



# Full wwPDB NMR Structure Validation Report ⓘ

May 29, 2020 – 02:18 am BST

PDB ID : 3CRD  
Title : NMR STRUCTURE OF THE RAIDD CARD DOMAIN, 15 STRUCTURES  
Authors : Chou, J.J.; Matsuo, H.; Duan, H.; Wagner, G.  
Deposited on : 1998-07-24

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 following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

Cyrange : Kirchner and Güntert (2011)  
NmrClust : Kelley et al. (1996)  
MolProbity : 4.02b-467  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
RCI : v\_1n\_11\_5\_13\_A (Berjanski et al., 2005)  
PANAV : Wang et al. (2010)  
ShiftChecker : 2.11  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.11

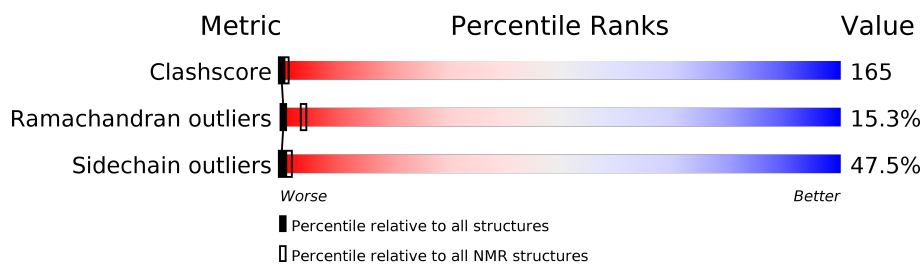
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*SOLUTION NMR*

The overall completeness of chemical shifts assignment was not calculated.

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     | 100    |                  |

## 2 Ensemble composition and analysis i

This entry contains 15 models. Model 3 is the overall representative, medoid model (most similar to other models).

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:4-A:18, A:26-A:62, A:68-A:94 (79) | 0.28              | 3            |

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

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

The models can be grouped into 2 clusters. No single-model clusters were found.

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

### 3 Entry composition

There is only 1 type of molecule in this entry. The entry contains 1636 atoms, of which 832 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called RAIDD.

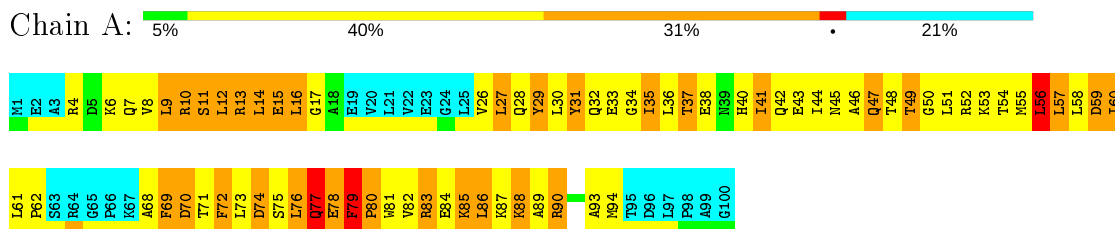
| Mol | Chain | Residues | Atoms |     |     |     |     |   | Trace |
|-----|-------|----------|-------|-----|-----|-----|-----|---|-------|
|     |       |          | Total | C   | H   | N   | O   | S |       |
| 1   | A     | 100      | 1636  | 511 | 832 | 138 | 152 | 3 | 0     |

## 4 Residue-property plots

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

These plots are provided for all protein, RNA and DNA 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: RAIDD

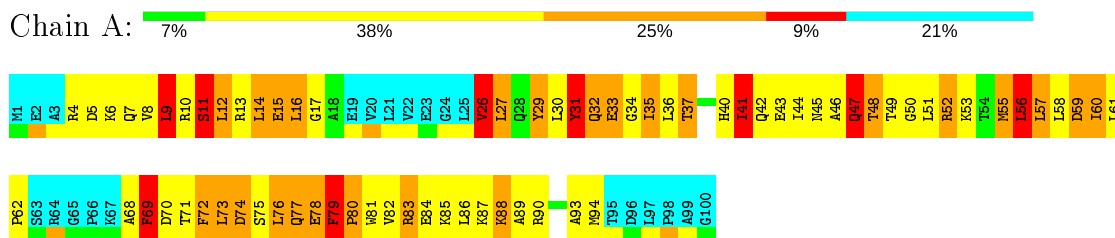


### 4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

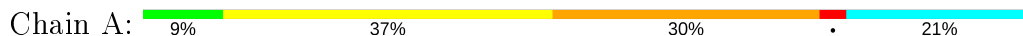
#### 4.2.1 Score per residue for model 1

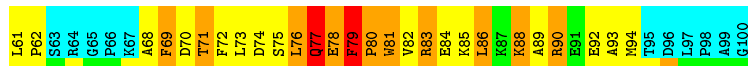
- Molecule 1: RAIDD



#### 4.2.2 Score per residue for model 2

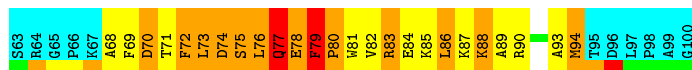
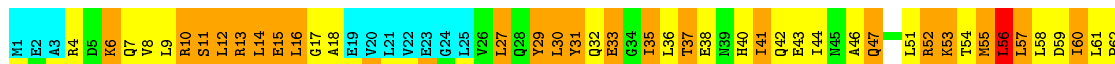
- Molecule 1: RAIDD





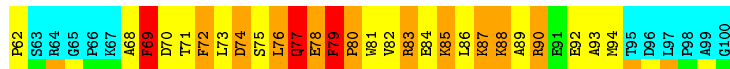
### 4.2.3 Score per residue for model 3 (medoid)

- Molecule 1: RAIDD



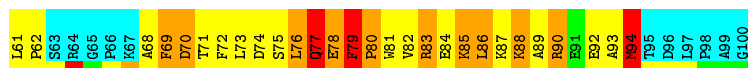
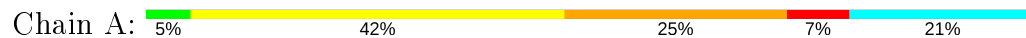
### 4.2.4 Score per residue for model 4

- Molecule 1: RAIDD



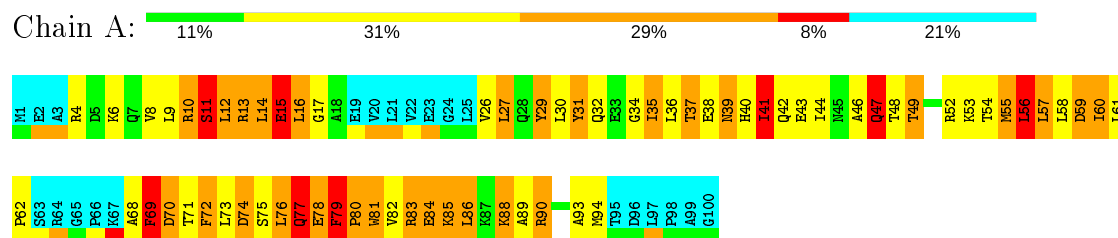
### 4.2.5 Score per residue for model 5

- Molecule 1: RAIDD



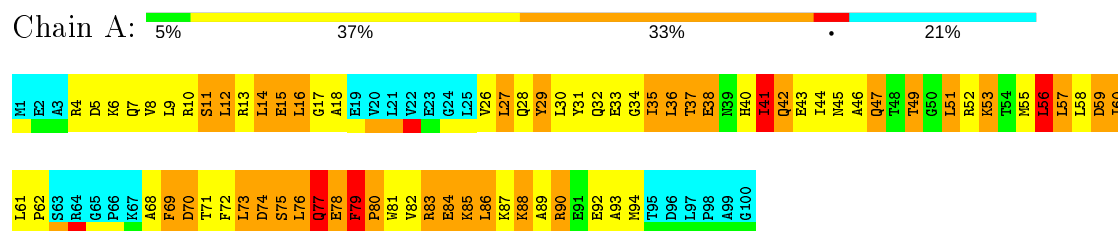
### 4.2.6 Score per residue for model 6

- Molecule 1: RAIDD



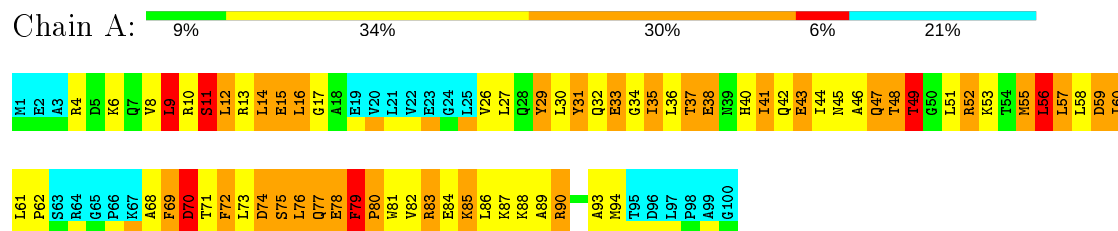
#### 4.2.7 Score per residue for model 7

