



# Full wwPDB NMR Structure Validation Report ⓘ

Jun 6, 2023 – 05:53 pm BST

PDB ID : 5NMY  
BMRB ID : 34121  
Title : NMR solution structure of lysostaphin  
Authors : Tossavainen, H.; Raulinaitis, V.; Permi, P.  
Deposited on : 2017-04-07

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/NMRValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

---

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

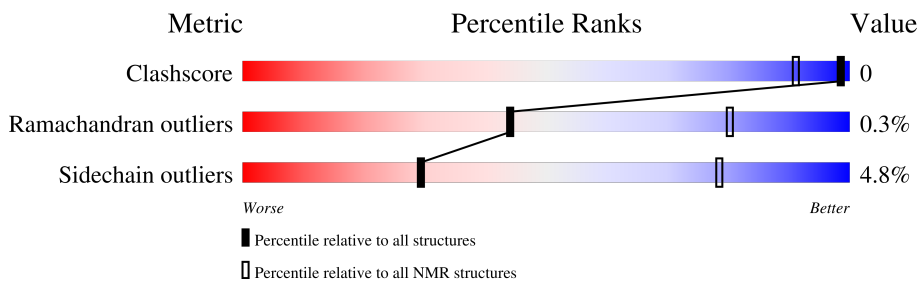
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*SOLUTION NMR*

The overall completeness of chemical shifts assignment is 85%.

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



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

The table below summarises the geometric issues observed across the polymeric chains and their fit to the experimental data. The red, orange, yellow and green segments indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria. A cyan segment indicates the fraction of residues that are not part of the well-defined cores, and a grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ .

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1   | A     | 245    | <br>77% 19%      |

## 2 Ensemble composition and analysis

This entry contains 15 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: *fewest violations*.

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:253-A:268, A:278-A:304,<br>A:313-A:350, A:360-A:388<br>(110) | 0.53              | 10           |
| 2                                    | A:402-A:465, A:470-A:493<br>(88)                               | 0.44              | 6            |

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

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

The models can be grouped into 5 clusters. No single-model clusters were found.

| Cluster number | Models       |
|----------------|--------------|
| 1              | 2, 3, 7, 14  |
| 2              | 8, 9, 10, 15 |
| 3              | 1, 11, 12    |
| 4              | 5, 13        |
| 5              | 4, 6         |

### 3 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 3722 atoms, of which 1823 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called Lysostaphin.

| Mol | Chain | Residues | Atoms |      |      |     |     |   | Trace |
|-----|-------|----------|-------|------|------|-----|-----|---|-------|
|     |       |          | Total | C    | H    | N   | O   | S |       |
| 1   | A     | 245      | 3721  | 1208 | 1823 | 331 | 352 | 7 | 0     |

There are 2 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment        | Reference  |
|-------|---------|----------|--------|----------------|------------|
| A     | 249     | GLY      | -      | expression tag | UNP P10547 |
| A     | 250     | SER      | -      | expression tag | UNP P10547 |

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

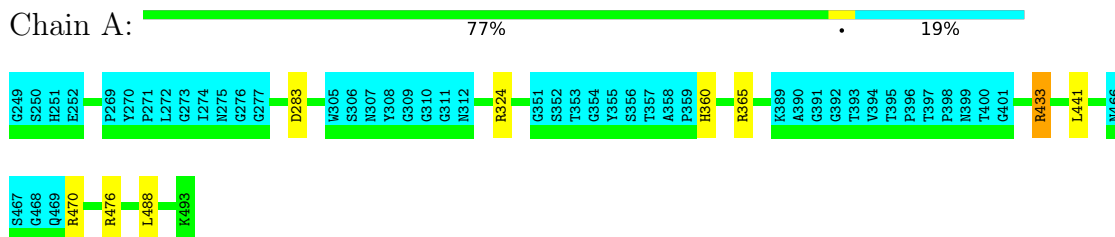
| Mol | Chain | Residues | Atoms |    |
|-----|-------|----------|-------|----|
|     |       |          | Total | Zn |
| 2   | A     | 1        | 1     | 1  |

## 4 Residue-property plots [i](#)

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

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

- Molecule 1: Lysostaphin

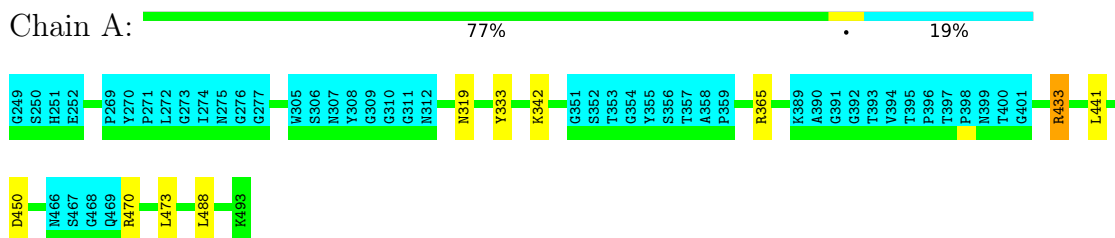


### 4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

#### 4.2.1 Score per residue for model 1

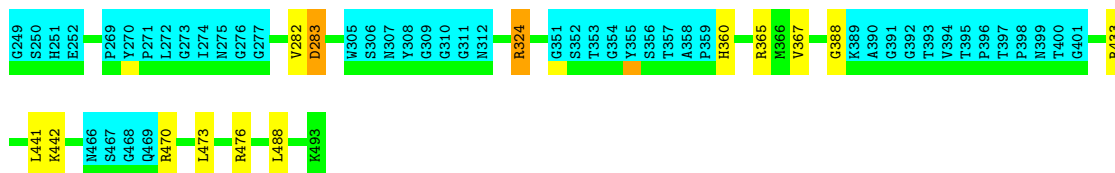
- Molecule 1: Lysostaphin



#### 4.2.2 Score per residue for model 2

- Molecule 1: Lysostaphin





### 4.2.3 Score per residue for model 3

- Molecule 1: Lysostaphin

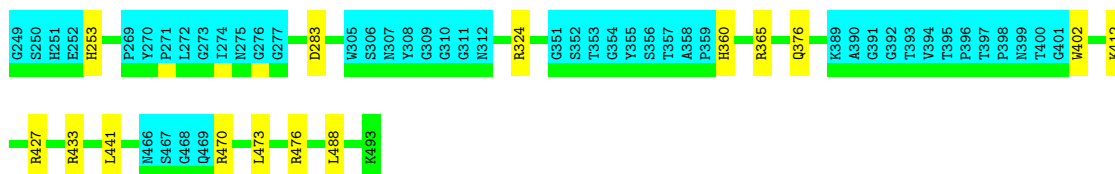
Chain A: 78% 19%



### 4.2.4 Score per residue for model 4

- Molecule 1: Lysostaphin

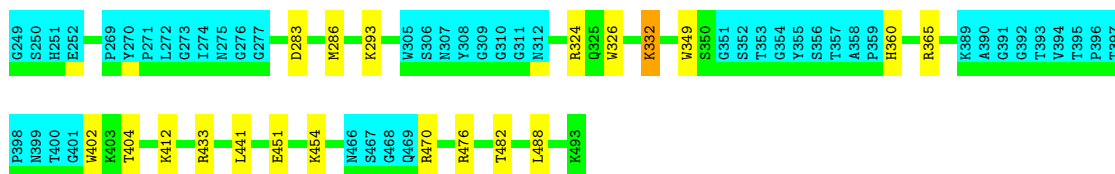
Chain A: 75% 6% 19%



### 4.2.5 Score per residue for model 5

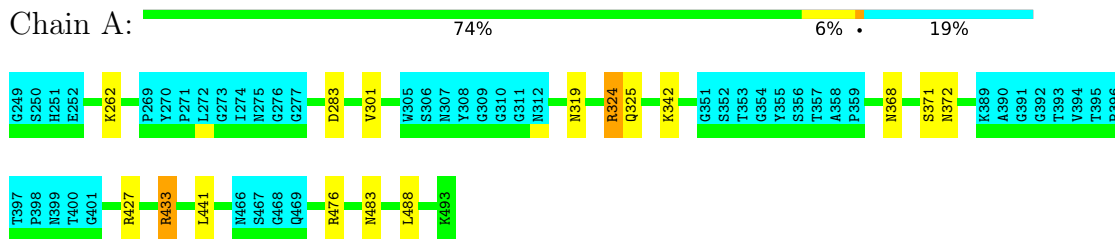
- Molecule 1: Lysostaphin

Chain A: 73% 8% 19%



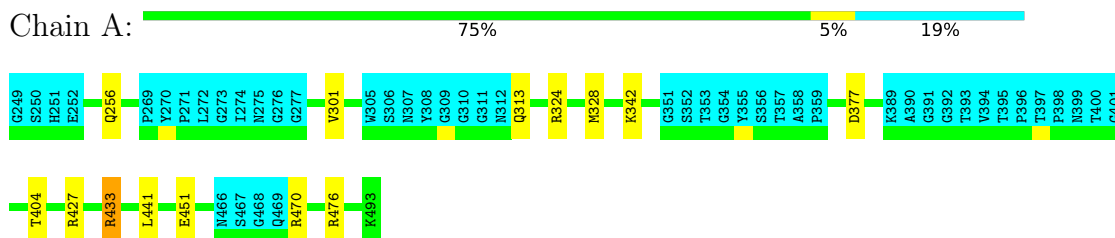
### 4.2.6 Score per residue for model 6

- Molecule 1: Lysostaphin



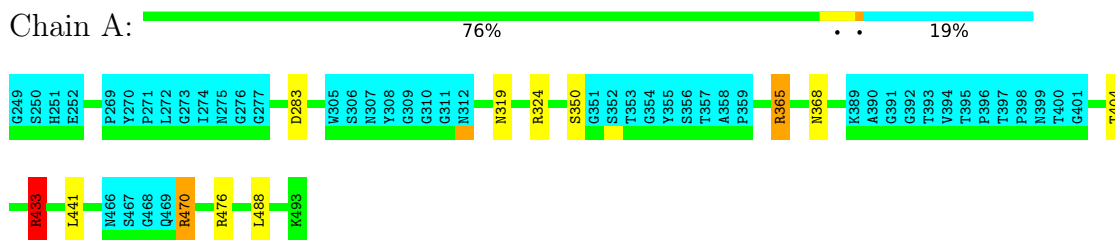
#### 4.2.7 Score per residue for model 7

- Molecule 1: Lysostaphin



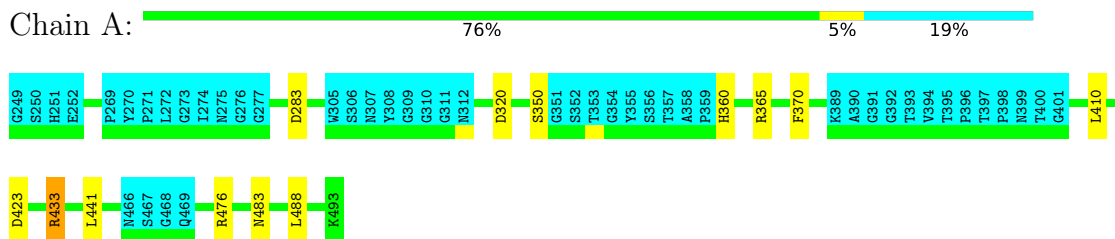
#### 4.2.8 Score per residue for model 8

- Molecule 1: Lysostaphin



#### 4.2.9 Score per residue for model 9

- Molecule 1: Lysostaphin

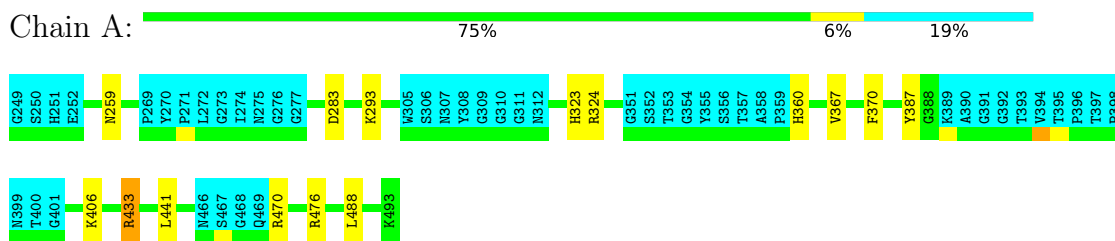






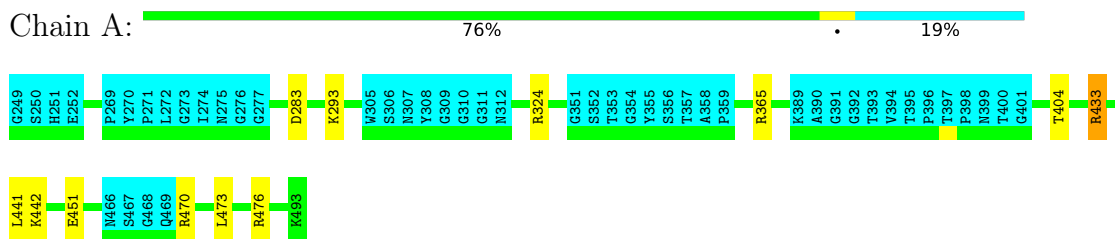
## 4.2.14 Score per residue for model 14

## ● Molecule 1: Lysostaphin



## 4.2.15 Score per residue for model 15

## ● Molecule 1: Lysostaphin



## 5 Refinement protocol and experimental data overview

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

Of the 200 calculated structures, 15 were deposited, based on the following criterion: *target function*.

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

| Software name | Classification        | Version |
|---------------|-----------------------|---------|
| CYANA         | structure calculation |         |
| Amber         | refinement            |         |

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

|  |                |
|--|----------------|
| Chemical shift file(s)                       | working_cs.cif |
| Number of chemical shift lists               | 1              |
| Total number of shifts                       | 2622           |
| Number of shifts mapped to atoms             | 2622           |
| Number of unparsed shifts                    | 0              |
| Number of shifts with mapping errors         | 0              |
| Number of shifts with mapping warnings       | 0              |
| Assignment completeness (well-defined parts) | 85%            |

## 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

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

| Mol | Chain | Bond lengths |                       | Bond angles |                       |
|-----|-------|--------------|-----------------------|-------------|-----------------------|
|     |       | RMSZ         | #Z>5                  | RMSZ        | #Z>5                  |
| 1   | A     | 0.75±0.00    | 0±0/1627 ( 0.0± 0.0%) | 1.05±0.02   | 5±1/2205 ( 0.2± 0.1%) |
| All | All   | 0.75         | 0/24405 ( 0.0%)       | 1.05        | 75/33075 ( 0.2%)      |

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

| Mol | Chain | Chirality | Planarity |
|-----|-------|-----------|-----------|
| 1   | A     | 0.0±0.0   | 0.7±1.2   |
| All | All   | 0         | 10        |

There are no bond-length outliers.

All unique angle outliers are listed below. They are sorted according to the Z-score of the worst occurrence in the ensemble.

| Mol | Chain | Res | Type | Atoms      | Z     | Observed(°) | Ideal(°) | Models |       |
|-----|-------|-----|------|------------|-------|-------------|----------|--------|-------|
|     |       |     |      |            |       |             |          | Worst  | Total |
| 1   | A     | 470 | ARG  | NE-CZ-NH1  | 10.01 | 125.30      | 120.30   | 1      | 13    |
| 1   | A     | 365 | ARG  | NE-CZ-NH1  | 9.65  | 125.13      | 120.30   | 9      | 9     |
| 1   | A     | 433 | ARG  | NE-CZ-NH1  | 9.14  | 124.87      | 120.30   | 6      | 7     |
| 1   | A     | 427 | ARG  | NE-CZ-NH1  | 8.95  | 124.78      | 120.30   | 6      | 4     |
| 1   | A     | 324 | ARG  | NE-CZ-NH1  | 8.62  | 124.61      | 120.30   | 6      | 10    |
| 1   | A     | 476 | ARG  | NE-CZ-NH1  | 8.01  | 124.30      | 120.30   | 5      | 13    |
| 1   | A     | 283 | ASP  | CB-CG-OD1  | 7.25  | 124.83      | 118.30   | 3      | 12    |
| 1   | A     | 283 | ASP  | CB-CG-OD2  | 7.05  | 124.64      | 118.30   | 13     | 2     |
| 1   | A     | 324 | ARG  | NE-CZ-NH2  | -5.74 | 117.43      | 120.30   | 5      | 1     |
| 1   | A     | 423 | ASP  | CB-CG-OD2  | 5.52  | 123.27      | 118.30   | 9      | 1     |
| 1   | A     | 283 | ASP  | OD1-CG-OD2 | -5.48 | 112.88      | 123.30   | 13     | 2     |
| 1   | A     | 427 | ARG  | NE-CZ-NH2  | -5.03 | 117.79      | 120.30   | 7      | 1     |

There are no chirality outliers.

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

| Mol | Chain | Res | Type | Group     | Models (Total) |
|-----|-------|-----|------|-----------|----------------|
| 1   | A     | 365 | ARG  | Sidechain | 3              |
| 1   | A     | 433 | ARG  | Sidechain | 2              |
| 1   | A     | 470 | ARG  | Sidechain | 2              |
| 1   | A     | 261 | TYR  | Sidechain | 1              |
| 1   | A     | 333 | TYR  | Sidechain | 1              |
| 1   | A     | 387 | TYR  | Sidechain | 1              |

## 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     | 1579  | 1538     | 1538     | 0±1     |
| All | All   | 23700 | 23070    | 23070    | 5       |

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 0.

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

| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:402:TRP:CH2 | 1:A:454:LYS:HE3 | 0.49     | 2.43        | 5      | 1     |
| 1:A:402:TRP:CZ2 | 1:A:412:LYS:HE2 | 0.49     | 2.43        | 12     | 1     |
| 1:A:402:TRP:CE2 | 1:A:412:LYS:HE3 | 0.44     | 2.48        | 4      | 1     |
| 1:A:332:LYS:HE3 | 1:A:349:TRP:CZ3 | 0.43     | 2.47        | 5      | 1     |
| 1:A:402:TRP:CZ2 | 1:A:412:LYS:HE3 | 0.43     | 2.48        | 5      | 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     | 197/245 (80%)   | 190±1 (96±1%) | 7±1 (3±1%) | 1±1 (0±0%) | 44 80       |
| All | All   | 2955/3675 (80%) | 2848 (96%)    | 99 (3%)    | 8 (0%)     | 44 80       |

All 6 unique Ramachandran outliers are listed below. They are sorted by the frequency of occurrence in the ensemble.

| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1   | A     | 368 | ASN  | 3              |
| 1   | A     | 319 | ASN  | 1              |
| 1   | A     | 388 | GLY  | 1              |
| 1   | A     | 253 | HIS  | 1              |
| 1   | A     | 350 | SER  | 1              |
| 1   | A     | 259 | ASN  | 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     | 167/199 (84%)   | 159±2 (95±1%) | 8±2 (5±1%) | 29 78       |
| All | All   | 2505/2985 (84%) | 2385 (95%)    | 120 (5%)   | 29 78       |

All 43 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     | 433 | ARG  | 14             |
| 1   | A     | 441 | LEU  | 13             |
| 1   | A     | 488 | LEU  | 11             |
| 1   | A     | 360 | HIS  | 8              |
| 1   | A     | 473 | LEU  | 5              |
| 1   | A     | 451 | GLU  | 5              |
| 1   | A     | 342 | LYS  | 4              |
| 1   | A     | 404 | THR  | 4              |
| 1   | A     | 319 | ASN  | 4              |
| 1   | A     | 324 | ARG  | 3              |
| 1   | A     | 293 | LYS  | 3              |
| 1   | A     | 301 | VAL  | 3              |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1   | A     | 377 | ASP  | 3              |
| 1   | A     | 410 | LEU  | 3              |
| 1   | A     | 450 | ASP  | 2              |
| 1   | A     | 367 | VAL  | 2              |
| 1   | A     | 442 | LYS  | 2              |
| 1   | A     | 365 | ARG  | 2              |
| 1   | A     | 326 | TRP  | 2              |
| 1   | A     | 482 | THR  | 2              |
| 1   | A     | 483 | ASN  | 2              |
| 1   | A     | 370 | PHE  | 2              |
| 1   | A     | 333 | TYR  | 1              |
| 1   | A     | 282 | VAL  | 1              |
| 1   | A     | 283 | ASP  | 1              |
| 1   | A     | 376 | GLN  | 1              |
| 1   | A     | 286 | MET  | 1              |
| 1   | A     | 332 | LYS  | 1              |
| 1   | A     | 262 | LYS  | 1              |
| 1   | A     | 325 | GLN  | 1              |
| 1   | A     | 371 | SER  | 1              |
| 1   | A     | 372 | ASN  | 1              |
| 1   | A     | 256 | GLN  | 1              |
| 1   | A     | 313 | GLN  | 1              |
| 1   | A     | 328 | MET  | 1              |
| 1   | A     | 320 | ASP  | 1              |
| 1   | A     | 350 | SER  | 1              |
| 1   | A     | 341 | VAL  | 1              |
| 1   | A     | 368 | ASN  | 1              |
| 1   | A     | 379 | MET  | 1              |
| 1   | A     | 470 | ARG  | 1              |
| 1   | A     | 323 | HIS  | 1              |
| 1   | A     | 406 | LYS  | 1              |

### 6.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

## 6.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 6.6 Ligand geometry [i](#)

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 85% for the well-defined parts and 82% for the entire structure.

### 7.1 Chemical shift list 1

File name: working\_cs.cif

Chemical shift list name: *LSSv3.1.bmrB*

#### 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                  | 2622 |
| Number of shifts mapped to atoms        | 2622 |
| Number of unparsed shifts               | 0    |
| Number of shifts with mapping errors    | 0    |
| Number of shifts with mapping warnings  | 0    |
| Number of shift outliers (ShiftChecker) | 25   |

#### 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           |
|------------------------|----------|---------------------------------|----------------------------|
| $^{13}\text{C}_\alpha$ | 235      | $-1.16 \pm 0.17$                | Should be applied          |
| $^{13}\text{C}_\beta$  | 206      | $-1.53 \pm 0.09$                | Should be applied          |
| $^{13}\text{C}'$       | 0        | —                               | None (insufficient data)   |
| $^{15}\text{N}$        | 207      | $0.05 \pm 0.37$                 | 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 85%, i.e. 2275 atoms were assigned a chemical shift out of a possible 2683. 0 out of 24 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

|           | Total           | $^1\text{H}$  | $^{13}\text{C}$ | $^{15}\text{N}$ |
|-----------|-----------------|---------------|-----------------|-----------------|
| Backbone  | 791/999 (79%)   | 407/412 (99%) | 198/396 (50%)   | 186/191 (97%)   |
| Sidechain | 1244/1357 (92%) | 848/885 (96%) | 373/419 (89%)   | 23/53 (43%)     |

*Continued on next page...*



Continued from previous page...

|          | Total           | <sup>1</sup> H  | <sup>13</sup> C | <sup>15</sup> N |
|----------|-----------------|-----------------|-----------------|-----------------|
| Aromatic | 240/327 (73%)   | 143/161 (89%)   | 87/151 (58%)    | 10/15 (67%)     |
| Overall  | 2275/2683 (85%) | 1398/1458 (96%) | 658/966 (68%)   | 219/259 (85%)   |

The following table shows the completeness of the chemical shift assignments for the full structure. The overall completeness is 82%, i.e. 2622 atoms were assigned a chemical shift out of a possible 3187. 0 out of 26 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

|           | Total           | <sup>1</sup> H  | <sup>13</sup> C | <sup>15</sup> N |
|-----------|-----------------|-----------------|-----------------|-----------------|
| Backbone  | 918/1237 (74%)  | 476/514 (93%)   | 235/490 (48%)   | 207/233 (89%)   |
| Sidechain | 1434/1577 (91%) | 976/1028 (95%)  | 431/489 (88%)   | 27/60 (45%)     |
| Aromatic  | 270/373 (72%)   | 162/183 (89%)   | 97/173 (56%)    | 11/17 (65%)     |
| Overall   | 2622/3187 (82%) | 1614/1725 (94%) | 763/1152 (66%)  | 245/310 (79%)   |

#### 7.1.4 Statistically unusual chemical shifts

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 |
|---------|-------|-----|------|------|------------|---------------------|---------|
| 1       | A     | 454 | LYS  | HB3  | -1.02      | 0.46 – 3.04         | -10.8   |
| 1       | A     | 454 | LYS  | HE3  | 0.98       | 1.92 – 3.89         | -9.8    |
| 1       | A     | 454 | LYS  | HD3  | -0.36      | 0.54 – 2.65         | -9.3    |
| 1       | A     | 293 | LYS  | HB3  | -0.64      | 0.46 – 3.04         | -9.3    |
| 1       | A     | 449 | TYR  | CD1  | 120.26     | 125.84 – 139.60     | -9.1    |
| 1       | A     | 454 | LYS  | HD2  | 0.10       | 0.58 – 2.64         | -7.3    |
| 1       | A     | 324 | ARG  | HD3  | 1.30       | 1.81 – 4.39         | -7.0    |
| 1       | A     | 454 | LYS  | HE2  | 1.59       | 1.95 – 3.88         | -6.8    |
| 1       | A     | 474 | PRO  | HB3  | -0.39      | 0.25 – 3.76         | -6.8    |
| 1       | A     | 258 | LEU  | HG   | -0.71      | -0.13 – 3.16        | -6.7    |
| 1       | A     | 372 | ASN  | HB3  | 0.59       | 1.12 – 4.38         | -6.6    |
| 1       | A     | 412 | LYS  | HD3  | 0.25       | 0.54 – 2.65         | -6.4    |
| 1       | A     | 431 | PRO  | HA   | 2.39       | 2.78 – 6.00         | -6.2    |
| 1       | A     | 258 | LEU  | HD21 | -0.96      | -0.65 – 2.13        | -6.1    |
| 1       | A     | 258 | LEU  | HD22 | -0.96      | -0.65 – 2.13        | -6.1    |
| 1       | A     | 258 | LEU  | HD23 | -0.96      | -0.65 – 2.13        | -6.1    |
| 1       | A     | 324 | ARG  | HB3  | 0.16       | 0.43 – 3.11         | -6.0    |
| 1       | A     | 315 | GLY  | HA2  | 6.13       | 2.15 – 5.77         | 6.0     |
| 1       | A     | 324 | ARG  | HB2  | 0.29       | 0.52 – 3.08         | -5.9    |
| 1       | A     | 412 | LYS  | HD2  | 0.40       | 0.58 – 2.64         | -5.8    |
| 1       | A     | 454 | LYS  | HB2  | 0.45       | 0.58 – 2.97         | -5.6    |
| 1       | A     | 293 | LYS  | H    | 4.94       | 5.24 – 11.12        | -5.5    |

Continued on next page...

