



# Full wwPDB NMR Structure Validation Report ⓘ

Jun 4, 2023 – 10:08 AM EDT

PDB ID : 2N9P  
BMRB ID : 25914  
Title : Solution structure of RNF126 N-terminal zinc finger domain in complex with BAG6 Ubiquitin-like domain  
Authors : Martinez-Lumbreras, S.; Kryzstofinska, E.M.; Thapaliya, A.; Isaacson, R.L.  
Deposited on : 2015-12-01

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

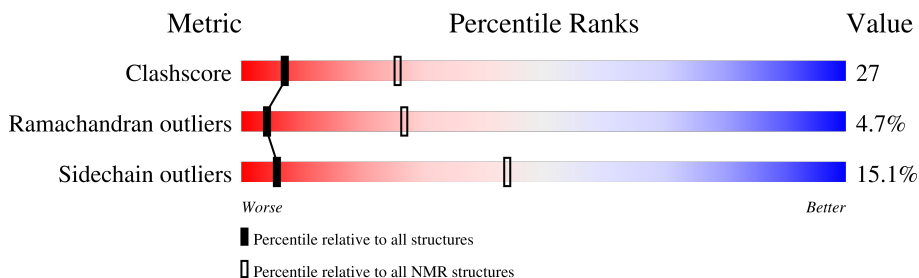
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*SOLUTION NMR*

The overall completeness of chemical shifts assignment is 86%.

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



| Metric                | Whole archive (#Entries) | NMR archive (#Entries) |
|-----------------------|--------------------------|------------------------|
| Clashscore            | 158937                   | 12864                  |
| Ramachandran outliers | 154571                   | 11451                  |
| Sidechain outliers    | 154315                   | 11428                  |

The table below summarises the geometric issues observed across the polymeric chains and their fit to the experimental data. The red, orange, yellow and green segments indicate the fraction of residues that contain outliers for  $\geq 3$ , 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     | 42     |                  |
| 2   | C     | 100    |                  |

## 2 Ensemble composition and analysis

This entry contains 20 models. Model 10 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:10-A:40, C:16-C:23, C:28-C:85 (97) | 0.61              | 10           |

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 5 single-model clusters were found.

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

### 3 Entry composition i

There are 3 unique types of molecules in this entry. The entry contains 2220 atoms, of which 1101 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called E3 ubiquitin-protein ligase RNF126.

| Mol | Chain | Residues | Atoms |     |     |    |    |   | Trace |
|-----|-------|----------|-------|-----|-----|----|----|---|-------|
|     |       |          | Total | C   | H   | N  | O  | S |       |
| 1   | A     | 42       | 630   | 204 | 304 | 55 | 61 | 6 | 0     |

There are 2 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment        | Reference  |
|-------|---------|----------|--------|----------------|------------|
| A     | -1      | GLY      | -      | expression tag | UNP Q9BV68 |
| A     | 0       | SER      | -      | expression tag | UNP Q9BV68 |

- Molecule 2 is a protein called Large proline-rich protein BAG6.

| Mol | Chain | Residues | Atoms |     |     |     |     |   | Trace |
|-----|-------|----------|-------|-----|-----|-----|-----|---|-------|
|     |       |          | Total | C   | H   | N   | O   | S |       |
| 2   | C     | 100      | 1589  | 493 | 797 | 147 | 149 | 3 | 0     |

There are 15 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment        | Reference  |
|-------|---------|----------|--------|----------------|------------|
| C     | 2       | MET      | -      | expression tag | UNP P46379 |
| C     | 3       | ALA      | -      | expression tag | UNP P46379 |
| C     | 4       | HIS      | -      | expression tag | UNP P46379 |
| C     | 5       | HIS      | -      | expression tag | UNP P46379 |
| C     | 6       | HIS      | -      | expression tag | UNP P46379 |
| C     | 7       | HIS      | -      | expression tag | UNP P46379 |
| C     | 8       | HIS      | -      | expression tag | UNP P46379 |
| C     | 9       | HIS      | -      | expression tag | UNP P46379 |
| C     | 10      | VAL      | -      | expression tag | UNP P46379 |
| C     | 11      | ASP      | -      | expression tag | UNP P46379 |
| C     | 12      | ASP      | -      | expression tag | UNP P46379 |
| C     | 13      | ASP      | -      | expression tag | UNP P46379 |
| C     | 14      | ASP      | -      | expression tag | UNP P46379 |
| C     | 15      | LYS      | -      | expression tag | UNP P46379 |
| C     | 16      | MET      | -      | expression tag | UNP P46379 |

- Molecule 3 is ZINC ION (three-letter code: ZN) (formula: Zn).

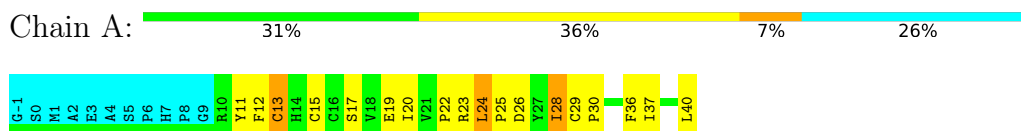
| <b>Mol</b> | <b>Chain</b> | <b>Residues</b> | <b>Atoms</b> |    |
|------------|--------------|-----------------|--------------|----|
| 3          | A            | 1               | Total        | Zn |
|            |              |                 | 1            | 1  |

## 4 Residue-property plots

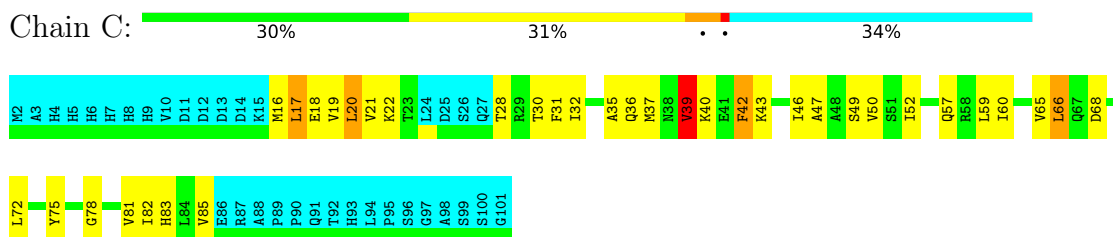
### 4.1 Average score per residue in the NMR ensemble

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: E3 ubiquitin-protein ligase RNF126



- Molecule 2: Large proline-rich protein BAG6

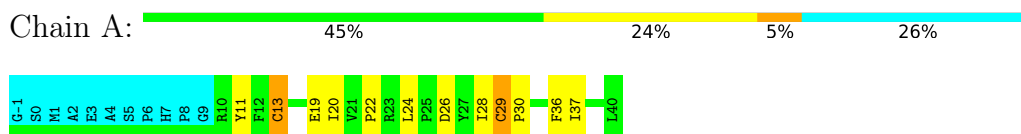


### 4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

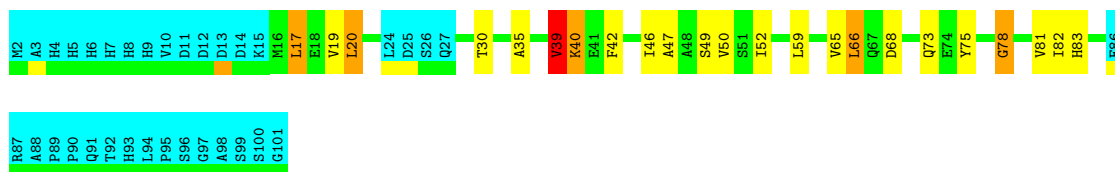
#### 4.2.1 Score per residue for model 1

- Molecule 1: E3 ubiquitin-protein ligase RNF126



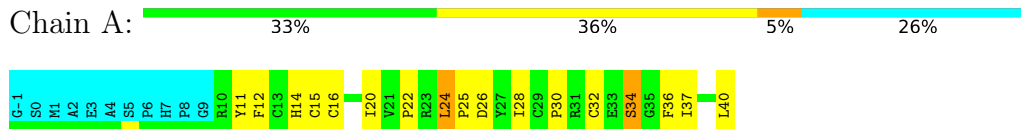
- Molecule 2: Large proline-rich protein BAG6



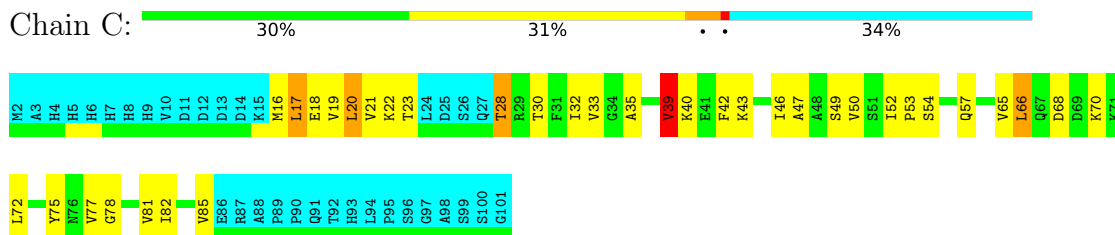


#### 4.2.2 Score per residue for model 2

- Molecule 1: E3 ubiquitin-protein ligase RNF126

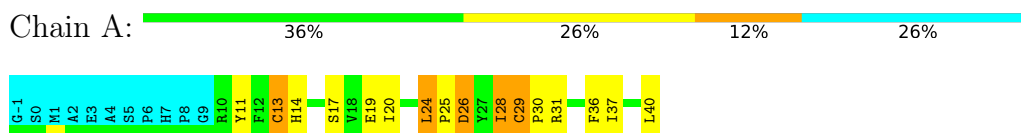


- Molecule 2: Large proline-rich protein BAG6

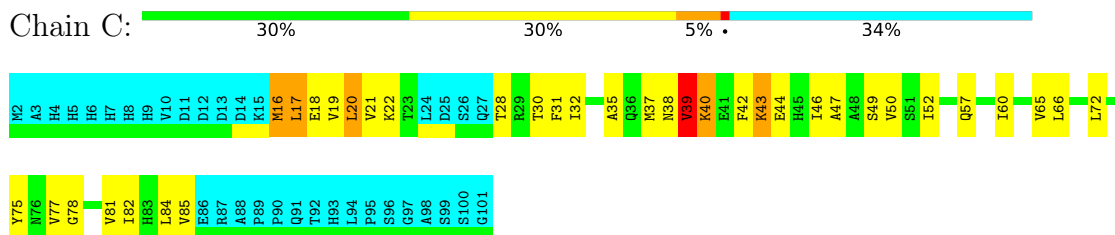


#### 4.2.3 Score per residue for model 3

- Molecule 1: E3 ubiquitin-protein ligase RNF126

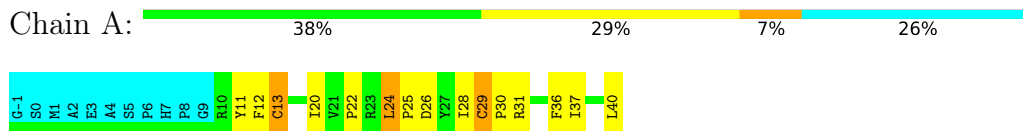


- Molecule 2: Large proline-rich protein BAG6

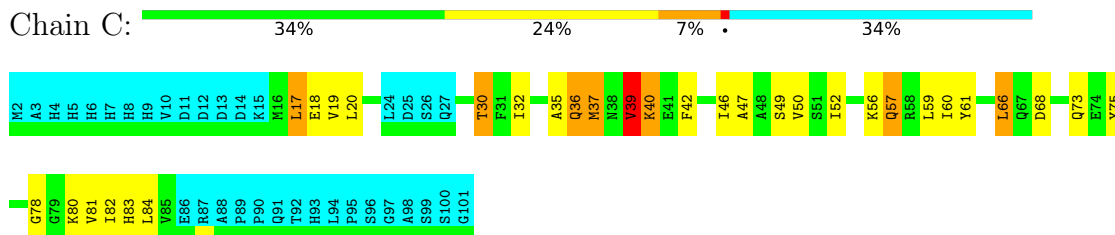


#### 4.2.4 Score per residue for model 4

- Molecule 1: E3 ubiquitin-protein ligase RNF126

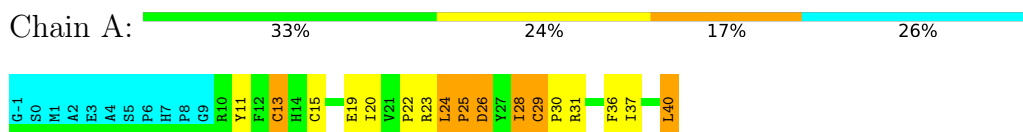


- Molecule 2: Large proline-rich protein BAG6

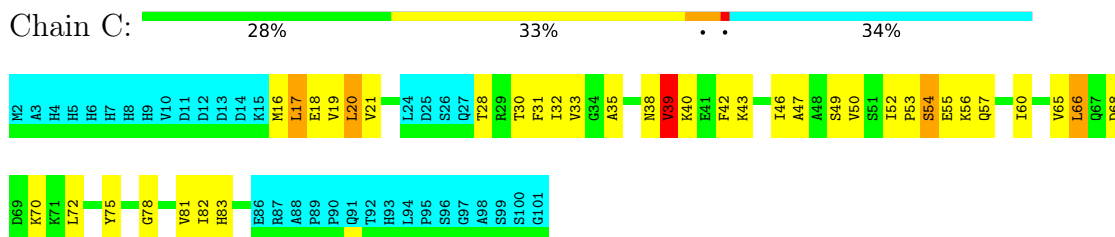


#### 4.2.5 Score per residue for model 5

- Molecule 1: E3 ubiquitin-protein ligase RNF126

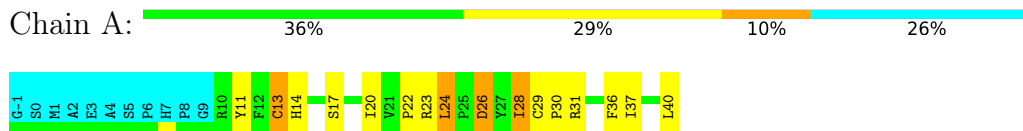


- Molecule 2: Large proline-rich protein BAG6



#### 4.2.6 Score per residue for model 6

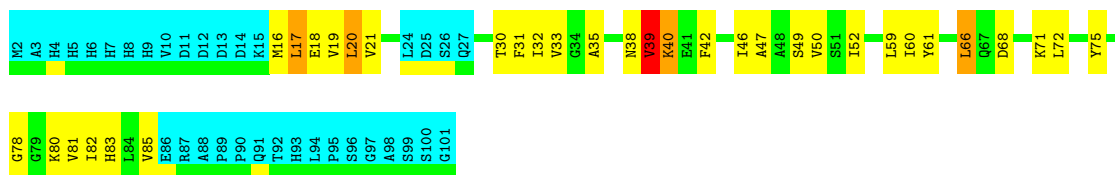
- Molecule 1: E3 ubiquitin-protein ligase RNF126



- Molecule 2: Large proline-rich protein BAG6

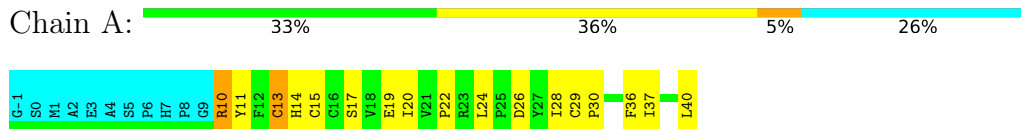




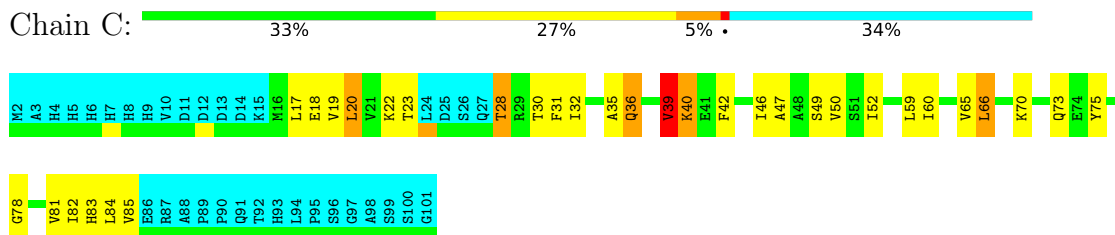


#### 4.2.7 Score per residue for model 7

- Molecule 1: E3 ubiquitin-protein ligase RNF126

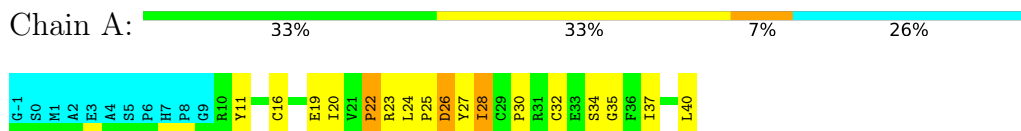


- Molecule 2: Large proline-rich protein BAG6

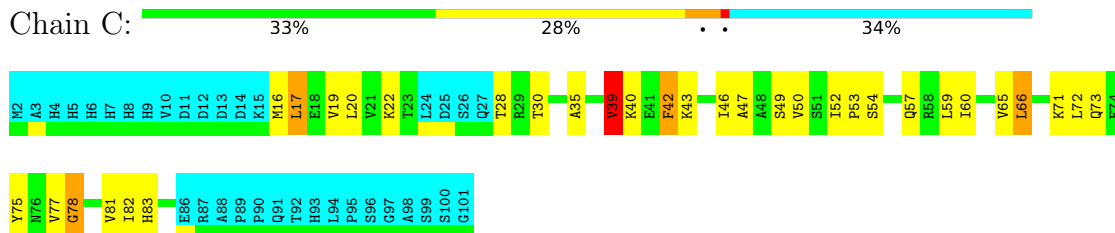


#### 4.2.8 Score per residue for model 8

- Molecule 1: E3 ubiquitin-protein ligase RNF126

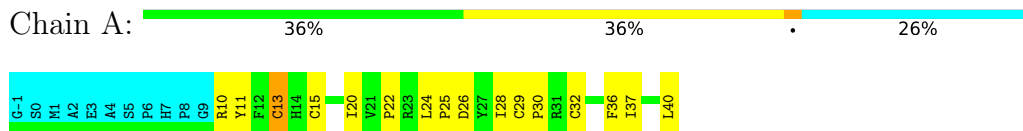


- Molecule 2: Large proline-rich protein BAG6

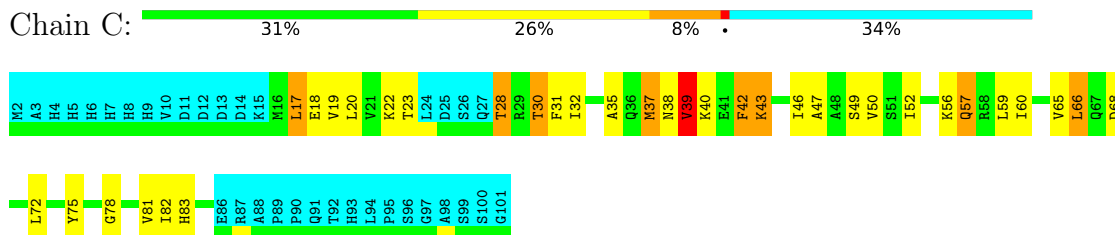


#### 4.2.9 Score per residue for model 9

- Molecule 1: E3 ubiquitin-protein ligase RNF126

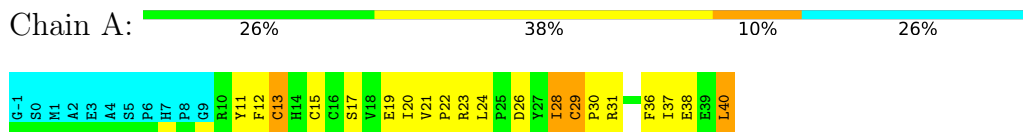


- Molecule 2: Large proline-rich protein BAG6

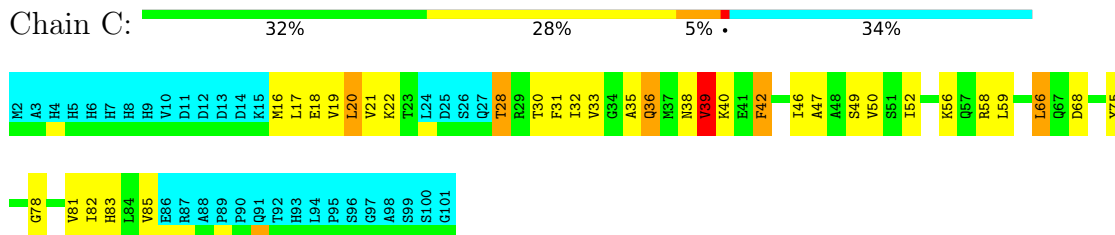


#### 4.2.10 Score per residue for model 10 (medoid)

- Molecule 1: E3 ubiquitin-protein ligase RNF126

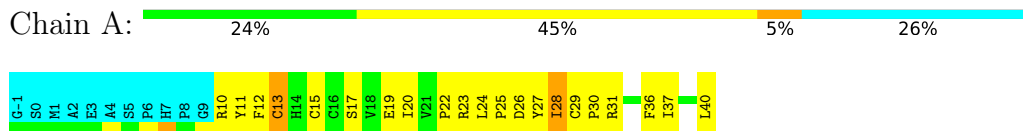


- Molecule 2: Large proline-rich protein BAG6

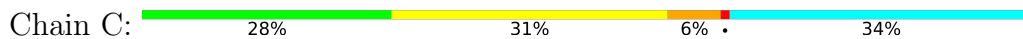


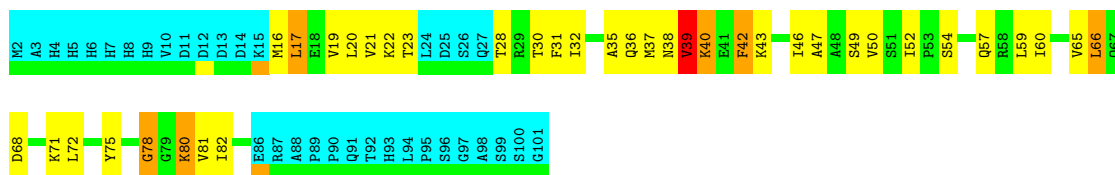
#### 4.2.11 Score per residue for model 11

- Molecule 1: E3 ubiquitin-protein ligase RNF126



- Molecule 2: Large proline-rich protein BAG6



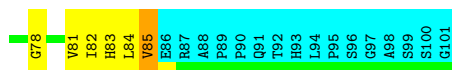


#### 4.2.12 Score per residue for model 12

- Molecule 1: E3 ubiquitin-protein ligase RNF126



- Molecule 2: Large proline-rich protein BAG6

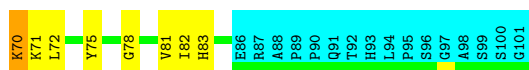
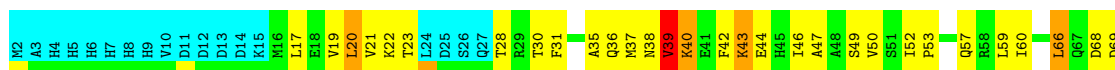
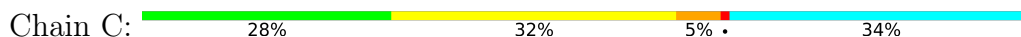


#### 4.2.13 Score per residue for model 13

- Molecule 1: E3 ubiquitin-protein ligase RNF126

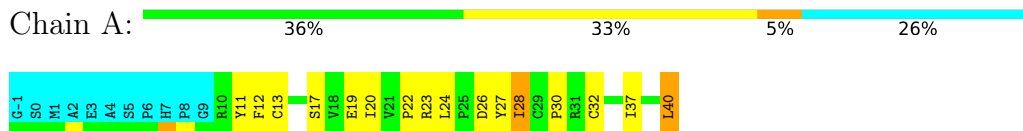


- Molecule 2: Large proline-rich protein BAG6

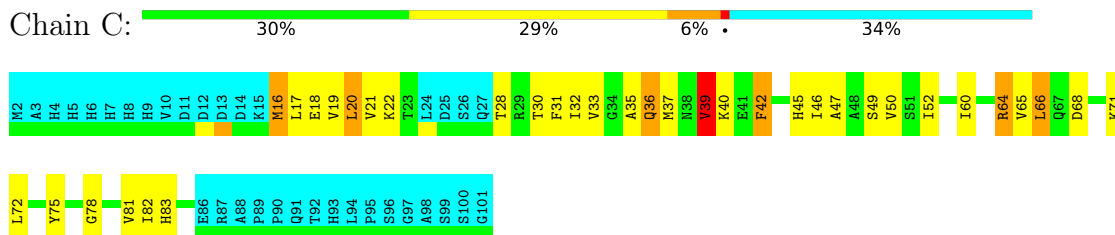


#### 4.2.14 Score per residue for model 14

- Molecule 1: E3 ubiquitin-protein ligase RNF126

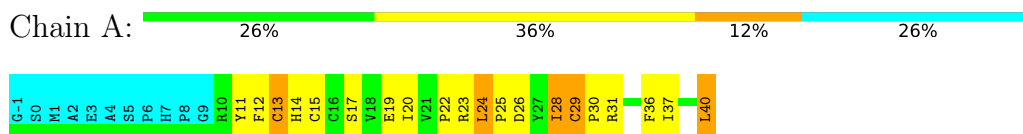


- Molecule 2: Large proline-rich protein BAG6

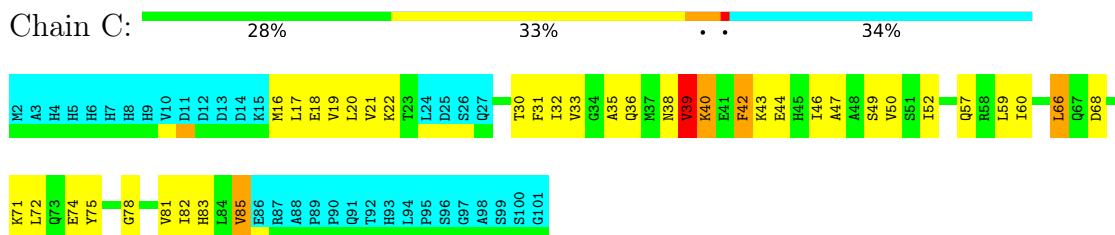


#### 4.2.15 Score per residue for model 15

- Molecule 1: E3 ubiquitin-protein ligase RNF126

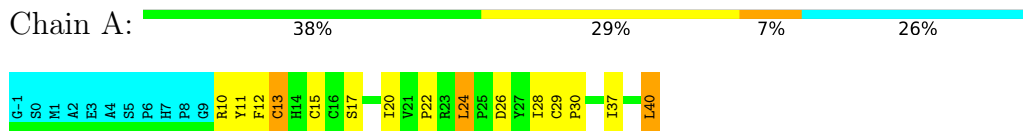


- Molecule 2: Large proline-rich protein BAG6



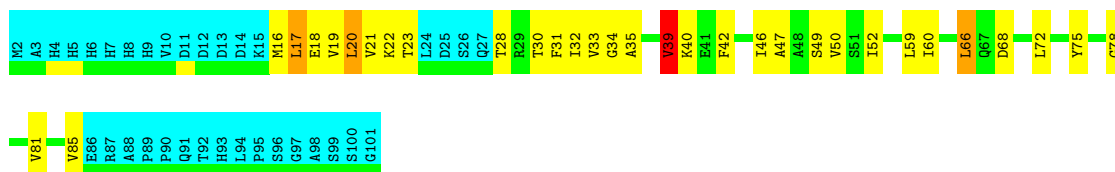
#### 4.2.16 Score per residue for model 16

- Molecule 1: E3 ubiquitin-protein ligase RNF126



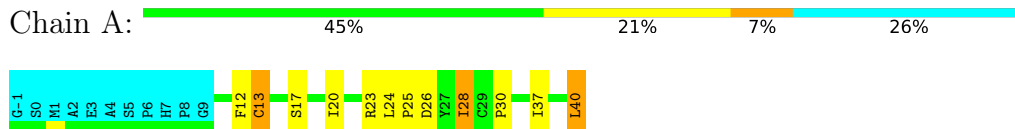
- Molecule 2: Large proline-rich protein BAG6



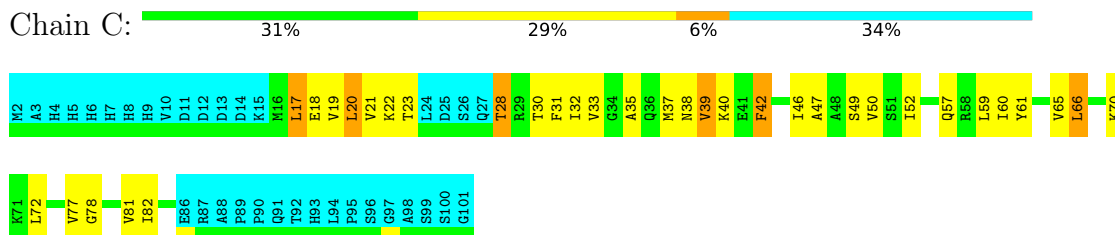


#### 4.2.17 Score per residue for model 17

- Molecule 1: E3 ubiquitin-protein ligase RNF126

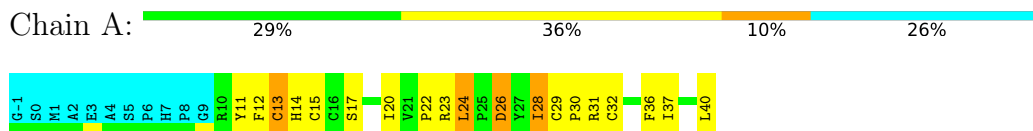


- Molecule 2: Large proline-rich protein BAG6

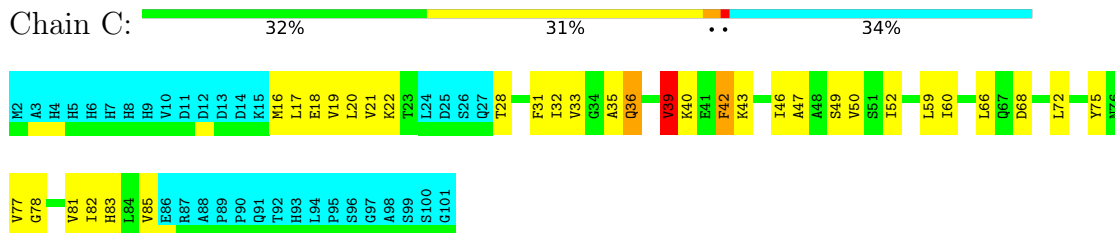


#### 4.2.18 Score per residue for model 18

- Molecule 1: E3 ubiquitin-protein ligase RNF126

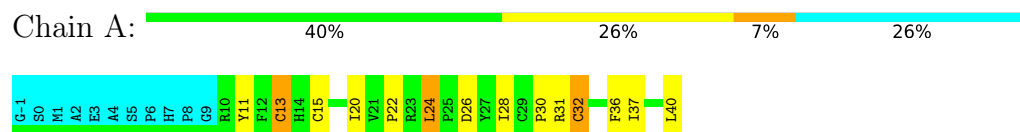


- Molecule 2: Large proline-rich protein BAG6

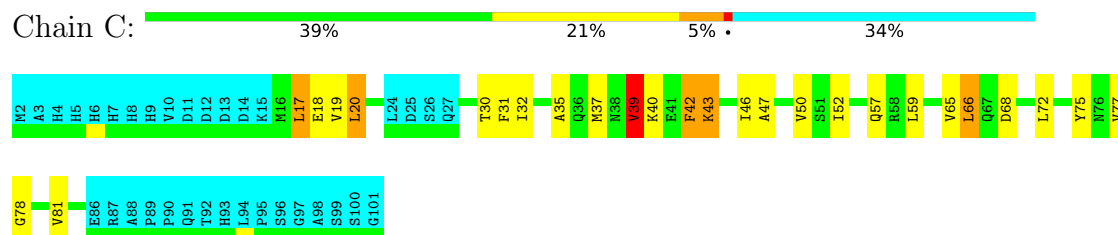


#### 4.2.19 Score per residue for model 19

- Molecule 1: E3 ubiquitin-protein ligase RNF126

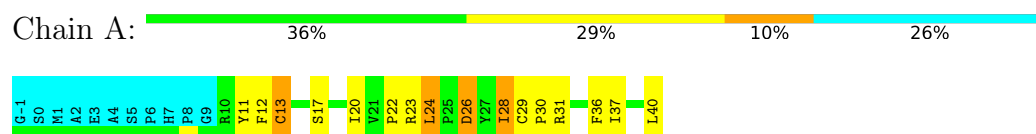


- Molecule 2: Large proline-rich protein BAG6

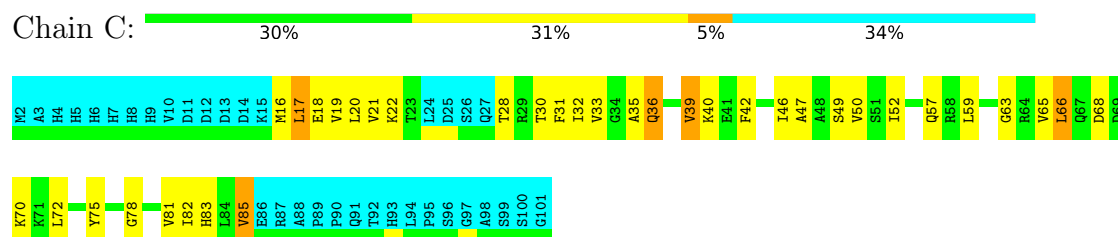


#### 4.2.20 Score per residue for model 20

- Molecule 1: E3 ubiquitin-protein ligase RNF126



- Molecule 2: Large proline-rich protein BAG6



## 5 Refinement protocol and experimental data overview

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

Of the 100 calculated structures, 20 were deposited, based on the following criterion: *structures with the lowest energy*.