- Molecule 1: RAIDD



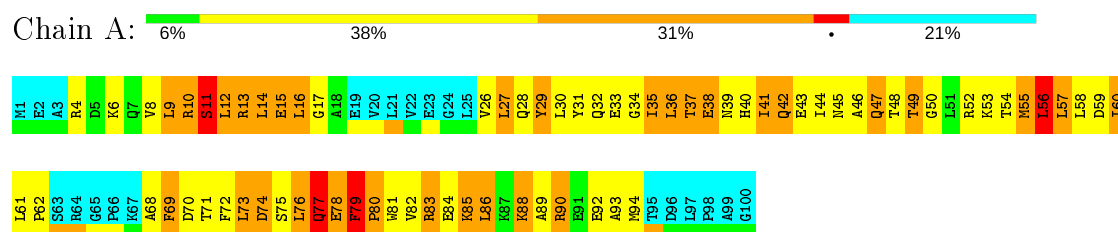
#### 4.2.8 Score per residue for model 8

- Molecule 1: RAIDD



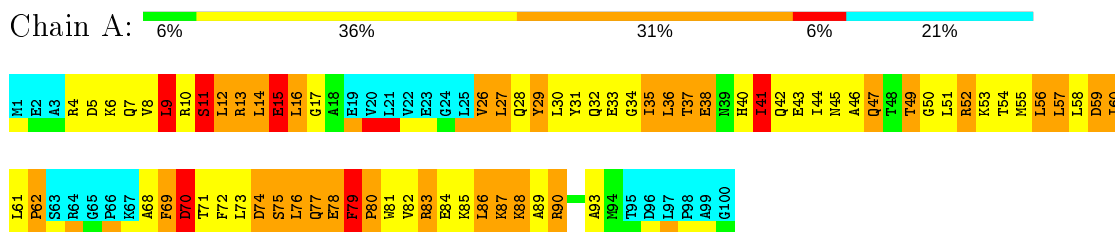
#### 4.2.9 Score per residue for model 9

- Molecule 1: RAIDD



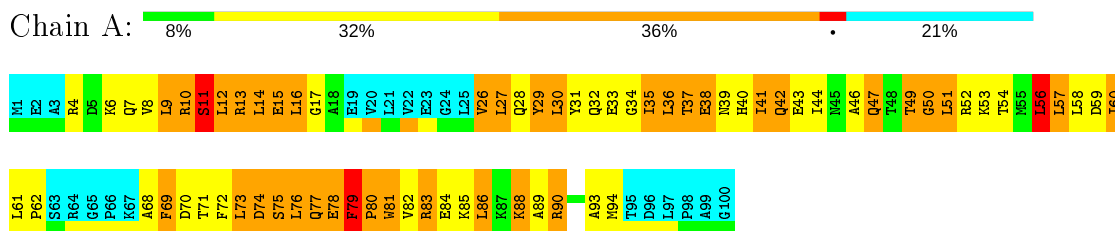
#### 4.2.10 Score per residue for model 10

- Molecule 1: RAIDD



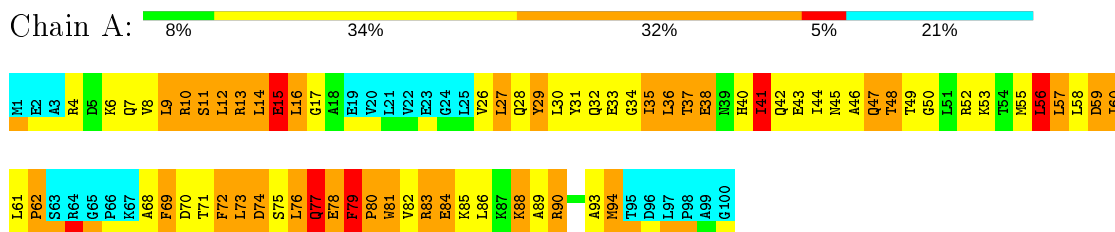
#### 4.2.11 Score per residue for model 11

- Molecule 1: RAIDD



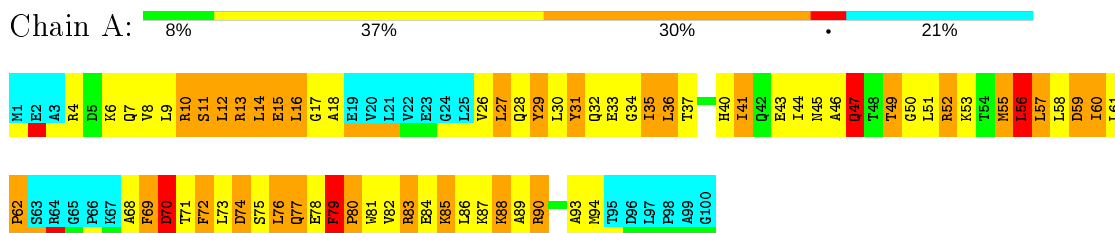
#### 4.2.12 Score per residue for model 12

- Molecule 1: RAIDD



#### 4.2.13 Score per residue for model 13

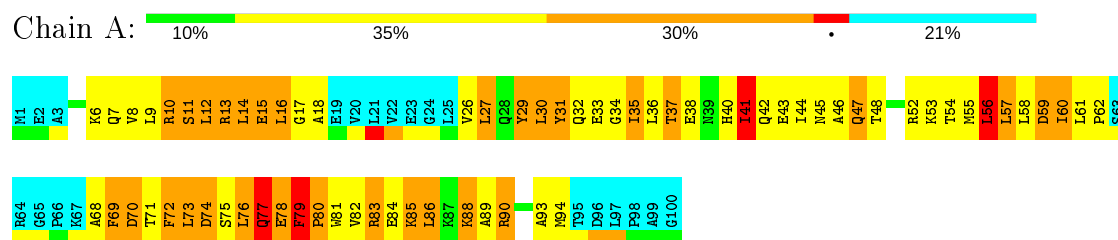
- Molecule 1: RAIDD





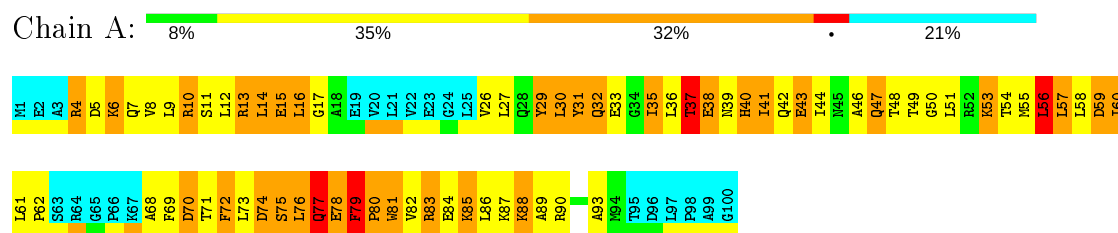
### 4.2.14 Score per residue for model 14

- Molecule 1: RAIDD



### 4.2.15 Score per residue for model 15

- Molecule 1: RAIDD



## 5 Refinement protocol and experimental data overview

The models were refined using the following method: *molecular dynamics*.

Of the 20 calculated structures, 15 were deposited, based on the following criterion: *LEAST RESTRAINT VIOLATION AND LOWEST ENERGY*.

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

| Software name | Classification     | Version |
|---------------|--------------------|---------|
| X-PLOR        | refinement         | 3.851   |
| X-PLOR        | structure solution | 3.851   |

No chemical shift data was provided. No validations of the models with respect to experimental NMR restraints is performed at this time.

## 6 Model quality i

### 6.1 Standard geometry i

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

There are no bond-length outliers.

There are no bond-angle outliers.

There are no chirality outliers.

There are no planarity outliers.

### 6.2 Too-close contacts i

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

| Mol | Chain | Non-H | H(model) | H(added) | Clashes |
|-----|-------|-------|----------|----------|---------|
| 1   | A     | 653   | 677      | 676      | 219±8   |
| All | All   | 9795  | 10155    | 10140    | 3280    |

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 165.