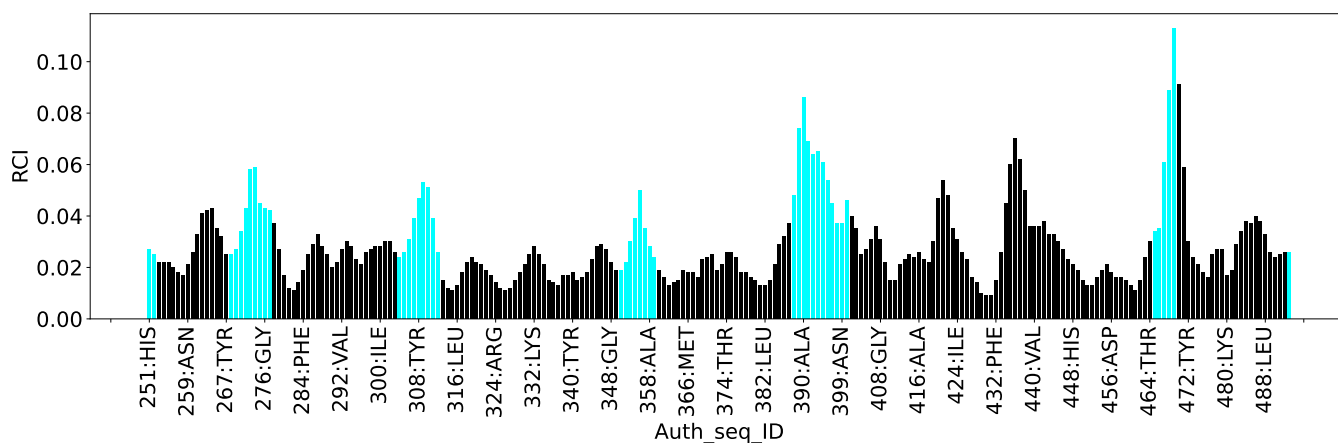
Continued from previous page...

| List Id | Chain | Res | Type | Atom | Shift, ppm | Expected range, ppm | Z-score |
|---------|-------|-----|------|------|------------|---------------------|---------|
| 1       | A     | 431 | PRO  | HB3  | 0.09       | 0.25 – 3.76         | -5.5    |
| 1       | A     | 431 | PRO  | HB2  | 0.26       | 0.37 – 3.78         | -5.3    |
| 1       | A     | 324 | ARG  | HD2  | 1.97       | 1.97 – 4.26         | -5.0    |

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

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

Random coil index (RCI) for chain A:



## 8 NMR restraints analysis [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                                | 3569  |
| Intra-residue ( $ i-j =0$ )                              | 656   |
| Sequential ( $ i-j =1$ )                                 | 821   |
| Medium range ( $ i-j >1$ and $ i-j <5$ )                 | 391   |
| Long range ( $ i-j \geq 5$ )                             | 1613  |
| Inter-chain  | 0     |
| Hydrogen bond restraints                                 | 88    |
| Disulfide bond restraints                                | 0     |
| Total dihedral-angle restraints                          | 0     |
| Number of unmapped restraints                            | 0     |
| Number of restraints per residue                         | 14.6  |
| Number of long range restraints per residue <sup>1</sup> | 6.9   |

<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)  | 18.9                                   | 0.2     |
| 0.2-0.5 (Medium) | 15.5                                   | 0.5     |
| >0.5 (Large)     | 1.6                                    | 1.63    |

### 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](#)

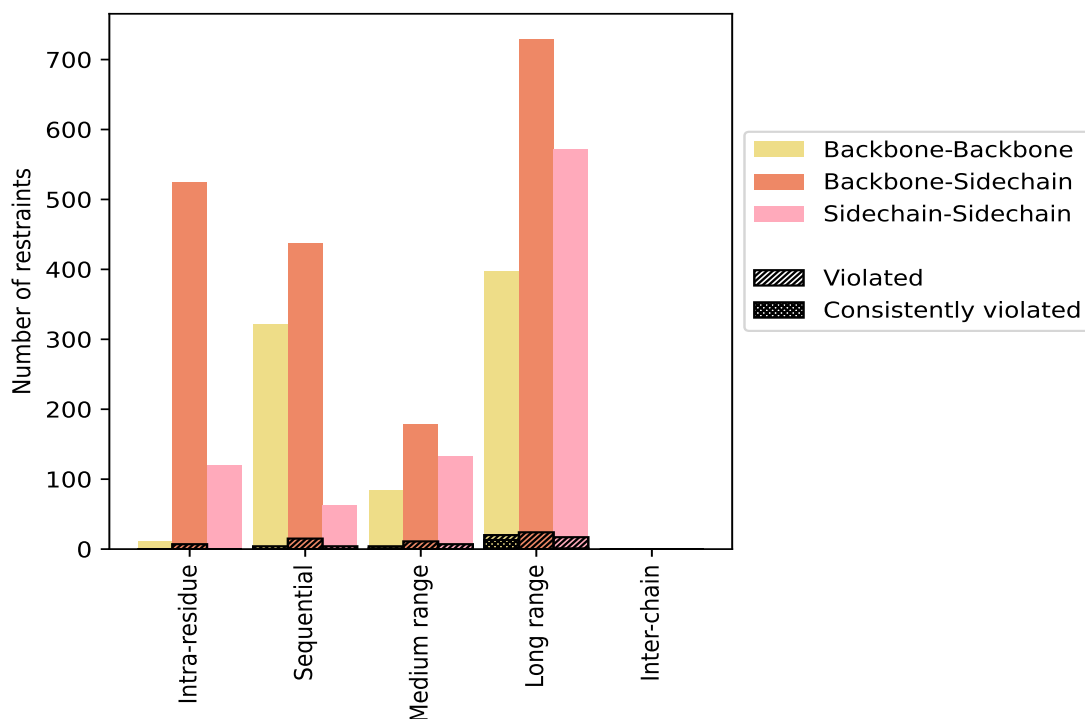
### 9.1 Summary of distance violations [i](#)

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>656</b>  | <b>18.4</b>    | <b>7</b>              | <b>1.1</b>     | <b>0.2</b>     | <b>0</b>                           | <b>0.0</b>     | <b>0.0</b>     |
| Backbone-Backbone   | 11          | 0.3            | 0                     | 0.0            | 0.0            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 525         | 14.7           | 7                     | 1.3            | 0.2            | 0                                  | 0.0            | 0.0            |
| Sidechain-Sidechain   | 120         | 3.4            | 0                     | 0.0            | 0.0            | 0                                  | 0.0            | 0.0            |
| <b>Sequential (<math> i-j =1</math>)</b>                                    | <b>821</b>  | <b>23.0</b>    | <b>23</b>             | <b>2.8</b>     | <b>0.6</b>     | <b>0</b>                           | <b>0.0</b>     | <b>0.0</b>     |
| Backbone-Backbone   | 322         | 9.0            | 4                     | 1.2            | 0.1            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 437         | 12.2           | 15                    | 3.4            | 0.4            | 0                                  | 0.0            | 0.0            |
| Sidechain-Sidechain   | 62          | 1.7            | 4                     | 6.5            | 0.1            | 0                                  | 0.0            | 0.0            |
| <b>Medium range (<math> i-j &gt;1</math> &amp; <math> i-j &lt;5</math>)</b> | <b>391</b>  | <b>11.0</b>    | <b>20</b>             | <b>5.1</b>     | <b>0.6</b>     | <b>0</b>                           | <b>0.0</b>     | <b>0.0</b>     |
| Backbone-Backbone   | 80          | 2.2            | 2                     | 2.5            | 0.1            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 179         | 5.0            | 11                    | 6.1            | 0.3            | 0                                  | 0.0            | 0.0            |
| Sidechain-Sidechain   | 132         | 3.7            | 7                     | 5.3            | 0.2            | 0                                  | 0.0            | 0.0            |
| <b>Long range (<math> i-j \geq 5</math>)</b>                                | <b>1613</b> | <b>45.2</b>    | <b>42</b>             | <b>2.6</b>     | <b>1.2</b>     | <b>1</b>                           | <b>0.1</b>     | <b>0.0</b>     |
| Backbone-Backbone   | 313         | 8.8            | 1                     | 0.3            | 0.0            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 729         | 20.4           | 24                    | 3.3            | 0.7            | 0                                  | 0.0            | 0.0            |
| Sidechain-Sidechain   | 571         | 16.0           | 17                    | 3.0            | 0.5            | 1                                  | 0.2            | 0.0            |
| <b>Inter-chain</b>  | <b>0</b>    | <b>0.0</b>     | <b>0</b>              | <b>0.0</b>     | <b>0.0</b>     | <b>0</b>                           | <b>0.0</b>     | <b>0.0</b>     |
| Backbone-Backbone   | 0           | 0.0            | 0                     | 0.0            | 0.0            | 0                                  | 0.0            | 0.0            |
| Backbone-Sidechain  | 0           | 0.0            | 0                     | 0.0            | 0.0            | 0                                  | 0.0            | 0.0            |
| Sidechain-Sidechain   | 0           | 0.0            | 0                     | 0.0            | 0.0            | 0                                  | 0.0            | 0.0            |
| <b>Hydrogen bond</b>  | <b>88</b>   | <b>2.5</b>     | <b>21</b>             | <b>23.9</b>    | <b>0.6</b>     | <b>14</b>                          | <b>15.9</b>    | <b>0.4</b>     |
| <b>Disulfide bond</b>   | <b>0</b>    | <b>0.0</b>     | <b>0</b>              | <b>0.0</b>     | <b>0.0</b>     | <b>0</b>                           | <b>0.0</b>     | <b>0.0</b>     |
| <b>Total</b>  | <b>3569</b> | <b>100.0</b>   | <b>113</b>            | <b>3.2</b>     | <b>3.2</b>     | <b>15</b>                          | <b>0.4</b>     | <b>0.4</b>     |
| Backbone-Backbone   | 814         | 22.8           | 28                    | 3.4            | 0.8            | 14                                 | 1.7            | 0.4            |
| Backbone-Sidechain  | 1870        | 52.4           | 57                    | 3.0            | 1.6            | 0                                  | 0.0            | 0.0            |
| Sidechain-Sidechain   | 885         | 24.8           | 28                    | 3.2            | 0.8            | 1                                  | 0.1            | 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        | 1                    | 4               | 2               | 30              | 0               | 37    | 0.22     | 0.48    | 0.08                | 0.21       |
| 2        | 3                    | 2               | 5               | 26              | 0               | 36    | 0.21     | 0.66    | 0.11                | 0.17       |
| 3        | 1                    | 4               | 5               | 31              | 0               | 41    | 0.24     | 0.9     | 0.14                | 0.2        |
| 4        | 1                    | 3               | 6               | 32              | 0               | 42    | 0.23     | 0.59    | 0.12                | 0.19       |
| 5        | 2                    | 1               | 4               | 23              | 0               | 30    | 0.24     | 1.29    | 0.21                | 0.2        |
| 6        | 0                    | 2               | 7               | 24              | 0               | 33    | 0.31     | 1.29    | 0.27                | 0.23       |
| 7        | 0                    | 5               | 5               | 31              | 0               | 41    | 0.27     | 1.54    | 0.23                | 0.21       |
| 8        | 1                    | 2               | 8               | 25              | 0               | 36    | 0.25     | 1.5     | 0.22                | 0.2        |
| 9        | 0                    | 2               | 8               | 25              | 0               | 35    | 0.2      | 0.32    | 0.06                | 0.2        |
| 10       | 1                    | 4               | 3               | 29              | 0               | 37    | 0.22     | 0.62    | 0.11                | 0.2        |
| 11       | 0                    | 5               | 2               | 28              | 0               | 35    | 0.22     | 0.66    | 0.1                 | 0.2        |

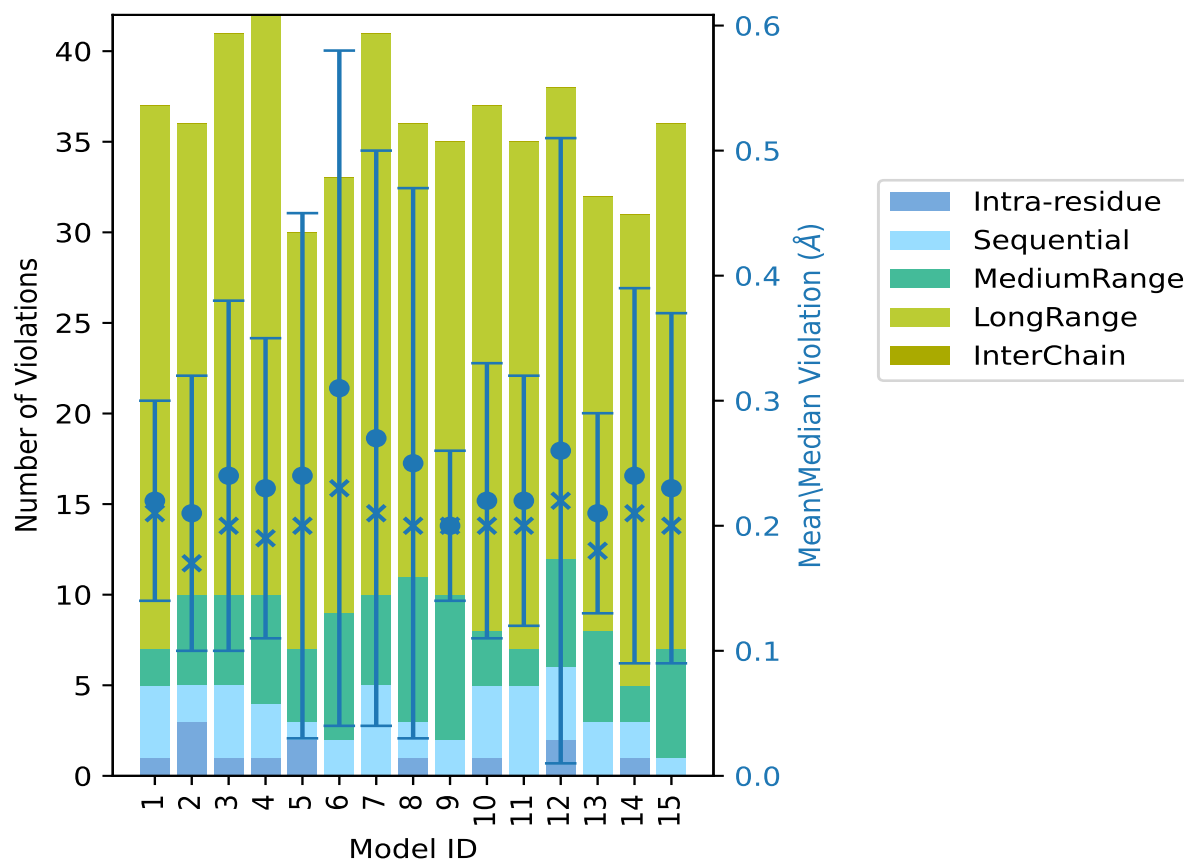
*Continued on next page...*

Continued from previous page...

| 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 |          |         |                     |            |
| 12       | 2                    | 4               | 6               | 26              | 0               | 38    | 0.26     | 1.63    | 0.25                | 0.22       |
| 13       | 0                    | 3               | 5               | 24              | 0               | 32    | 0.21     | 0.51    | 0.08                | 0.18       |
| 14       | 1                    | 2               | 2               | 26              | 0               | 31    | 0.24     | 0.89    | 0.15                | 0.21       |
| 15       | 0                    | 1               | 6               | 29              | 0               | 36    | 0.23     | 0.77    | 0.14                | 0.2        |

<sup>1</sup>Intra-residue restraints, <sup>2</sup>Sequential restraints, <sup>3</sup>Medium range restraints, <sup>4</sup>Long range restraints, <sup>5</sup>Inter-chain restraints, <sup>6</sup>Standard deviation

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



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

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

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

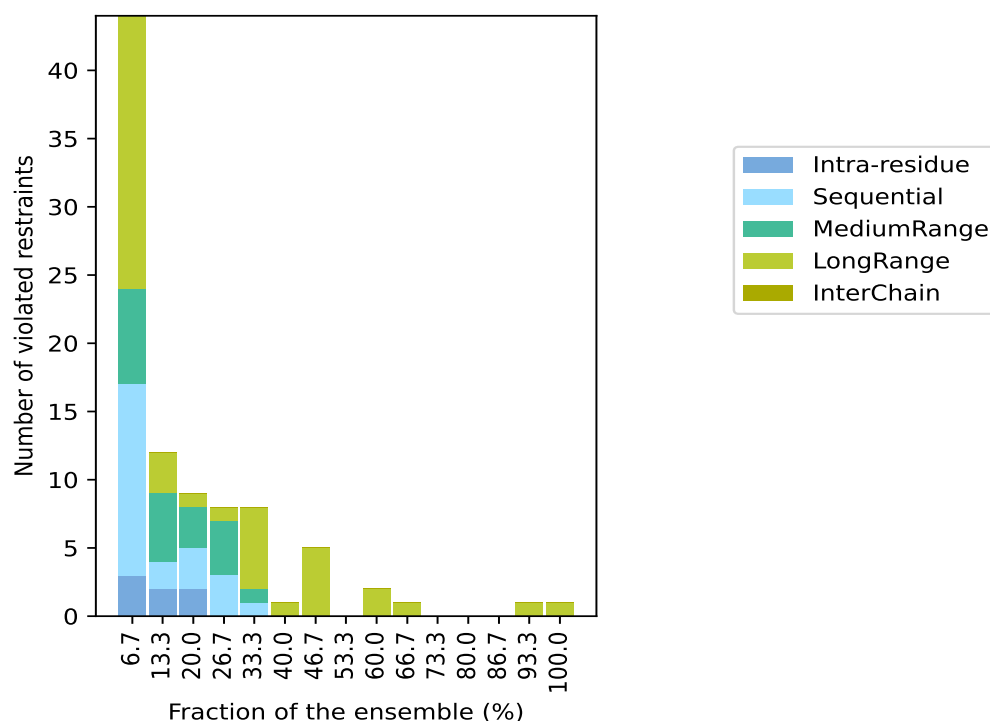
a given fraction of the ensemble. In total, 3389(IR:649, SQ:798, MR:371, LR:1571, IC:0) restraints are not violated in the ensemble.

| Number of violated restraints |                 |                 |                 |                 |       | Fraction of the ensemble |       |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|-------|--------------------------|-------|
| IR <sup>1</sup>               | SQ <sup>2</sup> | MR <sup>3</sup> | LR <sup>4</sup> | IC <sup>5</sup> | Total | Count <sup>6</sup>       | %     |
| 3                             | 14              | 7               | 20              | 0               | 44    | 1                        | 6.7   |
| 2                             | 2               | 5               | 3               | 0               | 12    | 2                        | 13.3  |
| 2                             | 3               | 3               | 1               | 0               | 9     | 3                        | 20.0  |
| 0                             | 3               | 4               | 1               | 0               | 8     | 4                        | 26.7  |
| 0                             | 1               | 1               | 6               | 0               | 8     | 5                        | 33.3  |
| 0                             | 0               | 0               | 1               | 0               | 1     | 6                        | 40.0  |
| 0                             | 0               | 0               | 5               | 0               | 5     | 7                        | 46.7  |
| 0                             | 0               | 0               | 0               | 0               | 0     | 8                        | 53.3  |
| 0                             | 0               | 0               | 2               | 0               | 2     | 9                        | 60.0  |
| 0                             | 0               | 0               | 1               | 0               | 1     | 10                       | 66.7  |
| 0                             | 0               | 0               | 0               | 0               | 0     | 11                       | 73.3  |
| 0                             | 0               | 0               | 0               | 0               | 0     | 12                       | 80.0  |
| 0                             | 0               | 0               | 0               | 0               | 0     | 13                       | 86.7  |
| 0                             | 0               | 0               | 1               | 0               | 1     | 14                       | 93.3  |
| 0                             | 0               | 0               | 1               | 0               | 1     | 15                       | 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



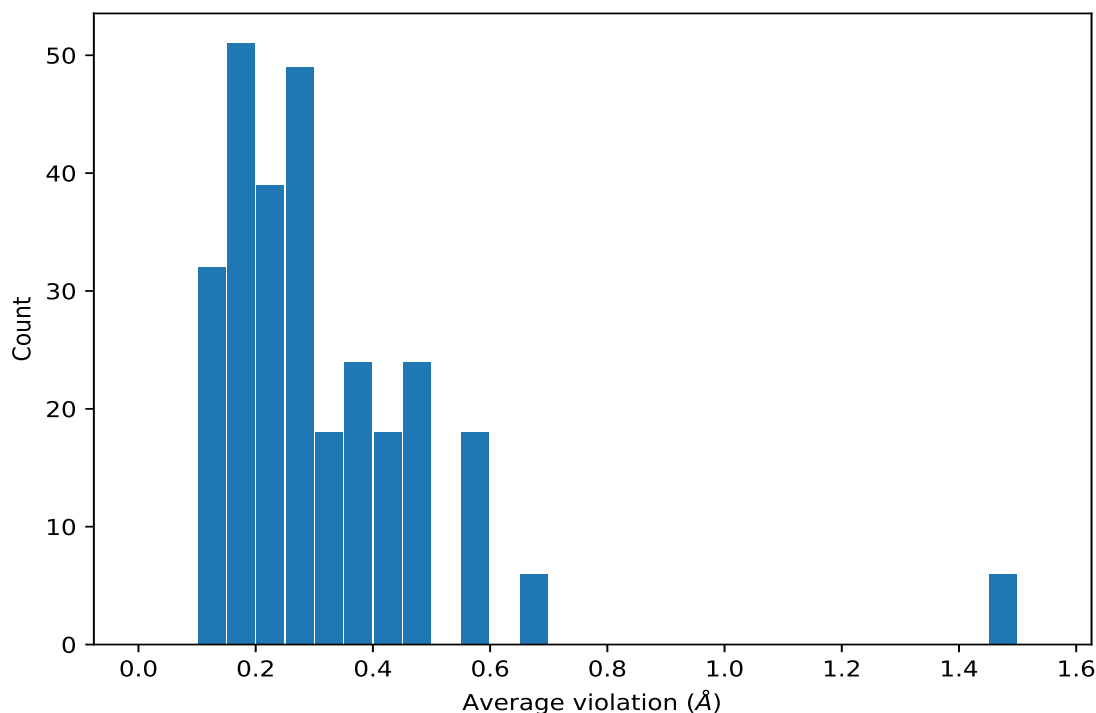
### 9.3.1 Bar graph : Distance violation statistics for the ensemble [i](#)



## 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) |
|--------|-----------------|---------------|---------------------|----------|---------------------|------------|
| (4,20) | 1:A:473:LEU:N   | 1:A:461:VAL:O | 15                  | 0.3      | 0.01                | 0.31       |
| (2,3)  | 1:A:362:HIS:ND1 | 2:A:501:ZN:ZN | 15                  | 0.3      | 0.04                | 0.3        |
| (4,8)  | 1:A:314:ILE:O   | 1:A:327:TYR:N | 15                  | 0.27     | 0.04                | 0.28       |
| (4,3)  | 1:A:364:GLN:N   | 1:A:326:TRP:O | 15                  | 0.27     | 0.03                | 0.28       |
| (4,14) | 1:A:350:SER:N   | 1:A:290:THR:O | 15                  | 0.26     | 0.06                | 0.28       |
| (4,9)  | 1:A:316:LEU:N   | 1:A:325:GLN:O | 15                  | 0.25     | 0.04                | 0.26       |
| (4,11) | 1:A:299:LYS:N   | 1:A:317:ILE:O | 15                  | 0.25     | 0.05                | 0.25       |
| (4,1)  | 1:A:282:VAL:N   | 1:A:363:PHE:O | 15                  | 0.22     | 0.03                | 0.21       |
| (4,2)  | 1:A:282:VAL:O   | 1:A:363:PHE:N | 15                  | 0.22     | 0.03                | 0.22       |
| (4,18) | 1:A:424:ILE:N   | 1:A:441:LEU:O | 15                  | 0.19     | 0.02                | 0.19       |
| (4,4)  | 1:A:364:GLN:O   | 1:A:326:TRP:N | 15                  | 0.19     | 0.03                | 0.19       |
| (4,15) | 1:A:383:LYS:N   | 1:A:380:PRO:O | 15                  | 0.19     | 0.04                | 0.19       |
| (4,7)  | 1:A:314:ILE:N   | 1:A:327:TYR:O | 15                  | 0.18     | 0.04                | 0.17       |
| (4,5)  | 1:A:366:MET:N   | 1:A:324:ARG:O | 15                  | 0.17     | 0.05                | 0.16       |
| (4,12) | 1:A:299:LYS:O   | 1:A:317:ILE:N | 15                  | 0.16     | 0.04                | 0.15       |
| (4,6)  | 1:A:366:MET:O   | 1:A:324:ARG:N | 14                  | 0.19     | 0.04                | 0.18       |

*Continued on next page...*

Continued from previous page...

| Key      | Atom-1           | Atom-2           | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|------------------|------------------|---------------------|----------|---------------------|------------|
| (2,1)    | 1:A:279:HIS:NE2  | 2:A:501:ZN:ZN    | 14                  | 0.15     | 0.03                | 0.15       |
| (4,13)   | 1:A:348:GLY:O    | 1:A:292:VAL:N    | 13                  | 0.14     | 0.02                | 0.14       |
| (4,21)   | 1:A:471:ILE:N    | 1:A:463:TYR:O    | 12                  | 0.19     | 0.04                | 0.2        |
| (4,51)   | 1:A:383:LYS:H    | 1:A:380:PRO:O    | 12                  | 0.14     | 0.02                | 0.14       |
| (1,1997) | 1:A:410:LEU:HD11 | 1:A:478:TRP:HE1  | 10                  | 0.57     | 0.23                | 0.6        |
| (1,1997) | 1:A:410:LEU:HD12 | 1:A:478:TRP:HE1  | 10                  | 0.57     | 0.23                | 0.6        |
| (1,1997) | 1:A:410:LEU:HD13 | 1:A:478:TRP:HE1  | 10                  | 0.57     | 0.23                | 0.6        |
| (1,1997) | 1:A:410:LEU:HD21 | 1:A:478:TRP:HE1  | 10                  | 0.57     | 0.23                | 0.6        |
| (1,1997) | 1:A:410:LEU:HD22 | 1:A:478:TRP:HE1  | 10                  | 0.57     | 0.23                | 0.6        |
| (1,1997) | 1:A:410:LEU:HD23 | 1:A:478:TRP:HE1  | 10                  | 0.57     | 0.23                | 0.6        |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD11 | 9                   | 0.25     | 0.09                | 0.26       |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD12 | 9                   | 0.25     | 0.09                | 0.26       |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD13 | 9                   | 0.25     | 0.09                | 0.26       |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD21 | 9                   | 0.25     | 0.09                | 0.26       |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD22 | 9                   | 0.25     | 0.09                | 0.26       |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD23 | 9                   | 0.25     | 0.09                | 0.26       |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD11 | 9                   | 0.25     | 0.09                | 0.26       |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD12 | 9                   | 0.25     | 0.09                | 0.26       |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD13 | 9                   | 0.25     | 0.09                | 0.26       |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD21 | 9                   | 0.25     | 0.09                | 0.26       |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD22 | 9                   | 0.25     | 0.09                | 0.26       |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD23 | 9                   | 0.25     | 0.09                | 0.26       |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG11 | 9                   | 0.22     | 0.06                | 0.22       |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG12 | 9                   | 0.22     | 0.06                | 0.22       |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG13 | 9                   | 0.22     | 0.06                | 0.22       |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG21 | 9                   | 0.22     | 0.06                | 0.22       |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG22 | 9                   | 0.22     | 0.06                | 0.22       |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG23 | 9                   | 0.22     | 0.06                | 0.22       |
| (4,10)   | 1:A:316:LEU:O    | 1:A:325:GLN:N    | 9                   | 0.15     | 0.03                | 0.15       |
| (1,1999) | 1:A:410:LEU:HD11 | 1:A:478:TRP:HZ2  | 7                   | 0.39     | 0.13                | 0.31       |
| (1,1999) | 1:A:410:LEU:HD12 | 1:A:478:TRP:HZ2  | 7                   | 0.39     | 0.13                | 0.31       |
| (1,1999) | 1:A:410:LEU:HD13 | 1:A:478:TRP:HZ2  | 7                   | 0.39     | 0.13                | 0.31       |
| (1,1999) | 1:A:410:LEU:HD21 | 1:A:478:TRP:HZ2  | 7                   | 0.39     | 0.13                | 0.31       |
| (1,1999) | 1:A:410:LEU:HD22 | 1:A:478:TRP:HZ2  | 7                   | 0.39     | 0.13                | 0.31       |
| (1,1999) | 1:A:410:LEU:HD23 | 1:A:478:TRP:HZ2  | 7                   | 0.39     | 0.13                | 0.31       |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD11 | 7                   | 0.19     | 0.06                | 0.18       |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD12 | 7                   | 0.19     | 0.06                | 0.18       |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD13 | 7                   | 0.19     | 0.06                | 0.18       |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD21 | 7                   | 0.19     | 0.06                | 0.18       |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD22 | 7                   | 0.19     | 0.06                | 0.18       |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD23 | 7                   | 0.19     | 0.06                | 0.18       |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD11 | 7                   | 0.18     | 0.05                | 0.17       |

Continued on next page...

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD12 | 7                   | 0.18     | 0.05                | 0.17       |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD13 | 7                   | 0.18     | 0.05                | 0.17       |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD21 | 7                   | 0.18     | 0.05                | 0.17       |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD22 | 7                   | 0.18     | 0.05                | 0.17       |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD23 | 7                   | 0.18     | 0.05                | 0.17       |
| (1,872)  | 1:A:304:GLY:H    | 1:A:314:ILE:HB   | 7                   | 0.14     | 0.01                | 0.14       |
| (2,6)    | 1:A:362:HIS:ND1  | 2:A:501:ZN:ZN    | 7                   | 0.11     | 0.0                 | 0.11       |
| (1,437)  | 1:A:282:VAL:HG11 | 1:A:379:MET:HA   | 6                   | 0.23     | 0.08                | 0.18       |
| (1,437)  | 1:A:282:VAL:HG12 | 1:A:379:MET:HA   | 6                   | 0.23     | 0.08                | 0.18       |
| (1,437)  | 1:A:282:VAL:HG13 | 1:A:379:MET:HA   | 6                   | 0.23     | 0.08                | 0.18       |
| (1,437)  | 1:A:282:VAL:HG21 | 1:A:379:MET:HA   | 6                   | 0.23     | 0.08                | 0.18       |
| (1,437)  | 1:A:282:VAL:HG22 | 1:A:379:MET:HA   | 6                   | 0.23     | 0.08                | 0.18       |
| (1,437)  | 1:A:282:VAL:HG23 | 1:A:379:MET:HA   | 6                   | 0.23     | 0.08                | 0.18       |
| (1,1223) | 1:A:330:LEU:HD11 | 1:A:351:GLY:H    | 5                   | 0.41     | 0.14                | 0.41       |
| (1,1223) | 1:A:330:LEU:HD12 | 1:A:351:GLY:H    | 5                   | 0.41     | 0.14                | 0.41       |
| (1,1223) | 1:A:330:LEU:HD13 | 1:A:351:GLY:H    | 5                   | 0.41     | 0.14                | 0.41       |
| (1,1223) | 1:A:330:LEU:HD21 | 1:A:351:GLY:H    | 5                   | 0.41     | 0.14                | 0.41       |
| (1,1223) | 1:A:330:LEU:HD22 | 1:A:351:GLY:H    | 5                   | 0.41     | 0.14                | 0.41       |
| (1,1223) | 1:A:330:LEU:HD23 | 1:A:351:GLY:H    | 5                   | 0.41     | 0.14                | 0.41       |
| (1,1221) | 1:A:330:LEU:HD11 | 1:A:350:SER:HA   | 5                   | 0.33     | 0.1                 | 0.32       |
| (1,1221) | 1:A:330:LEU:HD12 | 1:A:350:SER:HA   | 5                   | 0.33     | 0.1                 | 0.32       |
| (1,1221) | 1:A:330:LEU:HD13 | 1:A:350:SER:HA   | 5                   | 0.33     | 0.1                 | 0.32       |
| (1,1221) | 1:A:330:LEU:HD21 | 1:A:350:SER:HA   | 5                   | 0.33     | 0.1                 | 0.32       |
| (1,1221) | 1:A:330:LEU:HD22 | 1:A:350:SER:HA   | 5                   | 0.33     | 0.1                 | 0.32       |
| (1,1221) | 1:A:330:LEU:HD23 | 1:A:350:SER:HA   | 5                   | 0.33     | 0.1                 | 0.32       |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG11 | 5                   | 0.31     | 0.09                | 0.3        |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG12 | 5                   | 0.31     | 0.09                | 0.3        |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG13 | 5                   | 0.31     | 0.09                | 0.3        |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG21 | 5                   | 0.31     | 0.09                | 0.3        |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG22 | 5                   | 0.31     | 0.09                | 0.3        |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG23 | 5                   | 0.31     | 0.09                | 0.3        |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD11 | 5                   | 0.23     | 0.17                | 0.14       |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD12 | 5                   | 0.23     | 0.17                | 0.14       |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD13 | 5                   | 0.23     | 0.17                | 0.14       |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD21 | 5                   | 0.23     | 0.17                | 0.14       |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD22 | 5                   | 0.23     | 0.17                | 0.14       |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD23 | 5                   | 0.23     | 0.17                | 0.14       |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD11 | 5                   | 0.19     | 0.06                | 0.17       |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD12 | 5                   | 0.19     | 0.06                | 0.17       |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD13 | 5                   | 0.19     | 0.06                | 0.17       |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD21 | 5                   | 0.19     | 0.06                | 0.17       |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD22 | 5                   | 0.19     | 0.06                | 0.17       |

*Continued on next page...*

Continued from previous page...

| Key      | Atom-1           | Atom-2           | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD23 | 5                   | 0.19     | 0.06                | 0.17       |
| (1,3467) | 1:A:492:ILE:HD11 | 1:A:493:LYS:H    | 5                   | 0.19     | 0.04                | 0.2        |
| (1,3467) | 1:A:492:ILE:HD12 | 1:A:493:LYS:H    | 5                   | 0.19     | 0.04                | 0.2        |
| (1,3467) | 1:A:492:ILE:HD13 | 1:A:493:LYS:H    | 5                   | 0.19     | 0.04                | 0.2        |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG11 | 5                   | 0.14     | 0.03                | 0.14       |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG12 | 5                   | 0.14     | 0.03                | 0.14       |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG13 | 5                   | 0.14     | 0.03                | 0.14       |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG21 | 5                   | 0.14     | 0.03                | 0.14       |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG22 | 5                   | 0.14     | 0.03                | 0.14       |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG23 | 5                   | 0.14     | 0.03                | 0.14       |
| (1,3333) | 1:A:478:TRP:HD1  | 1:A:485:LEU:HG   | 5                   | 0.12     | 0.01                | 0.12       |
| (1,3414) | 1:A:487:VAL:HG11 | 1:A:489:TRP:HE1  | 4                   | 1.49     | 0.12                | 1.52       |
| (1,3414) | 1:A:487:VAL:HG12 | 1:A:489:TRP:HE1  | 4                   | 1.49     | 0.12                | 1.52       |
| (1,3414) | 1:A:487:VAL:HG13 | 1:A:489:TRP:HE1  | 4                   | 1.49     | 0.12                | 1.52       |
| (1,3414) | 1:A:487:VAL:HG21 | 1:A:489:TRP:HE1  | 4                   | 1.49     | 0.12                | 1.52       |
| (1,3414) | 1:A:487:VAL:HG22 | 1:A:489:TRP:HE1  | 4                   | 1.49     | 0.12                | 1.52       |
| (1,3414) | 1:A:487:VAL:HG23 | 1:A:489:TRP:HE1  | 4                   | 1.49     | 0.12                | 1.52       |
| (1,3425) | 1:A:488:LEU:HD11 | 1:A:489:TRP:HE1  | 4                   | 0.45     | 0.07                | 0.45       |
| (1,3425) | 1:A:488:LEU:HD12 | 1:A:489:TRP:HE1  | 4                   | 0.45     | 0.07                | 0.45       |
| (1,3425) | 1:A:488:LEU:HD13 | 1:A:489:TRP:HE1  | 4                   | 0.45     | 0.07                | 0.45       |
| (1,3425) | 1:A:488:LEU:HD21 | 1:A:489:TRP:HE1  | 4                   | 0.45     | 0.07                | 0.45       |
| (1,3425) | 1:A:488:LEU:HD22 | 1:A:489:TRP:HE1  | 4                   | 0.45     | 0.07                | 0.45       |
| (1,3425) | 1:A:488:LEU:HD23 | 1:A:489:TRP:HE1  | 4                   | 0.45     | 0.07                | 0.45       |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG11 | 4                   | 0.41     | 0.22                | 0.33       |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG12 | 4                   | 0.41     | 0.22                | 0.33       |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG13 | 4                   | 0.41     | 0.22                | 0.33       |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG21 | 4                   | 0.41     | 0.22                | 0.33       |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG22 | 4                   | 0.41     | 0.22                | 0.33       |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG23 | 4                   | 0.41     | 0.22                | 0.33       |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG11 | 4                   | 0.41     | 0.22                | 0.33       |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG12 | 4                   | 0.41     | 0.22                | 0.33       |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG13 | 4                   | 0.41     | 0.22                | 0.33       |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG21 | 4                   | 0.41     | 0.22                | 0.33       |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG22 | 4                   | 0.41     | 0.22                | 0.33       |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG23 | 4                   | 0.41     | 0.22                | 0.33       |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD11 | 4                   | 0.36     | 0.06                | 0.34       |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD12 | 4                   | 0.36     | 0.06                | 0.34       |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD13 | 4                   | 0.36     | 0.06                | 0.34       |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD21 | 4                   | 0.36     | 0.06                | 0.34       |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD22 | 4                   | 0.36     | 0.06                | 0.34       |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD23 | 4                   | 0.36     | 0.06                | 0.34       |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD11 | 4                   | 0.36     | 0.06                | 0.34       |

Continued on next page...