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

| Software name   | Classification     | Version |
|-----------------|--------------------|---------|
| ARIA            | structure solution | 2.1     |
| ARIA            | refinement         | 2.1     |
| CcpNmr Analysis | structure solution | 2.3     |

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

|  |                |
|--|----------------|
| Chemical shift file(s)                       | working_cs.cif |
| Number of chemical shift lists               | 2              |
| Total number of shifts                       | 1547           |
| Number of shifts mapped to atoms             | 1547           |
| Number of unparsed shifts                    | 0              |
| Number of shifts with mapping errors         | 0              |
| Number of shifts with mapping warnings       | 0              |
| Assignment completeness (well-defined parts) | 86%            |

## 6 Model quality i

### 6.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section:  
ZN

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

There are no bond-length outliers.

There are no bond-angle outliers.

There are no chirality outliers.

There are no planarity outliers.

### 6.2 Too-close contacts i

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

| Mol | Chain | Non-H | H(model) | H(added) | Clashes |
|-----|-------|-------|----------|----------|---------|
| 1   | A     | 255   | 239      | 238      | 14±2    |
| 2   | C     | 528   | 562      | 560      | 30±5    |
| All | All   | 15680 | 16020    | 15960    | 844     |

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 27.

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

| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 2:C:20:LEU:HB3  | 2:C:81:VAL:HG12 | 0.83     | 1.50        | 11     | 6     |
| 1:A:20:ILE:HD11 | 1:A:37:ILE:HG21 | 0.79     | 1.51        | 8      | 18    |
| 2:C:21:VAL:O    | 2:C:28:THR:HA   | 0.79     | 1.78        | 17     | 6     |
| 2:C:17:LEU:HD11 | 2:C:35:ALA:HA   | 0.76     | 1.56        | 3      | 13    |
| 2:C:17:LEU:HD22 | 2:C:35:ALA:HA   | 0.74     | 1.57        | 8      | 5     |
| 2:C:35:ALA:O    | 2:C:36:GLN:HB2  | 0.73     | 1.82        | 4      | 5     |
| 1:A:20:ILE:CD1  | 1:A:37:ILE:HG21 | 0.72     | 2.13        | 8      | 20    |
| 2:C:17:LEU:CD2  | 2:C:35:ALA:HA   | 0.69     | 2.18        | 6      | 7     |
| 2:C:20:LEU:HB3  | 2:C:81:VAL:CG1  | 0.67     | 2.20        | 11     | 3     |
| 1:A:20:ILE:HD12 | 1:A:30:PRO:HD3  | 0.66     | 1.67        | 17     | 20    |
| 1:A:15:CYS:SG   | 1:A:36:PHE:HB2  | 0.65     | 2.32        | 2      | 1     |

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| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 2:C:17:LEU:HD21 | 2:C:35:ALA:HA   | 0.64     | 1.68        | 11     | 2     |
| 2:C:59:LEU:O    | 2:C:66:LEU:HG   | 0.64     | 1.92        | 16     | 11    |
| 2:C:42:PHE:O    | 2:C:46:ILE:HG23 | 0.64     | 1.93        | 10     | 7     |
| 2:C:36:GLN:H    | 2:C:72:LEU:HD12 | 0.64     | 1.52        | 14     | 1     |
| 1:A:11:TYR:CG   | 1:A:22:PRO:HG3  | 0.63     | 2.29        | 6      | 18    |
| 1:A:13:CYS:SG   | 1:A:15:CYS:SG   | 0.62     | 2.96        | 15     | 4     |
| 1:A:14:HIS:CG   | 2:C:85:VAL:HG13 | 0.62     | 2.30        | 6      | 1     |
| 2:C:22:LYS:HG2  | 2:C:28:THR:OG1  | 0.62     | 1.94        | 8      | 5     |
| 2:C:35:ALA:O    | 2:C:72:LEU:HB2  | 0.61     | 1.95        | 8      | 7     |
| 2:C:39:VAL:O    | 2:C:43:LYS:HD2  | 0.60     | 1.96        | 3      | 3     |
| 2:C:46:ILE:HD11 | 2:C:57:GLN:OE1  | 0.60     | 1.96        | 19     | 6     |
| 1:A:22:PRO:HB3  | 1:A:37:ILE:CD1  | 0.59     | 2.27        | 8      | 8     |
| 1:A:20:ILE:HB   | 1:A:30:PRO:CD   | 0.59     | 2.28        | 16     | 20    |
| 2:C:17:LEU:HB3  | 2:C:78:GLY:HA2  | 0.59     | 1.74        | 20     | 15    |
| 2:C:17:LEU:HD21 | 2:C:35:ALA:HB2  | 0.58     | 1.74        | 20     | 1     |
| 2:C:35:ALA:O    | 2:C:36:GLN:HB3  | 0.58     | 1.97        | 18     | 1     |
| 1:A:11:TYR:O    | 1:A:19:GLU:HG3  | 0.58     | 1.97        | 11     | 11    |
| 2:C:39:VAL:CA   | 2:C:42:PHE:HB3  | 0.58     | 2.28        | 18     | 20    |
| 2:C:66:LEU:HD22 | 2:C:75:TYR:CD1  | 0.58     | 2.34        | 3      | 17    |
| 2:C:20:LEU:CB   | 2:C:81:VAL:HG12 | 0.58     | 2.29        | 14     | 15    |
| 2:C:46:ILE:O    | 2:C:50:VAL:HG22 | 0.58     | 1.97        | 9      | 19    |
| 2:C:43:LYS:HG3  | 2:C:57:GLN:OE1  | 0.57     | 1.99        | 19     | 3     |
| 2:C:47:ALA:HA   | 2:C:52:ILE:O    | 0.57     | 1.98        | 3      | 20    |
| 1:A:23:ARG:HB2  | 1:A:28:ILE:HG13 | 0.57     | 1.75        | 10     | 9     |
| 2:C:16:MET:HA   | 2:C:33:VAL:O    | 0.56     | 2.00        | 2      | 8     |
| 2:C:33:VAL:HG21 | 2:C:72:LEU:HD13 | 0.56     | 1.74        | 2      | 4     |
| 2:C:19:VAL:O    | 2:C:30:THR:HA   | 0.56     | 2.00        | 6      | 19    |
| 2:C:19:VAL:HB   | 2:C:31:PHE:O    | 0.56     | 2.01        | 16     | 10    |
| 2:C:20:LEU:HB2  | 2:C:81:VAL:HG12 | 0.56     | 1.76        | 14     | 6     |
| 2:C:20:LEU:O    | 2:C:81:VAL:HA   | 0.56     | 2.01        | 3      | 13    |
| 1:A:13:CYS:SG   | 1:A:15:CYS:HB3  | 0.56     | 2.41        | 7      | 4     |
| 2:C:43:LYS:HB2  | 2:C:57:GLN:OE1  | 0.55     | 2.01        | 13     | 2     |
| 1:A:29:CYS:SG   | 1:A:31:ARG:HB2  | 0.55     | 2.41        | 15     | 9     |
| 1:A:13:CYS:HB2  | 1:A:37:ILE:HG22 | 0.55     | 1.76        | 9      | 7     |
| 2:C:61:TYR:CD2  | 2:C:77:VAL:HG12 | 0.55     | 2.36        | 17     | 1     |
| 1:A:13:CYS:HB2  | 1:A:37:ILE:CG2  | 0.55     | 2.32        | 19     | 12    |
| 2:C:20:LEU:HB2  | 2:C:81:VAL:CG1  | 0.55     | 2.32        | 17     | 4     |
| 2:C:33:VAL:HG11 | 2:C:42:PHE:CD1  | 0.55     | 2.37        | 20     | 1     |
| 2:C:39:VAL:HG23 | 2:C:72:LEU:HD21 | 0.54     | 1.77        | 13     | 4     |
| 2:C:39:VAL:HA   | 2:C:42:PHE:CD2  | 0.54     | 2.38        | 15     | 5     |
| 2:C:40:LYS:O    | 2:C:43:LYS:HG2  | 0.54     | 2.03        | 11     | 3     |

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| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:12:PHE:CB   | 1:A:40:LEU:HD11 | 0.54     | 2.31        | 15     | 6     |
| 2:C:17:LEU:HB3  | 2:C:78:GLY:CA   | 0.54     | 2.33        | 2      | 14    |
| 2:C:38:ASN:O    | 2:C:39:VAL:HG12 | 0.53     | 2.04        | 11     | 6     |
| 1:A:20:ILE:HD13 | 1:A:37:ILE:HG21 | 0.53     | 1.81        | 19     | 7     |
| 2:C:43:LYS:HB3  | 2:C:57:GLN:OE1  | 0.53     | 2.04        | 5      | 1     |
| 2:C:21:VAL:HG21 | 2:C:31:PHE:CE2  | 0.53     | 2.39        | 18     | 3     |
| 2:C:20:LEU:C    | 2:C:81:VAL:HA   | 0.53     | 2.24        | 7      | 13    |
| 1:A:12:PHE:HB2  | 1:A:40:LEU:HD21 | 0.53     | 1.81        | 2      | 1     |
| 1:A:22:PRO:HG2  | 1:A:24:LEU:CD2  | 0.53     | 2.34        | 6      | 1     |
| 1:A:14:HIS:CE1  | 2:C:85:VAL:HB   | 0.53     | 2.39        | 15     | 1     |
| 1:A:11:TYR:CD2  | 1:A:22:PRO:HG3  | 0.52     | 2.39        | 1      | 9     |
| 2:C:21:VAL:HG22 | 2:C:82:ILE:HB   | 0.52     | 1.82        | 14     | 7     |
| 1:A:37:ILE:O    | 2:C:60:ILE:HG21 | 0.52     | 2.04        | 9      | 15    |
| 2:C:19:VAL:CG1  | 2:C:31:PHE:HB2  | 0.52     | 2.34        | 14     | 12    |
| 2:C:33:VAL:HG11 | 2:C:42:PHE:CD2  | 0.52     | 2.40        | 14     | 4     |
| 2:C:54:SER:HA   | 2:C:57:GLN:OE1  | 0.52     | 2.04        | 5      | 1     |
| 1:A:12:PHE:CB   | 1:A:40:LEU:HD21 | 0.51     | 2.34        | 2      | 5     |
| 2:C:43:LYS:HG2  | 2:C:57:GLN:OE1  | 0.51     | 2.04        | 12     | 3     |
| 2:C:39:VAL:HG13 | 2:C:68:ASP:HA   | 0.51     | 1.82        | 9      | 13    |
| 2:C:35:ALA:O    | 2:C:36:GLN:CB   | 0.51     | 2.57        | 4      | 2     |
| 2:C:50:VAL:HG21 | 2:C:57:GLN:OE1  | 0.51     | 2.04        | 20     | 1     |
| 1:A:10:ARG:O    | 1:A:10:ARG:HG3  | 0.51     | 2.04        | 11     | 1     |
| 2:C:19:VAL:O    | 2:C:19:VAL:HG12 | 0.51     | 2.06        | 9      | 2     |
| 2:C:59:LEU:O    | 2:C:66:LEU:HB2  | 0.50     | 2.06        | 18     | 1     |
| 2:C:20:LEU:HB2  | 2:C:81:VAL:HA   | 0.50     | 1.83        | 14     | 12    |
| 2:C:35:ALA:C    | 2:C:72:LEU:HB2  | 0.50     | 2.27        | 20     | 1     |
| 1:A:22:PRO:HB3  | 1:A:37:ILE:HD12 | 0.50     | 1.84        | 2      | 2     |
| 1:A:23:ARG:HB2  | 1:A:28:ILE:CD1  | 0.50     | 2.36        | 20     | 3     |
| 2:C:39:VAL:H    | 2:C:42:PHE:HB3  | 0.49     | 1.67        | 15     | 5     |
| 2:C:40:LYS:HE2  | 2:C:70:LYS:O    | 0.49     | 2.07        | 7      | 1     |
| 2:C:40:LYS:HA   | 2:C:68:ASP:CB   | 0.49     | 2.37        | 6      | 3     |
| 2:C:39:VAL:N    | 2:C:42:PHE:HB3  | 0.49     | 2.23        | 18     | 11    |
| 2:C:38:ASN:O    | 2:C:40:LYS:HD2  | 0.49     | 2.08        | 6      | 1     |
| 2:C:66:LEU:HG   | 2:C:75:TYR:CD1  | 0.49     | 2.42        | 18     | 1     |
| 2:C:82:ILE:HG22 | 2:C:83:HIS:N    | 0.49     | 2.23        | 18     | 14    |
| 2:C:22:LYS:HG3  | 2:C:81:VAL:CG2  | 0.48     | 2.38        | 11     | 10    |
| 2:C:66:LEU:HB3  | 2:C:75:TYR:CD2  | 0.48     | 2.42        | 10     | 1     |
| 2:C:22:LYS:HG3  | 2:C:81:VAL:CB   | 0.48     | 2.37        | 11     | 3     |
| 2:C:38:ASN:O    | 2:C:39:VAL:HB   | 0.48     | 2.08        | 17     | 1     |
| 1:A:13:CYS:HA   | 1:A:36:PHE:O    | 0.48     | 2.07        | 13     | 10    |
| 1:A:10:ARG:HG2  | 1:A:40:LEU:HD12 | 0.48     | 1.86        | 9      | 1     |

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| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 2:C:22:LYS:HG3  | 2:C:81:VAL:HB   | 0.48     | 1.86        | 12     | 6     |
| 2:C:61:TYR:OH   | 2:C:80:LYS:HD3  | 0.47     | 2.09        | 4      | 1     |
| 2:C:17:LEU:HG   | 2:C:78:GLY:CA   | 0.47     | 2.38        | 6      | 2     |
| 2:C:21:VAL:HG21 | 2:C:31:PHE:HE2  | 0.47     | 1.68        | 20     | 4     |
| 2:C:39:VAL:HA   | 2:C:42:PHE:HB3  | 0.47     | 1.86        | 3      | 15    |
| 2:C:42:PHE:C    | 2:C:42:PHE:CD1  | 0.47     | 2.87        | 14     | 6     |
| 2:C:20:LEU:CD2  | 2:C:30:THR:HG22 | 0.47     | 2.40        | 5      | 11    |
| 1:A:12:PHE:HB2  | 1:A:40:LEU:HD11 | 0.47     | 1.86        | 15     | 5     |
| 2:C:64:ARG:HD3  | 2:C:65:VAL:N    | 0.47     | 2.24        | 14     | 1     |
| 2:C:17:LEU:O    | 2:C:32:ILE:HG23 | 0.47     | 2.10        | 11     | 1     |
| 2:C:52:ILE:HG22 | 2:C:57:GLN:HB2  | 0.47     | 1.86        | 17     | 1     |
| 2:C:18:GLU:HA   | 2:C:32:ILE:HG13 | 0.47     | 1.86        | 14     | 15    |
| 2:C:66:LEU:HD12 | 2:C:82:ILE:HD13 | 0.47     | 1.85        | 3      | 2     |
| 2:C:36:GLN:HG3  | 2:C:73:GLN:CB   | 0.47     | 2.40        | 4      | 1     |
| 2:C:36:GLN:N    | 2:C:72:LEU:HD12 | 0.47     | 2.24        | 14     | 1     |
| 1:A:15:CYS:SG   | 1:A:34:SER:HB2  | 0.47     | 2.49        | 2      | 1     |
| 1:A:14:HIS:CD2  | 2:C:85:VAL:HG12 | 0.47     | 2.44        | 7      | 1     |
| 1:A:26:ASP:HB3  | 1:A:28:ILE:HG12 | 0.46     | 1.87        | 12     | 6     |
| 1:A:15:CYS:SG   | 1:A:32:CYS:SG   | 0.46     | 3.13        | 13     | 3     |
| 2:C:52:ILE:CG2  | 2:C:57:GLN:HB3  | 0.46     | 2.41        | 11     | 2     |
| 1:A:10:ARG:HG2  | 1:A:10:ARG:O    | 0.46     | 2.10        | 7      | 1     |
| 2:C:18:GLU:HG2  | 2:C:32:ILE:HG12 | 0.46     | 1.86        | 12     | 1     |
| 2:C:22:LYS:HE3  | 2:C:81:VAL:HG21 | 0.46     | 1.88        | 15     | 3     |
| 2:C:53:PRO:O    | 2:C:57:GLN:HG3  | 0.46     | 2.11        | 5      | 1     |
| 1:A:11:TYR:CD1  | 1:A:22:PRO:HG3  | 0.46     | 2.46        | 6      | 3     |
| 2:C:35:ALA:O    | 2:C:73:GLN:HB2  | 0.46     | 2.11        | 7      | 1     |
| 2:C:20:LEU:HB2  | 2:C:80:LYS:C    | 0.46     | 2.31        | 11     | 1     |
| 1:A:31:ARG:O    | 1:A:32:CYS:HB3  | 0.46     | 2.10        | 19     | 1     |
| 1:A:29:CYS:SG   | 1:A:30:PRO:HD2  | 0.46     | 2.51        | 20     | 7     |
| 2:C:17:LEU:CD1  | 2:C:35:ALA:HA   | 0.46     | 2.40        | 18     | 2     |
| 2:C:19:VAL:O    | 2:C:31:PHE:N    | 0.46     | 2.48        | 18     | 8     |
| 2:C:52:ILE:HG22 | 2:C:57:GLN:HG3  | 0.46     | 1.88        | 5      | 1     |
| 2:C:43:LYS:HA   | 2:C:57:GLN:OE1  | 0.45     | 2.11        | 3      | 1     |
| 2:C:16:MET:H    | 2:C:34:GLY:HA2  | 0.45     | 1.71        | 16     | 1     |
| 2:C:46:ILE:HG13 | 2:C:57:GLN:NE2  | 0.45     | 2.26        | 5      | 1     |
| 2:C:18:GLU:HA   | 2:C:32:ILE:CG1  | 0.45     | 2.42        | 10     | 4     |
| 2:C:66:LEU:HD21 | 2:C:77:VAL:HG11 | 0.45     | 1.89        | 18     | 1     |
| 2:C:22:LYS:HE3  | 2:C:28:THR:OG1  | 0.45     | 2.11        | 3      | 1     |
| 1:A:23:ARG:C    | 1:A:25:PRO:HD2  | 0.45     | 2.32        | 5      | 1     |
| 1:A:14:HIS:HD2  | 1:A:38:GLU:OE1  | 0.45     | 1.94        | 12     | 1     |
| 2:C:59:LEU:HB3  | 2:C:82:ILE:HG21 | 0.44     | 1.88        | 18     | 2     |

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| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 2:C:39:VAL:HG11 | 2:C:70:LYS:HA   | 0.44     | 1.89        | 17     | 1     |
| 2:C:37:MET:HG3  | 2:C:38:ASN:OD1  | 0.44     | 2.11        | 3      | 2     |
| 2:C:19:VAL:HG11 | 2:C:42:PHE:CZ   | 0.44     | 2.47        | 4      | 1     |
| 2:C:59:LEU:O    | 2:C:66:LEU:N    | 0.44     | 2.51        | 11     | 5     |
| 2:C:52:ILE:HG22 | 2:C:57:GLN:CG   | 0.44     | 2.43        | 5      | 1     |
| 1:A:10:ARG:HD3  | 1:A:10:ARG:H    | 0.43     | 1.72        | 7      | 1     |
| 1:A:11:TYR:HB2  | 1:A:22:PRO:HD3  | 0.43     | 1.90        | 8      | 4     |
| 2:C:72:LEU:HA   | 2:C:75:TYR:CD2  | 0.43     | 2.48        | 5      | 2     |
| 1:A:37:ILE:O    | 2:C:63:GLY:HA2  | 0.43     | 2.13        | 20     | 1     |
| 2:C:35:ALA:O    | 2:C:73:GLN:N    | 0.43     | 2.51        | 1      | 2     |
| 2:C:19:VAL:HG22 | 2:C:77:VAL:HG23 | 0.43     | 1.90        | 2      | 1     |
| 2:C:59:LEU:HD23 | 2:C:84:LEU:HD21 | 0.43     | 1.90        | 7      | 1     |
| 1:A:14:HIS:CD2  | 2:C:85:VAL:HG21 | 0.43     | 2.48        | 18     | 2     |
| 2:C:20:LEU:HB2  | 2:C:81:VAL:CA   | 0.43     | 2.44        | 5      | 4     |
| 1:A:14:HIS:CE1  | 2:C:85:VAL:HG13 | 0.43     | 2.48        | 2      | 1     |
| 2:C:53:PRO:O    | 2:C:57:GLN:HB2  | 0.43     | 2.14        | 8      | 3     |
| 2:C:55:GLU:HG3  | 2:C:56:LYS:HG3  | 0.42     | 1.91        | 5      | 1     |
| 1:A:27:TYR:C    | 1:A:37:ILE:HD11 | 0.42     | 2.35        | 14     | 2     |
| 1:A:12:PHE:CZ   | 1:A:17:SER:HA   | 0.42     | 2.48        | 20     | 1     |
| 2:C:54:SER:HA   | 2:C:57:GLN:HG2  | 0.42     | 1.90        | 11     | 1     |
| 2:C:69:ASP:O    | 2:C:70:LYS:HB2  | 0.42     | 2.14        | 13     | 1     |
| 1:A:27:TYR:O    | 1:A:35:GLY:HA2  | 0.42     | 2.14        | 8      | 1     |
| 2:C:71:LYS:HB3  | 2:C:74:GLU:CG   | 0.42     | 2.45        | 15     | 1     |
| 2:C:22:LYS:HE2  | 2:C:28:THR:OG1  | 0.42     | 2.14        | 18     | 1     |
| 2:C:39:VAL:O    | 2:C:43:LYS:HG3  | 0.42     | 2.14        | 18     | 1     |
| 2:C:36:GLN:HG3  | 2:C:73:GLN:HB3  | 0.42     | 1.92        | 4      | 1     |
| 2:C:66:LEU:HA   | 2:C:75:TYR:CZ   | 0.42     | 2.50        | 6      | 1     |
| 2:C:23:THR:HG22 | 2:C:84:LEU:O    | 0.42     | 2.15        | 12     | 1     |
| 2:C:40:LYS:O    | 2:C:43:LYS:HB2  | 0.41     | 2.15        | 3      | 1     |
| 2:C:50:VAL:HG11 | 2:C:84:LEU:CD1  | 0.41     | 2.46        | 12     | 1     |
| 2:C:39:VAL:CG1  | 2:C:70:LYS:HA   | 0.41     | 2.44        | 2      | 1     |
| 2:C:22:LYS:HA   | 2:C:28:THR:HA   | 0.41     | 1.90        | 3      | 1     |
| 2:C:39:VAL:H    | 2:C:42:PHE:CB   | 0.41     | 2.28        | 8      | 3     |
| 2:C:61:TYR:CZ   | 2:C:80:LYS:HB3  | 0.41     | 2.50        | 6      | 1     |
| 2:C:42:PHE:CD1  | 2:C:42:PHE:C    | 0.41     | 2.94        | 10     | 2     |
| 2:C:33:VAL:CG2  | 2:C:72:LEU:HD13 | 0.41     | 2.46        | 18     | 1     |
| 2:C:22:LYS:HG3  | 2:C:81:VAL:HG21 | 0.41     | 1.92        | 11     | 1     |
| 1:A:26:ASP:CB   | 1:A:28:ILE:HG12 | 0.41     | 2.46        | 20     | 1     |
| 2:C:22:LYS:N    | 2:C:82:ILE:O    | 0.41     | 2.48        | 11     | 2     |
| 2:C:59:LEU:HB2  | 2:C:66:LEU:HB2  | 0.41     | 1.92        | 18     | 1     |
| 1:A:26:ASP:HB3  | 1:A:28:ILE:CG1  | 0.40     | 2.46        | 12     | 1     |

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| Atom-1         | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|----------------|-----------------|----------|-------------|--------|-------|
|                |                 |          |             | Worst  | Total |
| 2:C:43:LYS:HE3 | 2:C:54:SER:OG   | 0.40     | 2.16        | 2      | 2     |
| 1:A:24:LEU:O   | 1:A:26:ASP:N    | 0.40     | 2.49        | 12     | 1     |
| 2:C:22:LYS:CD  | 2:C:81:VAL:HG21 | 0.40     | 2.46        | 15     | 1     |
| 2:C:66:LEU:HG  | 2:C:75:TYR:CG   | 0.40     | 2.51        | 18     | 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     | 30/42 (71%)     | 23±1 (76±3%) | 5±1 (18±2%)  | 2±1 (6±2%) | 3           | 20 |
| 2   | C     | 66/100 (66%)    | 51±2 (77±3%) | 12±2 (19±3%) | 3±1 (4±2%) | 5           | 30 |
| All | All   | 1920/2840 (68%) | 1472 (77%)   | 357 (19%)    | 91 (5%)    | 4           | 27 |

All 14 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     | 24  | LEU  | 20             |
| 2   | C     | 39  | VAL  | 20             |
| 1   | A     | 25  | PRO  | 11             |
| 2   | C     | 28  | THR  | 8              |
| 2   | C     | 36  | GLN  | 7              |
| 2   | C     | 16  | MET  | 4              |
| 2   | C     | 37  | MET  | 4              |
| 2   | C     | 78  | GLY  | 3              |
| 2   | C     | 70  | LYS  | 3              |
| 1   | A     | 32  | CYS  | 3              |
| 2   | C     | 71  | LYS  | 3              |
| 2   | C     | 85  | VAL  | 3              |
| 1   | A     | 22  | PRO  | 1              |
| 1   | A     | 26  | ASP  | 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     | 30/37 (81%)     | 25±1 (82±3%) | 5±1 (18±3%) | 4           | 37 |
| 2   | C     | 59/88 (67%)     | 51±2 (86±3%) | 8±2 (14±3%) | 7           | 47 |
| All | All   | 1780/2500 (71%) | 1511 (85%)   | 269 (15%)   | 6           | 44 |

All 37 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     | 28  | ILE  | 20             |
| 2   | C     | 40  | LYS  | 20             |
| 1   | A     | 26  | ASP  | 19             |
| 2   | C     | 49  | SER  | 19             |
| 1   | A     | 13  | CYS  | 18             |
| 2   | C     | 39  | VAL  | 18             |
| 2   | C     | 66  | LEU  | 18             |
| 2   | C     | 17  | LEU  | 14             |
| 1   | A     | 40  | LEU  | 13             |
| 2   | C     | 20  | LEU  | 12             |
| 2   | C     | 65  | VAL  | 11             |
| 1   | A     | 24  | LEU  | 11             |
| 1   | A     | 17  | SER  | 11             |
| 2   | C     | 42  | PHE  | 10             |
| 1   | A     | 29  | CYS  | 8              |
| 2   | C     | 37  | MET  | 5              |
| 2   | C     | 23  | THR  | 4              |
| 2   | C     | 43  | LYS  | 4              |
| 2   | C     | 44  | GLU  | 3              |
| 2   | C     | 77  | VAL  | 3              |
| 2   | C     | 30  | THR  | 3              |
| 1   | A     | 16  | CYS  | 2              |
| 1   | A     | 32  | CYS  | 2              |
| 1   | A     | 34  | SER  | 2              |
| 2   | C     | 84  | LEU  | 2              |
| 2   | C     | 57  | GLN  | 2              |
| 2   | C     | 71  | LYS  | 2              |
| 1   | A     | 10  | ARG  | 2              |

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| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 2   | C     | 36  | GLN  | 2              |
| 2   | C     | 85  | VAL  | 2              |
| 2   | C     | 16  | MET  | 1              |
| 2   | C     | 54  | SER  | 1              |
| 1   | A     | 38  | GLU  | 1              |
| 2   | C     | 80  | LYS  | 1              |
| 2   | C     | 22  | LYS  | 1              |
| 2   | C     | 45  | HIS  | 1              |
| 2   | C     | 64  | ARG  | 1              |

### 6.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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](#)

Of 1 ligands modelled in this entry, 1 is monoatomic - leaving 0 for Mogul analysis.

### 6.7 Other polymers [i](#)

There are no such molecules in this entry.

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

There are no chain breaks in this entry.

## 7 Chemical shift validation (i)

The completeness of assignment taking into account all chemical shift lists is 86% for the well-defined parts and 80% for the entire structure.

