2:B:665:GLN:H    | 1:A:185:GLN:HG3  | 2        | 0.27          |
| (1,4065) | 2:B:665:GLN:H    | 2:B:667:GLU:HG2  | 7        | 0.27          |
| (1,4065) | 2:B:665:GLN:H    | 1:A:185:GLN:HG3  | 7        | 0.27          |
| (1,3934) | 1:A:210:ALA:H    | 2:B:658:LEU:HG   | 10       | 0.27          |
| (1,3934) | 1:A:156:ILE:H    | 1:A:161:PRO:HB2  | 10       | 0.27          |
| (1,3934) | 1:A:210:ALA:H    | 2:B:662:LEU:HG   | 10       | 0.27          |
| (1,3887) | 1:A:198:LEU:H    | 1:A:194:ASP:HB2  | 3        | 0.27          |
| (1,3887) | 1:A:198:LEU:H    | 2:B:660:ASN:HB2  | 3        | 0.27          |
| (1,3869) | 1:A:194:ASP:H    | 2:B:656:GLN:HE21 | 10       | 0.27          |
| (1,3869) | 1:A:194:ASP:H    | 1:A:187:TRP:HZ2  | 10       | 0.27          |
| (1,3869) | 1:A:189:ARG:H    | 1:A:187:TRP:HZ2  | 10       | 0.27          |
| (1,3393) | 1:A:179:LYS:HA   | 1:A:182:GLN:HB3  | 2        | 0.27          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3393) | 1:A:179:LYS:HA   | 1:A:181:LEU:HB3  | 2        | 0.27          |
| (1,1927) | 1:A:185:GLN:H    | 1:A:183:LYS:HG3  | 7        | 0.27          |
| (1,1036) | 1:A:207:PHE:HA   | 1:A:207:PHE:HD1  | 8        | 0.27          |
| (1,1036) | 1:A:207:PHE:HA   | 1:A:207:PHE:HD2  | 8        | 0.27          |
| (2,50)   | 1:A:225:ILE:H    | 1:A:226:PRO:HB3  | 5        | 0.26          |
| (2,33)   | 1:A:172:LYS:H    | 1:A:177:GLN:HE22 | 2        | 0.26          |
| (1,3912) | 1:A:205:LEU:H    | 2:B:642:ILE:HG12 | 8        | 0.26          |
| (1,3912) | 1:A:205:LEU:H    | 2:B:638:LEU:HG   | 8        | 0.26          |
| (1,3887) | 1:A:198:LEU:H    | 1:A:194:ASP:HB2  | 5        | 0.26          |
| (1,3887) | 1:A:198:LEU:H    | 2:B:660:ASN:HB2  | 5        | 0.26          |
| (1,3869) | 1:A:194:ASP:H    | 2:B:656:GLN:HE21 | 3        | 0.26          |
| (1,3869) | 1:A:194:ASP:H    | 1:A:187:TRP:HZ2  | 3        | 0.26          |
| (1,3869) | 1:A:189:ARG:H    | 1:A:187:TRP:HZ2  | 3        | 0.26          |
| (1,3837) | 1:A:185:GLN:H    | 1:A:182:GLN:HG2  | 4        | 0.26          |
| (1,3837) | 2:B:637:ASP:H    | 1:A:149:PRO:HB2  | 4        | 0.26          |
| (1,3813) | 1:A:180:PHE:H    | 1:A:181:LEU:HB3  | 5        | 0.26          |
| (1,3813) | 1:A:180:PHE:H    | 2:B:632:PRO:HG3  | 5        | 0.26          |
| (1,3813) | 1:A:180:PHE:H    | 1:A:185:GLN:HB3  | 5        | 0.26          |
| (1,3522) | 2:B:655:ALA:HB1  | 2:B:657:LYS:HD3  | 2        | 0.26          |
| (1,3522) | 2:B:655:ALA:HB2  | 2:B:657:LYS:HD3  | 2        | 0.26          |
| (1,3522) | 2:B:655:ALA:HB3  | 2:B:657:LYS:HD3  | 2        | 0.26          |
| (1,3522) | 2:B:655:ALA:HB1  | 2:B:657:LYS:HD2  | 2        | 0.26          |
| (1,3522) | 2:B:655:ALA:HB2  | 2:B:657:LYS:HD2  | 2        | 0.26          |
| (1,3522) | 2:B:655:ALA:HB3  | 2:B:657:LYS:HD2  | 2        | 0.26          |
| (1,3522) | 2:B:655:ALA:HB1  | 1:A:227:LEU:HB2  | 2        | 0.26          |
| (1,3522) | 2:B:655:ALA:HB2  | 1:A:227:LEU:HB2  | 2        | 0.26          |
| (1,3522) | 2:B:655:ALA:HB3  | 1:A:227:LEU:HB2  | 2        | 0.26          |
| (1,3208) | 1:A:193:GLU:HG2  | 1:A:196:ALA:HA   | 2        | 0.26          |
| (1,3208) | 1:A:147:GLU:HG2  | 1:A:144:LYS:HA   | 2        | 0.26          |
| (1,3208) | 1:A:147:GLU:HG3  | 1:A:144:LYS:HA   | 2        | 0.26          |
| (1,3208) | 1:A:147:GLU:HG3  | 2:B:640:SER:HB2  | 2        | 0.26          |
| (1,3208) | 1:A:147:GLU:HG2  | 2:B:640:SER:HB2  | 2        | 0.26          |
| (1,3208) | 1:A:147:GLU:HG3  | 1:A:150:SER:HB2  | 2        | 0.26          |
| (1,3208) | 1:A:193:GLU:HG2  | 1:A:199:LEU:HA   | 2        | 0.26          |
| (1,3208) | 1:A:193:GLU:HG2  | 1:A:196:ALA:HA   | 9        | 0.26          |
| (1,3208) | 1:A:147:GLU:HG2  | 1:A:144:LYS:HA   | 9        | 0.26          |
| (1,3208) | 1:A:147:GLU:HG3  | 1:A:144:LYS:HA   | 9        | 0.26          |
| (1,3208) | 1:A:147:GLU:HG3  | 2:B:640:SER:HB2  | 9        | 0.26          |
| (1,3208) | 1:A:147:GLU:HG2  | 2:B:640:SER:HB2  | 9        | 0.26          |
| (1,3208) | 1:A:147:GLU:HG3  | 1:A:150:SER:HB2  | 9        | 0.26          |
| (1,3208) | 1:A:193:GLU:HG2  | 1:A:199:LEU:HA   | 9        | 0.26          |
| (1,3113) | 1:A:169:LEU:HD21 | 1:A:204:GLN:HG3  | 10       | 0.26          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3113) | 1:A:169:LEU:HD22 | 1:A:204:GLN:HG3  | 10       | 0.26          |
| (1,3113) | 1:A:169:LEU:HD23 | 1:A:204:GLN:HG3  | 10       | 0.26          |
| (1,3113) | 1:A:169:LEU:HD21 | 1:A:216:ASN:HB2  | 10       | 0.26          |
| (1,3113) | 1:A:169:LEU:HD22 | 1:A:216:ASN:HB2  | 10       | 0.26          |
| (1,3113) | 1:A:169:LEU:HD23 | 1:A:216:ASN:HB2  | 10       | 0.26          |
| (1,289)  | 1:A:227:LEU:HD21 | 2:B:654:ASP:HB2  | 2        | 0.26          |
| (1,289)  | 1:A:227:LEU:HD22 | 2:B:654:ASP:HB2  | 2        | 0.26          |
| (1,289)  | 1:A:227:LEU:HD23 | 2:B:654:ASP:HB2  | 2        | 0.26          |
| (1,2748) | 2:B:665:GLN:HE21 | 2:B:664:ASP:HB2  | 5        | 0.26          |
| (1,2433) | 2:B:633:THR:H    | 2:B:632:PRO:HB2  | 6        | 0.26          |
| (1,1927) | 1:A:185:GLN:H    | 1:A:183:LYS:HG3  | 8        | 0.26          |
| (1,1775) | 1:A:170:ALA:H    | 1:A:172:LYS:HG3  | 7        | 0.26          |
| (1,1226) | 2:B:640:SER:HB3  | 1:A:152:ILE:HG21 | 6        | 0.26          |
| (1,1226) | 2:B:640:SER:HB3  | 1:A:152:ILE:HG22 | 6        | 0.26          |
| (1,1226) | 2:B:640:SER:HB3  | 1:A:152:ILE:HG23 | 6        | 0.26          |
| (1,3962) | 1:A:216:ASN:HD22 | 2:B:669:PRO:HB2  | 4        | 0.25          |
| (1,3962) | 1:A:216:ASN:HD22 | 2:B:668:ILE:HB   | 4        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD21 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD22 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD23 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD21 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD22 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD23 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD21 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD22 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD23 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD11 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD12 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD13 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD11 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD12 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD13 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD11 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD12 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD13 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD11 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD12 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD13 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD11 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD12 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD13 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD11 | 7        | 0.25          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD12 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD13 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD21 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD22 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD23 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD21 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD22 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD23 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD21 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD22 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD23 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD11 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD12 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD13 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD11 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD12 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD13 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD11 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD12 | 7        | 0.25          |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD13 | 7        | 0.25          |
| (1,3592) | 1:A:187:TRP:HZ2  | 1:A:188:THR:HB   | 5        | 0.25          |
| (1,3592) | 1:A:187:TRP:HZ2  | 1:A:198:LEU:HA   | 5        | 0.25          |
| (1,3425) | 1:A:200:GLU:HB3  | 1:A:197:SER:HB3  | 3        | 0.25          |
| (1,3425) | 1:A:200:GLU:HB3  | 1:A:206:SER:HB2  | 3        | 0.25          |
| (1,3393) | 1:A:179:LYS:HA   | 1:A:182:GLN:HB3  | 7        | 0.25          |
| (1,3393) | 1:A:179:LYS:HA   | 1:A:181:LEU:HB3  | 7        | 0.25          |
| (1,3114) | 2:B:631:LEU:HD11 | 1:A:195:ALA:HA   | 6        | 0.25          |
| (1,3114) | 2:B:631:LEU:HD12 | 1:A:195:ALA:HA   | 6        | 0.25          |
| (1,3114) | 2:B:631:LEU:HD13 | 1:A:195:ALA:HA   | 6        | 0.25          |
| (1,2247) | 1:A:215:THR:H    | 1:A:216:ASN:HB3  | 7        | 0.25          |
| (1,1072) | 1:A:218:ILE:HD11 | 1:A:218:ILE:HA   | 8        | 0.25          |
| (1,1072) | 1:A:218:ILE:HD12 | 1:A:218:ILE:HA   | 8        | 0.25          |
| (1,1072) | 1:A:218:ILE:HD13 | 1:A:218:ILE:HA   | 8        | 0.25          |
| (3,18)   | 1:A:167:SER:O    | 1:A:171:LYS:H    | 1        | 0.24          |
| (2,50)   | 1:A:225:ILE:H    | 1:A:226:PRO:HB3  | 8        | 0.24          |
| (2,14)   | 1:A:215:THR:HG21 | 1:A:181:LEU:HG   | 8        | 0.24          |
| (2,14)   | 1:A:215:THR:HG22 | 1:A:181:LEU:HG   | 8        | 0.24          |
| (2,14)   | 1:A:215:THR:HG23 | 1:A:181:LEU:HG   | 8        | 0.24          |
| (1,4057) | 2:B:662:LEU:H    | 2:B:663:ASN:HD21 | 4        | 0.24          |
| (1,4057) | 2:B:662:LEU:H    | 2:B:665:GLN:HE21 | 4        | 0.24          |
| (1,3869) | 1:A:194:ASP:H    | 2:B:656:GLN:HE21 | 1        | 0.24          |
| (1,3869) | 1:A:194:ASP:H    | 1:A:187:TRP:HZ2  | 1        | 0.24          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3869) | 1:A:189:ARG:H    | 1:A:187:TRP:HZ2  | 1        | 0.24          |
| (1,3598) | 1:A:203:PRO:HG3  | 1:A:203:PRO:HD2  | 7        | 0.24          |
| (1,3598) | 2:B:645:ARG:HB2  | 1:A:203:PRO:HD2  | 7        | 0.24          |
| (1,3598) | 2:B:645:ARG:HB2  | 2:B:645:ARG:HD2  | 7        | 0.24          |
| (1,3513) | 2:B:640:SER:HB2  | 1:A:204:GLN:HG3  | 9        | 0.24          |
| (1,3513) | 1:A:150:SER:HB2  | 1:A:204:GLN:HG3  | 9        | 0.24          |
| (1,3513) | 1:A:150:SER:HB3  | 1:A:204:GLN:HG3  | 9        | 0.24          |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:168:GLU:HB2  | 4        | 0.24          |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:168:GLU:HB3  | 4        | 0.24          |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:177:GLN:HB2  | 4        | 0.24          |
| (1,3481) | 1:A:208:VAL:HA   | 2:B:643:PRO:HG3  | 4        | 0.24          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:179:LYS:HB2  | 5        | 0.24          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:179:LYS:HB2  | 5        | 0.24          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:179:LYS:HB2  | 5        | 0.24          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:174:LYS:HB3  | 5        | 0.24          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:174:LYS:HB3  | 5        | 0.24          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:174:LYS:HB3  | 5        | 0.24          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:177:GLN:HB2  | 5        | 0.24          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:177:GLN:HB2  | 5        | 0.24          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:177:GLN:HB2  | 5        | 0.24          |
| (1,3208) | 1:A:193:GLU:HG2  | 1:A:196:ALA:HA   | 5        | 0.24          |
| (1,3208) | 1:A:147:GLU:HG2  | 1:A:144:LYS:HA   | 5        | 0.24          |
| (1,3208) | 1:A:147:GLU:HG3  | 1:A:144:LYS:HA   | 5        | 0.24          |
| (1,3208) | 1:A:147:GLU:HG3  | 2:B:640:SER:HB2  | 5        | 0.24          |
| (1,3208) | 1:A:147:GLU:HG2  | 2:B:640:SER:HB2  | 5        | 0.24          |
| (1,3208) | 1:A:147:GLU:HG3  | 1:A:150:SER:HB2  | 5        | 0.24          |
| (1,3208) | 1:A:193:GLU:HG2  | 1:A:199:LEU:HA   | 5        | 0.24          |
| (1,1844) | 1:A:177:GLN:HE22 | 1:A:212:LEU:HB3  | 8        | 0.24          |
| (1,1072) | 1:A:218:ILE:HD11 | 1:A:218:ILE:HA   | 1        | 0.24          |
| (1,1072) | 1:A:218:ILE:HD12 | 1:A:218:ILE:HA   | 1        | 0.24          |
| (1,1072) | 1:A:218:ILE:HD13 | 1:A:218:ILE:HA   | 1        | 0.24          |
| (3,18)   | 1:A:167:SER:O    | 1:A:171:LYS:H    | 10       | 0.23          |
| (1,554)  | 1:A:174:LYS:HG3  | 1:A:216:ASN:HB2  | 1        | 0.23          |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD21 | 8        | 0.23          |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD22 | 8        | 0.23          |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD23 | 8        | 0.23          |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD21 | 8        | 0.23          |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD22 | 8        | 0.23          |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD23 | 8        | 0.23          |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD21 | 8        | 0.23          |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD22 | 8        | 0.23          |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD23 | 8        | 0.23          |

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| Key      | Atom-1          | Atom-2           | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,3934) | 1:A:210:ALA:H   | 2:B:658:LEU:HG   | 2        | 0.23          |
| (1,3934) | 1:A:156:ILE:H   | 1:A:161:PRO:HB2  | 2        | 0.23          |
| (1,3934) | 1:A:210:ALA:H   | 2:B:662:LEU:HG   | 2        | 0.23          |
| (1,3912) | 1:A:205:LEU:H   | 2:B:642:ILE:HG12 | 3        | 0.23          |
| (1,3912) | 1:A:205:LEU:H   | 2:B:638:LEU:HG   | 3        | 0.23          |
| (1,3522) | 2:B:655:ALA:HB1 | 2:B:657:LYS:HD3  | 9        | 0.23          |
| (1,3522) | 2:B:655:ALA:HB2 | 2:B:657:LYS:HD3  | 9        | 0.23          |
| (1,3522) | 2:B:655:ALA:HB3 | 2:B:657:LYS:HD3  | 9        | 0.23          |
| (1,3522) | 2:B:655:ALA:HB1 | 2:B:657:LYS:HD2  | 9        | 0.23          |
| (1,3522) | 2:B:655:ALA:HB2 | 2:B:657:LYS:HD2  | 9        | 0.23          |
| (1,3522) | 2:B:655:ALA:HB3 | 2:B:657:LYS:HD2  | 9        | 0.23          |
| (1,3522) | 2:B:655:ALA:HB1 | 1:A:227:LEU:HB2  | 9        | 0.23          |
| (1,3522) | 2:B:655:ALA:HB2 | 1:A:227:LEU:HB2  | 9        | 0.23          |
| (1,3522) | 2:B:655:ALA:HB3 | 1:A:227:LEU:HB2  | 9        | 0.23          |
| (1,3513) | 2:B:640:SER:HB2 | 1:A:204:GLN:HG3  | 1        | 0.23          |
| (1,3513) | 1:A:150:SER:HB2 | 1:A:204:GLN:HG3  | 1        | 0.23          |
| (1,3513) | 1:A:150:SER:HB3 | 1:A:204:GLN:HG3  | 1        | 0.23          |
| (1,3513) | 2:B:640:SER:HB2 | 1:A:204:GLN:HG3  | 7        | 0.23          |
| (1,3513) | 1:A:150:SER:HB2 | 1:A:204:GLN:HG3  | 7        | 0.23          |
| (1,3513) | 1:A:150:SER:HB3 | 1:A:204:GLN:HG3  | 7        | 0.23          |
| (1,3513) | 2:B:640:SER:HB2 | 1:A:204:GLN:HG3  | 10       | 0.23          |
| (1,3513) | 1:A:150:SER:HB2 | 1:A:204:GLN:HG3  | 10       | 0.23          |
| (1,3513) | 1:A:150:SER:HB3 | 1:A:204:GLN:HG3  | 10       | 0.23          |
| (1,3407) | 1:A:163:MET:HA  | 1:A:164:MET:HB3  | 4        | 0.23          |
| (1,3407) | 1:A:163:MET:HA  | 1:A:211:GLU:HG3  | 4        | 0.23          |
| (1,3407) | 1:A:163:MET:HA  | 1:A:211:GLU:HG2  | 4        | 0.23          |
| (1,3407) | 1:A:163:MET:HA  | 2:B:643:PRO:HB2  | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB1 | 1:A:165:ILE:HG21 | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB1 | 1:A:165:ILE:HG22 | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB1 | 1:A:165:ILE:HG23 | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB2 | 1:A:165:ILE:HG21 | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB2 | 1:A:165:ILE:HG22 | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB2 | 1:A:165:ILE:HG23 | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB3 | 1:A:165:ILE:HG21 | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB3 | 1:A:165:ILE:HG22 | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB3 | 1:A:165:ILE:HG23 | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB1 | 1:A:181:LEU:HD11 | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB1 | 1:A:181:LEU:HD12 | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB1 | 1:A:181:LEU:HD13 | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB2 | 1:A:181:LEU:HD11 | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB2 | 1:A:181:LEU:HD12 | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB2 | 1:A:181:LEU:HD13 | 4        | 0.23          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3279) | 1:A:170:ALA:HB3  | 1:A:181:LEU:HD11 | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB3  | 1:A:181:LEU:HD12 | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB3  | 1:A:181:LEU:HD13 | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB1  | 2:B:641:VAL:HG21 | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB1  | 2:B:641:VAL:HG22 | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB1  | 2:B:641:VAL:HG23 | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB2  | 2:B:641:VAL:HG21 | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB2  | 2:B:641:VAL:HG22 | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB2  | 2:B:641:VAL:HG23 | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB3  | 2:B:641:VAL:HG21 | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB3  | 2:B:641:VAL:HG22 | 4        | 0.23          |
| (1,3279) | 1:A:170:ALA:HB3  | 2:B:641:VAL:HG23 | 4        | 0.23          |
| (1,3114) | 2:B:631:LEU:HD11 | 1:A:195:ALA:HA   | 2        | 0.23          |
| (1,3114) | 2:B:631:LEU:HD12 | 1:A:195:ALA:HA   | 2        | 0.23          |
| (1,3114) | 2:B:631:LEU:HD13 | 1:A:195:ALA:HA   | 2        | 0.23          |
| (1,3114) | 2:B:631:LEU:HD11 | 1:A:195:ALA:HA   | 9        | 0.23          |
| (1,3114) | 2:B:631:LEU:HD12 | 1:A:195:ALA:HA   | 9        | 0.23          |
| (1,3114) | 2:B:631:LEU:HD13 | 1:A:195:ALA:HA   | 9        | 0.23          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG11 | 3        | 0.23          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG12 | 3        | 0.23          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG13 | 3        | 0.23          |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD21 | 3        | 0.23          |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD22 | 3        | 0.23          |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD23 | 3        | 0.23          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD21 | 3        | 0.23          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD22 | 3        | 0.23          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD23 | 3        | 0.23          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG21 | 3        | 0.23          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG22 | 3        | 0.23          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG23 | 3        | 0.23          |
| (1,2570) | 2:B:648:PHE:H    | 2:B:648:PHE:HB2  | 8        | 0.23          |
| (1,2247) | 1:A:215:THR:H    | 1:A:216:ASN:HB3  | 6        | 0.23          |
| (1,2047) | 1:A:191:HIS:H    | 1:A:191:HIS:HB2  | 9        | 0.23          |
| (2,7)    | 2:B:638:LEU:HD21 | 1:A:204:GLN:HG3  | 5        | 0.22          |
| (2,7)    | 2:B:638:LEU:HD22 | 1:A:204:GLN:HG3  | 5        | 0.22          |
| (2,7)    | 2:B:638:LEU:HD23 | 1:A:204:GLN:HG3  | 5        | 0.22          |
| (2,65)   | 2:B:660:ASN:HD21 | 2:B:656:GLN:HG3  | 8        | 0.22          |
| (2,14)   | 1:A:215:THR:HG21 | 1:A:181:LEU:HG   | 7        | 0.22          |
| (2,14)   | 1:A:215:THR:HG22 | 1:A:181:LEU:HG   | 7        | 0.22          |
| (2,14)   | 1:A:215:THR:HG23 | 1:A:181:LEU:HG   | 7        | 0.22          |
| (1,664)  | 1:A:152:ILE:HD11 | 2:B:643:PRO:HB2  | 9        | 0.22          |
| (1,664)  | 1:A:152:ILE:HD12 | 2:B:643:PRO:HB2  | 9        | 0.22          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,664)  | 1:A:152:ILE:HD13 | 2:B:643:PRO:HB2  | 9        | 0.22          |
| (1,3848) | 1:A:187:TRP:H    | 1:A:189:ARG:HE   | 9        | 0.22          |
| (1,3848) | 1:A:187:TRP:H    | 1:A:184:PHE:HE1  | 9        | 0.22          |
| (1,3848) | 1:A:187:TRP:H    | 1:A:184:PHE:HE2  | 9        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD21 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD22 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD23 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD21 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD22 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD23 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD21 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD22 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD23 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD11 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD12 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD13 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD11 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD12 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD13 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD11 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD12 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD13 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD11 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD12 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD13 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD11 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD12 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD13 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD11 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD12 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD13 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD21 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD22 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD23 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD21 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD22 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD23 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD21 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD22 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD23 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD11 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD12 | 2        | 0.22          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD13 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD11 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD12 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD13 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD11 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD12 | 2        | 0.22          |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD13 | 2        | 0.22          |
| (1,3592) | 1:A:187:TRP:HZ2  | 1:A:188:THR:HB   | 3        | 0.22          |
| (1,3592) | 1:A:187:TRP:HZ2  | 1:A:198:LEU:HA   | 3        | 0.22          |
| (1,3513) | 2:B:640:SER:HB2  | 1:A:204:GLN:HG3  | 4        | 0.22          |
| (1,3513) | 1:A:150:SER:HB2  | 1:A:204:GLN:HG3  | 4        | 0.22          |
| (1,3513) | 1:A:150:SER:HB3  | 1:A:204:GLN:HG3  | 4        | 0.22          |
| (1,3513) | 2:B:640:SER:HB2  | 1:A:204:GLN:HG3  | 5        | 0.22          |
| (1,3513) | 1:A:150:SER:HB2  | 1:A:204:GLN:HG3  | 5        | 0.22          |
| (1,3513) | 1:A:150:SER:HB3  | 1:A:204:GLN:HG3  | 5        | 0.22          |
| (1,2825) | 2:B:652:LEU:HD11 | 1:A:207:PHE:HZ   | 10       | 0.22          |
| (1,2825) | 2:B:652:LEU:HD12 | 1:A:207:PHE:HZ   | 10       | 0.22          |
| (1,2825) | 2:B:652:LEU:HD13 | 1:A:207:PHE:HZ   | 10       | 0.22          |
| (1,2825) | 1:A:141:LEU:HD11 | 1:A:187:TRP:HZ2  | 10       | 0.22          |
| (1,2825) | 1:A:141:LEU:HD12 | 1:A:187:TRP:HZ2  | 10       | 0.22          |
| (1,2825) | 1:A:141:LEU:HD13 | 1:A:187:TRP:HZ2  | 10       | 0.22          |
| (1,2702) | 2:B:662:LEU:H    | 2:B:663:ASN:HB2  | 3        | 0.22          |
| (1,2677) | 2:B:660:ASN:HD21 | 2:B:660:ASN:HB2  | 8        | 0.22          |
| (1,2666) | 2:B:660:ASN:H    | 2:B:660:ASN:HB2  | 10       | 0.22          |
| (1,2433) | 2:B:633:THR:H    | 2:B:632:PRO:HB2  | 8        | 0.22          |
| (1,1962) | 1:A:186:GLU:H    | 1:A:186:GLU:HG2  | 2        | 0.22          |
| (1,1962) | 1:A:186:GLU:H    | 1:A:186:GLU:HG3  | 2        | 0.22          |
| (1,1844) | 1:A:177:GLN:HE22 | 1:A:212:LEU:HB3  | 1        | 0.22          |
| (1,1072) | 1:A:218:ILE:HD11 | 1:A:218:ILE:HA   | 3        | 0.22          |
| (1,1072) | 1:A:218:ILE:HD12 | 1:A:218:ILE:HA   | 3        | 0.22          |
| (1,1072) | 1:A:218:ILE:HD13 | 1:A:218:ILE:HA   | 3        | 0.22          |
| (1,1072) | 1:A:218:ILE:HD11 | 1:A:218:ILE:HA   | 4        | 0.22          |
| (1,1072) | 1:A:218:ILE:HD12 | 1:A:218:ILE:HA   | 4        | 0.22          |
| (1,1072) | 1:A:218:ILE:HD13 | 1:A:218:ILE:HA   | 4        | 0.22          |
| (2,72)   | 2:B:663:ASN:HD22 | 2:B:664:ASP:HB3  | 4        | 0.21          |
| (2,7)    | 2:B:638:LEU:HD21 | 1:A:204:GLN:HG3  | 3        | 0.21          |
| (2,7)    | 2:B:638:LEU:HD22 | 1:A:204:GLN:HG3  | 3        | 0.21          |
| (2,7)    | 2:B:638:LEU:HD23 | 1:A:204:GLN:HG3  | 3        | 0.21          |
| (2,7)    | 2:B:638:LEU:HD21 | 1:A:204:GLN:HG3  | 6        | 0.21          |
| (2,7)    | 2:B:638:LEU:HD22 | 1:A:204:GLN:HG3  | 6        | 0.21          |
| (2,7)    | 2:B:638:LEU:HD23 | 1:A:204:GLN:HG3  | 6        | 0.21          |
| (2,59)   | 2:B:649:ASN:HD22 | 2:B:652:LEU:HD11 | 5        | 0.21          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (2,59)   | 2:B:649:ASN:HD22 | 2:B:652:LEU:HD12 | 5        | 0.21          |
| (2,59)   | 2:B:649:ASN:HD22 | 2:B:652:LEU:HD13 | 5        | 0.21          |
| (2,14)   | 1:A:215:THR:HG21 | 1:A:181:LEU:HG   | 10       | 0.21          |
| (2,14)   | 1:A:215:THR:HG22 | 1:A:181:LEU:HG   | 10       | 0.21          |
| (2,14)   | 1:A:215:THR:HG23 | 1:A:181:LEU:HG   | 10       | 0.21          |
| (1,682)  | 1:A:154:VAL:HG11 | 2:B:643:PRO:HD3  | 2        | 0.21          |
| (1,682)  | 1:A:154:VAL:HG12 | 2:B:643:PRO:HD3  | 2        | 0.21          |
| (1,682)  | 1:A:154:VAL:HG13 | 2:B:643:PRO:HD3  | 2        | 0.21          |
| (1,3738) | 1:A:213:LEU:H    | 1:A:177:GLN:HB3  | 5        | 0.21          |
| (1,3738) | 1:A:213:LEU:H    | 1:A:224:LEU:HB3  | 5        | 0.21          |
| (1,3738) | 1:A:218:ILE:H    | 2:B:666:VAL:HB   | 5        | 0.21          |
| (1,3738) | 1:A:213:LEU:H    | 2:B:666:VAL:HB   | 5        | 0.21          |
| (1,3738) | 1:A:213:LEU:H    | 1:A:227:LEU:HB2  | 5        | 0.21          |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:168:GLU:HB2  | 2        | 0.21          |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:168:GLU:HB3  | 2        | 0.21          |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:177:GLN:HB2  | 2        | 0.21          |
| (1,3481) | 1:A:208:VAL:HA   | 2:B:643:PRO:HG3  | 2        | 0.21          |
| (1,3458) | 1:A:168:GLU:HG3  | 1:A:165:ILE:HG12 | 10       | 0.21          |
| (1,3458) | 1:A:168:GLU:HG2  | 1:A:165:ILE:HG12 | 10       | 0.21          |
| (1,3407) | 1:A:163:MET:HA   | 1:A:164:MET:HB3  | 6        | 0.21          |
| (1,3407) | 1:A:163:MET:HA   | 1:A:211:GLU:HG3  | 6        | 0.21          |
| (1,3407) | 1:A:163:MET:HA   | 1:A:211:GLU:HG2  | 6        | 0.21          |
| (1,3407) | 1:A:163:MET:HA   | 2:B:643:PRO:HB2  | 6        | 0.21          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:179:LYS:HB2  | 10       | 0.21          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:179:LYS:HB2  | 10       | 0.21          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:179:LYS:HB2  | 10       | 0.21          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:174:LYS:HB3  | 10       | 0.21          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:174:LYS:HB3  | 10       | 0.21          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:174:LYS:HB3  | 10       | 0.21          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:177:GLN:HB2  | 10       | 0.21          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:177:GLN:HB2  | 10       | 0.21          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:177:GLN:HB2  | 10       | 0.21          |
| (1,1962) | 1:A:186:GLU:H    | 1:A:186:GLU:HG2  | 1        | 0.21          |
| (1,1962) | 1:A:186:GLU:H    | 1:A:186:GLU:HG3  | 1        | 0.21          |
| (1,1687) | 1:A:157:ASN:HD22 | 1:A:159:THR:HG21 | 7        | 0.21          |
| (1,1687) | 1:A:157:ASN:HD22 | 1:A:159:THR:HG22 | 7        | 0.21          |
| (1,1687) | 1:A:157:ASN:HD22 | 1:A:159:THR:HG23 | 7        | 0.21          |
| (1,1371) | 2:B:655:ALA:HB1  | 1:A:200:GLU:HB2  | 3        | 0.21          |
| (1,1371) | 2:B:655:ALA:HB2  | 1:A:200:GLU:HB2  | 3        | 0.21          |
| (1,1371) | 2:B:655:ALA:HB3  | 1:A:200:GLU:HB2  | 3        | 0.21          |
| (1,1322) | 2:B:646:GLN:HG3  | 2:B:647:TYR:HD1  | 2        | 0.21          |
| (1,1322) | 2:B:646:GLN:HG3  | 2:B:647:TYR:HD2  | 2        | 0.21          |