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

| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:31:TYR:CG   | 1:A:36:LEU:HD12 | 1.07     | 1.84        | 15     | 2     |
| 1:A:12:LEU:HD11 | 1:A:89:ALA:HB3  | 1.06     | 1.27        | 15     | 1     |
| 1:A:9:LEU:HD11  | 1:A:61:LEU:HD12 | 1.05     | 1.12        | 15     | 12    |
| 1:A:36:LEU:HD22 | 1:A:37:THR:N    | 1.04     | 1.67        | 7      | 7     |
| 1:A:40:HIS:CD2  | 1:A:60:ILE:HD13 | 1.03     | 1.86        | 4      | 3     |
| 1:A:27:LEU:HD23 | 1:A:57:LEU:HD23 | 1.01     | 1.31        | 5      | 4     |
| 1:A:12:LEU:HD13 | 1:A:86:LEU:CD2  | 1.01     | 1.85        | 15     | 1     |
| 1:A:31:TYR:CD2  | 1:A:36:LEU:HD12 | 0.99     | 1.92        | 1      | 2     |
| 1:A:76:LEU:HD22 | 1:A:82:VAL:CG2  | 0.99     | 1.88        | 2      | 15    |
| 1:A:31:TYR:CE2  | 1:A:36:LEU:HD22 | 0.98     | 1.93        | 3      | 6     |
| 1:A:40:HIS:CG   | 1:A:60:ILE:HG21 | 0.98     | 1.92        | 10     | 15    |
| 1:A:36:LEU:HD22 | 1:A:40:HIS:CD2  | 0.97     | 1.94        | 15     | 1     |
| 1:A:12:LEU:HD13 | 1:A:86:LEU:HD23 | 0.97     | 1.29        | 15     | 1     |
| 1:A:9:LEU:HD22  | 1:A:61:LEU:HD13 | 0.96     | 1.31        | 2      | 1     |

*Continued on next page...*

*Continued from previous page...*

| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:36:LEU:HD22 | 1:A:40:HIS:NE2  | 0.96     | 1.76        | 15     | 1     |
| 1:A:44:ILE:HG23 | 1:A:47:GLN:NE2  | 0.95     | 1.77        | 5      | 6     |
| 1:A:44:ILE:HG23 | 1:A:47:GLN:OE1  | 0.94     | 1.60        | 2      | 3     |
| 1:A:56:LEU:CD1  | 1:A:60:ILE:HD11 | 0.93     | 1.93        | 4      | 3     |
| 1:A:27:LEU:HD22 | 1:A:36:LEU:HD21 | 0.93     | 1.40        | 8      | 1     |
| 1:A:31:TYR:CE1  | 1:A:41:ILE:HD12 | 0.92     | 1.99        | 15     | 8     |
| 1:A:12:LEU:HD23 | 1:A:89:ALA:HB2  | 0.92     | 1.38        | 13     | 6     |
| 1:A:40:HIS:CD2  | 1:A:60:ILE:HG21 | 0.92     | 2.00        | 13     | 15    |
| 1:A:69:PHE:O    | 1:A:73:LEU:HD12 | 0.89     | 1.67        | 4      | 5     |
| 1:A:29:TYR:CZ   | 1:A:71:THR:HG23 | 0.89     | 2.03        | 13     | 5     |
| 1:A:44:ILE:HD13 | 1:A:56:LEU:HG   | 0.89     | 1.43        | 12     | 15    |
| 1:A:9:LEU:HD11  | 1:A:61:LEU:CD1  | 0.88     | 1.98        | 15     | 6     |
| 1:A:36:LEU:O    | 1:A:36:LEU:HD13 | 0.87     | 1.68        | 13     | 7     |
| 1:A:12:LEU:HD23 | 1:A:89:ALA:CB   | 0.86     | 2.00        | 7      | 10    |
| 1:A:27:LEU:HD22 | 1:A:44:ILE:CD1  | 0.86     | 2.01        | 2      | 2     |
| 1:A:61:LEU:HD22 | 1:A:68:ALA:CB   | 0.85     | 2.01        | 9      | 10    |
| 1:A:30:LEU:HD22 | 1:A:35:ILE:HD12 | 0.85     | 1.48        | 9      | 8     |
| 1:A:43:GLU:CB   | 1:A:56:LEU:HD11 | 0.83     | 2.02        | 7      | 14    |
| 1:A:9:LEU:HD21  | 1:A:61:LEU:HD12 | 0.83     | 1.50        | 7      | 11    |
| 1:A:9:LEU:HD22  | 1:A:69:PHE:CE1  | 0.83     | 2.07        | 1      | 11    |
| 1:A:29:TYR:OH   | 1:A:71:THR:HG23 | 0.82     | 1.74        | 5      | 14    |
| 1:A:12:LEU:CD2  | 1:A:89:ALA:HB2  | 0.82     | 2.03        | 5      | 10    |
| 1:A:9:LEU:HD22  | 1:A:61:LEU:CD1  | 0.81     | 2.06        | 2      | 1     |
| 1:A:27:LEU:HA   | 1:A:30:LEU:HD12 | 0.81     | 1.53        | 3      | 6     |
| 1:A:12:LEU:CD1  | 1:A:89:ALA:HB3  | 0.81     | 2.04        | 15     | 1     |
| 1:A:26:VAL:O    | 1:A:30:LEU:HD12 | 0.80     | 1.76        | 11     | 5     |
| 1:A:61:LEU:HD22 | 1:A:68:ALA:HB3  | 0.80     | 1.52        | 1      | 11    |
| 1:A:27:LEU:HD13 | 1:A:31:TYR:CD1  | 0.80     | 2.11        | 10     | 6     |
| 1:A:9:LEU:CD2   | 1:A:61:LEU:HD13 | 0.80     | 2.07        | 2      | 1     |
| 1:A:29:TYR:OH   | 1:A:71:THR:HG22 | 0.79     | 1.78        | 2      | 1     |
| 1:A:76:LEU:HD22 | 1:A:82:VAL:HG21 | 0.79     | 1.55        | 13     | 15    |
| 1:A:43:GLU:C    | 1:A:56:LEU:HD11 | 0.78     | 1.99        | 10     | 2     |
| 1:A:9:LEU:CD1   | 1:A:61:LEU:HD12 | 0.78     | 2.08        | 13     | 6     |
| 1:A:44:ILE:HD13 | 1:A:56:LEU:CG   | 0.78     | 2.08        | 11     | 15    |
| 1:A:56:LEU:HD12 | 1:A:60:ILE:HD11 | 0.77     | 1.54        | 10     | 2     |
| 1:A:16:LEU:HD12 | 1:A:17:GLY:N    | 0.77     | 1.94        | 7      | 14    |
| 1:A:12:LEU:HD11 | 1:A:89:ALA:CB   | 0.77     | 2.07        | 15     | 1     |
| 1:A:73:LEU:CD2  | 1:A:86:LEU:HD13 | 0.77     | 2.09        | 8      | 15    |
| 1:A:76:LEU:HD11 | 1:A:86:LEU:HD12 | 0.77     | 1.55        | 2      | 15    |
| 1:A:27:LEU:CD2  | 1:A:57:LEU:HD23 | 0.76     | 2.10        | 8      | 2     |
| 1:A:27:LEU:CD2  | 1:A:36:LEU:HD21 | 0.76     | 2.09        | 8      | 1     |