Continued from previous page...

| Key      | Atom-1           | Atom-2           | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD12 | 4                   | 0.36     | 0.06                | 0.34       |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD13 | 4                   | 0.36     | 0.06                | 0.34       |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD21 | 4                   | 0.36     | 0.06                | 0.34       |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD22 | 4                   | 0.36     | 0.06                | 0.34       |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD23 | 4                   | 0.36     | 0.06                | 0.34       |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD11 | 4                   | 0.36     | 0.06                | 0.34       |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD12 | 4                   | 0.36     | 0.06                | 0.34       |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD13 | 4                   | 0.36     | 0.06                | 0.34       |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD21 | 4                   | 0.36     | 0.06                | 0.34       |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD22 | 4                   | 0.36     | 0.06                | 0.34       |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD23 | 4                   | 0.36     | 0.06                | 0.34       |
| (1,1577) | 1:A:367:VAL:HB   | 1:A:369:SER:H    | 4                   | 0.24     | 0.02                | 0.24       |
| (1,2666) | 1:A:440:VAL:HG11 | 1:A:442:LYS:H    | 4                   | 0.2      | 0.05                | 0.21       |
| (1,2666) | 1:A:440:VAL:HG12 | 1:A:442:LYS:H    | 4                   | 0.2      | 0.05                | 0.21       |
| (1,2666) | 1:A:440:VAL:HG13 | 1:A:442:LYS:H    | 4                   | 0.2      | 0.05                | 0.21       |
| (1,2666) | 1:A:440:VAL:HG21 | 1:A:442:LYS:H    | 4                   | 0.2      | 0.05                | 0.21       |
| (1,2666) | 1:A:440:VAL:HG22 | 1:A:442:LYS:H    | 4                   | 0.2      | 0.05                | 0.21       |
| (1,2666) | 1:A:440:VAL:HG23 | 1:A:442:LYS:H    | 4                   | 0.2      | 0.05                | 0.21       |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG11 | 4                   | 0.19     | 0.02                | 0.2        |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG12 | 4                   | 0.19     | 0.02                | 0.2        |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG13 | 4                   | 0.19     | 0.02                | 0.2        |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG21 | 4                   | 0.19     | 0.02                | 0.2        |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG22 | 4                   | 0.19     | 0.02                | 0.2        |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG23 | 4                   | 0.19     | 0.02                | 0.2        |
| (1,3471) | 1:A:492:ILE:HG21 | 1:A:493:LYS:HG2  | 4                   | 0.15     | 0.01                | 0.15       |
| (1,3471) | 1:A:492:ILE:HG21 | 1:A:493:LYS:HG3  | 4                   | 0.15     | 0.01                | 0.15       |
| (1,3471) | 1:A:492:ILE:HG22 | 1:A:493:LYS:HG2  | 4                   | 0.15     | 0.01                | 0.15       |
| (1,3471) | 1:A:492:ILE:HG22 | 1:A:493:LYS:HG3  | 4                   | 0.15     | 0.01                | 0.15       |
| (1,3471) | 1:A:492:ILE:HG23 | 1:A:493:LYS:HG2  | 4                   | 0.15     | 0.01                | 0.15       |
| (1,3471) | 1:A:492:ILE:HG23 | 1:A:493:LYS:HG3  | 4                   | 0.15     | 0.01                | 0.15       |
| (4,22)   | 1:A:461:VAL:N    | 1:A:473:LEU:O    | 4                   | 0.12     | 0.0                 | 0.12       |
| (1,3413) | 1:A:487:VAL:HG11 | 1:A:489:TRP:HD1  | 3                   | 0.46     | 0.09                | 0.42       |
| (1,3413) | 1:A:487:VAL:HG12 | 1:A:489:TRP:HD1  | 3                   | 0.46     | 0.09                | 0.42       |
| (1,3413) | 1:A:487:VAL:HG13 | 1:A:489:TRP:HD1  | 3                   | 0.46     | 0.09                | 0.42       |
| (1,3413) | 1:A:487:VAL:HG21 | 1:A:489:TRP:HD1  | 3                   | 0.46     | 0.09                | 0.42       |
| (1,3413) | 1:A:487:VAL:HG22 | 1:A:489:TRP:HD1  | 3                   | 0.46     | 0.09                | 0.42       |
| (1,3413) | 1:A:487:VAL:HG23 | 1:A:489:TRP:HD1  | 3                   | 0.46     | 0.09                | 0.42       |
| (1,770)  | 1:A:300:ILE:HA   | 1:A:301:VAL:HG11 | 3                   | 0.27     | 0.04                | 0.25       |
| (1,770)  | 1:A:300:ILE:HA   | 1:A:301:VAL:HG12 | 3                   | 0.27     | 0.04                | 0.25       |
| (1,770)  | 1:A:300:ILE:HA   | 1:A:301:VAL:HG13 | 3                   | 0.27     | 0.04                | 0.25       |
| (1,770)  | 1:A:300:ILE:HA   | 1:A:301:VAL:HG21 | 3                   | 0.27     | 0.04                | 0.25       |
| (1,770)  | 1:A:300:ILE:HA   | 1:A:301:VAL:HG22 | 3                   | 0.27     | 0.04                | 0.25       |

Continued on next page...

Continued from previous page...

| Key      | Atom-1           | Atom-2           | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,770)  | 1:A:300:ILE:HA   | 1:A:301:VAL:HG23 | 3                   | 0.27     | 0.04                | 0.25       |
| (1,3412) | 1:A:487:VAL:HG11 | 1:A:489:TRP:H    | 3                   | 0.27     | 0.08                | 0.23       |
| (1,3412) | 1:A:487:VAL:HG12 | 1:A:489:TRP:H    | 3                   | 0.27     | 0.08                | 0.23       |
| (1,3412) | 1:A:487:VAL:HG13 | 1:A:489:TRP:H    | 3                   | 0.27     | 0.08                | 0.23       |
| (1,3412) | 1:A:487:VAL:HG21 | 1:A:489:TRP:H    | 3                   | 0.27     | 0.08                | 0.23       |
| (1,3412) | 1:A:487:VAL:HG22 | 1:A:489:TRP:H    | 3                   | 0.27     | 0.08                | 0.23       |
| (1,3412) | 1:A:487:VAL:HG23 | 1:A:489:TRP:H    | 3                   | 0.27     | 0.08                | 0.23       |
| (1,851)  | 1:A:302:GLU:HA   | 1:A:337:VAL:HG11 | 3                   | 0.27     | 0.08                | 0.23       |
| (1,851)  | 1:A:302:GLU:HA   | 1:A:337:VAL:HG12 | 3                   | 0.27     | 0.08                | 0.23       |
| (1,851)  | 1:A:302:GLU:HA   | 1:A:337:VAL:HG13 | 3                   | 0.27     | 0.08                | 0.23       |
| (1,851)  | 1:A:302:GLU:HA   | 1:A:337:VAL:HG21 | 3                   | 0.27     | 0.08                | 0.23       |
| (1,851)  | 1:A:302:GLU:HA   | 1:A:337:VAL:HG22 | 3                   | 0.27     | 0.08                | 0.23       |
| (1,851)  | 1:A:302:GLU:HA   | 1:A:337:VAL:HG23 | 3                   | 0.27     | 0.08                | 0.23       |
| (1,1375) | 1:A:341:VAL:HG11 | 1:A:343:ALA:H    | 3                   | 0.23     | 0.05                | 0.23       |
| (1,1375) | 1:A:341:VAL:HG12 | 1:A:343:ALA:H    | 3                   | 0.23     | 0.05                | 0.23       |
| (1,1375) | 1:A:341:VAL:HG13 | 1:A:343:ALA:H    | 3                   | 0.23     | 0.05                | 0.23       |
| (1,1375) | 1:A:341:VAL:HG21 | 1:A:343:ALA:H    | 3                   | 0.23     | 0.05                | 0.23       |
| (1,1375) | 1:A:341:VAL:HG22 | 1:A:343:ALA:H    | 3                   | 0.23     | 0.05                | 0.23       |
| (1,1375) | 1:A:341:VAL:HG23 | 1:A:343:ALA:H    | 3                   | 0.23     | 0.05                | 0.23       |
| (1,1209) | 1:A:330:LEU:HD11 | 1:A:331:SER:H    | 3                   | 0.22     | 0.1                 | 0.19       |
| (1,1209) | 1:A:330:LEU:HD12 | 1:A:331:SER:H    | 3                   | 0.22     | 0.1                 | 0.19       |
| (1,1209) | 1:A:330:LEU:HD13 | 1:A:331:SER:H    | 3                   | 0.22     | 0.1                 | 0.19       |
| (1,1209) | 1:A:330:LEU:HD21 | 1:A:331:SER:H    | 3                   | 0.22     | 0.1                 | 0.19       |
| (1,1209) | 1:A:330:LEU:HD22 | 1:A:331:SER:H    | 3                   | 0.22     | 0.1                 | 0.19       |
| (1,1209) | 1:A:330:LEU:HD23 | 1:A:331:SER:H    | 3                   | 0.22     | 0.1                 | 0.19       |
| (1,2087) | 1:A:415:SER:HB2  | 1:A:416:ALA:H    | 3                   | 0.16     | 0.01                | 0.16       |
| (1,2087) | 1:A:415:SER:HB3  | 1:A:416:ALA:H    | 3                   | 0.16     | 0.01                | 0.16       |
| (1,1474) | 1:A:357:THR:HA   | 1:A:357:THR:HG21 | 3                   | 0.14     | 0.0                 | 0.14       |
| (1,1474) | 1:A:357:THR:HA   | 1:A:357:THR:HG22 | 3                   | 0.14     | 0.0                 | 0.14       |
| (1,1474) | 1:A:357:THR:HA   | 1:A:357:THR:HG23 | 3                   | 0.14     | 0.0                 | 0.14       |
| (1,1780) | 1:A:397:THR:HA   | 1:A:397:THR:HG21 | 3                   | 0.11     | 0.0                 | 0.11       |
| (1,1780) | 1:A:397:THR:HA   | 1:A:397:THR:HG22 | 3                   | 0.11     | 0.0                 | 0.11       |
| (1,1780) | 1:A:397:THR:HA   | 1:A:397:THR:HG23 | 3                   | 0.11     | 0.0                 | 0.11       |
| (1,957)  | 1:A:314:ILE:H    | 1:A:330:LEU:HD11 | 2                   | 0.68     | 0.52                | 0.68       |
| (1,957)  | 1:A:314:ILE:H    | 1:A:330:LEU:HD12 | 2                   | 0.68     | 0.52                | 0.68       |
| (1,957)  | 1:A:314:ILE:H    | 1:A:330:LEU:HD13 | 2                   | 0.68     | 0.52                | 0.68       |
| (1,957)  | 1:A:314:ILE:H    | 1:A:330:LEU:HD21 | 2                   | 0.68     | 0.52                | 0.68       |
| (1,957)  | 1:A:314:ILE:H    | 1:A:330:LEU:HD22 | 2                   | 0.68     | 0.52                | 0.68       |
| (1,957)  | 1:A:314:ILE:H    | 1:A:330:LEU:HD23 | 2                   | 0.68     | 0.52                | 0.68       |
| (1,1215) | 1:A:330:LEU:HD11 | 1:A:333:TYR:HE1  | 2                   | 0.56     | 0.21                | 0.56       |
| (1,1215) | 1:A:330:LEU:HD11 | 1:A:333:TYR:HE2  | 2                   | 0.56     | 0.21                | 0.56       |
| (1,1215) | 1:A:330:LEU:HD12 | 1:A:333:TYR:HE1  | 2                   | 0.56     | 0.21                | 0.56       |

Continued on next page...

Continued from previous page...

| Key      | Atom-1           | Atom-2           | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|------------------|------------------|---------------------|----------|---------------------|------------|
| (1,1215) | 1:A:330:LEU:HD12 | 1:A:333:TYR:HE2  | 2                   | 0.56     | 0.21                | 0.56       |
| (1,1215) | 1:A:330:LEU:HD13 | 1:A:333:TYR:HE1  | 2                   | 0.56     | 0.21                | 0.56       |
| (1,1215) | 1:A:330:LEU:HD13 | 1:A:333:TYR:HE2  | 2                   | 0.56     | 0.21                | 0.56       |
| (1,1215) | 1:A:330:LEU:HD21 | 1:A:333:TYR:HE1  | 2                   | 0.56     | 0.21                | 0.56       |
| (1,1215) | 1:A:330:LEU:HD21 | 1:A:333:TYR:HE2  | 2                   | 0.56     | 0.21                | 0.56       |
| (1,1215) | 1:A:330:LEU:HD22 | 1:A:333:TYR:HE1  | 2                   | 0.56     | 0.21                | 0.56       |
| (1,1215) | 1:A:330:LEU:HD22 | 1:A:333:TYR:HE2  | 2                   | 0.56     | 0.21                | 0.56       |
| (1,1215) | 1:A:330:LEU:HD23 | 1:A:333:TYR:HE1  | 2                   | 0.56     | 0.21                | 0.56       |
| (1,1215) | 1:A:330:LEU:HD23 | 1:A:333:TYR:HE2  | 2                   | 0.56     | 0.21                | 0.56       |
| (1,2052) | 1:A:412:LYS:HE2  | 1:A:452:VAL:HG11 | 2                   | 0.46     | 0.09                | 0.46       |
| (1,2052) | 1:A:412:LYS:HE2  | 1:A:452:VAL:HG12 | 2                   | 0.46     | 0.09                | 0.46       |
| (1,2052) | 1:A:412:LYS:HE2  | 1:A:452:VAL:HG13 | 2                   | 0.46     | 0.09                | 0.46       |
| (1,2052) | 1:A:412:LYS:HE2  | 1:A:452:VAL:HG21 | 2                   | 0.46     | 0.09                | 0.46       |
| (1,2052) | 1:A:412:LYS:HE2  | 1:A:452:VAL:HG22 | 2                   | 0.46     | 0.09                | 0.46       |
| (1,2052) | 1:A:412:LYS:HE2  | 1:A:452:VAL:HG23 | 2                   | 0.46     | 0.09                | 0.46       |
| (1,2052) | 1:A:412:LYS:HE3  | 1:A:452:VAL:HG11 | 2                   | 0.46     | 0.09                | 0.46       |
| (1,2052) | 1:A:412:LYS:HE3  | 1:A:452:VAL:HG12 | 2                   | 0.46     | 0.09                | 0.46       |
| (1,2052) | 1:A:412:LYS:HE3  | 1:A:452:VAL:HG13 | 2                   | 0.46     | 0.09                | 0.46       |
| (1,2052) | 1:A:412:LYS:HE3  | 1:A:452:VAL:HG21 | 2                   | 0.46     | 0.09                | 0.46       |
| (1,2052) | 1:A:412:LYS:HE3  | 1:A:452:VAL:HG22 | 2                   | 0.46     | 0.09                | 0.46       |
| (1,2052) | 1:A:412:LYS:HE3  | 1:A:452:VAL:HG23 | 2                   | 0.46     | 0.09                | 0.46       |
| (1,1068) | 1:A:320:ASP:H    | 1:A:322:VAL:HG11 | 2                   | 0.32     | 0.12                | 0.32       |
| (1,1068) | 1:A:320:ASP:H    | 1:A:322:VAL:HG12 | 2                   | 0.32     | 0.12                | 0.32       |
| (1,1068) | 1:A:320:ASP:H    | 1:A:322:VAL:HG13 | 2                   | 0.32     | 0.12                | 0.32       |
| (1,1068) | 1:A:320:ASP:H    | 1:A:322:VAL:HG21 | 2                   | 0.32     | 0.12                | 0.32       |
| (1,1068) | 1:A:320:ASP:H    | 1:A:322:VAL:HG22 | 2                   | 0.32     | 0.12                | 0.32       |
| (1,1068) | 1:A:320:ASP:H    | 1:A:322:VAL:HG23 | 2                   | 0.32     | 0.12                | 0.32       |
| (1,996)  | 1:A:316:LEU:HD11 | 1:A:318:GLU:H    | 2                   | 0.27     | 0.1                 | 0.27       |
| (1,996)  | 1:A:316:LEU:HD12 | 1:A:318:GLU:H    | 2                   | 0.27     | 0.1                 | 0.27       |
| (1,996)  | 1:A:316:LEU:HD13 | 1:A:318:GLU:H    | 2                   | 0.27     | 0.1                 | 0.27       |
| (1,996)  | 1:A:316:LEU:HD21 | 1:A:318:GLU:H    | 2                   | 0.27     | 0.1                 | 0.27       |
| (1,996)  | 1:A:316:LEU:HD22 | 1:A:318:GLU:H    | 2                   | 0.27     | 0.1                 | 0.27       |
| (1,996)  | 1:A:316:LEU:HD23 | 1:A:318:GLU:H    | 2                   | 0.27     | 0.1                 | 0.27       |
| (1,3400) | 1:A:485:LEU:HD11 | 1:A:486:GLY:H    | 2                   | 0.26     | 0.05                | 0.26       |
| (1,3400) | 1:A:485:LEU:HD12 | 1:A:486:GLY:H    | 2                   | 0.26     | 0.05                | 0.26       |
| (1,3400) | 1:A:485:LEU:HD13 | 1:A:486:GLY:H    | 2                   | 0.26     | 0.05                | 0.26       |
| (1,3400) | 1:A:485:LEU:HD21 | 1:A:486:GLY:H    | 2                   | 0.26     | 0.05                | 0.26       |
| (1,3400) | 1:A:485:LEU:HD22 | 1:A:486:GLY:H    | 2                   | 0.26     | 0.05                | 0.26       |
| (1,3400) | 1:A:485:LEU:HD23 | 1:A:486:GLY:H    | 2                   | 0.26     | 0.05                | 0.26       |
| (1,1984) | 1:A:410:LEU:HD11 | 1:A:411:TYR:H    | 2                   | 0.18     | 0.06                | 0.18       |
| (1,1984) | 1:A:410:LEU:HD12 | 1:A:411:TYR:H    | 2                   | 0.18     | 0.06                | 0.18       |
| (1,1984) | 1:A:410:LEU:HD13 | 1:A:411:TYR:H    | 2                   | 0.18     | 0.06                | 0.18       |

Continued on next page...



Continued from previous page...