### 7.1 Chemical shift list 1

File name: working\_cs.cif

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

#### 7.1.1 Bookkeeping (i)

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

|   |     |
|---|-----|
| Total number of shifts                  | 486 |
| Number of shifts mapped to atoms        | 486 |
| Number of unparsed shifts               | 0   |
| Number of shifts with mapping errors    | 0   |
| Number of shifts with mapping warnings  | 0   |
| Number of shift outliers (ShiftChecker) | 0   |

#### 7.1.2 Chemical shift referencing (i)

The following table shows the suggested chemical shift referencing corrections.

| Nucleus                | # values | Correction $\pm$ precision, ppm | Suggested action        |
|------------------------|----------|---------------------------------|-------------------------|
| $^{13}\text{C}_\alpha$ | 42       | $-0.10 \pm 0.16$                | None needed (< 0.5 ppm) |
| $^{13}\text{C}_\beta$  | 39       | $0.01 \pm 0.27$                 | None needed (< 0.5 ppm) |
| $^{13}\text{C}'$       | 40       | $0.07 \pm 0.20$                 | None needed (< 0.5 ppm) |
| $^{15}\text{N}$        | 35       | $0.11 \pm 1.36$                 | None needed (< 0.5 ppm) |

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

The following table shows the completeness of the chemical shift assignments for the well-defined regions of the structure. The overall completeness is 28%, i.e. 390 atoms were assigned a chemical shift out of a possible 1387. 0 out of 19 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

|           | Total         | $^1\text{H}$  | $^{13}\text{C}$ | $^{15}\text{N}$ |
|-----------|---------------|---------------|-----------------|-----------------|
| Backbone  | 149/482 (31%) | 60/195 (31%)  | 61/194 (31%)    | 28/93 (30%)     |
| Sidechain | 203/805 (25%) | 136/524 (26%) | 64/249 (26%)    | 3/32 (9%)       |

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|          | Total          | <sup>1</sup> H | <sup>13</sup> C | <sup>15</sup> N |
|----------|----------------|----------------|-----------------|-----------------|
| Aromatic | 38/100 (38%)   | 19/48 (40%)    | 19/46 (41%)     | 0/6 (0%)        |
| Overall  | 390/1387 (28%) | 215/767 (28%)  | 144/489 (29%)   | 31/131 (24%)    |

The following table shows the completeness of the chemical shift assignments for the full structure. The overall completeness is 25%, i.e. 486 atoms were assigned a chemical shift out of a possible 1924. 0 out of 22 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

|           | Total          | <sup>1</sup> H | <sup>13</sup> C | <sup>15</sup> N |
|-----------|----------------|----------------|-----------------|-----------------|
| Backbone  | 196/701 (28%)  | 79/284 (28%)   | 82/284 (29%)    | 35/133 (26%)    |
| Sidechain | 251/1059 (24%) | 168/689 (24%)  | 80/332 (24%)    | 3/38 (8%)       |
| Aromatic  | 39/164 (24%)   | 20/80 (25%)    | 19/62 (31%)     | 0/22 (0%)       |
| Overall   | 486/1924 (25%) | 267/1053 (25%) | 181/678 (27%)   | 38/193 (20%)    |

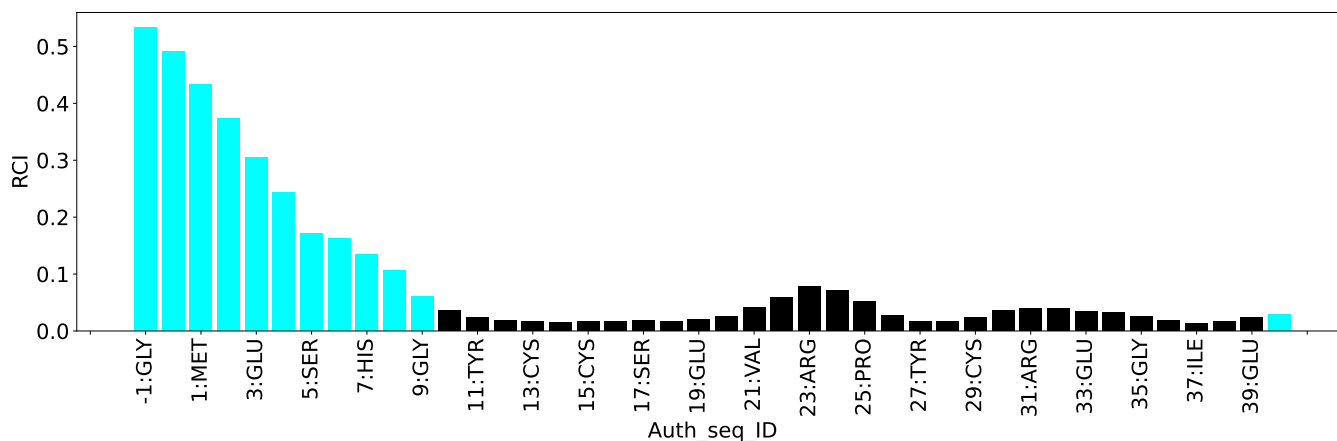
#### 7.1.4 Statistically unusual chemical shifts [i](#)

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:



## 7.2 Chemical shift list 2

File name: working\_cs.cif

Chemical shift list name: *assigned\_chem\_shift\_list\_2*

### 7.2.1 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                  | 1061 |
| Number of shifts mapped to atoms        | 1061 |
| Number of unparsed shifts               | 0    |
| Number of shifts with mapping errors    | 0    |
| Number of shifts with mapping warnings  | 0    |
| Number of shift outliers (ShiftChecker) | 5    |

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

The following table shows the suggested chemical shift referencing corrections.

| Nucleus                | # values | Correction $\pm$ precision, ppm | Suggested action        |
|------------------------|----------|---------------------------------|-------------------------|
| $^{13}\text{C}_\alpha$ | 89       | -0.30 $\pm$ 0.14                | None needed (< 0.5 ppm) |
| $^{13}\text{C}_\beta$  | 81       | 0.14 $\pm$ 0.16                 | None needed (< 0.5 ppm) |
| $^{13}\text{C}'$       | 77       | -0.10 $\pm$ 0.13                | None needed (< 0.5 ppm) |
| $^{15}\text{N}$        | 87       | -0.42 $\pm$ 0.79                | None needed (< 0.5 ppm) |

### 7.2.3 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 58%, i.e. 807 atoms were assigned a chemical shift out of a possible 1387. 0 out of 19 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

|           | Total          | $^1\text{H}$  | $^{13}\text{C}$ | $^{15}\text{N}$ |
|-----------|----------------|---------------|-----------------|-----------------|
| Backbone  | 322/482 (67%)  | 133/195 (68%) | 124/194 (64%)   | 65/93 (70%)     |
| Sidechain | 453/805 (56%)  | 304/524 (58%) | 140/249 (56%)   | 9/32 (28%)      |
| Aromatic  | 32/100 (32%)   | 16/48 (33%)   | 16/46 (35%)     | 0/6 (0%)        |
| Overall   | 807/1387 (58%) | 453/767 (59%) | 280/489 (57%)   | 74/131 (56%)    |

The following table shows the completeness of the chemical shift assignments for the full structure. The overall completeness is 55%, i.e. 1061 atoms were assigned a chemical shift out of a possible 1924. 0 out of 22 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

|           | Total           | <sup>1</sup> H | <sup>13</sup> C | <sup>15</sup> N |
|-----------|-----------------|----------------|-----------------|-----------------|
| Backbone  | 434/701 (62%)   | 181/284 (64%)  | 166/284 (58%)   | 87/133 (65%)    |
| Sidechain | 595/1059 (56%)  | 398/689 (58%)  | 186/332 (56%)   | 11/38 (29%)     |
| Aromatic  | 32/164 (20%)    | 16/80 (20%)    | 16/62 (26%)     | 0/22 (0%)       |
| Overall   | 1061/1924 (55%) | 595/1053 (57%) | 368/678 (54%)   | 98/193 (51%)    |

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

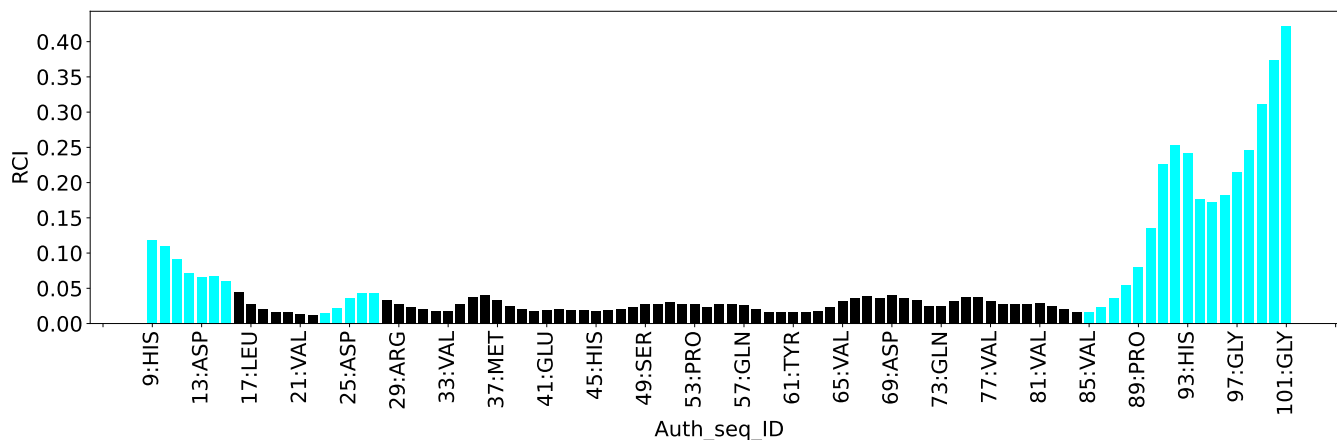
The following table lists the statistically unusual chemical shifts. These are statistical measures, and large deviations from the mean do not necessarily imply incorrect assignments. Molecules containing paramagnetic centres or hemes are expected to give rise to anomalous chemical shifts.

| List Id | Chain | Res | Type | Atom | Shift, ppm | Expected range, ppm | Z-score |
|---------|-------|-----|------|------|------------|---------------------|---------|
| 2       | C     | 46  | ILE  | HG21 | -0.87      | -0.56 – 2.11        | -6.2    |
| 2       | C     | 46  | ILE  | HG22 | -0.87      | -0.56 – 2.11        | -6.2    |
| 2       | C     | 46  | ILE  | HG23 | -0.87      | -0.56 – 2.11        | -6.2    |
| 2       | C     | 57  | GLN  | NE2  | 102.88     | 103.38 – 120.35     | -5.3    |
| 2       | C     | 70  | LYS  | CG   | 30.63      | 19.35 – 30.45       | 5.2     |

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

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

Random coil index (RCI) for chain C:



## 8 NMR restraints analysis [i](#)

### 8.1 Conformationally restricting restraints [i](#)

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                                | 7225  |
| Intra-residue ( $ i-j =0$ )                              | 3771  |
| Sequential ( $ i-j =1$ )                                 | 1315  |
| Medium range ( $ i-j >1$ and $ i-j <5$ )                 | 561   |
| Long range ( $ i-j \geq 5$ )                             | 1386  |
| Inter-chain  | 192   |
| Hydrogen bond restraints                                 | 0     |
| Disulfide bond restraints                                | 0     |
| Total dihedral-angle restraints                          | 0     |
| Number of unmapped restraints                            | 0     |
| Number of restraints per residue                         | 50.9  |
| Number of long range restraints per residue <sup>1</sup> | 9.8   |

<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 [i](#)

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 [i](#)

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)  | 38.8                                   | 0.2     |
| 0.2-0.5 (Medium) | 12.8                                   | 0.48    |
| >0.5 (Large)     | None                                   | None    |

### 8.2.2 Average number of dihedral-angle violations per model

Dihedral-angle violations less than  $1^\circ$  are not included in the calculation. There are no dihedral-angle violations

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

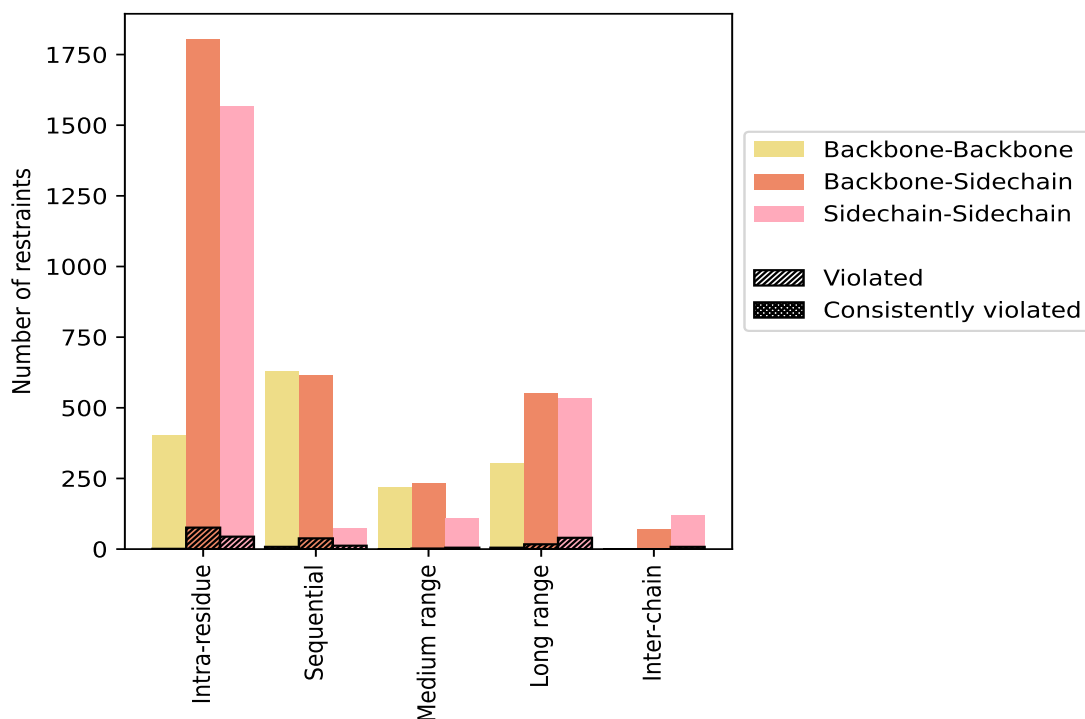
### 9.1 Summary of distance violations [i](#)

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>3771</b> | <b>52.2</b>    | <b>121</b>            | <b>3.2</b>     | <b>1.7</b>     | <b>0</b>                           | <b>0.0</b>     | <b>0.0</b>     |
| Backbone-Backbone   | 401         | 5.6            | 1                     | 0.2            | 0.0            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 1804        | 25.0           | 76                    | 4.2            | 1.1            | 0                                  | 0.0            | 0.0            |
| Sidechain-Sidechain   | 1566        | 21.7           | 44                    | 2.8            | 0.6            | 0                                  | 0.0            | 0.0            |
| <b>Sequential (<math> i-j =1</math>)</b>                                    | <b>1315</b> | <b>18.2</b>    | <b>58</b>             | <b>4.4</b>     | <b>0.8</b>     | <b>0</b>                           | <b>0.0</b>     | <b>0.0</b>     |
| Backbone-Backbone   | 629         | 8.7            | 8                     | 1.3            | 0.1            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 613         | 8.5            | 38                    | 6.2            | 0.5            | 0                                  | 0.0            | 0.0            |
| Sidechain-Sidechain   | 73          | 1.0            | 12                    | 16.4           | 0.2            | 0                                  | 0.0            | 0.0            |
| <b>Medium range (<math> i-j &gt;1</math> &amp; <math> i-j &lt;5</math>)</b> | <b>561</b>  | <b>7.8</b>     | <b>7</b>              | <b>1.2</b>     | <b>0.1</b>     | <b>0</b>                           | <b>0.0</b>     | <b>0.0</b>     |
| Backbone-Backbone   | 220         | 3.0            | 0                     | 0.0            | 0.0            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 234         | 3.2            | 2                     | 0.9            | 0.0            | 0                                  | 0.0            | 0.0            |
| Sidechain-Sidechain   | 107         | 1.5            | 5                     | 4.7            | 0.1            | 0                                  | 0.0            | 0.0            |
| <b>Long range (<math> i-j \geq 5</math>)</b>                                | <b>1386</b> | <b>19.2</b>    | <b>62</b>             | <b>4.5</b>     | <b>0.9</b>     | <b>0</b>                           | <b>0.0</b>     | <b>0.0</b>     |
| Backbone-Backbone   | 302         | 4.2            | 5                     | 1.7            | 0.1            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 552         | 7.6            | 17                    | 3.1            | 0.2            | 0                                  | 0.0            | 0.0            |
| Sidechain-Sidechain   | 532         | 7.4            | 40                    | 7.5            | 0.6            | 0                                  | 0.0            | 0.0            |
| <b>Inter-chain</b>  | <b>192</b>  | <b>2.7</b>     | <b>8</b>              | <b>4.2</b>     | <b>0.1</b>     | <b>0</b>                           | <b>0.0</b>     | <b>0.0</b>     |
| Backbone-Backbone   | 4           | 0.1            | 0                     | 0.0            | 0.0            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 68          | 0.9            | 0                     | 0.0            | 0.0            | 0                                  | 0.0            | 0.0            |
| Sidechain-Sidechain   | 120         | 1.7            | 8                     | 6.7            | 0.1            | 0                                  | 0.0            | 0.0            |
| Hydrogen bond   | 0           | 0.0            | 0                     | 0.0            | 0.0            | 0                                  | 0.0            | 0.0            |
| Disulfide bond  | 0           | 0.0            | 0                     | 0.0            | 0.0            | 0                                  | 0.0            | 0.0            |
| <b>Total</b>  | <b>7225</b> | <b>100.0</b>   | <b>256</b>            | <b>3.5</b>     | <b>3.5</b>     | <b>0</b>                           | <b>0.0</b>     | <b>0.0</b>     |
| Backbone-Backbone   | 1556        | 21.5           | 14                    | 0.9            | 0.2            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 3271        | 45.3           | 133                   | 4.1            | 1.8            | 0                                  | 0.0            | 0.0            |
| Sidechain-Sidechain   | 2398        | 33.2           | 109                   | 4.5            | 1.5            | 0                                  | 0.0            | 0.0            |

<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        | 20                   | 12              | 1               | 17              | 0               | 50    | 0.16     | 0.27    | 0.06                | 0.14       |
| 2        | 28                   | 8               | 5               | 25              | 0               | 66    | 0.19     | 0.33    | 0.07                | 0.16       |
| 3        | 24                   | 8               | 2               | 9               | 0               | 43    | 0.2      | 0.39    | 0.1                 | 0.15       |
| 4        | 20                   | 4               | 5               | 17              | 4               | 50    | 0.18     | 0.33    | 0.07                | 0.16       |
| 5        | 28                   | 8               | 1               | 17              | 0               | 54    | 0.15     | 0.25    | 0.05                | 0.12       |
| 6        | 28                   | 16              | 0               | 13              | 4               | 61    | 0.17     | 0.37    | 0.07                | 0.15       |
| 7        | 17                   | 16              | 4               | 9               | 0               | 46    | 0.15     | 0.34    | 0.06                | 0.11       |
| 8        | 24                   | 8               | 2               | 21              | 4               | 59    | 0.19     | 0.48    | 0.09                | 0.15       |
| 9        | 20                   | 24              | 5               | 8               | 0               | 57    | 0.17     | 0.37    | 0.08                | 0.14       |
| 10       | 28                   | 4               | 1               | 9               | 0               | 42    | 0.17     | 0.27    | 0.05                | 0.16       |
| 11       | 32                   | 12              | 0               | 13              | 4               | 61    | 0.16     | 0.29    | 0.05                | 0.15       |

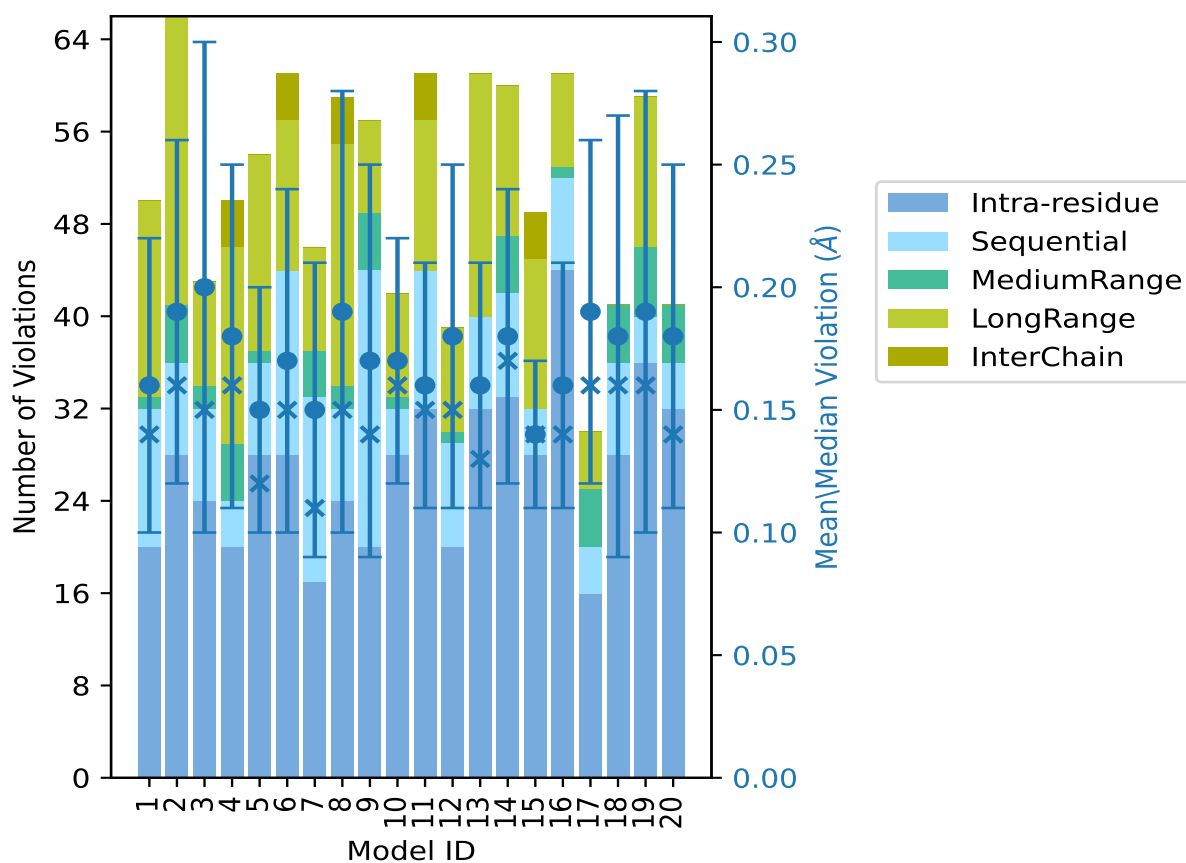
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| Model ID | Number of violations |                 |                 |                 |                 | Total | Mean (Å) | Max (Å) | SD <sup>6</sup> (Å) | Median (Å) |
|----------|----------------------|-----------------|-----------------|-----------------|-----------------|-------|----------|---------|---------------------|------------|
|          | IR <sup>1</sup>      | SQ <sup>2</sup> | MR <sup>3</sup> | LR <sup>4</sup> | IC <sup>5</sup> |       |          |         |                     |            |
| 12       | 20                   | 9               | 1               | 9               | 0               | 39    | 0.18     | 0.36    | 0.07                | 0.15       |
| 13       | 32                   | 8               | 0               | 21              | 0               | 61    | 0.16     | 0.25    | 0.05                | 0.13       |
| 14       | 33                   | 9               | 5               | 13              | 0               | 60    | 0.18     | 0.33    | 0.06                | 0.17       |
| 15       | 28                   | 4               | 0               | 13              | 4               | 49    | 0.14     | 0.21    | 0.03                | 0.14       |
| 16       | 44                   | 8               | 1               | 8               | 0               | 61    | 0.16     | 0.28    | 0.05                | 0.14       |
| 17       | 16                   | 4               | 5               | 5               | 0               | 30    | 0.19     | 0.34    | 0.07                | 0.16       |
| 18       | 28                   | 8               | 5               | 0               | 0               | 41    | 0.18     | 0.34    | 0.09                | 0.16       |
| 19       | 36                   | 4               | 6               | 13              | 0               | 59    | 0.19     | 0.41    | 0.09                | 0.16       |
| 20       | 32                   | 4               | 5               | 0               | 0               | 41    | 0.18     | 0.32    | 0.07                | 0.14       |

<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



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



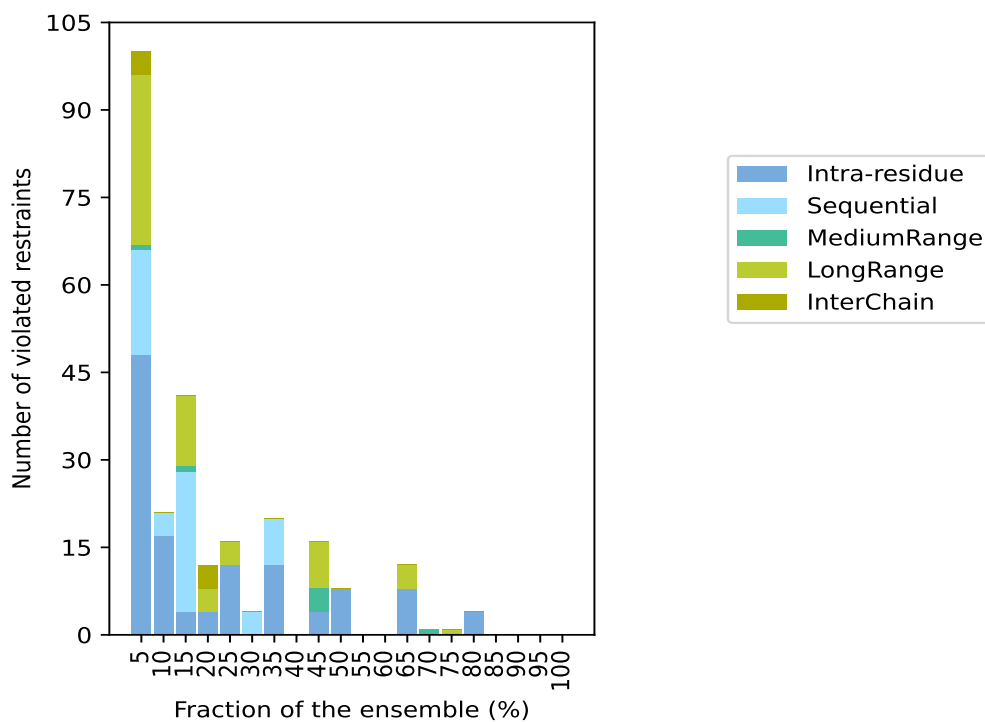
### 9.3 Distance violation statistics for the ensemble

Violation analysis may find that some restraints are violated in few models and some are violated in most of models. The following table provides this information as number of violated restraints for a given fraction of the ensemble. In total, 6969(IR:3650, SQ:1257, MR:554, LR:1324, IC:184) 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>       | %     |
| 48                            | 18              | 1               | 29              | 4               | 100   | 1                        | 5.0   |
| 17                            | 4               | 0               | 0               | 0               | 21    | 2                        | 10.0  |
| 4                             | 24              | 1               | 12              | 0               | 41    | 3                        | 15.0  |
| 4                             | 0               | 0               | 4               | 4               | 12    | 4                        | 20.0  |
| 12                            | 0               | 0               | 4               | 0               | 16    | 5                        | 25.0  |
| 0                             | 4               | 0               | 0               | 0               | 4     | 6                        | 30.0  |
| 12                            | 8               | 0               | 0               | 0               | 20    | 7                        | 35.0  |
| 0                             | 0               | 0               | 0               | 0               | 0     | 8                        | 40.0  |
| 4                             | 0               | 4               | 8               | 0               | 16    | 9                        | 45.0  |
| 8                             | 0               | 0               | 0               | 0               | 8     | 10                       | 50.0  |
| 0                             | 0               | 0               | 0               | 0               | 0     | 11                       | 55.0  |
| 0                             | 0               | 0               | 0               | 0               | 0     | 12                       | 60.0  |
| 8                             | 0               | 0               | 4               | 0               | 12    | 13                       | 65.0  |
| 0                             | 0               | 1               | 0               | 0               | 1     | 14                       | 70.0  |
| 0                             | 0               | 0               | 1               | 0               | 1     | 15                       | 75.0  |
| 4                             | 0               | 0               | 0               | 0               | 4     | 16                       | 80.0  |
| 0                             | 0               | 0               | 0               | 0               | 0     | 17                       | 85.0  |
| 0                             | 0               | 0               | 0               | 0               | 0     | 18                       | 90.0  |
| 0                             | 0               | 0               | 0               | 0               | 0     | 19                       | 95.0  |
| 0                             | 0               | 0               | 0               | 0               | 0     | 20                       | 100.0 |

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

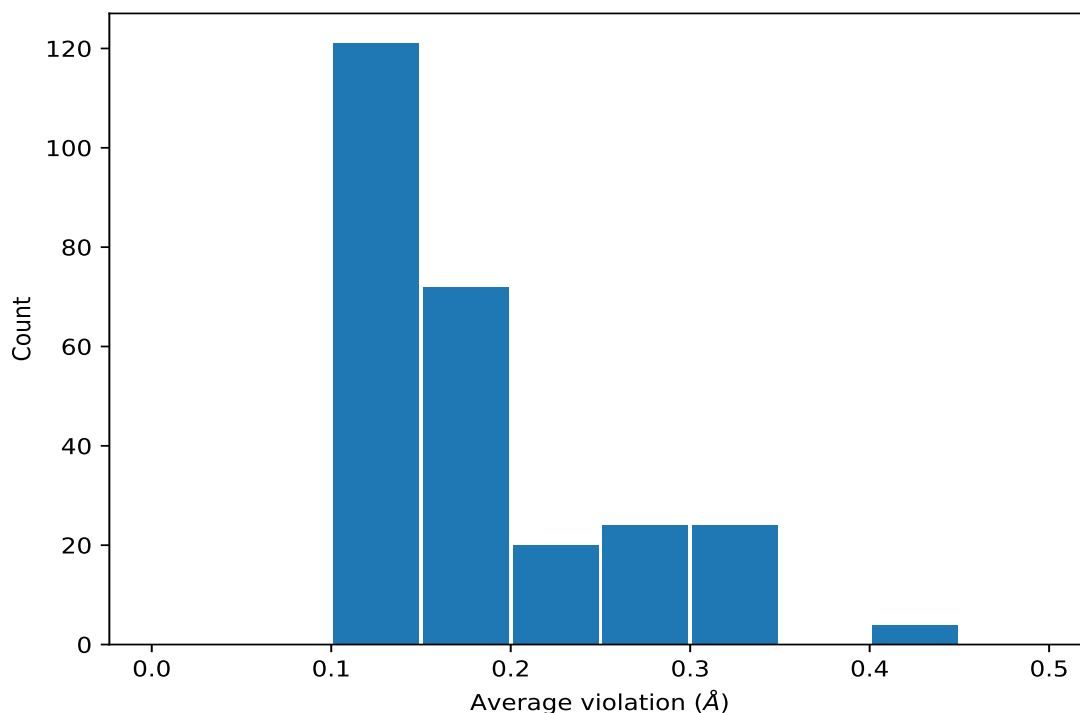
### 9.3.1 Bar graph : Distance violation statistics for the ensemble [i](#)



## 9.4 Most violated distance restraints in the ensemble [i](#)

### 9.4.1 Histogram : Distribution of mean distance violations [i](#)

The following histogram shows the distribution of the average value of the violation. The average is calculated for each restraint that is violated in more than one model over all the violated models in the ensemble



#### 9.4.2 Table: Most violated distance restraints [i](#)

The following table provides the mean and the standard deviation of the violation for each restraint sorted by number of violated models and the mean value. The Key (restraint list ID, restraint ID) is the unique identifier for a given restraint. Rows with same key represent combinatorial or ambiguous restraints and are counted as a single restraint.

| Key      | Atom-1          | Atom-2         | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|-----------------|----------------|---------------------|----------|---------------------|------------|
| (1,449)  | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2 | 16                  | 0.14     | 0.02                | 0.14       |
| (1,2242) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2 | 16                  | 0.14     | 0.02                | 0.14       |
| (1,4035) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2 | 16                  | 0.14     | 0.02                | 0.14       |
| (1,5828) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2 | 16                  | 0.14     | 0.02                | 0.14       |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:68:ASP:HA  | 15                  | 0.14     | 0.02                | 0.13       |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:42:PHE:HA  | 15                  | 0.14     | 0.02                | 0.13       |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB2 | 14                  | 0.15     | 0.03                | 0.13       |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB3 | 14                  | 0.15     | 0.03                | 0.13       |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB2 | 14                  | 0.15     | 0.03                | 0.13       |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB3 | 14                  | 0.15     | 0.03                | 0.13       |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB2 | 14                  | 0.15     | 0.03                | 0.13       |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB3 | 14                  | 0.15     | 0.03                | 0.13       |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:21:VAL:HB  | 14                  | 0.15     | 0.03                | 0.13       |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:21:VAL:HB  | 14                  | 0.15     | 0.03                | 0.13       |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:21:VAL:HB  | 14                  | 0.15     | 0.03                | 0.13       |
| (1,398)  | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA  | 13                  | 0.21     | 0.04                | 0.22       |