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| Key      | Atom-1           | Atom-2          | Model ID | Violation (Å) |
|----------|------------------|-----------------|----------|---------------|
| (1,1224) | 2:B:640:SER:HB3  | 1:A:149:PRO:HB2 | 2        | 0.21          |
| (1,1223) | 2:B:640:SER:HB3  | 1:A:149:PRO:HB3 | 6        | 0.21          |
| (2,50)   | 1:A:225:ILE:H    | 1:A:226:PRO:HB3 | 1        | 0.2           |
| (2,2)    | 2:B:631:LEU:HD11 | 2:B:630:GLU:HA  | 8        | 0.2           |
| (2,2)    | 2:B:631:LEU:HD12 | 2:B:630:GLU:HA  | 8        | 0.2           |
| (2,2)    | 2:B:631:LEU:HD13 | 2:B:630:GLU:HA  | 8        | 0.2           |
| (1,755)  | 1:A:163:MET:HG2  | 1:A:163:MET:HA  | 6        | 0.2           |
| (1,471)  | 1:A:178:LEU:HD11 | 1:A:174:LYS:HE2 | 5        | 0.2           |
| (1,471)  | 1:A:178:LEU:HD12 | 1:A:174:LYS:HE2 | 5        | 0.2           |
| (1,471)  | 1:A:178:LEU:HD13 | 1:A:174:LYS:HE2 | 5        | 0.2           |
| (1,3962) | 1:A:216:ASN:HD22 | 2:B:669:PRO:HB2 | 9        | 0.2           |
| (1,3962) | 1:A:216:ASN:HD22 | 2:B:668:ILE:HB  | 9        | 0.2           |
| (1,3934) | 1:A:210:ALA:H    | 2:B:658:LEU:HG  | 1        | 0.2           |
| (1,3934) | 1:A:156:ILE:H    | 1:A:161:PRO:HB2 | 1        | 0.2           |
| (1,3934) | 1:A:210:ALA:H    | 2:B:662:LEU:HG  | 1        | 0.2           |
| (1,3808) | 1:A:180:PHE:H    | 2:B:634:GLU:HA  | 2        | 0.2           |
| (1,3808) | 2:B:652:LEU:H    | 1:A:206:SER:HB2 | 2        | 0.2           |
| (1,3808) | 2:B:652:LEU:H    | 1:A:207:PHE:HA  | 2        | 0.2           |
| (1,3747) | 1:A:206:SER:H    | 2:B:655:ALA:HA  | 7        | 0.2           |
| (1,3747) | 1:A:206:SER:H    | 1:A:196:ALA:HA  | 7        | 0.2           |
| (1,3738) | 1:A:213:LEU:H    | 1:A:177:GLN:HB3 | 10       | 0.2           |
| (1,3738) | 1:A:213:LEU:H    | 1:A:224:LEU:HB3 | 10       | 0.2           |
| (1,3738) | 1:A:218:ILE:H    | 2:B:666:VAL:HB  | 10       | 0.2           |
| (1,3738) | 1:A:213:LEU:H    | 2:B:666:VAL:HB  | 10       | 0.2           |
| (1,3738) | 1:A:213:LEU:H    | 1:A:227:LEU:HB2 | 10       | 0.2           |
| (1,3598) | 1:A:203:PRO:HG3  | 1:A:203:PRO:HD2 | 6        | 0.2           |
| (1,3598) | 2:B:645:ARG:HB2  | 1:A:203:PRO:HD2 | 6        | 0.2           |
| (1,3598) | 2:B:645:ARG:HB2  | 2:B:645:ARG:HD2 | 6        | 0.2           |
| (1,3522) | 2:B:655:ALA:HB1  | 2:B:657:LYS:HD3 | 10       | 0.2           |
| (1,3522) | 2:B:655:ALA:HB2  | 2:B:657:LYS:HD3 | 10       | 0.2           |
| (1,3522) | 2:B:655:ALA:HB3  | 2:B:657:LYS:HD3 | 10       | 0.2           |
| (1,3522) | 2:B:655:ALA:HB1  | 2:B:657:LYS:HD2 | 10       | 0.2           |
| (1,3522) | 2:B:655:ALA:HB2  | 2:B:657:LYS:HD2 | 10       | 0.2           |
| (1,3522) | 2:B:655:ALA:HB3  | 2:B:657:LYS:HD2 | 10       | 0.2           |
| (1,3522) | 2:B:655:ALA:HB1  | 1:A:227:LEU:HB2 | 10       | 0.2           |
| (1,3522) | 2:B:655:ALA:HB2  | 1:A:227:LEU:HB2 | 10       | 0.2           |
| (1,3522) | 2:B:655:ALA:HB3  | 1:A:227:LEU:HB2 | 10       | 0.2           |
| (1,3487) | 1:A:200:GLU:HA   | 2:B:656:GLN:HG3 | 10       | 0.2           |
| (1,3487) | 1:A:200:GLU:HA   | 1:A:202:CYS:HB2 | 10       | 0.2           |
| (1,3407) | 1:A:163:MET:HA   | 1:A:164:MET:HB3 | 5        | 0.2           |
| (1,3407) | 1:A:163:MET:HA   | 1:A:211:GLU:HG3 | 5        | 0.2           |
| (1,3407) | 1:A:163:MET:HA   | 1:A:211:GLU:HG2 | 5        | 0.2           |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3407) | 1:A:163:MET:HA   | 2:B:643:PRO:HB2  | 5        | 0.2           |
| (1,3287) | 2:B:669:PRO:HG2  | 1:A:178:LEU:HD11 | 4        | 0.2           |
| (1,3287) | 2:B:669:PRO:HG2  | 1:A:178:LEU:HD12 | 4        | 0.2           |
| (1,3287) | 2:B:669:PRO:HG2  | 1:A:178:LEU:HD13 | 4        | 0.2           |
| (1,3287) | 2:B:669:PRO:HG3  | 1:A:213:LEU:HD21 | 4        | 0.2           |
| (1,3287) | 2:B:669:PRO:HG3  | 1:A:213:LEU:HD22 | 4        | 0.2           |
| (1,3287) | 2:B:669:PRO:HG3  | 1:A:213:LEU:HD23 | 4        | 0.2           |
| (1,3287) | 2:B:669:PRO:HG3  | 1:A:178:LEU:HD11 | 4        | 0.2           |
| (1,3287) | 2:B:669:PRO:HG3  | 1:A:178:LEU:HD12 | 4        | 0.2           |
| (1,3287) | 2:B:669:PRO:HG3  | 1:A:178:LEU:HD13 | 4        | 0.2           |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:179:LYS:HB2  | 8        | 0.2           |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:179:LYS:HB2  | 8        | 0.2           |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:179:LYS:HB2  | 8        | 0.2           |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:174:LYS:HB3  | 8        | 0.2           |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:174:LYS:HB3  | 8        | 0.2           |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:174:LYS:HB3  | 8        | 0.2           |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:177:GLN:HB2  | 8        | 0.2           |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:177:GLN:HB2  | 8        | 0.2           |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:177:GLN:HB2  | 8        | 0.2           |
| (1,3228) | 1:A:196:ALA:HB1  | 2:B:658:LEU:HG   | 6        | 0.2           |
| (1,3228) | 1:A:196:ALA:HB2  | 2:B:658:LEU:HG   | 6        | 0.2           |
| (1,3228) | 1:A:196:ALA:HB3  | 2:B:658:LEU:HG   | 6        | 0.2           |
| (1,3228) | 1:A:196:ALA:HB1  | 2:B:662:LEU:HG   | 6        | 0.2           |
| (1,3228) | 1:A:196:ALA:HB2  | 2:B:662:LEU:HG   | 6        | 0.2           |
| (1,3228) | 1:A:196:ALA:HB3  | 2:B:662:LEU:HG   | 6        | 0.2           |
| (1,3114) | 2:B:631:LEU:HD11 | 1:A:195:ALA:HA   | 5        | 0.2           |
| (1,3114) | 2:B:631:LEU:HD12 | 1:A:195:ALA:HA   | 5        | 0.2           |
| (1,3114) | 2:B:631:LEU:HD13 | 1:A:195:ALA:HA   | 5        | 0.2           |
| (1,2748) | 2:B:665:GLN:HE21 | 2:B:664:ASP:HB2  | 9        | 0.2           |
| (1,2547) | 2:B:646:GLN:HE21 | 2:B:646:GLN:HB3  | 6        | 0.2           |
| (1,2547) | 2:B:646:GLN:HE21 | 2:B:646:GLN:HB2  | 6        | 0.2           |
| (1,1737) | 1:A:164:MET:H    | 1:A:164:MET:HG2  | 10       | 0.2           |
| (1,1704) | 1:A:159:THR:H    | 1:A:159:THR:HG21 | 3        | 0.2           |
| (1,1704) | 1:A:159:THR:H    | 1:A:159:THR:HG22 | 3        | 0.2           |
| (1,1704) | 1:A:159:THR:H    | 1:A:159:THR:HG23 | 3        | 0.2           |
| (1,1651) | 1:A:154:VAL:H    | 1:A:155:ASN:HB3  | 10       | 0.2           |
| (3,18)   | 1:A:167:SER:O    | 1:A:171:LYS:H    | 2        | 0.19          |
| (1,551)  | 1:A:213:LEU:HD11 | 1:A:207:PHE:HD1  | 6        | 0.19          |
| (1,551)  | 1:A:213:LEU:HD11 | 1:A:207:PHE:HD2  | 6        | 0.19          |
| (1,551)  | 1:A:213:LEU:HD12 | 1:A:207:PHE:HD1  | 6        | 0.19          |
| (1,551)  | 1:A:213:LEU:HD12 | 1:A:207:PHE:HD2  | 6        | 0.19          |
| (1,551)  | 1:A:213:LEU:HD13 | 1:A:207:PHE:HD1  | 6        | 0.19          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,551)  | 1:A:213:LEU:HD13 | 1:A:207:PHE:HD2  | 6        | 0.19          |
| (1,551)  | 1:A:213:LEU:HD11 | 1:A:207:PHE:HD1  | 9        | 0.19          |
| (1,551)  | 1:A:213:LEU:HD11 | 1:A:207:PHE:HD2  | 9        | 0.19          |
| (1,551)  | 1:A:213:LEU:HD12 | 1:A:207:PHE:HD1  | 9        | 0.19          |
| (1,551)  | 1:A:213:LEU:HD12 | 1:A:207:PHE:HD2  | 9        | 0.19          |
| (1,551)  | 1:A:213:LEU:HD13 | 1:A:207:PHE:HD1  | 9        | 0.19          |
| (1,551)  | 1:A:213:LEU:HD13 | 1:A:207:PHE:HD2  | 9        | 0.19          |
| (1,551)  | 1:A:213:LEU:HD11 | 1:A:207:PHE:HD1  | 10       | 0.19          |
| (1,551)  | 1:A:213:LEU:HD11 | 1:A:207:PHE:HD2  | 10       | 0.19          |
| (1,551)  | 1:A:213:LEU:HD12 | 1:A:207:PHE:HD1  | 10       | 0.19          |
| (1,551)  | 1:A:213:LEU:HD12 | 1:A:207:PHE:HD2  | 10       | 0.19          |
| (1,551)  | 1:A:213:LEU:HD13 | 1:A:207:PHE:HD1  | 10       | 0.19          |
| (1,551)  | 1:A:213:LEU:HD13 | 1:A:207:PHE:HD2  | 10       | 0.19          |
| (1,44)   | 1:A:141:LEU:HD11 | 1:A:148:LEU:HG   | 6        | 0.19          |
| (1,44)   | 1:A:141:LEU:HD12 | 1:A:148:LEU:HG   | 6        | 0.19          |
| (1,44)   | 1:A:141:LEU:HD13 | 1:A:148:LEU:HG   | 6        | 0.19          |
| (1,4030) | 2:B:654:ASP:H    | 2:B:652:LEU:HD21 | 8        | 0.19          |
| (1,4030) | 2:B:654:ASP:H    | 2:B:652:LEU:HD22 | 8        | 0.19          |
| (1,4030) | 2:B:654:ASP:H    | 2:B:652:LEU:HD23 | 8        | 0.19          |
| (1,4030) | 2:B:654:ASP:H    | 1:A:225:ILE:HG21 | 8        | 0.19          |
| (1,4030) | 2:B:654:ASP:H    | 1:A:225:ILE:HG22 | 8        | 0.19          |
| (1,4030) | 2:B:654:ASP:H    | 1:A:225:ILE:HG23 | 8        | 0.19          |
| (1,4030) | 2:B:654:ASP:H    | 2:B:659:VAL:HG11 | 8        | 0.19          |
| (1,4030) | 2:B:654:ASP:H    | 2:B:659:VAL:HG12 | 8        | 0.19          |
| (1,4030) | 2:B:654:ASP:H    | 2:B:659:VAL:HG13 | 8        | 0.19          |
| (1,4030) | 2:B:654:ASP:H    | 1:A:213:LEU:HD11 | 8        | 0.19          |
| (1,4030) | 2:B:654:ASP:H    | 1:A:213:LEU:HD12 | 8        | 0.19          |
| (1,4030) | 2:B:654:ASP:H    | 1:A:213:LEU:HD13 | 8        | 0.19          |
| (1,400)  | 2:B:652:LEU:HD21 | 2:B:649:ASN:HA   | 10       | 0.19          |
| (1,400)  | 2:B:652:LEU:HD22 | 2:B:649:ASN:HA   | 10       | 0.19          |
| (1,400)  | 2:B:652:LEU:HD23 | 2:B:649:ASN:HA   | 10       | 0.19          |
| (1,3882) | 1:A:197:SER:H    | 1:A:192:PRO:HA   | 7        | 0.19          |
| (1,3882) | 1:A:197:SER:H    | 1:A:201:LEU:HA   | 7        | 0.19          |
| (1,3738) | 1:A:213:LEU:H    | 1:A:177:GLN:HB3  | 7        | 0.19          |
| (1,3738) | 1:A:213:LEU:H    | 1:A:224:LEU:HB3  | 7        | 0.19          |
| (1,3738) | 1:A:218:ILE:H    | 2:B:666:VAL:HB   | 7        | 0.19          |
| (1,3738) | 1:A:213:LEU:H    | 2:B:666:VAL:HB   | 7        | 0.19          |
| (1,3738) | 1:A:213:LEU:H    | 1:A:227:LEU:HB2  | 7        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD21 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD22 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD23 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD21 | 4        | 0.19          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD22 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD23 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD21 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD22 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD23 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD11 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD12 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD13 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD11 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD12 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD13 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD11 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD12 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD13 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD11 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD12 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD13 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD11 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD12 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD13 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD11 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD12 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD13 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD21 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD22 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD23 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD21 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD22 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD23 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD21 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD22 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD23 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD11 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD12 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD13 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD11 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD12 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD13 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD11 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD12 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD13 | 4        | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD21 | 10       | 0.19          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD22 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD23 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD21 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD22 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD23 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD21 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD22 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD23 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD11 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD12 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD13 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD11 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD12 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD13 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD11 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD12 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD13 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD11 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD12 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD13 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD11 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD12 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD13 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD11 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD12 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD13 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD21 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD22 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD23 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD21 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD22 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD23 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD21 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD22 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD23 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD11 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD12 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD13 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD11 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD12 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD13 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD11 | 10       | 0.19          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD12 | 10       | 0.19          |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD13 | 10       | 0.19          |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:168:GLU:HB2  | 9        | 0.19          |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:168:GLU:HB3  | 9        | 0.19          |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:177:GLN:HB2  | 9        | 0.19          |
| (1,3481) | 1:A:208:VAL:HA   | 2:B:643:PRO:HG3  | 9        | 0.19          |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:168:GLU:HB2  | 10       | 0.19          |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:168:GLU:HB3  | 10       | 0.19          |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:177:GLN:HB2  | 10       | 0.19          |
| (1,3481) | 1:A:208:VAL:HA   | 2:B:643:PRO:HG3  | 10       | 0.19          |
| (1,3393) | 1:A:179:LYS:HA   | 1:A:182:GLN:HB3  | 10       | 0.19          |
| (1,3393) | 1:A:179:LYS:HA   | 1:A:181:LEU:HB3  | 10       | 0.19          |
| (1,3283) | 2:B:666:VAL:HG21 | 1:A:213:LEU:HD11 | 8        | 0.19          |
| (1,3283) | 2:B:666:VAL:HG21 | 1:A:213:LEU:HD12 | 8        | 0.19          |
| (1,3283) | 2:B:666:VAL:HG21 | 1:A:213:LEU:HD13 | 8        | 0.19          |
| (1,3283) | 2:B:666:VAL:HG22 | 1:A:213:LEU:HD11 | 8        | 0.19          |
| (1,3283) | 2:B:666:VAL:HG22 | 1:A:213:LEU:HD12 | 8        | 0.19          |
| (1,3283) | 2:B:666:VAL:HG22 | 1:A:213:LEU:HD13 | 8        | 0.19          |
| (1,3283) | 2:B:666:VAL:HG23 | 1:A:213:LEU:HD11 | 8        | 0.19          |
| (1,3283) | 2:B:666:VAL:HG23 | 1:A:213:LEU:HD12 | 8        | 0.19          |
| (1,3283) | 2:B:666:VAL:HG23 | 1:A:213:LEU:HD13 | 8        | 0.19          |
| (1,3283) | 2:B:666:VAL:HG21 | 2:B:658:LEU:HD11 | 8        | 0.19          |
| (1,3283) | 2:B:666:VAL:HG21 | 2:B:658:LEU:HD12 | 8        | 0.19          |
| (1,3283) | 2:B:666:VAL:HG21 | 2:B:658:LEU:HD13 | 8        | 0.19          |
| (1,3283) | 2:B:666:VAL:HG22 | 2:B:658:LEU:HD11 | 8        | 0.19          |
| (1,3283) | 2:B:666:VAL:HG22 | 2:B:658:LEU:HD12 | 8        | 0.19          |
| (1,3283) | 2:B:666:VAL:HG22 | 2:B:658:LEU:HD13 | 8        | 0.19          |
| (1,3283) | 2:B:666:VAL:HG23 | 2:B:658:LEU:HD11 | 8        | 0.19          |
| (1,3283) | 2:B:666:VAL:HG23 | 2:B:658:LEU:HD12 | 8        | 0.19          |
| (1,3283) | 2:B:666:VAL:HG23 | 2:B:658:LEU:HD13 | 8        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB1  | 1:A:165:ILE:HG21 | 7        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB1  | 1:A:165:ILE:HG22 | 7        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB1  | 1:A:165:ILE:HG23 | 7        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB2  | 1:A:165:ILE:HG21 | 7        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB2  | 1:A:165:ILE:HG22 | 7        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB2  | 1:A:165:ILE:HG23 | 7        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB3  | 1:A:165:ILE:HG21 | 7        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB3  | 1:A:165:ILE:HG22 | 7        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB3  | 1:A:165:ILE:HG23 | 7        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB1  | 1:A:181:LEU:HD11 | 7        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB1  | 1:A:181:LEU:HD12 | 7        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB1  | 1:A:181:LEU:HD13 | 7        | 0.19          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3279) | 1:A:170:ALA:HB2  | 1:A:181:LEU:HD11 | 7        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB2  | 1:A:181:LEU:HD12 | 7        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB2  | 1:A:181:LEU:HD13 | 7        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB3  | 1:A:181:LEU:HD11 | 7        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB3  | 1:A:181:LEU:HD12 | 7        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB3  | 1:A:181:LEU:HD13 | 7        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB1  | 2:B:641:VAL:HG21 | 7        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB1  | 2:B:641:VAL:HG22 | 7        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB1  | 2:B:641:VAL:HG23 | 7        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB2  | 2:B:641:VAL:HG21 | 7        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB2  | 2:B:641:VAL:HG22 | 7        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB2  | 2:B:641:VAL:HG23 | 7        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB3  | 2:B:641:VAL:HG21 | 7        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB3  | 2:B:641:VAL:HG22 | 7        | 0.19          |
| (1,3279) | 1:A:170:ALA:HB3  | 2:B:641:VAL:HG23 | 7        | 0.19          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG11 | 1        | 0.19          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG12 | 1        | 0.19          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG13 | 1        | 0.19          |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD21 | 1        | 0.19          |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD22 | 1        | 0.19          |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD23 | 1        | 0.19          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD21 | 1        | 0.19          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD22 | 1        | 0.19          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD23 | 1        | 0.19          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG21 | 1        | 0.19          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG22 | 1        | 0.19          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG23 | 1        | 0.19          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG11 | 9        | 0.19          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG12 | 9        | 0.19          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG13 | 9        | 0.19          |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD21 | 9        | 0.19          |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD22 | 9        | 0.19          |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD23 | 9        | 0.19          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD21 | 9        | 0.19          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD22 | 9        | 0.19          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD23 | 9        | 0.19          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG21 | 9        | 0.19          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG22 | 9        | 0.19          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG23 | 9        | 0.19          |
| (2,72)   | 2:B:663:ASN:HD22 | 2:B:664:ASP:HB3  | 8        | 0.18          |
| (2,7)    | 2:B:638:LEU:HD21 | 1:A:204:GLN:HG3  | 4        | 0.18          |
| (2,7)    | 2:B:638:LEU:HD22 | 1:A:204:GLN:HG3  | 4        | 0.18          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (2,7)    | 2:B:638:LEU:HD23 | 1:A:204:GLN:HG3  | 4        | 0.18          |
| (2,7)    | 2:B:638:LEU:HD21 | 1:A:204:GLN:HG3  | 10       | 0.18          |
| (2,7)    | 2:B:638:LEU:HD22 | 1:A:204:GLN:HG3  | 10       | 0.18          |
| (2,7)    | 2:B:638:LEU:HD23 | 1:A:204:GLN:HG3  | 10       | 0.18          |
| (2,50)   | 1:A:225:ILE:H    | 1:A:226:PRO:HB3  | 2        | 0.18          |
| (1,551)  | 1:A:213:LEU:HD11 | 1:A:207:PHE:HD1  | 8        | 0.18          |
| (1,551)  | 1:A:213:LEU:HD11 | 1:A:207:PHE:HD2  | 8        | 0.18          |
| (1,551)  | 1:A:213:LEU:HD12 | 1:A:207:PHE:HD1  | 8        | 0.18          |
| (1,551)  | 1:A:213:LEU:HD12 | 1:A:207:PHE:HD2  | 8        | 0.18          |
| (1,551)  | 1:A:213:LEU:HD13 | 1:A:207:PHE:HD1  | 8        | 0.18          |
| (1,551)  | 1:A:213:LEU:HD13 | 1:A:207:PHE:HD2  | 8        | 0.18          |
| (1,3912) | 1:A:205:LEU:H    | 2:B:642:ILE:HG12 | 5        | 0.18          |
| (1,3912) | 1:A:205:LEU:H    | 2:B:638:LEU:HG   | 5        | 0.18          |
| (1,3813) | 1:A:180:PHE:H    | 1:A:181:LEU:HB3  | 10       | 0.18          |
| (1,3813) | 1:A:180:PHE:H    | 2:B:632:PRO:HG3  | 10       | 0.18          |
| (1,3813) | 1:A:180:PHE:H    | 1:A:185:GLN:HB3  | 10       | 0.18          |
| (1,3808) | 1:A:180:PHE:H    | 2:B:634:GLU:HA   | 10       | 0.18          |
| (1,3808) | 2:B:652:LEU:H    | 1:A:206:SER:HB2  | 10       | 0.18          |
| (1,3808) | 2:B:652:LEU:H    | 1:A:207:PHE:HA   | 10       | 0.18          |
| (1,3747) | 1:A:206:SER:H    | 2:B:655:ALA:HA   | 1        | 0.18          |
| (1,3747) | 1:A:206:SER:H    | 1:A:196:ALA:HA   | 1        | 0.18          |
| (1,3556) | 1:A:204:GLN:HB3  | 2:B:639:LEU:HA   | 1        | 0.18          |
| (1,353)  | 2:B:638:LEU:HA   | 1:A:180:PHE:HD1  | 8        | 0.18          |
| (1,353)  | 2:B:638:LEU:HA   | 1:A:180:PHE:HD2  | 8        | 0.18          |
| (1,353)  | 2:B:638:LEU:HA   | 1:A:180:PHE:HD1  | 10       | 0.18          |
| (1,353)  | 2:B:638:LEU:HA   | 1:A:180:PHE:HD2  | 10       | 0.18          |
| (1,3528) | 2:B:652:LEU:HD21 | 1:A:203:PRO:HG2  | 8        | 0.18          |
| (1,3528) | 2:B:652:LEU:HD22 | 1:A:203:PRO:HG2  | 8        | 0.18          |
| (1,3528) | 2:B:652:LEU:HD23 | 1:A:203:PRO:HG2  | 8        | 0.18          |
| (1,3528) | 1:A:141:LEU:HD21 | 1:A:147:GLU:HG2  | 8        | 0.18          |
| (1,3528) | 1:A:141:LEU:HD22 | 1:A:147:GLU:HG2  | 8        | 0.18          |
| (1,3528) | 1:A:141:LEU:HD23 | 1:A:147:GLU:HG2  | 8        | 0.18          |
| (1,3528) | 1:A:141:LEU:HD21 | 1:A:147:GLU:HG3  | 8        | 0.18          |
| (1,3528) | 1:A:141:LEU:HD22 | 1:A:147:GLU:HG3  | 8        | 0.18          |
| (1,3528) | 1:A:141:LEU:HD23 | 1:A:147:GLU:HG3  | 8        | 0.18          |
| (1,3528) | 1:A:141:LEU:HD21 | 1:A:146:PRO:HB3  | 8        | 0.18          |
| (1,3528) | 1:A:141:LEU:HD22 | 1:A:146:PRO:HB3  | 8        | 0.18          |
| (1,3528) | 1:A:141:LEU:HD23 | 1:A:146:PRO:HB3  | 8        | 0.18          |
| (1,3528) | 1:A:141:LEU:HD21 | 1:A:200:GLU:HB2  | 8        | 0.18          |
| (1,3528) | 1:A:141:LEU:HD22 | 1:A:200:GLU:HB2  | 8        | 0.18          |
| (1,3528) | 1:A:141:LEU:HD23 | 1:A:200:GLU:HB2  | 8        | 0.18          |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:168:GLU:HB2  | 5        | 0.18          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3481) | 1:A:208:VAL:HA   | 1:A:168:GLU:HB3  | 5        | 0.18          |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:177:GLN:HB2  | 5        | 0.18          |
| (1,3481) | 1:A:208:VAL:HA   | 2:B:643:PRO:HG3  | 5        | 0.18          |
| (1,3208) | 1:A:193:GLU:HG2  | 1:A:196:ALA:HA   | 8        | 0.18          |
| (1,3208) | 1:A:147:GLU:HG2  | 1:A:144:LYS:HA   | 8        | 0.18          |
| (1,3208) | 1:A:147:GLU:HG3  | 1:A:144:LYS:HA   | 8        | 0.18          |
| (1,3208) | 1:A:147:GLU:HG3  | 2:B:640:SER:HB2  | 8        | 0.18          |
| (1,3208) | 1:A:147:GLU:HG2  | 2:B:640:SER:HB2  | 8        | 0.18          |
| (1,3208) | 1:A:147:GLU:HG3  | 1:A:150:SER:HB2  | 8        | 0.18          |
| (1,3208) | 1:A:193:GLU:HG2  | 1:A:199:LEU:HA   | 8        | 0.18          |
| (1,3088) | 2:B:631:LEU:HD21 | 1:A:149:PRO:HD3  | 3        | 0.18          |
| (1,3088) | 2:B:631:LEU:HD22 | 1:A:149:PRO:HD3  | 3        | 0.18          |
| (1,3088) | 2:B:631:LEU:HD23 | 1:A:149:PRO:HD3  | 3        | 0.18          |
| (1,3088) | 2:B:631:LEU:HD21 | 1:A:180:PHE:HA   | 3        | 0.18          |
| (1,3088) | 2:B:631:LEU:HD22 | 1:A:180:PHE:HA   | 3        | 0.18          |
| (1,3088) | 2:B:631:LEU:HD23 | 1:A:180:PHE:HA   | 3        | 0.18          |
| (1,2061) | 1:A:193:GLU:H    | 1:A:194:ASP:HB3  | 10       | 0.18          |
| (1,1990) | 1:A:187:TRP:HE1  | 2:B:632:PRO:HG3  | 3        | 0.18          |
| (1,1783) | 1:A:171:LYS:H    | 1:A:171:LYS:HG3  | 10       | 0.18          |
| (1,1229) | 2:B:640:SER:HB2  | 1:A:149:PRO:HG2  | 6        | 0.18          |
| (1,821)  | 1:A:176:VAL:HA   | 1:A:179:LYS:HB2  | 2        | 0.17          |
| (1,664)  | 1:A:152:ILE:HD11 | 2:B:643:PRO:HB2  | 7        | 0.17          |
| (1,664)  | 1:A:152:ILE:HD12 | 2:B:643:PRO:HB2  | 7        | 0.17          |
| (1,664)  | 1:A:152:ILE:HD13 | 2:B:643:PRO:HB2  | 7        | 0.17          |
| (1,4057) | 2:B:662:LEU:H    | 2:B:663:ASN:HD21 | 6        | 0.17          |
| (1,4057) | 2:B:662:LEU:H    | 2:B:665:GLN:HE21 | 6        | 0.17          |
| (1,3934) | 1:A:210:ALA:H    | 2:B:658:LEU:HG   | 3        | 0.17          |
| (1,3934) | 1:A:156:ILE:H    | 1:A:161:PRO:HB2  | 3        | 0.17          |
| (1,3934) | 1:A:210:ALA:H    | 2:B:662:LEU:HG   | 3        | 0.17          |
| (1,3934) | 1:A:210:ALA:H    | 2:B:658:LEU:HG   | 8        | 0.17          |
| (1,3934) | 1:A:156:ILE:H    | 1:A:161:PRO:HB2  | 8        | 0.17          |
| (1,3934) | 1:A:210:ALA:H    | 2:B:662:LEU:HG   | 8        | 0.17          |
| (1,3912) | 1:A:205:LEU:H    | 2:B:642:ILE:HG12 | 6        | 0.17          |
| (1,3912) | 1:A:205:LEU:H    | 2:B:638:LEU:HG   | 6        | 0.17          |
| (1,3800) | 1:A:178:LEU:H    | 1:A:182:GLN:HG2  | 3        | 0.17          |
| (1,3800) | 1:A:178:LEU:H    | 2:B:669:PRO:HB3  | 3        | 0.17          |
| (1,3747) | 1:A:206:SER:H    | 2:B:655:ALA:HA   | 2        | 0.17          |
| (1,3747) | 1:A:206:SER:H    | 1:A:196:ALA:HA   | 2        | 0.17          |
| (1,3747) | 1:A:206:SER:H    | 2:B:655:ALA:HA   | 5        | 0.17          |
| (1,3747) | 1:A:206:SER:H    | 1:A:196:ALA:HA   | 5        | 0.17          |
| (1,3747) | 1:A:206:SER:H    | 2:B:655:ALA:HA   | 9        | 0.17          |
| (1,3747) | 1:A:206:SER:H    | 1:A:196:ALA:HA   | 9        | 0.17          |