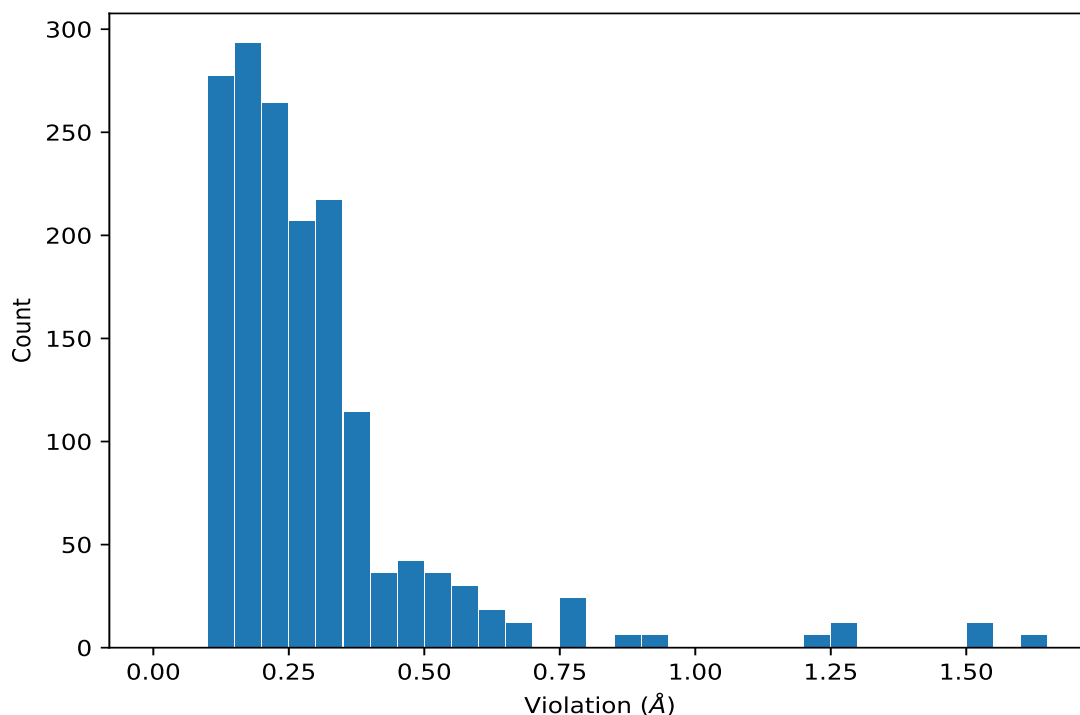
| Key      | Atom-1           | Atom-2          | Models <sup>1</sup> | Mean (Å) | SD <sup>1</sup> (Å) | Median (Å) |
|----------|------------------|-----------------|---------------------|----------|---------------------|------------|
| (1,1984) | 1:A:410:LEU:HD21 | 1:A:411:TYR:H   | 2                   | 0.18     | 0.06                | 0.18       |
| (1,1984) | 1:A:410:LEU:HD22 | 1:A:411:TYR:H   | 2                   | 0.18     | 0.06                | 0.18       |
| (1,1984) | 1:A:410:LEU:HD23 | 1:A:411:TYR:H   | 2                   | 0.18     | 0.06                | 0.18       |
| (1,2803) | 1:A:451:GLU:HB2  | 1:A:462:GLY:HA3 | 2                   | 0.16     | 0.01                | 0.16       |
| (1,2803) | 1:A:451:GLU:HB3  | 1:A:462:GLY:HA3 | 2                   | 0.16     | 0.01                | 0.16       |
| (1,1378) | 1:A:341:VAL:HG11 | 1:A:345:GLN:H   | 2                   | 0.16     | 0.01                | 0.16       |
| (1,1378) | 1:A:341:VAL:HG12 | 1:A:345:GLN:H   | 2                   | 0.16     | 0.01                | 0.16       |
| (1,1378) | 1:A:341:VAL:HG13 | 1:A:345:GLN:H   | 2                   | 0.16     | 0.01                | 0.16       |
| (1,1378) | 1:A:341:VAL:HG21 | 1:A:345:GLN:H   | 2                   | 0.16     | 0.01                | 0.16       |
| (1,1378) | 1:A:341:VAL:HG22 | 1:A:345:GLN:H   | 2                   | 0.16     | 0.01                | 0.16       |
| (1,1378) | 1:A:341:VAL:HG23 | 1:A:345:GLN:H   | 2                   | 0.16     | 0.01                | 0.16       |
| (1,379)  | 1:A:278:MET:H    | 1:A:278:MET:HE1 | 2                   | 0.12     | 0.01                | 0.12       |
| (1,379)  | 1:A:278:MET:H    | 1:A:278:MET:HE2 | 2                   | 0.12     | 0.01                | 0.12       |
| (1,379)  | 1:A:278:MET:H    | 1:A:278:MET:HE3 | 2                   | 0.12     | 0.01                | 0.12       |
| (1,3159) | 1:A:470:ARG:H    | 1:A:470:ARG:HD2 | 2                   | 0.12     | 0.0                 | 0.12       |
| (1,3159) | 1:A:470:ARG:H    | 1:A:470:ARG:HD3 | 2                   | 0.12     | 0.0                 | 0.12       |
| (1,1046) | 1:A:318:GLU:HA   | 1:A:320:ASP:H   | 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) |
|----------|------------------|-----------------|----------|---------------|
| (1,3414) | 1:A:487:VAL:HG11 | 1:A:489:TRP:HE1 | 12       | 1.63          |
| (1,3414) | 1:A:487:VAL:HG12 | 1:A:489:TRP:HE1 | 12       | 1.63          |
| (1,3414) | 1:A:487:VAL:HG13 | 1:A:489:TRP:HE1 | 12       | 1.63          |
| (1,3414) | 1:A:487:VAL:HG21 | 1:A:489:TRP:HE1 | 12       | 1.63          |
| (1,3414) | 1:A:487:VAL:HG22 | 1:A:489:TRP:HE1 | 12       | 1.63          |
| (1,3414) | 1:A:487:VAL:HG23 | 1:A:489:TRP:HE1 | 12       | 1.63          |
| (1,3414) | 1:A:487:VAL:HG11 | 1:A:489:TRP:HE1 | 7        | 1.54          |
| (1,3414) | 1:A:487:VAL:HG12 | 1:A:489:TRP:HE1 | 7        | 1.54          |
| (1,3414) | 1:A:487:VAL:HG13 | 1:A:489:TRP:HE1 | 7        | 1.54          |
| (1,3414) | 1:A:487:VAL:HG21 | 1:A:489:TRP:HE1 | 7        | 1.54          |
| (1,3414) | 1:A:487:VAL:HG22 | 1:A:489:TRP:HE1 | 7        | 1.54          |
| (1,3414) | 1:A:487:VAL:HG23 | 1:A:489:TRP:HE1 | 7        | 1.54          |
| (1,3414) | 1:A:487:VAL:HG11 | 1:A:489:TRP:HE1 | 8        | 1.5           |
| (1,3414) | 1:A:487:VAL:HG12 | 1:A:489:TRP:HE1 | 8        | 1.5           |
| (1,3414) | 1:A:487:VAL:HG13 | 1:A:489:TRP:HE1 | 8        | 1.5           |
| (1,3414) | 1:A:487:VAL:HG21 | 1:A:489:TRP:HE1 | 8        | 1.5           |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3414) | 1:A:487:VAL:HG22 | 1:A:489:TRP:HE1  | 8        | 1.5           |
| (1,3414) | 1:A:487:VAL:HG23 | 1:A:489:TRP:HE1  | 8        | 1.5           |
| (1,930)  | 1:A:313:GLN:HA   | 1:A:330:LEU:HD11 | 6        | 1.29          |
| (1,930)  | 1:A:313:GLN:HA   | 1:A:330:LEU:HD12 | 6        | 1.29          |
| (1,930)  | 1:A:313:GLN:HA   | 1:A:330:LEU:HD13 | 6        | 1.29          |
| (1,930)  | 1:A:313:GLN:HA   | 1:A:330:LEU:HD21 | 6        | 1.29          |
| (1,930)  | 1:A:313:GLN:HA   | 1:A:330:LEU:HD22 | 6        | 1.29          |
| (1,930)  | 1:A:313:GLN:HA   | 1:A:330:LEU:HD23 | 6        | 1.29          |
| (1,3414) | 1:A:487:VAL:HG11 | 1:A:489:TRP:HE1  | 5        | 1.29          |
| (1,3414) | 1:A:487:VAL:HG12 | 1:A:489:TRP:HE1  | 5        | 1.29          |
| (1,3414) | 1:A:487:VAL:HG13 | 1:A:489:TRP:HE1  | 5        | 1.29          |
| (1,3414) | 1:A:487:VAL:HG21 | 1:A:489:TRP:HE1  | 5        | 1.29          |
| (1,3414) | 1:A:487:VAL:HG22 | 1:A:489:TRP:HE1  | 5        | 1.29          |
| (1,3414) | 1:A:487:VAL:HG23 | 1:A:489:TRP:HE1  | 5        | 1.29          |
| (1,957)  | 1:A:314:ILE:H    | 1:A:330:LEU:HD11 | 6        | 1.2           |
| (1,957)  | 1:A:314:ILE:H    | 1:A:330:LEU:HD12 | 6        | 1.2           |
| (1,957)  | 1:A:314:ILE:H    | 1:A:330:LEU:HD13 | 6        | 1.2           |
| (1,957)  | 1:A:314:ILE:H    | 1:A:330:LEU:HD21 | 6        | 1.2           |
| (1,957)  | 1:A:314:ILE:H    | 1:A:330:LEU:HD22 | 6        | 1.2           |
| (1,957)  | 1:A:314:ILE:H    | 1:A:330:LEU:HD23 | 6        | 1.2           |
| (1,1997) | 1:A:410:LEU:HD11 | 1:A:478:TRP:HE1  | 3        | 0.9           |
| (1,1997) | 1:A:410:LEU:HD12 | 1:A:478:TRP:HE1  | 3        | 0.9           |
| (1,1997) | 1:A:410:LEU:HD13 | 1:A:478:TRP:HE1  | 3        | 0.9           |
| (1,1997) | 1:A:410:LEU:HD21 | 1:A:478:TRP:HE1  | 3        | 0.9           |
| (1,1997) | 1:A:410:LEU:HD22 | 1:A:478:TRP:HE1  | 3        | 0.9           |
| (1,1997) | 1:A:410:LEU:HD23 | 1:A:478:TRP:HE1  | 3        | 0.9           |
| (1,1997) | 1:A:410:LEU:HD11 | 1:A:478:TRP:HE1  | 14       | 0.89          |
| (1,1997) | 1:A:410:LEU:HD12 | 1:A:478:TRP:HE1  | 14       | 0.89          |
| (1,1997) | 1:A:410:LEU:HD13 | 1:A:478:TRP:HE1  | 14       | 0.89          |
| (1,1997) | 1:A:410:LEU:HD21 | 1:A:478:TRP:HE1  | 14       | 0.89          |
| (1,1997) | 1:A:410:LEU:HD22 | 1:A:478:TRP:HE1  | 14       | 0.89          |
| (1,1997) | 1:A:410:LEU:HD23 | 1:A:478:TRP:HE1  | 14       | 0.89          |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG11 | 15       | 0.77          |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG12 | 15       | 0.77          |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG13 | 15       | 0.77          |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG21 | 15       | 0.77          |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG22 | 15       | 0.77          |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG23 | 15       | 0.77          |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG11 | 15       | 0.77          |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG12 | 15       | 0.77          |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG13 | 15       | 0.77          |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG21 | 15       | 0.77          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG22 | 15       | 0.77          |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG23 | 15       | 0.77          |
| (1,1215) | 1:A:330:LEU:HD11 | 1:A:333:TYR:HE1  | 6        | 0.77          |
| (1,1215) | 1:A:330:LEU:HD11 | 1:A:333:TYR:HE2  | 6        | 0.77          |
| (1,1215) | 1:A:330:LEU:HD12 | 1:A:333:TYR:HE1  | 6        | 0.77          |
| (1,1215) | 1:A:330:LEU:HD12 | 1:A:333:TYR:HE2  | 6        | 0.77          |
| (1,1215) | 1:A:330:LEU:HD13 | 1:A:333:TYR:HE1  | 6        | 0.77          |
| (1,1215) | 1:A:330:LEU:HD13 | 1:A:333:TYR:HE2  | 6        | 0.77          |
| (1,1215) | 1:A:330:LEU:HD21 | 1:A:333:TYR:HE1  | 6        | 0.77          |
| (1,1215) | 1:A:330:LEU:HD21 | 1:A:333:TYR:HE2  | 6        | 0.77          |
| (1,1215) | 1:A:330:LEU:HD22 | 1:A:333:TYR:HE1  | 6        | 0.77          |
| (1,1215) | 1:A:330:LEU:HD22 | 1:A:333:TYR:HE2  | 6        | 0.77          |
| (1,1215) | 1:A:330:LEU:HD23 | 1:A:333:TYR:HE1  | 6        | 0.77          |
| (1,1215) | 1:A:330:LEU:HD23 | 1:A:333:TYR:HE2  | 6        | 0.77          |
| (1,1997) | 1:A:410:LEU:HD11 | 1:A:478:TRP:HE1  | 2        | 0.66          |
| (1,1997) | 1:A:410:LEU:HD12 | 1:A:478:TRP:HE1  | 2        | 0.66          |
| (1,1997) | 1:A:410:LEU:HD13 | 1:A:478:TRP:HE1  | 2        | 0.66          |
| (1,1997) | 1:A:410:LEU:HD21 | 1:A:478:TRP:HE1  | 2        | 0.66          |
| (1,1997) | 1:A:410:LEU:HD22 | 1:A:478:TRP:HE1  | 2        | 0.66          |
| (1,1997) | 1:A:410:LEU:HD23 | 1:A:478:TRP:HE1  | 2        | 0.66          |
| (1,1997) | 1:A:410:LEU:HD11 | 1:A:478:TRP:HE1  | 11       | 0.66          |
| (1,1997) | 1:A:410:LEU:HD12 | 1:A:478:TRP:HE1  | 11       | 0.66          |
| (1,1997) | 1:A:410:LEU:HD13 | 1:A:478:TRP:HE1  | 11       | 0.66          |
| (1,1997) | 1:A:410:LEU:HD21 | 1:A:478:TRP:HE1  | 11       | 0.66          |
| (1,1997) | 1:A:410:LEU:HD22 | 1:A:478:TRP:HE1  | 11       | 0.66          |
| (1,1997) | 1:A:410:LEU:HD23 | 1:A:478:TRP:HE1  | 11       | 0.66          |
| (1,1999) | 1:A:410:LEU:HD11 | 1:A:478:TRP:HZ2  | 3        | 0.62          |
| (1,1999) | 1:A:410:LEU:HD12 | 1:A:478:TRP:HZ2  | 3        | 0.62          |
| (1,1999) | 1:A:410:LEU:HD13 | 1:A:478:TRP:HZ2  | 3        | 0.62          |
| (1,1999) | 1:A:410:LEU:HD21 | 1:A:478:TRP:HZ2  | 3        | 0.62          |
| (1,1999) | 1:A:410:LEU:HD22 | 1:A:478:TRP:HZ2  | 3        | 0.62          |
| (1,1999) | 1:A:410:LEU:HD23 | 1:A:478:TRP:HZ2  | 3        | 0.62          |
| (1,1223) | 1:A:330:LEU:HD11 | 1:A:351:GLY:H    | 10       | 0.62          |
| (1,1223) | 1:A:330:LEU:HD12 | 1:A:351:GLY:H    | 10       | 0.62          |
| (1,1223) | 1:A:330:LEU:HD13 | 1:A:351:GLY:H    | 10       | 0.62          |
| (1,1223) | 1:A:330:LEU:HD21 | 1:A:351:GLY:H    | 10       | 0.62          |
| (1,1223) | 1:A:330:LEU:HD22 | 1:A:351:GLY:H    | 10       | 0.62          |
| (1,1223) | 1:A:330:LEU:HD23 | 1:A:351:GLY:H    | 10       | 0.62          |
| (1,1997) | 1:A:410:LEU:HD11 | 1:A:478:TRP:HE1  | 15       | 0.6           |
| (1,1997) | 1:A:410:LEU:HD12 | 1:A:478:TRP:HE1  | 15       | 0.6           |
| (1,1997) | 1:A:410:LEU:HD13 | 1:A:478:TRP:HE1  | 15       | 0.6           |
| (1,1997) | 1:A:410:LEU:HD21 | 1:A:478:TRP:HE1  | 15       | 0.6           |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1997) | 1:A:410:LEU:HD22 | 1:A:478:TRP:HE1  | 15       | 0.6           |
| (1,1997) | 1:A:410:LEU:HD23 | 1:A:478:TRP:HE1  | 15       | 0.6           |
| (1,3413) | 1:A:487:VAL:HG11 | 1:A:489:TRP:HD1  | 12       | 0.59          |
| (1,3413) | 1:A:487:VAL:HG12 | 1:A:489:TRP:HD1  | 12       | 0.59          |
| (1,3413) | 1:A:487:VAL:HG13 | 1:A:489:TRP:HD1  | 12       | 0.59          |
| (1,3413) | 1:A:487:VAL:HG21 | 1:A:489:TRP:HD1  | 12       | 0.59          |
| (1,3413) | 1:A:487:VAL:HG22 | 1:A:489:TRP:HD1  | 12       | 0.59          |
| (1,3413) | 1:A:487:VAL:HG23 | 1:A:489:TRP:HD1  | 12       | 0.59          |
| (1,1997) | 1:A:410:LEU:HD11 | 1:A:478:TRP:HE1  | 4        | 0.59          |
| (1,1997) | 1:A:410:LEU:HD12 | 1:A:478:TRP:HE1  | 4        | 0.59          |
| (1,1997) | 1:A:410:LEU:HD13 | 1:A:478:TRP:HE1  | 4        | 0.59          |
| (1,1997) | 1:A:410:LEU:HD21 | 1:A:478:TRP:HE1  | 4        | 0.59          |
| (1,1997) | 1:A:410:LEU:HD22 | 1:A:478:TRP:HE1  | 4        | 0.59          |
| (1,1997) | 1:A:410:LEU:HD23 | 1:A:478:TRP:HE1  | 4        | 0.59          |
| (1,1997) | 1:A:410:LEU:HD11 | 1:A:478:TRP:HE1  | 7        | 0.59          |
| (1,1997) | 1:A:410:LEU:HD12 | 1:A:478:TRP:HE1  | 7        | 0.59          |
| (1,1997) | 1:A:410:LEU:HD13 | 1:A:478:TRP:HE1  | 7        | 0.59          |
| (1,1997) | 1:A:410:LEU:HD21 | 1:A:478:TRP:HE1  | 7        | 0.59          |
| (1,1997) | 1:A:410:LEU:HD22 | 1:A:478:TRP:HE1  | 7        | 0.59          |
| (1,1997) | 1:A:410:LEU:HD23 | 1:A:478:TRP:HE1  | 7        | 0.59          |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD11 | 6        | 0.57          |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD12 | 6        | 0.57          |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD13 | 6        | 0.57          |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD21 | 6        | 0.57          |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD22 | 6        | 0.57          |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD23 | 6        | 0.57          |
| (1,1999) | 1:A:410:LEU:HD11 | 1:A:478:TRP:HZ2  | 14       | 0.56          |
| (1,1999) | 1:A:410:LEU:HD12 | 1:A:478:TRP:HZ2  | 14       | 0.56          |
| (1,1999) | 1:A:410:LEU:HD13 | 1:A:478:TRP:HZ2  | 14       | 0.56          |
| (1,1999) | 1:A:410:LEU:HD21 | 1:A:478:TRP:HZ2  | 14       | 0.56          |
| (1,1999) | 1:A:410:LEU:HD22 | 1:A:478:TRP:HZ2  | 14       | 0.56          |
| (1,1999) | 1:A:410:LEU:HD23 | 1:A:478:TRP:HZ2  | 14       | 0.56          |
| (1,2052) | 1:A:412:LYS:HE2  | 1:A:452:VAL:HG11 | 4        | 0.54          |
| (1,2052) | 1:A:412:LYS:HE2  | 1:A:452:VAL:HG12 | 4        | 0.54          |
| (1,2052) | 1:A:412:LYS:HE2  | 1:A:452:VAL:HG13 | 4        | 0.54          |
| (1,2052) | 1:A:412:LYS:HE2  | 1:A:452:VAL:HG21 | 4        | 0.54          |
| (1,2052) | 1:A:412:LYS:HE2  | 1:A:452:VAL:HG22 | 4        | 0.54          |
| (1,2052) | 1:A:412:LYS:HE2  | 1:A:452:VAL:HG23 | 4        | 0.54          |
| (1,2052) | 1:A:412:LYS:HE3  | 1:A:452:VAL:HG11 | 4        | 0.54          |
| (1,2052) | 1:A:412:LYS:HE3  | 1:A:452:VAL:HG12 | 4        | 0.54          |
| (1,2052) | 1:A:412:LYS:HE3  | 1:A:452:VAL:HG13 | 4        | 0.54          |
| (1,2052) | 1:A:412:LYS:HE3  | 1:A:452:VAL:HG21 | 4        | 0.54          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,2052) | 1:A:412:LYS:HE3  | 1:A:452:VAL:HG22 | 4        | 0.54          |
| (1,2052) | 1:A:412:LYS:HE3  | 1:A:452:VAL:HG23 | 4        | 0.54          |
| (1,864)  | 1:A:303:ALA:HA   | 1:A:330:LEU:HD11 | 6        | 0.52          |
| (1,864)  | 1:A:303:ALA:HA   | 1:A:330:LEU:HD12 | 6        | 0.52          |
| (1,864)  | 1:A:303:ALA:HA   | 1:A:330:LEU:HD13 | 6        | 0.52          |
| (1,864)  | 1:A:303:ALA:HA   | 1:A:330:LEU:HD21 | 6        | 0.52          |
| (1,864)  | 1:A:303:ALA:HA   | 1:A:330:LEU:HD22 | 6        | 0.52          |
| (1,864)  | 1:A:303:ALA:HA   | 1:A:330:LEU:HD23 | 6        | 0.52          |
| (1,3425) | 1:A:488:LEU:HD11 | 1:A:489:TRP:HE1  | 7        | 0.52          |
| (1,3425) | 1:A:488:LEU:HD12 | 1:A:489:TRP:HE1  | 7        | 0.52          |
| (1,3425) | 1:A:488:LEU:HD13 | 1:A:489:TRP:HE1  | 7        | 0.52          |
| (1,3425) | 1:A:488:LEU:HD21 | 1:A:489:TRP:HE1  | 7        | 0.52          |
| (1,3425) | 1:A:488:LEU:HD22 | 1:A:489:TRP:HE1  | 7        | 0.52          |
| (1,3425) | 1:A:488:LEU:HD23 | 1:A:489:TRP:HE1  | 7        | 0.52          |
| (1,3425) | 1:A:488:LEU:HD11 | 1:A:489:TRP:HE1  | 13       | 0.51          |
| (1,3425) | 1:A:488:LEU:HD12 | 1:A:489:TRP:HE1  | 13       | 0.51          |
| (1,3425) | 1:A:488:LEU:HD13 | 1:A:489:TRP:HE1  | 13       | 0.51          |
| (1,3425) | 1:A:488:LEU:HD21 | 1:A:489:TRP:HE1  | 13       | 0.51          |
| (1,3425) | 1:A:488:LEU:HD22 | 1:A:489:TRP:HE1  | 13       | 0.51          |
| (1,3425) | 1:A:488:LEU:HD23 | 1:A:489:TRP:HE1  | 13       | 0.51          |
| (1,1221) | 1:A:330:LEU:HD11 | 1:A:350:SER:HA   | 10       | 0.5           |
| (1,1221) | 1:A:330:LEU:HD12 | 1:A:350:SER:HA   | 10       | 0.5           |
| (1,1221) | 1:A:330:LEU:HD13 | 1:A:350:SER:HA   | 10       | 0.5           |
| (1,1221) | 1:A:330:LEU:HD21 | 1:A:350:SER:HA   | 10       | 0.5           |
| (1,1221) | 1:A:330:LEU:HD22 | 1:A:350:SER:HA   | 10       | 0.5           |
| (1,1221) | 1:A:330:LEU:HD23 | 1:A:350:SER:HA   | 10       | 0.5           |
| (1,305)  | 1:A:265:TYR:HE1  | 1:A:272:LEU:HD11 | 4        | 0.48          |
| (1,305)  | 1:A:265:TYR:HE1  | 1:A:272:LEU:HD12 | 4        | 0.48          |
| (1,305)  | 1:A:265:TYR:HE1  | 1:A:272:LEU:HD13 | 4        | 0.48          |
| (1,305)  | 1:A:265:TYR:HE1  | 1:A:272:LEU:HD21 | 4        | 0.48          |
| (1,305)  | 1:A:265:TYR:HE1  | 1:A:272:LEU:HD22 | 4        | 0.48          |
| (1,305)  | 1:A:265:TYR:HE1  | 1:A:272:LEU:HD23 | 4        | 0.48          |
| (1,305)  | 1:A:265:TYR:HE2  | 1:A:272:LEU:HD11 | 4        | 0.48          |
| (1,305)  | 1:A:265:TYR:HE2  | 1:A:272:LEU:HD12 | 4        | 0.48          |
| (1,305)  | 1:A:265:TYR:HE2  | 1:A:272:LEU:HD13 | 4        | 0.48          |
| (1,305)  | 1:A:265:TYR:HE2  | 1:A:272:LEU:HD21 | 4        | 0.48          |
| (1,305)  | 1:A:265:TYR:HE2  | 1:A:272:LEU:HD22 | 4        | 0.48          |
| (1,305)  | 1:A:265:TYR:HE2  | 1:A:272:LEU:HD23 | 4        | 0.48          |
| (1,1223) | 1:A:330:LEU:HD11 | 1:A:351:GLY:H    | 1        | 0.48          |
| (1,1223) | 1:A:330:LEU:HD12 | 1:A:351:GLY:H    | 1        | 0.48          |
| (1,1223) | 1:A:330:LEU:HD13 | 1:A:351:GLY:H    | 1        | 0.48          |
| (1,1223) | 1:A:330:LEU:HD21 | 1:A:351:GLY:H    | 1        | 0.48          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1223) | 1:A:330:LEU:HD22 | 1:A:351:GLY:H    | 1        | 0.48          |
| (1,1223) | 1:A:330:LEU:HD23 | 1:A:351:GLY:H    | 1        | 0.48          |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD11 | 15       | 0.45          |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD12 | 15       | 0.45          |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD13 | 15       | 0.45          |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD21 | 15       | 0.45          |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD22 | 15       | 0.45          |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD23 | 15       | 0.45          |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD11 | 15       | 0.45          |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD12 | 15       | 0.45          |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD13 | 15       | 0.45          |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD21 | 15       | 0.45          |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD22 | 15       | 0.45          |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD23 | 15       | 0.45          |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD11 | 15       | 0.45          |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD12 | 15       | 0.45          |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD13 | 15       | 0.45          |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD21 | 15       | 0.45          |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD22 | 15       | 0.45          |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD23 | 15       | 0.45          |
| (1,1068) | 1:A:320:ASP:H    | 1:A:322:VAL:HG11 | 4        | 0.45          |
| (1,1068) | 1:A:320:ASP:H    | 1:A:322:VAL:HG12 | 4        | 0.45          |
| (1,1068) | 1:A:320:ASP:H    | 1:A:322:VAL:HG13 | 4        | 0.45          |
| (1,1068) | 1:A:320:ASP:H    | 1:A:322:VAL:HG21 | 4        | 0.45          |
| (1,1068) | 1:A:320:ASP:H    | 1:A:322:VAL:HG22 | 4        | 0.45          |
| (1,1068) | 1:A:320:ASP:H    | 1:A:322:VAL:HG23 | 4        | 0.45          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD11 | 3        | 0.44          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD12 | 3        | 0.44          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD13 | 3        | 0.44          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD21 | 3        | 0.44          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD22 | 3        | 0.44          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD23 | 3        | 0.44          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD11 | 3        | 0.44          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD12 | 3        | 0.44          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD13 | 3        | 0.44          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD21 | 3        | 0.44          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD22 | 3        | 0.44          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD23 | 3        | 0.44          |
| (1,3413) | 1:A:487:VAL:HG11 | 1:A:489:TRP:HD1  | 7        | 0.42          |
| (1,3413) | 1:A:487:VAL:HG12 | 1:A:489:TRP:HD1  | 7        | 0.42          |
| (1,3413) | 1:A:487:VAL:HG13 | 1:A:489:TRP:HD1  | 7        | 0.42          |
| (1,3413) | 1:A:487:VAL:HG21 | 1:A:489:TRP:HD1  | 7        | 0.42          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3413) | 1:A:487:VAL:HG22 | 1:A:489:TRP:HD1  | 7        | 0.42          |
| (1,3413) | 1:A:487:VAL:HG23 | 1:A:489:TRP:HD1  | 7        | 0.42          |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG11 | 5        | 0.42          |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG12 | 5        | 0.42          |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG13 | 5        | 0.42          |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG21 | 5        | 0.42          |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG22 | 5        | 0.42          |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG23 | 5        | 0.42          |
| (1,1223) | 1:A:330:LEU:HD11 | 1:A:351:GLY:H    | 7        | 0.41          |
| (1,1223) | 1:A:330:LEU:HD12 | 1:A:351:GLY:H    | 7        | 0.41          |
| (1,1223) | 1:A:330:LEU:HD13 | 1:A:351:GLY:H    | 7        | 0.41          |
| (1,1223) | 1:A:330:LEU:HD21 | 1:A:351:GLY:H    | 7        | 0.41          |
| (1,1223) | 1:A:330:LEU:HD22 | 1:A:351:GLY:H    | 7        | 0.41          |
| (1,1223) | 1:A:330:LEU:HD23 | 1:A:351:GLY:H    | 7        | 0.41          |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG11 | 2        | 0.4           |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG12 | 2        | 0.4           |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG13 | 2        | 0.4           |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG21 | 2        | 0.4           |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG22 | 2        | 0.4           |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG23 | 2        | 0.4           |
| (1,3425) | 1:A:488:LEU:HD11 | 1:A:489:TRP:HE1  | 12       | 0.39          |
| (1,3425) | 1:A:488:LEU:HD12 | 1:A:489:TRP:HE1  | 12       | 0.39          |
| (1,3425) | 1:A:488:LEU:HD13 | 1:A:489:TRP:HE1  | 12       | 0.39          |
| (1,3425) | 1:A:488:LEU:HD21 | 1:A:489:TRP:HE1  | 12       | 0.39          |
| (1,3425) | 1:A:488:LEU:HD22 | 1:A:489:TRP:HE1  | 12       | 0.39          |
| (1,3425) | 1:A:488:LEU:HD23 | 1:A:489:TRP:HE1  | 12       | 0.39          |
| (1,1360) | 1:A:340:TYR:H    | 1:A:341:VAL:HG11 | 10       | 0.39          |
| (1,1360) | 1:A:340:TYR:H    | 1:A:341:VAL:HG12 | 10       | 0.39          |
| (1,1360) | 1:A:340:TYR:H    | 1:A:341:VAL:HG13 | 10       | 0.39          |
| (1,1360) | 1:A:340:TYR:H    | 1:A:341:VAL:HG21 | 10       | 0.39          |
| (1,1360) | 1:A:340:TYR:H    | 1:A:341:VAL:HG22 | 10       | 0.39          |
| (1,1360) | 1:A:340:TYR:H    | 1:A:341:VAL:HG23 | 10       | 0.39          |
| (1,851)  | 1:A:302:GLU:HA   | 1:A:337:VAL:HG11 | 3        | 0.38          |
| (1,851)  | 1:A:302:GLU:HA   | 1:A:337:VAL:HG12 | 3        | 0.38          |
| (1,851)  | 1:A:302:GLU:HA   | 1:A:337:VAL:HG13 | 3        | 0.38          |
| (1,851)  | 1:A:302:GLU:HA   | 1:A:337:VAL:HG21 | 3        | 0.38          |
| (1,851)  | 1:A:302:GLU:HA   | 1:A:337:VAL:HG22 | 3        | 0.38          |
| (1,851)  | 1:A:302:GLU:HA   | 1:A:337:VAL:HG23 | 3        | 0.38          |
| (1,3412) | 1:A:487:VAL:HG11 | 1:A:489:TRP:H    | 12       | 0.38          |
| (1,3412) | 1:A:487:VAL:HG12 | 1:A:489:TRP:H    | 12       | 0.38          |
| (1,3412) | 1:A:487:VAL:HG13 | 1:A:489:TRP:H    | 12       | 0.38          |
| (1,3412) | 1:A:487:VAL:HG21 | 1:A:489:TRP:H    | 12       | 0.38          |