*Continued on next page...*

*Continued from previous page...*

| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:35:ILE:HG23 | 1:A:68:ALA:HB1  | 0.76     | 1.58        | 1      | 10    |
| 1:A:61:LEU:HD11 | 1:A:72:PHE:CG   | 0.76     | 2.14        | 15     | 5     |
| 1:A:57:LEU:CD1  | 1:A:61:LEU:HD21 | 0.76     | 2.11        | 7      | 13    |
| 1:A:16:LEU:HD11 | 1:A:58:LEU:HD11 | 0.75     | 1.56        | 5      | 1     |
| 1:A:35:ILE:HG22 | 1:A:36:LEU:HD23 | 0.75     | 1.57        | 1      | 2     |
| 1:A:27:LEU:HD22 | 1:A:44:ILE:HD12 | 0.74     | 1.59        | 2      | 3     |
| 1:A:8:VAL:HG21  | 1:A:90:ARG:HA   | 0.74     | 1.57        | 2      | 1     |
| 1:A:36:LEU:HD13 | 1:A:36:LEU:C    | 0.74     | 2.03        | 9      | 2     |
| 1:A:69:PHE:C    | 1:A:73:LEU:HD12 | 0.74     | 2.03        | 4      | 5     |
| 1:A:12:LEU:HD22 | 1:A:15:GLU:OE1  | 0.74     | 1.82        | 7      | 1     |
| 1:A:31:TYR:CE2  | 1:A:41:ILE:HD12 | 0.74     | 2.17        | 4      | 2     |
| 1:A:44:ILE:N    | 1:A:56:LEU:HD11 | 0.73     | 1.99        | 10     | 4     |
| 1:A:89:ALA:O    | 1:A:93:ALA:HB3  | 0.73     | 1.84        | 13     | 14    |
| 1:A:35:ILE:HD11 | 1:A:71:THR:HB   | 0.72     | 1.61        | 6      | 15    |
| 1:A:30:LEU:CD2  | 1:A:35:ILE:HD12 | 0.72     | 2.14        | 11     | 8     |
| 1:A:16:LEU:HD11 | 1:A:58:LEU:CD1  | 0.72     | 2.15        | 5      | 3     |
| 1:A:61:LEU:HD11 | 1:A:72:PHE:CD2  | 0.72     | 2.20        | 13     | 2     |
| 1:A:9:LEU:CG    | 1:A:61:LEU:HD12 | 0.72     | 2.13        | 12     | 4     |
| 1:A:9:LEU:HD21  | 1:A:61:LEU:CD1  | 0.72     | 2.15        | 11     | 11    |
| 1:A:43:GLU:O    | 1:A:46:ALA:HB3  | 0.72     | 1.85        | 8      | 14    |
| 1:A:30:LEU:HD21 | 1:A:72:PHE:HA   | 0.72     | 1.60        | 11     | 8     |
| 1:A:56:LEU:HD13 | 1:A:60:ILE:HD11 | 0.72     | 1.61        | 4      | 1     |
| 1:A:36:LEU:C    | 1:A:36:LEU:HD13 | 0.71     | 2.05        | 12     | 5     |
| 1:A:44:ILE:HD12 | 1:A:47:GLN:NE2  | 0.71     | 2.00        | 4      | 3     |
| 1:A:44:ILE:HG23 | 1:A:47:GLN:HE22 | 0.70     | 1.43        | 3      | 3     |
| 1:A:16:LEU:CD1  | 1:A:58:LEU:HD11 | 0.70     | 2.15        | 11     | 4     |
| 1:A:12:LEU:CD1  | 1:A:86:LEU:HD23 | 0.70     | 2.14        | 15     | 1     |
| 1:A:36:LEU:HD23 | 1:A:40:HIS:HB3  | 0.70     | 1.60        | 5      | 6     |
| 1:A:72:PHE:CE2  | 1:A:86:LEU:HD11 | 0.70     | 2.21        | 2      | 15    |
| 1:A:44:ILE:HG12 | 1:A:56:LEU:HD12 | 0.70     | 1.64        | 1      | 9     |
| 1:A:9:LEU:HD12  | 1:A:58:LEU:HA   | 0.70     | 1.62        | 5      | 3     |
| 1:A:37:THR:HG23 | 1:A:40:HIS:CD2  | 0.70     | 2.20        | 10     | 6     |
| 1:A:31:TYR:CD1  | 1:A:36:LEU:HB3  | 0.69     | 2.22        | 13     | 7     |
| 1:A:26:VAL:HG23 | 1:A:75:SER:OG   | 0.69     | 1.87        | 5      | 4     |
| 1:A:43:GLU:HB2  | 1:A:56:LEU:HD11 | 0.69     | 1.63        | 11     | 12    |
| 1:A:35:ILE:HD11 | 1:A:71:THR:CB   | 0.69     | 2.17        | 5      | 14    |
| 1:A:76:LEU:O    | 1:A:79:PHE:CD1  | 0.69     | 2.46        | 4      | 15    |
| 1:A:61:LEU:CD2  | 1:A:68:ALA:HB3  | 0.69     | 2.17        | 2      | 2     |
| 1:A:31:TYR:CE2  | 1:A:44:ILE:HG13 | 0.69     | 2.22        | 10     | 14    |
| 1:A:12:LEU:CD1  | 1:A:89:ALA:HB1  | 0.69     | 2.18        | 2      | 1     |
| 1:A:27:LEU:CD1  | 1:A:31:TYR:CE1  | 0.69     | 2.76        | 13     | 5     |

*Continued on next page...*

*Continued from previous page...*

| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:35:ILE:HD11 | 1:A:72:PHE:N    | 0.69     | 2.02        | 2      | 7     |
| 1:A:36:LEU:HD22 | 1:A:37:THR:CA   | 0.69     | 2.17        | 4      | 7     |
| 1:A:40:HIS:CD2  | 1:A:60:ILE:CD1  | 0.69     | 2.76        | 15     | 3     |
| 1:A:57:LEU:HD13 | 1:A:61:LEU:HG   | 0.68     | 1.64        | 4      | 8     |
| 1:A:9:LEU:CD2   | 1:A:61:LEU:HD12 | 0.68     | 2.18        | 12     | 5     |
| 1:A:46:ALA:O    | 1:A:48:THR:HG23 | 0.68     | 1.88        | 8      | 1     |
| 1:A:31:TYR:HH   | 1:A:60:ILE:CD1  | 0.68     | 2.01        | 11     | 3     |
| 1:A:31:TYR:HH   | 1:A:60:ILE:HD13 | 0.68     | 1.48        | 11     | 2     |
| 1:A:44:ILE:HD13 | 1:A:56:LEU:CD1  | 0.68     | 2.19        | 10     | 2     |
| 1:A:69:PHE:CD1  | 1:A:73:LEU:HD11 | 0.68     | 2.23        | 2      | 2     |
| 1:A:31:TYR:CD1  | 1:A:36:LEU:HB2  | 0.68     | 2.24        | 5      | 8     |
| 1:A:56:LEU:O    | 1:A:59:ASP:N    | 0.68     | 2.27        | 15     | 15    |
| 1:A:8:VAL:HG22  | 1:A:90:ARG:HA   | 0.68     | 1.66        | 1      | 14    |
| 1:A:31:TYR:HH   | 1:A:44:ILE:HB   | 0.67     | 1.48        | 14     | 2     |
| 1:A:40:HIS:CE1  | 1:A:60:ILE:CG2  | 0.67     | 2.77        | 15     | 6     |
| 1:A:40:HIS:CE1  | 1:A:60:ILE:HG21 | 0.67     | 2.25        | 14     | 6     |
| 1:A:36:LEU:HD21 | 1:A:57:LEU:HD21 | 0.67     | 1.66        | 1      | 1     |
| 1:A:4:ARG:O     | 1:A:8:VAL:HG23  | 0.67     | 1.88        | 10     | 13    |
| 1:A:36:LEU:C    | 1:A:37:THR:HG22 | 0.67     | 2.09        | 1      | 5     |
| 1:A:44:ILE:CD1  | 1:A:56:LEU:HD12 | 0.67     | 2.20        | 13     | 10    |
| 1:A:76:LEU:O    | 1:A:79:PHE:CG   | 0.66     | 2.47        | 9      | 15    |
| 1:A:27:LEU:HD22 | 1:A:36:LEU:CD2  | 0.66     | 2.19        | 8      | 1     |
| 1:A:40:HIS:CD2  | 1:A:60:ILE:CG2  | 0.66     | 2.79        | 12     | 13    |
| 1:A:9:LEU:CD2   | 1:A:69:PHE:CD1  | 0.66     | 2.79        | 3      | 11    |
| 1:A:73:LEU:HD23 | 1:A:86:LEU:HD13 | 0.66     | 1.66        | 2      | 6     |
| 1:A:31:TYR:CE1  | 1:A:41:ILE:CD1  | 0.66     | 2.79        | 14     | 8     |
| 1:A:31:TYR:CD2  | 1:A:36:LEU:HG   | 0.66     | 2.26        | 13     | 7     |
| 1:A:40:HIS:HA   | 1:A:60:ILE:HD13 | 0.66     | 1.68        | 10     | 1     |
| 1:A:31:TYR:CD1  | 1:A:36:LEU:CB   | 0.66     | 2.79        | 5      | 14    |
| 1:A:44:ILE:HD13 | 1:A:56:LEU:HD12 | 0.65     | 1.68        | 13     | 2     |
| 1:A:36:LEU:HA   | 1:A:40:HIS:CE1  | 0.65     | 2.26        | 9      | 15    |
| 1:A:31:TYR:CZ   | 1:A:36:LEU:HD22 | 0.65     | 2.27        | 5      | 6     |
| 1:A:31:TYR:OH   | 1:A:60:ILE:HD12 | 0.65     | 1.91        | 10     | 1     |
| 1:A:57:LEU:HA   | 1:A:60:ILE:HD12 | 0.64     | 1.68        | 4      | 1     |
| 1:A:40:HIS:ND1  | 1:A:60:ILE:HD12 | 0.64     | 2.08        | 7      | 12    |
| 1:A:27:LEU:CD1  | 1:A:31:TYR:CD1  | 0.64     | 2.79        | 4      | 7     |
| 1:A:31:TYR:CG   | 1:A:36:LEU:CB   | 0.64     | 2.80        | 11     | 5     |
| 1:A:30:LEU:HD22 | 1:A:35:ILE:HG21 | 0.64     | 1.69        | 7      | 5     |
| 1:A:78:GLU:HG3  | 1:A:82:VAL:HG11 | 0.64     | 1.69        | 11     | 14    |
| 1:A:30:LEU:HD23 | 1:A:35:ILE:HG13 | 0.64     | 1.69        | 7      | 5     |
| 1:A:40:HIS:CG   | 1:A:60:ILE:CG2  | 0.64     | 2.80        | 13     | 1     |