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| Key      | Atom-1           | Atom-2          | Model ID | Violation (Å) |
|----------|------------------|-----------------|----------|---------------|
| (1,3738) | 1:A:213:LEU:H    | 1:A:177:GLN:HB3 | 2        | 0.17          |
| (1,3738) | 1:A:213:LEU:H    | 1:A:224:LEU:HB3 | 2        | 0.17          |
| (1,3738) | 1:A:218:ILE:H    | 2:B:666:VAL:HB  | 2        | 0.17          |
| (1,3738) | 1:A:213:LEU:H    | 2:B:666:VAL:HB  | 2        | 0.17          |
| (1,3738) | 1:A:213:LEU:H    | 1:A:227:LEU:HB2 | 2        | 0.17          |
| (1,3674) | 2:B:657:LYS:H    | 1:A:200:GLU:HG3 | 10       | 0.17          |
| (1,3674) | 2:B:657:LYS:H    | 1:A:200:GLU:HG2 | 10       | 0.17          |
| (1,3674) | 2:B:657:LYS:H    | 1:A:226:PRO:HB3 | 10       | 0.17          |
| (1,3630) | 2:B:648:PHE:HZ   | 2:B:643:PRO:HD3 | 2        | 0.17          |
| (1,3630) | 2:B:648:PHE:HZ   | 1:A:162:ALA:HA  | 2        | 0.17          |
| (1,3630) | 2:B:648:PHE:HZ   | 1:A:161:PRO:HD3 | 2        | 0.17          |
| (1,361)  | 2:B:638:LEU:HD11 | 1:A:180:PHE:HB3 | 2        | 0.17          |
| (1,361)  | 2:B:638:LEU:HD12 | 1:A:180:PHE:HB3 | 2        | 0.17          |
| (1,361)  | 2:B:638:LEU:HD13 | 1:A:180:PHE:HB3 | 2        | 0.17          |
| (1,361)  | 2:B:638:LEU:HD11 | 1:A:180:PHE:HB3 | 3        | 0.17          |
| (1,361)  | 2:B:638:LEU:HD12 | 1:A:180:PHE:HB3 | 3        | 0.17          |
| (1,361)  | 2:B:638:LEU:HD13 | 1:A:180:PHE:HB3 | 3        | 0.17          |
| (1,3556) | 1:A:204:GLN:HB3  | 2:B:639:LEU:HA  | 8        | 0.17          |
| (1,3522) | 2:B:655:ALA:HB1  | 2:B:657:LYS:HD3 | 3        | 0.17          |
| (1,3522) | 2:B:655:ALA:HB2  | 2:B:657:LYS:HD3 | 3        | 0.17          |
| (1,3522) | 2:B:655:ALA:HB3  | 2:B:657:LYS:HD3 | 3        | 0.17          |
| (1,3522) | 2:B:655:ALA:HB1  | 2:B:657:LYS:HD2 | 3        | 0.17          |
| (1,3522) | 2:B:655:ALA:HB2  | 2:B:657:LYS:HD2 | 3        | 0.17          |
| (1,3522) | 2:B:655:ALA:HB3  | 2:B:657:LYS:HD2 | 3        | 0.17          |
| (1,3522) | 2:B:655:ALA:HB1  | 1:A:227:LEU:HB2 | 3        | 0.17          |
| (1,3522) | 2:B:655:ALA:HB2  | 1:A:227:LEU:HB2 | 3        | 0.17          |
| (1,3522) | 2:B:655:ALA:HB3  | 1:A:227:LEU:HB2 | 3        | 0.17          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:179:LYS:HB2 | 7        | 0.17          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:179:LYS:HB2 | 7        | 0.17          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:179:LYS:HB2 | 7        | 0.17          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:174:LYS:HB3 | 7        | 0.17          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:174:LYS:HB3 | 7        | 0.17          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:174:LYS:HB3 | 7        | 0.17          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:177:GLN:HB2 | 7        | 0.17          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:177:GLN:HB2 | 7        | 0.17          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:177:GLN:HB2 | 7        | 0.17          |
| (1,3232) | 2:B:633:THR:HG21 | 2:B:632:PRO:HG3 | 6        | 0.17          |
| (1,3232) | 2:B:633:THR:HG22 | 2:B:632:PRO:HG3 | 6        | 0.17          |
| (1,3232) | 2:B:633:THR:HG23 | 2:B:632:PRO:HG3 | 6        | 0.17          |
| (1,3219) | 1:A:228:ALA:HB1  | 1:A:225:ILE:HB  | 7        | 0.17          |
| (1,3219) | 1:A:228:ALA:HB2  | 1:A:225:ILE:HB  | 7        | 0.17          |
| (1,3219) | 1:A:228:ALA:HB3  | 1:A:225:ILE:HB  | 7        | 0.17          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3219) | 1:A:228:ALA:HB1  | 2:B:658:LEU:HB3  | 7        | 0.17          |
| (1,3219) | 1:A:228:ALA:HB2  | 2:B:658:LEU:HB3  | 7        | 0.17          |
| (1,3219) | 1:A:228:ALA:HB3  | 2:B:658:LEU:HB3  | 7        | 0.17          |
| (1,3208) | 1:A:193:GLU:HG2  | 1:A:196:ALA:HA   | 1        | 0.17          |
| (1,3208) | 1:A:147:GLU:HG2  | 1:A:144:LYS:HA   | 1        | 0.17          |
| (1,3208) | 1:A:147:GLU:HG3  | 1:A:144:LYS:HA   | 1        | 0.17          |
| (1,3208) | 1:A:147:GLU:HG3  | 2:B:640:SER:HB2  | 1        | 0.17          |
| (1,3208) | 1:A:147:GLU:HG2  | 2:B:640:SER:HB2  | 1        | 0.17          |
| (1,3208) | 1:A:147:GLU:HG3  | 1:A:150:SER:HB2  | 1        | 0.17          |
| (1,3208) | 1:A:193:GLU:HG2  | 1:A:199:LEU:HA   | 1        | 0.17          |
| (1,3113) | 1:A:169:LEU:HD21 | 1:A:204:GLN:HG3  | 1        | 0.17          |
| (1,3113) | 1:A:169:LEU:HD22 | 1:A:204:GLN:HG3  | 1        | 0.17          |
| (1,3113) | 1:A:169:LEU:HD23 | 1:A:204:GLN:HG3  | 1        | 0.17          |
| (1,3113) | 1:A:169:LEU:HD21 | 1:A:216:ASN:HB2  | 1        | 0.17          |
| (1,3113) | 1:A:169:LEU:HD22 | 1:A:216:ASN:HB2  | 1        | 0.17          |
| (1,3113) | 1:A:169:LEU:HD23 | 1:A:216:ASN:HB2  | 1        | 0.17          |
| (1,2420) | 2:B:631:LEU:H    | 2:B:630:GLU:HB3  | 9        | 0.17          |
| (1,1651) | 1:A:154:VAL:H    | 1:A:155:ASN:HB3  | 3        | 0.17          |
| (1,1371) | 2:B:655:ALA:HB1  | 1:A:200:GLU:HB2  | 1        | 0.17          |
| (1,1371) | 2:B:655:ALA:HB2  | 1:A:200:GLU:HB2  | 1        | 0.17          |
| (1,1371) | 2:B:655:ALA:HB3  | 1:A:200:GLU:HB2  | 1        | 0.17          |
| (1,1226) | 2:B:640:SER:HB3  | 1:A:152:ILE:HG21 | 3        | 0.17          |
| (1,1226) | 2:B:640:SER:HB3  | 1:A:152:ILE:HG22 | 3        | 0.17          |
| (1,1226) | 2:B:640:SER:HB3  | 1:A:152:ILE:HG23 | 3        | 0.17          |
| (3,18)   | 1:A:167:SER:O    | 1:A:171:LYS:H    | 8        | 0.16          |
| (2,7)    | 2:B:638:LEU:HD21 | 1:A:204:GLN:HG3  | 7        | 0.16          |
| (2,7)    | 2:B:638:LEU:HD22 | 1:A:204:GLN:HG3  | 7        | 0.16          |
| (2,7)    | 2:B:638:LEU:HD23 | 1:A:204:GLN:HG3  | 7        | 0.16          |
| (2,7)    | 2:B:638:LEU:HD21 | 1:A:204:GLN:HG3  | 8        | 0.16          |
| (2,7)    | 2:B:638:LEU:HD22 | 1:A:204:GLN:HG3  | 8        | 0.16          |
| (2,7)    | 2:B:638:LEU:HD23 | 1:A:204:GLN:HG3  | 8        | 0.16          |
| (2,64)   | 2:B:659:VAL:H    | 2:B:660:ASN:HB3  | 3        | 0.16          |
| (1,664)  | 1:A:152:ILE:HD11 | 2:B:643:PRO:HB2  | 2        | 0.16          |
| (1,664)  | 1:A:152:ILE:HD12 | 2:B:643:PRO:HB2  | 2        | 0.16          |
| (1,664)  | 1:A:152:ILE:HD13 | 2:B:643:PRO:HB2  | 2        | 0.16          |
| (1,664)  | 1:A:152:ILE:HD11 | 2:B:643:PRO:HB2  | 4        | 0.16          |
| (1,664)  | 1:A:152:ILE:HD12 | 2:B:643:PRO:HB2  | 4        | 0.16          |
| (1,664)  | 1:A:152:ILE:HD13 | 2:B:643:PRO:HB2  | 4        | 0.16          |
| (1,551)  | 1:A:213:LEU:HD11 | 1:A:207:PHE:HD1  | 7        | 0.16          |
| (1,551)  | 1:A:213:LEU:HD11 | 1:A:207:PHE:HD2  | 7        | 0.16          |
| (1,551)  | 1:A:213:LEU:HD12 | 1:A:207:PHE:HD1  | 7        | 0.16          |
| (1,551)  | 1:A:213:LEU:HD12 | 1:A:207:PHE:HD2  | 7        | 0.16          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,551)  | 1:A:213:LEU:HD13 | 1:A:207:PHE:HD1  | 7        | 0.16          |
| (1,551)  | 1:A:213:LEU:HD13 | 1:A:207:PHE:HD2  | 7        | 0.16          |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD21 | 1        | 0.16          |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD22 | 1        | 0.16          |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD23 | 1        | 0.16          |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD21 | 1        | 0.16          |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD22 | 1        | 0.16          |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD23 | 1        | 0.16          |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD21 | 1        | 0.16          |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD22 | 1        | 0.16          |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD23 | 1        | 0.16          |
| (1,3934) | 1:A:210:ALA:H    | 2:B:658:LEU:HG   | 5        | 0.16          |
| (1,3934) | 1:A:156:ILE:H    | 1:A:161:PRO:HB2  | 5        | 0.16          |
| (1,3934) | 1:A:210:ALA:H    | 2:B:662:LEU:HG   | 5        | 0.16          |
| (1,3912) | 1:A:205:LEU:H    | 2:B:642:ILE:HG12 | 10       | 0.16          |
| (1,3912) | 1:A:205:LEU:H    | 2:B:638:LEU:HG   | 10       | 0.16          |
| (1,3828) | 1:A:183:LYS:H    | 1:A:178:LEU:HA   | 2        | 0.16          |
| (1,3828) | 1:A:183:LYS:H    | 2:B:669:PRO:HD2  | 2        | 0.16          |
| (1,3828) | 2:B:657:LYS:H    | 1:A:206:SER:HB2  | 2        | 0.16          |
| (1,3828) | 2:B:657:LYS:H    | 1:A:206:SER:HA   | 2        | 0.16          |
| (1,3601) | 1:A:204:GLN:HG2  | 2:B:639:LEU:HD21 | 4        | 0.16          |
| (1,3601) | 1:A:204:GLN:HG2  | 2:B:639:LEU:HD22 | 4        | 0.16          |
| (1,3601) | 1:A:204:GLN:HG2  | 2:B:639:LEU:HD23 | 4        | 0.16          |
| (1,3601) | 2:B:669:PRO:HB2  | 1:A:178:LEU:HD21 | 4        | 0.16          |
| (1,3601) | 2:B:669:PRO:HB2  | 1:A:178:LEU:HD22 | 4        | 0.16          |
| (1,3601) | 2:B:669:PRO:HB2  | 1:A:178:LEU:HD23 | 4        | 0.16          |
| (1,3601) | 1:A:174:LYS:HB3  | 1:A:178:LEU:HD11 | 4        | 0.16          |
| (1,3601) | 1:A:174:LYS:HB3  | 1:A:178:LEU:HD12 | 4        | 0.16          |
| (1,3601) | 1:A:174:LYS:HB3  | 1:A:178:LEU:HD13 | 4        | 0.16          |
| (1,3601) | 2:B:669:PRO:HB2  | 1:A:178:LEU:HD11 | 4        | 0.16          |
| (1,3601) | 2:B:669:PRO:HB2  | 1:A:178:LEU:HD12 | 4        | 0.16          |
| (1,3601) | 2:B:669:PRO:HB2  | 1:A:178:LEU:HD13 | 4        | 0.16          |
| (1,3601) | 1:A:174:LYS:HB3  | 1:A:178:LEU:HD21 | 4        | 0.16          |
| (1,3601) | 1:A:174:LYS:HB3  | 1:A:178:LEU:HD22 | 4        | 0.16          |
| (1,3601) | 1:A:174:LYS:HB3  | 1:A:178:LEU:HD23 | 4        | 0.16          |
| (1,3601) | 1:A:204:GLN:HG2  | 2:B:642:ILE:HG21 | 4        | 0.16          |
| (1,3601) | 1:A:204:GLN:HG2  | 2:B:642:ILE:HG22 | 4        | 0.16          |
| (1,3601) | 1:A:204:GLN:HG2  | 2:B:642:ILE:HG23 | 4        | 0.16          |
| (1,3556) | 1:A:204:GLN:HB3  | 2:B:639:LEU:HA   | 9        | 0.16          |
| (1,3528) | 2:B:652:LEU:HD21 | 1:A:203:PRO:HG2  | 7        | 0.16          |
| (1,3528) | 2:B:652:LEU:HD22 | 1:A:203:PRO:HG2  | 7        | 0.16          |
| (1,3528) | 2:B:652:LEU:HD23 | 1:A:203:PRO:HG2  | 7        | 0.16          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3528) | 1:A:141:LEU:HD21 | 1:A:147:GLU:HG2  | 7        | 0.16          |
| (1,3528) | 1:A:141:LEU:HD22 | 1:A:147:GLU:HG2  | 7        | 0.16          |
| (1,3528) | 1:A:141:LEU:HD23 | 1:A:147:GLU:HG2  | 7        | 0.16          |
| (1,3528) | 1:A:141:LEU:HD21 | 1:A:147:GLU:HG3  | 7        | 0.16          |
| (1,3528) | 1:A:141:LEU:HD22 | 1:A:147:GLU:HG3  | 7        | 0.16          |
| (1,3528) | 1:A:141:LEU:HD23 | 1:A:147:GLU:HG3  | 7        | 0.16          |
| (1,3528) | 1:A:141:LEU:HD21 | 1:A:146:PRO:HB3  | 7        | 0.16          |
| (1,3528) | 1:A:141:LEU:HD22 | 1:A:146:PRO:HB3  | 7        | 0.16          |
| (1,3528) | 1:A:141:LEU:HD23 | 1:A:146:PRO:HB3  | 7        | 0.16          |
| (1,3528) | 1:A:141:LEU:HD21 | 1:A:200:GLU:HB2  | 7        | 0.16          |
| (1,3528) | 1:A:141:LEU:HD22 | 1:A:200:GLU:HB2  | 7        | 0.16          |
| (1,3528) | 1:A:141:LEU:HD23 | 1:A:200:GLU:HB2  | 7        | 0.16          |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:168:GLU:HB2  | 6        | 0.16          |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:168:GLU:HB3  | 6        | 0.16          |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:177:GLN:HB2  | 6        | 0.16          |
| (1,3481) | 1:A:208:VAL:HA   | 2:B:643:PRO:HG3  | 6        | 0.16          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:179:LYS:HB2  | 6        | 0.16          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:179:LYS:HB2  | 6        | 0.16          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:179:LYS:HB2  | 6        | 0.16          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:174:LYS:HB3  | 6        | 0.16          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:174:LYS:HB3  | 6        | 0.16          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:174:LYS:HB3  | 6        | 0.16          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:177:GLN:HB2  | 6        | 0.16          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:177:GLN:HB2  | 6        | 0.16          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:177:GLN:HB2  | 6        | 0.16          |
| (1,3228) | 1:A:196:ALA:HB1  | 2:B:658:LEU:HG   | 5        | 0.16          |
| (1,3228) | 1:A:196:ALA:HB2  | 2:B:658:LEU:HG   | 5        | 0.16          |
| (1,3228) | 1:A:196:ALA:HB3  | 2:B:658:LEU:HG   | 5        | 0.16          |
| (1,3228) | 1:A:196:ALA:HB1  | 2:B:662:LEU:HG   | 5        | 0.16          |
| (1,3228) | 1:A:196:ALA:HB2  | 2:B:662:LEU:HG   | 5        | 0.16          |
| (1,3228) | 1:A:196:ALA:HB3  | 2:B:662:LEU:HG   | 5        | 0.16          |
| (1,3228) | 1:A:196:ALA:HB1  | 2:B:658:LEU:HG   | 10       | 0.16          |
| (1,3228) | 1:A:196:ALA:HB2  | 2:B:658:LEU:HG   | 10       | 0.16          |
| (1,3228) | 1:A:196:ALA:HB3  | 2:B:658:LEU:HG   | 10       | 0.16          |
| (1,3228) | 1:A:196:ALA:HB1  | 2:B:662:LEU:HG   | 10       | 0.16          |
| (1,3228) | 1:A:196:ALA:HB2  | 2:B:662:LEU:HG   | 10       | 0.16          |
| (1,3228) | 1:A:196:ALA:HB3  | 2:B:662:LEU:HG   | 10       | 0.16          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG11 | 10       | 0.16          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG12 | 10       | 0.16          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG13 | 10       | 0.16          |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD21 | 10       | 0.16          |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD22 | 10       | 0.16          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD23 | 10       | 0.16          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD21 | 10       | 0.16          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD22 | 10       | 0.16          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD23 | 10       | 0.16          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG21 | 10       | 0.16          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG22 | 10       | 0.16          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG23 | 10       | 0.16          |
| (1,2247) | 1:A:215:THR:H    | 1:A:216:ASN:HB3  | 5        | 0.16          |
| (1,2061) | 1:A:193:GLU:H    | 1:A:194:ASP:HB3  | 3        | 0.16          |
| (1,1976) | 1:A:187:TRP:HE1  | 1:A:188:THR:HA   | 5        | 0.16          |
| (1,1651) | 1:A:154:VAL:H    | 1:A:155:ASN:HB3  | 5        | 0.16          |
| (1,1312) | 2:B:645:ARG:HA   | 2:B:648:PHE:HD1  | 8        | 0.16          |
| (1,1312) | 2:B:645:ARG:HA   | 2:B:648:PHE:HD2  | 8        | 0.16          |
| (1,1247) | 2:B:642:ILE:HD11 | 1:A:208:VAL:HB   | 2        | 0.16          |
| (1,1247) | 2:B:642:ILE:HD12 | 1:A:208:VAL:HB   | 2        | 0.16          |
| (1,1247) | 2:B:642:ILE:HD13 | 1:A:208:VAL:HB   | 2        | 0.16          |
| (3,84)   | 2:B:636:LEU:O    | 2:B:640:SER:H    | 2        | 0.15          |
| (3,54)   | 1:A:197:SER:O    | 1:A:201:LEU:H    | 1        | 0.15          |
| (2,75)   | 2:B:663:ASN:HD21 | 1:A:192:PRO:HD2  | 1        | 0.15          |
| (2,66)   | 2:B:660:ASN:HD22 | 2:B:656:GLN:HG3  | 7        | 0.15          |
| (1,755)  | 1:A:163:MET:HG2  | 1:A:163:MET:HA   | 7        | 0.15          |
| (1,551)  | 1:A:213:LEU:HD11 | 1:A:207:PHE:HD1  | 3        | 0.15          |
| (1,551)  | 1:A:213:LEU:HD11 | 1:A:207:PHE:HD2  | 3        | 0.15          |
| (1,551)  | 1:A:213:LEU:HD12 | 1:A:207:PHE:HD1  | 3        | 0.15          |
| (1,551)  | 1:A:213:LEU:HD12 | 1:A:207:PHE:HD2  | 3        | 0.15          |
| (1,551)  | 1:A:213:LEU:HD13 | 1:A:207:PHE:HD1  | 3        | 0.15          |
| (1,551)  | 1:A:213:LEU:HD13 | 1:A:207:PHE:HD2  | 3        | 0.15          |
| (1,551)  | 1:A:213:LEU:HD11 | 1:A:207:PHE:HD1  | 4        | 0.15          |
| (1,551)  | 1:A:213:LEU:HD11 | 1:A:207:PHE:HD2  | 4        | 0.15          |
| (1,551)  | 1:A:213:LEU:HD12 | 1:A:207:PHE:HD1  | 4        | 0.15          |
| (1,551)  | 1:A:213:LEU:HD12 | 1:A:207:PHE:HD2  | 4        | 0.15          |
| (1,551)  | 1:A:213:LEU:HD13 | 1:A:207:PHE:HD1  | 4        | 0.15          |
| (1,551)  | 1:A:213:LEU:HD13 | 1:A:207:PHE:HD2  | 4        | 0.15          |
| (1,551)  | 1:A:213:LEU:HD11 | 1:A:207:PHE:HD1  | 5        | 0.15          |
| (1,551)  | 1:A:213:LEU:HD11 | 1:A:207:PHE:HD2  | 5        | 0.15          |
| (1,551)  | 1:A:213:LEU:HD12 | 1:A:207:PHE:HD1  | 5        | 0.15          |
| (1,551)  | 1:A:213:LEU:HD12 | 1:A:207:PHE:HD2  | 5        | 0.15          |
| (1,551)  | 1:A:213:LEU:HD13 | 1:A:207:PHE:HD1  | 5        | 0.15          |
| (1,551)  | 1:A:213:LEU:HD13 | 1:A:207:PHE:HD2  | 5        | 0.15          |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD21 | 6        | 0.15          |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD22 | 6        | 0.15          |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD23 | 6        | 0.15          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD21 | 6        | 0.15          |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD22 | 6        | 0.15          |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD23 | 6        | 0.15          |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD21 | 6        | 0.15          |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD22 | 6        | 0.15          |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD23 | 6        | 0.15          |
| (1,4025) | 2:B:644:LYS:H    | 2:B:642:ILE:HB   | 6        | 0.15          |
| (1,4025) | 2:B:644:LYS:H    | 1:A:203:PRO:HB2  | 6        | 0.15          |
| (1,3882) | 1:A:197:SER:H    | 1:A:192:PRO:HA   | 8        | 0.15          |
| (1,3882) | 1:A:197:SER:H    | 1:A:201:LEU:HA   | 8        | 0.15          |
| (1,361)  | 2:B:638:LEU:HD11 | 1:A:180:PHE:HB3  | 6        | 0.15          |
| (1,361)  | 2:B:638:LEU:HD12 | 1:A:180:PHE:HB3  | 6        | 0.15          |
| (1,361)  | 2:B:638:LEU:HD13 | 1:A:180:PHE:HB3  | 6        | 0.15          |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:168:GLU:HB2  | 7        | 0.15          |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:168:GLU:HB3  | 7        | 0.15          |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:177:GLN:HB2  | 7        | 0.15          |
| (1,3481) | 1:A:208:VAL:HA   | 2:B:643:PRO:HG3  | 7        | 0.15          |
| (1,3303) | 2:B:638:LEU:HG   | 1:A:176:VAL:HG11 | 6        | 0.15          |
| (1,3303) | 2:B:638:LEU:HG   | 1:A:176:VAL:HG12 | 6        | 0.15          |
| (1,3303) | 2:B:638:LEU:HG   | 1:A:176:VAL:HG13 | 6        | 0.15          |
| (1,3303) | 2:B:668:ILE:HG13 | 2:B:658:LEU:HD21 | 6        | 0.15          |
| (1,3303) | 2:B:668:ILE:HG13 | 2:B:658:LEU:HD22 | 6        | 0.15          |
| (1,3303) | 2:B:668:ILE:HG13 | 2:B:658:LEU:HD23 | 6        | 0.15          |
| (1,3303) | 2:B:638:LEU:HG   | 2:B:658:LEU:HD21 | 6        | 0.15          |
| (1,3303) | 2:B:638:LEU:HG   | 2:B:658:LEU:HD22 | 6        | 0.15          |
| (1,3303) | 2:B:638:LEU:HG   | 2:B:658:LEU:HD23 | 6        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB1  | 1:A:165:ILE:HG21 | 3        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB1  | 1:A:165:ILE:HG22 | 3        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB1  | 1:A:165:ILE:HG23 | 3        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB2  | 1:A:165:ILE:HG21 | 3        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB2  | 1:A:165:ILE:HG22 | 3        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB2  | 1:A:165:ILE:HG23 | 3        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB3  | 1:A:165:ILE:HG21 | 3        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB3  | 1:A:165:ILE:HG22 | 3        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB3  | 1:A:165:ILE:HG23 | 3        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB1  | 1:A:181:LEU:HD11 | 3        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB1  | 1:A:181:LEU:HD12 | 3        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB1  | 1:A:181:LEU:HD13 | 3        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB2  | 1:A:181:LEU:HD11 | 3        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB2  | 1:A:181:LEU:HD12 | 3        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB2  | 1:A:181:LEU:HD13 | 3        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB3  | 1:A:181:LEU:HD11 | 3        | 0.15          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3279) | 1:A:170:ALA:HB3  | 1:A:181:LEU:HD12 | 3        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB3  | 1:A:181:LEU:HD13 | 3        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB1  | 2:B:641:VAL:HG21 | 3        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB1  | 2:B:641:VAL:HG22 | 3        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB1  | 2:B:641:VAL:HG23 | 3        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB2  | 2:B:641:VAL:HG21 | 3        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB2  | 2:B:641:VAL:HG22 | 3        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB2  | 2:B:641:VAL:HG23 | 3        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB3  | 2:B:641:VAL:HG21 | 3        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB3  | 2:B:641:VAL:HG22 | 3        | 0.15          |
| (1,3279) | 1:A:170:ALA:HB3  | 2:B:641:VAL:HG23 | 3        | 0.15          |
| (1,3228) | 1:A:196:ALA:HB1  | 2:B:658:LEU:HG   | 9        | 0.15          |
| (1,3228) | 1:A:196:ALA:HB2  | 2:B:658:LEU:HG   | 9        | 0.15          |
| (1,3228) | 1:A:196:ALA:HB3  | 2:B:658:LEU:HG   | 9        | 0.15          |
| (1,3228) | 1:A:196:ALA:HB1  | 2:B:662:LEU:HG   | 9        | 0.15          |
| (1,3228) | 1:A:196:ALA:HB2  | 2:B:662:LEU:HG   | 9        | 0.15          |
| (1,3228) | 1:A:196:ALA:HB3  | 2:B:662:LEU:HG   | 9        | 0.15          |
| (1,3058) | 1:A:141:LEU:HD11 | 1:A:200:GLU:HB3  | 10       | 0.15          |
| (1,3058) | 1:A:141:LEU:HD12 | 1:A:200:GLU:HB3  | 10       | 0.15          |
| (1,3058) | 1:A:141:LEU:HD13 | 1:A:200:GLU:HB3  | 10       | 0.15          |
| (1,3058) | 1:A:141:LEU:HD11 | 1:A:149:PRO:HG2  | 10       | 0.15          |
| (1,3058) | 1:A:141:LEU:HD12 | 1:A:149:PRO:HG2  | 10       | 0.15          |
| (1,3058) | 1:A:141:LEU:HD13 | 1:A:149:PRO:HG2  | 10       | 0.15          |
| (1,2668) | 2:B:660:ASN:HD21 | 2:B:656:GLN:HG2  | 10       | 0.15          |
| (1,2623) | 2:B:656:GLN:H    | 2:B:657:LYS:HE2  | 4        | 0.15          |
| (1,2623) | 2:B:656:GLN:H    | 2:B:657:LYS:HE3  | 4        | 0.15          |
| (1,2433) | 2:B:633:THR:H    | 2:B:632:PRO:HB2  | 1        | 0.15          |
| (1,2428) | 2:B:631:LEU:H    | 2:B:631:LEU:HG   | 6        | 0.15          |
| (1,2421) | 2:B:631:LEU:H    | 2:B:630:GLU:HB2  | 2        | 0.15          |
| (1,2014) | 1:A:189:ARG:H    | 1:A:189:ARG:HG2  | 9        | 0.15          |
| (1,1990) | 1:A:187:TRP:HE1  | 2:B:632:PRO:HG3  | 2        | 0.15          |
| (1,1962) | 1:A:186:GLU:H    | 1:A:186:GLU:HG2  | 4        | 0.15          |
| (1,1962) | 1:A:186:GLU:H    | 1:A:186:GLU:HG3  | 4        | 0.15          |
| (1,1836) | 1:A:177:GLN:HE21 | 1:A:177:GLN:HB3  | 6        | 0.15          |
| (1,1783) | 1:A:171:LYS:H    | 1:A:171:LYS:HG3  | 3        | 0.15          |
| (1,1712) | 1:A:160:THR:H    | 1:A:163:MET:HB2  | 6        | 0.15          |
| (1,1687) | 1:A:157:ASN:HD22 | 1:A:159:THR:HG21 | 4        | 0.15          |
| (1,1687) | 1:A:157:ASN:HD22 | 1:A:159:THR:HG22 | 4        | 0.15          |
| (1,1687) | 1:A:157:ASN:HD22 | 1:A:159:THR:HG23 | 4        | 0.15          |
| (1,161)  | 1:A:198:LEU:HD11 | 1:A:184:PHE:HZ   | 4        | 0.15          |
| (1,161)  | 1:A:198:LEU:HD12 | 1:A:184:PHE:HZ   | 4        | 0.15          |
| (1,161)  | 1:A:198:LEU:HD13 | 1:A:184:PHE:HZ   | 4        | 0.15          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1199) | 2:B:635:VAL:HA   | 1:A:180:PHE:HE1  | 5        | 0.15          |
| (1,1199) | 2:B:635:VAL:HA   | 1:A:180:PHE:HE2  | 5        | 0.15          |
| (3,16)   | 1:A:166:SER:O    | 1:A:170:ALA:H    | 9        | 0.14          |
| (2,75)   | 2:B:663:ASN:HD21 | 1:A:192:PRO:HD2  | 5        | 0.14          |
| (2,74)   | 2:B:663:ASN:HD21 | 1:A:189:ARG:HG3  | 8        | 0.14          |
| (2,7)    | 2:B:638:LEU:HD21 | 1:A:204:GLN:HG3  | 9        | 0.14          |
| (2,7)    | 2:B:638:LEU:HD22 | 1:A:204:GLN:HG3  | 9        | 0.14          |
| (2,7)    | 2:B:638:LEU:HD23 | 1:A:204:GLN:HG3  | 9        | 0.14          |
| (1,78)   | 1:A:148:LEU:HB3  | 1:A:145:PHE:HB2  | 4        | 0.14          |
| (1,755)  | 1:A:163:MET:HG2  | 1:A:163:MET:HA   | 1        | 0.14          |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD21 | 4        | 0.14          |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD22 | 4        | 0.14          |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD23 | 4        | 0.14          |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD21 | 4        | 0.14          |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD22 | 4        | 0.14          |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD23 | 4        | 0.14          |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD21 | 4        | 0.14          |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD22 | 4        | 0.14          |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD23 | 4        | 0.14          |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD21 | 9        | 0.14          |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD22 | 9        | 0.14          |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD23 | 9        | 0.14          |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD21 | 9        | 0.14          |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD22 | 9        | 0.14          |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD23 | 9        | 0.14          |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD21 | 9        | 0.14          |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD22 | 9        | 0.14          |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD23 | 9        | 0.14          |
| (1,4025) | 2:B:644:LYS:H    | 2:B:642:ILE:HB   | 9        | 0.14          |
| (1,4025) | 2:B:644:LYS:H    | 1:A:203:PRO:HB2  | 9        | 0.14          |
| (1,3994) | 2:B:636:LEU:H    | 1:A:149:PRO:HG3  | 6        | 0.14          |
| (1,3994) | 2:B:636:LEU:H    | 1:A:204:GLN:HG2  | 6        | 0.14          |
| (1,3901) | 1:A:201:LEU:H    | 2:B:655:ALA:HB1  | 7        | 0.14          |
| (1,3901) | 1:A:201:LEU:H    | 2:B:655:ALA:HB2  | 7        | 0.14          |
| (1,3901) | 1:A:201:LEU:H    | 2:B:655:ALA:HB3  | 7        | 0.14          |
| (1,3901) | 1:A:201:LEU:H    | 1:A:199:LEU:HB2  | 7        | 0.14          |
| (1,3869) | 1:A:194:ASP:H    | 2:B:656:GLN:HE21 | 2        | 0.14          |
| (1,3869) | 1:A:194:ASP:H    | 1:A:187:TRP:HZ2  | 2        | 0.14          |
| (1,3869) | 1:A:189:ARG:H    | 1:A:187:TRP:HZ2  | 2        | 0.14          |
| (1,3828) | 1:A:183:LYS:H    | 1:A:178:LEU:HA   | 5        | 0.14          |
| (1,3828) | 1:A:183:LYS:H    | 2:B:669:PRO:HD2  | 5        | 0.14          |
| (1,3828) | 2:B:657:LYS:H    | 1:A:206:SER:HB2  | 5        | 0.14          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3828) | 2:B:657:LYS:H    | 1:A:206:SER:HA   | 5        | 0.14          |
| (1,3813) | 1:A:180:PHE:H    | 1:A:181:LEU:HB3  | 1        | 0.14          |
| (1,3813) | 1:A:180:PHE:H    | 2:B:632:PRO:HG3  | 1        | 0.14          |
| (1,3813) | 1:A:180:PHE:H    | 1:A:185:GLN:HB3  | 1        | 0.14          |
| (1,3813) | 1:A:180:PHE:H    | 1:A:181:LEU:HB3  | 2        | 0.14          |
| (1,3813) | 1:A:180:PHE:H    | 2:B:632:PRO:HG3  | 2        | 0.14          |
| (1,3813) | 1:A:180:PHE:H    | 1:A:185:GLN:HB3  | 2        | 0.14          |
| (1,3813) | 1:A:180:PHE:H    | 1:A:181:LEU:HB3  | 9        | 0.14          |
| (1,3813) | 1:A:180:PHE:H    | 2:B:632:PRO:HG3  | 9        | 0.14          |
| (1,3813) | 1:A:180:PHE:H    | 1:A:185:GLN:HB3  | 9        | 0.14          |
| (1,3800) | 1:A:178:LEU:H    | 1:A:182:GLN:HG2  | 9        | 0.14          |
| (1,3800) | 1:A:178:LEU:H    | 2:B:669:PRO:HB3  | 9        | 0.14          |
| (1,3674) | 2:B:657:LYS:H    | 1:A:200:GLU:HG3  | 4        | 0.14          |
| (1,3674) | 2:B:657:LYS:H    | 1:A:200:GLU:HG2  | 4        | 0.14          |
| (1,3674) | 2:B:657:LYS:H    | 1:A:226:PRO:HB3  | 4        | 0.14          |
| (1,3674) | 2:B:657:LYS:H    | 1:A:200:GLU:HG3  | 5        | 0.14          |
| (1,3674) | 2:B:657:LYS:H    | 1:A:200:GLU:HG2  | 5        | 0.14          |
| (1,3674) | 2:B:657:LYS:H    | 1:A:226:PRO:HB3  | 5        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD21 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD22 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD23 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD21 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD22 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD23 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD21 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD22 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD23 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD11 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD12 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD13 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD11 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD12 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD13 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD11 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD12 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD13 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD11 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD12 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD13 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD11 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD12 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD13 | 8        | 0.14          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD11 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD12 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD13 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD21 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD22 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD23 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD21 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD22 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD23 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD21 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD22 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD23 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD11 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD12 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD13 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD11 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD12 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD13 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD11 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD12 | 8        | 0.14          |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD13 | 8        | 0.14          |
| (1,353)  | 2:B:638:LEU:HA   | 1:A:180:PHE:HD1  | 7        | 0.14          |
| (1,353)  | 2:B:638:LEU:HA   | 1:A:180:PHE:HD2  | 7        | 0.14          |
| (1,3487) | 1:A:200:GLU:HA   | 2:B:656:GLN:HG3  | 3        | 0.14          |
| (1,3487) | 1:A:200:GLU:HA   | 1:A:202:CYS:HB2  | 3        | 0.14          |
| (1,3487) | 1:A:200:GLU:HA   | 2:B:656:GLN:HG3  | 6        | 0.14          |
| (1,3487) | 1:A:200:GLU:HA   | 1:A:202:CYS:HB2  | 6        | 0.14          |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:168:GLU:HB2  | 8        | 0.14          |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:168:GLU:HB3  | 8        | 0.14          |
| (1,3481) | 1:A:208:VAL:HA   | 1:A:177:GLN:HB2  | 8        | 0.14          |
| (1,3481) | 1:A:208:VAL:HA   | 2:B:643:PRO:HG3  | 8        | 0.14          |
| (1,3393) | 1:A:179:LYS:HA   | 1:A:182:GLN:HB3  | 8        | 0.14          |
| (1,3393) | 1:A:179:LYS:HA   | 1:A:181:LEU:HB3  | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB1  | 1:A:165:ILE:HG21 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB1  | 1:A:165:ILE:HG22 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB1  | 1:A:165:ILE:HG23 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB2  | 1:A:165:ILE:HG21 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB2  | 1:A:165:ILE:HG22 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB2  | 1:A:165:ILE:HG23 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB3  | 1:A:165:ILE:HG21 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB3  | 1:A:165:ILE:HG22 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB3  | 1:A:165:ILE:HG23 | 5        | 0.14          |