*Continued on next page...*



*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3412) | 1:A:487:VAL:HG22 | 1:A:489:TRP:H    | 12       | 0.38          |
| (1,3412) | 1:A:487:VAL:HG23 | 1:A:489:TRP:H    | 12       | 0.38          |
| (1,1997) | 1:A:410:LEU:HD11 | 1:A:478:TRP:HE1  | 8        | 0.38          |
| (1,1997) | 1:A:410:LEU:HD12 | 1:A:478:TRP:HE1  | 8        | 0.38          |
| (1,1997) | 1:A:410:LEU:HD13 | 1:A:478:TRP:HE1  | 8        | 0.38          |
| (1,1997) | 1:A:410:LEU:HD21 | 1:A:478:TRP:HE1  | 8        | 0.38          |
| (1,1997) | 1:A:410:LEU:HD22 | 1:A:478:TRP:HE1  | 8        | 0.38          |
| (1,1997) | 1:A:410:LEU:HD23 | 1:A:478:TRP:HE1  | 8        | 0.38          |
| (1,996)  | 1:A:316:LEU:HD11 | 1:A:318:GLU:H    | 6        | 0.37          |
| (1,996)  | 1:A:316:LEU:HD12 | 1:A:318:GLU:H    | 6        | 0.37          |
| (1,996)  | 1:A:316:LEU:HD13 | 1:A:318:GLU:H    | 6        | 0.37          |
| (1,996)  | 1:A:316:LEU:HD21 | 1:A:318:GLU:H    | 6        | 0.37          |
| (1,996)  | 1:A:316:LEU:HD22 | 1:A:318:GLU:H    | 6        | 0.37          |
| (1,996)  | 1:A:316:LEU:HD23 | 1:A:318:GLU:H    | 6        | 0.37          |
| (1,3425) | 1:A:488:LEU:HD11 | 1:A:489:TRP:HE1  | 15       | 0.37          |
| (1,3425) | 1:A:488:LEU:HD12 | 1:A:489:TRP:HE1  | 15       | 0.37          |
| (1,3425) | 1:A:488:LEU:HD13 | 1:A:489:TRP:HE1  | 15       | 0.37          |
| (1,3425) | 1:A:488:LEU:HD21 | 1:A:489:TRP:HE1  | 15       | 0.37          |
| (1,3425) | 1:A:488:LEU:HD22 | 1:A:489:TRP:HE1  | 15       | 0.37          |
| (1,3425) | 1:A:488:LEU:HD23 | 1:A:489:TRP:HE1  | 15       | 0.37          |
| (1,3413) | 1:A:487:VAL:HG11 | 1:A:489:TRP:HD1  | 8        | 0.37          |
| (1,3413) | 1:A:487:VAL:HG12 | 1:A:489:TRP:HD1  | 8        | 0.37          |
| (1,3413) | 1:A:487:VAL:HG13 | 1:A:489:TRP:HD1  | 8        | 0.37          |
| (1,3413) | 1:A:487:VAL:HG21 | 1:A:489:TRP:HD1  | 8        | 0.37          |
| (1,3413) | 1:A:487:VAL:HG22 | 1:A:489:TRP:HD1  | 8        | 0.37          |
| (1,3413) | 1:A:487:VAL:HG23 | 1:A:489:TRP:HD1  | 8        | 0.37          |
| (1,2052) | 1:A:412:LYS:HE2  | 1:A:452:VAL:HG11 | 14       | 0.37          |
| (1,2052) | 1:A:412:LYS:HE2  | 1:A:452:VAL:HG12 | 14       | 0.37          |
| (1,2052) | 1:A:412:LYS:HE2  | 1:A:452:VAL:HG13 | 14       | 0.37          |
| (1,2052) | 1:A:412:LYS:HE2  | 1:A:452:VAL:HG21 | 14       | 0.37          |
| (1,2052) | 1:A:412:LYS:HE2  | 1:A:452:VAL:HG22 | 14       | 0.37          |
| (1,2052) | 1:A:412:LYS:HE2  | 1:A:452:VAL:HG23 | 14       | 0.37          |
| (1,2052) | 1:A:412:LYS:HE3  | 1:A:452:VAL:HG11 | 14       | 0.37          |
| (1,2052) | 1:A:412:LYS:HE3  | 1:A:452:VAL:HG12 | 14       | 0.37          |
| (1,2052) | 1:A:412:LYS:HE3  | 1:A:452:VAL:HG13 | 14       | 0.37          |
| (1,2052) | 1:A:412:LYS:HE3  | 1:A:452:VAL:HG21 | 14       | 0.37          |
| (1,2052) | 1:A:412:LYS:HE3  | 1:A:452:VAL:HG22 | 14       | 0.37          |
| (1,2052) | 1:A:412:LYS:HE3  | 1:A:452:VAL:HG23 | 14       | 0.37          |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD11 | 12       | 0.36          |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD12 | 12       | 0.36          |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD13 | 12       | 0.36          |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD21 | 12       | 0.36          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD22 | 12       | 0.36          |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD23 | 12       | 0.36          |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD11 | 12       | 0.36          |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD12 | 12       | 0.36          |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD13 | 12       | 0.36          |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD21 | 12       | 0.36          |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD22 | 12       | 0.36          |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD23 | 12       | 0.36          |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD11 | 12       | 0.36          |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD12 | 12       | 0.36          |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD13 | 12       | 0.36          |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD21 | 12       | 0.36          |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD22 | 12       | 0.36          |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD23 | 12       | 0.36          |
| (1,437)  | 1:A:282:VAL:HG11 | 1:A:379:MET:HA   | 11       | 0.35          |
| (1,437)  | 1:A:282:VAL:HG12 | 1:A:379:MET:HA   | 11       | 0.35          |
| (1,437)  | 1:A:282:VAL:HG13 | 1:A:379:MET:HA   | 11       | 0.35          |
| (1,437)  | 1:A:282:VAL:HG21 | 1:A:379:MET:HA   | 11       | 0.35          |
| (1,437)  | 1:A:282:VAL:HG22 | 1:A:379:MET:HA   | 11       | 0.35          |
| (1,437)  | 1:A:282:VAL:HG23 | 1:A:379:MET:HA   | 11       | 0.35          |
| (1,367)  | 1:A:270:TYR:HE1  | 1:A:272:LEU:HD11 | 3        | 0.35          |
| (1,367)  | 1:A:270:TYR:HE1  | 1:A:272:LEU:HD12 | 3        | 0.35          |
| (1,367)  | 1:A:270:TYR:HE1  | 1:A:272:LEU:HD13 | 3        | 0.35          |
| (1,367)  | 1:A:270:TYR:HE1  | 1:A:272:LEU:HD21 | 3        | 0.35          |
| (1,367)  | 1:A:270:TYR:HE1  | 1:A:272:LEU:HD22 | 3        | 0.35          |
| (1,367)  | 1:A:270:TYR:HE1  | 1:A:272:LEU:HD23 | 3        | 0.35          |
| (1,367)  | 1:A:270:TYR:HE2  | 1:A:272:LEU:HD11 | 3        | 0.35          |
| (1,367)  | 1:A:270:TYR:HE2  | 1:A:272:LEU:HD12 | 3        | 0.35          |
| (1,367)  | 1:A:270:TYR:HE2  | 1:A:272:LEU:HD13 | 3        | 0.35          |
| (1,367)  | 1:A:270:TYR:HE2  | 1:A:272:LEU:HD21 | 3        | 0.35          |
| (1,367)  | 1:A:270:TYR:HE2  | 1:A:272:LEU:HD22 | 3        | 0.35          |
| (1,367)  | 1:A:270:TYR:HE2  | 1:A:272:LEU:HD23 | 3        | 0.35          |
| (1,1215) | 1:A:330:LEU:HD11 | 1:A:333:TYR:HE1  | 8        | 0.35          |
| (1,1215) | 1:A:330:LEU:HD11 | 1:A:333:TYR:HE2  | 8        | 0.35          |
| (1,1215) | 1:A:330:LEU:HD12 | 1:A:333:TYR:HE1  | 8        | 0.35          |
| (1,1215) | 1:A:330:LEU:HD12 | 1:A:333:TYR:HE2  | 8        | 0.35          |
| (1,1215) | 1:A:330:LEU:HD13 | 1:A:333:TYR:HE1  | 8        | 0.35          |
| (1,1215) | 1:A:330:LEU:HD13 | 1:A:333:TYR:HE2  | 8        | 0.35          |
| (1,1215) | 1:A:330:LEU:HD21 | 1:A:333:TYR:HE1  | 8        | 0.35          |
| (1,1215) | 1:A:330:LEU:HD21 | 1:A:333:TYR:HE2  | 8        | 0.35          |
| (1,1215) | 1:A:330:LEU:HD22 | 1:A:333:TYR:HE1  | 8        | 0.35          |
| (1,1215) | 1:A:330:LEU:HD22 | 1:A:333:TYR:HE2  | 8        | 0.35          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1215) | 1:A:330:LEU:HD23 | 1:A:333:TYR:HE1  | 8        | 0.35          |
| (1,1215) | 1:A:330:LEU:HD23 | 1:A:333:TYR:HE2  | 8        | 0.35          |
| (1,1209) | 1:A:330:LEU:HD11 | 1:A:331:SER:H    | 7        | 0.35          |
| (1,1209) | 1:A:330:LEU:HD12 | 1:A:331:SER:H    | 7        | 0.35          |
| (1,1209) | 1:A:330:LEU:HD13 | 1:A:331:SER:H    | 7        | 0.35          |
| (1,1209) | 1:A:330:LEU:HD21 | 1:A:331:SER:H    | 7        | 0.35          |
| (1,1209) | 1:A:330:LEU:HD22 | 1:A:331:SER:H    | 7        | 0.35          |
| (1,1209) | 1:A:330:LEU:HD23 | 1:A:331:SER:H    | 7        | 0.35          |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG11 | 1        | 0.34          |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG12 | 1        | 0.34          |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG13 | 1        | 0.34          |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG21 | 1        | 0.34          |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG22 | 1        | 0.34          |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG23 | 1        | 0.34          |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG11 | 1        | 0.34          |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG12 | 1        | 0.34          |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG13 | 1        | 0.34          |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG21 | 1        | 0.34          |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG22 | 1        | 0.34          |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG23 | 1        | 0.34          |
| (1,1221) | 1:A:330:LEU:HD11 | 1:A:350:SER:HA   | 7        | 0.34          |
| (1,1221) | 1:A:330:LEU:HD12 | 1:A:350:SER:HA   | 7        | 0.34          |
| (1,1221) | 1:A:330:LEU:HD13 | 1:A:350:SER:HA   | 7        | 0.34          |
| (1,1221) | 1:A:330:LEU:HD21 | 1:A:350:SER:HA   | 7        | 0.34          |
| (1,1221) | 1:A:330:LEU:HD22 | 1:A:350:SER:HA   | 7        | 0.34          |
| (1,1221) | 1:A:330:LEU:HD23 | 1:A:350:SER:HA   | 7        | 0.34          |
| (4,14)   | 1:A:350:SER:N    | 1:A:290:THR:O    | 2        | 0.33          |
| (4,14)   | 1:A:350:SER:N    | 1:A:290:THR:O    | 8        | 0.33          |
| (1,770)  | 1:A:300:ILE:HA   | 1:A:301:VAL:HG11 | 7        | 0.33          |
| (1,770)  | 1:A:300:ILE:HA   | 1:A:301:VAL:HG12 | 7        | 0.33          |
| (1,770)  | 1:A:300:ILE:HA   | 1:A:301:VAL:HG13 | 7        | 0.33          |
| (1,770)  | 1:A:300:ILE:HA   | 1:A:301:VAL:HG21 | 7        | 0.33          |
| (1,770)  | 1:A:300:ILE:HA   | 1:A:301:VAL:HG22 | 7        | 0.33          |
| (1,770)  | 1:A:300:ILE:HA   | 1:A:301:VAL:HG23 | 7        | 0.33          |
| (1,759)  | 1:A:299:LYS:HA   | 1:A:341:VAL:HG11 | 10       | 0.33          |
| (1,759)  | 1:A:299:LYS:HA   | 1:A:341:VAL:HG12 | 10       | 0.33          |
| (1,759)  | 1:A:299:LYS:HA   | 1:A:341:VAL:HG13 | 10       | 0.33          |
| (1,759)  | 1:A:299:LYS:HA   | 1:A:341:VAL:HG21 | 10       | 0.33          |
| (1,759)  | 1:A:299:LYS:HA   | 1:A:341:VAL:HG22 | 10       | 0.33          |
| (1,759)  | 1:A:299:LYS:HA   | 1:A:341:VAL:HG23 | 10       | 0.33          |
| (1,1999) | 1:A:410:LEU:HD11 | 1:A:478:TRP:HZ2  | 4        | 0.33          |
| (1,1999) | 1:A:410:LEU:HD12 | 1:A:478:TRP:HZ2  | 4        | 0.33          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1999) | 1:A:410:LEU:HD13 | 1:A:478:TRP:HZ2  | 4        | 0.33          |
| (1,1999) | 1:A:410:LEU:HD21 | 1:A:478:TRP:HZ2  | 4        | 0.33          |
| (1,1999) | 1:A:410:LEU:HD22 | 1:A:478:TRP:HZ2  | 4        | 0.33          |
| (1,1999) | 1:A:410:LEU:HD23 | 1:A:478:TRP:HZ2  | 4        | 0.33          |
| (4,9)    | 1:A:316:LEU:N    | 1:A:325:GLN:O    | 4        | 0.32          |
| (4,20)   | 1:A:473:LEU:N    | 1:A:461:VAL:O    | 1        | 0.32          |
| (4,20)   | 1:A:473:LEU:N    | 1:A:461:VAL:O    | 5        | 0.32          |
| (4,20)   | 1:A:473:LEU:N    | 1:A:461:VAL:O    | 7        | 0.32          |
| (4,20)   | 1:A:473:LEU:N    | 1:A:461:VAL:O    | 13       | 0.32          |
| (4,14)   | 1:A:350:SER:N    | 1:A:290:THR:O    | 10       | 0.32          |
| (4,11)   | 1:A:299:LYS:N    | 1:A:317:ILE:O    | 4        | 0.32          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD11 | 14       | 0.32          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD12 | 14       | 0.32          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD13 | 14       | 0.32          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD21 | 14       | 0.32          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD22 | 14       | 0.32          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD23 | 14       | 0.32          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD11 | 14       | 0.32          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD12 | 14       | 0.32          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD13 | 14       | 0.32          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD21 | 14       | 0.32          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD22 | 14       | 0.32          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD23 | 14       | 0.32          |
| (1,437)  | 1:A:282:VAL:HG11 | 1:A:379:MET:HA   | 9        | 0.32          |
| (1,437)  | 1:A:282:VAL:HG12 | 1:A:379:MET:HA   | 9        | 0.32          |
| (1,437)  | 1:A:282:VAL:HG13 | 1:A:379:MET:HA   | 9        | 0.32          |
| (1,437)  | 1:A:282:VAL:HG21 | 1:A:379:MET:HA   | 9        | 0.32          |
| (1,437)  | 1:A:282:VAL:HG22 | 1:A:379:MET:HA   | 9        | 0.32          |
| (1,437)  | 1:A:282:VAL:HG23 | 1:A:379:MET:HA   | 9        | 0.32          |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG11 | 3        | 0.32          |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG12 | 3        | 0.32          |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG13 | 3        | 0.32          |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG21 | 3        | 0.32          |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG22 | 3        | 0.32          |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG23 | 3        | 0.32          |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG11 | 3        | 0.32          |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG12 | 3        | 0.32          |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG13 | 3        | 0.32          |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG21 | 3        | 0.32          |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG22 | 3        | 0.32          |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG23 | 3        | 0.32          |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD11 | 13       | 0.32          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD12 | 13       | 0.32          |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD13 | 13       | 0.32          |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD21 | 13       | 0.32          |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD22 | 13       | 0.32          |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD23 | 13       | 0.32          |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD11 | 13       | 0.32          |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD12 | 13       | 0.32          |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD13 | 13       | 0.32          |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD21 | 13       | 0.32          |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD22 | 13       | 0.32          |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD23 | 13       | 0.32          |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD11 | 13       | 0.32          |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD12 | 13       | 0.32          |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD13 | 13       | 0.32          |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD21 | 13       | 0.32          |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD22 | 13       | 0.32          |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD23 | 13       | 0.32          |
| (1,1221) | 1:A:330:LEU:HD11 | 1:A:350:SER:HA   | 1        | 0.32          |
| (1,1221) | 1:A:330:LEU:HD12 | 1:A:350:SER:HA   | 1        | 0.32          |
| (1,1221) | 1:A:330:LEU:HD13 | 1:A:350:SER:HA   | 1        | 0.32          |
| (1,1221) | 1:A:330:LEU:HD21 | 1:A:350:SER:HA   | 1        | 0.32          |
| (1,1221) | 1:A:330:LEU:HD22 | 1:A:350:SER:HA   | 1        | 0.32          |
| (1,1221) | 1:A:330:LEU:HD23 | 1:A:350:SER:HA   | 1        | 0.32          |
| (4,8)    | 1:A:314:ILE:O    | 1:A:327:TYR:N    | 2        | 0.31          |
| (4,8)    | 1:A:314:ILE:O    | 1:A:327:TYR:N    | 4        | 0.31          |
| (4,8)    | 1:A:314:ILE:O    | 1:A:327:TYR:N    | 9        | 0.31          |
| (4,8)    | 1:A:314:ILE:O    | 1:A:327:TYR:N    | 10       | 0.31          |
| (4,8)    | 1:A:314:ILE:O    | 1:A:327:TYR:N    | 14       | 0.31          |
| (4,3)    | 1:A:364:GLN:N    | 1:A:326:TRP:O    | 3        | 0.31          |
| (4,20)   | 1:A:473:LEU:N    | 1:A:461:VAL:O    | 2        | 0.31          |
| (4,20)   | 1:A:473:LEU:N    | 1:A:461:VAL:O    | 3        | 0.31          |
| (4,20)   | 1:A:473:LEU:N    | 1:A:461:VAL:O    | 4        | 0.31          |
| (4,20)   | 1:A:473:LEU:N    | 1:A:461:VAL:O    | 10       | 0.31          |
| (4,20)   | 1:A:473:LEU:N    | 1:A:461:VAL:O    | 14       | 0.31          |
| (4,20)   | 1:A:473:LEU:N    | 1:A:461:VAL:O    | 15       | 0.31          |
| (4,14)   | 1:A:350:SER:N    | 1:A:290:THR:O    | 9        | 0.31          |
| (2,3)    | 1:A:362:HIS:ND1  | 2:A:501:ZN:ZN    | 1        | 0.31          |
| (2,3)    | 1:A:362:HIS:ND1  | 2:A:501:ZN:ZN    | 2        | 0.31          |
| (2,3)    | 1:A:362:HIS:ND1  | 2:A:501:ZN:ZN    | 4        | 0.31          |
| (2,3)    | 1:A:362:HIS:ND1  | 2:A:501:ZN:ZN    | 8        | 0.31          |
| (2,3)    | 1:A:362:HIS:ND1  | 2:A:501:ZN:ZN    | 9        | 0.31          |
| (2,3)    | 1:A:362:HIS:ND1  | 2:A:501:ZN:ZN    | 12       | 0.31          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (2,3)    | 1:A:362:HIS:ND1  | 2:A:501:ZN:ZN    | 14       | 0.31          |
| (1,3400) | 1:A:485:LEU:HD11 | 1:A:486:GLY:H    | 1        | 0.31          |
| (1,3400) | 1:A:485:LEU:HD12 | 1:A:486:GLY:H    | 1        | 0.31          |
| (1,3400) | 1:A:485:LEU:HD13 | 1:A:486:GLY:H    | 1        | 0.31          |
| (1,3400) | 1:A:485:LEU:HD21 | 1:A:486:GLY:H    | 1        | 0.31          |
| (1,3400) | 1:A:485:LEU:HD22 | 1:A:486:GLY:H    | 1        | 0.31          |
| (1,3400) | 1:A:485:LEU:HD23 | 1:A:486:GLY:H    | 1        | 0.31          |
| (1,3238) | 1:A:475:VAL:HG11 | 1:A:476:ARG:HD2  | 1        | 0.31          |
| (1,3238) | 1:A:475:VAL:HG11 | 1:A:476:ARG:HD3  | 1        | 0.31          |
| (1,3238) | 1:A:475:VAL:HG12 | 1:A:476:ARG:HD2  | 1        | 0.31          |
| (1,3238) | 1:A:475:VAL:HG12 | 1:A:476:ARG:HD3  | 1        | 0.31          |
| (1,3238) | 1:A:475:VAL:HG13 | 1:A:476:ARG:HD2  | 1        | 0.31          |
| (1,3238) | 1:A:475:VAL:HG13 | 1:A:476:ARG:HD3  | 1        | 0.31          |
| (1,3238) | 1:A:475:VAL:HG21 | 1:A:476:ARG:HD2  | 1        | 0.31          |
| (1,3238) | 1:A:475:VAL:HG21 | 1:A:476:ARG:HD3  | 1        | 0.31          |
| (1,3238) | 1:A:475:VAL:HG22 | 1:A:476:ARG:HD2  | 1        | 0.31          |
| (1,3238) | 1:A:475:VAL:HG22 | 1:A:476:ARG:HD3  | 1        | 0.31          |
| (1,3238) | 1:A:475:VAL:HG23 | 1:A:476:ARG:HD2  | 1        | 0.31          |
| (1,3238) | 1:A:475:VAL:HG23 | 1:A:476:ARG:HD3  | 1        | 0.31          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG11 | 1        | 0.31          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG12 | 1        | 0.31          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG13 | 1        | 0.31          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG21 | 1        | 0.31          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG22 | 1        | 0.31          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG23 | 1        | 0.31          |
| (1,1999) | 1:A:410:LEU:HD11 | 1:A:478:TRP:HZ2  | 2        | 0.31          |
| (1,1999) | 1:A:410:LEU:HD12 | 1:A:478:TRP:HZ2  | 2        | 0.31          |
| (1,1999) | 1:A:410:LEU:HD13 | 1:A:478:TRP:HZ2  | 2        | 0.31          |
| (1,1999) | 1:A:410:LEU:HD21 | 1:A:478:TRP:HZ2  | 2        | 0.31          |
| (1,1999) | 1:A:410:LEU:HD22 | 1:A:478:TRP:HZ2  | 2        | 0.31          |
| (1,1999) | 1:A:410:LEU:HD23 | 1:A:478:TRP:HZ2  | 2        | 0.31          |
| (1,1999) | 1:A:410:LEU:HD11 | 1:A:478:TRP:HZ2  | 11       | 0.31          |
| (1,1999) | 1:A:410:LEU:HD12 | 1:A:478:TRP:HZ2  | 11       | 0.31          |
| (1,1999) | 1:A:410:LEU:HD13 | 1:A:478:TRP:HZ2  | 11       | 0.31          |
| (1,1999) | 1:A:410:LEU:HD21 | 1:A:478:TRP:HZ2  | 11       | 0.31          |
| (1,1999) | 1:A:410:LEU:HD22 | 1:A:478:TRP:HZ2  | 11       | 0.31          |
| (1,1999) | 1:A:410:LEU:HD23 | 1:A:478:TRP:HZ2  | 11       | 0.31          |
| (1,1999) | 1:A:410:LEU:HD11 | 1:A:478:TRP:HZ2  | 15       | 0.31          |
| (1,1999) | 1:A:410:LEU:HD12 | 1:A:478:TRP:HZ2  | 15       | 0.31          |
| (1,1999) | 1:A:410:LEU:HD13 | 1:A:478:TRP:HZ2  | 15       | 0.31          |
| (1,1999) | 1:A:410:LEU:HD21 | 1:A:478:TRP:HZ2  | 15       | 0.31          |
| (1,1999) | 1:A:410:LEU:HD22 | 1:A:478:TRP:HZ2  | 15       | 0.31          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1999) | 1:A:410:LEU:HD23 | 1:A:478:TRP:HZ2  | 15       | 0.31          |
| (1,1997) | 1:A:410:LEU:HD11 | 1:A:478:TRP:HE1  | 5        | 0.31          |
| (1,1997) | 1:A:410:LEU:HD12 | 1:A:478:TRP:HE1  | 5        | 0.31          |
| (1,1997) | 1:A:410:LEU:HD13 | 1:A:478:TRP:HE1  | 5        | 0.31          |
| (1,1997) | 1:A:410:LEU:HD21 | 1:A:478:TRP:HE1  | 5        | 0.31          |
| (1,1997) | 1:A:410:LEU:HD22 | 1:A:478:TRP:HE1  | 5        | 0.31          |
| (1,1997) | 1:A:410:LEU:HD23 | 1:A:478:TRP:HE1  | 5        | 0.31          |
| (4,9)    | 1:A:316:LEU:N    | 1:A:325:GLN:O    | 12       | 0.3           |
| (4,9)    | 1:A:316:LEU:N    | 1:A:325:GLN:O    | 14       | 0.3           |
| (4,8)    | 1:A:314:ILE:O    | 1:A:327:TYR:N    | 1        | 0.3           |
| (4,8)    | 1:A:314:ILE:O    | 1:A:327:TYR:N    | 13       | 0.3           |
| (4,3)    | 1:A:364:GLN:N    | 1:A:326:TRP:O    | 2        | 0.3           |
| (4,14)   | 1:A:350:SER:N    | 1:A:290:THR:O    | 4        | 0.3           |
| (4,11)   | 1:A:299:LYS:N    | 1:A:317:ILE:O    | 14       | 0.3           |
| (2,3)    | 1:A:362:HIS:ND1  | 2:A:501:ZN:ZN    | 3        | 0.3           |
| (2,3)    | 1:A:362:HIS:ND1  | 2:A:501:ZN:ZN    | 5        | 0.3           |
| (2,3)    | 1:A:362:HIS:ND1  | 2:A:501:ZN:ZN    | 6        | 0.3           |
| (2,3)    | 1:A:362:HIS:ND1  | 2:A:501:ZN:ZN    | 7        | 0.3           |
| (2,3)    | 1:A:362:HIS:ND1  | 2:A:501:ZN:ZN    | 10       | 0.3           |
| (2,3)    | 1:A:362:HIS:ND1  | 2:A:501:ZN:ZN    | 11       | 0.3           |
| (2,3)    | 1:A:362:HIS:ND1  | 2:A:501:ZN:ZN    | 15       | 0.3           |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD11 | 4        | 0.3           |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD12 | 4        | 0.3           |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD13 | 4        | 0.3           |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD21 | 4        | 0.3           |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD22 | 4        | 0.3           |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD23 | 4        | 0.3           |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD11 | 4        | 0.3           |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD12 | 4        | 0.3           |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD13 | 4        | 0.3           |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD21 | 4        | 0.3           |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD22 | 4        | 0.3           |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD23 | 4        | 0.3           |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG11 | 14       | 0.3           |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG12 | 14       | 0.3           |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG13 | 14       | 0.3           |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG21 | 14       | 0.3           |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG22 | 14       | 0.3           |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG23 | 14       | 0.3           |
| (1,1999) | 1:A:410:LEU:HD11 | 1:A:478:TRP:HZ2  | 7        | 0.3           |
| (1,1999) | 1:A:410:LEU:HD12 | 1:A:478:TRP:HZ2  | 7        | 0.3           |
| (1,1999) | 1:A:410:LEU:HD13 | 1:A:478:TRP:HZ2  | 7        | 0.3           |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1999) | 1:A:410:LEU:HD21 | 1:A:478:TRP:HZ2  | 7        | 0.3           |
| (1,1999) | 1:A:410:LEU:HD22 | 1:A:478:TRP:HZ2  | 7        | 0.3           |
| (1,1999) | 1:A:410:LEU:HD23 | 1:A:478:TRP:HZ2  | 7        | 0.3           |
| (1,1223) | 1:A:330:LEU:HD11 | 1:A:351:GLY:H    | 3        | 0.3           |
| (1,1223) | 1:A:330:LEU:HD12 | 1:A:351:GLY:H    | 3        | 0.3           |
| (1,1223) | 1:A:330:LEU:HD13 | 1:A:351:GLY:H    | 3        | 0.3           |
| (1,1223) | 1:A:330:LEU:HD21 | 1:A:351:GLY:H    | 3        | 0.3           |
| (1,1223) | 1:A:330:LEU:HD22 | 1:A:351:GLY:H    | 3        | 0.3           |
| (1,1223) | 1:A:330:LEU:HD23 | 1:A:351:GLY:H    | 3        | 0.3           |
| (1,1221) | 1:A:330:LEU:HD11 | 1:A:350:SER:HA   | 3        | 0.3           |
| (1,1221) | 1:A:330:LEU:HD12 | 1:A:350:SER:HA   | 3        | 0.3           |
| (1,1221) | 1:A:330:LEU:HD13 | 1:A:350:SER:HA   | 3        | 0.3           |
| (1,1221) | 1:A:330:LEU:HD21 | 1:A:350:SER:HA   | 3        | 0.3           |
| (1,1221) | 1:A:330:LEU:HD22 | 1:A:350:SER:HA   | 3        | 0.3           |
| (1,1221) | 1:A:330:LEU:HD23 | 1:A:350:SER:HA   | 3        | 0.3           |
| (4,9)    | 1:A:316:LEU:N    | 1:A:325:GLN:O    | 2        | 0.29          |
| (4,3)    | 1:A:364:GLN:N    | 1:A:326:TRP:O    | 1        | 0.29          |
| (4,3)    | 1:A:364:GLN:N    | 1:A:326:TRP:O    | 9        | 0.29          |
| (4,20)   | 1:A:473:LEU:N    | 1:A:461:VAL:O    | 6        | 0.29          |
| (4,20)   | 1:A:473:LEU:N    | 1:A:461:VAL:O    | 8        | 0.29          |
| (4,20)   | 1:A:473:LEU:N    | 1:A:461:VAL:O    | 11       | 0.29          |
| (4,20)   | 1:A:473:LEU:N    | 1:A:461:VAL:O    | 12       | 0.29          |
| (4,14)   | 1:A:350:SER:N    | 1:A:290:THR:O    | 6        | 0.29          |
| (4,14)   | 1:A:350:SER:N    | 1:A:290:THR:O    | 15       | 0.29          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG11 | 11       | 0.29          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG12 | 11       | 0.29          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG13 | 11       | 0.29          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG21 | 11       | 0.29          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG22 | 11       | 0.29          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG23 | 11       | 0.29          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG11 | 12       | 0.29          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG12 | 12       | 0.29          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG13 | 12       | 0.29          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG21 | 12       | 0.29          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG22 | 12       | 0.29          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG23 | 12       | 0.29          |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD11 | 7        | 0.29          |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD12 | 7        | 0.29          |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD13 | 7        | 0.29          |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD21 | 7        | 0.29          |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD22 | 7        | 0.29          |
| (1,2365) | 1:A:424:ILE:HD11 | 1:A:488:LEU:HD23 | 7        | 0.29          |