*Continued on next page...*

*Continued from previous page...*

| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:54:THR:HG22 | 1:A:58:LEU:HD11 | 0.64     | 1.68        | 5      | 1     |
| 1:A:29:TYR:CD1  | 1:A:75:SER:CB   | 0.63     | 2.81        | 12     | 9     |
| 1:A:57:LEU:HD13 | 1:A:61:LEU:CD2  | 0.63     | 2.23        | 7      | 13    |
| 1:A:29:TYR:CZ   | 1:A:71:THR:HG22 | 0.63     | 2.28        | 2      | 1     |
| 1:A:26:VAL:C    | 1:A:30:LEU:HD12 | 0.63     | 2.13        | 7      | 4     |
| 1:A:9:LEU:CD2   | 1:A:69:PHE:CE1  | 0.63     | 2.80        | 1      | 9     |
| 1:A:30:LEU:HD21 | 1:A:75:SER:HB3  | 0.63     | 1.69        | 5      | 2     |
| 1:A:12:LEU:HD21 | 1:A:89:ALA:CB   | 0.63     | 2.23        | 2      | 2     |
| 1:A:36:LEU:HD22 | 1:A:36:LEU:C    | 0.63     | 2.14        | 13     | 4     |
| 1:A:36:LEU:CD2  | 1:A:37:THR:N    | 0.63     | 2.57        | 7      | 7     |
| 1:A:57:LEU:HD13 | 1:A:61:LEU:HD21 | 0.62     | 1.70        | 7      | 4     |
| 1:A:35:ILE:HD11 | 1:A:71:THR:CG2  | 0.62     | 2.25        | 4      | 10    |
| 1:A:43:GLU:CB   | 1:A:56:LEU:CD1  | 0.62     | 2.78        | 7      | 8     |
| 1:A:40:HIS:NE2  | 1:A:60:ILE:HG21 | 0.62     | 2.09        | 1      | 3     |
| 1:A:36:LEU:C    | 1:A:36:LEU:HD22 | 0.62     | 2.15        | 4      | 3     |
| 1:A:27:LEU:HD11 | 1:A:53:LYS:HG3  | 0.62     | 1.72        | 6      | 1     |
| 1:A:75:SER:O    | 1:A:77:GLN:N    | 0.62     | 2.32        | 9      | 15    |
| 1:A:40:HIS:ND1  | 1:A:60:ILE:CD1  | 0.62     | 2.62        | 3      | 11    |
| 1:A:49:THR:OG1  | 1:A:51:LEU:HD12 | 0.62     | 1.95        | 7      | 1     |
| 1:A:31:TYR:CZ   | 1:A:41:ILE:HD12 | 0.62     | 2.29        | 8      | 8     |
| 1:A:31:TYR:CD1  | 1:A:36:LEU:HD12 | 0.61     | 2.29        | 15     | 2     |
| 1:A:57:LEU:HD22 | 1:A:60:ILE:HD12 | 0.61     | 1.71        | 13     | 12    |
| 1:A:36:LEU:HD23 | 1:A:36:LEU:N    | 0.61     | 2.09        | 15     | 1     |
| 1:A:8:VAL:HG13  | 1:A:89:ALA:C    | 0.61     | 2.16        | 6      | 9     |
| 1:A:29:TYR:CZ   | 1:A:71:THR:CG2  | 0.61     | 2.84        | 13     | 5     |
| 1:A:76:LEU:O    | 1:A:79:PHE:CE1  | 0.61     | 2.54        | 10     | 15    |
| 1:A:30:LEU:HD23 | 1:A:35:ILE:CD1  | 0.61     | 2.25        | 11     | 4     |
| 1:A:31:TYR:CD2  | 1:A:36:LEU:CG   | 0.60     | 2.83        | 10     | 5     |
| 1:A:12:LEU:CD2  | 1:A:89:ALA:CB   | 0.60     | 2.79        | 9      | 13    |
| 1:A:73:LEU:HD23 | 1:A:86:LEU:CD1  | 0.60     | 2.27        | 8      | 14    |
| 1:A:31:TYR:CE1  | 1:A:40:HIS:CD2  | 0.60     | 2.89        | 4      | 2     |
| 1:A:44:ILE:O    | 1:A:47:GLN:CG   | 0.60     | 2.49        | 1      | 1     |
| 1:A:61:LEU:CD1  | 1:A:72:PHE:CD2  | 0.60     | 2.84        | 13     | 2     |
| 1:A:76:LEU:O    | 1:A:79:PHE:CD2  | 0.60     | 2.55        | 10     | 15    |
| 1:A:8:VAL:HG22  | 1:A:93:ALA:HB3  | 0.60     | 1.74        | 2      | 1     |
| 1:A:30:LEU:CB   | 1:A:36:LEU:CD1  | 0.60     | 2.80        | 2      | 5     |
| 1:A:12:LEU:HD11 | 1:A:89:ALA:HB1  | 0.60     | 1.71        | 2      | 1     |
| 1:A:9:LEU:HD13  | 1:A:61:LEU:HB3  | 0.60     | 1.72        | 2      | 1     |
| 1:A:9:LEU:HD21  | 1:A:69:PHE:CD1  | 0.60     | 2.31        | 2      | 3     |
| 1:A:40:HIS:NE2  | 1:A:60:ILE:CG2  | 0.59     | 2.64        | 1      | 6     |
| 1:A:30:LEU:HD23 | 1:A:35:ILE:CG1  | 0.59     | 2.26        | 11     | 4     |