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| Key      | Atom-1          | Atom-2          | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|-----------------|-----------------|---------------------|----------|---------------------|------------|
| (1,2191) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 13                  | 0.21     | 0.04                | 0.22       |
| (1,3984) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 13                  | 0.21     | 0.04                | 0.22       |
| (1,5777) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 13                  | 0.21     | 0.04                | 0.22       |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 13                  | 0.12     | 0.01                | 0.12       |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 13                  | 0.12     | 0.01                | 0.12       |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 13                  | 0.12     | 0.01                | 0.12       |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 13                  | 0.12     | 0.01                | 0.12       |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 13                  | 0.12     | 0.01                | 0.12       |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 13                  | 0.12     | 0.01                | 0.12       |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 13                  | 0.12     | 0.01                | 0.12       |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 13                  | 0.12     | 0.01                | 0.12       |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 13                  | 0.12     | 0.01                | 0.12       |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 13                  | 0.12     | 0.01                | 0.12       |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 13                  | 0.12     | 0.01                | 0.12       |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 13                  | 0.12     | 0.01                | 0.12       |
| (1,1033) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 13                  | 0.11     | 0.0                 | 0.11       |
| (1,2826) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 13                  | 0.11     | 0.0                 | 0.11       |
| (1,4619) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 13                  | 0.11     | 0.0                 | 0.11       |
| (1,6412) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 13                  | 0.11     | 0.0                 | 0.11       |
| (1,1187) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 10                  | 0.16     | 0.01                | 0.17       |
| (1,1187) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 10                  | 0.16     | 0.01                | 0.17       |
| (1,1187) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 10                  | 0.16     | 0.01                | 0.17       |
| (1,2980) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 10                  | 0.16     | 0.01                | 0.17       |
| (1,2980) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 10                  | 0.16     | 0.01                | 0.17       |
| (1,2980) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 10                  | 0.16     | 0.01                | 0.17       |
| (1,4773) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 10                  | 0.16     | 0.01                | 0.17       |
| (1,4773) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 10                  | 0.16     | 0.01                | 0.17       |
| (1,4773) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 10                  | 0.16     | 0.01                | 0.17       |
| (1,6566) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 10                  | 0.16     | 0.01                | 0.17       |
| (1,6566) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 10                  | 0.16     | 0.01                | 0.17       |
| (1,6566) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 10                  | 0.16     | 0.01                | 0.17       |
| (1,501)  | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 10                  | 0.14     | 0.01                | 0.15       |
| (1,501)  | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 10                  | 0.14     | 0.01                | 0.15       |
| (1,501)  | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 10                  | 0.14     | 0.01                | 0.15       |
| (1,2294) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 10                  | 0.14     | 0.01                | 0.15       |
| (1,2294) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 10                  | 0.14     | 0.01                | 0.15       |
| (1,2294) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 10                  | 0.14     | 0.01                | 0.15       |
| (1,4087) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 10                  | 0.14     | 0.01                | 0.15       |
| (1,4087) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 10                  | 0.14     | 0.01                | 0.15       |
| (1,4087) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 10                  | 0.14     | 0.01                | 0.15       |
| (1,5880) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 10                  | 0.14     | 0.01                | 0.15       |
| (1,5880) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 10                  | 0.14     | 0.01                | 0.15       |

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| Key      | Atom-1          | Atom-2          | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|-----------------|-----------------|---------------------|----------|---------------------|------------|
| (1,5880) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 10                  | 0.14     | 0.01                | 0.15       |
| (1,293)  | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3  | 9                   | 0.34     | 0.01                | 0.34       |
| (1,293)  | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3  | 9                   | 0.34     | 0.01                | 0.34       |
| (1,293)  | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3  | 9                   | 0.34     | 0.01                | 0.34       |
| (1,2086) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3  | 9                   | 0.34     | 0.01                | 0.34       |
| (1,2086) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3  | 9                   | 0.34     | 0.01                | 0.34       |
| (1,2086) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3  | 9                   | 0.34     | 0.01                | 0.34       |
| (1,3879) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3  | 9                   | 0.34     | 0.01                | 0.34       |
| (1,3879) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3  | 9                   | 0.34     | 0.01                | 0.34       |
| (1,3879) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3  | 9                   | 0.34     | 0.01                | 0.34       |
| (1,5672) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3  | 9                   | 0.34     | 0.01                | 0.34       |
| (1,5672) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3  | 9                   | 0.34     | 0.01                | 0.34       |
| (1,5672) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3  | 9                   | 0.34     | 0.01                | 0.34       |
| (1,1816) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 9                   | 0.26     | 0.07                | 0.26       |
| (1,1816) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 9                   | 0.26     | 0.07                | 0.26       |
| (1,1816) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 9                   | 0.26     | 0.07                | 0.26       |
| (1,3609) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 9                   | 0.26     | 0.07                | 0.26       |
| (1,3609) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 9                   | 0.26     | 0.07                | 0.26       |
| (1,3609) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 9                   | 0.26     | 0.07                | 0.26       |
| (1,5402) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 9                   | 0.26     | 0.07                | 0.26       |
| (1,5402) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 9                   | 0.26     | 0.07                | 0.26       |
| (1,5402) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 9                   | 0.26     | 0.07                | 0.26       |
| (1,7195) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 9                   | 0.26     | 0.07                | 0.26       |
| (1,7195) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 9                   | 0.26     | 0.07                | 0.26       |
| (1,7195) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 9                   | 0.26     | 0.07                | 0.26       |
| (1,122)  | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 9                   | 0.25     | 0.05                | 0.24       |
| (1,1915) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 9                   | 0.25     | 0.05                | 0.24       |
| (1,3708) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 9                   | 0.25     | 0.05                | 0.24       |
| (1,5501) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 9                   | 0.25     | 0.05                | 0.24       |
| (1,1019) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 9                   | 0.12     | 0.01                | 0.12       |
| (1,1019) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 9                   | 0.12     | 0.01                | 0.12       |
| (1,1019) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 9                   | 0.12     | 0.01                | 0.12       |
| (1,2812) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 9                   | 0.12     | 0.01                | 0.12       |
| (1,2812) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 9                   | 0.12     | 0.01                | 0.12       |
| (1,2812) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 9                   | 0.12     | 0.01                | 0.12       |
| (1,4605) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 9                   | 0.12     | 0.01                | 0.12       |
| (1,4605) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 9                   | 0.12     | 0.01                | 0.12       |
| (1,4605) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 9                   | 0.12     | 0.01                | 0.12       |
| (1,6398) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 9                   | 0.12     | 0.01                | 0.12       |
| (1,6398) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 9                   | 0.12     | 0.01                | 0.12       |
| (1,6398) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 9                   | 0.12     | 0.01                | 0.12       |
| (1,526)  | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 7                   | 0.24     | 0.05                | 0.27       |

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| Key      | Atom-1          | Atom-2          | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|-----------------|-----------------|---------------------|----------|---------------------|------------|
| (1,2319) | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 7                   | 0.24     | 0.05                | 0.27       |
| (1,4112) | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 7                   | 0.24     | 0.05                | 0.27       |
| (1,5905) | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 7                   | 0.24     | 0.05                | 0.27       |
| (1,746)  | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 7                   | 0.24     | 0.03                | 0.25       |
| (1,2539) | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 7                   | 0.24     | 0.03                | 0.25       |
| (1,4332) | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 7                   | 0.24     | 0.03                | 0.25       |
| (1,6125) | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 7                   | 0.24     | 0.03                | 0.25       |
| (1,1414) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 7                   | 0.17     | 0.03                | 0.16       |
| (1,3207) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 7                   | 0.17     | 0.03                | 0.16       |
| (1,5000) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 7                   | 0.17     | 0.03                | 0.16       |
| (1,6793) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 7                   | 0.17     | 0.03                | 0.16       |
| (1,1407) | 2:C:42:PHE:H    | 2:C:41:GLU:HB3  | 7                   | 0.12     | 0.0                 | 0.12       |
| (1,3200) | 2:C:42:PHE:H    | 2:C:41:GLU:HB3  | 7                   | 0.12     | 0.0                 | 0.12       |
| (1,4993) | 2:C:42:PHE:H    | 2:C:41:GLU:HB3  | 7                   | 0.12     | 0.0                 | 0.12       |
| (1,6786) | 2:C:42:PHE:H    | 2:C:41:GLU:HB3  | 7                   | 0.12     | 0.0                 | 0.12       |
| (1,1776) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2  | 7                   | 0.12     | 0.0                 | 0.12       |
| (1,3569) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2  | 7                   | 0.12     | 0.0                 | 0.12       |
| (1,5362) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2  | 7                   | 0.12     | 0.0                 | 0.12       |
| (1,7155) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2  | 7                   | 0.12     | 0.0                 | 0.12       |
| (1,1273) | 2:C:18:GLU:H    | 2:C:17:LEU:HB2  | 6                   | 0.12     | 0.01                | 0.12       |
| (1,3066) | 2:C:18:GLU:H    | 2:C:17:LEU:HB2  | 6                   | 0.12     | 0.01                | 0.12       |
| (1,4859) | 2:C:18:GLU:H    | 2:C:17:LEU:HB2  | 6                   | 0.12     | 0.01                | 0.12       |
| (1,6652) | 2:C:18:GLU:H    | 2:C:17:LEU:HB2  | 6                   | 0.12     | 0.01                | 0.12       |
| (1,785)  | 1:A:8:PRO:HA    | 1:A:8:PRO:HD3   | 5                   | 0.19     | 0.04                | 0.16       |
| (1,2578) | 1:A:8:PRO:HA    | 1:A:8:PRO:HD3   | 5                   | 0.19     | 0.04                | 0.16       |
| (1,4371) | 1:A:8:PRO:HA    | 1:A:8:PRO:HD3   | 5                   | 0.19     | 0.04                | 0.16       |
| (1,6164) | 1:A:8:PRO:HA    | 1:A:8:PRO:HD3   | 5                   | 0.19     | 0.04                | 0.16       |
| (1,980)  | 1:A:23:ARG:HB2  | 1:A:28:ILE:HG13 | 5                   | 0.18     | 0.02                | 0.18       |
| (1,2773) | 1:A:23:ARG:HB2  | 1:A:28:ILE:HG13 | 5                   | 0.18     | 0.02                | 0.18       |
| (1,4566) | 1:A:23:ARG:HB2  | 1:A:28:ILE:HG13 | 5                   | 0.18     | 0.02                | 0.18       |
| (1,6359) | 1:A:23:ARG:HB2  | 1:A:28:ILE:HG13 | 5                   | 0.18     | 0.02                | 0.18       |
| (1,1812) | 2:C:36:GLN:HG2  | 2:C:36:GLN:HB3  | 5                   | 0.18     | 0.01                | 0.18       |
| (1,1812) | 2:C:36:GLN:HG3  | 2:C:36:GLN:HB3  | 5                   | 0.18     | 0.01                | 0.18       |
| (1,3605) | 2:C:36:GLN:HG2  | 2:C:36:GLN:HB3  | 5                   | 0.18     | 0.01                | 0.18       |
| (1,3605) | 2:C:36:GLN:HG3  | 2:C:36:GLN:HB3  | 5                   | 0.18     | 0.01                | 0.18       |
| (1,5398) | 2:C:36:GLN:HG2  | 2:C:36:GLN:HB3  | 5                   | 0.18     | 0.01                | 0.18       |
| (1,5398) | 2:C:36:GLN:HG3  | 2:C:36:GLN:HB3  | 5                   | 0.18     | 0.01                | 0.18       |
| (1,7191) | 2:C:36:GLN:HG2  | 2:C:36:GLN:HB3  | 5                   | 0.18     | 0.01                | 0.18       |
| (1,7191) | 2:C:36:GLN:HG3  | 2:C:36:GLN:HB3  | 5                   | 0.18     | 0.01                | 0.18       |
| (1,734)  | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG2  | 5                   | 0.12     | 0.01                | 0.11       |
| (1,734)  | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG3  | 5                   | 0.12     | 0.01                | 0.11       |
| (1,2527) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG2  | 5                   | 0.12     | 0.01                | 0.11       |

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| Key      | Atom-1          | Atom-2          | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|-----------------|-----------------|---------------------|----------|---------------------|------------|
| (1,2527) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG3  | 5                   | 0.12     | 0.01                | 0.11       |
| (1,4320) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG2  | 5                   | 0.12     | 0.01                | 0.11       |
| (1,4320) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG3  | 5                   | 0.12     | 0.01                | 0.11       |
| (1,6113) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG2  | 5                   | 0.12     | 0.01                | 0.11       |
| (1,6113) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG3  | 5                   | 0.12     | 0.01                | 0.11       |
| (1,1569) | 2:C:57:GLN:HE22 | 2:C:46:ILE:HG13 | 4                   | 0.2      | 0.05                | 0.18       |
| (1,3362) | 2:C:57:GLN:HE22 | 2:C:46:ILE:HG13 | 4                   | 0.2      | 0.05                | 0.18       |
| (1,5155) | 2:C:57:GLN:HE22 | 2:C:46:ILE:HG13 | 4                   | 0.2      | 0.05                | 0.18       |
| (1,6948) | 2:C:57:GLN:HE22 | 2:C:46:ILE:HG13 | 4                   | 0.2      | 0.05                | 0.18       |
| (1,118)  | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD11 | 4                   | 0.17     | 0.04                | 0.17       |
| (1,118)  | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD12 | 4                   | 0.17     | 0.04                | 0.17       |
| (1,118)  | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD13 | 4                   | 0.17     | 0.04                | 0.17       |
| (1,1911) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD11 | 4                   | 0.17     | 0.04                | 0.17       |
| (1,1911) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD12 | 4                   | 0.17     | 0.04                | 0.17       |
| (1,1911) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD13 | 4                   | 0.17     | 0.04                | 0.17       |
| (1,3704) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD11 | 4                   | 0.17     | 0.04                | 0.17       |
| (1,3704) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD12 | 4                   | 0.17     | 0.04                | 0.17       |
| (1,3704) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD13 | 4                   | 0.17     | 0.04                | 0.17       |
| (1,5497) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD11 | 4                   | 0.17     | 0.04                | 0.17       |
| (1,5497) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD12 | 4                   | 0.17     | 0.04                | 0.17       |
| (1,5497) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD13 | 4                   | 0.17     | 0.04                | 0.17       |
| (1,86)   | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB2  | 4                   | 0.15     | 0.0                 | 0.15       |
| (1,86)   | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB3  | 4                   | 0.15     | 0.0                 | 0.15       |
| (1,1879) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB2  | 4                   | 0.15     | 0.0                 | 0.15       |
| (1,1879) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB3  | 4                   | 0.15     | 0.0                 | 0.15       |
| (1,3672) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB2  | 4                   | 0.15     | 0.0                 | 0.15       |
| (1,3672) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB3  | 4                   | 0.15     | 0.0                 | 0.15       |
| (1,5465) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB2  | 4                   | 0.15     | 0.0                 | 0.15       |
| (1,5465) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB3  | 4                   | 0.15     | 0.0                 | 0.15       |
| (1,1782) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG21 | 3                   | 0.35     | 0.08                | 0.39       |
| (1,1782) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG22 | 3                   | 0.35     | 0.08                | 0.39       |
| (1,1782) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG23 | 3                   | 0.35     | 0.08                | 0.39       |
| (1,3575) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG21 | 3                   | 0.35     | 0.08                | 0.39       |
| (1,3575) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG22 | 3                   | 0.35     | 0.08                | 0.39       |
| (1,3575) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG23 | 3                   | 0.35     | 0.08                | 0.39       |
| (1,5368) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG21 | 3                   | 0.35     | 0.08                | 0.39       |
| (1,5368) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG22 | 3                   | 0.35     | 0.08                | 0.39       |
| (1,5368) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG23 | 3                   | 0.35     | 0.08                | 0.39       |
| (1,7161) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG21 | 3                   | 0.35     | 0.08                | 0.39       |
| (1,7161) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG22 | 3                   | 0.35     | 0.08                | 0.39       |
| (1,7161) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG23 | 3                   | 0.35     | 0.08                | 0.39       |
| (1,521)  | 2:C:25:ASP:H    | 2:C:24:LEU:HB3  | 3                   | 0.26     | 0.07                | 0.29       |

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| Key      | Atom-1          | Atom-2          | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|-----------------|-----------------|---------------------|----------|---------------------|------------|
| (1,2314) | 2:C:25:ASP:H    | 2:C:24:LEU:HB3  | 3                   | 0.26     | 0.07                | 0.29       |
| (1,4107) | 2:C:25:ASP:H    | 2:C:24:LEU:HB3  | 3                   | 0.26     | 0.07                | 0.29       |
| (1,5900) | 2:C:25:ASP:H    | 2:C:24:LEU:HB3  | 3                   | 0.26     | 0.07                | 0.29       |
| (1,847)  | 2:C:36:GLN:H    | 2:C:37:MET:HG2  | 3                   | 0.22     | 0.1                 | 0.16       |
| (1,2640) | 2:C:36:GLN:H    | 2:C:37:MET:HG2  | 3                   | 0.22     | 0.1                 | 0.16       |
| (1,4433) | 2:C:36:GLN:H    | 2:C:37:MET:HG2  | 3                   | 0.22     | 0.1                 | 0.16       |
| (1,6226) | 2:C:36:GLN:H    | 2:C:37:MET:HG2  | 3                   | 0.22     | 0.1                 | 0.16       |
| (1,38)   | 2:C:77:VAL:HG11 | 2:C:75:TYR:HA   | 3                   | 0.19     | 0.04                | 0.18       |
| (1,38)   | 2:C:77:VAL:HG12 | 2:C:75:TYR:HA   | 3                   | 0.19     | 0.04                | 0.18       |
| (1,38)   | 2:C:77:VAL:HG13 | 2:C:75:TYR:HA   | 3                   | 0.19     | 0.04                | 0.18       |
| (1,38)   | 2:C:77:VAL:HG21 | 2:C:75:TYR:HA   | 3                   | 0.19     | 0.04                | 0.18       |
| (1,38)   | 2:C:77:VAL:HG22 | 2:C:75:TYR:HA   | 3                   | 0.19     | 0.04                | 0.18       |
| (1,38)   | 2:C:77:VAL:HG23 | 2:C:75:TYR:HA   | 3                   | 0.19     | 0.04                | 0.18       |
| (1,38)   | 2:C:77:VAL:HG11 | 2:C:76:ASN:HA   | 3                   | 0.19     | 0.04                | 0.18       |
| (1,38)   | 2:C:77:VAL:HG12 | 2:C:76:ASN:HA   | 3                   | 0.19     | 0.04                | 0.18       |
| (1,38)   | 2:C:77:VAL:HG13 | 2:C:76:ASN:HA   | 3                   | 0.19     | 0.04                | 0.18       |
| (1,38)   | 2:C:77:VAL:HG21 | 2:C:76:ASN:HA   | 3                   | 0.19     | 0.04                | 0.18       |
| (1,38)   | 2:C:77:VAL:HG22 | 2:C:76:ASN:HA   | 3                   | 0.19     | 0.04                | 0.18       |
| (1,38)   | 2:C:77:VAL:HG23 | 2:C:76:ASN:HA   | 3                   | 0.19     | 0.04                | 0.18       |
| (1,1532) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG21 | 3                   | 0.19     | 0.02                | 0.2        |
| (1,1532) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG22 | 3                   | 0.19     | 0.02                | 0.2        |
| (1,1532) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG23 | 3                   | 0.19     | 0.02                | 0.2        |
| (1,3325) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG21 | 3                   | 0.19     | 0.02                | 0.2        |
| (1,3325) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG22 | 3                   | 0.19     | 0.02                | 0.2        |
| (1,3325) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG23 | 3                   | 0.19     | 0.02                | 0.2        |
| (1,5118) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG21 | 3                   | 0.19     | 0.02                | 0.2        |
| (1,5118) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG22 | 3                   | 0.19     | 0.02                | 0.2        |
| (1,5118) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG23 | 3                   | 0.19     | 0.02                | 0.2        |
| (1,6911) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG21 | 3                   | 0.19     | 0.02                | 0.2        |
| (1,6911) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG22 | 3                   | 0.19     | 0.02                | 0.2        |
| (1,6911) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG23 | 3                   | 0.19     | 0.02                | 0.2        |
| (1,1234) | 2:C:27:GLN:HG3  | 2:C:27:GLN:HA   | 3                   | 0.14     | 0.04                | 0.12       |
| (1,3027) | 2:C:27:GLN:HG3  | 2:C:27:GLN:HA   | 3                   | 0.14     | 0.04                | 0.12       |
| (1,4820) | 2:C:27:GLN:HG3  | 2:C:27:GLN:HA   | 3                   | 0.14     | 0.04                | 0.12       |
| (1,6613) | 2:C:27:GLN:HG3  | 2:C:27:GLN:HA   | 3                   | 0.14     | 0.04                | 0.12       |
| (1,833)  | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD1  | 3                   | 0.14     | 0.01                | 0.14       |
| (1,833)  | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD2  | 3                   | 0.14     | 0.01                | 0.14       |
| (1,2626) | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD1  | 3                   | 0.14     | 0.01                | 0.14       |
| (1,2626) | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD2  | 3                   | 0.14     | 0.01                | 0.14       |
| (1,4419) | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD1  | 3                   | 0.14     | 0.01                | 0.14       |
| (1,4419) | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD2  | 3                   | 0.14     | 0.01                | 0.14       |
| (1,6212) | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD1  | 3                   | 0.14     | 0.01                | 0.14       |

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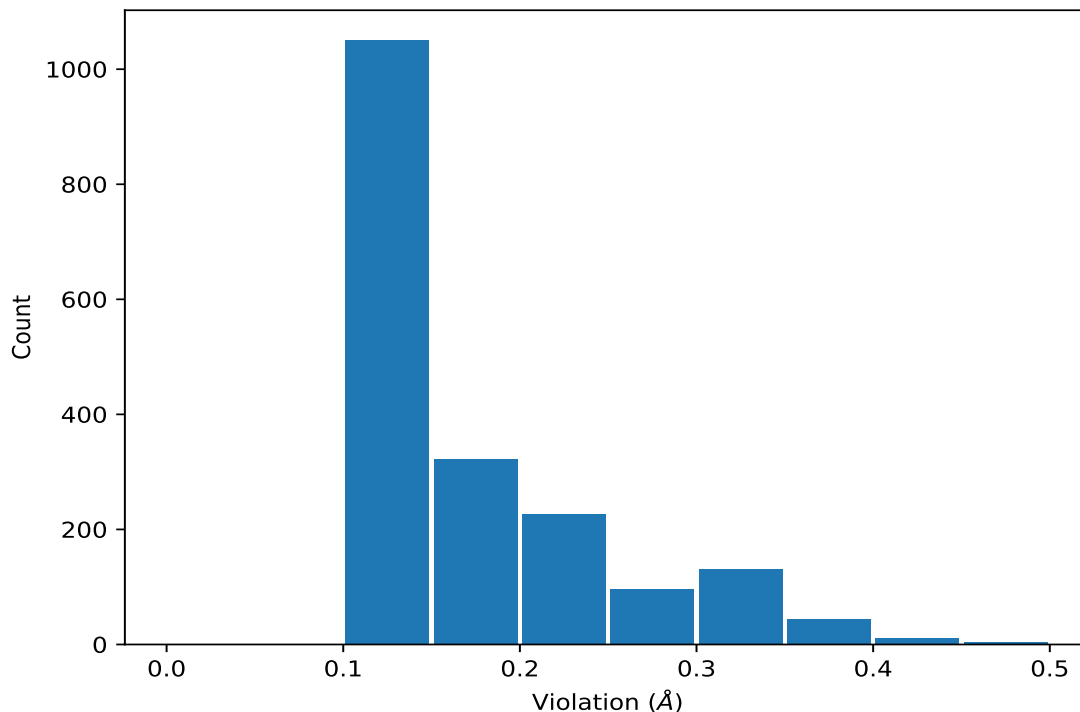
| Key      | Atom-1          | Atom-2         | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|-----------------|----------------|---------------------|----------|---------------------|------------|
| (1,6212) | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD2 | 3                   | 0.14     | 0.01                | 0.14       |
| (1,393)  | 1:A:10:ARG:H    | 1:A:9:GLY:HA3  | 3                   | 0.13     | 0.02                | 0.12       |
| (1,2186) | 1:A:10:ARG:H    | 1:A:9:GLY:HA3  | 3                   | 0.13     | 0.02                | 0.12       |
| (1,3979) | 1:A:10:ARG:H    | 1:A:9:GLY:HA3  | 3                   | 0.13     | 0.02                | 0.12       |
| (1,5772) | 1:A:10:ARG:H    | 1:A:9:GLY:HA3  | 3                   | 0.13     | 0.02                | 0.12       |
| (1,1694) | 2:C:39:VAL:HB   | 2:C:38:ASN:HB2 | 3                   | 0.12     | 0.01                | 0.12       |
| (1,3487) | 2:C:39:VAL:HB   | 2:C:38:ASN:HB2 | 3                   | 0.12     | 0.01                | 0.12       |
| (1,5280) | 2:C:39:VAL:HB   | 2:C:38:ASN:HB2 | 3                   | 0.12     | 0.01                | 0.12       |
| (1,7073) | 2:C:39:VAL:HB   | 2:C:38:ASN:HB2 | 3                   | 0.12     | 0.01                | 0.12       |
| (1,1789) | 2:C:30:THR:H    | 2:C:29:ARG:HB2 | 3                   | 0.12     | 0.0                 | 0.12       |
| (1,3582) | 2:C:30:THR:H    | 2:C:29:ARG:HB2 | 3                   | 0.12     | 0.0                 | 0.12       |
| (1,5375) | 2:C:30:THR:H    | 2:C:29:ARG:HB2 | 3                   | 0.12     | 0.0                 | 0.12       |
| (1,7168) | 2:C:30:THR:H    | 2:C:29:ARG:HB2 | 3                   | 0.12     | 0.0                 | 0.12       |
| (1,566)  | 1:A:22:PRO:HD3  | 1:A:11:TYR:HB2 | 3                   | 0.11     | 0.0                 | 0.11       |
| (1,2359) | 1:A:22:PRO:HD3  | 1:A:11:TYR:HB2 | 3                   | 0.11     | 0.0                 | 0.11       |
| (1,4152) | 1:A:22:PRO:HD3  | 1:A:11:TYR:HB2 | 3                   | 0.11     | 0.0                 | 0.11       |
| (1,5945) | 1:A:22:PRO:HD3  | 1:A:11:TYR:HB2 | 3                   | 0.11     | 0.0                 | 0.11       |
| (1,1788) | 2:C:27:GLN:H    | 2:C:27:GLN:HG2 | 2                   | 0.42     | 0.06                | 0.42       |
| (1,3581) | 2:C:27:GLN:H    | 2:C:27:GLN:HG2 | 2                   | 0.42     | 0.06                | 0.42       |
| (1,5374) | 2:C:27:GLN:H    | 2:C:27:GLN:HG2 | 2                   | 0.42     | 0.06                | 0.42       |
| (1,7167) | 2:C:27:GLN:H    | 2:C:27:GLN:HG2 | 2                   | 0.42     | 0.06                | 0.42       |
| (1,1286) | 2:C:70:LYS:H    | 2:C:70:LYS:HG2 | 2                   | 0.25     | 0.0                 | 0.25       |
| (1,3079) | 2:C:70:LYS:H    | 2:C:70:LYS:HG2 | 2                   | 0.25     | 0.0                 | 0.25       |
| (1,4872) | 2:C:70:LYS:H    | 2:C:70:LYS:HG2 | 2                   | 0.25     | 0.0                 | 0.25       |
| (1,6665) | 2:C:70:LYS:H    | 2:C:70:LYS:HG2 | 2                   | 0.25     | 0.0                 | 0.25       |
| (1,1053) | 2:C:87:ARG:H    | 2:C:87:ARG:HG2 | 2                   | 0.19     | 0.02                | 0.19       |
| (1,2846) | 2:C:87:ARG:H    | 2:C:87:ARG:HG2 | 2                   | 0.19     | 0.02                | 0.19       |
| (1,4639) | 2:C:87:ARG:H    | 2:C:87:ARG:HG2 | 2                   | 0.19     | 0.02                | 0.19       |
| (1,6432) | 2:C:87:ARG:H    | 2:C:87:ARG:HG2 | 2                   | 0.19     | 0.02                | 0.19       |
| (1,24)   | 2:C:91:GLN:H    | 2:C:91:GLN:HA  | 2                   | 0.12     | 0.01                | 0.12       |
| (1,24)   | 2:C:91:GLN:H    | 2:C:90:PRO:HA  | 2                   | 0.12     | 0.01                | 0.12       |
| (1,1659) | 1:A:16:CYS:H    | 1:A:15:CYS:HB3 | 2                   | 0.12     | 0.01                | 0.12       |
| (1,3452) | 1:A:16:CYS:H    | 1:A:15:CYS:HB3 | 2                   | 0.12     | 0.01                | 0.12       |
| (1,5245) | 1:A:16:CYS:H    | 1:A:15:CYS:HB3 | 2                   | 0.12     | 0.01                | 0.12       |
| (1,7038) | 1:A:16:CYS:H    | 1:A:15:CYS:HB3 | 2                   | 0.12     | 0.01                | 0.12       |
| (1,111)  | 1:A:28:ILE:HG13 | 1:A:28:ILE:HA  | 2                   | 0.12     | 0.0                 | 0.12       |
| (1,1904) | 1:A:28:ILE:HG13 | 1:A:28:ILE:HA  | 2                   | 0.12     | 0.0                 | 0.12       |
| (1,3697) | 1:A:28:ILE:HG13 | 1:A:28:ILE:HA  | 2                   | 0.12     | 0.0                 | 0.12       |
| (1,5490) | 1:A:28:ILE:HG13 | 1:A:28:ILE:HA  | 2                   | 0.12     | 0.0                 | 0.12       |