*Continued on next page...*



*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD11 | 7        | 0.29          |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD12 | 7        | 0.29          |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD13 | 7        | 0.29          |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD21 | 7        | 0.29          |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD22 | 7        | 0.29          |
| (1,2365) | 1:A:424:ILE:HD12 | 1:A:488:LEU:HD23 | 7        | 0.29          |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD11 | 7        | 0.29          |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD12 | 7        | 0.29          |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD13 | 7        | 0.29          |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD21 | 7        | 0.29          |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD22 | 7        | 0.29          |
| (1,2365) | 1:A:424:ILE:HD13 | 1:A:488:LEU:HD23 | 7        | 0.29          |
| (1,1375) | 1:A:341:VAL:HG11 | 1:A:343:ALA:H    | 4        | 0.29          |
| (1,1375) | 1:A:341:VAL:HG12 | 1:A:343:ALA:H    | 4        | 0.29          |
| (1,1375) | 1:A:341:VAL:HG13 | 1:A:343:ALA:H    | 4        | 0.29          |
| (1,1375) | 1:A:341:VAL:HG21 | 1:A:343:ALA:H    | 4        | 0.29          |
| (1,1375) | 1:A:341:VAL:HG22 | 1:A:343:ALA:H    | 4        | 0.29          |
| (1,1375) | 1:A:341:VAL:HG23 | 1:A:343:ALA:H    | 4        | 0.29          |
| (4,9)    | 1:A:316:LEU:N    | 1:A:325:GLN:O    | 10       | 0.28          |
| (4,9)    | 1:A:316:LEU:N    | 1:A:325:GLN:O    | 11       | 0.28          |
| (4,9)    | 1:A:316:LEU:N    | 1:A:325:GLN:O    | 13       | 0.28          |
| (4,8)    | 1:A:314:ILE:O    | 1:A:327:TYR:N    | 3        | 0.28          |
| (4,8)    | 1:A:314:ILE:O    | 1:A:327:TYR:N    | 12       | 0.28          |
| (4,3)    | 1:A:364:GLN:N    | 1:A:326:TRP:O    | 5        | 0.28          |
| (4,3)    | 1:A:364:GLN:N    | 1:A:326:TRP:O    | 6        | 0.28          |
| (4,3)    | 1:A:364:GLN:N    | 1:A:326:TRP:O    | 10       | 0.28          |
| (4,3)    | 1:A:364:GLN:N    | 1:A:326:TRP:O    | 13       | 0.28          |
| (4,3)    | 1:A:364:GLN:N    | 1:A:326:TRP:O    | 15       | 0.28          |
| (4,2)    | 1:A:282:VAL:O    | 1:A:363:PHE:N    | 13       | 0.28          |
| (4,14)   | 1:A:350:SER:N    | 1:A:290:THR:O    | 5        | 0.28          |
| (4,11)   | 1:A:299:LYS:N    | 1:A:317:ILE:O    | 2        | 0.28          |
| (4,11)   | 1:A:299:LYS:N    | 1:A:317:ILE:O    | 8        | 0.28          |
| (4,11)   | 1:A:299:LYS:N    | 1:A:317:ILE:O    | 13       | 0.28          |
| (1,958)  | 1:A:314:ILE:HA   | 1:A:330:LEU:HD11 | 6        | 0.28          |
| (1,958)  | 1:A:314:ILE:HA   | 1:A:330:LEU:HD12 | 6        | 0.28          |
| (1,958)  | 1:A:314:ILE:HA   | 1:A:330:LEU:HD13 | 6        | 0.28          |
| (1,958)  | 1:A:314:ILE:HA   | 1:A:330:LEU:HD21 | 6        | 0.28          |
| (1,958)  | 1:A:314:ILE:HA   | 1:A:330:LEU:HD22 | 6        | 0.28          |
| (1,958)  | 1:A:314:ILE:HA   | 1:A:330:LEU:HD23 | 6        | 0.28          |
| (4,8)    | 1:A:314:ILE:O    | 1:A:327:TYR:N    | 11       | 0.27          |
| (4,7)    | 1:A:314:ILE:N    | 1:A:327:TYR:O    | 4        | 0.27          |
| (4,5)    | 1:A:366:MET:N    | 1:A:324:ARG:O    | 1        | 0.27          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1          | Atom-2           | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (4,3)    | 1:A:364:GLN:N   | 1:A:326:TRP:O    | 4        | 0.27          |
| (4,3)    | 1:A:364:GLN:N   | 1:A:326:TRP:O    | 12       | 0.27          |
| (4,3)    | 1:A:364:GLN:N   | 1:A:326:TRP:O    | 14       | 0.27          |
| (4,21)   | 1:A:471:ILE:N   | 1:A:463:TYR:O    | 12       | 0.27          |
| (4,20)   | 1:A:473:LEU:N   | 1:A:461:VAL:O    | 9        | 0.27          |
| (4,2)    | 1:A:282:VAL:O   | 1:A:363:PHE:N    | 11       | 0.27          |
| (4,14)   | 1:A:350:SER:N   | 1:A:290:THR:O    | 3        | 0.27          |
| (4,11)   | 1:A:299:LYS:N   | 1:A:317:ILE:O    | 6        | 0.27          |
| (4,11)   | 1:A:299:LYS:N   | 1:A:317:ILE:O    | 12       | 0.27          |
| (4,1)    | 1:A:282:VAL:N   | 1:A:363:PHE:O    | 11       | 0.27          |
| (4,1)    | 1:A:282:VAL:N   | 1:A:363:PHE:O    | 12       | 0.27          |
| (1,735)  | 1:A:299:LYS:HB2 | 1:A:316:LEU:HD11 | 7        | 0.27          |
| (1,735)  | 1:A:299:LYS:HB2 | 1:A:316:LEU:HD12 | 7        | 0.27          |
| (1,735)  | 1:A:299:LYS:HB2 | 1:A:316:LEU:HD13 | 7        | 0.27          |
| (1,735)  | 1:A:299:LYS:HB2 | 1:A:316:LEU:HD21 | 7        | 0.27          |
| (1,735)  | 1:A:299:LYS:HB2 | 1:A:316:LEU:HD22 | 7        | 0.27          |
| (1,735)  | 1:A:299:LYS:HB2 | 1:A:316:LEU:HD23 | 7        | 0.27          |
| (1,735)  | 1:A:299:LYS:HB3 | 1:A:316:LEU:HD11 | 7        | 0.27          |
| (1,735)  | 1:A:299:LYS:HB3 | 1:A:316:LEU:HD12 | 7        | 0.27          |
| (1,735)  | 1:A:299:LYS:HB3 | 1:A:316:LEU:HD13 | 7        | 0.27          |
| (1,735)  | 1:A:299:LYS:HB3 | 1:A:316:LEU:HD21 | 7        | 0.27          |
| (1,735)  | 1:A:299:LYS:HB3 | 1:A:316:LEU:HD22 | 7        | 0.27          |
| (1,735)  | 1:A:299:LYS:HB3 | 1:A:316:LEU:HD23 | 7        | 0.27          |
| (1,2793) | 1:A:451:GLU:H   | 1:A:452:VAL:HG11 | 9        | 0.27          |
| (1,2793) | 1:A:451:GLU:H   | 1:A:452:VAL:HG12 | 9        | 0.27          |
| (1,2793) | 1:A:451:GLU:H   | 1:A:452:VAL:HG13 | 9        | 0.27          |
| (1,2793) | 1:A:451:GLU:H   | 1:A:452:VAL:HG21 | 9        | 0.27          |
| (1,2793) | 1:A:451:GLU:H   | 1:A:452:VAL:HG22 | 9        | 0.27          |
| (1,2793) | 1:A:451:GLU:H   | 1:A:452:VAL:HG23 | 9        | 0.27          |
| (1,2757) | 1:A:449:TYR:HD1 | 1:A:452:VAL:HG11 | 9        | 0.27          |
| (1,2757) | 1:A:449:TYR:HD1 | 1:A:452:VAL:HG12 | 9        | 0.27          |
| (1,2757) | 1:A:449:TYR:HD1 | 1:A:452:VAL:HG13 | 9        | 0.27          |
| (1,2757) | 1:A:449:TYR:HD1 | 1:A:452:VAL:HG21 | 9        | 0.27          |
| (1,2757) | 1:A:449:TYR:HD1 | 1:A:452:VAL:HG22 | 9        | 0.27          |
| (1,2757) | 1:A:449:TYR:HD1 | 1:A:452:VAL:HG23 | 9        | 0.27          |
| (1,2757) | 1:A:449:TYR:HD2 | 1:A:452:VAL:HG11 | 9        | 0.27          |
| (1,2757) | 1:A:449:TYR:HD2 | 1:A:452:VAL:HG12 | 9        | 0.27          |
| (1,2757) | 1:A:449:TYR:HD2 | 1:A:452:VAL:HG13 | 9        | 0.27          |
| (1,2757) | 1:A:449:TYR:HD2 | 1:A:452:VAL:HG21 | 9        | 0.27          |
| (1,2757) | 1:A:449:TYR:HD2 | 1:A:452:VAL:HG22 | 9        | 0.27          |
| (1,2757) | 1:A:449:TYR:HD2 | 1:A:452:VAL:HG23 | 9        | 0.27          |
| (1,2352) | 1:A:424:ILE:H   | 1:A:441:LEU:HD11 | 11       | 0.27          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1          | Atom-2           | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,2352) | 1:A:424:ILE:H   | 1:A:441:LEU:HD12 | 11       | 0.27          |
| (1,2352) | 1:A:424:ILE:H   | 1:A:441:LEU:HD13 | 11       | 0.27          |
| (1,2352) | 1:A:424:ILE:H   | 1:A:441:LEU:HD21 | 11       | 0.27          |
| (1,2352) | 1:A:424:ILE:H   | 1:A:441:LEU:HD22 | 11       | 0.27          |
| (1,2352) | 1:A:424:ILE:H   | 1:A:441:LEU:HD23 | 11       | 0.27          |
| (1,1577) | 1:A:367:VAL:HB  | 1:A:369:SER:H    | 15       | 0.27          |
| (4,9)    | 1:A:316:LEU:N   | 1:A:325:GLN:O    | 6        | 0.26          |
| (4,9)    | 1:A:316:LEU:N   | 1:A:325:GLN:O    | 8        | 0.26          |
| (4,7)    | 1:A:314:ILE:N   | 1:A:327:TYR:O    | 12       | 0.26          |
| (4,6)    | 1:A:366:MET:O   | 1:A:324:ARG:N    | 13       | 0.26          |
| (4,4)    | 1:A:364:GLN:O   | 1:A:326:TRP:N    | 1        | 0.26          |
| (1,735)  | 1:A:299:LYS:HB2 | 1:A:316:LEU:HD11 | 5        | 0.26          |
| (1,735)  | 1:A:299:LYS:HB2 | 1:A:316:LEU:HD12 | 5        | 0.26          |
| (1,735)  | 1:A:299:LYS:HB2 | 1:A:316:LEU:HD13 | 5        | 0.26          |
| (1,735)  | 1:A:299:LYS:HB2 | 1:A:316:LEU:HD21 | 5        | 0.26          |
| (1,735)  | 1:A:299:LYS:HB2 | 1:A:316:LEU:HD22 | 5        | 0.26          |
| (1,735)  | 1:A:299:LYS:HB2 | 1:A:316:LEU:HD23 | 5        | 0.26          |
| (1,735)  | 1:A:299:LYS:HB3 | 1:A:316:LEU:HD11 | 5        | 0.26          |
| (1,735)  | 1:A:299:LYS:HB3 | 1:A:316:LEU:HD12 | 5        | 0.26          |
| (1,735)  | 1:A:299:LYS:HB3 | 1:A:316:LEU:HD13 | 5        | 0.26          |
| (1,735)  | 1:A:299:LYS:HB3 | 1:A:316:LEU:HD21 | 5        | 0.26          |
| (1,735)  | 1:A:299:LYS:HB3 | 1:A:316:LEU:HD22 | 5        | 0.26          |
| (1,735)  | 1:A:299:LYS:HB3 | 1:A:316:LEU:HD23 | 5        | 0.26          |
| (1,3283) | 1:A:477:THR:H   | 1:A:485:LEU:HD11 | 10       | 0.26          |
| (1,3283) | 1:A:477:THR:H   | 1:A:485:LEU:HD12 | 10       | 0.26          |
| (1,3283) | 1:A:477:THR:H   | 1:A:485:LEU:HD13 | 10       | 0.26          |
| (1,3283) | 1:A:477:THR:H   | 1:A:485:LEU:HD21 | 10       | 0.26          |
| (1,3283) | 1:A:477:THR:H   | 1:A:485:LEU:HD22 | 10       | 0.26          |
| (1,3283) | 1:A:477:THR:H   | 1:A:485:LEU:HD23 | 10       | 0.26          |
| (1,2352) | 1:A:424:ILE:H   | 1:A:441:LEU:HD11 | 7        | 0.26          |
| (1,2352) | 1:A:424:ILE:H   | 1:A:441:LEU:HD12 | 7        | 0.26          |
| (1,2352) | 1:A:424:ILE:H   | 1:A:441:LEU:HD13 | 7        | 0.26          |
| (1,2352) | 1:A:424:ILE:H   | 1:A:441:LEU:HD21 | 7        | 0.26          |
| (1,2352) | 1:A:424:ILE:H   | 1:A:441:LEU:HD22 | 7        | 0.26          |
| (1,2352) | 1:A:424:ILE:H   | 1:A:441:LEU:HD23 | 7        | 0.26          |
| (4,9)    | 1:A:316:LEU:N   | 1:A:325:GLN:O    | 1        | 0.25          |
| (4,8)    | 1:A:314:ILE:O   | 1:A:327:TYR:N    | 5        | 0.25          |
| (4,8)    | 1:A:314:ILE:O   | 1:A:327:TYR:N    | 8        | 0.25          |
| (4,8)    | 1:A:314:ILE:O   | 1:A:327:TYR:N    | 15       | 0.25          |
| (4,6)    | 1:A:366:MET:O   | 1:A:324:ARG:N    | 4        | 0.25          |
| (4,3)    | 1:A:364:GLN:N   | 1:A:326:TRP:O    | 8        | 0.25          |
| (4,2)    | 1:A:282:VAL:O   | 1:A:363:PHE:N    | 7        | 0.25          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (4,15)   | 1:A:383:LYS:N    | 1:A:380:PRO:O    | 12       | 0.25          |
| (4,11)   | 1:A:299:LYS:N    | 1:A:317:ILE:O    | 3        | 0.25          |
| (4,11)   | 1:A:299:LYS:N    | 1:A:317:ILE:O    | 10       | 0.25          |
| (4,1)    | 1:A:282:VAL:N    | 1:A:363:PHE:O    | 2        | 0.25          |
| (4,1)    | 1:A:282:VAL:N    | 1:A:363:PHE:O    | 8        | 0.25          |
| (1,770)  | 1:A:300:ILE:HA   | 1:A:301:VAL:HG11 | 6        | 0.25          |
| (1,770)  | 1:A:300:ILE:HA   | 1:A:301:VAL:HG12 | 6        | 0.25          |
| (1,770)  | 1:A:300:ILE:HA   | 1:A:301:VAL:HG13 | 6        | 0.25          |
| (1,770)  | 1:A:300:ILE:HA   | 1:A:301:VAL:HG21 | 6        | 0.25          |
| (1,770)  | 1:A:300:ILE:HA   | 1:A:301:VAL:HG22 | 6        | 0.25          |
| (1,770)  | 1:A:300:ILE:HA   | 1:A:301:VAL:HG23 | 6        | 0.25          |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD11 | 1        | 0.25          |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD12 | 1        | 0.25          |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD13 | 1        | 0.25          |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD21 | 1        | 0.25          |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD22 | 1        | 0.25          |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD23 | 1        | 0.25          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG11 | 6        | 0.25          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG12 | 6        | 0.25          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG13 | 6        | 0.25          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG21 | 6        | 0.25          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG22 | 6        | 0.25          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG23 | 6        | 0.25          |
| (1,2666) | 1:A:440:VAL:HG11 | 1:A:442:LYS:H    | 2        | 0.25          |
| (1,2666) | 1:A:440:VAL:HG12 | 1:A:442:LYS:H    | 2        | 0.25          |
| (1,2666) | 1:A:440:VAL:HG13 | 1:A:442:LYS:H    | 2        | 0.25          |
| (1,2666) | 1:A:440:VAL:HG21 | 1:A:442:LYS:H    | 2        | 0.25          |
| (1,2666) | 1:A:440:VAL:HG22 | 1:A:442:LYS:H    | 2        | 0.25          |
| (1,2666) | 1:A:440:VAL:HG23 | 1:A:442:LYS:H    | 2        | 0.25          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD11 | 7        | 0.25          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD12 | 7        | 0.25          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD13 | 7        | 0.25          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD21 | 7        | 0.25          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD22 | 7        | 0.25          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD23 | 7        | 0.25          |
| (1,1984) | 1:A:410:LEU:HD11 | 1:A:411:TYR:H    | 6        | 0.25          |
| (1,1984) | 1:A:410:LEU:HD12 | 1:A:411:TYR:H    | 6        | 0.25          |
| (1,1984) | 1:A:410:LEU:HD13 | 1:A:411:TYR:H    | 6        | 0.25          |
| (1,1984) | 1:A:410:LEU:HD21 | 1:A:411:TYR:H    | 6        | 0.25          |
| (1,1984) | 1:A:410:LEU:HD22 | 1:A:411:TYR:H    | 6        | 0.25          |
| (1,1984) | 1:A:410:LEU:HD23 | 1:A:411:TYR:H    | 6        | 0.25          |
| (1,1822) | 1:A:402:TRP:HZ2  | 1:A:452:VAL:HG11 | 3        | 0.25          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1822) | 1:A:402:TRP:HZ2  | 1:A:452:VAL:HG12 | 3        | 0.25          |
| (1,1822) | 1:A:402:TRP:HZ2  | 1:A:452:VAL:HG13 | 3        | 0.25          |
| (1,1822) | 1:A:402:TRP:HZ2  | 1:A:452:VAL:HG21 | 3        | 0.25          |
| (1,1822) | 1:A:402:TRP:HZ2  | 1:A:452:VAL:HG22 | 3        | 0.25          |
| (1,1822) | 1:A:402:TRP:HZ2  | 1:A:452:VAL:HG23 | 3        | 0.25          |
| (1,1685) | 1:A:381:PHE:HZ   | 1:A:382:LEU:HD11 | 11       | 0.25          |
| (1,1685) | 1:A:381:PHE:HZ   | 1:A:382:LEU:HD12 | 11       | 0.25          |
| (1,1685) | 1:A:381:PHE:HZ   | 1:A:382:LEU:HD13 | 11       | 0.25          |
| (1,1685) | 1:A:381:PHE:HZ   | 1:A:382:LEU:HD21 | 11       | 0.25          |
| (1,1685) | 1:A:381:PHE:HZ   | 1:A:382:LEU:HD22 | 11       | 0.25          |
| (1,1685) | 1:A:381:PHE:HZ   | 1:A:382:LEU:HD23 | 11       | 0.25          |
| (1,1577) | 1:A:367:VAL:HB   | 1:A:369:SER:H    | 8        | 0.25          |
| (4,9)    | 1:A:316:LEU:N    | 1:A:325:GLN:O    | 9        | 0.24          |
| (4,6)    | 1:A:366:MET:O    | 1:A:324:ARG:N    | 15       | 0.24          |
| (4,5)    | 1:A:366:MET:N    | 1:A:324:ARG:O    | 2        | 0.24          |
| (4,12)   | 1:A:299:LYS:O    | 1:A:317:ILE:N    | 1        | 0.24          |
| (4,12)   | 1:A:299:LYS:O    | 1:A:317:ILE:N    | 4        | 0.24          |
| (1,3467) | 1:A:492:ILE:HD11 | 1:A:493:LYS:H    | 11       | 0.24          |
| (1,3467) | 1:A:492:ILE:HD12 | 1:A:493:LYS:H    | 11       | 0.24          |
| (1,3467) | 1:A:492:ILE:HD13 | 1:A:493:LYS:H    | 11       | 0.24          |
| (1,2759) | 1:A:449:TYR:HE1  | 1:A:452:VAL:HG11 | 9        | 0.24          |
| (1,2759) | 1:A:449:TYR:HE1  | 1:A:452:VAL:HG12 | 9        | 0.24          |
| (1,2759) | 1:A:449:TYR:HE1  | 1:A:452:VAL:HG13 | 9        | 0.24          |
| (1,2759) | 1:A:449:TYR:HE1  | 1:A:452:VAL:HG21 | 9        | 0.24          |
| (1,2759) | 1:A:449:TYR:HE1  | 1:A:452:VAL:HG22 | 9        | 0.24          |
| (1,2759) | 1:A:449:TYR:HE1  | 1:A:452:VAL:HG23 | 9        | 0.24          |
| (1,2759) | 1:A:449:TYR:HE2  | 1:A:452:VAL:HG11 | 9        | 0.24          |
| (1,2759) | 1:A:449:TYR:HE2  | 1:A:452:VAL:HG12 | 9        | 0.24          |
| (1,2759) | 1:A:449:TYR:HE2  | 1:A:452:VAL:HG13 | 9        | 0.24          |
| (1,2759) | 1:A:449:TYR:HE2  | 1:A:452:VAL:HG21 | 9        | 0.24          |
| (1,2759) | 1:A:449:TYR:HE2  | 1:A:452:VAL:HG22 | 9        | 0.24          |
| (1,2759) | 1:A:449:TYR:HE2  | 1:A:452:VAL:HG23 | 9        | 0.24          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD11 | 5        | 0.24          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD12 | 5        | 0.24          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD13 | 5        | 0.24          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD21 | 5        | 0.24          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD22 | 5        | 0.24          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD23 | 5        | 0.24          |
| (4,4)    | 1:A:364:GLN:O    | 1:A:326:TRP:N    | 13       | 0.23          |
| (4,21)   | 1:A:471:ILE:N    | 1:A:463:TYR:O    | 11       | 0.23          |
| (4,2)    | 1:A:282:VAL:O    | 1:A:363:PHE:N    | 8        | 0.23          |
| (4,2)    | 1:A:282:VAL:O    | 1:A:363:PHE:N    | 14       | 0.23          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (4,18)   | 1:A:424:ILE:N    | 1:A:441:LEU:O    | 14       | 0.23          |
| (4,11)   | 1:A:299:LYS:N    | 1:A:317:ILE:O    | 5        | 0.23          |
| (4,11)   | 1:A:299:LYS:N    | 1:A:317:ILE:O    | 9        | 0.23          |
| (4,1)    | 1:A:282:VAL:N    | 1:A:363:PHE:O    | 13       | 0.23          |
| (1,851)  | 1:A:302:GLU:HA   | 1:A:337:VAL:HG11 | 8        | 0.23          |
| (1,851)  | 1:A:302:GLU:HA   | 1:A:337:VAL:HG12 | 8        | 0.23          |
| (1,851)  | 1:A:302:GLU:HA   | 1:A:337:VAL:HG13 | 8        | 0.23          |
| (1,851)  | 1:A:302:GLU:HA   | 1:A:337:VAL:HG21 | 8        | 0.23          |
| (1,851)  | 1:A:302:GLU:HA   | 1:A:337:VAL:HG22 | 8        | 0.23          |
| (1,851)  | 1:A:302:GLU:HA   | 1:A:337:VAL:HG23 | 8        | 0.23          |
| (1,770)  | 1:A:300:ILE:HA   | 1:A:301:VAL:HG11 | 12       | 0.23          |
| (1,770)  | 1:A:300:ILE:HA   | 1:A:301:VAL:HG12 | 12       | 0.23          |
| (1,770)  | 1:A:300:ILE:HA   | 1:A:301:VAL:HG13 | 12       | 0.23          |
| (1,770)  | 1:A:300:ILE:HA   | 1:A:301:VAL:HG21 | 12       | 0.23          |
| (1,770)  | 1:A:300:ILE:HA   | 1:A:301:VAL:HG22 | 12       | 0.23          |
| (1,770)  | 1:A:300:ILE:HA   | 1:A:301:VAL:HG23 | 12       | 0.23          |
| (1,3412) | 1:A:487:VAL:HG11 | 1:A:489:TRP:H    | 7        | 0.23          |
| (1,3412) | 1:A:487:VAL:HG12 | 1:A:489:TRP:H    | 7        | 0.23          |
| (1,3412) | 1:A:487:VAL:HG13 | 1:A:489:TRP:H    | 7        | 0.23          |
| (1,3412) | 1:A:487:VAL:HG21 | 1:A:489:TRP:H    | 7        | 0.23          |
| (1,3412) | 1:A:487:VAL:HG22 | 1:A:489:TRP:H    | 7        | 0.23          |
| (1,3412) | 1:A:487:VAL:HG23 | 1:A:489:TRP:H    | 7        | 0.23          |
| (1,2666) | 1:A:440:VAL:HG11 | 1:A:442:LYS:H    | 12       | 0.23          |
| (1,2666) | 1:A:440:VAL:HG12 | 1:A:442:LYS:H    | 12       | 0.23          |
| (1,2666) | 1:A:440:VAL:HG13 | 1:A:442:LYS:H    | 12       | 0.23          |
| (1,2666) | 1:A:440:VAL:HG21 | 1:A:442:LYS:H    | 12       | 0.23          |
| (1,2666) | 1:A:440:VAL:HG22 | 1:A:442:LYS:H    | 12       | 0.23          |
| (1,2666) | 1:A:440:VAL:HG23 | 1:A:442:LYS:H    | 12       | 0.23          |
| (1,2050) | 1:A:412:LYS:H    | 1:A:452:VAL:HB   | 9        | 0.23          |
| (1,1577) | 1:A:367:VAL:HB   | 1:A:369:SER:H    | 6        | 0.23          |
| (1,1577) | 1:A:367:VAL:HB   | 1:A:369:SER:H    | 13       | 0.23          |
| (1,1375) | 1:A:341:VAL:HG11 | 1:A:343:ALA:H    | 2        | 0.23          |
| (1,1375) | 1:A:341:VAL:HG12 | 1:A:343:ALA:H    | 2        | 0.23          |
| (1,1375) | 1:A:341:VAL:HG13 | 1:A:343:ALA:H    | 2        | 0.23          |
| (1,1375) | 1:A:341:VAL:HG21 | 1:A:343:ALA:H    | 2        | 0.23          |
| (1,1375) | 1:A:341:VAL:HG22 | 1:A:343:ALA:H    | 2        | 0.23          |
| (1,1375) | 1:A:341:VAL:HG23 | 1:A:343:ALA:H    | 2        | 0.23          |
| (1,1223) | 1:A:330:LEU:HD11 | 1:A:351:GLY:H    | 11       | 0.23          |
| (1,1223) | 1:A:330:LEU:HD12 | 1:A:351:GLY:H    | 11       | 0.23          |
| (1,1223) | 1:A:330:LEU:HD13 | 1:A:351:GLY:H    | 11       | 0.23          |
| (1,1223) | 1:A:330:LEU:HD21 | 1:A:351:GLY:H    | 11       | 0.23          |
| (1,1223) | 1:A:330:LEU:HD22 | 1:A:351:GLY:H    | 11       | 0.23          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,1223) | 1:A:330:LEU:HD23 | 1:A:351:GLY:H    | 11       | 0.23          |
| (4,4)    | 1:A:364:GLN:O    | 1:A:326:TRP:N    | 14       | 0.22          |
| (4,21)   | 1:A:471:ILE:N    | 1:A:463:TYR:O    | 14       | 0.22          |
| (4,2)    | 1:A:282:VAL:O    | 1:A:363:PHE:N    | 1        | 0.22          |
| (4,2)    | 1:A:282:VAL:O    | 1:A:363:PHE:N    | 3        | 0.22          |
| (4,2)    | 1:A:282:VAL:O    | 1:A:363:PHE:N    | 9        | 0.22          |
| (4,2)    | 1:A:282:VAL:O    | 1:A:363:PHE:N    | 12       | 0.22          |
| (4,2)    | 1:A:282:VAL:O    | 1:A:363:PHE:N    | 15       | 0.22          |
| (4,18)   | 1:A:424:ILE:N    | 1:A:441:LEU:O    | 9        | 0.22          |
| (4,18)   | 1:A:424:ILE:N    | 1:A:441:LEU:O    | 10       | 0.22          |
| (4,15)   | 1:A:383:LYS:N    | 1:A:380:PRO:O    | 3        | 0.22          |
| (4,15)   | 1:A:383:LYS:N    | 1:A:380:PRO:O    | 8        | 0.22          |
| (4,1)    | 1:A:282:VAL:N    | 1:A:363:PHE:O    | 1        | 0.22          |
| (4,1)    | 1:A:282:VAL:N    | 1:A:363:PHE:O    | 10       | 0.22          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD11 | 1        | 0.22          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD12 | 1        | 0.22          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD13 | 1        | 0.22          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD21 | 1        | 0.22          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD22 | 1        | 0.22          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD23 | 1        | 0.22          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD11 | 1        | 0.22          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD12 | 1        | 0.22          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD13 | 1        | 0.22          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD21 | 1        | 0.22          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD22 | 1        | 0.22          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD23 | 1        | 0.22          |
| (1,3467) | 1:A:492:ILE:HD11 | 1:A:493:LYS:H    | 13       | 0.22          |
| (1,3467) | 1:A:492:ILE:HD12 | 1:A:493:LYS:H    | 13       | 0.22          |
| (1,3467) | 1:A:492:ILE:HD13 | 1:A:493:LYS:H    | 13       | 0.22          |
| (1,2823) | 1:A:452:VAL:HG11 | 1:A:462:GLY:H    | 9        | 0.22          |
| (1,2823) | 1:A:452:VAL:HG12 | 1:A:462:GLY:H    | 9        | 0.22          |
| (1,2823) | 1:A:452:VAL:HG13 | 1:A:462:GLY:H    | 9        | 0.22          |
| (1,2823) | 1:A:452:VAL:HG21 | 1:A:462:GLY:H    | 9        | 0.22          |
| (1,2823) | 1:A:452:VAL:HG22 | 1:A:462:GLY:H    | 9        | 0.22          |
| (1,2823) | 1:A:452:VAL:HG23 | 1:A:462:GLY:H    | 9        | 0.22          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG11 | 10       | 0.22          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG12 | 10       | 0.22          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG13 | 10       | 0.22          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG21 | 10       | 0.22          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG22 | 10       | 0.22          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG23 | 10       | 0.22          |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG11 | 10       | 0.22          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG12 | 10       | 0.22          |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG13 | 10       | 0.22          |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG21 | 10       | 0.22          |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG22 | 10       | 0.22          |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG23 | 10       | 0.22          |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG11 | 15       | 0.22          |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG12 | 15       | 0.22          |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG13 | 15       | 0.22          |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG21 | 15       | 0.22          |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG22 | 15       | 0.22          |
| (1,2083) | 1:A:414:GLU:H    | 1:A:452:VAL:HG23 | 15       | 0.22          |
| (4,9)    | 1:A:316:LEU:N    | 1:A:325:GLN:O    | 3        | 0.21          |
| (4,7)    | 1:A:314:ILE:N    | 1:A:327:TYR:O    | 1        | 0.21          |
| (4,7)    | 1:A:314:ILE:N    | 1:A:327:TYR:O    | 7        | 0.21          |
| (4,6)    | 1:A:366:MET:O    | 1:A:324:ARG:N    | 12       | 0.21          |
| (4,5)    | 1:A:366:MET:N    | 1:A:324:ARG:O    | 6        | 0.21          |
| (4,3)    | 1:A:364:GLN:N    | 1:A:326:TRP:O    | 7        | 0.21          |
| (4,21)   | 1:A:471:ILE:N    | 1:A:463:TYR:O    | 3        | 0.21          |
| (4,21)   | 1:A:471:ILE:N    | 1:A:463:TYR:O    | 5        | 0.21          |
| (4,15)   | 1:A:383:LYS:N    | 1:A:380:PRO:O    | 5        | 0.21          |
| (4,15)   | 1:A:383:LYS:N    | 1:A:380:PRO:O    | 10       | 0.21          |
| (4,15)   | 1:A:383:LYS:N    | 1:A:380:PRO:O    | 11       | 0.21          |
| (4,14)   | 1:A:350:SER:N    | 1:A:290:THR:O    | 7        | 0.21          |
| (4,14)   | 1:A:350:SER:N    | 1:A:290:THR:O    | 12       | 0.21          |
| (4,14)   | 1:A:350:SER:N    | 1:A:290:THR:O    | 14       | 0.21          |
| (4,11)   | 1:A:299:LYS:N    | 1:A:317:ILE:O    | 1        | 0.21          |
| (4,1)    | 1:A:282:VAL:N    | 1:A:363:PHE:O    | 3        | 0.21          |
| (4,1)    | 1:A:282:VAL:N    | 1:A:363:PHE:O    | 4        | 0.21          |
| (4,1)    | 1:A:282:VAL:N    | 1:A:363:PHE:O    | 7        | 0.21          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD11 | 15       | 0.21          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD12 | 15       | 0.21          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD13 | 15       | 0.21          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD21 | 15       | 0.21          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD22 | 15       | 0.21          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD23 | 15       | 0.21          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD11 | 15       | 0.21          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD12 | 15       | 0.21          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD13 | 15       | 0.21          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD21 | 15       | 0.21          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD22 | 15       | 0.21          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD23 | 15       | 0.21          |
| (1,439)  | 1:A:282:VAL:HG11 | 1:A:379:MET:HG2  | 8        | 0.21          |