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| Key      | Atom-1          | Atom-2           | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,3279) | 1:A:170:ALA:HB1 | 1:A:181:LEU:HD11 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB1 | 1:A:181:LEU:HD12 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB1 | 1:A:181:LEU:HD13 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB2 | 1:A:181:LEU:HD11 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB2 | 1:A:181:LEU:HD12 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB2 | 1:A:181:LEU:HD13 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB3 | 1:A:181:LEU:HD11 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB3 | 1:A:181:LEU:HD12 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB3 | 1:A:181:LEU:HD13 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB1 | 2:B:641:VAL:HG21 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB1 | 2:B:641:VAL:HG22 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB1 | 2:B:641:VAL:HG23 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB2 | 2:B:641:VAL:HG21 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB2 | 2:B:641:VAL:HG22 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB2 | 2:B:641:VAL:HG23 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB3 | 2:B:641:VAL:HG21 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB3 | 2:B:641:VAL:HG22 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB3 | 2:B:641:VAL:HG23 | 5        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB1 | 1:A:165:ILE:HG21 | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB1 | 1:A:165:ILE:HG22 | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB1 | 1:A:165:ILE:HG23 | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB2 | 1:A:165:ILE:HG21 | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB2 | 1:A:165:ILE:HG22 | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB2 | 1:A:165:ILE:HG23 | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB3 | 1:A:165:ILE:HG21 | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB3 | 1:A:165:ILE:HG22 | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB3 | 1:A:165:ILE:HG23 | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB1 | 1:A:181:LEU:HD11 | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB1 | 1:A:181:LEU:HD12 | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB1 | 1:A:181:LEU:HD13 | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB2 | 1:A:181:LEU:HD11 | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB2 | 1:A:181:LEU:HD12 | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB2 | 1:A:181:LEU:HD13 | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB3 | 1:A:181:LEU:HD11 | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB3 | 1:A:181:LEU:HD12 | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB3 | 1:A:181:LEU:HD13 | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB1 | 2:B:641:VAL:HG21 | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB1 | 2:B:641:VAL:HG22 | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB1 | 2:B:641:VAL:HG23 | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB2 | 2:B:641:VAL:HG21 | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB2 | 2:B:641:VAL:HG22 | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB2 | 2:B:641:VAL:HG23 | 8        | 0.14          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3279) | 1:A:170:ALA:HB3  | 2:B:641:VAL:HG21 | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB3  | 2:B:641:VAL:HG22 | 8        | 0.14          |
| (1,3279) | 1:A:170:ALA:HB3  | 2:B:641:VAL:HG23 | 8        | 0.14          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:179:LYS:HB2  | 1        | 0.14          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:179:LYS:HB2  | 1        | 0.14          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:179:LYS:HB2  | 1        | 0.14          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:174:LYS:HB3  | 1        | 0.14          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:174:LYS:HB3  | 1        | 0.14          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:174:LYS:HB3  | 1        | 0.14          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:177:GLN:HB2  | 1        | 0.14          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:177:GLN:HB2  | 1        | 0.14          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:177:GLN:HB2  | 1        | 0.14          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:179:LYS:HB2  | 9        | 0.14          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:179:LYS:HB2  | 9        | 0.14          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:179:LYS:HB2  | 9        | 0.14          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:174:LYS:HB3  | 9        | 0.14          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:174:LYS:HB3  | 9        | 0.14          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:174:LYS:HB3  | 9        | 0.14          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:177:GLN:HB2  | 9        | 0.14          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:177:GLN:HB2  | 9        | 0.14          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:177:GLN:HB2  | 9        | 0.14          |
| (1,3219) | 1:A:228:ALA:HB1  | 1:A:225:ILE:HB   | 6        | 0.14          |
| (1,3219) | 1:A:228:ALA:HB2  | 1:A:225:ILE:HB   | 6        | 0.14          |
| (1,3219) | 1:A:228:ALA:HB3  | 1:A:225:ILE:HB   | 6        | 0.14          |
| (1,3219) | 1:A:228:ALA:HB1  | 2:B:658:LEU:HB3  | 6        | 0.14          |
| (1,3219) | 1:A:228:ALA:HB2  | 2:B:658:LEU:HB3  | 6        | 0.14          |
| (1,3219) | 1:A:228:ALA:HB3  | 2:B:658:LEU:HB3  | 6        | 0.14          |
| (1,3219) | 1:A:228:ALA:HB1  | 1:A:225:ILE:HB   | 10       | 0.14          |
| (1,3219) | 1:A:228:ALA:HB2  | 1:A:225:ILE:HB   | 10       | 0.14          |
| (1,3219) | 1:A:228:ALA:HB3  | 1:A:225:ILE:HB   | 10       | 0.14          |
| (1,3219) | 1:A:228:ALA:HB1  | 2:B:658:LEU:HB3  | 10       | 0.14          |
| (1,3219) | 1:A:228:ALA:HB2  | 2:B:658:LEU:HB3  | 10       | 0.14          |
| (1,3219) | 1:A:228:ALA:HB3  | 2:B:658:LEU:HB3  | 10       | 0.14          |
| (1,3113) | 1:A:169:LEU:HD21 | 1:A:204:GLN:HG3  | 8        | 0.14          |
| (1,3113) | 1:A:169:LEU:HD22 | 1:A:204:GLN:HG3  | 8        | 0.14          |
| (1,3113) | 1:A:169:LEU:HD23 | 1:A:204:GLN:HG3  | 8        | 0.14          |
| (1,3113) | 1:A:169:LEU:HD21 | 1:A:216:ASN:HB2  | 8        | 0.14          |
| (1,3113) | 1:A:169:LEU:HD22 | 1:A:216:ASN:HB2  | 8        | 0.14          |
| (1,3113) | 1:A:169:LEU:HD23 | 1:A:216:ASN:HB2  | 8        | 0.14          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG11 | 5        | 0.14          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG12 | 5        | 0.14          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG13 | 5        | 0.14          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD21 | 5        | 0.14          |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD22 | 5        | 0.14          |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD23 | 5        | 0.14          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD21 | 5        | 0.14          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD22 | 5        | 0.14          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD23 | 5        | 0.14          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG21 | 5        | 0.14          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG22 | 5        | 0.14          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG23 | 5        | 0.14          |
| (1,2607) | 2:B:655:ALA:H    | 1:A:227:LEU:HB3  | 5        | 0.14          |
| (1,2607) | 2:B:655:ALA:H    | 1:A:227:LEU:HB3  | 7        | 0.14          |
| (1,2018) | 1:A:189:ARG:HE   | 1:A:185:GLN:HG3  | 2        | 0.14          |
| (1,1976) | 1:A:187:TRP:HE1  | 1:A:188:THR:HA   | 6        | 0.14          |
| (1,1909) | 1:A:183:LYS:H    | 1:A:182:GLN:HB2  | 4        | 0.14          |
| (3,84)   | 2:B:636:LEU:O    | 2:B:640:SER:H    | 9        | 0.13          |
| (3,54)   | 1:A:197:SER:O    | 1:A:201:LEU:H    | 7        | 0.13          |
| (3,54)   | 1:A:197:SER:O    | 1:A:201:LEU:H    | 8        | 0.13          |
| (3,2)    | 1:A:139:ASN:O    | 1:A:143:GLN:H    | 7        | 0.13          |
| (3,18)   | 1:A:167:SER:O    | 1:A:171:LYS:H    | 9        | 0.13          |
| (2,66)   | 2:B:660:ASN:HD22 | 2:B:656:GLN:HG3  | 9        | 0.13          |
| (2,64)   | 2:B:659:VAL:H    | 2:B:660:ASN:HB3  | 8        | 0.13          |
| (1,894)  | 1:A:187:TRP:HD1  | 1:A:191:HIS:HE1  | 4        | 0.13          |
| (1,865)  | 1:A:183:LYS:HE2  | 1:A:183:LYS:HB3  | 5        | 0.13          |
| (1,865)  | 1:A:183:LYS:HE3  | 1:A:183:LYS:HB3  | 5        | 0.13          |
| (1,682)  | 1:A:154:VAL:HG11 | 2:B:643:PRO:HD3  | 8        | 0.13          |
| (1,682)  | 1:A:154:VAL:HG12 | 2:B:643:PRO:HD3  | 8        | 0.13          |
| (1,682)  | 1:A:154:VAL:HG13 | 2:B:643:PRO:HD3  | 8        | 0.13          |
| (1,511)  | 1:A:183:LYS:HE2  | 2:B:632:PRO:HG3  | 3        | 0.13          |
| (1,471)  | 1:A:178:LEU:HD11 | 1:A:174:LYS:HE2  | 10       | 0.13          |
| (1,471)  | 1:A:178:LEU:HD12 | 1:A:174:LYS:HE2  | 10       | 0.13          |
| (1,471)  | 1:A:178:LEU:HD13 | 1:A:174:LYS:HE2  | 10       | 0.13          |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD21 | 7        | 0.13          |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD22 | 7        | 0.13          |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD23 | 7        | 0.13          |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD21 | 7        | 0.13          |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD22 | 7        | 0.13          |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD23 | 7        | 0.13          |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD21 | 7        | 0.13          |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD22 | 7        | 0.13          |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD23 | 7        | 0.13          |
| (1,4057) | 2:B:662:LEU:H    | 2:B:663:ASN:HD21 | 10       | 0.13          |
| (1,4057) | 2:B:662:LEU:H    | 2:B:665:GLN:HE21 | 10       | 0.13          |