*Continued on next page...*

*Continued from previous page...*

| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:31:TYR:CD2  | 1:A:36:LEU:CD1  | 0.59     | 2.80        | 1      | 2     |
| 1:A:31:TYR:CG   | 1:A:36:LEU:HB3  | 0.59     | 2.33        | 11     | 5     |
| 1:A:69:PHE:HZ   | 1:A:86:LEU:HD22 | 0.59     | 1.55        | 9      | 9     |
| 1:A:29:TYR:CE1  | 1:A:30:LEU:HD23 | 0.59     | 2.32        | 8      | 4     |
| 1:A:31:TYR:HH   | 1:A:40:HIS:HB3  | 0.59     | 1.57        | 12     | 1     |
| 1:A:79:PHE:N    | 1:A:82:VAL:HG22 | 0.59     | 2.13        | 6      | 15    |
| 1:A:89:ALA:O    | 1:A:93:ALA:CB   | 0.59     | 2.50        | 13     | 14    |
| 1:A:56:LEU:O    | 1:A:60:ILE:HG13 | 0.59     | 1.96        | 15     | 14    |
| 1:A:61:LEU:CD2  | 1:A:68:ALA:CB   | 0.59     | 2.80        | 2      | 4     |
| 1:A:31:TYR:N    | 1:A:36:LEU:CD1  | 0.59     | 2.66        | 5      | 6     |
| 1:A:26:VAL:HG23 | 1:A:75:SER:CB   | 0.59     | 2.28        | 5      | 2     |
| 1:A:57:LEU:HD12 | 1:A:72:PHE:CD1  | 0.59     | 2.32        | 13     | 2     |
| 1:A:35:ILE:HD11 | 1:A:71:THR:HG22 | 0.59     | 1.75        | 4      | 10    |
| 1:A:31:TYR:CZ   | 1:A:44:ILE:HG13 | 0.59     | 2.32        | 4      | 15    |
| 1:A:31:TYR:HA   | 1:A:36:LEU:HD12 | 0.59     | 1.75        | 10     | 7     |
| 1:A:31:TYR:OH   | 1:A:44:ILE:HG12 | 0.59     | 1.98        | 13     | 7     |
| 1:A:36:LEU:CD2  | 1:A:40:HIS:CD2  | 0.59     | 2.80        | 15     | 1     |
| 1:A:43:GLU:HB3  | 1:A:56:LEU:HD21 | 0.59     | 1.73        | 14     | 10    |
| 1:A:11:SER:CB   | 1:A:93:ALA:HB2  | 0.59     | 2.28        | 3      | 9     |
| 1:A:35:ILE:CG2  | 1:A:57:LEU:HD11 | 0.59     | 2.28        | 3      | 2     |
| 1:A:36:LEU:N    | 1:A:36:LEU:HD23 | 0.59     | 2.12        | 1      | 1     |
| 1:A:88:LYS:CD   | 1:A:88:LYS:N    | 0.59     | 2.66        | 12     | 4     |
| 1:A:16:LEU:CD1  | 1:A:58:LEU:CD1  | 0.59     | 2.81        | 11     | 6     |
| 1:A:36:LEU:HD23 | 1:A:40:HIS:CB   | 0.59     | 2.28        | 5      | 1     |
| 1:A:44:ILE:CG1  | 1:A:56:LEU:HD12 | 0.58     | 2.27        | 1      | 8     |
| 1:A:29:TYR:CD1  | 1:A:75:SER:HB3  | 0.58     | 2.33        | 8      | 10    |
| 1:A:56:LEU:HD13 | 1:A:60:ILE:CD1  | 0.58     | 2.28        | 4      | 2     |
| 1:A:57:LEU:CD1  | 1:A:61:LEU:CD2  | 0.58     | 2.81        | 5      | 8     |
| 1:A:31:TYR:CD2  | 1:A:36:LEU:HD22 | 0.58     | 2.31        | 8      | 5     |
| 1:A:27:LEU:HD12 | 1:A:30:LEU:CD1  | 0.58     | 2.28        | 3      | 1     |
| 1:A:76:LEU:HD13 | 1:A:83:ARG:CA   | 0.58     | 2.28        | 14     | 15    |
| 1:A:76:LEU:HD22 | 1:A:82:VAL:CB   | 0.58     | 2.27        | 10     | 15    |
| 1:A:29:TYR:C    | 1:A:29:TYR:CD1  | 0.58     | 2.76        | 9      | 5     |
| 1:A:40:HIS:ND1  | 1:A:60:ILE:HG21 | 0.58     | 2.13        | 4      | 4     |
| 1:A:31:TYR:OH   | 1:A:41:ILE:N    | 0.58     | 2.37        | 8      | 7     |
| 1:A:31:TYR:CG   | 1:A:36:LEU:HG   | 0.58     | 2.33        | 4      | 7     |
| 1:A:9:LEU:O     | 1:A:13:ARG:CB   | 0.58     | 2.52        | 7      | 12    |
| 1:A:29:TYR:OH   | 1:A:71:THR:CG2  | 0.58     | 2.52        | 6      | 15    |
| 1:A:9:LEU:HD13  | 1:A:61:LEU:HD22 | 0.58     | 1.76        | 2      | 1     |
| 1:A:12:LEU:HD11 | 1:A:85:LYS:HG2  | 0.58     | 1.76        | 7      | 1     |
| 1:A:31:TYR:CD2  | 1:A:36:LEU:CB   | 0.58     | 2.87        | 10     | 5     |

*Continued on next page...*



*Continued from previous page...*

| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:35:ILE:CD1  | 1:A:72:PHE:N    | 0.58     | 2.67        | 2      | 7     |
| 1:A:30:LEU:HB3  | 1:A:36:LEU:HD12 | 0.57     | 1.75        | 2      | 5     |
| 1:A:31:TYR:CE2  | 1:A:40:HIS:HB3  | 0.57     | 2.34        | 7      | 5     |
| 1:A:76:LEU:HB2  | 1:A:79:PHE:CD2  | 0.57     | 2.34        | 5      | 15    |
| 1:A:29:TYR:CD1  | 1:A:29:TYR:C    | 0.57     | 2.77        | 11     | 7     |
| 1:A:31:TYR:OH   | 1:A:44:ILE:CG1  | 0.57     | 2.53        | 9      | 11    |
| 1:A:29:TYR:CE1  | 1:A:71:THR:O    | 0.57     | 2.57        | 15     | 8     |
| 1:A:76:LEU:O    | 1:A:79:PHE:CZ   | 0.57     | 2.57        | 10     | 12    |
| 1:A:85:LYS:O    | 1:A:89:ALA:HB2  | 0.57     | 1.99        | 12     | 2     |
| 1:A:8:VAL:CG2   | 1:A:90:ARG:HA   | 0.57     | 2.30        | 15     | 15    |
| 1:A:31:TYR:CE1  | 1:A:36:LEU:HB3  | 0.57     | 2.35        | 8      | 6     |
| 1:A:13:ARG:O    | 1:A:58:LEU:HD13 | 0.57     | 2.00        | 11     | 2     |
| 1:A:76:LEU:HD22 | 1:A:82:VAL:HG23 | 0.57     | 1.72        | 10     | 12    |
| 1:A:76:LEU:O    | 1:A:79:PHE:CE2  | 0.57     | 2.58        | 10     | 9     |
| 1:A:88:LYS:C    | 1:A:88:LYS:CD   | 0.57     | 2.74        | 2      | 1     |
| 1:A:27:LEU:HD13 | 1:A:44:ILE:HD12 | 0.57     | 1.76        | 8      | 2     |
| 1:A:35:ILE:HG22 | 1:A:36:LEU:CD2  | 0.56     | 2.27        | 1      | 1     |
| 1:A:76:LEU:O    | 1:A:78:GLU:N    | 0.56     | 2.38        | 6      | 14    |
| 1:A:76:LEU:HD13 | 1:A:82:VAL:HG23 | 0.56     | 1.77        | 13     | 12    |
| 1:A:29:TYR:CE1  | 1:A:75:SER:OG   | 0.56     | 2.56        | 11     | 4     |
| 1:A:78:GLU:C    | 1:A:82:VAL:HG22 | 0.56     | 2.21        | 11     | 15    |
| 1:A:31:TYR:CZ   | 1:A:40:HIS:HB3  | 0.56     | 2.36        | 7      | 7     |
| 1:A:27:LEU:HD11 | 1:A:31:TYR:CE1  | 0.56     | 2.35        | 4      | 3     |
| 1:A:31:TYR:HE2  | 1:A:41:ILE:HD12 | 0.56     | 1.57        | 4      | 2     |
| 1:A:31:TYR:CZ   | 1:A:44:ILE:CG1  | 0.56     | 2.88        | 10     | 6     |
| 1:A:57:LEU:CA   | 1:A:60:ILE:HG13 | 0.56     | 2.31        | 7      | 13    |
| 1:A:36:LEU:HB3  | 1:A:40:HIS:CG   | 0.56     | 2.36        | 15     | 2     |
| 1:A:53:LYS:O    | 1:A:56:LEU:HB2  | 0.56     | 2.01        | 10     | 15    |
| 1:A:35:ILE:CD1  | 1:A:68:ALA:O    | 0.56     | 2.54        | 2      | 2     |
| 1:A:72:PHE:O    | 1:A:72:PHE:CD1  | 0.55     | 2.60        | 3      | 1     |
| 1:A:85:LYS:N    | 1:A:85:LYS:CE   | 0.55     | 2.69        | 4      | 1     |
| 1:A:61:LEU:HD11 | 1:A:72:PHE:CD1  | 0.55     | 2.36        | 2      | 1     |
| 1:A:29:TYR:OH   | 1:A:74:ASP:CB   | 0.55     | 2.55        | 2      | 12    |
| 1:A:12:LEU:HD11 | 1:A:85:LYS:CG   | 0.55     | 2.31        | 7      | 1     |
| 1:A:30:LEU:CD2  | 1:A:35:ILE:CD1  | 0.55     | 2.84        | 11     | 6     |
| 1:A:56:LEU:O    | 1:A:60:ILE:CG1  | 0.55     | 2.54        | 2      | 13    |
| 1:A:79:PHE:O    | 1:A:81:TRP:N    | 0.55     | 2.39        | 2      | 15    |
| 1:A:36:LEU:HA   | 1:A:40:HIS:ND1  | 0.55     | 2.16        | 4      | 14    |
| 1:A:8:VAL:HG13  | 1:A:90:ARG:N    | 0.55     | 2.17        | 14     | 9     |
| 1:A:47:GLN:O    | 1:A:49:THR:N    | 0.55     | 2.39        | 12     | 9     |
| 1:A:84:GLU:O    | 1:A:88:LYS:CG   | 0.55     | 2.54        | 11     | 5     |