*Continued on next page...*



*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,439)  | 1:A:282:VAL:HG11 | 1:A:379:MET:HG3  | 8        | 0.21          |
| (1,439)  | 1:A:282:VAL:HG12 | 1:A:379:MET:HG2  | 8        | 0.21          |
| (1,439)  | 1:A:282:VAL:HG12 | 1:A:379:MET:HG3  | 8        | 0.21          |
| (1,439)  | 1:A:282:VAL:HG13 | 1:A:379:MET:HG2  | 8        | 0.21          |
| (1,439)  | 1:A:282:VAL:HG13 | 1:A:379:MET:HG3  | 8        | 0.21          |
| (1,439)  | 1:A:282:VAL:HG21 | 1:A:379:MET:HG2  | 8        | 0.21          |
| (1,439)  | 1:A:282:VAL:HG21 | 1:A:379:MET:HG3  | 8        | 0.21          |
| (1,439)  | 1:A:282:VAL:HG22 | 1:A:379:MET:HG2  | 8        | 0.21          |
| (1,439)  | 1:A:282:VAL:HG22 | 1:A:379:MET:HG3  | 8        | 0.21          |
| (1,439)  | 1:A:282:VAL:HG23 | 1:A:379:MET:HG2  | 8        | 0.21          |
| (1,439)  | 1:A:282:VAL:HG23 | 1:A:379:MET:HG3  | 8        | 0.21          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG11 | 4        | 0.21          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG12 | 4        | 0.21          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG13 | 4        | 0.21          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG21 | 4        | 0.21          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG22 | 4        | 0.21          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG23 | 4        | 0.21          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD11 | 10       | 0.21          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD12 | 10       | 0.21          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD13 | 10       | 0.21          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD21 | 10       | 0.21          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD22 | 10       | 0.21          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD23 | 10       | 0.21          |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD11 | 15       | 0.21          |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD12 | 15       | 0.21          |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD13 | 15       | 0.21          |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD21 | 15       | 0.21          |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD22 | 15       | 0.21          |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD23 | 15       | 0.21          |
| (4,9)    | 1:A:316:LEU:N    | 1:A:325:GLN:O    | 5        | 0.2           |
| (4,7)    | 1:A:314:ILE:N    | 1:A:327:TYR:O    | 9        | 0.2           |
| (4,6)    | 1:A:366:MET:O    | 1:A:324:ARG:N    | 8        | 0.2           |
| (4,6)    | 1:A:366:MET:O    | 1:A:324:ARG:N    | 11       | 0.2           |
| (4,5)    | 1:A:366:MET:N    | 1:A:324:ARG:O    | 9        | 0.2           |
| (4,4)    | 1:A:364:GLN:O    | 1:A:326:TRP:N    | 5        | 0.2           |
| (4,4)    | 1:A:364:GLN:O    | 1:A:326:TRP:N    | 8        | 0.2           |
| (4,3)    | 1:A:364:GLN:N    | 1:A:326:TRP:O    | 11       | 0.2           |
| (4,21)   | 1:A:471:ILE:N    | 1:A:463:TYR:O    | 4        | 0.2           |
| (4,21)   | 1:A:471:ILE:N    | 1:A:463:TYR:O    | 15       | 0.2           |
| (4,18)   | 1:A:424:ILE:N    | 1:A:441:LEU:O    | 7        | 0.2           |
| (4,15)   | 1:A:383:LYS:N    | 1:A:380:PRO:O    | 15       | 0.2           |
| (4,10)   | 1:A:316:LEU:O    | 1:A:325:GLN:N    | 1        | 0.2           |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (4,1)    | 1:A:282:VAL:N    | 1:A:363:PHE:O    | 9        | 0.2           |
| (2,1)    | 1:A:279:HIS:NE2  | 2:A:501:ZN:ZN    | 3        | 0.2           |
| (2,1)    | 1:A:279:HIS:NE2  | 2:A:501:ZN:ZN    | 13       | 0.2           |
| (1,3467) | 1:A:492:ILE:HD11 | 1:A:493:LYS:H    | 10       | 0.2           |
| (1,3467) | 1:A:492:ILE:HD12 | 1:A:493:LYS:H    | 10       | 0.2           |
| (1,3467) | 1:A:492:ILE:HD13 | 1:A:493:LYS:H    | 10       | 0.2           |
| (1,3412) | 1:A:487:VAL:HG11 | 1:A:489:TRP:H    | 8        | 0.2           |
| (1,3412) | 1:A:487:VAL:HG12 | 1:A:489:TRP:H    | 8        | 0.2           |
| (1,3412) | 1:A:487:VAL:HG13 | 1:A:489:TRP:H    | 8        | 0.2           |
| (1,3412) | 1:A:487:VAL:HG21 | 1:A:489:TRP:H    | 8        | 0.2           |
| (1,3412) | 1:A:487:VAL:HG22 | 1:A:489:TRP:H    | 8        | 0.2           |
| (1,3412) | 1:A:487:VAL:HG23 | 1:A:489:TRP:H    | 8        | 0.2           |
| (1,3400) | 1:A:485:LEU:HD11 | 1:A:486:GLY:H    | 3        | 0.2           |
| (1,3400) | 1:A:485:LEU:HD12 | 1:A:486:GLY:H    | 3        | 0.2           |
| (1,3400) | 1:A:485:LEU:HD13 | 1:A:486:GLY:H    | 3        | 0.2           |
| (1,3400) | 1:A:485:LEU:HD21 | 1:A:486:GLY:H    | 3        | 0.2           |
| (1,3400) | 1:A:485:LEU:HD22 | 1:A:486:GLY:H    | 3        | 0.2           |
| (1,3400) | 1:A:485:LEU:HD23 | 1:A:486:GLY:H    | 3        | 0.2           |
| (1,2675) | 1:A:441:LEU:HD11 | 1:A:442:LYS:H    | 3        | 0.2           |
| (1,2675) | 1:A:441:LEU:HD12 | 1:A:442:LYS:H    | 3        | 0.2           |
| (1,2675) | 1:A:441:LEU:HD13 | 1:A:442:LYS:H    | 3        | 0.2           |
| (1,2675) | 1:A:441:LEU:HD21 | 1:A:442:LYS:H    | 3        | 0.2           |
| (1,2675) | 1:A:441:LEU:HD22 | 1:A:442:LYS:H    | 3        | 0.2           |
| (1,2675) | 1:A:441:LEU:HD23 | 1:A:442:LYS:H    | 3        | 0.2           |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG11 | 1        | 0.2           |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG12 | 1        | 0.2           |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG13 | 1        | 0.2           |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG21 | 1        | 0.2           |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG22 | 1        | 0.2           |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG23 | 1        | 0.2           |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG11 | 7        | 0.2           |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG12 | 7        | 0.2           |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG13 | 7        | 0.2           |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG21 | 7        | 0.2           |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG22 | 7        | 0.2           |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG23 | 7        | 0.2           |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG11 | 8        | 0.2           |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG12 | 8        | 0.2           |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG13 | 8        | 0.2           |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG21 | 8        | 0.2           |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG22 | 8        | 0.2           |
| (1,2644) | 1:A:437:GLN:HE21 | 1:A:440:VAL:HG23 | 8        | 0.2           |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG11 | 8        | 0.2           |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG12 | 8        | 0.2           |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG13 | 8        | 0.2           |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG21 | 8        | 0.2           |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG22 | 8        | 0.2           |
| (1,2644) | 1:A:437:GLN:HE22 | 1:A:440:VAL:HG23 | 8        | 0.2           |
| (1,1221) | 1:A:330:LEU:HD11 | 1:A:350:SER:HA   | 14       | 0.2           |
| (1,1221) | 1:A:330:LEU:HD12 | 1:A:350:SER:HA   | 14       | 0.2           |
| (1,1221) | 1:A:330:LEU:HD13 | 1:A:350:SER:HA   | 14       | 0.2           |
| (1,1221) | 1:A:330:LEU:HD21 | 1:A:350:SER:HA   | 14       | 0.2           |
| (1,1221) | 1:A:330:LEU:HD22 | 1:A:350:SER:HA   | 14       | 0.2           |
| (1,1221) | 1:A:330:LEU:HD23 | 1:A:350:SER:HA   | 14       | 0.2           |
| (1,1082) | 1:A:322:VAL:HG11 | 1:A:324:ARG:H    | 6        | 0.2           |
| (1,1082) | 1:A:322:VAL:HG12 | 1:A:324:ARG:H    | 6        | 0.2           |
| (1,1082) | 1:A:322:VAL:HG13 | 1:A:324:ARG:H    | 6        | 0.2           |
| (1,1082) | 1:A:322:VAL:HG21 | 1:A:324:ARG:H    | 6        | 0.2           |
| (1,1082) | 1:A:322:VAL:HG22 | 1:A:324:ARG:H    | 6        | 0.2           |
| (1,1082) | 1:A:322:VAL:HG23 | 1:A:324:ARG:H    | 6        | 0.2           |
| (1,1068) | 1:A:320:ASP:H    | 1:A:322:VAL:HG11 | 9        | 0.2           |
| (1,1068) | 1:A:320:ASP:H    | 1:A:322:VAL:HG12 | 9        | 0.2           |
| (1,1068) | 1:A:320:ASP:H    | 1:A:322:VAL:HG13 | 9        | 0.2           |
| (1,1068) | 1:A:320:ASP:H    | 1:A:322:VAL:HG21 | 9        | 0.2           |
| (1,1068) | 1:A:320:ASP:H    | 1:A:322:VAL:HG22 | 9        | 0.2           |
| (1,1068) | 1:A:320:ASP:H    | 1:A:322:VAL:HG23 | 9        | 0.2           |
| (4,9)    | 1:A:316:LEU:N    | 1:A:325:GLN:O    | 7        | 0.19          |
| (4,8)    | 1:A:314:ILE:O    | 1:A:327:TYR:N    | 7        | 0.19          |
| (4,7)    | 1:A:314:ILE:N    | 1:A:327:TYR:O    | 3        | 0.19          |
| (4,7)    | 1:A:314:ILE:N    | 1:A:327:TYR:O    | 8        | 0.19          |
| (4,6)    | 1:A:366:MET:O    | 1:A:324:ARG:N    | 6        | 0.19          |
| (4,5)    | 1:A:366:MET:N    | 1:A:324:ARG:O    | 7        | 0.19          |
| (4,4)    | 1:A:364:GLN:O    | 1:A:326:TRP:N    | 4        | 0.19          |
| (4,4)    | 1:A:364:GLN:O    | 1:A:326:TRP:N    | 6        | 0.19          |
| (4,4)    | 1:A:364:GLN:O    | 1:A:326:TRP:N    | 7        | 0.19          |
| (4,2)    | 1:A:282:VAL:O    | 1:A:363:PHE:N    | 4        | 0.19          |
| (4,2)    | 1:A:282:VAL:O    | 1:A:363:PHE:N    | 6        | 0.19          |
| (4,18)   | 1:A:424:ILE:N    | 1:A:441:LEU:O    | 3        | 0.19          |
| (4,18)   | 1:A:424:ILE:N    | 1:A:441:LEU:O    | 5        | 0.19          |
| (4,18)   | 1:A:424:ILE:N    | 1:A:441:LEU:O    | 11       | 0.19          |
| (4,18)   | 1:A:424:ILE:N    | 1:A:441:LEU:O    | 15       | 0.19          |
| (4,15)   | 1:A:383:LYS:N    | 1:A:380:PRO:O    | 7        | 0.19          |
| (4,14)   | 1:A:350:SER:N    | 1:A:290:THR:O    | 1        | 0.19          |
| (4,10)   | 1:A:316:LEU:O    | 1:A:325:GLN:N    | 14       | 0.19          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (4,1)    | 1:A:282:VAL:N    | 1:A:363:PHE:O    | 15       | 0.19          |
| (2,1)    | 1:A:279:HIS:NE2  | 2:A:501:ZN:ZN    | 11       | 0.19          |
| (1,851)  | 1:A:302:GLU:HA   | 1:A:337:VAL:HG11 | 12       | 0.19          |
| (1,851)  | 1:A:302:GLU:HA   | 1:A:337:VAL:HG12 | 12       | 0.19          |
| (1,851)  | 1:A:302:GLU:HA   | 1:A:337:VAL:HG13 | 12       | 0.19          |
| (1,851)  | 1:A:302:GLU:HA   | 1:A:337:VAL:HG21 | 12       | 0.19          |
| (1,851)  | 1:A:302:GLU:HA   | 1:A:337:VAL:HG22 | 12       | 0.19          |
| (1,851)  | 1:A:302:GLU:HA   | 1:A:337:VAL:HG23 | 12       | 0.19          |
| (1,437)  | 1:A:282:VAL:HG11 | 1:A:379:MET:HA   | 15       | 0.19          |
| (1,437)  | 1:A:282:VAL:HG12 | 1:A:379:MET:HA   | 15       | 0.19          |
| (1,437)  | 1:A:282:VAL:HG13 | 1:A:379:MET:HA   | 15       | 0.19          |
| (1,437)  | 1:A:282:VAL:HG21 | 1:A:379:MET:HA   | 15       | 0.19          |
| (1,437)  | 1:A:282:VAL:HG22 | 1:A:379:MET:HA   | 15       | 0.19          |
| (1,437)  | 1:A:282:VAL:HG23 | 1:A:379:MET:HA   | 15       | 0.19          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG11 | 7        | 0.19          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG12 | 7        | 0.19          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG13 | 7        | 0.19          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG21 | 7        | 0.19          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG22 | 7        | 0.19          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG23 | 7        | 0.19          |
| (1,2666) | 1:A:440:VAL:HG11 | 1:A:442:LYS:H    | 11       | 0.19          |
| (1,2666) | 1:A:440:VAL:HG12 | 1:A:442:LYS:H    | 11       | 0.19          |
| (1,2666) | 1:A:440:VAL:HG13 | 1:A:442:LYS:H    | 11       | 0.19          |
| (1,2666) | 1:A:440:VAL:HG21 | 1:A:442:LYS:H    | 11       | 0.19          |
| (1,2666) | 1:A:440:VAL:HG22 | 1:A:442:LYS:H    | 11       | 0.19          |
| (1,2666) | 1:A:440:VAL:HG23 | 1:A:442:LYS:H    | 11       | 0.19          |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG11 | 3        | 0.19          |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG12 | 3        | 0.19          |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG13 | 3        | 0.19          |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG21 | 3        | 0.19          |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG22 | 3        | 0.19          |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG23 | 3        | 0.19          |
| (1,1209) | 1:A:330:LEU:HD11 | 1:A:331:SER:H    | 10       | 0.19          |
| (1,1209) | 1:A:330:LEU:HD12 | 1:A:331:SER:H    | 10       | 0.19          |
| (1,1209) | 1:A:330:LEU:HD13 | 1:A:331:SER:H    | 10       | 0.19          |
| (1,1209) | 1:A:330:LEU:HD21 | 1:A:331:SER:H    | 10       | 0.19          |
| (1,1209) | 1:A:330:LEU:HD22 | 1:A:331:SER:H    | 10       | 0.19          |
| (1,1209) | 1:A:330:LEU:HD23 | 1:A:331:SER:H    | 10       | 0.19          |
| (4,6)    | 1:A:366:MET:O    | 1:A:324:ARG:N    | 9        | 0.18          |
| (4,51)   | 1:A:383:LYS:H    | 1:A:380:PRO:O    | 2        | 0.18          |
| (4,4)    | 1:A:364:GLN:O    | 1:A:326:TRP:N    | 3        | 0.18          |
| (4,4)    | 1:A:364:GLN:O    | 1:A:326:TRP:N    | 10       | 0.18          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (4,18)   | 1:A:424:ILE:N    | 1:A:441:LEU:O    | 6        | 0.18          |
| (4,18)   | 1:A:424:ILE:N    | 1:A:441:LEU:O    | 8        | 0.18          |
| (4,18)   | 1:A:424:ILE:N    | 1:A:441:LEU:O    | 12       | 0.18          |
| (4,18)   | 1:A:424:ILE:N    | 1:A:441:LEU:O    | 13       | 0.18          |
| (4,15)   | 1:A:383:LYS:N    | 1:A:380:PRO:O    | 1        | 0.18          |
| (4,15)   | 1:A:383:LYS:N    | 1:A:380:PRO:O    | 2        | 0.18          |
| (4,13)   | 1:A:348:GLY:O    | 1:A:292:VAL:N    | 8        | 0.18          |
| (4,11)   | 1:A:299:LYS:N    | 1:A:317:ILE:O    | 15       | 0.18          |
| (4,1)    | 1:A:282:VAL:N    | 1:A:363:PHE:O    | 5        | 0.18          |
| (2,1)    | 1:A:279:HIS:NE2  | 2:A:501:ZN:ZN    | 6        | 0.18          |
| (2,1)    | 1:A:279:HIS:NE2  | 2:A:501:ZN:ZN    | 12       | 0.18          |
| (1,437)  | 1:A:282:VAL:HG11 | 1:A:379:MET:HA   | 10       | 0.18          |
| (1,437)  | 1:A:282:VAL:HG12 | 1:A:379:MET:HA   | 10       | 0.18          |
| (1,437)  | 1:A:282:VAL:HG13 | 1:A:379:MET:HA   | 10       | 0.18          |
| (1,437)  | 1:A:282:VAL:HG21 | 1:A:379:MET:HA   | 10       | 0.18          |
| (1,437)  | 1:A:282:VAL:HG22 | 1:A:379:MET:HA   | 10       | 0.18          |
| (1,437)  | 1:A:282:VAL:HG23 | 1:A:379:MET:HA   | 10       | 0.18          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD11 | 3        | 0.18          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD12 | 3        | 0.18          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD13 | 3        | 0.18          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD21 | 3        | 0.18          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD22 | 3        | 0.18          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD23 | 3        | 0.18          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD11 | 13       | 0.18          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD12 | 13       | 0.18          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD13 | 13       | 0.18          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD21 | 13       | 0.18          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD22 | 13       | 0.18          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD23 | 13       | 0.18          |
| (1,2253) | 1:A:420:PRO:HG3  | 1:A:441:LEU:HG   | 9        | 0.18          |
| (4,8)    | 1:A:314:ILE:O    | 1:A:327:TYR:N    | 6        | 0.17          |
| (4,7)    | 1:A:314:ILE:N    | 1:A:327:TYR:O    | 10       | 0.17          |
| (4,7)    | 1:A:314:ILE:N    | 1:A:327:TYR:O    | 14       | 0.17          |
| (4,6)    | 1:A:366:MET:O    | 1:A:324:ARG:N    | 1        | 0.17          |
| (4,51)   | 1:A:383:LYS:H    | 1:A:380:PRO:O    | 7        | 0.17          |
| (4,51)   | 1:A:383:LYS:H    | 1:A:380:PRO:O    | 13       | 0.17          |
| (4,5)    | 1:A:366:MET:N    | 1:A:324:ARG:O    | 3        | 0.17          |
| (4,5)    | 1:A:366:MET:N    | 1:A:324:ARG:O    | 11       | 0.17          |
| (4,4)    | 1:A:364:GLN:O    | 1:A:326:TRP:N    | 2        | 0.17          |
| (4,4)    | 1:A:364:GLN:O    | 1:A:326:TRP:N    | 12       | 0.17          |
| (4,21)   | 1:A:471:ILE:N    | 1:A:463:TYR:O    | 13       | 0.17          |
| (4,2)    | 1:A:282:VAL:O    | 1:A:363:PHE:N    | 10       | 0.17          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (4,18)   | 1:A:424:ILE:N    | 1:A:441:LEU:O    | 1        | 0.17          |
| (4,18)   | 1:A:424:ILE:N    | 1:A:441:LEU:O    | 2        | 0.17          |
| (4,15)   | 1:A:383:LYS:N    | 1:A:380:PRO:O    | 13       | 0.17          |
| (4,13)   | 1:A:348:GLY:O    | 1:A:292:VAL:N    | 9        | 0.17          |
| (4,12)   | 1:A:299:LYS:O    | 1:A:317:ILE:N    | 10       | 0.17          |
| (4,12)   | 1:A:299:LYS:O    | 1:A:317:ILE:N    | 14       | 0.17          |
| (4,11)   | 1:A:299:LYS:N    | 1:A:317:ILE:O    | 7        | 0.17          |
| (4,1)    | 1:A:282:VAL:N    | 1:A:363:PHE:O    | 6        | 0.17          |
| (1,996)  | 1:A:316:LEU:HD11 | 1:A:318:GLU:H    | 8        | 0.17          |
| (1,996)  | 1:A:316:LEU:HD12 | 1:A:318:GLU:H    | 8        | 0.17          |
| (1,996)  | 1:A:316:LEU:HD13 | 1:A:318:GLU:H    | 8        | 0.17          |
| (1,996)  | 1:A:316:LEU:HD21 | 1:A:318:GLU:H    | 8        | 0.17          |
| (1,996)  | 1:A:316:LEU:HD22 | 1:A:318:GLU:H    | 8        | 0.17          |
| (1,996)  | 1:A:316:LEU:HD23 | 1:A:318:GLU:H    | 8        | 0.17          |
| (1,872)  | 1:A:304:GLY:H    | 1:A:314:ILE:HB   | 13       | 0.17          |
| (1,437)  | 1:A:282:VAL:HG11 | 1:A:379:MET:HA   | 3        | 0.17          |
| (1,437)  | 1:A:282:VAL:HG12 | 1:A:379:MET:HA   | 3        | 0.17          |
| (1,437)  | 1:A:282:VAL:HG13 | 1:A:379:MET:HA   | 3        | 0.17          |
| (1,437)  | 1:A:282:VAL:HG21 | 1:A:379:MET:HA   | 3        | 0.17          |
| (1,437)  | 1:A:282:VAL:HG22 | 1:A:379:MET:HA   | 3        | 0.17          |
| (1,437)  | 1:A:282:VAL:HG23 | 1:A:379:MET:HA   | 3        | 0.17          |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD11 | 4        | 0.17          |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD12 | 4        | 0.17          |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD13 | 4        | 0.17          |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD21 | 4        | 0.17          |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD22 | 4        | 0.17          |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD23 | 4        | 0.17          |
| (1,2803) | 1:A:451:GLU:HB2  | 1:A:462:GLY:HA3  | 8        | 0.17          |
| (1,2803) | 1:A:451:GLU:HB3  | 1:A:462:GLY:HA3  | 8        | 0.17          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG11 | 2        | 0.17          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG12 | 2        | 0.17          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG13 | 2        | 0.17          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG21 | 2        | 0.17          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG22 | 2        | 0.17          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG23 | 2        | 0.17          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG11 | 7        | 0.17          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG12 | 7        | 0.17          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG13 | 7        | 0.17          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG21 | 7        | 0.17          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG22 | 7        | 0.17          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG23 | 7        | 0.17          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD11 | 8        | 0.17          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD12 | 8        | 0.17          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD13 | 8        | 0.17          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD21 | 8        | 0.17          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD22 | 8        | 0.17          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD23 | 8        | 0.17          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD11 | 13       | 0.17          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD12 | 13       | 0.17          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD13 | 13       | 0.17          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD21 | 13       | 0.17          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD22 | 13       | 0.17          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD23 | 13       | 0.17          |
| (1,2087) | 1:A:415:SER:HB2  | 1:A:416:ALA:H    | 11       | 0.17          |
| (1,2087) | 1:A:415:SER:HB3  | 1:A:416:ALA:H    | 11       | 0.17          |
| (4,9)    | 1:A:316:LEU:N    | 1:A:325:GLN:O    | 15       | 0.16          |
| (4,7)    | 1:A:314:ILE:N    | 1:A:327:TYR:O    | 2        | 0.16          |
| (4,7)    | 1:A:314:ILE:N    | 1:A:327:TYR:O    | 6        | 0.16          |
| (4,6)    | 1:A:366:MET:O    | 1:A:324:ARG:N    | 2        | 0.16          |
| (4,6)    | 1:A:366:MET:O    | 1:A:324:ARG:N    | 3        | 0.16          |
| (4,5)    | 1:A:366:MET:N    | 1:A:324:ARG:O    | 5        | 0.16          |
| (4,4)    | 1:A:364:GLN:O    | 1:A:326:TRP:N    | 11       | 0.16          |
| (4,2)    | 1:A:282:VAL:O    | 1:A:363:PHE:N    | 2        | 0.16          |
| (4,2)    | 1:A:282:VAL:O    | 1:A:363:PHE:N    | 5        | 0.16          |
| (4,15)   | 1:A:383:LYS:N    | 1:A:380:PRO:O    | 14       | 0.16          |
| (4,13)   | 1:A:348:GLY:O    | 1:A:292:VAL:N    | 4        | 0.16          |
| (4,12)   | 1:A:299:LYS:O    | 1:A:317:ILE:N    | 8        | 0.16          |
| (4,12)   | 1:A:299:LYS:O    | 1:A:317:ILE:N    | 15       | 0.16          |
| (4,11)   | 1:A:299:LYS:N    | 1:A:317:ILE:O    | 11       | 0.16          |
| (4,10)   | 1:A:316:LEU:O    | 1:A:325:GLN:N    | 11       | 0.16          |
| (4,1)    | 1:A:282:VAL:N    | 1:A:363:PHE:O    | 14       | 0.16          |
| (2,3)    | 1:A:362:HIS:ND1  | 2:A:501:ZN:ZN    | 13       | 0.16          |
| (2,1)    | 1:A:279:HIS:NE2  | 2:A:501:ZN:ZN    | 4        | 0.16          |
| (1,957)  | 1:A:314:ILE:H    | 1:A:330:LEU:HD11 | 9        | 0.16          |
| (1,957)  | 1:A:314:ILE:H    | 1:A:330:LEU:HD12 | 9        | 0.16          |
| (1,957)  | 1:A:314:ILE:H    | 1:A:330:LEU:HD13 | 9        | 0.16          |
| (1,957)  | 1:A:314:ILE:H    | 1:A:330:LEU:HD21 | 9        | 0.16          |
| (1,957)  | 1:A:314:ILE:H    | 1:A:330:LEU:HD22 | 9        | 0.16          |
| (1,957)  | 1:A:314:ILE:H    | 1:A:330:LEU:HD23 | 9        | 0.16          |
| (1,355)  | 1:A:268:GLY:H    | 1:A:269:PRO:HA   | 4        | 0.16          |
| (1,3471) | 1:A:492:ILE:HG21 | 1:A:493:LYS:HG2  | 3        | 0.16          |
| (1,3471) | 1:A:492:ILE:HG21 | 1:A:493:LYS:HG3  | 3        | 0.16          |
| (1,3471) | 1:A:492:ILE:HG22 | 1:A:493:LYS:HG2  | 3        | 0.16          |
| (1,3471) | 1:A:492:ILE:HG22 | 1:A:493:LYS:HG3  | 3        | 0.16          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3471) | 1:A:492:ILE:HG23 | 1:A:493:LYS:HG2  | 3        | 0.16          |
| (1,3471) | 1:A:492:ILE:HG23 | 1:A:493:LYS:HG3  | 3        | 0.16          |
| (1,2803) | 1:A:451:GLU:HB2  | 1:A:462:GLY:HA3  | 6        | 0.16          |
| (1,2803) | 1:A:451:GLU:HB3  | 1:A:462:GLY:HA3  | 6        | 0.16          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD11 | 10       | 0.16          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD12 | 10       | 0.16          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD13 | 10       | 0.16          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD21 | 10       | 0.16          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD22 | 10       | 0.16          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD23 | 10       | 0.16          |
| (1,2087) | 1:A:415:SER:HB2  | 1:A:416:ALA:H    | 4        | 0.16          |
| (1,2087) | 1:A:415:SER:HB3  | 1:A:416:ALA:H    | 4        | 0.16          |
| (1,156)  | 1:A:257:TRP:HZ2  | 1:A:361:LEU:HD11 | 1        | 0.16          |
| (1,156)  | 1:A:257:TRP:HZ2  | 1:A:361:LEU:HD12 | 1        | 0.16          |
| (1,156)  | 1:A:257:TRP:HZ2  | 1:A:361:LEU:HD13 | 1        | 0.16          |
| (1,156)  | 1:A:257:TRP:HZ2  | 1:A:361:LEU:HD21 | 1        | 0.16          |
| (1,156)  | 1:A:257:TRP:HZ2  | 1:A:361:LEU:HD22 | 1        | 0.16          |
| (1,156)  | 1:A:257:TRP:HZ2  | 1:A:361:LEU:HD23 | 1        | 0.16          |
| (1,1378) | 1:A:341:VAL:HG11 | 1:A:345:GLN:H    | 4        | 0.16          |
| (1,1378) | 1:A:341:VAL:HG12 | 1:A:345:GLN:H    | 4        | 0.16          |
| (1,1378) | 1:A:341:VAL:HG13 | 1:A:345:GLN:H    | 4        | 0.16          |
| (1,1378) | 1:A:341:VAL:HG21 | 1:A:345:GLN:H    | 4        | 0.16          |
| (1,1378) | 1:A:341:VAL:HG22 | 1:A:345:GLN:H    | 4        | 0.16          |
| (1,1378) | 1:A:341:VAL:HG23 | 1:A:345:GLN:H    | 4        | 0.16          |
| (1,1375) | 1:A:341:VAL:HG11 | 1:A:343:ALA:H    | 13       | 0.16          |
| (1,1375) | 1:A:341:VAL:HG12 | 1:A:343:ALA:H    | 13       | 0.16          |
| (1,1375) | 1:A:341:VAL:HG13 | 1:A:343:ALA:H    | 13       | 0.16          |
| (1,1375) | 1:A:341:VAL:HG21 | 1:A:343:ALA:H    | 13       | 0.16          |
| (1,1375) | 1:A:341:VAL:HG22 | 1:A:343:ALA:H    | 13       | 0.16          |
| (1,1375) | 1:A:341:VAL:HG23 | 1:A:343:ALA:H    | 13       | 0.16          |
| (4,7)    | 1:A:314:ILE:N    | 1:A:327:TYR:O    | 5        | 0.15          |
| (4,7)    | 1:A:314:ILE:N    | 1:A:327:TYR:O    | 11       | 0.15          |
| (4,7)    | 1:A:314:ILE:N    | 1:A:327:TYR:O    | 15       | 0.15          |
| (4,6)    | 1:A:366:MET:O    | 1:A:324:ARG:N    | 10       | 0.15          |
| (4,51)   | 1:A:383:LYS:H    | 1:A:380:PRO:O    | 9        | 0.15          |
| (4,51)   | 1:A:383:LYS:H    | 1:A:380:PRO:O    | 14       | 0.15          |
| (4,21)   | 1:A:471:ILE:N    | 1:A:463:TYR:O    | 7        | 0.15          |
| (4,21)   | 1:A:471:ILE:N    | 1:A:463:TYR:O    | 9        | 0.15          |
| (4,18)   | 1:A:424:ILE:N    | 1:A:441:LEU:O    | 4        | 0.15          |
| (4,15)   | 1:A:383:LYS:N    | 1:A:380:PRO:O    | 6        | 0.15          |
| (4,14)   | 1:A:350:SER:N    | 1:A:290:THR:O    | 13       | 0.15          |
| (4,13)   | 1:A:348:GLY:O    | 1:A:292:VAL:N    | 5        | 0.15          |