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| Key      | Atom-1          | Atom-2           | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,4025) | 2:B:644:LYS:H   | 2:B:642:ILE:HB   | 1        | 0.13          |
| (1,4025) | 2:B:644:LYS:H   | 1:A:203:PRO:HB2  | 1        | 0.13          |
| (1,4002) | 2:B:638:LEU:H   | 2:B:639:LEU:HB3  | 9        | 0.13          |
| (1,4002) | 2:B:638:LEU:H   | 1:A:205:LEU:HB2  | 9        | 0.13          |
| (1,3884) | 1:A:197:SER:H   | 1:A:145:PHE:HZ   | 8        | 0.13          |
| (1,3884) | 1:A:197:SER:H   | 1:A:187:TRP:HZ2  | 8        | 0.13          |
| (1,3882) | 1:A:197:SER:H   | 1:A:192:PRO:HA   | 2        | 0.13          |
| (1,3882) | 1:A:197:SER:H   | 1:A:201:LEU:HA   | 2        | 0.13          |
| (1,3828) | 1:A:183:LYS:H   | 1:A:178:LEU:HA   | 4        | 0.13          |
| (1,3828) | 1:A:183:LYS:H   | 2:B:669:PRO:HD2  | 4        | 0.13          |
| (1,3828) | 2:B:657:LYS:H   | 1:A:206:SER:HB2  | 4        | 0.13          |
| (1,3828) | 2:B:657:LYS:H   | 1:A:206:SER:HA   | 4        | 0.13          |
| (1,3813) | 1:A:180:PHE:H   | 1:A:181:LEU:HB3  | 6        | 0.13          |
| (1,3813) | 1:A:180:PHE:H   | 2:B:632:PRO:HG3  | 6        | 0.13          |
| (1,3813) | 1:A:180:PHE:H   | 1:A:185:GLN:HB3  | 6        | 0.13          |
| (1,3800) | 1:A:178:LEU:H   | 1:A:182:GLN:HG2  | 6        | 0.13          |
| (1,3800) | 1:A:178:LEU:H   | 2:B:669:PRO:HB3  | 6        | 0.13          |
| (1,3747) | 1:A:206:SER:H   | 2:B:655:ALA:HA   | 4        | 0.13          |
| (1,3747) | 1:A:206:SER:H   | 1:A:196:ALA:HA   | 4        | 0.13          |
| (1,3738) | 1:A:213:LEU:H   | 1:A:177:GLN:HB3  | 6        | 0.13          |
| (1,3738) | 1:A:213:LEU:H   | 1:A:224:LEU:HB3  | 6        | 0.13          |
| (1,3738) | 1:A:218:ILE:H   | 2:B:666:VAL:HB   | 6        | 0.13          |
| (1,3738) | 1:A:213:LEU:H   | 2:B:666:VAL:HB   | 6        | 0.13          |
| (1,3738) | 1:A:213:LEU:H   | 1:A:227:LEU:HB2  | 6        | 0.13          |
| (1,3592) | 1:A:187:TRP:HZ2 | 1:A:188:THR:HB   | 6        | 0.13          |
| (1,3592) | 1:A:187:TRP:HZ2 | 1:A:198:LEU:HA   | 6        | 0.13          |
| (1,353)  | 2:B:638:LEU:HA  | 1:A:180:PHE:HD1  | 2        | 0.13          |
| (1,353)  | 2:B:638:LEU:HA  | 1:A:180:PHE:HD2  | 2        | 0.13          |
| (1,353)  | 2:B:638:LEU:HA  | 1:A:180:PHE:HD1  | 4        | 0.13          |
| (1,353)  | 2:B:638:LEU:HA  | 1:A:180:PHE:HD2  | 4        | 0.13          |
| (1,353)  | 2:B:638:LEU:HA  | 1:A:180:PHE:HD1  | 5        | 0.13          |
| (1,353)  | 2:B:638:LEU:HA  | 1:A:180:PHE:HD2  | 5        | 0.13          |
| (1,3487) | 1:A:200:GLU:HA  | 2:B:656:GLN:HG3  | 2        | 0.13          |
| (1,3487) | 1:A:200:GLU:HA  | 1:A:202:CYS:HB2  | 2        | 0.13          |
| (1,3481) | 1:A:208:VAL:HA  | 1:A:168:GLU:HB2  | 3        | 0.13          |
| (1,3481) | 1:A:208:VAL:HA  | 1:A:168:GLU:HB3  | 3        | 0.13          |
| (1,3481) | 1:A:208:VAL:HA  | 1:A:177:GLN:HB2  | 3        | 0.13          |
| (1,3481) | 1:A:208:VAL:HA  | 2:B:643:PRO:HG3  | 3        | 0.13          |
| (1,3393) | 1:A:179:LYS:HA  | 1:A:182:GLN:HB3  | 6        | 0.13          |
| (1,3393) | 1:A:179:LYS:HA  | 1:A:181:LEU:HB3  | 6        | 0.13          |
| (1,3303) | 2:B:638:LEU:HG  | 1:A:176:VAL:HG11 | 10       | 0.13          |
| (1,3303) | 2:B:638:LEU:HG  | 1:A:176:VAL:HG12 | 10       | 0.13          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3303) | 2:B:638:LEU:HG   | 1:A:176:VAL:HG13 | 10       | 0.13          |
| (1,3303) | 2:B:668:ILE:HG13 | 2:B:658:LEU:HD21 | 10       | 0.13          |
| (1,3303) | 2:B:668:ILE:HG13 | 2:B:658:LEU:HD22 | 10       | 0.13          |
| (1,3303) | 2:B:668:ILE:HG13 | 2:B:658:LEU:HD23 | 10       | 0.13          |
| (1,3303) | 2:B:638:LEU:HG   | 2:B:658:LEU:HD21 | 10       | 0.13          |
| (1,3303) | 2:B:638:LEU:HG   | 2:B:658:LEU:HD22 | 10       | 0.13          |
| (1,3303) | 2:B:638:LEU:HG   | 2:B:658:LEU:HD23 | 10       | 0.13          |
| (1,3283) | 2:B:666:VAL:HG21 | 1:A:213:LEU:HD11 | 6        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG21 | 1:A:213:LEU:HD12 | 6        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG21 | 1:A:213:LEU:HD13 | 6        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG22 | 1:A:213:LEU:HD11 | 6        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG22 | 1:A:213:LEU:HD12 | 6        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG22 | 1:A:213:LEU:HD13 | 6        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG23 | 1:A:213:LEU:HD11 | 6        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG23 | 1:A:213:LEU:HD12 | 6        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG23 | 1:A:213:LEU:HD13 | 6        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG21 | 2:B:658:LEU:HD11 | 6        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG21 | 2:B:658:LEU:HD12 | 6        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG21 | 2:B:658:LEU:HD13 | 6        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG22 | 2:B:658:LEU:HD11 | 6        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG22 | 2:B:658:LEU:HD12 | 6        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG22 | 2:B:658:LEU:HD13 | 6        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG23 | 2:B:658:LEU:HD11 | 6        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG23 | 2:B:658:LEU:HD12 | 6        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG23 | 2:B:658:LEU:HD13 | 6        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG21 | 1:A:213:LEU:HD11 | 7        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG21 | 1:A:213:LEU:HD12 | 7        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG21 | 1:A:213:LEU:HD13 | 7        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG22 | 1:A:213:LEU:HD11 | 7        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG22 | 1:A:213:LEU:HD12 | 7        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG22 | 1:A:213:LEU:HD13 | 7        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG23 | 1:A:213:LEU:HD11 | 7        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG23 | 1:A:213:LEU:HD12 | 7        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG23 | 1:A:213:LEU:HD13 | 7        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG21 | 2:B:658:LEU:HD11 | 7        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG21 | 2:B:658:LEU:HD12 | 7        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG21 | 2:B:658:LEU:HD13 | 7        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG22 | 2:B:658:LEU:HD11 | 7        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG22 | 2:B:658:LEU:HD12 | 7        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG22 | 2:B:658:LEU:HD13 | 7        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG23 | 2:B:658:LEU:HD11 | 7        | 0.13          |
| (1,3283) | 2:B:666:VAL:HG23 | 2:B:658:LEU:HD12 | 7        | 0.13          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3283) | 2:B:666:VAL:HG23 | 2:B:658:LEU:HD13 | 7        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB1  | 1:A:165:ILE:HG21 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB1  | 1:A:165:ILE:HG22 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB1  | 1:A:165:ILE:HG23 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB2  | 1:A:165:ILE:HG21 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB2  | 1:A:165:ILE:HG22 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB2  | 1:A:165:ILE:HG23 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB3  | 1:A:165:ILE:HG21 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB3  | 1:A:165:ILE:HG22 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB3  | 1:A:165:ILE:HG23 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB1  | 1:A:181:LEU:HD11 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB1  | 1:A:181:LEU:HD12 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB1  | 1:A:181:LEU:HD13 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB2  | 1:A:181:LEU:HD11 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB2  | 1:A:181:LEU:HD12 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB2  | 1:A:181:LEU:HD13 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB3  | 1:A:181:LEU:HD11 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB3  | 1:A:181:LEU:HD12 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB3  | 1:A:181:LEU:HD13 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB1  | 2:B:641:VAL:HG21 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB1  | 2:B:641:VAL:HG22 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB1  | 2:B:641:VAL:HG23 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB2  | 2:B:641:VAL:HG21 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB2  | 2:B:641:VAL:HG22 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB2  | 2:B:641:VAL:HG23 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB3  | 2:B:641:VAL:HG21 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB3  | 2:B:641:VAL:HG22 | 2        | 0.13          |
| (1,3279) | 1:A:170:ALA:HB3  | 2:B:641:VAL:HG23 | 2        | 0.13          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:179:LYS:HB2  | 3        | 0.13          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:179:LYS:HB2  | 3        | 0.13          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:179:LYS:HB2  | 3        | 0.13          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:174:LYS:HB3  | 3        | 0.13          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:174:LYS:HB3  | 3        | 0.13          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:174:LYS:HB3  | 3        | 0.13          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:177:GLN:HB2  | 3        | 0.13          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:177:GLN:HB2  | 3        | 0.13          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:177:GLN:HB2  | 3        | 0.13          |
| (1,3227) | 1:A:170:ALA:HB1  | 1:A:214:LEU:HG   | 9        | 0.13          |
| (1,3227) | 1:A:170:ALA:HB2  | 1:A:214:LEU:HG   | 9        | 0.13          |
| (1,3227) | 1:A:170:ALA:HB3  | 1:A:214:LEU:HG   | 9        | 0.13          |
| (1,3227) | 1:A:170:ALA:HB1  | 1:A:177:GLN:HB3  | 9        | 0.13          |
| (1,3227) | 1:A:170:ALA:HB2  | 1:A:177:GLN:HB3  | 9        | 0.13          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3227) | 1:A:170:ALA:HB3  | 1:A:177:GLN:HB3  | 9        | 0.13          |
| (1,3208) | 1:A:193:GLU:HG2  | 1:A:196:ALA:HA   | 3        | 0.13          |
| (1,3208) | 1:A:147:GLU:HG2  | 1:A:144:LYS:HA   | 3        | 0.13          |
| (1,3208) | 1:A:147:GLU:HG3  | 1:A:144:LYS:HA   | 3        | 0.13          |
| (1,3208) | 1:A:147:GLU:HG3  | 2:B:640:SER:HB2  | 3        | 0.13          |
| (1,3208) | 1:A:147:GLU:HG2  | 2:B:640:SER:HB2  | 3        | 0.13          |
| (1,3208) | 1:A:147:GLU:HG3  | 1:A:150:SER:HB2  | 3        | 0.13          |
| (1,3208) | 1:A:193:GLU:HG2  | 1:A:199:LEU:HA   | 3        | 0.13          |
| (1,3208) | 1:A:193:GLU:HG2  | 1:A:196:ALA:HA   | 10       | 0.13          |
| (1,3208) | 1:A:147:GLU:HG2  | 1:A:144:LYS:HA   | 10       | 0.13          |
| (1,3208) | 1:A:147:GLU:HG3  | 1:A:144:LYS:HA   | 10       | 0.13          |
| (1,3208) | 1:A:147:GLU:HG3  | 2:B:640:SER:HB2  | 10       | 0.13          |
| (1,3208) | 1:A:147:GLU:HG2  | 2:B:640:SER:HB2  | 10       | 0.13          |
| (1,3208) | 1:A:147:GLU:HG3  | 1:A:150:SER:HB2  | 10       | 0.13          |
| (1,3208) | 1:A:193:GLU:HG2  | 1:A:199:LEU:HA   | 10       | 0.13          |
| (1,310)  | 2:B:631:LEU:HD11 | 1:A:184:PHE:HD1  | 6        | 0.13          |
| (1,310)  | 2:B:631:LEU:HD11 | 1:A:184:PHE:HD2  | 6        | 0.13          |
| (1,310)  | 2:B:631:LEU:HD12 | 1:A:184:PHE:HD1  | 6        | 0.13          |
| (1,310)  | 2:B:631:LEU:HD12 | 1:A:184:PHE:HD2  | 6        | 0.13          |
| (1,310)  | 2:B:631:LEU:HD13 | 1:A:184:PHE:HD1  | 6        | 0.13          |
| (1,310)  | 2:B:631:LEU:HD13 | 1:A:184:PHE:HD2  | 6        | 0.13          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG11 | 4        | 0.13          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG12 | 4        | 0.13          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG13 | 4        | 0.13          |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD21 | 4        | 0.13          |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD22 | 4        | 0.13          |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD23 | 4        | 0.13          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD21 | 4        | 0.13          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD22 | 4        | 0.13          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD23 | 4        | 0.13          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG21 | 4        | 0.13          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG22 | 4        | 0.13          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG23 | 4        | 0.13          |
| (1,2433) | 2:B:633:THR:H    | 2:B:632:PRO:HB2  | 3        | 0.13          |
| (1,2253) | 1:A:216:ASN:H    | 1:A:216:ASN:HB2  | 2        | 0.13          |
| (1,1976) | 1:A:187:TRP:HE1  | 1:A:188:THR:HA   | 3        | 0.13          |
| (1,1651) | 1:A:154:VAL:H    | 1:A:155:ASN:HB3  | 1        | 0.13          |
| (1,1651) | 1:A:154:VAL:H    | 1:A:155:ASN:HB3  | 6        | 0.13          |
| (1,1216) | 2:B:638:LEU:HD11 | 1:A:204:GLN:HG2  | 10       | 0.13          |
| (1,1216) | 2:B:638:LEU:HD12 | 1:A:204:GLN:HG2  | 10       | 0.13          |
| (1,1216) | 2:B:638:LEU:HD13 | 1:A:204:GLN:HG2  | 10       | 0.13          |
| (1,1131) | 1:A:227:LEU:HD11 | 1:A:227:LEU:HB3  | 9        | 0.13          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1131) | 1:A:227:LEU:HD12 | 1:A:227:LEU:HB3  | 9        | 0.13          |
| (1,1131) | 1:A:227:LEU:HD13 | 1:A:227:LEU:HB3  | 9        | 0.13          |
| (1,1131) | 1:A:227:LEU:HD11 | 1:A:227:LEU:HB3  | 10       | 0.13          |
| (1,1131) | 1:A:227:LEU:HD12 | 1:A:227:LEU:HB3  | 10       | 0.13          |
| (1,1131) | 1:A:227:LEU:HD13 | 1:A:227:LEU:HB3  | 10       | 0.13          |
| (1,113)  | 1:A:178:LEU:HD11 | 1:A:175:GLU:HA   | 4        | 0.13          |
| (1,113)  | 1:A:178:LEU:HD12 | 1:A:175:GLU:HA   | 4        | 0.13          |
| (1,113)  | 1:A:178:LEU:HD13 | 1:A:175:GLU:HA   | 4        | 0.13          |
| (3,86)   | 2:B:637:ASP:O    | 2:B:641:VAL:H    | 2        | 0.12          |
| (3,84)   | 2:B:636:LEU:O    | 2:B:640:SER:H    | 8        | 0.12          |
| (3,84)   | 2:B:636:LEU:O    | 2:B:640:SER:H    | 10       | 0.12          |
| (3,76)   | 1:A:221:VAL:O    | 1:A:225:ILE:H    | 3        | 0.12          |
| (3,54)   | 1:A:197:SER:O    | 1:A:201:LEU:H    | 9        | 0.12          |
| (3,12)   | 1:A:164:MET:O    | 1:A:168:GLU:H    | 2        | 0.12          |
| (3,12)   | 1:A:164:MET:O    | 1:A:168:GLU:H    | 8        | 0.12          |
| (2,29)   | 1:A:159:THR:H    | 1:A:155:ASN:HB2  | 3        | 0.12          |
| (2,22)   | 2:B:658:LEU:HA   | 2:B:659:VAL:HG11 | 4        | 0.12          |
| (2,22)   | 2:B:658:LEU:HA   | 2:B:659:VAL:HG12 | 4        | 0.12          |
| (2,22)   | 2:B:658:LEU:HA   | 2:B:659:VAL:HG13 | 4        | 0.12          |
| (2,22)   | 2:B:658:LEU:HA   | 2:B:659:VAL:HG11 | 9        | 0.12          |
| (2,22)   | 2:B:658:LEU:HA   | 2:B:659:VAL:HG12 | 9        | 0.12          |
| (2,22)   | 2:B:658:LEU:HA   | 2:B:659:VAL:HG13 | 9        | 0.12          |
| (2,2)    | 2:B:631:LEU:HD11 | 2:B:630:GLU:HA   | 7        | 0.12          |
| (2,2)    | 2:B:631:LEU:HD12 | 2:B:630:GLU:HA   | 7        | 0.12          |
| (2,2)    | 2:B:631:LEU:HD13 | 2:B:630:GLU:HA   | 7        | 0.12          |
| (1,894)  | 1:A:187:TRP:HD1  | 1:A:191:HIS:HE1  | 3        | 0.12          |
| (1,551)  | 1:A:213:LEU:HD11 | 1:A:207:PHE:HD1  | 1        | 0.12          |
| (1,551)  | 1:A:213:LEU:HD11 | 1:A:207:PHE:HD2  | 1        | 0.12          |
| (1,551)  | 1:A:213:LEU:HD12 | 1:A:207:PHE:HD1  | 1        | 0.12          |
| (1,551)  | 1:A:213:LEU:HD12 | 1:A:207:PHE:HD2  | 1        | 0.12          |
| (1,551)  | 1:A:213:LEU:HD13 | 1:A:207:PHE:HD1  | 1        | 0.12          |
| (1,551)  | 1:A:213:LEU:HD13 | 1:A:207:PHE:HD2  | 1        | 0.12          |
| (1,525)  | 1:A:182:GLN:HA   | 1:A:182:GLN:HG2  | 4        | 0.12          |
| (1,4025) | 2:B:644:LYS:H    | 2:B:642:ILE:HB   | 4        | 0.12          |
| (1,4025) | 2:B:644:LYS:H    | 1:A:203:PRO:HB2  | 4        | 0.12          |
| (1,3837) | 1:A:185:GLN:H    | 1:A:182:GLN:HG2  | 5        | 0.12          |
| (1,3837) | 2:B:637:ASP:H    | 1:A:149:PRO:HB2  | 5        | 0.12          |
| (1,3834) | 2:B:637:ASP:H    | 2:B:636:LEU:HB3  | 8        | 0.12          |
| (1,3834) | 1:A:185:GLN:H    | 1:A:185:GLN:HG2  | 8        | 0.12          |
| (1,37)   | 1:A:227:LEU:HD21 | 2:B:658:LEU:HD11 | 10       | 0.12          |
| (1,37)   | 1:A:227:LEU:HD21 | 2:B:658:LEU:HD12 | 10       | 0.12          |
| (1,37)   | 1:A:227:LEU:HD21 | 2:B:658:LEU:HD13 | 10       | 0.12          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,37)   | 1:A:227:LEU:HD22 | 2:B:658:LEU:HD11 | 10       | 0.12          |
| (1,37)   | 1:A:227:LEU:HD22 | 2:B:658:LEU:HD12 | 10       | 0.12          |
| (1,37)   | 1:A:227:LEU:HD22 | 2:B:658:LEU:HD13 | 10       | 0.12          |
| (1,37)   | 1:A:227:LEU:HD23 | 2:B:658:LEU:HD11 | 10       | 0.12          |
| (1,37)   | 1:A:227:LEU:HD23 | 2:B:658:LEU:HD12 | 10       | 0.12          |
| (1,37)   | 1:A:227:LEU:HD23 | 2:B:658:LEU:HD13 | 10       | 0.12          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD21 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD22 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD23 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD21 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD22 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD23 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD21 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD22 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD23 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD11 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD12 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD13 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD11 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD12 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD13 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD11 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD12 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD13 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD11 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD12 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD13 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD11 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD12 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD13 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD11 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD12 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD13 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD21 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD22 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD23 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD21 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD22 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD23 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD21 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD22 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD23 | 5        | 0.12          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD11 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD12 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD13 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD11 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD12 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD13 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD11 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD12 | 5        | 0.12          |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD13 | 5        | 0.12          |
| (1,353)  | 2:B:638:LEU:HA   | 1:A:180:PHE:HD1  | 3        | 0.12          |
| (1,353)  | 2:B:638:LEU:HA   | 1:A:180:PHE:HD2  | 3        | 0.12          |
| (1,3445) | 1:A:149:PRO:HB2  | 2:B:640:SER:HB3  | 2        | 0.12          |
| (1,3445) | 2:B:669:PRO:HB3  | 2:B:669:PRO:HD2  | 2        | 0.12          |
| (1,3445) | 1:A:149:PRO:HB2  | 1:A:151:GLY:HA3  | 2        | 0.12          |
| (1,339)  | 2:B:631:LEU:HG   | 1:A:187:TRP:HD1  | 10       | 0.12          |
| (1,3283) | 2:B:666:VAL:HG21 | 1:A:213:LEU:HD11 | 9        | 0.12          |
| (1,3283) | 2:B:666:VAL:HG21 | 1:A:213:LEU:HD12 | 9        | 0.12          |
| (1,3283) | 2:B:666:VAL:HG21 | 1:A:213:LEU:HD13 | 9        | 0.12          |
| (1,3283) | 2:B:666:VAL:HG22 | 1:A:213:LEU:HD11 | 9        | 0.12          |
| (1,3283) | 2:B:666:VAL:HG22 | 1:A:213:LEU:HD12 | 9        | 0.12          |
| (1,3283) | 2:B:666:VAL:HG22 | 1:A:213:LEU:HD13 | 9        | 0.12          |
| (1,3283) | 2:B:666:VAL:HG23 | 1:A:213:LEU:HD11 | 9        | 0.12          |
| (1,3283) | 2:B:666:VAL:HG23 | 1:A:213:LEU:HD12 | 9        | 0.12          |
| (1,3283) | 2:B:666:VAL:HG23 | 1:A:213:LEU:HD13 | 9        | 0.12          |
| (1,3283) | 2:B:666:VAL:HG21 | 2:B:658:LEU:HD11 | 9        | 0.12          |
| (1,3283) | 2:B:666:VAL:HG21 | 2:B:658:LEU:HD12 | 9        | 0.12          |
| (1,3283) | 2:B:666:VAL:HG21 | 2:B:658:LEU:HD13 | 9        | 0.12          |
| (1,3283) | 2:B:666:VAL:HG22 | 2:B:658:LEU:HD11 | 9        | 0.12          |
| (1,3283) | 2:B:666:VAL:HG22 | 2:B:658:LEU:HD12 | 9        | 0.12          |
| (1,3283) | 2:B:666:VAL:HG22 | 2:B:658:LEU:HD13 | 9        | 0.12          |
| (1,3283) | 2:B:666:VAL:HG23 | 2:B:658:LEU:HD11 | 9        | 0.12          |
| (1,3283) | 2:B:666:VAL:HG23 | 2:B:658:LEU:HD12 | 9        | 0.12          |
| (1,3283) | 2:B:666:VAL:HG23 | 2:B:658:LEU:HD13 | 9        | 0.12          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:179:LYS:HB2  | 4        | 0.12          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:179:LYS:HB2  | 4        | 0.12          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:179:LYS:HB2  | 4        | 0.12          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:174:LYS:HB3  | 4        | 0.12          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:174:LYS:HB3  | 4        | 0.12          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:174:LYS:HB3  | 4        | 0.12          |
| (1,3237) | 1:A:176:VAL:HG21 | 1:A:177:GLN:HB2  | 4        | 0.12          |
| (1,3237) | 1:A:176:VAL:HG22 | 1:A:177:GLN:HB2  | 4        | 0.12          |
| (1,3237) | 1:A:176:VAL:HG23 | 1:A:177:GLN:HB2  | 4        | 0.12          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3228) | 1:A:196:ALA:HB1  | 2:B:658:LEU:HG   | 7        | 0.12          |
| (1,3228) | 1:A:196:ALA:HB2  | 2:B:658:LEU:HG   | 7        | 0.12          |
| (1,3228) | 1:A:196:ALA:HB3  | 2:B:658:LEU:HG   | 7        | 0.12          |
| (1,3228) | 1:A:196:ALA:HB1  | 2:B:662:LEU:HG   | 7        | 0.12          |
| (1,3228) | 1:A:196:ALA:HB2  | 2:B:662:LEU:HG   | 7        | 0.12          |
| (1,3228) | 1:A:196:ALA:HB3  | 2:B:662:LEU:HG   | 7        | 0.12          |
| (1,3228) | 1:A:196:ALA:HB1  | 2:B:658:LEU:HG   | 8        | 0.12          |
| (1,3228) | 1:A:196:ALA:HB2  | 2:B:658:LEU:HG   | 8        | 0.12          |
| (1,3228) | 1:A:196:ALA:HB3  | 2:B:658:LEU:HG   | 8        | 0.12          |
| (1,3228) | 1:A:196:ALA:HB1  | 2:B:662:LEU:HG   | 8        | 0.12          |
| (1,3228) | 1:A:196:ALA:HB2  | 2:B:662:LEU:HG   | 8        | 0.12          |
| (1,3228) | 1:A:196:ALA:HB3  | 2:B:662:LEU:HG   | 8        | 0.12          |
| (1,3113) | 1:A:169:LEU:HD21 | 1:A:204:GLN:HG3  | 9        | 0.12          |
| (1,3113) | 1:A:169:LEU:HD22 | 1:A:204:GLN:HG3  | 9        | 0.12          |
| (1,3113) | 1:A:169:LEU:HD23 | 1:A:204:GLN:HG3  | 9        | 0.12          |
| (1,3113) | 1:A:169:LEU:HD21 | 1:A:216:ASN:HB2  | 9        | 0.12          |
| (1,3113) | 1:A:169:LEU:HD22 | 1:A:216:ASN:HB2  | 9        | 0.12          |
| (1,3113) | 1:A:169:LEU:HD23 | 1:A:216:ASN:HB2  | 9        | 0.12          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG11 | 8        | 0.12          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG12 | 8        | 0.12          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG13 | 8        | 0.12          |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD21 | 8        | 0.12          |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD22 | 8        | 0.12          |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD23 | 8        | 0.12          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD21 | 8        | 0.12          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD22 | 8        | 0.12          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD23 | 8        | 0.12          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG21 | 8        | 0.12          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG22 | 8        | 0.12          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG23 | 8        | 0.12          |
| (1,276)  | 1:A:227:LEU:HA   | 2:B:661:PHE:HD1  | 4        | 0.12          |
| (1,276)  | 1:A:227:LEU:HA   | 2:B:661:PHE:HD2  | 4        | 0.12          |
| (1,276)  | 1:A:227:LEU:HA   | 2:B:661:PHE:HD1  | 6        | 0.12          |
| (1,276)  | 1:A:227:LEU:HA   | 2:B:661:PHE:HD2  | 6        | 0.12          |
| (1,272)  | 1:A:227:LEU:HA   | 1:A:224:LEU:HD21 | 10       | 0.12          |
| (1,272)  | 1:A:227:LEU:HA   | 1:A:224:LEU:HD22 | 10       | 0.12          |
| (1,272)  | 1:A:227:LEU:HA   | 1:A:224:LEU:HD23 | 10       | 0.12          |
| (1,2625) | 2:B:656:GLN:H    | 2:B:657:LYS:HG2  | 7        | 0.12          |
| (1,2621) | 2:B:656:GLN:H    | 2:B:656:GLN:HG2  | 8        | 0.12          |
| (1,2607) | 2:B:655:ALA:H    | 1:A:227:LEU:HB3  | 6        | 0.12          |
| (1,2547) | 2:B:646:GLN:HE21 | 2:B:646:GLN:HB3  | 9        | 0.12          |
| (1,2547) | 2:B:646:GLN:HE21 | 2:B:646:GLN:HB2  | 9        | 0.12          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,2270) | 1:A:217:GLY:H    | 1:A:220:LYS:HA   | 10       | 0.12          |
| (1,1976) | 1:A:187:TRP:HE1  | 1:A:188:THR:HA   | 10       | 0.12          |
| (1,1861) | 1:A:179:LYS:H    | 1:A:177:GLN:HG3  | 1        | 0.12          |
| (1,1783) | 1:A:171:LYS:H    | 1:A:171:LYS:HG3  | 9        | 0.12          |
| (1,1781) | 1:A:171:LYS:H    | 1:A:171:LYS:HB2  | 8        | 0.12          |
| (1,161)  | 1:A:198:LEU:HD11 | 1:A:184:PHE:HZ   | 9        | 0.12          |
| (1,161)  | 1:A:198:LEU:HD12 | 1:A:184:PHE:HZ   | 9        | 0.12          |
| (1,161)  | 1:A:198:LEU:HD13 | 1:A:184:PHE:HZ   | 9        | 0.12          |
| (1,1510) | 1:A:218:ILE:H    | 2:B:669:PRO:HB3  | 3        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG21 | 2:B:638:LEU:HD21 | 3        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG21 | 2:B:638:LEU:HD22 | 3        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG21 | 2:B:638:LEU:HD23 | 3        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG22 | 2:B:638:LEU:HD21 | 3        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG22 | 2:B:638:LEU:HD22 | 3        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG22 | 2:B:638:LEU:HD23 | 3        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG23 | 2:B:638:LEU:HD21 | 3        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG23 | 2:B:638:LEU:HD22 | 3        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG23 | 2:B:638:LEU:HD23 | 3        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG21 | 2:B:638:LEU:HD21 | 5        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG21 | 2:B:638:LEU:HD22 | 5        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG21 | 2:B:638:LEU:HD23 | 5        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG22 | 2:B:638:LEU:HD21 | 5        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG22 | 2:B:638:LEU:HD22 | 5        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG22 | 2:B:638:LEU:HD23 | 5        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG23 | 2:B:638:LEU:HD21 | 5        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG23 | 2:B:638:LEU:HD22 | 5        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG23 | 2:B:638:LEU:HD23 | 5        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG21 | 2:B:638:LEU:HD21 | 8        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG21 | 2:B:638:LEU:HD22 | 8        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG21 | 2:B:638:LEU:HD23 | 8        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG22 | 2:B:638:LEU:HD21 | 8        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG22 | 2:B:638:LEU:HD22 | 8        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG22 | 2:B:638:LEU:HD23 | 8        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG23 | 2:B:638:LEU:HD21 | 8        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG23 | 2:B:638:LEU:HD22 | 8        | 0.12          |
| (1,1492) | 2:B:641:VAL:HG23 | 2:B:638:LEU:HD23 | 8        | 0.12          |
| (1,1216) | 2:B:638:LEU:HD11 | 1:A:204:GLN:HG2  | 1        | 0.12          |
| (1,1216) | 2:B:638:LEU:HD12 | 1:A:204:GLN:HG2  | 1        | 0.12          |
| (1,1216) | 2:B:638:LEU:HD13 | 1:A:204:GLN:HG2  | 1        | 0.12          |
| (1,1216) | 2:B:638:LEU:HD11 | 1:A:204:GLN:HG2  | 3        | 0.12          |
| (1,1216) | 2:B:638:LEU:HD12 | 1:A:204:GLN:HG2  | 3        | 0.12          |
| (1,1216) | 2:B:638:LEU:HD13 | 1:A:204:GLN:HG2  | 3        | 0.12          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1168) | 2:B:630:GLU:HB2  | 1:A:187:TRP:HD1  | 3        | 0.12          |
| (1,1131) | 1:A:227:LEU:HD11 | 1:A:227:LEU:HB3  | 6        | 0.12          |
| (1,1131) | 1:A:227:LEU:HD12 | 1:A:227:LEU:HB3  | 6        | 0.12          |
| (1,1131) | 1:A:227:LEU:HD13 | 1:A:227:LEU:HB3  | 6        | 0.12          |
| (1,1131) | 1:A:227:LEU:HD11 | 1:A:227:LEU:HB3  | 7        | 0.12          |
| (1,1131) | 1:A:227:LEU:HD12 | 1:A:227:LEU:HB3  | 7        | 0.12          |
| (1,1131) | 1:A:227:LEU:HD13 | 1:A:227:LEU:HB3  | 7        | 0.12          |
| (1,1036) | 1:A:207:PHE:HA   | 1:A:207:PHE:HD1  | 7        | 0.12          |
| (1,1036) | 1:A:207:PHE:HA   | 1:A:207:PHE:HD2  | 7        | 0.12          |
| (3,86)   | 2:B:637:ASP:O    | 2:B:641:VAL:H    | 10       | 0.11          |
| (3,84)   | 2:B:636:LEU:O    | 2:B:640:SER:H    | 1        | 0.11          |
| (3,84)   | 2:B:636:LEU:O    | 2:B:640:SER:H    | 3        | 0.11          |
| (3,54)   | 1:A:197:SER:O    | 1:A:201:LEU:H    | 3        | 0.11          |
| (3,54)   | 1:A:197:SER:O    | 1:A:201:LEU:H    | 4        | 0.11          |
| (3,54)   | 1:A:197:SER:O    | 1:A:201:LEU:H    | 6        | 0.11          |
| (2,75)   | 2:B:663:ASN:HD21 | 1:A:192:PRO:HD2  | 4        | 0.11          |
| (2,7)    | 2:B:638:LEU:HD21 | 1:A:204:GLN:HG3  | 1        | 0.11          |
| (2,7)    | 2:B:638:LEU:HD22 | 1:A:204:GLN:HG3  | 1        | 0.11          |
| (2,7)    | 2:B:638:LEU:HD23 | 1:A:204:GLN:HG3  | 1        | 0.11          |
| (2,64)   | 2:B:659:VAL:H    | 2:B:660:ASN:HB3  | 1        | 0.11          |
| (2,22)   | 2:B:658:LEU:HA   | 2:B:659:VAL:HG11 | 3        | 0.11          |
| (2,22)   | 2:B:658:LEU:HA   | 2:B:659:VAL:HG12 | 3        | 0.11          |
| (2,22)   | 2:B:658:LEU:HA   | 2:B:659:VAL:HG13 | 3        | 0.11          |
| (2,22)   | 2:B:658:LEU:HA   | 2:B:659:VAL:HG11 | 5        | 0.11          |
| (2,22)   | 2:B:658:LEU:HA   | 2:B:659:VAL:HG12 | 5        | 0.11          |
| (2,22)   | 2:B:658:LEU:HA   | 2:B:659:VAL:HG13 | 5        | 0.11          |
| (1,867)  | 1:A:183:LYS:HE3  | 2:B:634:GLU:HG3  | 4        | 0.11          |
| (1,867)  | 1:A:183:LYS:HE3  | 2:B:634:GLU:HG2  | 4        | 0.11          |
| (1,867)  | 1:A:183:LYS:HE2  | 2:B:634:GLU:HG3  | 4        | 0.11          |
| (1,867)  | 1:A:183:LYS:HE2  | 2:B:634:GLU:HG2  | 4        | 0.11          |
| (1,788)  | 1:A:170:ALA:HB1  | 1:A:167:SER:HA   | 6        | 0.11          |
| (1,788)  | 1:A:170:ALA:HB2  | 1:A:167:SER:HA   | 6        | 0.11          |
| (1,788)  | 1:A:170:ALA:HB3  | 1:A:167:SER:HA   | 6        | 0.11          |
| (1,67)   | 1:A:141:LEU:HD11 | 1:A:202:CYS:HB2  | 1        | 0.11          |
| (1,67)   | 1:A:141:LEU:HD12 | 1:A:202:CYS:HB2  | 1        | 0.11          |
| (1,67)   | 1:A:141:LEU:HD13 | 1:A:202:CYS:HB2  | 1        | 0.11          |
| (1,551)  | 1:A:213:LEU:HD11 | 1:A:207:PHE:HD1  | 2        | 0.11          |
| (1,551)  | 1:A:213:LEU:HD11 | 1:A:207:PHE:HD2  | 2        | 0.11          |
| (1,551)  | 1:A:213:LEU:HD12 | 1:A:207:PHE:HD1  | 2        | 0.11          |
| (1,551)  | 1:A:213:LEU:HD12 | 1:A:207:PHE:HD2  | 2        | 0.11          |
| (1,551)  | 1:A:213:LEU:HD13 | 1:A:207:PHE:HD1  | 2        | 0.11          |
| (1,551)  | 1:A:213:LEU:HD13 | 1:A:207:PHE:HD2  | 2        | 0.11          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD21 | 5        | 0.11          |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD22 | 5        | 0.11          |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD23 | 5        | 0.11          |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD21 | 5        | 0.11          |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD22 | 5        | 0.11          |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD23 | 5        | 0.11          |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD21 | 5        | 0.11          |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD22 | 5        | 0.11          |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD23 | 5        | 0.11          |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD21 | 10       | 0.11          |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD22 | 10       | 0.11          |
| (1,458)  | 1:A:225:ILE:HD11 | 2:B:653:LEU:HD23 | 10       | 0.11          |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD21 | 10       | 0.11          |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD22 | 10       | 0.11          |
| (1,458)  | 1:A:225:ILE:HD12 | 2:B:653:LEU:HD23 | 10       | 0.11          |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD21 | 10       | 0.11          |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD22 | 10       | 0.11          |
| (1,458)  | 1:A:225:ILE:HD13 | 2:B:653:LEU:HD23 | 10       | 0.11          |
| (1,4025) | 2:B:644:LYS:H    | 2:B:642:ILE:HB   | 10       | 0.11          |
| (1,4025) | 2:B:644:LYS:H    | 1:A:203:PRO:HB2  | 10       | 0.11          |
| (1,4002) | 2:B:638:LEU:H    | 2:B:639:LEU:HB3  | 8        | 0.11          |
| (1,4002) | 2:B:638:LEU:H    | 1:A:205:LEU:HB2  | 8        | 0.11          |
| (1,3901) | 1:A:201:LEU:H    | 2:B:655:ALA:HB1  | 6        | 0.11          |
| (1,3901) | 1:A:201:LEU:H    | 2:B:655:ALA:HB2  | 6        | 0.11          |
| (1,3901) | 1:A:201:LEU:H    | 2:B:655:ALA:HB3  | 6        | 0.11          |
| (1,3901) | 1:A:201:LEU:H    | 1:A:199:LEU:HB2  | 6        | 0.11          |
| (1,3828) | 1:A:183:LYS:H    | 1:A:178:LEU:HA   | 10       | 0.11          |
| (1,3828) | 1:A:183:LYS:H    | 2:B:669:PRO:HD2  | 10       | 0.11          |
| (1,3828) | 2:B:657:LYS:H    | 1:A:206:SER:HB2  | 10       | 0.11          |
| (1,3828) | 2:B:657:LYS:H    | 1:A:206:SER:HA   | 10       | 0.11          |
| (1,3813) | 1:A:180:PHE:H    | 1:A:181:LEU:HB3  | 3        | 0.11          |
| (1,3813) | 1:A:180:PHE:H    | 2:B:632:PRO:HG3  | 3        | 0.11          |
| (1,3813) | 1:A:180:PHE:H    | 1:A:185:GLN:HB3  | 3        | 0.11          |
| (1,3738) | 1:A:213:LEU:H    | 1:A:177:GLN:HB3  | 9        | 0.11          |
| (1,3738) | 1:A:213:LEU:H    | 1:A:224:LEU:HB3  | 9        | 0.11          |
| (1,3738) | 1:A:218:ILE:H    | 2:B:666:VAL:HB   | 9        | 0.11          |
| (1,3738) | 1:A:213:LEU:H    | 2:B:666:VAL:HB   | 9        | 0.11          |
| (1,3738) | 1:A:213:LEU:H    | 1:A:227:LEU:HB2  | 9        | 0.11          |
| (1,3674) | 2:B:657:LYS:H    | 1:A:200:GLU:HG3  | 8        | 0.11          |
| (1,3674) | 2:B:657:LYS:H    | 1:A:200:GLU:HG2  | 8        | 0.11          |
| (1,3674) | 2:B:657:LYS:H    | 1:A:226:PRO:HB3  | 8        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD21 | 3        | 0.11          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD22 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD23 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD21 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD22 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD23 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD21 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD22 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD23 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD11 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD12 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD13 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD11 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD12 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD13 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD11 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD12 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD13 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD11 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD12 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD13 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD11 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD12 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD13 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD11 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD12 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD13 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD21 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD22 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD23 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD21 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD22 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD23 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD21 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD22 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD23 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD11 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD12 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD13 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD11 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD12 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD13 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD11 | 3        | 0.11          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD12 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD13 | 3        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD21 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD22 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD23 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD21 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD22 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD23 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD21 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD22 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD23 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD11 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD12 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:141:LEU:HD13 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD11 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD12 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:141:LEU:HD13 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD11 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD12 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:141:LEU:HD13 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD11 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD12 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:181:LEU:HD13 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD11 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD12 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:181:LEU:HD13 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD11 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD12 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:181:LEU:HD13 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD21 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD22 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 1:A:201:LEU:HD23 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD21 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD22 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 1:A:201:LEU:HD23 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD21 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD22 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 1:A:201:LEU:HD23 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD11 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD12 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG11 | 2:B:658:LEU:HD13 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD11 | 9        | 0.11          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD12 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG12 | 2:B:658:LEU:HD13 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD11 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD12 | 9        | 0.11          |
| (1,3658) | 2:B:635:VAL:HG13 | 2:B:658:LEU:HD13 | 9        | 0.11          |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:225:ILE:HG21 | 1        | 0.11          |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:225:ILE:HG22 | 1        | 0.11          |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:225:ILE:HG23 | 1        | 0.11          |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:165:ILE:HG21 | 1        | 0.11          |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:165:ILE:HG22 | 1        | 0.11          |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:165:ILE:HG23 | 1        | 0.11          |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:225:ILE:HD11 | 1        | 0.11          |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:225:ILE:HD12 | 1        | 0.11          |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:225:ILE:HD13 | 1        | 0.11          |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:225:ILE:HG21 | 5        | 0.11          |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:225:ILE:HG22 | 5        | 0.11          |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:225:ILE:HG23 | 5        | 0.11          |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:165:ILE:HG21 | 5        | 0.11          |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:165:ILE:HG22 | 5        | 0.11          |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:165:ILE:HG23 | 5        | 0.11          |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:225:ILE:HD11 | 5        | 0.11          |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:225:ILE:HD12 | 5        | 0.11          |
| (1,3604) | 1:A:207:PHE:HZ   | 1:A:225:ILE:HD13 | 5        | 0.11          |
| (1,3592) | 1:A:187:TRP:HZ2  | 1:A:188:THR:HB   | 4        | 0.11          |
| (1,3592) | 1:A:187:TRP:HZ2  | 1:A:198:LEU:HA   | 4        | 0.11          |
| (1,3520) | 1:A:174:LYS:HG2  | 1:A:216:ASN:HB2  | 5        | 0.11          |
| (1,3520) | 1:A:172:LYS:HG2  | 1:A:171:LYS:HE2  | 5        | 0.11          |
| (1,3520) | 1:A:174:LYS:HG2  | 1:A:216:ASN:HB2  | 7        | 0.11          |
| (1,3520) | 1:A:172:LYS:HG2  | 1:A:171:LYS:HE2  | 7        | 0.11          |
| (1,3487) | 1:A:200:GLU:HA   | 2:B:656:GLN:HG3  | 1        | 0.11          |
| (1,3487) | 1:A:200:GLU:HA   | 1:A:202:CYS:HB2  | 1        | 0.11          |
| (1,3444) | 1:A:149:PRO:HB3  | 1:A:149:PRO:HD3  | 10       | 0.11          |
| (1,3444) | 1:A:149:PRO:HB3  | 2:B:640:SER:HB2  | 10       | 0.11          |
| (1,3444) | 1:A:149:PRO:HB3  | 1:A:151:GLY:HA2  | 10       | 0.11          |
| (1,3444) | 1:A:149:PRO:HB3  | 1:A:150:SER:HB2  | 10       | 0.11          |
| (1,3303) | 2:B:638:LEU:HG   | 1:A:176:VAL:HG11 | 3        | 0.11          |
| (1,3303) | 2:B:638:LEU:HG   | 1:A:176:VAL:HG12 | 3        | 0.11          |
| (1,3303) | 2:B:638:LEU:HG   | 1:A:176:VAL:HG13 | 3        | 0.11          |
| (1,3303) | 2:B:668:ILE:HG13 | 2:B:658:LEU:HD21 | 3        | 0.11          |
| (1,3303) | 2:B:668:ILE:HG13 | 2:B:658:LEU:HD22 | 3        | 0.11          |
| (1,3303) | 2:B:668:ILE:HG13 | 2:B:658:LEU:HD23 | 3        | 0.11          |
| (1,3303) | 2:B:638:LEU:HG   | 2:B:658:LEU:HD21 | 3        | 0.11          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3303) | 2:B:638:LEU:HG   | 2:B:658:LEU:HD22 | 3        | 0.11          |
| (1,3303) | 2:B:638:LEU:HG   | 2:B:658:LEU:HD23 | 3        | 0.11          |
| (1,3303) | 2:B:638:LEU:HG   | 1:A:176:VAL:HG11 | 4        | 0.11          |
| (1,3303) | 2:B:638:LEU:HG   | 1:A:176:VAL:HG12 | 4        | 0.11          |
| (1,3303) | 2:B:638:LEU:HG   | 1:A:176:VAL:HG13 | 4        | 0.11          |
| (1,3303) | 2:B:668:ILE:HG13 | 2:B:658:LEU:HD21 | 4        | 0.11          |
| (1,3303) | 2:B:668:ILE:HG13 | 2:B:658:LEU:HD22 | 4        | 0.11          |
| (1,3303) | 2:B:668:ILE:HG13 | 2:B:658:LEU:HD23 | 4        | 0.11          |
| (1,3303) | 2:B:638:LEU:HG   | 2:B:658:LEU:HD21 | 4        | 0.11          |
| (1,3303) | 2:B:638:LEU:HG   | 2:B:658:LEU:HD22 | 4        | 0.11          |
| (1,3303) | 2:B:638:LEU:HG   | 2:B:658:LEU:HD23 | 4        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG21 | 1:A:213:LEU:HD11 | 1        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG21 | 1:A:213:LEU:HD12 | 1        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG21 | 1:A:213:LEU:HD13 | 1        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG22 | 1:A:213:LEU:HD11 | 1        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG22 | 1:A:213:LEU:HD12 | 1        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG22 | 1:A:213:LEU:HD13 | 1        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG23 | 1:A:213:LEU:HD11 | 1        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG23 | 1:A:213:LEU:HD12 | 1        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG23 | 1:A:213:LEU:HD13 | 1        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG21 | 2:B:658:LEU:HD11 | 1        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG21 | 2:B:658:LEU:HD12 | 1        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG21 | 2:B:658:LEU:HD13 | 1        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG22 | 2:B:658:LEU:HD11 | 1        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG22 | 2:B:658:LEU:HD12 | 1        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG22 | 2:B:658:LEU:HD13 | 1        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG23 | 2:B:658:LEU:HD11 | 1        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG23 | 2:B:658:LEU:HD12 | 1        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG23 | 2:B:658:LEU:HD13 | 1        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG21 | 1:A:213:LEU:HD11 | 4        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG21 | 1:A:213:LEU:HD12 | 4        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG21 | 1:A:213:LEU:HD13 | 4        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG22 | 1:A:213:LEU:HD11 | 4        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG22 | 1:A:213:LEU:HD12 | 4        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG22 | 1:A:213:LEU:HD13 | 4        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG23 | 1:A:213:LEU:HD11 | 4        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG23 | 1:A:213:LEU:HD12 | 4        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG23 | 1:A:213:LEU:HD13 | 4        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG21 | 2:B:658:LEU:HD11 | 4        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG21 | 2:B:658:LEU:HD12 | 4        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG21 | 2:B:658:LEU:HD13 | 4        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG22 | 2:B:658:LEU:HD11 | 4        | 0.11          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3283) | 2:B:666:VAL:HG22 | 2:B:658:LEU:HD12 | 4        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG22 | 2:B:658:LEU:HD13 | 4        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG23 | 2:B:658:LEU:HD11 | 4        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG23 | 2:B:658:LEU:HD12 | 4        | 0.11          |
| (1,3283) | 2:B:666:VAL:HG23 | 2:B:658:LEU:HD13 | 4        | 0.11          |
| (1,3232) | 2:B:633:THR:HG21 | 2:B:632:PRO:HG3  | 7        | 0.11          |
| (1,3232) | 2:B:633:THR:HG22 | 2:B:632:PRO:HG3  | 7        | 0.11          |
| (1,3232) | 2:B:633:THR:HG23 | 2:B:632:PRO:HG3  | 7        | 0.11          |
| (1,3208) | 1:A:193:GLU:HG2  | 1:A:196:ALA:HA   | 4        | 0.11          |
| (1,3208) | 1:A:147:GLU:HG2  | 1:A:144:LYS:HA   | 4        | 0.11          |
| (1,3208) | 1:A:147:GLU:HG3  | 1:A:144:LYS:HA   | 4        | 0.11          |
| (1,3208) | 1:A:147:GLU:HG3  | 2:B:640:SER:HB2  | 4        | 0.11          |
| (1,3208) | 1:A:147:GLU:HG2  | 2:B:640:SER:HB2  | 4        | 0.11          |
| (1,3208) | 1:A:147:GLU:HG3  | 1:A:150:SER:HB2  | 4        | 0.11          |
| (1,3208) | 1:A:193:GLU:HG2  | 1:A:199:LEU:HA   | 4        | 0.11          |
| (1,3114) | 2:B:631:LEU:HD11 | 1:A:195:ALA:HA   | 3        | 0.11          |
| (1,3114) | 2:B:631:LEU:HD12 | 1:A:195:ALA:HA   | 3        | 0.11          |
| (1,3114) | 2:B:631:LEU:HD13 | 1:A:195:ALA:HA   | 3        | 0.11          |
| (1,3088) | 2:B:631:LEU:HD21 | 1:A:149:PRO:HD3  | 6        | 0.11          |
| (1,3088) | 2:B:631:LEU:HD22 | 1:A:149:PRO:HD3  | 6        | 0.11          |
| (1,3088) | 2:B:631:LEU:HD23 | 1:A:149:PRO:HD3  | 6        | 0.11          |
| (1,3088) | 2:B:631:LEU:HD21 | 1:A:180:PHE:HA   | 6        | 0.11          |
| (1,3088) | 2:B:631:LEU:HD22 | 1:A:180:PHE:HA   | 6        | 0.11          |
| (1,3088) | 2:B:631:LEU:HD23 | 1:A:180:PHE:HA   | 6        | 0.11          |
| (1,3088) | 2:B:631:LEU:HD21 | 1:A:149:PRO:HD3  | 8        | 0.11          |
| (1,3088) | 2:B:631:LEU:HD22 | 1:A:149:PRO:HD3  | 8        | 0.11          |
| (1,3088) | 2:B:631:LEU:HD23 | 1:A:149:PRO:HD3  | 8        | 0.11          |
| (1,3088) | 2:B:631:LEU:HD21 | 1:A:180:PHE:HA   | 8        | 0.11          |
| (1,3088) | 2:B:631:LEU:HD22 | 1:A:180:PHE:HA   | 8        | 0.11          |
| (1,3088) | 2:B:631:LEU:HD23 | 1:A:180:PHE:HA   | 8        | 0.11          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG11 | 2        | 0.11          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG12 | 2        | 0.11          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG13 | 2        | 0.11          |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD21 | 2        | 0.11          |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD22 | 2        | 0.11          |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD23 | 2        | 0.11          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD21 | 2        | 0.11          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD22 | 2        | 0.11          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD23 | 2        | 0.11          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG21 | 2        | 0.11          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG22 | 2        | 0.11          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG23 | 2        | 0.11          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG11 | 6        | 0.11          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG12 | 6        | 0.11          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:176:VAL:HG13 | 6        | 0.11          |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD21 | 6        | 0.11          |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD22 | 6        | 0.11          |
| (1,2963) | 1:A:181:LEU:HB3  | 2:B:658:LEU:HD23 | 6        | 0.11          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD21 | 6        | 0.11          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD22 | 6        | 0.11          |
| (1,2963) | 1:A:212:LEU:HB3  | 2:B:658:LEU:HD23 | 6        | 0.11          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG21 | 6        | 0.11          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG22 | 6        | 0.11          |
| (1,2963) | 1:A:212:LEU:HB3  | 1:A:221:VAL:HG23 | 6        | 0.11          |
| (1,2669) | 2:B:660:ASN:HD22 | 2:B:656:GLN:HG2  | 4        | 0.11          |
| (1,2662) | 2:B:659:VAL:H    | 2:B:661:PHE:HD1  | 8        | 0.11          |
| (1,2662) | 2:B:659:VAL:H    | 2:B:661:PHE:HD2  | 8        | 0.11          |
| (1,2625) | 2:B:656:GLN:H    | 2:B:657:LYS:HG2  | 6        | 0.11          |
| (1,2624) | 2:B:656:GLN:H    | 2:B:657:LYS:HG3  | 5        | 0.11          |
| (1,2602) | 2:B:654:ASP:H    | 2:B:654:ASP:HB2  | 2        | 0.11          |
| (1,2547) | 2:B:646:GLN:HE21 | 2:B:646:GLN:HB3  | 3        | 0.11          |
| (1,2547) | 2:B:646:GLN:HE21 | 2:B:646:GLN:HB2  | 3        | 0.11          |
| (1,2356) | 1:A:225:ILE:H    | 1:A:225:ILE:HG12 | 2        | 0.11          |
| (1,2253) | 1:A:216:ASN:H    | 1:A:216:ASN:HB2  | 10       | 0.11          |
| (1,1953) | 1:A:186:GLU:H    | 1:A:183:LYS:HG3  | 1        | 0.11          |
| (1,1861) | 1:A:179:LYS:H    | 1:A:177:GLN:HG3  | 8        | 0.11          |
| (1,1781) | 1:A:171:LYS:H    | 1:A:171:LYS:HB2  | 2        | 0.11          |
| (1,1781) | 1:A:171:LYS:H    | 1:A:171:LYS:HB2  | 4        | 0.11          |
| (1,1651) | 1:A:154:VAL:H    | 1:A:155:ASN:HB3  | 9        | 0.11          |
| (1,1631) | 1:A:152:ILE:H    | 1:A:152:ILE:HG12 | 9        | 0.11          |
| (1,161)  | 1:A:198:LEU:HD11 | 1:A:184:PHE:HZ   | 2        | 0.11          |
| (1,161)  | 1:A:198:LEU:HD12 | 1:A:184:PHE:HZ   | 2        | 0.11          |
| (1,161)  | 1:A:198:LEU:HD13 | 1:A:184:PHE:HZ   | 2        | 0.11          |
| (1,161)  | 1:A:198:LEU:HD11 | 1:A:184:PHE:HZ   | 3        | 0.11          |
| (1,161)  | 1:A:198:LEU:HD12 | 1:A:184:PHE:HZ   | 3        | 0.11          |
| (1,161)  | 1:A:198:LEU:HD13 | 1:A:184:PHE:HZ   | 3        | 0.11          |
| (1,161)  | 1:A:198:LEU:HD11 | 1:A:184:PHE:HZ   | 5        | 0.11          |
| (1,161)  | 1:A:198:LEU:HD12 | 1:A:184:PHE:HZ   | 5        | 0.11          |
| (1,161)  | 1:A:198:LEU:HD13 | 1:A:184:PHE:HZ   | 5        | 0.11          |
| (1,16)   | 2:B:652:LEU:HD21 | 1:A:203:PRO:HB3  | 8        | 0.11          |
| (1,16)   | 2:B:652:LEU:HD22 | 1:A:203:PRO:HB3  | 8        | 0.11          |
| (1,16)   | 2:B:652:LEU:HD23 | 1:A:203:PRO:HB3  | 8        | 0.11          |
| (1,1510) | 1:A:218:ILE:H    | 2:B:669:PRO:HB3  | 5        | 0.11          |
| (1,1510) | 1:A:218:ILE:H    | 2:B:669:PRO:HB3  | 7        | 0.11          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1492) | 2:B:641:VAL:HG21 | 2:B:638:LEU:HD21 | 7        | 0.11          |
| (1,1492) | 2:B:641:VAL:HG21 | 2:B:638:LEU:HD22 | 7        | 0.11          |
| (1,1492) | 2:B:641:VAL:HG21 | 2:B:638:LEU:HD23 | 7        | 0.11          |
| (1,1492) | 2:B:641:VAL:HG22 | 2:B:638:LEU:HD21 | 7        | 0.11          |
| (1,1492) | 2:B:641:VAL:HG22 | 2:B:638:LEU:HD22 | 7        | 0.11          |
| (1,1492) | 2:B:641:VAL:HG22 | 2:B:638:LEU:HD23 | 7        | 0.11          |
| (1,1492) | 2:B:641:VAL:HG23 | 2:B:638:LEU:HD21 | 7        | 0.11          |
| (1,1492) | 2:B:641:VAL:HG23 | 2:B:638:LEU:HD22 | 7        | 0.11          |
| (1,1492) | 2:B:641:VAL:HG23 | 2:B:638:LEU:HD23 | 7        | 0.11          |
| (1,1373) | 2:B:655:ALA:HB1  | 2:B:656:GLN:HG3  | 10       | 0.11          |
| (1,1373) | 2:B:655:ALA:HB2  | 2:B:656:GLN:HG3  | 10       | 0.11          |
| (1,1373) | 2:B:655:ALA:HB3  | 2:B:656:GLN:HG3  | 10       | 0.11          |
| (1,1227) | 2:B:640:SER:HB2  | 1:A:149:PRO:HB3  | 10       | 0.11          |
| (1,1216) | 2:B:638:LEU:HD11 | 1:A:204:GLN:HG2  | 4        | 0.11          |
| (1,1216) | 2:B:638:LEU:HD12 | 1:A:204:GLN:HG2  | 4        | 0.11          |
| (1,1216) | 2:B:638:LEU:HD13 | 1:A:204:GLN:HG2  | 4        | 0.11          |
| (1,1216) | 2:B:638:LEU:HD11 | 1:A:204:GLN:HG2  | 6        | 0.11          |
| (1,1216) | 2:B:638:LEU:HD12 | 1:A:204:GLN:HG2  | 6        | 0.11          |
| (1,1216) | 2:B:638:LEU:HD13 | 1:A:204:GLN:HG2  | 6        | 0.11          |
| (1,1216) | 2:B:638:LEU:HD11 | 1:A:204:GLN:HG2  | 9        | 0.11          |
| (1,1216) | 2:B:638:LEU:HD12 | 1:A:204:GLN:HG2  | 9        | 0.11          |
| (1,1216) | 2:B:638:LEU:HD13 | 1:A:204:GLN:HG2  | 9        | 0.11          |
| (1,1203) | 2:B:635:VAL:HG21 | 1:A:180:PHE:HD1  | 2        | 0.11          |
| (1,1203) | 2:B:635:VAL:HG21 | 1:A:180:PHE:HD2  | 2        | 0.11          |
| (1,1203) | 2:B:635:VAL:HG22 | 1:A:180:PHE:HD1  | 2        | 0.11          |
| (1,1203) | 2:B:635:VAL:HG22 | 1:A:180:PHE:HD2  | 2        | 0.11          |
| (1,1203) | 2:B:635:VAL:HG23 | 1:A:180:PHE:HD1  | 2        | 0.11          |
| (1,1203) | 2:B:635:VAL:HG23 | 1:A:180:PHE:HD2  | 2        | 0.11          |
| (1,1203) | 2:B:635:VAL:HG21 | 1:A:180:PHE:HD1  | 7        | 0.11          |
| (1,1203) | 2:B:635:VAL:HG21 | 1:A:180:PHE:HD2  | 7        | 0.11          |
| (1,1203) | 2:B:635:VAL:HG22 | 1:A:180:PHE:HD1  | 7        | 0.11          |
| (1,1203) | 2:B:635:VAL:HG22 | 1:A:180:PHE:HD2  | 7        | 0.11          |
| (1,1203) | 2:B:635:VAL:HG23 | 1:A:180:PHE:HD1  | 7        | 0.11          |
| (1,1203) | 2:B:635:VAL:HG23 | 1:A:180:PHE:HD2  | 7        | 0.11          |
| (1,1199) | 2:B:635:VAL:HA   | 1:A:180:PHE:HE1  | 6        | 0.11          |
| (1,1199) | 2:B:635:VAL:HA   | 1:A:180:PHE:HE2  | 6        | 0.11          |
| (1,1196) | 2:B:633:THR:HG21 | 2:B:633:THR:HA   | 10       | 0.11          |
| (1,1196) | 2:B:633:THR:HG22 | 2:B:633:THR:HA   | 10       | 0.11          |
| (1,1196) | 2:B:633:THR:HG23 | 2:B:633:THR:HA   | 10       | 0.11          |
| (1,1131) | 1:A:227:LEU:HD11 | 1:A:227:LEU:HB3  | 1        | 0.11          |
| (1,1131) | 1:A:227:LEU:HD12 | 1:A:227:LEU:HB3  | 1        | 0.11          |
| (1,1131) | 1:A:227:LEU:HD13 | 1:A:227:LEU:HB3  | 1        | 0.11          |