*Continued on next page...*

*Continued from previous page...*

| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:13:ARG:CG   | 1:A:14:LEU:N    | 0.55     | 2.70        | 2      | 4     |
| 1:A:43:GLU:HB3  | 1:A:56:LEU:HD11 | 0.55     | 1.75        | 1      | 8     |
| 1:A:31:TYR:OH   | 1:A:44:ILE:HG13 | 0.55     | 2.02        | 8      | 7     |
| 1:A:29:TYR:CD2  | 1:A:75:SER:HB3  | 0.55     | 2.37        | 4      | 4     |
| 1:A:61:LEU:N    | 1:A:62:PRO:CD   | 0.54     | 2.70        | 1      | 12    |
| 1:A:30:LEU:HB3  | 1:A:36:LEU:CD1  | 0.54     | 2.32        | 3      | 5     |
| 1:A:29:TYR:CE2  | 1:A:74:ASP:HB3  | 0.54     | 2.37        | 13     | 6     |
| 1:A:79:PHE:N    | 1:A:79:PHE:CD1  | 0.54     | 2.75        | 6      | 6     |
| 1:A:28:GLN:O    | 1:A:32:GLN:CG   | 0.54     | 2.55        | 12     | 5     |
| 1:A:84:GLU:O    | 1:A:88:LYS:CB   | 0.54     | 2.56        | 14     | 5     |
| 1:A:31:TYR:HE2  | 1:A:44:ILE:HG21 | 0.54     | 1.62        | 14     | 2     |
| 1:A:56:LEU:CD1  | 1:A:60:ILE:CD1  | 0.54     | 2.78        | 4      | 2     |
| 1:A:31:TYR:OH   | 1:A:60:ILE:CD1  | 0.54     | 2.55        | 11     | 5     |
| 1:A:31:TYR:CE2  | 1:A:36:LEU:HB2  | 0.54     | 2.36        | 10     | 5     |
| 1:A:37:THR:CG2  | 1:A:40:HIS:CD2  | 0.54     | 2.90        | 10     | 2     |
| 1:A:37:THR:HG23 | 1:A:40:HIS:HD2  | 0.54     | 1.62        | 11     | 2     |
| 1:A:37:THR:O    | 1:A:40:HIS:N    | 0.54     | 2.40        | 9      | 12    |
| 1:A:46:ALA:O    | 1:A:47:GLN:C    | 0.54     | 2.45        | 1      | 15    |
| 1:A:69:PHE:CZ   | 1:A:86:LEU:HD22 | 0.54     | 2.37        | 6      | 10    |
| 1:A:9:LEU:O     | 1:A:13:ARG:N    | 0.54     | 2.41        | 15     | 14    |
| 1:A:29:TYR:O    | 1:A:33:GLU:CG   | 0.54     | 2.56        | 12     | 5     |
| 1:A:68:ALA:O    | 1:A:72:PHE:CB   | 0.54     | 2.56        | 12     | 7     |
| 1:A:36:LEU:CD2  | 1:A:40:HIS:NE2  | 0.54     | 2.64        | 15     | 1     |
| 1:A:73:LEU:HD21 | 1:A:86:LEU:HD13 | 0.54     | 1.78        | 10     | 10    |
| 1:A:27:LEU:HD13 | 1:A:31:TYR:CG   | 0.54     | 2.37        | 11     | 4     |
| 1:A:7:GLN:O     | 1:A:93:ALA:HB1  | 0.53     | 2.03        | 3      | 6     |
| 1:A:36:LEU:O    | 1:A:37:THR:CB   | 0.53     | 2.56        | 15     | 1     |
| 1:A:29:TYR:CZ   | 1:A:74:ASP:HB3  | 0.53     | 2.39        | 3      | 10    |
| 1:A:29:TYR:CD1  | 1:A:29:TYR:O    | 0.53     | 2.61        | 5      | 3     |
| 1:A:27:LEU:HD22 | 1:A:44:ILE:HD11 | 0.53     | 1.75        | 2      | 1     |
| 1:A:37:THR:OG1  | 1:A:38:GLU:N    | 0.53     | 2.42        | 15     | 7     |
| 1:A:36:LEU:C    | 1:A:37:THR:CG2  | 0.53     | 2.77        | 1      | 4     |
| 1:A:30:LEU:O    | 1:A:32:GLN:N    | 0.53     | 2.42        | 15     | 10    |
| 1:A:69:PHE:O    | 1:A:72:PHE:N    | 0.53     | 2.42        | 15     | 12    |
| 1:A:12:LEU:O    | 1:A:16:LEU:CD1  | 0.53     | 2.57        | 3      | 10    |
| 1:A:26:VAL:O    | 1:A:30:LEU:CD1  | 0.53     | 2.57        | 7      | 5     |
| 1:A:14:LEU:HG   | 1:A:15:GLU:N    | 0.53     | 2.19        | 4      | 15    |
| 1:A:29:TYR:CE1  | 1:A:75:SER:HB3  | 0.53     | 2.39        | 12     | 4     |
| 1:A:12:LEU:CD1  | 1:A:89:ALA:CB   | 0.53     | 2.81        | 15     | 1     |
| 1:A:47:GLN:NE2  | 1:A:53:LYS:CG   | 0.53     | 2.72        | 1      | 1     |
| 1:A:43:GLU:HB3  | 1:A:56:LEU:CD1  | 0.53     | 2.34        | 9      | 9     |