*Continued on next page...*



*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (4,13)   | 1:A:348:GLY:O    | 1:A:292:VAL:N    | 6        | 0.15          |
| (4,12)   | 1:A:299:LYS:O    | 1:A:317:ILE:N    | 2        | 0.15          |
| (4,12)   | 1:A:299:LYS:O    | 1:A:317:ILE:N    | 6        | 0.15          |
| (4,12)   | 1:A:299:LYS:O    | 1:A:317:ILE:N    | 7        | 0.15          |
| (4,12)   | 1:A:299:LYS:O    | 1:A:317:ILE:N    | 9        | 0.15          |
| (4,12)   | 1:A:299:LYS:O    | 1:A:317:ILE:N    | 13       | 0.15          |
| (4,10)   | 1:A:316:LEU:O    | 1:A:325:GLN:N    | 2        | 0.15          |
| (4,10)   | 1:A:316:LEU:O    | 1:A:325:GLN:N    | 7        | 0.15          |
| (2,1)    | 1:A:279:HIS:NE2  | 2:A:501:ZN:ZN    | 1        | 0.15          |
| (1,872)  | 1:A:304:GLY:H    | 1:A:314:ILE:HB   | 15       | 0.15          |
| (1,734)  | 1:A:299:LYS:H    | 1:A:316:LEU:HD11 | 3        | 0.15          |
| (1,734)  | 1:A:299:LYS:H    | 1:A:316:LEU:HD12 | 3        | 0.15          |
| (1,734)  | 1:A:299:LYS:H    | 1:A:316:LEU:HD13 | 3        | 0.15          |
| (1,734)  | 1:A:299:LYS:H    | 1:A:316:LEU:HD21 | 3        | 0.15          |
| (1,734)  | 1:A:299:LYS:H    | 1:A:316:LEU:HD22 | 3        | 0.15          |
| (1,734)  | 1:A:299:LYS:H    | 1:A:316:LEU:HD23 | 3        | 0.15          |
| (1,437)  | 1:A:282:VAL:HG11 | 1:A:379:MET:HA   | 1        | 0.15          |
| (1,437)  | 1:A:282:VAL:HG12 | 1:A:379:MET:HA   | 1        | 0.15          |
| (1,437)  | 1:A:282:VAL:HG13 | 1:A:379:MET:HA   | 1        | 0.15          |
| (1,437)  | 1:A:282:VAL:HG21 | 1:A:379:MET:HA   | 1        | 0.15          |
| (1,437)  | 1:A:282:VAL:HG22 | 1:A:379:MET:HA   | 1        | 0.15          |
| (1,437)  | 1:A:282:VAL:HG23 | 1:A:379:MET:HA   | 1        | 0.15          |
| (1,3471) | 1:A:492:ILE:HG21 | 1:A:493:LYS:HG2  | 2        | 0.15          |
| (1,3471) | 1:A:492:ILE:HG21 | 1:A:493:LYS:HG3  | 2        | 0.15          |
| (1,3471) | 1:A:492:ILE:HG22 | 1:A:493:LYS:HG2  | 2        | 0.15          |
| (1,3471) | 1:A:492:ILE:HG22 | 1:A:493:LYS:HG3  | 2        | 0.15          |
| (1,3471) | 1:A:492:ILE:HG23 | 1:A:493:LYS:HG2  | 2        | 0.15          |
| (1,3471) | 1:A:492:ILE:HG23 | 1:A:493:LYS:HG3  | 2        | 0.15          |
| (1,3471) | 1:A:492:ILE:HG21 | 1:A:493:LYS:HG2  | 8        | 0.15          |
| (1,3471) | 1:A:492:ILE:HG21 | 1:A:493:LYS:HG3  | 8        | 0.15          |
| (1,3471) | 1:A:492:ILE:HG22 | 1:A:493:LYS:HG2  | 8        | 0.15          |
| (1,3471) | 1:A:492:ILE:HG22 | 1:A:493:LYS:HG3  | 8        | 0.15          |
| (1,3471) | 1:A:492:ILE:HG23 | 1:A:493:LYS:HG2  | 8        | 0.15          |
| (1,3471) | 1:A:492:ILE:HG23 | 1:A:493:LYS:HG3  | 8        | 0.15          |
| (1,3467) | 1:A:492:ILE:HD11 | 1:A:493:LYS:H    | 4        | 0.15          |
| (1,3467) | 1:A:492:ILE:HD12 | 1:A:493:LYS:H    | 4        | 0.15          |
| (1,3467) | 1:A:492:ILE:HD13 | 1:A:493:LYS:H    | 4        | 0.15          |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD11 | 7        | 0.15          |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD12 | 7        | 0.15          |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD13 | 7        | 0.15          |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD21 | 7        | 0.15          |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD22 | 7        | 0.15          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD23 | 7        | 0.15          |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG11 | 8        | 0.15          |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG12 | 8        | 0.15          |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG13 | 8        | 0.15          |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG21 | 8        | 0.15          |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG22 | 8        | 0.15          |
| (1,2654) | 1:A:439:GLY:H    | 1:A:440:VAL:HG23 | 8        | 0.15          |
| (1,2603) | 1:A:433:ARG:HD2  | 1:A:434:SER:H    | 10       | 0.15          |
| (1,2603) | 1:A:433:ARG:HD3  | 1:A:434:SER:H    | 10       | 0.15          |
| (1,2087) | 1:A:415:SER:HB2  | 1:A:416:ALA:H    | 1        | 0.15          |
| (1,2087) | 1:A:415:SER:HB3  | 1:A:416:ALA:H    | 1        | 0.15          |
| (1,1683) | 1:A:381:PHE:HA   | 1:A:382:LEU:HD11 | 11       | 0.15          |
| (1,1683) | 1:A:381:PHE:HA   | 1:A:382:LEU:HD12 | 11       | 0.15          |
| (1,1683) | 1:A:381:PHE:HA   | 1:A:382:LEU:HD13 | 11       | 0.15          |
| (1,1683) | 1:A:381:PHE:HA   | 1:A:382:LEU:HD21 | 11       | 0.15          |
| (1,1683) | 1:A:381:PHE:HA   | 1:A:382:LEU:HD22 | 11       | 0.15          |
| (1,1683) | 1:A:381:PHE:HA   | 1:A:382:LEU:HD23 | 11       | 0.15          |
| (1,1378) | 1:A:341:VAL:HG11 | 1:A:345:GLN:H    | 13       | 0.15          |
| (1,1378) | 1:A:341:VAL:HG12 | 1:A:345:GLN:H    | 13       | 0.15          |
| (1,1378) | 1:A:341:VAL:HG13 | 1:A:345:GLN:H    | 13       | 0.15          |
| (1,1378) | 1:A:341:VAL:HG21 | 1:A:345:GLN:H    | 13       | 0.15          |
| (1,1378) | 1:A:341:VAL:HG22 | 1:A:345:GLN:H    | 13       | 0.15          |
| (1,1378) | 1:A:341:VAL:HG23 | 1:A:345:GLN:H    | 13       | 0.15          |
| (4,6)    | 1:A:366:MET:O    | 1:A:324:ARG:N    | 14       | 0.14          |
| (4,51)   | 1:A:383:LYS:H    | 1:A:380:PRO:O    | 5        | 0.14          |
| (4,51)   | 1:A:383:LYS:H    | 1:A:380:PRO:O    | 10       | 0.14          |
| (4,5)    | 1:A:366:MET:N    | 1:A:324:ARG:O    | 14       | 0.14          |
| (4,4)    | 1:A:364:GLN:O    | 1:A:326:TRP:N    | 15       | 0.14          |
| (4,14)   | 1:A:350:SER:N    | 1:A:290:THR:O    | 11       | 0.14          |
| (4,13)   | 1:A:348:GLY:O    | 1:A:292:VAL:N    | 7        | 0.14          |
| (4,13)   | 1:A:348:GLY:O    | 1:A:292:VAL:N    | 10       | 0.14          |
| (4,13)   | 1:A:348:GLY:O    | 1:A:292:VAL:N    | 12       | 0.14          |
| (4,12)   | 1:A:299:LYS:O    | 1:A:317:ILE:N    | 5        | 0.14          |
| (4,12)   | 1:A:299:LYS:O    | 1:A:317:ILE:N    | 11       | 0.14          |
| (4,10)   | 1:A:316:LEU:O    | 1:A:325:GLN:N    | 4        | 0.14          |
| (2,1)    | 1:A:279:HIS:NE2  | 2:A:501:ZN:ZN    | 9        | 0.14          |
| (2,1)    | 1:A:279:HIS:NE2  | 2:A:501:ZN:ZN    | 14       | 0.14          |
| (1,872)  | 1:A:304:GLY:H    | 1:A:314:ILE:HB   | 2        | 0.14          |
| (1,872)  | 1:A:304:GLY:H    | 1:A:314:ILE:HB   | 4        | 0.14          |
| (1,872)  | 1:A:304:GLY:H    | 1:A:314:ILE:HB   | 8        | 0.14          |
| (1,419)  | 1:A:282:VAL:HG11 | 1:A:283:ASP:HA   | 2        | 0.14          |
| (1,419)  | 1:A:282:VAL:HG12 | 1:A:283:ASP:HA   | 2        | 0.14          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,419)  | 1:A:282:VAL:HG13 | 1:A:283:ASP:HA   | 2        | 0.14          |
| (1,4)    | 1:A:252:GLU:HA   | 1:A:252:GLU:HG2  | 8        | 0.14          |
| (1,4)    | 1:A:252:GLU:HA   | 1:A:252:GLU:HG3  | 8        | 0.14          |
| (1,3471) | 1:A:492:ILE:HG21 | 1:A:493:LYS:HG2  | 11       | 0.14          |
| (1,3471) | 1:A:492:ILE:HG21 | 1:A:493:LYS:HG3  | 11       | 0.14          |
| (1,3471) | 1:A:492:ILE:HG22 | 1:A:493:LYS:HG2  | 11       | 0.14          |
| (1,3471) | 1:A:492:ILE:HG22 | 1:A:493:LYS:HG3  | 11       | 0.14          |
| (1,3471) | 1:A:492:ILE:HG23 | 1:A:493:LYS:HG2  | 11       | 0.14          |
| (1,3471) | 1:A:492:ILE:HG23 | 1:A:493:LYS:HG3  | 11       | 0.14          |
| (1,3467) | 1:A:492:ILE:HD11 | 1:A:493:LYS:H    | 9        | 0.14          |
| (1,3467) | 1:A:492:ILE:HD12 | 1:A:493:LYS:H    | 9        | 0.14          |
| (1,3467) | 1:A:492:ILE:HD13 | 1:A:493:LYS:H    | 9        | 0.14          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG11 | 6        | 0.14          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG12 | 6        | 0.14          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG13 | 6        | 0.14          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG21 | 6        | 0.14          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG22 | 6        | 0.14          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG23 | 6        | 0.14          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG11 | 11       | 0.14          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG12 | 11       | 0.14          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG13 | 11       | 0.14          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG21 | 11       | 0.14          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG22 | 11       | 0.14          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG23 | 11       | 0.14          |
| (1,2798) | 1:A:451:GLU:H    | 1:A:461:VAL:HG11 | 11       | 0.14          |
| (1,2798) | 1:A:451:GLU:H    | 1:A:461:VAL:HG12 | 11       | 0.14          |
| (1,2798) | 1:A:451:GLU:H    | 1:A:461:VAL:HG13 | 11       | 0.14          |
| (1,2798) | 1:A:451:GLU:H    | 1:A:461:VAL:HG21 | 11       | 0.14          |
| (1,2798) | 1:A:451:GLU:H    | 1:A:461:VAL:HG22 | 11       | 0.14          |
| (1,2798) | 1:A:451:GLU:H    | 1:A:461:VAL:HG23 | 11       | 0.14          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD11 | 15       | 0.14          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD12 | 15       | 0.14          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD13 | 15       | 0.14          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD21 | 15       | 0.14          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD22 | 15       | 0.14          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD23 | 15       | 0.14          |
| (1,1997) | 1:A:410:LEU:HD11 | 1:A:478:TRP:HE1  | 1        | 0.14          |
| (1,1997) | 1:A:410:LEU:HD12 | 1:A:478:TRP:HE1  | 1        | 0.14          |
| (1,1997) | 1:A:410:LEU:HD13 | 1:A:478:TRP:HE1  | 1        | 0.14          |
| (1,1997) | 1:A:410:LEU:HD21 | 1:A:478:TRP:HE1  | 1        | 0.14          |
| (1,1997) | 1:A:410:LEU:HD22 | 1:A:478:TRP:HE1  | 1        | 0.14          |
| (1,1997) | 1:A:410:LEU:HD23 | 1:A:478:TRP:HE1  | 1        | 0.14          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1          | Atom-2           | Model ID | Violation (Å) |
|----------|-----------------|------------------|----------|---------------|
| (1,15)   | 1:A:253:HIS:HA  | 1:A:253:HIS:HD2  | 4        | 0.14          |
| (1,1474) | 1:A:357:THR:HA  | 1:A:357:THR:HG21 | 2        | 0.14          |
| (1,1474) | 1:A:357:THR:HA  | 1:A:357:THR:HG22 | 2        | 0.14          |
| (1,1474) | 1:A:357:THR:HA  | 1:A:357:THR:HG23 | 2        | 0.14          |
| (1,1474) | 1:A:357:THR:HA  | 1:A:357:THR:HG21 | 10       | 0.14          |
| (1,1474) | 1:A:357:THR:HA  | 1:A:357:THR:HG22 | 10       | 0.14          |
| (1,1474) | 1:A:357:THR:HA  | 1:A:357:THR:HG23 | 10       | 0.14          |
| (1,1172) | 1:A:327:TYR:H   | 1:A:330:LEU:HD11 | 9        | 0.14          |
| (1,1172) | 1:A:327:TYR:H   | 1:A:330:LEU:HD12 | 9        | 0.14          |
| (1,1172) | 1:A:327:TYR:H   | 1:A:330:LEU:HD13 | 9        | 0.14          |
| (1,1172) | 1:A:327:TYR:H   | 1:A:330:LEU:HD21 | 9        | 0.14          |
| (1,1172) | 1:A:327:TYR:H   | 1:A:330:LEU:HD22 | 9        | 0.14          |
| (1,1172) | 1:A:327:TYR:H   | 1:A:330:LEU:HD23 | 9        | 0.14          |
| (1,1094) | 1:A:323:HIS:HD2 | 1:A:324:ARG:H    | 14       | 0.14          |
| (4,7)    | 1:A:314:ILE:N   | 1:A:327:TYR:O    | 13       | 0.13          |
| (4,6)    | 1:A:366:MET:O   | 1:A:324:ARG:N    | 7        | 0.13          |
| (4,51)   | 1:A:383:LYS:H   | 1:A:380:PRO:O    | 12       | 0.13          |
| (4,5)    | 1:A:366:MET:N   | 1:A:324:ARG:O    | 4        | 0.13          |
| (4,5)    | 1:A:366:MET:N   | 1:A:324:ARG:O    | 8        | 0.13          |
| (4,5)    | 1:A:366:MET:N   | 1:A:324:ARG:O    | 12       | 0.13          |
| (4,5)    | 1:A:366:MET:N   | 1:A:324:ARG:O    | 13       | 0.13          |
| (4,4)    | 1:A:364:GLN:O   | 1:A:326:TRP:N    | 9        | 0.13          |
| (4,21)   | 1:A:471:ILE:N   | 1:A:463:TYR:O    | 8        | 0.13          |
| (4,13)   | 1:A:348:GLY:O   | 1:A:292:VAL:N    | 1        | 0.13          |
| (4,10)   | 1:A:316:LEU:O   | 1:A:325:GLN:N    | 3        | 0.13          |
| (2,1)    | 1:A:279:HIS:NE2 | 2:A:501:ZN:ZN    | 8        | 0.13          |
| (2,1)    | 1:A:279:HIS:NE2 | 2:A:501:ZN:ZN    | 15       | 0.13          |
| (1,872)  | 1:A:304:GLY:H   | 1:A:314:ILE:HB   | 10       | 0.13          |
| (1,735)  | 1:A:299:LYS:HB2 | 1:A:316:LEU:HD11 | 11       | 0.13          |
| (1,735)  | 1:A:299:LYS:HB2 | 1:A:316:LEU:HD12 | 11       | 0.13          |
| (1,735)  | 1:A:299:LYS:HB2 | 1:A:316:LEU:HD13 | 11       | 0.13          |
| (1,735)  | 1:A:299:LYS:HB2 | 1:A:316:LEU:HD21 | 11       | 0.13          |
| (1,735)  | 1:A:299:LYS:HB2 | 1:A:316:LEU:HD22 | 11       | 0.13          |
| (1,735)  | 1:A:299:LYS:HB2 | 1:A:316:LEU:HD23 | 11       | 0.13          |
| (1,735)  | 1:A:299:LYS:HB3 | 1:A:316:LEU:HD11 | 11       | 0.13          |
| (1,735)  | 1:A:299:LYS:HB3 | 1:A:316:LEU:HD12 | 11       | 0.13          |
| (1,735)  | 1:A:299:LYS:HB3 | 1:A:316:LEU:HD13 | 11       | 0.13          |
| (1,735)  | 1:A:299:LYS:HB3 | 1:A:316:LEU:HD21 | 11       | 0.13          |
| (1,735)  | 1:A:299:LYS:HB3 | 1:A:316:LEU:HD22 | 11       | 0.13          |
| (1,735)  | 1:A:299:LYS:HB3 | 1:A:316:LEU:HD23 | 11       | 0.13          |
| (1,379)  | 1:A:278:MET:H   | 1:A:278:MET:HE1  | 2        | 0.13          |
| (1,379)  | 1:A:278:MET:H   | 1:A:278:MET:HE2  | 2        | 0.13          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,379)  | 1:A:278:MET:H    | 1:A:278:MET:HE3  | 2        | 0.13          |
| (1,378)  | 1:A:277:GLY:H    | 1:A:278:MET:H    | 12       | 0.13          |
| (1,3333) | 1:A:478:TRP:HD1  | 1:A:485:LEU:HG   | 5        | 0.13          |
| (1,2666) | 1:A:440:VAL:HG11 | 1:A:442:LYS:H    | 3        | 0.13          |
| (1,2666) | 1:A:440:VAL:HG12 | 1:A:442:LYS:H    | 3        | 0.13          |
| (1,2666) | 1:A:440:VAL:HG13 | 1:A:442:LYS:H    | 3        | 0.13          |
| (1,2666) | 1:A:440:VAL:HG21 | 1:A:442:LYS:H    | 3        | 0.13          |
| (1,2666) | 1:A:440:VAL:HG22 | 1:A:442:LYS:H    | 3        | 0.13          |
| (1,2666) | 1:A:440:VAL:HG23 | 1:A:442:LYS:H    | 3        | 0.13          |
| (1,2446) | 1:A:426:THR:HA   | 1:A:474:PRO:HG3  | 1        | 0.13          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD11 | 15       | 0.13          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD12 | 15       | 0.13          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD13 | 15       | 0.13          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD21 | 15       | 0.13          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD22 | 15       | 0.13          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD23 | 15       | 0.13          |
| (1,1771) | 1:A:389:LYS:HA   | 1:A:389:LYS:HD2  | 1        | 0.13          |
| (1,1771) | 1:A:389:LYS:HA   | 1:A:389:LYS:HD3  | 1        | 0.13          |
| (1,1474) | 1:A:357:THR:HA   | 1:A:357:THR:HG21 | 14       | 0.13          |
| (1,1474) | 1:A:357:THR:HA   | 1:A:357:THR:HG22 | 14       | 0.13          |
| (1,1474) | 1:A:357:THR:HA   | 1:A:357:THR:HG23 | 14       | 0.13          |
| (1,137)  | 1:A:257:TRP:HZ2  | 1:A:292:VAL:HG11 | 2        | 0.13          |
| (1,137)  | 1:A:257:TRP:HZ2  | 1:A:292:VAL:HG12 | 2        | 0.13          |
| (1,137)  | 1:A:257:TRP:HZ2  | 1:A:292:VAL:HG13 | 2        | 0.13          |
| (1,137)  | 1:A:257:TRP:HZ2  | 1:A:292:VAL:HG21 | 2        | 0.13          |
| (1,137)  | 1:A:257:TRP:HZ2  | 1:A:292:VAL:HG22 | 2        | 0.13          |
| (1,137)  | 1:A:257:TRP:HZ2  | 1:A:292:VAL:HG23 | 2        | 0.13          |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD11 | 5        | 0.13          |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD12 | 5        | 0.13          |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD13 | 5        | 0.13          |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD21 | 5        | 0.13          |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD22 | 5        | 0.13          |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD23 | 5        | 0.13          |
| (4,51)   | 1:A:383:LYS:H    | 1:A:380:PRO:O    | 6        | 0.12          |
| (4,51)   | 1:A:383:LYS:H    | 1:A:380:PRO:O    | 15       | 0.12          |
| (4,22)   | 1:A:461:VAL:N    | 1:A:473:LEU:O    | 2        | 0.12          |
| (4,22)   | 1:A:461:VAL:N    | 1:A:473:LEU:O    | 4        | 0.12          |
| (4,22)   | 1:A:461:VAL:N    | 1:A:473:LEU:O    | 5        | 0.12          |
| (4,16)   | 1:A:453:MET:N    | 1:A:460:TRP:O    | 2        | 0.12          |
| (4,15)   | 1:A:383:LYS:N    | 1:A:380:PRO:O    | 4        | 0.12          |
| (4,15)   | 1:A:383:LYS:N    | 1:A:380:PRO:O    | 9        | 0.12          |
| (4,13)   | 1:A:348:GLY:O    | 1:A:292:VAL:N    | 3        | 0.12          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (4,10)   | 1:A:316:LEU:O    | 1:A:325:GLN:N    | 10       | 0.12          |
| (2,1)    | 1:A:279:HIS:NE2  | 2:A:501:ZN:ZN    | 7        | 0.12          |
| (1,911)  | 1:A:310:GLY:H    | 1:A:311:GLY:H    | 7        | 0.12          |
| (1,872)  | 1:A:304:GLY:H    | 1:A:314:ILE:HB   | 7        | 0.12          |
| (1,3333) | 1:A:478:TRP:HD1  | 1:A:485:LEU:HG   | 12       | 0.12          |
| (1,3333) | 1:A:478:TRP:HD1  | 1:A:485:LEU:HG   | 15       | 0.12          |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD11 | 3        | 0.12          |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD12 | 3        | 0.12          |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD13 | 3        | 0.12          |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD21 | 3        | 0.12          |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD22 | 3        | 0.12          |
| (1,3283) | 1:A:477:THR:H    | 1:A:485:LEU:HD23 | 3        | 0.12          |
| (1,3159) | 1:A:470:ARG:H    | 1:A:470:ARG:HD2  | 3        | 0.12          |
| (1,3159) | 1:A:470:ARG:H    | 1:A:470:ARG:HD3  | 3        | 0.12          |
| (1,3159) | 1:A:470:ARG:H    | 1:A:470:ARG:HD2  | 12       | 0.12          |
| (1,3159) | 1:A:470:ARG:H    | 1:A:470:ARG:HD3  | 12       | 0.12          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG11 | 4        | 0.12          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG12 | 4        | 0.12          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG13 | 4        | 0.12          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG21 | 4        | 0.12          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG22 | 4        | 0.12          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG23 | 4        | 0.12          |
| (1,2817) | 1:A:452:VAL:H    | 1:A:461:VAL:HG11 | 1        | 0.12          |
| (1,2817) | 1:A:452:VAL:H    | 1:A:461:VAL:HG12 | 1        | 0.12          |
| (1,2817) | 1:A:452:VAL:H    | 1:A:461:VAL:HG13 | 1        | 0.12          |
| (1,2817) | 1:A:452:VAL:H    | 1:A:461:VAL:HG21 | 1        | 0.12          |
| (1,2817) | 1:A:452:VAL:H    | 1:A:461:VAL:HG22 | 1        | 0.12          |
| (1,2817) | 1:A:452:VAL:H    | 1:A:461:VAL:HG23 | 1        | 0.12          |
| (1,1984) | 1:A:410:LEU:HD11 | 1:A:411:TYR:H    | 12       | 0.12          |
| (1,1984) | 1:A:410:LEU:HD12 | 1:A:411:TYR:H    | 12       | 0.12          |
| (1,1984) | 1:A:410:LEU:HD13 | 1:A:411:TYR:H    | 12       | 0.12          |
| (1,1984) | 1:A:410:LEU:HD21 | 1:A:411:TYR:H    | 12       | 0.12          |
| (1,1984) | 1:A:410:LEU:HD22 | 1:A:411:TYR:H    | 12       | 0.12          |
| (1,1984) | 1:A:410:LEU:HD23 | 1:A:411:TYR:H    | 12       | 0.12          |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD11 | 4        | 0.12          |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD12 | 4        | 0.12          |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD13 | 4        | 0.12          |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD21 | 4        | 0.12          |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD22 | 4        | 0.12          |
| (1,1172) | 1:A:327:TYR:H    | 1:A:330:LEU:HD23 | 4        | 0.12          |
| (1,1046) | 1:A:318:GLU:HA   | 1:A:320:ASP:H    | 9        | 0.12          |
| (4,51)   | 1:A:383:LYS:H    | 1:A:380:PRO:O    | 3        | 0.11          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (4,51)   | 1:A:383:LYS:H    | 1:A:380:PRO:O    | 4        | 0.11          |
| (4,5)    | 1:A:366:MET:N    | 1:A:324:ARG:O    | 10       | 0.11          |
| (4,5)    | 1:A:366:MET:N    | 1:A:324:ARG:O    | 15       | 0.11          |
| (4,22)   | 1:A:461:VAL:N    | 1:A:473:LEU:O    | 13       | 0.11          |
| (4,21)   | 1:A:471:ILE:N    | 1:A:463:TYR:O    | 1        | 0.11          |
| (4,13)   | 1:A:348:GLY:O    | 1:A:292:VAL:N    | 11       | 0.11          |
| (4,13)   | 1:A:348:GLY:O    | 1:A:292:VAL:N    | 14       | 0.11          |
| (4,13)   | 1:A:348:GLY:O    | 1:A:292:VAL:N    | 15       | 0.11          |
| (4,12)   | 1:A:299:LYS:O    | 1:A:317:ILE:N    | 3        | 0.11          |
| (4,12)   | 1:A:299:LYS:O    | 1:A:317:ILE:N    | 12       | 0.11          |
| (4,10)   | 1:A:316:LEU:O    | 1:A:325:GLN:N    | 13       | 0.11          |
| (2,6)    | 1:A:362:HIS:ND1  | 2:A:501:ZN:ZN    | 1        | 0.11          |
| (2,6)    | 1:A:362:HIS:ND1  | 2:A:501:ZN:ZN    | 2        | 0.11          |
| (2,6)    | 1:A:362:HIS:ND1  | 2:A:501:ZN:ZN    | 4        | 0.11          |
| (2,6)    | 1:A:362:HIS:ND1  | 2:A:501:ZN:ZN    | 8        | 0.11          |
| (2,6)    | 1:A:362:HIS:ND1  | 2:A:501:ZN:ZN    | 9        | 0.11          |
| (2,6)    | 1:A:362:HIS:ND1  | 2:A:501:ZN:ZN    | 12       | 0.11          |
| (2,6)    | 1:A:362:HIS:ND1  | 2:A:501:ZN:ZN    | 14       | 0.11          |
| (2,1)    | 1:A:279:HIS:NE2  | 2:A:501:ZN:ZN    | 5        | 0.11          |
| (2,1)    | 1:A:279:HIS:NE2  | 2:A:501:ZN:ZN    | 10       | 0.11          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD11 | 12       | 0.11          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD12 | 12       | 0.11          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD13 | 12       | 0.11          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD21 | 12       | 0.11          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD22 | 12       | 0.11          |
| (1,735)  | 1:A:299:LYS:HB2  | 1:A:316:LEU:HD23 | 12       | 0.11          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD11 | 12       | 0.11          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD12 | 12       | 0.11          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD13 | 12       | 0.11          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD21 | 12       | 0.11          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD22 | 12       | 0.11          |
| (1,735)  | 1:A:299:LYS:HB3  | 1:A:316:LEU:HD23 | 12       | 0.11          |
| (1,718)  | 1:A:298:GLY:H    | 1:A:342:LYS:HG2  | 4        | 0.11          |
| (1,718)  | 1:A:298:GLY:H    | 1:A:342:LYS:HG3  | 4        | 0.11          |
| (1,649)  | 1:A:295:ILE:HG21 | 1:A:297:SER:H    | 9        | 0.11          |
| (1,649)  | 1:A:295:ILE:HG22 | 1:A:297:SER:H    | 9        | 0.11          |
| (1,649)  | 1:A:295:ILE:HG23 | 1:A:297:SER:H    | 9        | 0.11          |
| (1,379)  | 1:A:278:MET:H    | 1:A:278:MET:HE1  | 5        | 0.11          |
| (1,379)  | 1:A:278:MET:H    | 1:A:278:MET:HE2  | 5        | 0.11          |
| (1,379)  | 1:A:278:MET:H    | 1:A:278:MET:HE3  | 5        | 0.11          |
| (1,3450) | 1:A:491:THR:H    | 1:A:492:ILE:HG12 | 13       | 0.11          |
| (1,3450) | 1:A:491:THR:H    | 1:A:492:ILE:HG13 | 13       | 0.11          |

*Continued on next page...*

*Continued from previous page...*

| Key      | Atom-1           | Atom-2           | Model ID | Violation (Å) |
|----------|------------------|------------------|----------|---------------|
| (1,3333) | 1:A:478:TRP:HD1  | 1:A:485:LEU:HG   | 2        | 0.11          |
| (1,3333) | 1:A:478:TRP:HD1  | 1:A:485:LEU:HG   | 9        | 0.11          |
| (1,3268) | 1:A:476:ARG:H    | 1:A:489:TRP:HE1  | 10       | 0.11          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG11 | 12       | 0.11          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG12 | 12       | 0.11          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG13 | 12       | 0.11          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG21 | 12       | 0.11          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG22 | 12       | 0.11          |
| (1,2988) | 1:A:459:VAL:H    | 1:A:475:VAL:HG23 | 12       | 0.11          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG11 | 3        | 0.11          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG12 | 3        | 0.11          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG13 | 3        | 0.11          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG21 | 3        | 0.11          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG22 | 3        | 0.11          |
| (1,2799) | 1:A:451:GLU:HA   | 1:A:461:VAL:HG23 | 3        | 0.11          |
| (1,2697) | 1:A:444:GLY:H    | 1:A:445:GLN:HA   | 5        | 0.11          |
| (1,2487) | 1:A:427:ARG:HE   | 1:A:460:TRP:HZ3  | 13       | 0.11          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD11 | 12       | 0.11          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD12 | 12       | 0.11          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD13 | 12       | 0.11          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD21 | 12       | 0.11          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD22 | 12       | 0.11          |
| (1,2352) | 1:A:424:ILE:H    | 1:A:441:LEU:HD23 | 12       | 0.11          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD11 | 4        | 0.11          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD12 | 4        | 0.11          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD13 | 4        | 0.11          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD21 | 4        | 0.11          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD22 | 4        | 0.11          |
| (1,2247) | 1:A:420:PRO:HB2  | 1:A:441:LEU:HD23 | 4        | 0.11          |
| (1,1940) | 1:A:407:TYR:HB3  | 1:A:409:THR:H    | 15       | 0.11          |
| (1,1865) | 1:A:404:THR:HA   | 1:A:409:THR:H    | 15       | 0.11          |
| (1,1780) | 1:A:397:THR:HA   | 1:A:397:THR:HG21 | 2        | 0.11          |
| (1,1780) | 1:A:397:THR:HA   | 1:A:397:THR:HG22 | 2        | 0.11          |
| (1,1780) | 1:A:397:THR:HA   | 1:A:397:THR:HG23 | 2        | 0.11          |
| (1,1780) | 1:A:397:THR:HA   | 1:A:397:THR:HG21 | 5        | 0.11          |
| (1,1780) | 1:A:397:THR:HA   | 1:A:397:THR:HG22 | 5        | 0.11          |
| (1,1780) | 1:A:397:THR:HA   | 1:A:397:THR:HG23 | 5        | 0.11          |
| (1,1780) | 1:A:397:THR:HA   | 1:A:397:THR:HG21 | 12       | 0.11          |
| (1,1780) | 1:A:397:THR:HA   | 1:A:397:THR:HG22 | 12       | 0.11          |
| (1,1780) | 1:A:397:THR:HA   | 1:A:397:THR:HG23 | 12       | 0.11          |
| (1,1210) | 1:A:330:LEU:H    | 1:A:332:LYS:H    | 2        | 0.11          |
| (1,1209) | 1:A:330:LEU:HD11 | 1:A:331:SER:H    | 14       | 0.11          |

*Continued on next page...*



*Continued from previous page...*

| <b>Key</b> | <b>Atom-1</b>    | <b>Atom-2</b> | <b>Model ID</b> | <b>Violation (Å)</b> |
|------------|------------------|---------------|-----------------|----------------------|
| (1,1209)   | 1:A:330:LEU:HD12 | 1:A:331:SER:H | 14              | 0.11                 |
| (1,1209)   | 1:A:330:LEU:HD13 | 1:A:331:SER:H | 14              | 0.11                 |
| (1,1209)   | 1:A:330:LEU:HD21 | 1:A:331:SER:H | 14              | 0.11                 |
| (1,1209)   | 1:A:330:LEU:HD22 | 1:A:331:SER:H | 14              | 0.11                 |
| (1,1209)   | 1:A:330:LEU:HD23 | 1:A:331:SER:H | 14              | 0.11                 |
| (1,1046)   | 1:A:318:GLU:HA   | 1:A:320:ASP:H | 10              | 0.11                 |

## 10 Dihedral-angle violation analysis

Dihedral angle analysis failed due to data error in the dihedral angle restraints, possibly missing target value