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

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

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

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



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

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

| Key      | Atom-1         | Atom-2          | Model ID | Violation (Å) |
|----------|----------------|-----------------|----------|---------------|
| (1,7167) | 2:C:27:GLN:H   | 2:C:27:GLN:HG2  | 8        | 0.48          |
| (1,5374) | 2:C:27:GLN:H   | 2:C:27:GLN:HG2  | 8        | 0.48          |
| (1,3581) | 2:C:27:GLN:H   | 2:C:27:GLN:HG2  | 8        | 0.48          |
| (1,1788) | 2:C:27:GLN:H   | 2:C:27:GLN:HG2  | 8        | 0.48          |
| (1,7161) | 1:A:30:PRO:HG3 | 1:A:20:ILE:HG21 | 19       | 0.41          |
| (1,7161) | 1:A:30:PRO:HG3 | 1:A:20:ILE:HG22 | 19       | 0.41          |
| (1,7161) | 1:A:30:PRO:HG3 | 1:A:20:ILE:HG23 | 19       | 0.41          |
| (1,5368) | 1:A:30:PRO:HG3 | 1:A:20:ILE:HG21 | 19       | 0.41          |
| (1,5368) | 1:A:30:PRO:HG3 | 1:A:20:ILE:HG22 | 19       | 0.41          |
| (1,5368) | 1:A:30:PRO:HG3 | 1:A:20:ILE:HG23 | 19       | 0.41          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,3575) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG21 | 19       | 0.41          |
| (1,3575) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG22 | 19       | 0.41          |
| (1,3575) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG23 | 19       | 0.41          |
| (1,1782) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG21 | 19       | 0.41          |
| (1,1782) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG22 | 19       | 0.41          |
| (1,1782) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG23 | 19       | 0.41          |
| (1,7161) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG21 | 3        | 0.39          |
| (1,7161) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG22 | 3        | 0.39          |
| (1,7161) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG23 | 3        | 0.39          |
| (1,5368) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG21 | 3        | 0.39          |
| (1,5368) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG22 | 3        | 0.39          |
| (1,5368) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG23 | 3        | 0.39          |
| (1,3575) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG21 | 3        | 0.39          |
| (1,3575) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG22 | 3        | 0.39          |
| (1,3575) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG23 | 3        | 0.39          |
| (1,1782) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG21 | 3        | 0.39          |
| (1,1782) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG22 | 3        | 0.39          |
| (1,1782) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG23 | 3        | 0.39          |
| (1,847)  | 2:C:36:GLN:H    | 2:C:37:MET:HG2  | 6        | 0.37          |
| (1,7195) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 9        | 0.37          |
| (1,7195) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 9        | 0.37          |
| (1,7195) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 9        | 0.37          |
| (1,6226) | 2:C:36:GLN:H    | 2:C:37:MET:HG2  | 6        | 0.37          |
| (1,5402) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 9        | 0.37          |
| (1,5402) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 9        | 0.37          |
| (1,5402) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 9        | 0.37          |
| (1,4433) | 2:C:36:GLN:H    | 2:C:37:MET:HG2  | 6        | 0.37          |
| (1,3609) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 9        | 0.37          |
| (1,3609) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 9        | 0.37          |
| (1,3609) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 9        | 0.37          |
| (1,2640) | 2:C:36:GLN:H    | 2:C:37:MET:HG2  | 6        | 0.37          |
| (1,1816) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 9        | 0.37          |
| (1,1816) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 9        | 0.37          |
| (1,1816) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 9        | 0.37          |
| (1,7195) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 12       | 0.36          |
| (1,7195) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 12       | 0.36          |
| (1,7195) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 12       | 0.36          |
| (1,7167) | 2:C:27:GLN:H    | 2:C:27:GLN:HG2  | 3        | 0.36          |
| (1,5402) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 12       | 0.36          |
| (1,5402) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 12       | 0.36          |
| (1,5402) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 12       | 0.36          |
| (1,5374) | 2:C:27:GLN:H    | 2:C:27:GLN:HG2  | 3        | 0.36          |

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| Key      | Atom-1          | Atom-2         | Model ID | Violation (Å) |
|----------|-----------------|----------------|----------|---------------|
| (1,3609) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3 | 12       | 0.36          |
| (1,3609) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3 | 12       | 0.36          |
| (1,3609) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3 | 12       | 0.36          |
| (1,3581) | 2:C:27:GLN:H    | 2:C:27:GLN:HG2 | 3        | 0.36          |
| (1,1816) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3 | 12       | 0.36          |
| (1,1816) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3 | 12       | 0.36          |
| (1,1816) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3 | 12       | 0.36          |
| (1,1788) | 2:C:27:GLN:H    | 2:C:27:GLN:HG2 | 3        | 0.36          |
| (1,5672) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 9        | 0.35          |
| (1,5672) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 9        | 0.35          |
| (1,5672) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 9        | 0.35          |
| (1,3879) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 9        | 0.35          |
| (1,3879) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 9        | 0.35          |
| (1,3879) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 9        | 0.35          |
| (1,293)  | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 9        | 0.35          |
| (1,293)  | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 9        | 0.35          |
| (1,293)  | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 9        | 0.35          |
| (1,2086) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 9        | 0.35          |
| (1,2086) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 9        | 0.35          |
| (1,2086) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 9        | 0.35          |
| (1,5672) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 7        | 0.34          |
| (1,5672) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 7        | 0.34          |
| (1,5672) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 7        | 0.34          |
| (1,5672) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 17       | 0.34          |
| (1,5672) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 17       | 0.34          |
| (1,5672) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 17       | 0.34          |
| (1,5672) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 18       | 0.34          |
| (1,5672) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 18       | 0.34          |
| (1,5672) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 18       | 0.34          |
| (1,5672) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 19       | 0.34          |
| (1,5672) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 19       | 0.34          |
| (1,5672) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 19       | 0.34          |
| (1,3879) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 7        | 0.34          |
| (1,3879) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 7        | 0.34          |
| (1,3879) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 7        | 0.34          |
| (1,3879) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 17       | 0.34          |
| (1,3879) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 17       | 0.34          |
| (1,3879) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 17       | 0.34          |
| (1,3879) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 18       | 0.34          |
| (1,3879) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 18       | 0.34          |
| (1,3879) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 18       | 0.34          |
| (1,3879) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 19       | 0.34          |

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| Key      | Atom-1          | Atom-2         | Model ID | Violation (Å) |
|----------|-----------------|----------------|----------|---------------|
| (1,3879) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 19       | 0.34          |
| (1,3879) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 19       | 0.34          |
| (1,293)  | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 7        | 0.34          |
| (1,293)  | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 7        | 0.34          |
| (1,293)  | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 7        | 0.34          |
| (1,293)  | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 17       | 0.34          |
| (1,293)  | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 17       | 0.34          |
| (1,293)  | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 17       | 0.34          |
| (1,293)  | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 18       | 0.34          |
| (1,293)  | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 18       | 0.34          |
| (1,293)  | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 18       | 0.34          |
| (1,293)  | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 19       | 0.34          |
| (1,293)  | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 19       | 0.34          |
| (1,293)  | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 19       | 0.34          |
| (1,2086) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 7        | 0.34          |
| (1,2086) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 7        | 0.34          |
| (1,2086) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 7        | 0.34          |
| (1,2086) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 17       | 0.34          |
| (1,2086) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 17       | 0.34          |
| (1,2086) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 17       | 0.34          |
| (1,2086) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 18       | 0.34          |
| (1,2086) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 18       | 0.34          |
| (1,2086) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 18       | 0.34          |
| (1,2086) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 19       | 0.34          |
| (1,2086) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 19       | 0.34          |
| (1,2086) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 19       | 0.34          |
| (1,5900) | 2:C:25:ASP:H    | 2:C:24:LEU:HB3 | 18       | 0.33          |
| (1,5672) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 2        | 0.33          |
| (1,5672) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 2        | 0.33          |
| (1,5672) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 2        | 0.33          |
| (1,5672) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 4        | 0.33          |
| (1,5672) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 4        | 0.33          |
| (1,5672) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 4        | 0.33          |
| (1,5672) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 14       | 0.33          |
| (1,5672) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 14       | 0.33          |
| (1,5672) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 14       | 0.33          |
| (1,5501) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3 | 2        | 0.33          |
| (1,521)  | 2:C:25:ASP:H    | 2:C:24:LEU:HB3 | 18       | 0.33          |
| (1,4107) | 2:C:25:ASP:H    | 2:C:24:LEU:HB3 | 18       | 0.33          |
| (1,3879) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 2        | 0.33          |
| (1,3879) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 2        | 0.33          |
| (1,3879) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 2        | 0.33          |