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| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1131) | 1:A:227:LEU:HD11 | 1:A:227:LEU:HB3  | 4        | 0.11          |
| (1,1131) | 1:A:227:LEU:HD12 | 1:A:227:LEU:HB3  | 4        | 0.11          |
| (1,1131) | 1:A:227:LEU:HD13 | 1:A:227:LEU:HB3  | 4        | 0.11          |
| (1,1131) | 1:A:227:LEU:HD11 | 1:A:227:LEU:HB3  | 5        | 0.11          |
| (1,1131) | 1:A:227:LEU:HD12 | 1:A:227:LEU:HB3  | 5        | 0.11          |
| (1,1131) | 1:A:227:LEU:HD13 | 1:A:227:LEU:HB3  | 5        | 0.11          |
| (1,1131) | 1:A:227:LEU:HD11 | 1:A:227:LEU:HB3  | 8        | 0.11          |
| (1,1131) | 1:A:227:LEU:HD12 | 1:A:227:LEU:HB3  | 8        | 0.11          |
| (1,1131) | 1:A:227:LEU:HD13 | 1:A:227:LEU:HB3  | 8        | 0.11          |
| (1,1077) | 1:A:218:ILE:HG13 | 1:A:218:ILE:HG21 | 1        | 0.11          |
| (1,1077) | 1:A:218:ILE:HG13 | 1:A:218:ILE:HG22 | 1        | 0.11          |
| (1,1077) | 1:A:218:ILE:HG13 | 1:A:218:ILE:HG23 | 1        | 0.11          |
| (1,1077) | 1:A:218:ILE:HG13 | 1:A:218:ILE:HG21 | 4        | 0.11          |
| (1,1077) | 1:A:218:ILE:HG13 | 1:A:218:ILE:HG22 | 4        | 0.11          |
| (1,1077) | 1:A:218:ILE:HG13 | 1:A:218:ILE:HG23 | 4        | 0.11          |
| (1,1077) | 1:A:218:ILE:HG13 | 1:A:218:ILE:HG21 | 8        | 0.11          |
| (1,1077) | 1:A:218:ILE:HG13 | 1:A:218:ILE:HG22 | 8        | 0.11          |
| (1,1077) | 1:A:218:ILE:HG13 | 1:A:218:ILE:HG23 | 8        | 0.11          |

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

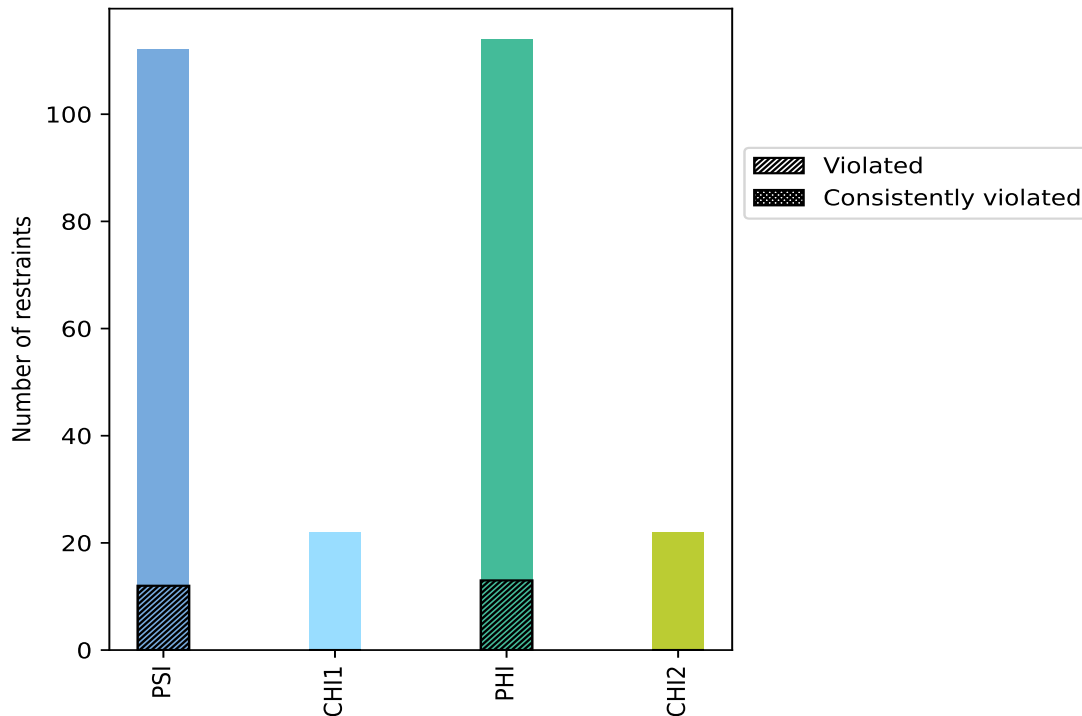
### 10.1 Summary of dihedral-angle violations [i](#)

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        | 112   | 41.5           | 12                    | 10.7           | 4.4            | 0                                  | 0.0            | 0.0            |
| CHI1       | 22    | 8.1            | 0                     | 0.0            | 0.0            | 0                                  | 0.0            | 0.0            |
| PHI        | 114   | 42.2           | 13                    | 11.4           | 4.8            | 0                                  | 0.0            | 0.0            |
| CHI2       | 22    | 8.1            | 0                     | 0.0            | 0.0            | 0                                  | 0.0            | 0.0            |
| Total      | 270   | 100.0          | 25                    | 9.3            | 9.3            | 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](#)



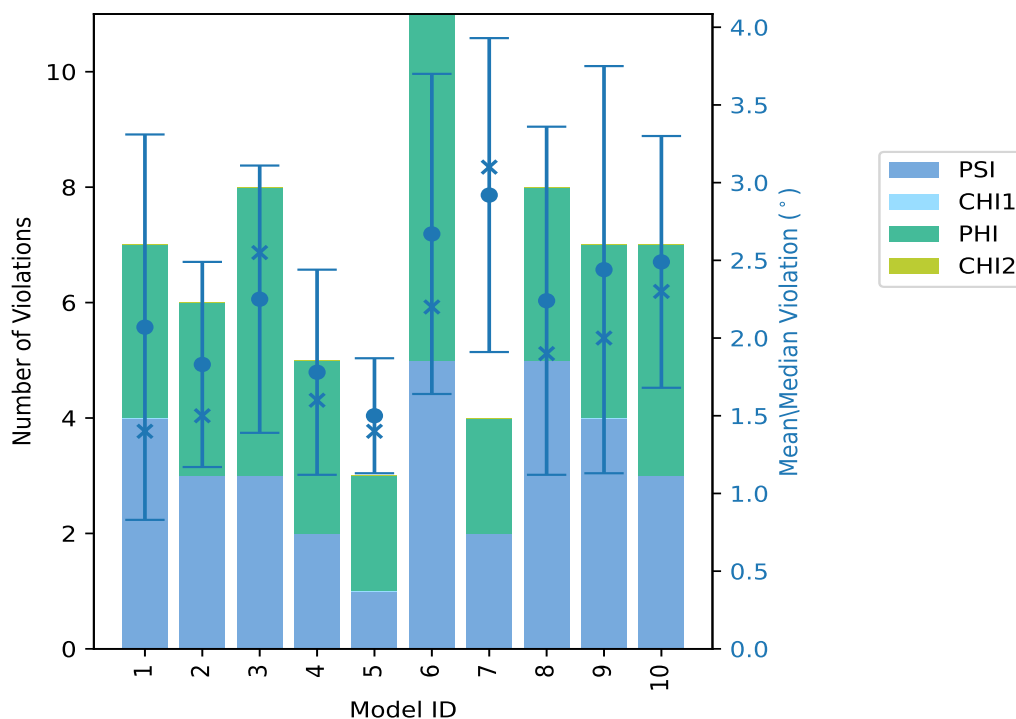
Violated and consistently violated restraints are shown using different hatch patterns in their respective categories