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| Key      | Atom-1          | Atom-2         | Model ID | Violation (Å) |
|----------|-----------------|----------------|----------|---------------|
| (1,3879) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 4        | 0.33          |
| (1,3879) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 4        | 0.33          |
| (1,3879) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 4        | 0.33          |
| (1,3879) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 14       | 0.33          |
| (1,3879) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 14       | 0.33          |
| (1,3879) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 14       | 0.33          |
| (1,3708) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3 | 2        | 0.33          |
| (1,293)  | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 2        | 0.33          |
| (1,293)  | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 2        | 0.33          |
| (1,293)  | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 2        | 0.33          |
| (1,293)  | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 4        | 0.33          |
| (1,293)  | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 4        | 0.33          |
| (1,293)  | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 4        | 0.33          |
| (1,293)  | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 14       | 0.33          |
| (1,293)  | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 14       | 0.33          |
| (1,293)  | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 14       | 0.33          |
| (1,2314) | 2:C:25:ASP:H    | 2:C:24:LEU:HB3 | 18       | 0.33          |
| (1,2086) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 2        | 0.33          |
| (1,2086) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 2        | 0.33          |
| (1,2086) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 2        | 0.33          |
| (1,2086) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 4        | 0.33          |
| (1,2086) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 4        | 0.33          |
| (1,2086) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 4        | 0.33          |
| (1,2086) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 14       | 0.33          |
| (1,2086) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 14       | 0.33          |
| (1,2086) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 14       | 0.33          |
| (1,2086) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 14       | 0.33          |
| (1,2086) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 14       | 0.33          |
| (1,2086) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 14       | 0.33          |
| (1,1915) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3 | 2        | 0.33          |
| (1,122)  | 2:C:19:VAL:H    | 2:C:31:PHE:HB3 | 2        | 0.33          |
| (1,5672) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 20       | 0.32          |
| (1,5672) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 20       | 0.32          |
| (1,5672) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 20       | 0.32          |
| (1,5501) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3 | 6        | 0.32          |
| (1,3879) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 20       | 0.32          |
| (1,3879) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 20       | 0.32          |
| (1,3879) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 20       | 0.32          |
| (1,3708) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3 | 6        | 0.32          |
| (1,293)  | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 20       | 0.32          |
| (1,293)  | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 20       | 0.32          |
| (1,293)  | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 20       | 0.32          |
| (1,2086) | 1:A:28:ILE:HD11 | 1:A:26:ASP:HB3 | 20       | 0.32          |
| (1,2086) | 1:A:28:ILE:HD12 | 1:A:26:ASP:HB3 | 20       | 0.32          |
| (1,2086) | 1:A:28:ILE:HD13 | 1:A:26:ASP:HB3 | 20       | 0.32          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1915) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 6        | 0.32          |
| (1,122)  | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 6        | 0.32          |
| (1,7195) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 2        | 0.31          |
| (1,7195) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 2        | 0.31          |
| (1,7195) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 2        | 0.31          |
| (1,5402) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 2        | 0.31          |
| (1,5402) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 2        | 0.31          |
| (1,5402) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 2        | 0.31          |
| (1,3609) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 2        | 0.31          |
| (1,3609) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 2        | 0.31          |
| (1,3609) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 2        | 0.31          |
| (1,1816) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 2        | 0.31          |
| (1,1816) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 2        | 0.31          |
| (1,1816) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 2        | 0.31          |
| (1,5900) | 2:C:25:ASP:H    | 2:C:24:LEU:HB3  | 11       | 0.29          |
| (1,521)  | 2:C:25:ASP:H    | 2:C:24:LEU:HB3  | 11       | 0.29          |
| (1,4107) | 2:C:25:ASP:H    | 2:C:24:LEU:HB3  | 11       | 0.29          |
| (1,2314) | 2:C:25:ASP:H    | 2:C:24:LEU:HB3  | 11       | 0.29          |
| (1,5905) | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 16       | 0.28          |
| (1,526)  | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 16       | 0.28          |
| (1,4112) | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 16       | 0.28          |
| (1,2319) | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 16       | 0.28          |
| (1,7195) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 4        | 0.27          |
| (1,7195) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 4        | 0.27          |
| (1,7195) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 4        | 0.27          |
| (1,5905) | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 10       | 0.27          |
| (1,5905) | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 18       | 0.27          |
| (1,5905) | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 20       | 0.27          |
| (1,5501) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 1        | 0.27          |
| (1,5501) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 11       | 0.27          |
| (1,5402) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 4        | 0.27          |
| (1,5402) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 4        | 0.27          |
| (1,5402) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 4        | 0.27          |
| (1,526)  | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 10       | 0.27          |
| (1,526)  | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 18       | 0.27          |
| (1,526)  | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 20       | 0.27          |
| (1,4112) | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 10       | 0.27          |
| (1,4112) | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 18       | 0.27          |
| (1,4112) | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 20       | 0.27          |
| (1,3708) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 1        | 0.27          |
| (1,3708) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 11       | 0.27          |
| (1,3609) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 4        | 0.27          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,3609) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 4        | 0.27          |
| (1,3609) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 4        | 0.27          |
| (1,2319) | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 10       | 0.27          |
| (1,2319) | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 18       | 0.27          |
| (1,2319) | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 20       | 0.27          |
| (1,1915) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 1        | 0.27          |
| (1,1915) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 11       | 0.27          |
| (1,1816) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 4        | 0.27          |
| (1,1816) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 4        | 0.27          |
| (1,1816) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 4        | 0.27          |
| (1,122)  | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 1        | 0.27          |
| (1,122)  | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 11       | 0.27          |
| (1,746)  | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 14       | 0.26          |
| (1,746)  | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 20       | 0.26          |
| (1,7195) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 1        | 0.26          |
| (1,7195) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 1        | 0.26          |
| (1,7195) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 1        | 0.26          |
| (1,6948) | 2:C:57:GLN:HE22 | 2:C:46:ILE:HG13 | 3        | 0.26          |
| (1,6125) | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 14       | 0.26          |
| (1,6125) | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 20       | 0.26          |
| (1,5905) | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 8        | 0.26          |
| (1,5402) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 1        | 0.26          |
| (1,5402) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 1        | 0.26          |
| (1,5402) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 1        | 0.26          |
| (1,526)  | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 8        | 0.26          |
| (1,5155) | 2:C:57:GLN:HE22 | 2:C:46:ILE:HG13 | 3        | 0.26          |
| (1,4332) | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 14       | 0.26          |
| (1,4332) | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 20       | 0.26          |
| (1,4112) | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 8        | 0.26          |
| (1,3609) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 1        | 0.26          |
| (1,3609) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 1        | 0.26          |
| (1,3609) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 1        | 0.26          |
| (1,3362) | 2:C:57:GLN:HE22 | 2:C:46:ILE:HG13 | 3        | 0.26          |
| (1,2539) | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 14       | 0.26          |
| (1,2539) | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 20       | 0.26          |
| (1,2319) | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 8        | 0.26          |
| (1,1816) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 1        | 0.26          |
| (1,1816) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 1        | 0.26          |
| (1,1816) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 1        | 0.26          |
| (1,1569) | 2:C:57:GLN:HE22 | 2:C:46:ILE:HG13 | 3        | 0.26          |
| (1,785)  | 1:A:8:PRO:HA    | 1:A:8:PRO:HD3   | 10       | 0.25          |
| (1,746)  | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 2        | 0.25          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,746)  | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 5        | 0.25          |
| (1,746)  | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 16       | 0.25          |
| (1,6665) | 2:C:70:LYS:H    | 2:C:70:LYS:HG2  | 5        | 0.25          |
| (1,6665) | 2:C:70:LYS:H    | 2:C:70:LYS:HG2  | 13       | 0.25          |
| (1,6164) | 1:A:8:PRO:HA    | 1:A:8:PRO:HD3   | 10       | 0.25          |
| (1,6125) | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 2        | 0.25          |
| (1,6125) | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 5        | 0.25          |
| (1,6125) | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 16       | 0.25          |
| (1,5777) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 1        | 0.25          |
| (1,4872) | 2:C:70:LYS:H    | 2:C:70:LYS:HG2  | 5        | 0.25          |
| (1,4872) | 2:C:70:LYS:H    | 2:C:70:LYS:HG2  | 13       | 0.25          |
| (1,4371) | 1:A:8:PRO:HA    | 1:A:8:PRO:HD3   | 10       | 0.25          |
| (1,4332) | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 2        | 0.25          |
| (1,4332) | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 5        | 0.25          |
| (1,4332) | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 16       | 0.25          |
| (1,3984) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 1        | 0.25          |
| (1,398)  | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 1        | 0.25          |
| (1,3079) | 2:C:70:LYS:H    | 2:C:70:LYS:HG2  | 5        | 0.25          |
| (1,3079) | 2:C:70:LYS:H    | 2:C:70:LYS:HG2  | 13       | 0.25          |
| (1,2578) | 1:A:8:PRO:HA    | 1:A:8:PRO:HD3   | 10       | 0.25          |
| (1,2539) | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 2        | 0.25          |
| (1,2539) | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 5        | 0.25          |
| (1,2539) | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 16       | 0.25          |
| (1,2191) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 1        | 0.25          |
| (1,1286) | 2:C:70:LYS:H    | 2:C:70:LYS:HG2  | 5        | 0.25          |
| (1,1286) | 2:C:70:LYS:H    | 2:C:70:LYS:HG2  | 13       | 0.25          |
| (1,7195) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 8        | 0.24          |
| (1,7195) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 8        | 0.24          |
| (1,7195) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 8        | 0.24          |
| (1,7161) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG21 | 17       | 0.24          |
| (1,7161) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG22 | 17       | 0.24          |
| (1,7161) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG23 | 17       | 0.24          |
| (1,5777) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 13       | 0.24          |
| (1,5501) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 19       | 0.24          |
| (1,5402) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 8        | 0.24          |
| (1,5402) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 8        | 0.24          |
| (1,5402) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 8        | 0.24          |
| (1,5368) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG21 | 17       | 0.24          |
| (1,5368) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG22 | 17       | 0.24          |
| (1,5368) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG23 | 17       | 0.24          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB2  | 19       | 0.24          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB3  | 19       | 0.24          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB2  | 19       | 0.24          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB3  | 19       | 0.24          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB2  | 19       | 0.24          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB3  | 19       | 0.24          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:21:VAL:HB   | 19       | 0.24          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:21:VAL:HB   | 19       | 0.24          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:21:VAL:HB   | 19       | 0.24          |
| (1,3984) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 13       | 0.24          |
| (1,398)  | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 13       | 0.24          |
| (1,38)   | 2:C:77:VAL:HG11 | 2:C:75:TYR:HA   | 8        | 0.24          |
| (1,38)   | 2:C:77:VAL:HG12 | 2:C:75:TYR:HA   | 8        | 0.24          |
| (1,38)   | 2:C:77:VAL:HG13 | 2:C:75:TYR:HA   | 8        | 0.24          |
| (1,38)   | 2:C:77:VAL:HG21 | 2:C:75:TYR:HA   | 8        | 0.24          |
| (1,38)   | 2:C:77:VAL:HG22 | 2:C:75:TYR:HA   | 8        | 0.24          |
| (1,38)   | 2:C:77:VAL:HG23 | 2:C:75:TYR:HA   | 8        | 0.24          |
| (1,38)   | 2:C:77:VAL:HG11 | 2:C:76:ASN:HA   | 8        | 0.24          |
| (1,38)   | 2:C:77:VAL:HG12 | 2:C:76:ASN:HA   | 8        | 0.24          |
| (1,38)   | 2:C:77:VAL:HG13 | 2:C:76:ASN:HA   | 8        | 0.24          |
| (1,38)   | 2:C:77:VAL:HG21 | 2:C:76:ASN:HA   | 8        | 0.24          |
| (1,38)   | 2:C:77:VAL:HG22 | 2:C:76:ASN:HA   | 8        | 0.24          |
| (1,38)   | 2:C:77:VAL:HG23 | 2:C:76:ASN:HA   | 8        | 0.24          |
| (1,3708) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 19       | 0.24          |
| (1,3609) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 8        | 0.24          |
| (1,3609) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 8        | 0.24          |
| (1,3609) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 8        | 0.24          |
| (1,3575) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG21 | 17       | 0.24          |
| (1,3575) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG22 | 17       | 0.24          |
| (1,3575) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG23 | 17       | 0.24          |
| (1,2191) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 13       | 0.24          |
| (1,1915) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 19       | 0.24          |
| (1,1816) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 8        | 0.24          |
| (1,1816) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 8        | 0.24          |
| (1,1816) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 8        | 0.24          |
| (1,1782) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG21 | 17       | 0.24          |
| (1,1782) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG22 | 17       | 0.24          |
| (1,1782) | 1:A:30:PRO:HG3  | 1:A:20:ILE:HG23 | 17       | 0.24          |
| (1,122)  | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 19       | 0.24          |
| (1,7066) | 2:C:44:GLU:HA   | 2:C:54:SER:HB3  | 2        | 0.23          |
| (1,5777) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 2        | 0.23          |
| (1,5777) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 4        | 0.23          |
| (1,5777) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 5        | 0.23          |
| (1,5777) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 16       | 0.23          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,5273) | 2:C:44:GLU:HA   | 2:C:54:SER:HB3  | 2        | 0.23          |
| (1,3984) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 2        | 0.23          |
| (1,3984) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 4        | 0.23          |
| (1,3984) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 5        | 0.23          |
| (1,3984) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 16       | 0.23          |
| (1,398)  | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 2        | 0.23          |
| (1,398)  | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 4        | 0.23          |
| (1,398)  | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 5        | 0.23          |
| (1,398)  | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 16       | 0.23          |
| (1,3480) | 2:C:44:GLU:HA   | 2:C:54:SER:HB3  | 2        | 0.23          |
| (1,2191) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 2        | 0.23          |
| (1,2191) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 4        | 0.23          |
| (1,2191) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 5        | 0.23          |
| (1,2191) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 16       | 0.23          |
| (1,1687) | 2:C:44:GLU:HA   | 2:C:54:SER:HB3  | 2        | 0.23          |
| (1,785)  | 1:A:8:PRO:HA    | 1:A:8:PRO:HD3   | 3        | 0.22          |
| (1,7195) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 19       | 0.22          |
| (1,7195) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 19       | 0.22          |
| (1,7195) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 19       | 0.22          |
| (1,6948) | 2:C:57:GLN:HE22 | 2:C:46:ILE:HG13 | 14       | 0.22          |
| (1,6164) | 1:A:8:PRO:HA    | 1:A:8:PRO:HD3   | 3        | 0.22          |
| (1,5777) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 11       | 0.22          |
| (1,5501) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 12       | 0.22          |
| (1,5501) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 13       | 0.22          |
| (1,5402) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 19       | 0.22          |
| (1,5402) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 19       | 0.22          |
| (1,5402) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 19       | 0.22          |
| (1,5155) | 2:C:57:GLN:HE22 | 2:C:46:ILE:HG13 | 14       | 0.22          |
| (1,4371) | 1:A:8:PRO:HA    | 1:A:8:PRO:HD3   | 3        | 0.22          |
| (1,3984) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 11       | 0.22          |
| (1,398)  | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 11       | 0.22          |
| (1,3708) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 12       | 0.22          |
| (1,3708) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 13       | 0.22          |
| (1,3609) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 19       | 0.22          |
| (1,3609) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 19       | 0.22          |
| (1,3609) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 19       | 0.22          |
| (1,3362) | 2:C:57:GLN:HE22 | 2:C:46:ILE:HG13 | 14       | 0.22          |
| (1,2578) | 1:A:8:PRO:HA    | 1:A:8:PRO:HD3   | 3        | 0.22          |
| (1,2191) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 11       | 0.22          |
| (1,1915) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 12       | 0.22          |
| (1,1915) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 13       | 0.22          |
| (1,19)   | 2:C:75:TYR:H    | 2:C:74:GLU:HG2  | 14       | 0.22          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,19)   | 2:C:75:TYR:H    | 2:C:74:GLU:HG3  | 14       | 0.22          |
| (1,1816) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 19       | 0.22          |
| (1,1816) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 19       | 0.22          |
| (1,1816) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 19       | 0.22          |
| (1,1569) | 2:C:57:GLN:HE22 | 2:C:46:ILE:HG13 | 14       | 0.22          |
| (1,122)  | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 12       | 0.22          |
| (1,122)  | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 13       | 0.22          |
| (1,871)  | 1:A:17:SER:HB3  | 1:A:12:PHE:HZ   | 4        | 0.21          |
| (1,7195) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 13       | 0.21          |
| (1,7195) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 13       | 0.21          |
| (1,7195) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 13       | 0.21          |
| (1,6793) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 8        | 0.21          |
| (1,6568) | 2:C:52:ILE:HD11 | 2:C:53:PRO:HD2  | 16       | 0.21          |
| (1,6568) | 2:C:52:ILE:HD12 | 2:C:53:PRO:HD2  | 16       | 0.21          |
| (1,6568) | 2:C:52:ILE:HD13 | 2:C:53:PRO:HD2  | 16       | 0.21          |
| (1,6432) | 2:C:87:ARG:H    | 2:C:87:ARG:HG2  | 14       | 0.21          |
| (1,6250) | 1:A:17:SER:HB3  | 1:A:12:PHE:HZ   | 4        | 0.21          |
| (1,5905) | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 12       | 0.21          |
| (1,5777) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 15       | 0.21          |
| (1,5497) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD11 | 6        | 0.21          |
| (1,5497) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD12 | 6        | 0.21          |
| (1,5497) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD13 | 6        | 0.21          |
| (1,5402) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 13       | 0.21          |
| (1,5402) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 13       | 0.21          |
| (1,5402) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 13       | 0.21          |
| (1,526)  | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 12       | 0.21          |
| (1,5000) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 8        | 0.21          |
| (1,4775) | 2:C:52:ILE:HD11 | 2:C:53:PRO:HD2  | 16       | 0.21          |
| (1,4775) | 2:C:52:ILE:HD12 | 2:C:53:PRO:HD2  | 16       | 0.21          |
| (1,4775) | 2:C:52:ILE:HD13 | 2:C:53:PRO:HD2  | 16       | 0.21          |
| (1,4639) | 2:C:87:ARG:H    | 2:C:87:ARG:HG2  | 14       | 0.21          |
| (1,4457) | 1:A:17:SER:HB3  | 1:A:12:PHE:HZ   | 4        | 0.21          |
| (1,4112) | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 12       | 0.21          |
| (1,3984) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 15       | 0.21          |
| (1,398)  | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 15       | 0.21          |
| (1,3704) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD11 | 6        | 0.21          |
| (1,3704) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD12 | 6        | 0.21          |
| (1,3704) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD13 | 6        | 0.21          |
| (1,3609) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 13       | 0.21          |
| (1,3609) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 13       | 0.21          |
| (1,3609) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 13       | 0.21          |
| (1,3207) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 8        | 0.21          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,2982) | 2:C:52:ILE:HD11 | 2:C:53:PRO:HD2  | 16       | 0.21          |
| (1,2982) | 2:C:52:ILE:HD12 | 2:C:53:PRO:HD2  | 16       | 0.21          |
| (1,2982) | 2:C:52:ILE:HD13 | 2:C:53:PRO:HD2  | 16       | 0.21          |
| (1,2846) | 2:C:87:ARG:H    | 2:C:87:ARG:HG2  | 14       | 0.21          |
| (1,2664) | 1:A:17:SER:HB3  | 1:A:12:PHE:HZ   | 4        | 0.21          |
| (1,2319) | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 12       | 0.21          |
| (1,2191) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 15       | 0.21          |
| (1,1911) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD11 | 6        | 0.21          |
| (1,1911) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD12 | 6        | 0.21          |
| (1,1911) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD13 | 6        | 0.21          |
| (1,1816) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 13       | 0.21          |
| (1,1816) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 13       | 0.21          |
| (1,1816) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 13       | 0.21          |
| (1,1414) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 8        | 0.21          |
| (1,1189) | 2:C:52:ILE:HD11 | 2:C:53:PRO:HD2  | 16       | 0.21          |
| (1,1189) | 2:C:52:ILE:HD12 | 2:C:53:PRO:HD2  | 16       | 0.21          |
| (1,1189) | 2:C:52:ILE:HD13 | 2:C:53:PRO:HD2  | 16       | 0.21          |
| (1,118)  | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD11 | 6        | 0.21          |
| (1,118)  | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD12 | 6        | 0.21          |
| (1,118)  | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD13 | 6        | 0.21          |
| (1,1053) | 2:C:87:ARG:H    | 2:C:87:ARG:HG2  | 14       | 0.21          |
| (1,980)  | 1:A:23:ARG:HB2  | 1:A:28:ILE:HG13 | 10       | 0.2           |
| (1,980)  | 1:A:23:ARG:HB2  | 1:A:28:ILE:HG13 | 11       | 0.2           |
| (1,746)  | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 17       | 0.2           |
| (1,6911) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG21 | 2        | 0.2           |
| (1,6911) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG22 | 2        | 0.2           |
| (1,6911) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG23 | 2        | 0.2           |
| (1,6911) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG21 | 14       | 0.2           |
| (1,6911) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG22 | 14       | 0.2           |
| (1,6911) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG23 | 14       | 0.2           |
| (1,6793) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 15       | 0.2           |
| (1,6613) | 2:C:27:GLN:HG3  | 2:C:27:GLN:HA   | 3        | 0.2           |
| (1,6359) | 1:A:23:ARG:HB2  | 1:A:28:ILE:HG13 | 10       | 0.2           |
| (1,6359) | 1:A:23:ARG:HB2  | 1:A:28:ILE:HG13 | 11       | 0.2           |
| (1,6125) | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 17       | 0.2           |
| (1,5777) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 10       | 0.2           |
| (1,5777) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 14       | 0.2           |
| (1,5497) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD11 | 8        | 0.2           |
| (1,5497) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD12 | 8        | 0.2           |
| (1,5497) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD13 | 8        | 0.2           |
| (1,5118) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG21 | 2        | 0.2           |
| (1,5118) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG22 | 2        | 0.2           |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,5118) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG23 | 2        | 0.2           |
| (1,5118) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG21 | 14       | 0.2           |
| (1,5118) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG22 | 14       | 0.2           |
| (1,5118) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG23 | 14       | 0.2           |
| (1,5000) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 15       | 0.2           |
| (1,4820) | 2:C:27:GLN:HG3  | 2:C:27:GLN:HA   | 3        | 0.2           |
| (1,4566) | 1:A:23:ARG:HB2  | 1:A:28:ILE:HG13 | 10       | 0.2           |
| (1,4566) | 1:A:23:ARG:HB2  | 1:A:28:ILE:HG13 | 11       | 0.2           |
| (1,4332) | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 17       | 0.2           |
| (1,3984) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 10       | 0.2           |
| (1,3984) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 14       | 0.2           |
| (1,398)  | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 10       | 0.2           |
| (1,398)  | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 14       | 0.2           |
| (1,3704) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD11 | 8        | 0.2           |
| (1,3704) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD12 | 8        | 0.2           |
| (1,3704) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD13 | 8        | 0.2           |
| (1,3325) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG21 | 2        | 0.2           |
| (1,3325) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG22 | 2        | 0.2           |
| (1,3325) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG23 | 2        | 0.2           |
| (1,3325) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG21 | 14       | 0.2           |
| (1,3325) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG22 | 14       | 0.2           |
| (1,3325) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG23 | 14       | 0.2           |
| (1,3207) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 15       | 0.2           |
| (1,3027) | 2:C:27:GLN:HG3  | 2:C:27:GLN:HA   | 3        | 0.2           |
| (1,2773) | 1:A:23:ARG:HB2  | 1:A:28:ILE:HG13 | 10       | 0.2           |
| (1,2773) | 1:A:23:ARG:HB2  | 1:A:28:ILE:HG13 | 11       | 0.2           |
| (1,2539) | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 17       | 0.2           |
| (1,2191) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 10       | 0.2           |
| (1,2191) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 14       | 0.2           |
| (1,1911) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD11 | 8        | 0.2           |
| (1,1911) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD12 | 8        | 0.2           |
| (1,1911) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD13 | 8        | 0.2           |
| (1,1532) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG21 | 2        | 0.2           |
| (1,1532) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG22 | 2        | 0.2           |
| (1,1532) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG23 | 2        | 0.2           |
| (1,1532) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG21 | 14       | 0.2           |
| (1,1532) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG22 | 14       | 0.2           |
| (1,1532) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG23 | 14       | 0.2           |
| (1,1414) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 15       | 0.2           |
| (1,1234) | 2:C:27:GLN:HG3  | 2:C:27:GLN:HA   | 3        | 0.2           |
| (1,118)  | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD11 | 8        | 0.2           |
| (1,118)  | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD12 | 8        | 0.2           |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,118)  | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD13 | 8        | 0.2           |
| (1,746)  | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 7        | 0.19          |
| (1,7191) | 2:C:36:GLN:HG2  | 2:C:36:GLN:HB3  | 11       | 0.19          |
| (1,7191) | 2:C:36:GLN:HG3  | 2:C:36:GLN:HB3  | 11       | 0.19          |
| (1,7191) | 2:C:36:GLN:HG2  | 2:C:36:GLN:HB3  | 13       | 0.19          |
| (1,7191) | 2:C:36:GLN:HG3  | 2:C:36:GLN:HB3  | 13       | 0.19          |
| (1,6125) | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 7        | 0.19          |
| (1,5501) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 4        | 0.19          |
| (1,5398) | 2:C:36:GLN:HG2  | 2:C:36:GLN:HB3  | 11       | 0.19          |
| (1,5398) | 2:C:36:GLN:HG3  | 2:C:36:GLN:HB3  | 11       | 0.19          |
| (1,5398) | 2:C:36:GLN:HG2  | 2:C:36:GLN:HB3  | 13       | 0.19          |
| (1,5398) | 2:C:36:GLN:HG3  | 2:C:36:GLN:HB3  | 13       | 0.19          |
| (1,4332) | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 7        | 0.19          |
| (1,3708) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 4        | 0.19          |
| (1,3605) | 2:C:36:GLN:HG2  | 2:C:36:GLN:HB3  | 11       | 0.19          |
| (1,3605) | 2:C:36:GLN:HG3  | 2:C:36:GLN:HB3  | 11       | 0.19          |
| (1,3605) | 2:C:36:GLN:HG2  | 2:C:36:GLN:HB3  | 13       | 0.19          |
| (1,3605) | 2:C:36:GLN:HG3  | 2:C:36:GLN:HB3  | 13       | 0.19          |
| (1,2539) | 2:C:36:GLN:HE21 | 2:C:36:GLN:HB3  | 7        | 0.19          |
| (1,1915) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 4        | 0.19          |
| (1,1812) | 2:C:36:GLN:HG2  | 2:C:36:GLN:HB3  | 11       | 0.19          |
| (1,1812) | 2:C:36:GLN:HG3  | 2:C:36:GLN:HB3  | 11       | 0.19          |
| (1,1812) | 2:C:36:GLN:HG2  | 2:C:36:GLN:HB3  | 13       | 0.19          |
| (1,1812) | 2:C:36:GLN:HG3  | 2:C:36:GLN:HB3  | 13       | 0.19          |
| (1,122)  | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 4        | 0.19          |
| (1,980)  | 1:A:23:ARG:HB2  | 1:A:28:ILE:HG13 | 6        | 0.18          |
| (1,7191) | 2:C:36:GLN:HG2  | 2:C:36:GLN:HB3  | 12       | 0.18          |
| (1,7191) | 2:C:36:GLN:HG3  | 2:C:36:GLN:HB3  | 12       | 0.18          |
| (1,6793) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 6        | 0.18          |
| (1,6566) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 14       | 0.18          |
| (1,6566) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 14       | 0.18          |
| (1,6566) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 14       | 0.18          |
| (1,6566) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 20       | 0.18          |
| (1,6566) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 20       | 0.18          |
| (1,6566) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 20       | 0.18          |
| (1,6544) | 2:C:79:GLY:H    | 2:C:78:GLY:HA3  | 20       | 0.18          |
| (1,6359) | 1:A:23:ARG:HB2  | 1:A:28:ILE:HG13 | 6        | 0.18          |
| (1,5501) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 8        | 0.18          |
| (1,5398) | 2:C:36:GLN:HG2  | 2:C:36:GLN:HB3  | 12       | 0.18          |
| (1,5398) | 2:C:36:GLN:HG3  | 2:C:36:GLN:HB3  | 12       | 0.18          |
| (1,5000) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 6        | 0.18          |
| (1,4773) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 14       | 0.18          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,4773) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 14       | 0.18          |
| (1,4773) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 14       | 0.18          |
| (1,4773) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 20       | 0.18          |
| (1,4773) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 20       | 0.18          |
| (1,4773) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 20       | 0.18          |
| (1,4751) | 2:C:79:GLY:H    | 2:C:78:GLY:HA3  | 20       | 0.18          |
| (1,4566) | 1:A:23:ARG:HB2  | 1:A:28:ILE:HG13 | 6        | 0.18          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB2  | 9        | 0.18          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB3  | 9        | 0.18          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB2  | 9        | 0.18          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB3  | 9        | 0.18          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB2  | 9        | 0.18          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB3  | 9        | 0.18          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:21:VAL:HB   | 9        | 0.18          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:21:VAL:HB   | 9        | 0.18          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:21:VAL:HB   | 9        | 0.18          |
| (1,38)   | 2:C:77:VAL:HG11 | 2:C:75:TYR:HA   | 19       | 0.18          |
| (1,38)   | 2:C:77:VAL:HG12 | 2:C:75:TYR:HA   | 19       | 0.18          |
| (1,38)   | 2:C:77:VAL:HG13 | 2:C:75:TYR:HA   | 19       | 0.18          |
| (1,38)   | 2:C:77:VAL:HG21 | 2:C:75:TYR:HA   | 19       | 0.18          |
| (1,38)   | 2:C:77:VAL:HG22 | 2:C:75:TYR:HA   | 19       | 0.18          |
| (1,38)   | 2:C:77:VAL:HG23 | 2:C:75:TYR:HA   | 19       | 0.18          |
| (1,38)   | 2:C:77:VAL:HG11 | 2:C:76:ASN:HA   | 19       | 0.18          |
| (1,38)   | 2:C:77:VAL:HG12 | 2:C:76:ASN:HA   | 19       | 0.18          |
| (1,38)   | 2:C:77:VAL:HG13 | 2:C:76:ASN:HA   | 19       | 0.18          |
| (1,38)   | 2:C:77:VAL:HG21 | 2:C:76:ASN:HA   | 19       | 0.18          |
| (1,38)   | 2:C:77:VAL:HG22 | 2:C:76:ASN:HA   | 19       | 0.18          |
| (1,38)   | 2:C:77:VAL:HG23 | 2:C:76:ASN:HA   | 19       | 0.18          |
| (1,3708) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 8        | 0.18          |
| (1,3605) | 2:C:36:GLN:HG2  | 2:C:36:GLN:HB3  | 12       | 0.18          |
| (1,3605) | 2:C:36:GLN:HG3  | 2:C:36:GLN:HB3  | 12       | 0.18          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:68:ASP:HA   | 1        | 0.18          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:42:PHE:HA   | 1        | 0.18          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:68:ASP:HA   | 12       | 0.18          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:42:PHE:HA   | 12       | 0.18          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:68:ASP:HA   | 14       | 0.18          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:42:PHE:HA   | 14       | 0.18          |
| (1,3207) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 6        | 0.18          |
| (1,2980) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 14       | 0.18          |
| (1,2980) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 14       | 0.18          |
| (1,2980) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 14       | 0.18          |
| (1,2980) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 20       | 0.18          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,2980) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 20       | 0.18          |
| (1,2980) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 20       | 0.18          |
| (1,2958) | 2:C:79:GLY:H    | 2:C:78:GLY:HA3  | 20       | 0.18          |
| (1,2773) | 1:A:23:ARG:HB2  | 1:A:28:ILE:HG13 | 6        | 0.18          |
| (1,1915) | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 8        | 0.18          |
| (1,1812) | 2:C:36:GLN:HG2  | 2:C:36:GLN:HB3  | 12       | 0.18          |
| (1,1812) | 2:C:36:GLN:HG3  | 2:C:36:GLN:HB3  | 12       | 0.18          |
| (1,1414) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 6        | 0.18          |
| (1,122)  | 2:C:19:VAL:H    | 2:C:31:PHE:HB3  | 8        | 0.18          |
| (1,1187) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 14       | 0.18          |
| (1,1187) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 14       | 0.18          |
| (1,1187) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 14       | 0.18          |
| (1,1187) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 20       | 0.18          |
| (1,1187) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 20       | 0.18          |
| (1,1187) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 20       | 0.18          |
| (1,1165) | 2:C:79:GLY:H    | 2:C:78:GLY:HA3  | 20       | 0.18          |
| (1,980)  | 1:A:23:ARG:HB2  | 1:A:28:ILE:HG13 | 15       | 0.17          |
| (1,7191) | 2:C:36:GLN:HG2  | 2:C:36:GLN:HB3  | 6        | 0.17          |
| (1,7191) | 2:C:36:GLN:HG3  | 2:C:36:GLN:HB3  | 6        | 0.17          |
| (1,7191) | 2:C:36:GLN:HG2  | 2:C:36:GLN:HB3  | 19       | 0.17          |
| (1,7191) | 2:C:36:GLN:HG3  | 2:C:36:GLN:HB3  | 19       | 0.17          |
| (1,6566) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 2        | 0.17          |
| (1,6566) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 2        | 0.17          |
| (1,6566) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 2        | 0.17          |
| (1,6566) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 4        | 0.17          |
| (1,6566) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 4        | 0.17          |
| (1,6566) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 4        | 0.17          |
| (1,6566) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 10       | 0.17          |
| (1,6566) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 10       | 0.17          |
| (1,6566) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 10       | 0.17          |
| (1,6566) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 16       | 0.17          |
| (1,6566) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 16       | 0.17          |
| (1,6566) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 16       | 0.17          |
| (1,6566) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 19       | 0.17          |
| (1,6566) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 19       | 0.17          |
| (1,6566) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 19       | 0.17          |
| (1,6432) | 2:C:87:ARG:H    | 2:C:87:ARG:HG2  | 5        | 0.17          |
| (1,6359) | 1:A:23:ARG:HB2  | 1:A:28:ILE:HG13 | 15       | 0.17          |
| (1,5900) | 2:C:25:ASP:H    | 2:C:24:LEU:HB3  | 9        | 0.17          |
| (1,5398) | 2:C:36:GLN:HG2  | 2:C:36:GLN:HB3  | 6        | 0.17          |
| (1,5398) | 2:C:36:GLN:HG3  | 2:C:36:GLN:HB3  | 6        | 0.17          |
| (1,5398) | 2:C:36:GLN:HG2  | 2:C:36:GLN:HB3  | 19       | 0.17          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,5398) | 2:C:36:GLN:HG3  | 2:C:36:GLN:HB3  | 19       | 0.17          |
| (1,521)  | 2:C:25:ASP:H    | 2:C:24:LEU:HB3  | 9        | 0.17          |
| (1,4773) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 2        | 0.17          |
| (1,4773) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 2        | 0.17          |
| (1,4773) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 2        | 0.17          |
| (1,4773) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 4        | 0.17          |
| (1,4773) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 4        | 0.17          |
| (1,4773) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 4        | 0.17          |
| (1,4773) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 10       | 0.17          |
| (1,4773) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 10       | 0.17          |
| (1,4773) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 10       | 0.17          |
| (1,4773) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 16       | 0.17          |
| (1,4773) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 16       | 0.17          |
| (1,4773) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 16       | 0.17          |
| (1,4773) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 19       | 0.17          |
| (1,4773) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 19       | 0.17          |
| (1,4773) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 19       | 0.17          |
| (1,4639) | 2:C:87:ARG:H    | 2:C:87:ARG:HG2  | 5        | 0.17          |
| (1,4566) | 1:A:23:ARG:HB2  | 1:A:28:ILE:HG13 | 15       | 0.17          |
| (1,4107) | 2:C:25:ASP:H    | 2:C:24:LEU:HB3  | 9        | 0.17          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB2  | 10       | 0.17          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB3  | 10       | 0.17          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB2  | 10       | 0.17          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB3  | 10       | 0.17          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB2  | 10       | 0.17          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB3  | 10       | 0.17          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:21:VAL:HB   | 10       | 0.17          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:21:VAL:HB   | 10       | 0.17          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:21:VAL:HB   | 10       | 0.17          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB2  | 16       | 0.17          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB3  | 16       | 0.17          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB2  | 16       | 0.17          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB3  | 16       | 0.17          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB2  | 16       | 0.17          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB3  | 16       | 0.17          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:21:VAL:HB   | 16       | 0.17          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:21:VAL:HB   | 16       | 0.17          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:21:VAL:HB   | 16       | 0.17          |
| (1,3605) | 2:C:36:GLN:HG2  | 2:C:36:GLN:HB3  | 6        | 0.17          |
| (1,3605) | 2:C:36:GLN:HG3  | 2:C:36:GLN:HB3  | 6        | 0.17          |
| (1,3605) | 2:C:36:GLN:HG2  | 2:C:36:GLN:HB3  | 19       | 0.17          |
| (1,3605) | 2:C:36:GLN:HG3  | 2:C:36:GLN:HB3  | 19       | 0.17          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,36)   | 2:C:39:VAL:HA   | 2:C:68:ASP:HA   | 6        | 0.17          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:42:PHE:HA   | 6        | 0.17          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:68:ASP:HA   | 7        | 0.17          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:42:PHE:HA   | 7        | 0.17          |
| (1,2980) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 2        | 0.17          |
| (1,2980) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 2        | 0.17          |
| (1,2980) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 2        | 0.17          |
| (1,2980) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 4        | 0.17          |
| (1,2980) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 4        | 0.17          |
| (1,2980) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 4        | 0.17          |
| (1,2980) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 10       | 0.17          |
| (1,2980) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 10       | 0.17          |
| (1,2980) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 10       | 0.17          |
| (1,2980) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 16       | 0.17          |
| (1,2980) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 16       | 0.17          |
| (1,2980) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 16       | 0.17          |
| (1,2980) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 19       | 0.17          |
| (1,2980) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 19       | 0.17          |
| (1,2980) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 19       | 0.17          |
| (1,2846) | 2:C:87:ARG:H    | 2:C:87:ARG:HG2  | 5        | 0.17          |
| (1,2773) | 1:A:23:ARG:HB2  | 1:A:28:ILE:HG13 | 15       | 0.17          |
| (1,2314) | 2:C:25:ASP:H    | 2:C:24:LEU:HB3  | 9        | 0.17          |
| (1,1812) | 2:C:36:GLN:HG2  | 2:C:36:GLN:HB3  | 6        | 0.17          |
| (1,1812) | 2:C:36:GLN:HG3  | 2:C:36:GLN:HB3  | 6        | 0.17          |
| (1,1812) | 2:C:36:GLN:HG2  | 2:C:36:GLN:HB3  | 19       | 0.17          |
| (1,1812) | 2:C:36:GLN:HG3  | 2:C:36:GLN:HB3  | 19       | 0.17          |
| (1,1187) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 2        | 0.17          |
| (1,1187) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 2        | 0.17          |
| (1,1187) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 2        | 0.17          |
| (1,1187) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 4        | 0.17          |
| (1,1187) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 4        | 0.17          |
| (1,1187) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 4        | 0.17          |
| (1,1187) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 10       | 0.17          |
| (1,1187) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 10       | 0.17          |
| (1,1187) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 10       | 0.17          |
| (1,1187) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 16       | 0.17          |
| (1,1187) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 16       | 0.17          |
| (1,1187) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 16       | 0.17          |
| (1,1187) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 19       | 0.17          |
| (1,1187) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 19       | 0.17          |
| (1,1187) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 19       | 0.17          |
| (1,1053) | 2:C:87:ARG:H    | 2:C:87:ARG:HG2  | 5        | 0.17          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,980)  | 1:A:23:ARG:HB2  | 1:A:28:ILE:HG13 | 13       | 0.16          |
| (1,847)  | 2:C:36:GLN:H    | 2:C:37:MET:HG2  | 7        | 0.16          |
| (1,785)  | 1:A:8:PRO:HA    | 1:A:8:PRO:HD3   | 2        | 0.16          |
| (1,785)  | 1:A:8:PRO:HA    | 1:A:8:PRO:HD3   | 19       | 0.16          |
| (1,6911) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG21 | 9        | 0.16          |
| (1,6911) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG22 | 9        | 0.16          |
| (1,6911) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG23 | 9        | 0.16          |
| (1,6793) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 4        | 0.16          |
| (1,6566) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 17       | 0.16          |
| (1,6566) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 17       | 0.16          |
| (1,6566) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 17       | 0.16          |
| (1,6507) | 1:A:24:LEU:HD21 | 1:A:24:LEU:HA   | 16       | 0.16          |
| (1,6507) | 1:A:24:LEU:HD22 | 1:A:24:LEU:HA   | 16       | 0.16          |
| (1,6507) | 1:A:24:LEU:HD23 | 1:A:24:LEU:HA   | 16       | 0.16          |
| (1,6359) | 1:A:23:ARG:HB2  | 1:A:28:ILE:HG13 | 13       | 0.16          |
| (1,6226) | 2:C:36:GLN:H    | 2:C:37:MET:HG2  | 7        | 0.16          |
| (1,6164) | 1:A:8:PRO:HA    | 1:A:8:PRO:HD3   | 2        | 0.16          |
| (1,6164) | 1:A:8:PRO:HA    | 1:A:8:PRO:HD3   | 19       | 0.16          |
| (1,5880) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 9        | 0.16          |
| (1,5880) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 9        | 0.16          |
| (1,5880) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 9        | 0.16          |
| (1,5880) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 18       | 0.16          |
| (1,5880) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 18       | 0.16          |
| (1,5880) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 18       | 0.16          |
| (1,5828) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 14       | 0.16          |
| (1,5828) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 18       | 0.16          |
| (1,5828) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 19       | 0.16          |
| (1,5777) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 8        | 0.16          |
| (1,5118) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG21 | 9        | 0.16          |
| (1,5118) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG22 | 9        | 0.16          |
| (1,5118) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG23 | 9        | 0.16          |
| (1,501)  | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 9        | 0.16          |
| (1,501)  | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 9        | 0.16          |
| (1,501)  | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 9        | 0.16          |
| (1,501)  | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 18       | 0.16          |
| (1,501)  | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 18       | 0.16          |
| (1,501)  | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 18       | 0.16          |
| (1,5000) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 4        | 0.16          |
| (1,4773) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 17       | 0.16          |
| (1,4773) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 17       | 0.16          |
| (1,4773) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 17       | 0.16          |
| (1,4714) | 1:A:24:LEU:HD21 | 1:A:24:LEU:HA   | 16       | 0.16          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,4714) | 1:A:24:LEU:HD22 | 1:A:24:LEU:HA   | 16       | 0.16          |
| (1,4714) | 1:A:24:LEU:HD23 | 1:A:24:LEU:HA   | 16       | 0.16          |
| (1,4566) | 1:A:23:ARG:HB2  | 1:A:28:ILE:HG13 | 13       | 0.16          |
| (1,449)  | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 14       | 0.16          |
| (1,449)  | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 18       | 0.16          |
| (1,449)  | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 19       | 0.16          |
| (1,4433) | 2:C:36:GLN:H    | 2:C:37:MET:HG2  | 7        | 0.16          |
| (1,4371) | 1:A:8:PRO:HA    | 1:A:8:PRO:HD3   | 2        | 0.16          |
| (1,4371) | 1:A:8:PRO:HA    | 1:A:8:PRO:HD3   | 19       | 0.16          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB2  | 2        | 0.16          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB3  | 2        | 0.16          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB2  | 2        | 0.16          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB3  | 2        | 0.16          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB2  | 2        | 0.16          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB3  | 2        | 0.16          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:21:VAL:HB   | 2        | 0.16          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:21:VAL:HB   | 2        | 0.16          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:21:VAL:HB   | 2        | 0.16          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB2  | 18       | 0.16          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB3  | 18       | 0.16          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB2  | 18       | 0.16          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB3  | 18       | 0.16          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB2  | 18       | 0.16          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB3  | 18       | 0.16          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:21:VAL:HB   | 18       | 0.16          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:21:VAL:HB   | 18       | 0.16          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:21:VAL:HB   | 18       | 0.16          |
| (1,4087) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 9        | 0.16          |
| (1,4087) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 9        | 0.16          |
| (1,4087) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 9        | 0.16          |
| (1,4087) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 18       | 0.16          |
| (1,4087) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 18       | 0.16          |
| (1,4087) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 18       | 0.16          |
| (1,4035) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 14       | 0.16          |
| (1,4035) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 18       | 0.16          |
| (1,4035) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 19       | 0.16          |
| (1,3984) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 8        | 0.16          |
| (1,398)  | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 8        | 0.16          |
| (1,3325) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG21 | 9        | 0.16          |
| (1,3325) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG22 | 9        | 0.16          |
| (1,3325) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG23 | 9        | 0.16          |
| (1,3207) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 4        | 0.16          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,2980) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 17       | 0.16          |
| (1,2980) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 17       | 0.16          |
| (1,2980) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 17       | 0.16          |
| (1,2921) | 1:A:24:LEU:HD21 | 1:A:24:LEU:HA   | 16       | 0.16          |
| (1,2921) | 1:A:24:LEU:HD22 | 1:A:24:LEU:HA   | 16       | 0.16          |
| (1,2921) | 1:A:24:LEU:HD23 | 1:A:24:LEU:HA   | 16       | 0.16          |
| (1,2773) | 1:A:23:ARG:HB2  | 1:A:28:ILE:HG13 | 13       | 0.16          |
| (1,2640) | 2:C:36:GLN:H    | 2:C:37:MET:HG2  | 7        | 0.16          |
| (1,2578) | 1:A:8:PRO:HA    | 1:A:8:PRO:HD3   | 2        | 0.16          |
| (1,2578) | 1:A:8:PRO:HA    | 1:A:8:PRO:HD3   | 19       | 0.16          |
| (1,2294) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 9        | 0.16          |
| (1,2294) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 9        | 0.16          |
| (1,2294) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 9        | 0.16          |
| (1,2294) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 18       | 0.16          |
| (1,2294) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 18       | 0.16          |
| (1,2294) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 18       | 0.16          |
| (1,2242) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 14       | 0.16          |
| (1,2242) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 18       | 0.16          |
| (1,2242) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 19       | 0.16          |
| (1,2191) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 8        | 0.16          |
| (1,1532) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG21 | 9        | 0.16          |
| (1,1532) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG22 | 9        | 0.16          |
| (1,1532) | 2:C:53:PRO:HD3  | 2:C:52:ILE:HG23 | 9        | 0.16          |
| (1,1414) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 4        | 0.16          |
| (1,1187) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 17       | 0.16          |
| (1,1187) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 17       | 0.16          |
| (1,1187) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 17       | 0.16          |
| (1,1128) | 1:A:24:LEU:HD21 | 1:A:24:LEU:HA   | 16       | 0.16          |
| (1,1128) | 1:A:24:LEU:HD22 | 1:A:24:LEU:HA   | 16       | 0.16          |
| (1,1128) | 1:A:24:LEU:HD23 | 1:A:24:LEU:HA   | 16       | 0.16          |
| (1,86)   | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB2  | 6        | 0.15          |
| (1,86)   | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB3  | 6        | 0.15          |
| (1,86)   | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB2  | 11       | 0.15          |
| (1,86)   | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB3  | 11       | 0.15          |
| (1,833)  | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD1  | 8        | 0.15          |
| (1,833)  | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD2  | 8        | 0.15          |
| (1,6948) | 2:C:57:GLN:HE22 | 2:C:46:ILE:HG13 | 1        | 0.15          |
| (1,6948) | 2:C:57:GLN:HE22 | 2:C:46:ILE:HG13 | 2        | 0.15          |
| (1,6894) | 2:C:54:SER:H    | 2:C:54:SER:HB2  | 11       | 0.15          |
| (1,6874) | 1:A:28:ILE:HA   | 1:A:35:GLY:HA3  | 16       | 0.15          |
| (1,6793) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 7        | 0.15          |
| (1,6566) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 8        | 0.15          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,6566) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 8        | 0.15          |
| (1,6566) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 8        | 0.15          |
| (1,6514) | 2:C:24:LEU:HD11 | 1:A:14:HIS:HB3  | 11       | 0.15          |
| (1,6514) | 2:C:24:LEU:HD12 | 1:A:14:HIS:HB3  | 11       | 0.15          |
| (1,6514) | 2:C:24:LEU:HD13 | 1:A:14:HIS:HB3  | 11       | 0.15          |
| (1,6212) | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD1  | 8        | 0.15          |
| (1,6212) | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD2  | 8        | 0.15          |
| (1,5880) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 3        | 0.15          |
| (1,5880) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 3        | 0.15          |
| (1,5880) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 3        | 0.15          |
| (1,5880) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 13       | 0.15          |
| (1,5880) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 13       | 0.15          |
| (1,5880) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 13       | 0.15          |
| (1,5880) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 15       | 0.15          |
| (1,5880) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 15       | 0.15          |
| (1,5880) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 15       | 0.15          |
| (1,5828) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 2        | 0.15          |
| (1,5828) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 6        | 0.15          |
| (1,5828) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 10       | 0.15          |
| (1,5828) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 12       | 0.15          |
| (1,5772) | 1:A:10:ARG:H    | 1:A:9:GLY:HA3   | 17       | 0.15          |
| (1,5465) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB2  | 6        | 0.15          |
| (1,5465) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB3  | 6        | 0.15          |
| (1,5465) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB2  | 11       | 0.15          |
| (1,5465) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB3  | 11       | 0.15          |
| (1,52)   | 1:A:26:ASP:H    | 1:A:25:PRO:HB2  | 12       | 0.15          |
| (1,52)   | 1:A:26:ASP:H    | 1:A:25:PRO:HB3  | 12       | 0.15          |
| (1,52)   | 1:A:26:ASP:H    | 1:A:26:ASP:HB2  | 12       | 0.15          |
| (1,52)   | 1:A:26:ASP:H    | 1:A:26:ASP:HB3  | 12       | 0.15          |
| (1,5155) | 2:C:57:GLN:HE22 | 2:C:46:ILE:HG13 | 1        | 0.15          |
| (1,5155) | 2:C:57:GLN:HE22 | 2:C:46:ILE:HG13 | 2        | 0.15          |
| (1,5101) | 2:C:54:SER:H    | 2:C:54:SER:HB2  | 11       | 0.15          |
| (1,5081) | 1:A:28:ILE:HA   | 1:A:35:GLY:HA3  | 16       | 0.15          |
| (1,501)  | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 3        | 0.15          |
| (1,501)  | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 3        | 0.15          |
| (1,501)  | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 3        | 0.15          |
| (1,501)  | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 13       | 0.15          |
| (1,501)  | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 13       | 0.15          |
| (1,501)  | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 13       | 0.15          |
| (1,501)  | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 15       | 0.15          |
| (1,501)  | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 15       | 0.15          |
| (1,501)  | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 15       | 0.15          |

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| Key      | Atom-1          | Atom-2         | Model ID | Violation (Å) |
|----------|-----------------|----------------|----------|---------------|
| (1,5000) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2 | 7        | 0.15          |
| (1,4773) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2 | 8        | 0.15          |
| (1,4773) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2 | 8        | 0.15          |
| (1,4773) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2 | 8        | 0.15          |
| (1,4721) | 2:C:24:LEU:HD11 | 1:A:14:HIS:HB3 | 11       | 0.15          |
| (1,4721) | 2:C:24:LEU:HD12 | 1:A:14:HIS:HB3 | 11       | 0.15          |
| (1,4721) | 2:C:24:LEU:HD13 | 1:A:14:HIS:HB3 | 11       | 0.15          |
| (1,449)  | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2 | 2        | 0.15          |
| (1,449)  | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2 | 6        | 0.15          |
| (1,449)  | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2 | 10       | 0.15          |
| (1,449)  | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2 | 12       | 0.15          |
| (1,4419) | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD1 | 8        | 0.15          |
| (1,4419) | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD2 | 8        | 0.15          |
| (1,4087) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3 | 3        | 0.15          |
| (1,4087) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3 | 3        | 0.15          |
| (1,4087) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3 | 3        | 0.15          |
| (1,4087) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3 | 13       | 0.15          |
| (1,4087) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3 | 13       | 0.15          |
| (1,4087) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3 | 13       | 0.15          |
| (1,4087) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3 | 15       | 0.15          |
| (1,4087) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3 | 15       | 0.15          |
| (1,4087) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3 | 15       | 0.15          |
| (1,4035) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2 | 2        | 0.15          |
| (1,4035) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2 | 6        | 0.15          |
| (1,4035) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2 | 10       | 0.15          |
| (1,4035) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2 | 12       | 0.15          |
| (1,3979) | 1:A:10:ARG:H    | 1:A:9:GLY:HA3  | 17       | 0.15          |
| (1,393)  | 1:A:10:ARG:H    | 1:A:9:GLY:HA3  | 17       | 0.15          |
| (1,38)   | 2:C:77:VAL:HG11 | 2:C:75:TYR:HA  | 3        | 0.15          |
| (1,38)   | 2:C:77:VAL:HG12 | 2:C:75:TYR:HA  | 3        | 0.15          |
| (1,38)   | 2:C:77:VAL:HG13 | 2:C:75:TYR:HA  | 3        | 0.15          |
| (1,38)   | 2:C:77:VAL:HG21 | 2:C:75:TYR:HA  | 3        | 0.15          |
| (1,38)   | 2:C:77:VAL:HG22 | 2:C:75:TYR:HA  | 3        | 0.15          |
| (1,38)   | 2:C:77:VAL:HG23 | 2:C:75:TYR:HA  | 3        | 0.15          |
| (1,38)   | 2:C:77:VAL:HG11 | 2:C:76:ASN:HA  | 3        | 0.15          |
| (1,38)   | 2:C:77:VAL:HG12 | 2:C:76:ASN:HA  | 3        | 0.15          |
| (1,38)   | 2:C:77:VAL:HG13 | 2:C:76:ASN:HA  | 3        | 0.15          |
| (1,38)   | 2:C:77:VAL:HG21 | 2:C:76:ASN:HA  | 3        | 0.15          |
| (1,38)   | 2:C:77:VAL:HG22 | 2:C:76:ASN:HA  | 3        | 0.15          |
| (1,38)   | 2:C:77:VAL:HG23 | 2:C:76:ASN:HA  | 3        | 0.15          |
| (1,3672) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB2 | 6        | 0.15          |
| (1,3672) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB3 | 6        | 0.15          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,3672) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB2  | 11       | 0.15          |
| (1,3672) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB3  | 11       | 0.15          |
| (1,3362) | 2:C:57:GLN:HE22 | 2:C:46:ILE:HG13 | 1        | 0.15          |
| (1,3362) | 2:C:57:GLN:HE22 | 2:C:46:ILE:HG13 | 2        | 0.15          |
| (1,3308) | 2:C:54:SER:H    | 2:C:54:SER:HB2  | 11       | 0.15          |
| (1,3288) | 1:A:28:ILE:HA   | 1:A:35:GLY:HA3  | 16       | 0.15          |
| (1,3207) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 7        | 0.15          |
| (1,2980) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 8        | 0.15          |
| (1,2980) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 8        | 0.15          |
| (1,2980) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 8        | 0.15          |
| (1,2928) | 2:C:24:LEU:HD11 | 1:A:14:HIS:HB3  | 11       | 0.15          |
| (1,2928) | 2:C:24:LEU:HD12 | 1:A:14:HIS:HB3  | 11       | 0.15          |
| (1,2928) | 2:C:24:LEU:HD13 | 1:A:14:HIS:HB3  | 11       | 0.15          |
| (1,2626) | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD1  | 8        | 0.15          |
| (1,2626) | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD2  | 8        | 0.15          |
| (1,2294) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 3        | 0.15          |
| (1,2294) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 3        | 0.15          |
| (1,2294) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 3        | 0.15          |
| (1,2294) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 13       | 0.15          |
| (1,2294) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 13       | 0.15          |
| (1,2294) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 13       | 0.15          |
| (1,2294) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 15       | 0.15          |
| (1,2294) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 15       | 0.15          |
| (1,2294) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 15       | 0.15          |
| (1,2242) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 2        | 0.15          |
| (1,2242) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 6        | 0.15          |
| (1,2242) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 10       | 0.15          |
| (1,2242) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 12       | 0.15          |
| (1,2186) | 1:A:10:ARG:H    | 1:A:9:GLY:HA3   | 17       | 0.15          |
| (1,1879) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB2  | 6        | 0.15          |
| (1,1879) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB3  | 6        | 0.15          |
| (1,1879) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB2  | 11       | 0.15          |
| (1,1879) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB3  | 11       | 0.15          |
| (1,1569) | 2:C:57:GLN:HE22 | 2:C:46:ILE:HG13 | 1        | 0.15          |
| (1,1569) | 2:C:57:GLN:HE22 | 2:C:46:ILE:HG13 | 2        | 0.15          |
| (1,1515) | 2:C:54:SER:H    | 2:C:54:SER:HB2  | 11       | 0.15          |
| (1,1495) | 1:A:28:ILE:HA   | 1:A:35:GLY:HA3  | 16       | 0.15          |
| (1,1414) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 7        | 0.15          |
| (1,12)   | 2:C:58:ARG:H    | 2:C:86:GLU:HG2  | 3        | 0.15          |
| (1,12)   | 2:C:58:ARG:H    | 2:C:86:GLU:HG3  | 3        | 0.15          |
| (1,12)   | 2:C:58:ARG:H    | 2:C:56:LYS:HB2  | 3        | 0.15          |
| (1,12)   | 2:C:58:ARG:H    | 2:C:56:LYS:HB3  | 3        | 0.15          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1187) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 8        | 0.15          |
| (1,1187) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 8        | 0.15          |
| (1,1187) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 8        | 0.15          |
| (1,1135) | 2:C:24:LEU:HD11 | 1:A:14:HIS:HB3  | 11       | 0.15          |
| (1,1135) | 2:C:24:LEU:HD12 | 1:A:14:HIS:HB3  | 11       | 0.15          |
| (1,1135) | 2:C:24:LEU:HD13 | 1:A:14:HIS:HB3  | 11       | 0.15          |
| (1,86)   | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB2  | 15       | 0.14          |
| (1,86)   | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB3  | 15       | 0.14          |
| (1,86)   | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB2  | 19       | 0.14          |
| (1,86)   | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB3  | 19       | 0.14          |
| (1,847)  | 2:C:36:GLN:H    | 2:C:37:MET:HG2  | 9        | 0.14          |
| (1,833)  | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD1  | 5        | 0.14          |
| (1,833)  | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD2  | 5        | 0.14          |
| (1,785)  | 1:A:8:PRO:HA    | 1:A:8:PRO:HD3   | 1        | 0.14          |
| (1,734)  | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG2  | 2        | 0.14          |
| (1,734)  | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG3  | 2        | 0.14          |
| (1,7195) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 6        | 0.14          |
| (1,7195) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 6        | 0.14          |
| (1,7195) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 6        | 0.14          |
| (1,7116) | 2:C:49:SER:H    | 2:C:49:SER:HB2  | 9        | 0.14          |
| (1,7073) | 2:C:39:VAL:HB   | 2:C:38:ASN:HB2  | 12       | 0.14          |
| (1,6793) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 1        | 0.14          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 20       | 0.14          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 20       | 0.14          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 20       | 0.14          |
| (1,6226) | 2:C:36:GLN:H    | 2:C:37:MET:HG2  | 9        | 0.14          |
| (1,6212) | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD1  | 5        | 0.14          |
| (1,6212) | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD2  | 5        | 0.14          |
| (1,6164) | 1:A:8:PRO:HA    | 1:A:8:PRO:HD3   | 1        | 0.14          |
| (1,6113) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG2  | 2        | 0.14          |
| (1,6113) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG3  | 2        | 0.14          |
| (1,5880) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 6        | 0.14          |
| (1,5880) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 6        | 0.14          |
| (1,5880) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 6        | 0.14          |
| (1,5880) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 8        | 0.14          |
| (1,5880) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 8        | 0.14          |
| (1,5880) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 8        | 0.14          |
| (1,5880) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 11       | 0.14          |
| (1,5880) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 11       | 0.14          |
| (1,5880) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 11       | 0.14          |
| (1,5828) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 4        | 0.14          |
| (1,5828) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 15       | 0.14          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,5828) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 16       | 0.14          |
| (1,5777) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 7        | 0.14          |
| (1,5777) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 9        | 0.14          |
| (1,5497) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD11 | 15       | 0.14          |
| (1,5497) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD12 | 15       | 0.14          |
| (1,5497) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD13 | 15       | 0.14          |
| (1,5465) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB2  | 15       | 0.14          |
| (1,5465) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB3  | 15       | 0.14          |
| (1,5465) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB2  | 19       | 0.14          |
| (1,5465) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB3  | 19       | 0.14          |
| (1,5402) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 6        | 0.14          |
| (1,5402) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 6        | 0.14          |
| (1,5402) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 6        | 0.14          |
| (1,5323) | 2:C:49:SER:H    | 2:C:49:SER:HB2  | 9        | 0.14          |
| (1,5280) | 2:C:39:VAL:HB   | 2:C:38:ASN:HB2  | 12       | 0.14          |
| (1,501)  | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 6        | 0.14          |
| (1,501)  | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 6        | 0.14          |
| (1,501)  | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 6        | 0.14          |
| (1,501)  | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 8        | 0.14          |
| (1,501)  | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 8        | 0.14          |
| (1,501)  | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 8        | 0.14          |
| (1,501)  | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 11       | 0.14          |
| (1,501)  | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 11       | 0.14          |
| (1,501)  | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 11       | 0.14          |
| (1,5000) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 1        | 0.14          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 20       | 0.14          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 20       | 0.14          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 20       | 0.14          |
| (1,449)  | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 4        | 0.14          |
| (1,449)  | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 15       | 0.14          |
| (1,449)  | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 16       | 0.14          |
| (1,4433) | 2:C:36:GLN:H    | 2:C:37:MET:HG2  | 9        | 0.14          |
| (1,4419) | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD1  | 5        | 0.14          |
| (1,4419) | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD2  | 5        | 0.14          |
| (1,4371) | 1:A:8:PRO:HA    | 1:A:8:PRO:HD3   | 1        | 0.14          |
| (1,4320) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG2  | 2        | 0.14          |
| (1,4320) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG3  | 2        | 0.14          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB2  | 4        | 0.14          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB3  | 4        | 0.14          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB2  | 4        | 0.14          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB3  | 4        | 0.14          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB2  | 4        | 0.14          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB3  | 4        | 0.14          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:21:VAL:HB   | 4        | 0.14          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:21:VAL:HB   | 4        | 0.14          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:21:VAL:HB   | 4        | 0.14          |
| (1,4087) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 6        | 0.14          |
| (1,4087) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 6        | 0.14          |
| (1,4087) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 6        | 0.14          |
| (1,4087) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 8        | 0.14          |
| (1,4087) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 8        | 0.14          |
| (1,4087) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 8        | 0.14          |
| (1,4087) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 11       | 0.14          |
| (1,4087) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 11       | 0.14          |
| (1,4087) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 11       | 0.14          |
| (1,4035) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 4        | 0.14          |
| (1,4035) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 15       | 0.14          |
| (1,4035) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 16       | 0.14          |
| (1,3984) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 7        | 0.14          |
| (1,3984) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 9        | 0.14          |
| (1,398)  | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 7        | 0.14          |
| (1,398)  | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 9        | 0.14          |
| (1,3704) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD11 | 15       | 0.14          |
| (1,3704) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD12 | 15       | 0.14          |
| (1,3704) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD13 | 15       | 0.14          |
| (1,3672) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB2  | 15       | 0.14          |
| (1,3672) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB3  | 15       | 0.14          |
| (1,3672) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB2  | 19       | 0.14          |
| (1,3672) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB3  | 19       | 0.14          |
| (1,3609) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 6        | 0.14          |
| (1,3609) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 6        | 0.14          |
| (1,3609) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 6        | 0.14          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:68:ASP:HA   | 2        | 0.14          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:42:PHE:HA   | 2        | 0.14          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:68:ASP:HA   | 15       | 0.14          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:42:PHE:HA   | 15       | 0.14          |
| (1,3530) | 2:C:49:SER:H    | 2:C:49:SER:HB2  | 9        | 0.14          |
| (1,3487) | 2:C:39:VAL:HB   | 2:C:38:ASN:HB2  | 12       | 0.14          |
| (1,3207) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 1        | 0.14          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 20       | 0.14          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 20       | 0.14          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 20       | 0.14          |
| (1,2640) | 2:C:36:GLN:H    | 2:C:37:MET:HG2  | 9        | 0.14          |
| (1,2626) | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD1  | 5        | 0.14          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,2626) | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD2  | 5        | 0.14          |
| (1,2578) | 1:A:8:PRO:HA    | 1:A:8:PRO:HD3   | 1        | 0.14          |
| (1,2527) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG2  | 2        | 0.14          |
| (1,2527) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG3  | 2        | 0.14          |
| (1,2294) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 6        | 0.14          |
| (1,2294) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 6        | 0.14          |
| (1,2294) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 6        | 0.14          |
| (1,2294) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 8        | 0.14          |
| (1,2294) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 8        | 0.14          |
| (1,2294) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 8        | 0.14          |
| (1,2294) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 11       | 0.14          |
| (1,2294) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 11       | 0.14          |
| (1,2294) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 11       | 0.14          |
| (1,2242) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 4        | 0.14          |
| (1,2242) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 15       | 0.14          |
| (1,2242) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 16       | 0.14          |
| (1,2191) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 7        | 0.14          |
| (1,2191) | 1:A:20:ILE:HG13 | 1:A:29:CYS:HA   | 9        | 0.14          |
| (1,1911) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD11 | 15       | 0.14          |
| (1,1911) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD12 | 15       | 0.14          |
| (1,1911) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD13 | 15       | 0.14          |
| (1,1879) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB2  | 15       | 0.14          |
| (1,1879) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB3  | 15       | 0.14          |
| (1,1879) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB2  | 19       | 0.14          |
| (1,1879) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HB3  | 19       | 0.14          |
| (1,1816) | 2:C:19:VAL:HG21 | 2:C:31:PHE:HB3  | 6        | 0.14          |
| (1,1816) | 2:C:19:VAL:HG22 | 2:C:31:PHE:HB3  | 6        | 0.14          |
| (1,1816) | 2:C:19:VAL:HG23 | 2:C:31:PHE:HB3  | 6        | 0.14          |
| (1,1737) | 2:C:49:SER:H    | 2:C:49:SER:HB2  | 9        | 0.14          |
| (1,1694) | 2:C:39:VAL:HB   | 2:C:38:ASN:HB2  | 12       | 0.14          |
| (1,1414) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 1        | 0.14          |
| (1,118)  | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD11 | 15       | 0.14          |
| (1,118)  | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD12 | 15       | 0.14          |
| (1,118)  | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD13 | 15       | 0.14          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 20       | 0.14          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 20       | 0.14          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 20       | 0.14          |
| (1,959)  | 2:C:96:SER:H    | 2:C:95:PRO:HB3  | 3        | 0.13          |
| (1,927)  | 1:A:19:GLU:HG2  | 1:A:10:ARG:HA   | 15       | 0.13          |
| (1,919)  | 2:C:59:LEU:HB2  | 2:C:59:LEU:HD11 | 5        | 0.13          |
| (1,919)  | 2:C:59:LEU:HB2  | 2:C:59:LEU:HD12 | 5        | 0.13          |
| (1,919)  | 2:C:59:LEU:HB2  | 2:C:59:LEU:HD13 | 5        | 0.13          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,833)  | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD1  | 14       | 0.13          |
| (1,833)  | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD2  | 14       | 0.13          |
| (1,7038) | 1:A:16:CYS:H    | 1:A:15:CYS:HB3  | 18       | 0.13          |
| (1,6793) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 11       | 0.13          |
| (1,6652) | 2:C:18:GLU:H    | 2:C:17:LEU:HB2  | 8        | 0.13          |
| (1,6576) | 1:A:24:LEU:HA   | 1:A:24:LEU:HD11 | 16       | 0.13          |
| (1,6576) | 1:A:24:LEU:HA   | 1:A:24:LEU:HD12 | 16       | 0.13          |
| (1,6576) | 1:A:24:LEU:HA   | 1:A:24:LEU:HD13 | 16       | 0.13          |
| (1,6566) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 11       | 0.13          |
| (1,6566) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 11       | 0.13          |
| (1,6566) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 11       | 0.13          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 9        | 0.13          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 9        | 0.13          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 9        | 0.13          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 17       | 0.13          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 17       | 0.13          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 17       | 0.13          |
| (1,6403) | 1:A:15:CYS:HA   | 1:A:15:CYS:HB2  | 14       | 0.13          |
| (1,6398) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 14       | 0.13          |
| (1,6398) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 14       | 0.13          |
| (1,6398) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 14       | 0.13          |
| (1,6338) | 2:C:96:SER:H    | 2:C:95:PRO:HB3  | 3        | 0.13          |
| (1,6306) | 1:A:19:GLU:HG2  | 1:A:10:ARG:HA   | 15       | 0.13          |
| (1,6298) | 2:C:59:LEU:HB2  | 2:C:59:LEU:HD11 | 5        | 0.13          |
| (1,6298) | 2:C:59:LEU:HB2  | 2:C:59:LEU:HD12 | 5        | 0.13          |
| (1,6298) | 2:C:59:LEU:HB2  | 2:C:59:LEU:HD13 | 5        | 0.13          |
| (1,6212) | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD1  | 14       | 0.13          |
| (1,6212) | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD2  | 14       | 0.13          |
| (1,5905) | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 13       | 0.13          |
| (1,5880) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 1        | 0.13          |
| (1,5880) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 1        | 0.13          |
| (1,5880) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 1        | 0.13          |
| (1,5828) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 20       | 0.13          |
| (1,5497) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD11 | 4        | 0.13          |
| (1,5497) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD12 | 4        | 0.13          |
| (1,5497) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD13 | 4        | 0.13          |
| (1,526)  | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 13       | 0.13          |
| (1,5245) | 1:A:16:CYS:H    | 1:A:15:CYS:HB3  | 18       | 0.13          |
| (1,501)  | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 1        | 0.13          |
| (1,501)  | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 1        | 0.13          |
| (1,501)  | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 1        | 0.13          |
| (1,5000) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 11       | 0.13          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,4859) | 2:C:18:GLU:H    | 2:C:17:LEU:HB2  | 8        | 0.13          |
| (1,4783) | 1:A:24:LEU:HA   | 1:A:24:LEU:HD11 | 16       | 0.13          |
| (1,4783) | 1:A:24:LEU:HA   | 1:A:24:LEU:HD12 | 16       | 0.13          |
| (1,4783) | 1:A:24:LEU:HA   | 1:A:24:LEU:HD13 | 16       | 0.13          |
| (1,4773) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 11       | 0.13          |
| (1,4773) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 11       | 0.13          |
| (1,4773) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 11       | 0.13          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 9        | 0.13          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 9        | 0.13          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 9        | 0.13          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 17       | 0.13          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 17       | 0.13          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 17       | 0.13          |
| (1,4610) | 1:A:15:CYS:HA   | 1:A:15:CYS:HB2  | 14       | 0.13          |
| (1,4605) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 14       | 0.13          |
| (1,4605) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 14       | 0.13          |
| (1,4605) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 14       | 0.13          |
| (1,4545) | 2:C:96:SER:H    | 2:C:95:PRO:HB3  | 3        | 0.13          |
| (1,4513) | 1:A:19:GLU:HG2  | 1:A:10:ARG:HA   | 15       | 0.13          |
| (1,4505) | 2:C:59:LEU:HB2  | 2:C:59:LEU:HD11 | 5        | 0.13          |
| (1,4505) | 2:C:59:LEU:HB2  | 2:C:59:LEU:HD12 | 5        | 0.13          |
| (1,4505) | 2:C:59:LEU:HB2  | 2:C:59:LEU:HD13 | 5        | 0.13          |
| (1,449)  | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 20       | 0.13          |
| (1,4419) | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD1  | 14       | 0.13          |
| (1,4419) | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD2  | 14       | 0.13          |
| (1,4112) | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 13       | 0.13          |
| (1,4087) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 1        | 0.13          |
| (1,4087) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 1        | 0.13          |
| (1,4087) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 1        | 0.13          |
| (1,4035) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 20       | 0.13          |
| (1,3704) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD11 | 4        | 0.13          |
| (1,3704) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD12 | 4        | 0.13          |
| (1,3704) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD13 | 4        | 0.13          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:68:ASP:HA   | 4        | 0.13          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:42:PHE:HA   | 4        | 0.13          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:68:ASP:HA   | 8        | 0.13          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:42:PHE:HA   | 8        | 0.13          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:68:ASP:HA   | 10       | 0.13          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:42:PHE:HA   | 10       | 0.13          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:68:ASP:HA   | 13       | 0.13          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:42:PHE:HA   | 13       | 0.13          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:68:ASP:HA   | 17       | 0.13          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,36)   | 2:C:39:VAL:HA   | 2:C:42:PHE:HA   | 17       | 0.13          |
| (1,3452) | 1:A:16:CYS:H    | 1:A:15:CYS:HB3  | 18       | 0.13          |
| (1,3207) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 11       | 0.13          |
| (1,3066) | 2:C:18:GLU:H    | 2:C:17:LEU:HB2  | 8        | 0.13          |
| (1,2990) | 1:A:24:LEU:HA   | 1:A:24:LEU:HD11 | 16       | 0.13          |
| (1,2990) | 1:A:24:LEU:HA   | 1:A:24:LEU:HD12 | 16       | 0.13          |
| (1,2990) | 1:A:24:LEU:HA   | 1:A:24:LEU:HD13 | 16       | 0.13          |
| (1,2980) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 11       | 0.13          |
| (1,2980) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 11       | 0.13          |
| (1,2980) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 11       | 0.13          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 9        | 0.13          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 9        | 0.13          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 9        | 0.13          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 17       | 0.13          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 17       | 0.13          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 17       | 0.13          |
| (1,2817) | 1:A:15:CYS:HA   | 1:A:15:CYS:HB2  | 14       | 0.13          |
| (1,2812) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 14       | 0.13          |
| (1,2812) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 14       | 0.13          |
| (1,2812) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 14       | 0.13          |
| (1,2752) | 2:C:96:SER:H    | 2:C:95:PRO:HB3  | 3        | 0.13          |
| (1,2720) | 1:A:19:GLU:HG2  | 1:A:10:ARG:HA   | 15       | 0.13          |
| (1,2712) | 2:C:59:LEU:HB2  | 2:C:59:LEU:HD11 | 5        | 0.13          |
| (1,2712) | 2:C:59:LEU:HB2  | 2:C:59:LEU:HD12 | 5        | 0.13          |
| (1,2712) | 2:C:59:LEU:HB2  | 2:C:59:LEU:HD13 | 5        | 0.13          |
| (1,2626) | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD1  | 14       | 0.13          |
| (1,2626) | 1:A:37:ILE:HG12 | 1:A:11:TYR:HD2  | 14       | 0.13          |
| (1,24)   | 2:C:91:GLN:H    | 2:C:91:GLN:HA   | 7        | 0.13          |
| (1,24)   | 2:C:91:GLN:H    | 2:C:90:PRO:HA   | 7        | 0.13          |
| (1,2319) | 2:C:46:ILE:H    | 2:C:46:ILE:HG13 | 13       | 0.13          |
| (1,2294) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 1        | 0.13          |
| (1,2294) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 1        | 0.13          |
| (1,2294) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 1        | 0.13          |
| (1,2242) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 20       | 0.13          |
| (1,1911) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD11 | 4        | 0.13          |
| (1,1911) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD12 | 4        | 0.13          |
| (1,1911) | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD13 | 4        | 0.13          |
| (1,1659) | 1:A:16:CYS:H    | 1:A:15:CYS:HB3  | 18       | 0.13          |
| (1,1414) | 2:C:70:LYS:H    | 2:C:69:ASP:HB2  | 11       | 0.13          |
| (1,1273) | 2:C:18:GLU:H    | 2:C:17:LEU:HB2  | 8        | 0.13          |
| (1,1197) | 1:A:24:LEU:HA   | 1:A:24:LEU:HD11 | 16       | 0.13          |
| (1,1197) | 1:A:24:LEU:HA   | 1:A:24:LEU:HD12 | 16       | 0.13          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1197) | 1:A:24:LEU:HA   | 1:A:24:LEU:HD13 | 16       | 0.13          |
| (1,1187) | 2:C:59:LEU:HD21 | 2:C:59:LEU:HB2  | 11       | 0.13          |
| (1,1187) | 2:C:59:LEU:HD22 | 2:C:59:LEU:HB2  | 11       | 0.13          |
| (1,1187) | 2:C:59:LEU:HD23 | 2:C:59:LEU:HB2  | 11       | 0.13          |
| (1,118)  | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD11 | 4        | 0.13          |
| (1,118)  | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD12 | 4        | 0.13          |
| (1,118)  | 1:A:38:GLU:HB2  | 2:C:60:ILE:HD13 | 4        | 0.13          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 9        | 0.13          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 9        | 0.13          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 9        | 0.13          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 17       | 0.13          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 17       | 0.13          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 17       | 0.13          |
| (1,1024) | 1:A:15:CYS:HA   | 1:A:15:CYS:HB2  | 14       | 0.13          |
| (1,1019) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 14       | 0.13          |
| (1,1019) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 14       | 0.13          |
| (1,1019) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 14       | 0.13          |
| (1,734)  | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG2  | 1        | 0.12          |
| (1,734)  | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG3  | 1        | 0.12          |
| (1,7168) | 2:C:30:THR:H    | 2:C:29:ARG:HB2  | 9        | 0.12          |
| (1,7168) | 2:C:30:THR:H    | 2:C:29:ARG:HB2  | 13       | 0.12          |
| (1,7155) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2  | 1        | 0.12          |
| (1,7155) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2  | 6        | 0.12          |
| (1,7155) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2  | 14       | 0.12          |
| (1,7155) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2  | 18       | 0.12          |
| (1,7155) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2  | 19       | 0.12          |
| (1,7114) | 2:C:45:HIS:H    | 2:C:45:HIS:HB3  | 12       | 0.12          |
| (1,7073) | 2:C:39:VAL:HB   | 2:C:38:ASN:HB2  | 16       | 0.12          |
| (1,6786) | 2:C:42:PHE:H    | 2:C:41:GLU:HB3  | 1        | 0.12          |
| (1,6786) | 2:C:42:PHE:H    | 2:C:41:GLU:HB3  | 2        | 0.12          |
| (1,6786) | 2:C:42:PHE:H    | 2:C:41:GLU:HB3  | 3        | 0.12          |
| (1,6786) | 2:C:42:PHE:H    | 2:C:41:GLU:HB3  | 5        | 0.12          |
| (1,6786) | 2:C:42:PHE:H    | 2:C:41:GLU:HB3  | 6        | 0.12          |
| (1,6786) | 2:C:42:PHE:H    | 2:C:41:GLU:HB3  | 9        | 0.12          |
| (1,6786) | 2:C:42:PHE:H    | 2:C:41:GLU:HB3  | 10       | 0.12          |
| (1,6652) | 2:C:18:GLU:H    | 2:C:17:LEU:HB2  | 1        | 0.12          |
| (1,6652) | 2:C:18:GLU:H    | 2:C:17:LEU:HB2  | 9        | 0.12          |
| (1,6652) | 2:C:18:GLU:H    | 2:C:17:LEU:HB2  | 19       | 0.12          |
| (1,6613) | 2:C:27:GLN:HG3  | 2:C:27:GLN:HA   | 16       | 0.12          |
| (1,6570) | 1:A:15:CYS:HB2  | 1:A:36:PHE:HD1  | 13       | 0.12          |
| (1,6570) | 1:A:15:CYS:HB2  | 1:A:36:PHE:HD2  | 13       | 0.12          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 5        | 0.12          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 5        | 0.12          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 5        | 0.12          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 10       | 0.12          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 10       | 0.12          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 10       | 0.12          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 14       | 0.12          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 14       | 0.12          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 14       | 0.12          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 16       | 0.12          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 16       | 0.12          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 16       | 0.12          |
| (1,6412) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 2        | 0.12          |
| (1,6412) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 6        | 0.12          |
| (1,6412) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 11       | 0.12          |
| (1,6412) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 16       | 0.12          |
| (1,6412) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 19       | 0.12          |
| (1,6412) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 20       | 0.12          |
| (1,6398) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 5        | 0.12          |
| (1,6398) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 5        | 0.12          |
| (1,6398) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 5        | 0.12          |
| (1,6398) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 10       | 0.12          |
| (1,6398) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 10       | 0.12          |
| (1,6398) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 10       | 0.12          |
| (1,6398) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 13       | 0.12          |
| (1,6398) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 13       | 0.12          |
| (1,6398) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 13       | 0.12          |
| (1,6398) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 18       | 0.12          |
| (1,6398) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 18       | 0.12          |
| (1,6398) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 18       | 0.12          |
| (1,6398) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 19       | 0.12          |
| (1,6398) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 19       | 0.12          |
| (1,6398) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 19       | 0.12          |
| (1,6398) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 20       | 0.12          |
| (1,6398) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 20       | 0.12          |
| (1,6398) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 20       | 0.12          |
| (1,6113) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG2  | 1        | 0.12          |
| (1,6113) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG3  | 1        | 0.12          |
| (1,5945) | 1:A:22:PRO:HD3  | 1:A:11:TYR:HB2  | 5        | 0.12          |
| (1,5880) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 20       | 0.12          |
| (1,5880) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 20       | 0.12          |
| (1,5880) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 20       | 0.12          |
| (1,5772) | 1:A:10:ARG:H    | 1:A:9:GLY:HA3   | 11       | 0.12          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,566)  | 1:A:22:PRO:HD3  | 1:A:11:TYR:HB2  | 5        | 0.12          |
| (1,5490) | 1:A:28:ILE:HG13 | 1:A:28:ILE:HA   | 15       | 0.12          |
| (1,5375) | 2:C:30:THR:H    | 2:C:29:ARG:HB2  | 9        | 0.12          |
| (1,5375) | 2:C:30:THR:H    | 2:C:29:ARG:HB2  | 13       | 0.12          |
| (1,5362) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2  | 1        | 0.12          |
| (1,5362) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2  | 6        | 0.12          |
| (1,5362) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2  | 14       | 0.12          |
| (1,5362) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2  | 18       | 0.12          |
| (1,5362) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2  | 19       | 0.12          |
| (1,5321) | 2:C:45:HIS:H    | 2:C:45:HIS:HB3  | 12       | 0.12          |
| (1,5280) | 2:C:39:VAL:HB   | 2:C:38:ASN:HB2  | 16       | 0.12          |
| (1,501)  | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3  | 20       | 0.12          |
| (1,501)  | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3  | 20       | 0.12          |
| (1,501)  | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3  | 20       | 0.12          |
| (1,4993) | 2:C:42:PHE:H    | 2:C:41:GLU:HB3  | 1        | 0.12          |
| (1,4993) | 2:C:42:PHE:H    | 2:C:41:GLU:HB3  | 2        | 0.12          |
| (1,4993) | 2:C:42:PHE:H    | 2:C:41:GLU:HB3  | 3        | 0.12          |
| (1,4993) | 2:C:42:PHE:H    | 2:C:41:GLU:HB3  | 5        | 0.12          |
| (1,4993) | 2:C:42:PHE:H    | 2:C:41:GLU:HB3  | 6        | 0.12          |
| (1,4993) | 2:C:42:PHE:H    | 2:C:41:GLU:HB3  | 9        | 0.12          |
| (1,4993) | 2:C:42:PHE:H    | 2:C:41:GLU:HB3  | 10       | 0.12          |
| (1,4859) | 2:C:18:GLU:H    | 2:C:17:LEU:HB2  | 1        | 0.12          |
| (1,4859) | 2:C:18:GLU:H    | 2:C:17:LEU:HB2  | 9        | 0.12          |
| (1,4859) | 2:C:18:GLU:H    | 2:C:17:LEU:HB2  | 19       | 0.12          |
| (1,4820) | 2:C:27:GLN:HG3  | 2:C:27:GLN:HA   | 16       | 0.12          |
| (1,4777) | 1:A:15:CYS:HB2  | 1:A:36:PHE:HD1  | 13       | 0.12          |
| (1,4777) | 1:A:15:CYS:HB2  | 1:A:36:PHE:HD2  | 13       | 0.12          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 5        | 0.12          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 5        | 0.12          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 5        | 0.12          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 10       | 0.12          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 10       | 0.12          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 10       | 0.12          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 14       | 0.12          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 14       | 0.12          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 14       | 0.12          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 16       | 0.12          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 16       | 0.12          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 16       | 0.12          |
| (1,4619) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 2        | 0.12          |
| (1,4619) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 6        | 0.12          |
| (1,4619) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 11       | 0.12          |

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| Key      | Atom-1          | Atom-2         | Model ID | Violation (Å) |
|----------|-----------------|----------------|----------|---------------|
| (1,4619) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2 | 16       | 0.12          |
| (1,4619) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2 | 19       | 0.12          |
| (1,4619) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2 | 20       | 0.12          |
| (1,4605) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2 | 5        | 0.12          |
| (1,4605) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2 | 5        | 0.12          |
| (1,4605) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2 | 5        | 0.12          |
| (1,4605) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2 | 10       | 0.12          |
| (1,4605) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2 | 10       | 0.12          |
| (1,4605) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2 | 10       | 0.12          |
| (1,4605) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2 | 13       | 0.12          |
| (1,4605) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2 | 13       | 0.12          |
| (1,4605) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2 | 13       | 0.12          |
| (1,4605) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2 | 18       | 0.12          |
| (1,4605) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2 | 18       | 0.12          |
| (1,4605) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2 | 18       | 0.12          |
| (1,4605) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2 | 19       | 0.12          |
| (1,4605) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2 | 19       | 0.12          |
| (1,4605) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2 | 19       | 0.12          |
| (1,4605) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2 | 20       | 0.12          |
| (1,4605) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2 | 20       | 0.12          |
| (1,4605) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2 | 20       | 0.12          |
| (1,4320) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG2 | 1        | 0.12          |
| (1,4320) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG3 | 1        | 0.12          |
| (1,4152) | 1:A:22:PRO:HD3  | 1:A:11:TYR:HB2 | 5        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB2 | 1        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB3 | 1        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB2 | 1        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB3 | 1        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB2 | 1        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB3 | 1        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:21:VAL:HB  | 1        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:21:VAL:HB  | 1        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:21:VAL:HB  | 1        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB2 | 3        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB3 | 3        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB2 | 3        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB3 | 3        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB2 | 3        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB3 | 3        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:21:VAL:HB  | 3        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:21:VAL:HB  | 3        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:21:VAL:HB  | 3        | 0.12          |