## 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                  | CHI1 | PHI | CHI2 | Total |          |         |        |            |
| 1        | 4                    | 0    | 3   | 0    | 7     | 2.07     | 4.8     | 1.24   | 1.4        |
| 2        | 3                    | 0    | 3   | 0    | 6     | 1.83     | 3.2     | 0.66   | 1.5        |
| 3        | 3                    | 0    | 5   | 0    | 8     | 2.25     | 3.2     | 0.86   | 2.55       |
| 4        | 2                    | 0    | 3   | 0    | 5     | 1.78     | 2.9     | 0.66   | 1.6        |
| 5        | 1                    | 0    | 2   | 0    | 3     | 1.5      | 2.0     | 0.37   | 1.4        |
| 6        | 5                    | 0    | 6   | 0    | 11    | 2.67     | 4.5     | 1.03   | 2.2        |
| 7        | 2                    | 0    | 2   | 0    | 4     | 2.92     | 3.9     | 1.01   | 3.1        |
| 8        | 5                    | 0    | 3   | 0    | 8     | 2.24     | 5.1     | 1.12   | 1.9        |
| 9        | 4                    | 0    | 3   | 0    | 7     | 2.44     | 5.2     | 1.31   | 2.0        |
| 10       | 3                    | 0    | 4   | 0    | 7     | 2.49     | 4.1     | 0.81   | 2.3        |

### 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

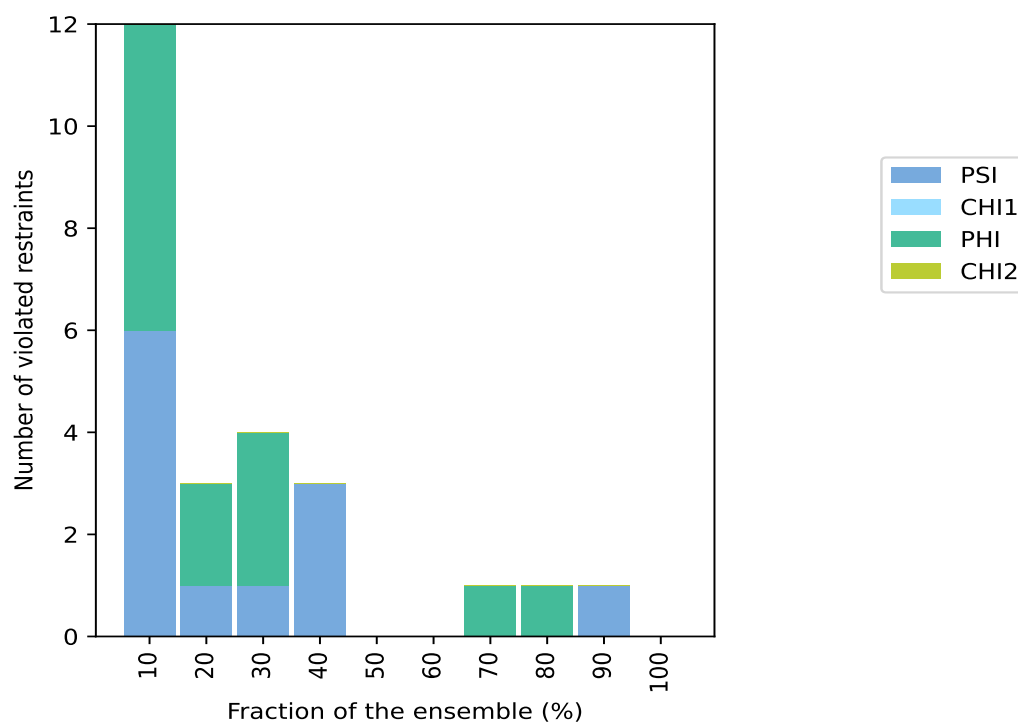
### 10.3 Dihedral-angle violation statistics for the ensemble [i](#)

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                           | CHI1 | PHI | CHI2 | Total | Count <sup>1</sup>       | %     |
| 6                             | 0    | 6   | 0    | 12    | 1                        | 10.0  |
| 1                             | 0    | 2   | 0    | 3     | 2                        | 20.0  |
| 1                             | 0    | 3   | 0    | 4     | 3                        | 30.0  |
| 3                             | 0    | 0   | 0    | 3     | 4                        | 40.0  |
| 0                             | 0    | 0   | 0    | 0     | 5                        | 50.0  |
| 0                             | 0    | 0   | 0    | 0     | 6                        | 60.0  |
| 0                             | 0    | 1   | 0    | 1     | 7                        | 70.0  |
| 0                             | 0    | 1   | 0    | 1     | 8                        | 80.0  |
| 1                             | 0    | 0   | 0    | 1     | 9                        | 90.0  |
| 0                             | 0    | 0   | 0    | 0     | 10                       | 100.0 |

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

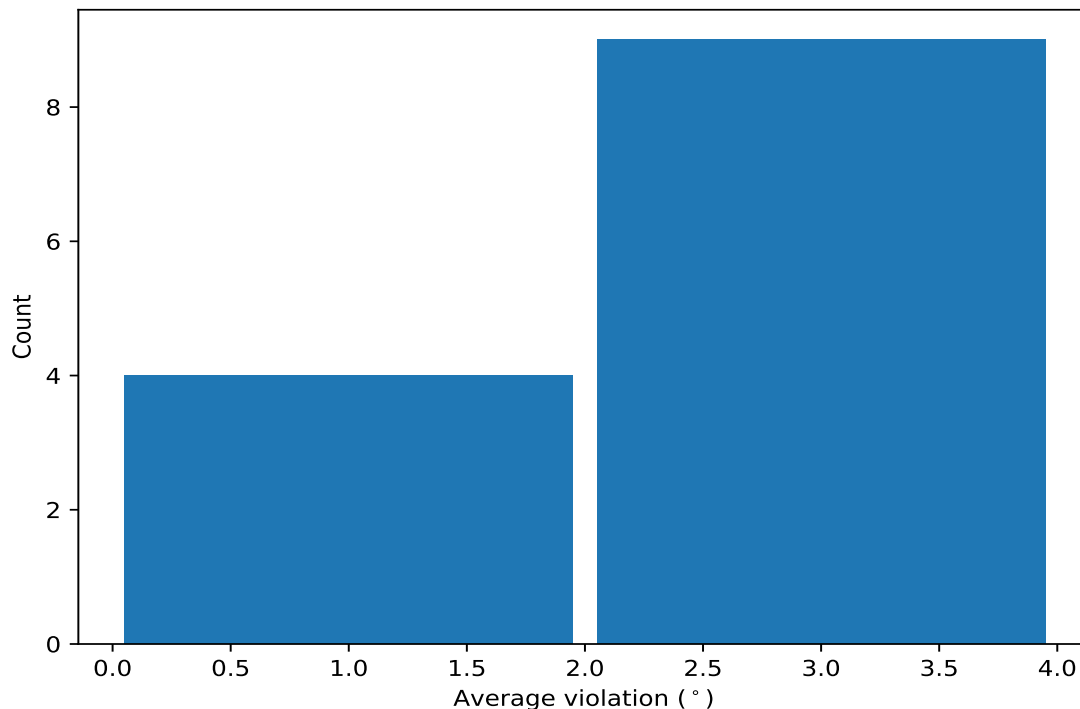
#### 10.3.1 Bar graph : Dihedral-angle Violation statistics for the ensemble [i](#)



## 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.

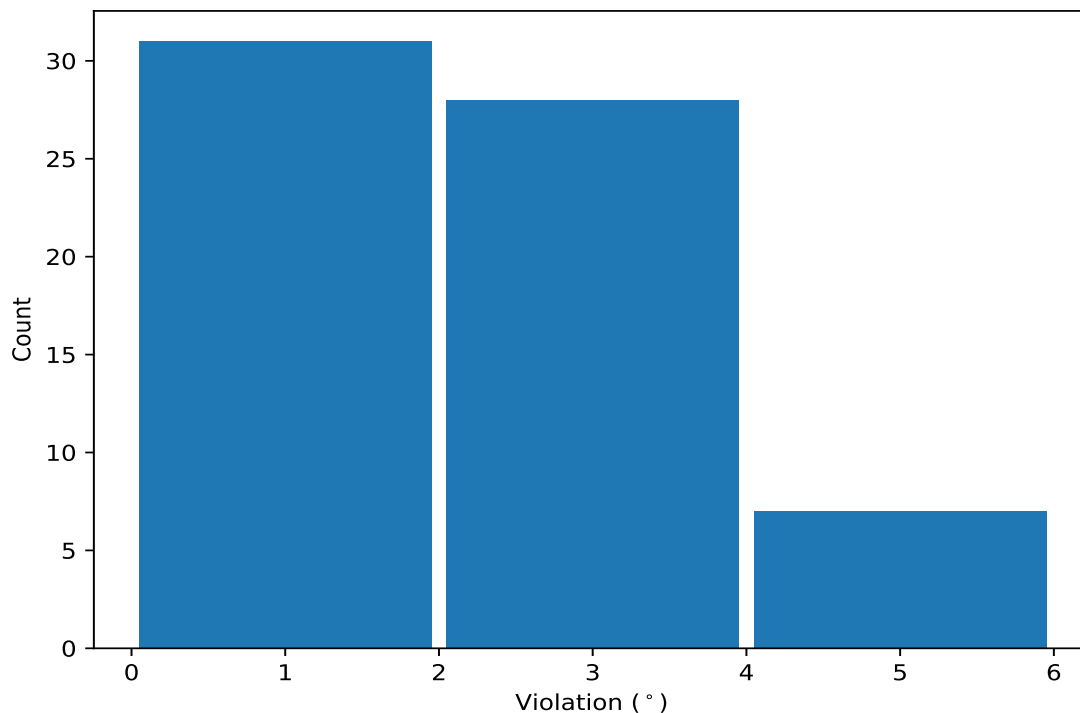
| Key     | Atom-1        | Atom-2         | Atom-3         | Atom-4        | Models <sup>1</sup> | Mean | SD <sup>2</sup> | Median |
|---------|---------------|----------------|----------------|---------------|---------------------|------|-----------------|--------|
| (1,45)  | 1:A:167:SER:N | 1:A:167:SER:CA | 1:A:167:SER:C  | 1:A:168:GLU:N | 9                   | 2.67 | 1.27            | 2.6    |
| (1,216) | 2:B:663:ASN:C | 2:B:664:ASP:N  | 2:B:664:ASP:CA | 2:B:664:ASP:C | 8                   | 1.72 | 0.36            | 1.8    |
| (1,150) | 1:A:222:ASP:C | 1:A:223:ASP:N  | 1:A:223:ASP:CA | 1:A:223:ASP:C | 7                   | 1.71 | 0.61            | 1.6    |
| (1,195) | 2:B:653:LEU:N | 2:B:653:LEU:CA | 2:B:653:LEU:C  | 2:B:654:ASP:N | 4                   | 3.55 | 1.5             | 3.85   |
| (1,16)  | 1:A:147:GLU:N | 1:A:147:GLU:CA | 1:A:147:GLU:C  | 1:A:148:LEU:N | 4                   | 2.47 | 1.33            | 2.15   |
| (1,51)  | 1:A:170:ALA:N | 1:A:170:ALA:CA | 1:A:170:ALA:C  | 1:A:171:LYS:N | 4                   | 1.88 | 0.11            | 1.9    |
| (1,198) | 2:B:654:ASP:C | 2:B:655:ALA:N  | 2:B:655:ALA:CA | 2:B:655:ALA:C | 3                   | 3.03 | 0.79            | 2.8    |
| (1,46)  | 1:A:167:SER:C | 1:A:168:GLU:N  | 1:A:168:GLU:CA | 1:A:168:GLU:C | 3                   | 2.93 | 1.03            | 3.1    |
| (1,196) | 2:B:653:LEU:C | 2:B:654:ASP:N  | 2:B:654:ASP:CA | 2:B:654:ASP:C | 3                   | 2.57 | 0.31            | 2.4    |
| (1,25)  | 1:A:155:ASN:N | 1:A:155:ASN:CA | 1:A:155:ASN:C  | 1:A:156:ILE:N | 3                   | 2.4  | 1.12            | 2.1    |
| (1,149) | 1:A:222:ASP:N | 1:A:222:ASP:CA | 1:A:222:ASP:C  | 1:A:223:ASP:N | 2                   | 3.05 | 0.25            | 3.05   |
| (1,9)   | 1:A:142:SER:C | 1:A:143:GLN:N  | 1:A:143:GLN:CA | 1:A:143:GLN:C | 2                   | 2.15 | 0.05            | 2.15   |
| (1,116) | 1:A:205:LEU:C | 1:A:206:SER:N  | 1:A:206:SER:CA | 1:A:206:SER:C | 2                   | 1.5  | 0.0             | 1.5    |

<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 (°) |
|---------|---------------|----------------|----------------|---------------|----------|---------------|
| (1,45)  | 1:A:167:SER:N | 1:A:167:SER:CA | 1:A:167:SER:C  | 1:A:168:GLU:N | 9        | 5.2           |
| (1,195) | 2:B:653:LEU:N | 2:B:653:LEU:CA | 2:B:653:LEU:C  | 2:B:654:ASP:N | 8        | 5.1           |
| (1,195) | 2:B:653:LEU:N | 2:B:653:LEU:CA | 2:B:653:LEU:C  | 2:B:654:ASP:N | 1        | 4.8           |
| (1,16)  | 1:A:147:GLU:N | 1:A:147:GLU:CA | 1:A:147:GLU:C  | 1:A:148:LEU:N | 6        | 4.5           |
| (1,6)   | 1:A:141:LEU:N | 1:A:141:LEU:CA | 1:A:141:LEU:C  | 1:A:142:SER:N | 6        | 4.1           |
| (1,46)  | 1:A:167:SER:C | 1:A:168:GLU:N  | 1:A:168:GLU:CA | 1:A:168:GLU:C | 6        | 4.1           |
| (1,198) | 2:B:654:ASP:C | 2:B:655:ALA:N  | 2:B:655:ALA:CA | 2:B:655:ALA:C | 10       | 4.1           |
| (1,45)  | 1:A:167:SER:N | 1:A:167:SER:CA | 1:A:167:SER:C  | 1:A:168:GLU:N | 7        | 3.9           |
| (1,25)  | 1:A:155:ASN:N | 1:A:155:ASN:CA | 1:A:155:ASN:C  | 1:A:156:ILE:N | 7        | 3.9           |
| (1,149) | 1:A:222:ASP:N | 1:A:222:ASP:CA | 1:A:222:ASP:C  | 1:A:223:ASP:N | 9        | 3.3           |
| (1,45)  | 1:A:167:SER:N | 1:A:167:SER:CA | 1:A:167:SER:C  | 1:A:168:GLU:N | 2        | 3.2           |

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| Key     | Atom-1        | Atom-2         | Atom-3         | Atom-4        | Model ID | Violation (°) |
|---------|---------------|----------------|----------------|---------------|----------|---------------|
| (1,45)  | 1:A:167:SER:N | 1:A:167:SER:CA | 1:A:167:SER:C  | 1:A:168:GLU:N | 3        | 3.2           |
| (1,46)  | 1:A:167:SER:C | 1:A:168:GLU:N  | 1:A:168:GLU:CA | 1:A:168:GLU:C | 3        | 3.1           |
| (1,196) | 2:B:653:LEU:C | 2:B:654:ASP:N  | 2:B:654:ASP:CA | 2:B:654:ASP:C | 3        | 3.0           |
| (1,195) | 2:B:653:LEU:N | 2:B:653:LEU:CA | 2:B:653:LEU:C  | 2:B:654:ASP:N | 10       | 2.9           |
| (1,157) | 1:A:227:LEU:N | 1:A:227:LEU:CA | 1:A:227:LEU:C  | 1:A:228:ALA:N | 3        | 2.9           |
| (1,150) | 1:A:222:ASP:C | 1:A:223:ASP:N  | 1:A:223:ASP:CA | 1:A:223:ASP:C | 4        | 2.9           |
| (1,198) | 2:B:654:ASP:C | 2:B:655:ALA:N  | 2:B:655:ALA:CA | 2:B:655:ALA:C | 1        | 2.8           |
| (1,16)  | 1:A:147:GLU:N | 1:A:147:GLU:CA | 1:A:147:GLU:C  | 1:A:148:LEU:N | 10       | 2.8           |
| (1,149) | 1:A:222:ASP:N | 1:A:222:ASP:CA | 1:A:222:ASP:C  | 1:A:223:ASP:N | 6        | 2.8           |
| (1,45)  | 1:A:167:SER:N | 1:A:167:SER:CA | 1:A:167:SER:C  | 1:A:168:GLU:N | 6        | 2.6           |
| (1,196) | 2:B:653:LEU:C | 2:B:654:ASP:N  | 2:B:654:ASP:CA | 2:B:654:ASP:C | 9        | 2.4           |
| (1,196) | 2:B:653:LEU:C | 2:B:654:ASP:N  | 2:B:654:ASP:CA | 2:B:654:ASP:C | 7        | 2.3           |
| (1,150) | 1:A:222:ASP:C | 1:A:223:ASP:N  | 1:A:223:ASP:CA | 1:A:223:ASP:C | 10       | 2.3           |
| (1,9)   | 1:A:142:SER:C | 1:A:143:GLN:N  | 1:A:143:GLN:CA | 1:A:143:GLN:C | 6        | 2.2           |
| (1,7)   | 1:A:141:LEU:C | 1:A:142:SER:N  | 1:A:142:SER:CA | 1:A:142:SER:C | 6        | 2.2           |
| (1,53)  | 1:A:171:LYS:N | 1:A:171:LYS:CA | 1:A:171:LYS:C  | 1:A:172:LYS:N | 8        | 2.2           |
| (1,216) | 2:B:663:ASN:C | 2:B:664:ASP:N  | 2:B:664:ASP:CA | 2:B:664:ASP:C | 3        | 2.2           |
| (1,198) | 2:B:654:ASP:C | 2:B:655:ALA:N  | 2:B:655:ALA:CA | 2:B:655:ALA:C | 8        | 2.2           |
| (1,9)   | 1:A:142:SER:C | 1:A:143:GLN:N  | 1:A:143:GLN:CA | 1:A:143:GLN:C | 2        | 2.1           |
| (1,25)  | 1:A:155:ASN:N | 1:A:155:ASN:CA | 1:A:155:ASN:C  | 1:A:156:ILE:N | 8        | 2.1           |
| (1,216) | 2:B:663:ASN:C | 2:B:664:ASP:N  | 2:B:664:ASP:CA | 2:B:664:ASP:C | 4        | 2.1           |
| (1,51)  | 1:A:170:ALA:N | 1:A:170:ALA:CA | 1:A:170:ALA:C  | 1:A:171:LYS:N | 9        | 2.0           |
| (1,45)  | 1:A:167:SER:N | 1:A:167:SER:CA | 1:A:167:SER:C  | 1:A:168:GLU:N | 5        | 2.0           |
| (1,216) | 2:B:663:ASN:C | 2:B:664:ASP:N  | 2:B:664:ASP:CA | 2:B:664:ASP:C | 6        | 2.0           |
| (1,51)  | 1:A:170:ALA:N | 1:A:170:ALA:CA | 1:A:170:ALA:C  | 1:A:171:LYS:N | 1        | 1.9           |
| (1,51)  | 1:A:170:ALA:N | 1:A:170:ALA:CA | 1:A:170:ALA:C  | 1:A:171:LYS:N | 10       | 1.9           |
| (1,216) | 2:B:663:ASN:C | 2:B:664:ASP:N  | 2:B:664:ASP:CA | 2:B:664:ASP:C | 10       | 1.9           |
| (1,164) | 2:B:630:GLU:C | 2:B:631:LEU:N  | 2:B:631:LEU:CA | 2:B:631:LEU:C | 6        | 1.9           |
| (1,191) | 2:B:646:GLN:C | 2:B:647:TYR:N  | 2:B:647:TYR:CA | 2:B:647:TYR:C | 9        | 1.8           |
| (1,51)  | 1:A:170:ALA:N | 1:A:170:ALA:CA | 1:A:170:ALA:C  | 1:A:171:LYS:N | 8        | 1.7           |
| (1,216) | 2:B:663:ASN:C | 2:B:664:ASP:N  | 2:B:664:ASP:CA | 2:B:664:ASP:C | 8        | 1.7           |
| (1,188) | 2:B:645:ARG:N | 2:B:645:ARG:CA | 2:B:645:ARG:C  | 2:B:646:GLN:N | 6        | 1.7           |
| (1,46)  | 1:A:167:SER:C | 1:A:168:GLU:N  | 1:A:168:GLU:CA | 1:A:168:GLU:C | 4        | 1.6           |
| (1,150) | 1:A:222:ASP:C | 1:A:223:ASP:N  | 1:A:223:ASP:CA | 1:A:223:ASP:C | 7        | 1.6           |
| (1,150) | 1:A:222:ASP:C | 1:A:223:ASP:N  | 1:A:223:ASP:CA | 1:A:223:ASP:C | 8        | 1.6           |
| (1,16)  | 1:A:147:GLU:N | 1:A:147:GLU:CA | 1:A:147:GLU:C  | 1:A:148:LEU:N | 2        | 1.5           |
| (1,116) | 1:A:205:LEU:C | 1:A:206:SER:N  | 1:A:206:SER:CA | 1:A:206:SER:C | 2        | 1.5           |
| (1,116) | 1:A:205:LEU:C | 1:A:206:SER:N  | 1:A:206:SER:CA | 1:A:206:SER:C | 10       | 1.5           |
| (1,45)  | 1:A:167:SER:N | 1:A:167:SER:CA | 1:A:167:SER:C  | 1:A:168:GLU:N | 1        | 1.4           |
| (1,216) | 2:B:663:ASN:C | 2:B:664:ASP:N  | 2:B:664:ASP:CA | 2:B:664:ASP:C | 5        | 1.4           |
| (1,195) | 2:B:653:LEU:N | 2:B:653:LEU:CA | 2:B:653:LEU:C  | 2:B:654:ASP:N | 2        | 1.4           |
| (1,88)  | 1:A:189:ARG:C | 1:A:190:ALA:N  | 1:A:190:ALA:CA | 1:A:190:ALA:C | 9        | 1.3           |
| (1,45)  | 1:A:167:SER:N | 1:A:167:SER:CA | 1:A:167:SER:C  | 1:A:168:GLU:N | 8        | 1.3           |
| (1,216) | 2:B:663:ASN:C | 2:B:664:ASP:N  | 2:B:664:ASP:CA | 2:B:664:ASP:C | 2        | 1.3           |
| (1,150) | 1:A:222:ASP:C | 1:A:223:ASP:N  | 1:A:223:ASP:CA | 1:A:223:ASP:C | 1        | 1.3           |
| (1,15)  | 1:A:146:PRO:C | 1:A:147:GLU:N  | 1:A:147:GLU:CA | 1:A:147:GLU:C | 6        | 1.3           |
| (1,45)  | 1:A:167:SER:N | 1:A:167:SER:CA | 1:A:167:SER:C  | 1:A:168:GLU:N | 4        | 1.2           |
| (1,28)  | 1:A:156:ILE:C | 1:A:157:ASN:N  | 1:A:157:ASN:CA | 1:A:157:ASN:C | 3        | 1.2           |
| (1,25)  | 1:A:155:ASN:N | 1:A:155:ASN:CA | 1:A:155:ASN:C  | 1:A:156:ILE:N | 3        | 1.2           |
| (1,216) | 2:B:663:ASN:C | 2:B:664:ASP:N  | 2:B:664:ASP:CA | 2:B:664:ASP:C | 1        | 1.2           |
| (1,150) | 1:A:222:ASP:C | 1:A:223:ASP:N  | 1:A:223:ASP:CA | 1:A:223:ASP:C | 3        | 1.2           |

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| <b>Key</b> | <b>Atom-1</b> | <b>Atom-2</b>  | <b>Atom-3</b>  | <b>Atom-4</b> | <b>Model ID</b> | <b>Violation (°)</b> |
|------------|---------------|----------------|----------------|---------------|-----------------|----------------------|
| (1,47)     | 1:A:168:GLU:N | 1:A:168:GLU:CA | 1:A:168:GLU:C  | 1:A:169:LEU:N | 4               | 1.1                  |
| (1,16)     | 1:A:147:GLU:N | 1:A:147:GLU:CA | 1:A:147:GLU:C  | 1:A:148:LEU:N | 1               | 1.1                  |
| (1,151)    | 1:A:223:ASP:N | 1:A:223:ASP:CA | 1:A:223:ASP:C  | 1:A:224:LEU:N | 9               | 1.1                  |
| (1,150)    | 1:A:222:ASP:C | 1:A:223:ASP:N  | 1:A:223:ASP:CA | 1:A:223:ASP:C | 5               | 1.1                  |