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| Key      | Atom-1          | Atom-2         | Model ID | Violation (Å) |
|----------|-----------------|----------------|----------|---------------|
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB2 | 5        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB3 | 5        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB2 | 5        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB3 | 5        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB2 | 5        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB3 | 5        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:21:VAL:HB  | 5        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:21:VAL:HB  | 5        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:21:VAL:HB  | 5        | 0.12          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB2 | 12       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB3 | 12       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB2 | 12       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB3 | 12       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB2 | 12       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB3 | 12       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:21:VAL:HB  | 12       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:21:VAL:HB  | 12       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:21:VAL:HB  | 12       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB2 | 14       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB3 | 14       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB2 | 14       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB3 | 14       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB2 | 14       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB3 | 14       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:21:VAL:HB  | 14       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:21:VAL:HB  | 14       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:21:VAL:HB  | 14       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB2 | 17       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB3 | 17       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB2 | 17       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB3 | 17       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB2 | 17       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB3 | 17       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:21:VAL:HB  | 17       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:21:VAL:HB  | 17       | 0.12          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:21:VAL:HB  | 17       | 0.12          |
| (1,4087) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3 | 20       | 0.12          |
| (1,4087) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3 | 20       | 0.12          |
| (1,4087) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3 | 20       | 0.12          |
| (1,3979) | 1:A:10:ARG:H    | 1:A:9:GLY:HA3  | 11       | 0.12          |
| (1,393)  | 1:A:10:ARG:H    | 1:A:9:GLY:HA3  | 11       | 0.12          |
| (1,3697) | 1:A:28:ILE:HG13 | 1:A:28:ILE:HA  | 15       | 0.12          |

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| Key      | Atom-1         | Atom-2          | Model ID | Violation (Å) |
|----------|----------------|-----------------|----------|---------------|
| (1,36)   | 2:C:39:VAL:HA  | 2:C:68:ASP:HA   | 11       | 0.12          |
| (1,36)   | 2:C:39:VAL:HA  | 2:C:42:PHE:HA   | 11       | 0.12          |
| (1,3582) | 2:C:30:THR:H   | 2:C:29:ARG:HB2  | 9        | 0.12          |
| (1,3582) | 2:C:30:THR:H   | 2:C:29:ARG:HB2  | 13       | 0.12          |
| (1,3569) | 1:A:25:PRO:HA  | 1:A:25:PRO:HD2  | 1        | 0.12          |
| (1,3569) | 1:A:25:PRO:HA  | 1:A:25:PRO:HD2  | 6        | 0.12          |
| (1,3569) | 1:A:25:PRO:HA  | 1:A:25:PRO:HD2  | 14       | 0.12          |
| (1,3569) | 1:A:25:PRO:HA  | 1:A:25:PRO:HD2  | 18       | 0.12          |
| (1,3569) | 1:A:25:PRO:HA  | 1:A:25:PRO:HD2  | 19       | 0.12          |
| (1,3528) | 2:C:45:HIS:H   | 2:C:45:HIS:HB3  | 12       | 0.12          |
| (1,3487) | 2:C:39:VAL:HB  | 2:C:38:ASN:HB2  | 16       | 0.12          |
| (1,3200) | 2:C:42:PHE:H   | 2:C:41:GLU:HB3  | 1        | 0.12          |
| (1,3200) | 2:C:42:PHE:H   | 2:C:41:GLU:HB3  | 2        | 0.12          |
| (1,3200) | 2:C:42:PHE:H   | 2:C:41:GLU:HB3  | 3        | 0.12          |
| (1,3200) | 2:C:42:PHE:H   | 2:C:41:GLU:HB3  | 5        | 0.12          |
| (1,3200) | 2:C:42:PHE:H   | 2:C:41:GLU:HB3  | 6        | 0.12          |
| (1,3200) | 2:C:42:PHE:H   | 2:C:41:GLU:HB3  | 9        | 0.12          |
| (1,3200) | 2:C:42:PHE:H   | 2:C:41:GLU:HB3  | 10       | 0.12          |
| (1,3066) | 2:C:18:GLU:H   | 2:C:17:LEU:HB2  | 1        | 0.12          |
| (1,3066) | 2:C:18:GLU:H   | 2:C:17:LEU:HB2  | 9        | 0.12          |
| (1,3066) | 2:C:18:GLU:H   | 2:C:17:LEU:HB2  | 19       | 0.12          |
| (1,3027) | 2:C:27:GLN:HG3 | 2:C:27:GLN:HA   | 16       | 0.12          |
| (1,2984) | 1:A:15:CYS:HB2 | 1:A:36:PHE:HD1  | 13       | 0.12          |
| (1,2984) | 1:A:15:CYS:HB2 | 1:A:36:PHE:HD2  | 13       | 0.12          |
| (1,2971) | 2:C:39:VAL:HA  | 2:C:39:VAL:HG11 | 5        | 0.12          |
| (1,2971) | 2:C:39:VAL:HA  | 2:C:39:VAL:HG12 | 5        | 0.12          |
| (1,2971) | 2:C:39:VAL:HA  | 2:C:39:VAL:HG13 | 5        | 0.12          |
| (1,2971) | 2:C:39:VAL:HA  | 2:C:39:VAL:HG11 | 10       | 0.12          |
| (1,2971) | 2:C:39:VAL:HA  | 2:C:39:VAL:HG12 | 10       | 0.12          |
| (1,2971) | 2:C:39:VAL:HA  | 2:C:39:VAL:HG13 | 10       | 0.12          |
| (1,2971) | 2:C:39:VAL:HA  | 2:C:39:VAL:HG11 | 14       | 0.12          |
| (1,2971) | 2:C:39:VAL:HA  | 2:C:39:VAL:HG12 | 14       | 0.12          |
| (1,2971) | 2:C:39:VAL:HA  | 2:C:39:VAL:HG13 | 14       | 0.12          |
| (1,2971) | 2:C:39:VAL:HA  | 2:C:39:VAL:HG11 | 16       | 0.12          |
| (1,2971) | 2:C:39:VAL:HA  | 2:C:39:VAL:HG12 | 16       | 0.12          |
| (1,2971) | 2:C:39:VAL:HA  | 2:C:39:VAL:HG13 | 16       | 0.12          |
| (1,2826) | 1:A:39:GLU:HB2 | 1:A:39:GLU:HG2  | 2        | 0.12          |
| (1,2826) | 1:A:39:GLU:HB2 | 1:A:39:GLU:HG2  | 6        | 0.12          |
| (1,2826) | 1:A:39:GLU:HB2 | 1:A:39:GLU:HG2  | 11       | 0.12          |
| (1,2826) | 1:A:39:GLU:HB2 | 1:A:39:GLU:HG2  | 16       | 0.12          |
| (1,2826) | 1:A:39:GLU:HB2 | 1:A:39:GLU:HG2  | 19       | 0.12          |
| (1,2826) | 1:A:39:GLU:HB2 | 1:A:39:GLU:HG2  | 20       | 0.12          |

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| Key      | Atom-1          | Atom-2         | Model ID | Violation (Å) |
|----------|-----------------|----------------|----------|---------------|
| (1,2812) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2 | 5        | 0.12          |
| (1,2812) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2 | 5        | 0.12          |
| (1,2812) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2 | 5        | 0.12          |
| (1,2812) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2 | 10       | 0.12          |
| (1,2812) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2 | 10       | 0.12          |
| (1,2812) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2 | 10       | 0.12          |
| (1,2812) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2 | 13       | 0.12          |
| (1,2812) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2 | 13       | 0.12          |
| (1,2812) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2 | 13       | 0.12          |
| (1,2812) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2 | 18       | 0.12          |
| (1,2812) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2 | 18       | 0.12          |
| (1,2812) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2 | 18       | 0.12          |
| (1,2812) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2 | 19       | 0.12          |
| (1,2812) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2 | 19       | 0.12          |
| (1,2812) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2 | 19       | 0.12          |
| (1,2812) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2 | 20       | 0.12          |
| (1,2812) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2 | 20       | 0.12          |
| (1,2812) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2 | 20       | 0.12          |
| (1,2527) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG2 | 1        | 0.12          |
| (1,2527) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG3 | 1        | 0.12          |
| (1,24)   | 2:C:91:GLN:H    | 2:C:91:GLN:HA  | 14       | 0.12          |
| (1,24)   | 2:C:91:GLN:H    | 2:C:90:PRO:HA  | 14       | 0.12          |
| (1,2359) | 1:A:22:PRO:HD3  | 1:A:11:TYR:HB2 | 5        | 0.12          |
| (1,2294) | 2:C:24:LEU:HD21 | 2:C:24:LEU:HB3 | 20       | 0.12          |
| (1,2294) | 2:C:24:LEU:HD22 | 2:C:24:LEU:HB3 | 20       | 0.12          |
| (1,2294) | 2:C:24:LEU:HD23 | 2:C:24:LEU:HB3 | 20       | 0.12          |
| (1,2186) | 1:A:10:ARG:H    | 1:A:9:GLY:HA3  | 11       | 0.12          |
| (1,1904) | 1:A:28:ILE:HG13 | 1:A:28:ILE:HA  | 15       | 0.12          |
| (1,1789) | 2:C:30:THR:H    | 2:C:29:ARG:HB2 | 9        | 0.12          |
| (1,1789) | 2:C:30:THR:H    | 2:C:29:ARG:HB2 | 13       | 0.12          |
| (1,1776) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2 | 1        | 0.12          |
| (1,1776) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2 | 6        | 0.12          |
| (1,1776) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2 | 14       | 0.12          |
| (1,1776) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2 | 18       | 0.12          |
| (1,1776) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2 | 19       | 0.12          |
| (1,1735) | 2:C:45:HIS:H    | 2:C:45:HIS:HB3 | 12       | 0.12          |
| (1,1694) | 2:C:39:VAL:HB   | 2:C:38:ASN:HB2 | 16       | 0.12          |
| (1,1407) | 2:C:42:PHE:H    | 2:C:41:GLU:HB3 | 1        | 0.12          |
| (1,1407) | 2:C:42:PHE:H    | 2:C:41:GLU:HB3 | 2        | 0.12          |
| (1,1407) | 2:C:42:PHE:H    | 2:C:41:GLU:HB3 | 3        | 0.12          |
| (1,1407) | 2:C:42:PHE:H    | 2:C:41:GLU:HB3 | 5        | 0.12          |
| (1,1407) | 2:C:42:PHE:H    | 2:C:41:GLU:HB3 | 6        | 0.12          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1407) | 2:C:42:PHE:H    | 2:C:41:GLU:HB3  | 9        | 0.12          |
| (1,1407) | 2:C:42:PHE:H    | 2:C:41:GLU:HB3  | 10       | 0.12          |
| (1,1273) | 2:C:18:GLU:H    | 2:C:17:LEU:HB2  | 1        | 0.12          |
| (1,1273) | 2:C:18:GLU:H    | 2:C:17:LEU:HB2  | 9        | 0.12          |
| (1,1273) | 2:C:18:GLU:H    | 2:C:17:LEU:HB2  | 19       | 0.12          |
| (1,1234) | 2:C:27:GLN:HG3  | 2:C:27:GLN:HA   | 16       | 0.12          |
| (1,1191) | 1:A:15:CYS:HB2  | 1:A:36:PHE:HD1  | 13       | 0.12          |
| (1,1191) | 1:A:15:CYS:HB2  | 1:A:36:PHE:HD2  | 13       | 0.12          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 5        | 0.12          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 5        | 0.12          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 5        | 0.12          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 10       | 0.12          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 10       | 0.12          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 10       | 0.12          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 14       | 0.12          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 14       | 0.12          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 14       | 0.12          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 16       | 0.12          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 16       | 0.12          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 16       | 0.12          |
| (1,111)  | 1:A:28:ILE:HG13 | 1:A:28:ILE:HA   | 15       | 0.12          |
| (1,1033) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 2        | 0.12          |
| (1,1033) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 6        | 0.12          |
| (1,1033) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 11       | 0.12          |
| (1,1033) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 16       | 0.12          |
| (1,1033) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 19       | 0.12          |
| (1,1033) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 20       | 0.12          |
| (1,1019) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 5        | 0.12          |
| (1,1019) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 5        | 0.12          |
| (1,1019) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 5        | 0.12          |
| (1,1019) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 10       | 0.12          |
| (1,1019) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 10       | 0.12          |
| (1,1019) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 10       | 0.12          |
| (1,1019) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 13       | 0.12          |
| (1,1019) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 13       | 0.12          |
| (1,1019) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 13       | 0.12          |
| (1,1019) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 18       | 0.12          |
| (1,1019) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 18       | 0.12          |
| (1,1019) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 18       | 0.12          |
| (1,1019) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 19       | 0.12          |
| (1,1019) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 19       | 0.12          |
| (1,1019) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 19       | 0.12          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1019) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 20       | 0.12          |
| (1,1019) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 20       | 0.12          |
| (1,1019) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 20       | 0.12          |
| (1,734)  | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG2  | 4        | 0.11          |
| (1,734)  | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG3  | 4        | 0.11          |
| (1,734)  | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG2  | 13       | 0.11          |
| (1,734)  | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG3  | 13       | 0.11          |
| (1,734)  | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG2  | 16       | 0.11          |
| (1,734)  | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG3  | 16       | 0.11          |
| (1,7168) | 2:C:30:THR:H    | 2:C:29:ARG:HB2  | 12       | 0.11          |
| (1,7155) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2  | 4        | 0.11          |
| (1,7155) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2  | 7        | 0.11          |
| (1,7073) | 2:C:39:VAL:HB   | 2:C:38:ASN:HB2  | 7        | 0.11          |
| (1,7038) | 1:A:16:CYS:H    | 1:A:15:CYS:HB3  | 13       | 0.11          |
| (1,6950) | 2:C:62:GLN:H    | 2:C:62:GLN:HG3  | 4        | 0.11          |
| (1,6929) | 1:A:22:PRO:HG3  | 1:A:21:VAL:HA   | 14       | 0.11          |
| (1,6876) | 1:A:37:ILE:HG21 | 1:A:11:TYR:HB2  | 5        | 0.11          |
| (1,6876) | 1:A:37:ILE:HG22 | 1:A:11:TYR:HB2  | 5        | 0.11          |
| (1,6876) | 1:A:37:ILE:HG23 | 1:A:11:TYR:HB2  | 5        | 0.11          |
| (1,6652) | 2:C:18:GLU:H    | 2:C:17:LEU:HB2  | 5        | 0.11          |
| (1,6652) | 2:C:18:GLU:H    | 2:C:17:LEU:HB2  | 6        | 0.11          |
| (1,6613) | 2:C:27:GLN:HG3  | 2:C:27:GLN:HA   | 8        | 0.11          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 2        | 0.11          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 2        | 0.11          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 2        | 0.11          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 8        | 0.11          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 8        | 0.11          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 8        | 0.11          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 11       | 0.11          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 11       | 0.11          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 11       | 0.11          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 13       | 0.11          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 13       | 0.11          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 13       | 0.11          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 15       | 0.11          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 15       | 0.11          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 15       | 0.11          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 18       | 0.11          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 18       | 0.11          |
| (1,6557) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 18       | 0.11          |
| (1,6484) | 2:C:76:ASN:H    | 2:C:76:ASN:HB3  | 16       | 0.11          |
| (1,648)  | 2:C:91:GLN:HE22 | 2:C:91:GLN:HG2  | 6        | 0.11          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,6412) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 1        | 0.11          |
| (1,6412) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 3        | 0.11          |
| (1,6412) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 9        | 0.11          |
| (1,6412) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 13       | 0.11          |
| (1,6412) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 15       | 0.11          |
| (1,6412) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 17       | 0.11          |
| (1,6412) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 18       | 0.11          |
| (1,6398) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 7        | 0.11          |
| (1,6398) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 7        | 0.11          |
| (1,6398) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 7        | 0.11          |
| (1,6398) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 15       | 0.11          |
| (1,6398) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 15       | 0.11          |
| (1,6398) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 15       | 0.11          |
| (1,6113) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG2  | 4        | 0.11          |
| (1,6113) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG3  | 4        | 0.11          |
| (1,6113) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG2  | 13       | 0.11          |
| (1,6113) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG3  | 13       | 0.11          |
| (1,6113) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG2  | 16       | 0.11          |
| (1,6113) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG3  | 16       | 0.11          |
| (1,6027) | 2:C:91:GLN:HE22 | 2:C:91:GLN:HG2  | 6        | 0.11          |
| (1,5976) | 2:C:49:SER:HB2  | 2:C:49:SER:HA   | 12       | 0.11          |
| (1,597)  | 2:C:49:SER:HB2  | 2:C:49:SER:HA   | 12       | 0.11          |
| (1,5945) | 1:A:22:PRO:HD3  | 1:A:11:TYR:HB2  | 2        | 0.11          |
| (1,5945) | 1:A:22:PRO:HD3  | 1:A:11:TYR:HB2  | 8        | 0.11          |
| (1,5828) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 3        | 0.11          |
| (1,5828) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 5        | 0.11          |
| (1,5828) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 7        | 0.11          |
| (1,5828) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 9        | 0.11          |
| (1,5828) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 11       | 0.11          |
| (1,5806) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HA   | 19       | 0.11          |
| (1,5772) | 1:A:10:ARG:H    | 1:A:9:GLY:HA3   | 7        | 0.11          |
| (1,566)  | 1:A:22:PRO:HD3  | 1:A:11:TYR:HB2  | 2        | 0.11          |
| (1,566)  | 1:A:22:PRO:HD3  | 1:A:11:TYR:HB2  | 8        | 0.11          |
| (1,5592) | 2:C:61:TYR:HB2  | 2:C:66:LEU:HD21 | 7        | 0.11          |
| (1,5592) | 2:C:61:TYR:HB2  | 2:C:66:LEU:HD22 | 7        | 0.11          |
| (1,5592) | 2:C:61:TYR:HB2  | 2:C:66:LEU:HD23 | 7        | 0.11          |
| (1,5490) | 1:A:28:ILE:HG13 | 1:A:28:ILE:HA   | 10       | 0.11          |
| (1,5375) | 2:C:30:THR:H    | 2:C:29:ARG:HB2  | 12       | 0.11          |
| (1,5362) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2  | 4        | 0.11          |
| (1,5362) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2  | 7        | 0.11          |
| (1,5280) | 2:C:39:VAL:HB   | 2:C:38:ASN:HB2  | 7        | 0.11          |
| (1,5245) | 1:A:16:CYS:H    | 1:A:15:CYS:HB3  | 13       | 0.11          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,5157) | 2:C:62:GLN:H    | 2:C:62:GLN:HG3  | 4        | 0.11          |
| (1,5136) | 1:A:22:PRO:HG3  | 1:A:21:VAL:HA   | 14       | 0.11          |
| (1,5083) | 1:A:37:ILE:HG21 | 1:A:11:TYR:HB2  | 5        | 0.11          |
| (1,5083) | 1:A:37:ILE:HG22 | 1:A:11:TYR:HB2  | 5        | 0.11          |
| (1,5083) | 1:A:37:ILE:HG23 | 1:A:11:TYR:HB2  | 5        | 0.11          |
| (1,4859) | 2:C:18:GLU:H    | 2:C:17:LEU:HB2  | 5        | 0.11          |
| (1,4859) | 2:C:18:GLU:H    | 2:C:17:LEU:HB2  | 6        | 0.11          |
| (1,4820) | 2:C:27:GLN:HG3  | 2:C:27:GLN:HA   | 8        | 0.11          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 2        | 0.11          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 2        | 0.11          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 2        | 0.11          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 8        | 0.11          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 8        | 0.11          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 8        | 0.11          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 11       | 0.11          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 11       | 0.11          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 11       | 0.11          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 13       | 0.11          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 13       | 0.11          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 13       | 0.11          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 15       | 0.11          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 15       | 0.11          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 15       | 0.11          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 18       | 0.11          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 18       | 0.11          |
| (1,4764) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 18       | 0.11          |
| (1,4691) | 2:C:76:ASN:H    | 2:C:76:ASN:HB3  | 16       | 0.11          |
| (1,4619) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 1        | 0.11          |
| (1,4619) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 3        | 0.11          |
| (1,4619) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 9        | 0.11          |
| (1,4619) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 13       | 0.11          |
| (1,4619) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 15       | 0.11          |
| (1,4619) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 17       | 0.11          |
| (1,4619) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 18       | 0.11          |
| (1,4605) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 7        | 0.11          |
| (1,4605) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 7        | 0.11          |
| (1,4605) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 7        | 0.11          |
| (1,4605) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 15       | 0.11          |
| (1,4605) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 15       | 0.11          |
| (1,4605) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 15       | 0.11          |
| (1,449)  | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 3        | 0.11          |
| (1,449)  | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 5        | 0.11          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,449)  | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 7        | 0.11          |
| (1,449)  | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 9        | 0.11          |
| (1,449)  | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 11       | 0.11          |
| (1,4320) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG2  | 4        | 0.11          |
| (1,4320) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG3  | 4        | 0.11          |
| (1,4320) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG2  | 13       | 0.11          |
| (1,4320) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG3  | 13       | 0.11          |
| (1,4320) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG2  | 16       | 0.11          |
| (1,4320) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG3  | 16       | 0.11          |
| (1,427)  | 2:C:55:GLU:HG3  | 2:C:55:GLU:HA   | 19       | 0.11          |
| (1,4234) | 2:C:91:GLN:HE22 | 2:C:91:GLN:HG2  | 6        | 0.11          |
| (1,4183) | 2:C:49:SER:HB2  | 2:C:49:SER:HA   | 12       | 0.11          |
| (1,4152) | 1:A:22:PRO:HD3  | 1:A:11:TYR:HB2  | 2        | 0.11          |
| (1,4152) | 1:A:22:PRO:HD3  | 1:A:11:TYR:HB2  | 8        | 0.11          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB2  | 8        | 0.11          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:43:LYS:HB3  | 8        | 0.11          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB2  | 8        | 0.11          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:43:LYS:HB3  | 8        | 0.11          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB2  | 8        | 0.11          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:43:LYS:HB3  | 8        | 0.11          |
| (1,41)   | 2:C:46:ILE:HG21 | 2:C:21:VAL:HB   | 8        | 0.11          |
| (1,41)   | 2:C:46:ILE:HG22 | 2:C:21:VAL:HB   | 8        | 0.11          |
| (1,41)   | 2:C:46:ILE:HG23 | 2:C:21:VAL:HB   | 8        | 0.11          |
| (1,4035) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 3        | 0.11          |
| (1,4035) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 5        | 0.11          |
| (1,4035) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 7        | 0.11          |
| (1,4035) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 9        | 0.11          |
| (1,4035) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 11       | 0.11          |
| (1,4013) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HA   | 19       | 0.11          |
| (1,3979) | 1:A:10:ARG:H    | 1:A:9:GLY:HA3   | 7        | 0.11          |
| (1,393)  | 1:A:10:ARG:H    | 1:A:9:GLY:HA3   | 7        | 0.11          |
| (1,3799) | 2:C:61:TYR:HB2  | 2:C:66:LEU:HD21 | 7        | 0.11          |
| (1,3799) | 2:C:61:TYR:HB2  | 2:C:66:LEU:HD22 | 7        | 0.11          |
| (1,3799) | 2:C:61:TYR:HB2  | 2:C:66:LEU:HD23 | 7        | 0.11          |
| (1,3697) | 1:A:28:ILE:HG13 | 1:A:28:ILE:HA   | 10       | 0.11          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:68:ASP:HA   | 5        | 0.11          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:42:PHE:HA   | 5        | 0.11          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:68:ASP:HA   | 19       | 0.11          |
| (1,36)   | 2:C:39:VAL:HA   | 2:C:42:PHE:HA   | 19       | 0.11          |
| (1,3582) | 2:C:30:THR:H    | 2:C:29:ARG:HB2  | 12       | 0.11          |
| (1,3569) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2  | 4        | 0.11          |
| (1,3569) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2  | 7        | 0.11          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,3487) | 2:C:39:VAL:HB   | 2:C:38:ASN:HB2  | 7        | 0.11          |
| (1,3452) | 1:A:16:CYS:H    | 1:A:15:CYS:HB3  | 13       | 0.11          |
| (1,3364) | 2:C:62:GLN:H    | 2:C:62:GLN:HG3  | 4        | 0.11          |
| (1,3343) | 1:A:22:PRO:HG3  | 1:A:21:VAL:HA   | 14       | 0.11          |
| (1,3290) | 1:A:37:ILE:HG21 | 1:A:11:TYR:HB2  | 5        | 0.11          |
| (1,3290) | 1:A:37:ILE:HG22 | 1:A:11:TYR:HB2  | 5        | 0.11          |
| (1,3290) | 1:A:37:ILE:HG23 | 1:A:11:TYR:HB2  | 5        | 0.11          |
| (1,31)   | 2:C:38:ASN:HA   | 2:C:40:LYS:HG2  | 20       | 0.11          |
| (1,31)   | 2:C:38:ASN:HA   | 2:C:40:LYS:HG3  | 20       | 0.11          |
| (1,3066) | 2:C:18:GLU:H    | 2:C:17:LEU:HB2  | 5        | 0.11          |
| (1,3066) | 2:C:18:GLU:H    | 2:C:17:LEU:HB2  | 6        | 0.11          |
| (1,3027) | 2:C:27:GLN:HG3  | 2:C:27:GLN:HA   | 8        | 0.11          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 2        | 0.11          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 2        | 0.11          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 2        | 0.11          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 8        | 0.11          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 8        | 0.11          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 8        | 0.11          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 11       | 0.11          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 11       | 0.11          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 11       | 0.11          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 13       | 0.11          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 13       | 0.11          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 13       | 0.11          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 15       | 0.11          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 15       | 0.11          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 15       | 0.11          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 18       | 0.11          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 18       | 0.11          |
| (1,2971) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 18       | 0.11          |
| (1,2898) | 2:C:76:ASN:H    | 2:C:76:ASN:HB3  | 16       | 0.11          |
| (1,2826) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 1        | 0.11          |
| (1,2826) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 3        | 0.11          |
| (1,2826) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 9        | 0.11          |
| (1,2826) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 13       | 0.11          |
| (1,2826) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 15       | 0.11          |
| (1,2826) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 17       | 0.11          |
| (1,2826) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 18       | 0.11          |
| (1,2812) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 7        | 0.11          |
| (1,2812) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 7        | 0.11          |
| (1,2812) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 7        | 0.11          |
| (1,2812) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 15       | 0.11          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,2812) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 15       | 0.11          |
| (1,2812) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 15       | 0.11          |
| (1,2527) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG2  | 4        | 0.11          |
| (1,2527) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG3  | 4        | 0.11          |
| (1,2527) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG2  | 13       | 0.11          |
| (1,2527) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG3  | 13       | 0.11          |
| (1,2527) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG2  | 16       | 0.11          |
| (1,2527) | 1:A:23:ARG:HD3  | 1:A:23:ARG:HG3  | 16       | 0.11          |
| (1,2441) | 2:C:91:GLN:HE22 | 2:C:91:GLN:HG2  | 6        | 0.11          |
| (1,2390) | 2:C:49:SER:HB2  | 2:C:49:SER:HA   | 12       | 0.11          |
| (1,2359) | 1:A:22:PRO:HD3  | 1:A:11:TYR:HB2  | 2        | 0.11          |
| (1,2359) | 1:A:22:PRO:HD3  | 1:A:11:TYR:HB2  | 8        | 0.11          |
| (1,2242) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 3        | 0.11          |
| (1,2242) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 5        | 0.11          |
| (1,2242) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 7        | 0.11          |
| (1,2242) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 9        | 0.11          |
| (1,2242) | 1:A:19:GLU:HG2  | 1:A:19:GLU:HB2  | 11       | 0.11          |
| (1,2220) | 2:C:55:GLU:HG3  | 2:C:55:GLU:HA   | 19       | 0.11          |
| (1,2186) | 1:A:10:ARG:H    | 1:A:9:GLY:HA3   | 7        | 0.11          |
| (1,213)  | 2:C:61:TYR:HB2  | 2:C:66:LEU:HD21 | 7        | 0.11          |
| (1,213)  | 2:C:61:TYR:HB2  | 2:C:66:LEU:HD22 | 7        | 0.11          |
| (1,213)  | 2:C:61:TYR:HB2  | 2:C:66:LEU:HD23 | 7        | 0.11          |
| (1,2006) | 2:C:61:TYR:HB2  | 2:C:66:LEU:HD21 | 7        | 0.11          |
| (1,2006) | 2:C:61:TYR:HB2  | 2:C:66:LEU:HD22 | 7        | 0.11          |
| (1,2006) | 2:C:61:TYR:HB2  | 2:C:66:LEU:HD23 | 7        | 0.11          |
| (1,1904) | 1:A:28:ILE:HG13 | 1:A:28:ILE:HA   | 10       | 0.11          |
| (1,1789) | 2:C:30:THR:H    | 2:C:29:ARG:HB2  | 12       | 0.11          |
| (1,1776) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2  | 4        | 0.11          |
| (1,1776) | 1:A:25:PRO:HA   | 1:A:25:PRO:HD2  | 7        | 0.11          |
| (1,1694) | 2:C:39:VAL:HB   | 2:C:38:ASN:HB2  | 7        | 0.11          |
| (1,1659) | 1:A:16:CYS:H    | 1:A:15:CYS:HB3  | 13       | 0.11          |
| (1,1571) | 2:C:62:GLN:H    | 2:C:62:GLN:HG3  | 4        | 0.11          |
| (1,1550) | 1:A:22:PRO:HG3  | 1:A:21:VAL:HA   | 14       | 0.11          |
| (1,1497) | 1:A:37:ILE:HG21 | 1:A:11:TYR:HB2  | 5        | 0.11          |
| (1,1497) | 1:A:37:ILE:HG22 | 1:A:11:TYR:HB2  | 5        | 0.11          |
| (1,1497) | 1:A:37:ILE:HG23 | 1:A:11:TYR:HB2  | 5        | 0.11          |
| (1,1273) | 2:C:18:GLU:H    | 2:C:17:LEU:HB2  | 5        | 0.11          |
| (1,1273) | 2:C:18:GLU:H    | 2:C:17:LEU:HB2  | 6        | 0.11          |
| (1,1234) | 2:C:27:GLN:HG3  | 2:C:27:GLN:HA   | 8        | 0.11          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 2        | 0.11          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 2        | 0.11          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 2        | 0.11          |

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| Key      | Atom-1          | Atom-2          | Model ID | Violation (Å) |
|----------|-----------------|-----------------|----------|---------------|
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 8        | 0.11          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 8        | 0.11          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 8        | 0.11          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 11       | 0.11          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 11       | 0.11          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 11       | 0.11          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 13       | 0.11          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 13       | 0.11          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 13       | 0.11          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 15       | 0.11          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 15       | 0.11          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 15       | 0.11          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG11 | 18       | 0.11          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG12 | 18       | 0.11          |
| (1,1178) | 2:C:39:VAL:HA   | 2:C:39:VAL:HG13 | 18       | 0.11          |
| (1,111)  | 1:A:28:ILE:HG13 | 1:A:28:ILE:HA   | 10       | 0.11          |
| (1,1105) | 2:C:76:ASN:H    | 2:C:76:ASN:HB3  | 16       | 0.11          |
| (1,1033) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 1        | 0.11          |
| (1,1033) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 3        | 0.11          |
| (1,1033) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 9        | 0.11          |
| (1,1033) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 13       | 0.11          |
| (1,1033) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 15       | 0.11          |
| (1,1033) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 17       | 0.11          |
| (1,1033) | 1:A:39:GLU:HB2  | 1:A:39:GLU:HG2  | 18       | 0.11          |
| (1,1019) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 7        | 0.11          |
| (1,1019) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 7        | 0.11          |
| (1,1019) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 7        | 0.11          |
| (1,1019) | 2:C:72:LEU:HD21 | 2:C:72:LEU:HB2  | 15       | 0.11          |
| (1,1019) | 2:C:72:LEU:HD22 | 2:C:72:LEU:HB2  | 15       | 0.11          |
| (1,1019) | 2:C:72:LEU:HD23 | 2:C:72:LEU:HB2  | 15       | 0.11          |

## 10 Dihedral-angle violation analysis

No dihedral-angle restraints found