*Continued on next page...*

*Continued from previous page...*

| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:88:LYS:CD   | 1:A:88:LYS:O    | 0.53     | 2.57        | 2      | 1     |
| 1:A:43:GLU:O    | 1:A:46:ALA:CB   | 0.53     | 2.57        | 10     | 5     |
| 1:A:35:ILE:CD1  | 1:A:71:THR:HB   | 0.53     | 2.34        | 9      | 15    |
| 1:A:80:PRO:O    | 1:A:84:GLU:CG   | 0.53     | 2.57        | 7      | 1     |
| 1:A:26:VAL:CG2  | 1:A:75:SER:OG   | 0.53     | 2.57        | 14     | 2     |
| 1:A:27:LEU:HD23 | 1:A:57:LEU:CD2  | 0.53     | 2.20        | 5      | 1     |
| 1:A:81:TRP:CD1  | 1:A:81:TRP:C    | 0.53     | 2.82        | 5      | 2     |
| 1:A:35:ILE:CG2  | 1:A:36:LEU:HD23 | 0.52     | 2.31        | 1      | 1     |
| 1:A:36:LEU:O    | 1:A:37:THR:HG22 | 0.52     | 2.03        | 1      | 3     |
| 1:A:58:LEU:O    | 1:A:62:PRO:CG   | 0.52     | 2.57        | 11     | 4     |
| 1:A:86:LEU:O    | 1:A:89:ALA:N    | 0.52     | 2.41        | 6      | 14    |
| 1:A:31:TYR:OH   | 1:A:44:ILE:HB   | 0.52     | 2.05        | 1      | 3     |
| 1:A:36:LEU:HD22 | 1:A:40:HIS:ND1  | 0.52     | 2.19        | 1      | 1     |
| 1:A:44:ILE:HG12 | 1:A:56:LEU:CD1  | 0.52     | 2.33        | 2      | 8     |
| 1:A:27:LEU:HD12 | 1:A:30:LEU:HD12 | 0.52     | 1.81        | 3      | 1     |
| 1:A:11:SER:OG   | 1:A:93:ALA:CB   | 0.52     | 2.57        | 14     | 3     |
| 1:A:29:TYR:CD1  | 1:A:75:SER:OG   | 0.52     | 2.61        | 15     | 4     |
| 1:A:70:ASP:OD1  | 1:A:70:ASP:N    | 0.52     | 2.43        | 5      | 1     |
| 1:A:52:ARG:O    | 1:A:55:MET:N    | 0.52     | 2.43        | 8      | 1     |
| 1:A:26:VAL:HG22 | 1:A:75:SER:HB2  | 0.52     | 1.80        | 11     | 2     |
| 1:A:57:LEU:HA   | 1:A:60:ILE:HG13 | 0.52     | 1.81        | 7      | 13    |
| 1:A:90:ARG:O    | 1:A:94:MET:CB   | 0.52     | 2.57        | 14     | 3     |
| 1:A:56:LEU:HD13 | 1:A:60:ILE:CG1  | 0.52     | 2.35        | 4      | 1     |
| 1:A:8:VAL:HB    | 1:A:69:PHE:CE2  | 0.52     | 2.39        | 5      | 3     |
| 1:A:26:VAL:CG2  | 1:A:27:LEU:N    | 0.52     | 2.73        | 8      | 3     |
| 1:A:14:LEU:O    | 1:A:18:ALA:N    | 0.52     | 2.42        | 14     | 4     |
| 1:A:85:LYS:HD3  | 1:A:85:LYS:N    | 0.52     | 2.20        | 5      | 2     |
| 1:A:40:HIS:O    | 1:A:42:GLN:N    | 0.52     | 2.42        | 7      | 5     |
| 1:A:8:VAL:CG1   | 1:A:69:PHE:CZ   | 0.52     | 2.93        | 15     | 2     |
| 1:A:40:HIS:O    | 1:A:43:GLU:N    | 0.52     | 2.43        | 1      | 6     |
| 1:A:49:THR:OG1  | 1:A:50:GLY:N    | 0.52     | 2.43        | 12     | 5     |
| 1:A:47:GLN:HG2  | 1:A:53:LYS:CA   | 0.52     | 2.35        | 6      | 6     |
| 1:A:79:PHE:HA   | 1:A:82:VAL:CG2  | 0.52     | 2.35        | 12     | 15    |
| 1:A:57:LEU:HD13 | 1:A:61:LEU:CG   | 0.52     | 2.35        | 1      | 4     |
| 1:A:88:LYS:N    | 1:A:88:LYS:CD   | 0.52     | 2.73        | 4      | 1     |
| 1:A:36:LEU:CD2  | 1:A:37:THR:O    | 0.52     | 2.57        | 13     | 2     |
| 1:A:78:GLU:CG   | 1:A:82:VAL:HG11 | 0.52     | 2.35        | 1      | 5     |
| 1:A:72:PHE:CE2  | 1:A:86:LEU:CD1  | 0.52     | 2.93        | 1      | 3     |
| 1:A:73:LEU:CD2  | 1:A:86:LEU:CD1  | 0.52     | 2.88        | 10     | 8     |
| 1:A:44:ILE:O    | 1:A:47:GLN:N    | 0.52     | 2.43        | 7      | 3     |
| 1:A:29:TYR:CE1  | 1:A:71:THR:HG22 | 0.52     | 2.41        | 12     | 7     |

*Continued on next page...*

*Continued from previous page...*

| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:30:LEU:O    | 1:A:33:GLU:N    | 0.51     | 2.42        | 2      | 8     |
| 1:A:36:LEU:C    | 1:A:36:LEU:CD1  | 0.51     | 2.75        | 9      | 2     |
| 1:A:55:MET:O    | 1:A:59:ASP:N    | 0.51     | 2.43        | 14     | 10    |
| 1:A:76:LEU:CD1  | 1:A:83:ARG:HA   | 0.51     | 2.35        | 6      | 15    |
| 1:A:26:VAL:HG13 | 1:A:27:LEU:H    | 0.51     | 1.64        | 5      | 2     |
| 1:A:86:LEU:O    | 1:A:90:ARG:N    | 0.51     | 2.43        | 2      | 3     |
| 1:A:8:VAL:HG13  | 1:A:90:ARG:HA   | 0.51     | 1.82        | 11     | 3     |
| 1:A:40:HIS:CD2  | 1:A:60:ILE:HD12 | 0.51     | 2.39        | 15     | 2     |
| 1:A:44:ILE:HG23 | 1:A:47:GLN:CD   | 0.51     | 2.25        | 11     | 3     |
| 1:A:17:GLY:O    | 1:A:55:MET:CE   | 0.51     | 2.58        | 14     | 1     |
| 1:A:40:HIS:ND1  | 1:A:60:ILE:HD13 | 0.51     | 2.21        | 14     | 6     |
| 1:A:27:LEU:HD11 | 1:A:44:ILE:HD11 | 0.51     | 1.82        | 13     | 1     |
| 1:A:44:ILE:HD12 | 1:A:47:GLN:OE1  | 0.51     | 2.05        | 15     | 1     |
| 1:A:30:LEU:HD13 | 1:A:57:LEU:HD21 | 0.51     | 1.81        | 15     | 1     |
| 1:A:29:TYR:OH   | 1:A:74:ASP:HB2  | 0.51     | 2.06        | 6      | 12    |
| 1:A:30:LEU:HD22 | 1:A:35:ILE:CD1  | 0.51     | 2.35        | 5      | 5     |
| 1:A:33:GLU:OE1  | 1:A:33:GLU:N    | 0.51     | 2.44        | 8      | 1     |
| 1:A:61:LEU:N    | 1:A:62:PRO:HD2  | 0.51     | 2.21        | 12     | 13    |
| 1:A:88:LYS:N    | 1:A:88:LYS:HD3  | 0.51     | 2.21        | 4      | 2     |
| 1:A:88:LYS:HD3  | 1:A:88:LYS:N    | 0.51     | 2.20        | 11     | 1     |
| 1:A:40:HIS:NE2  | 1:A:60:ILE:HD12 | 0.51     | 2.21        | 15     | 1     |
| 1:A:16:LEU:CD1  | 1:A:58:LEU:HD13 | 0.51     | 2.35        | 2      | 3     |
| 1:A:40:HIS:CE1  | 1:A:60:ILE:HB   | 0.51     | 2.41        | 12     | 8     |
| 1:A:78:GLU:O    | 1:A:79:PHE:C    | 0.51     | 2.49        | 10     | 15    |
| 1:A:9:LEU:HD13  | 1:A:61:LEU:HD13 | 0.51     | 1.83        | 2      | 1     |
| 1:A:9:LEU:O     | 1:A:13:ARG:HB3  | 0.51     | 2.06        | 1      | 13    |
| 1:A:57:LEU:CD1  | 1:A:61:LEU:CG   | 0.51     | 2.89        | 15     | 7     |
| 1:A:76:LEU:HD13 | 1:A:83:ARG:N    | 0.51     | 2.21        | 4      | 11    |
| 1:A:12:LEU:CG   | 1:A:89:ALA:CB   | 0.51     | 2.89        | 15     | 1     |
| 1:A:12:LEU:HD21 | 1:A:89:ALA:HB3  | 0.51     | 1.81        | 15     | 1     |
| 1:A:30:LEU:CB   | 1:A:36:LEU:HD12 | 0.50     | 2.36        | 2      | 3     |
| 1:A:9:LEU:HD22  | 1:A:69:PHE:CD1  | 0.50     | 2.42        | 4      | 1     |
| 1:A:81:TRP:CD2  | 1:A:85:LYS:HE3  | 0.50     | 2.41        | 5      | 1     |
| 1:A:35:ILE:HD13 | 1:A:68:ALA:O    | 0.50     | 2.06        | 13     | 7     |
| 1:A:54:THR:O    | 1:A:58:LEU:CD1  | 0.50     | 2.59        | 5      | 1     |
| 1:A:12:LEU:CG   | 1:A:89:ALA:HB3  | 0.50     | 2.37        | 15     | 1     |
| 1:A:84:GLU:O    | 1:A:88:LYS:HB3  | 0.50     | 2.06        | 5      | 10    |
| 1:A:27:LEU:HD11 | 1:A:53:LYS:HB3  | 0.50     | 1.81        | 2      | 1     |
| 1:A:11:SER:OG   | 1:A:93:ALA:HB2  | 0.50     | 2.07        | 3      | 4     |
| 1:A:27:LEU:CD1  | 1:A:47:GLN:OE1  | 0.50     | 2.59        | 15     | 1     |
| 1:A:29:TYR:CE1  | 1:A:71:THR:HG23 | 0.50     | 2.40        | 13     | 3     |

*Continued on next page...*

*Continued from previous page...*

| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:43:GLU:HB2  | 1:A:56:LEU:CD1  | 0.50     | 2.35        | 13     | 5     |
| 1:A:29:TYR:HH   | 1:A:74:ASP:HB2  | 0.50     | 1.66        | 6      | 1     |
| 1:A:29:TYR:CE2  | 1:A:75:SER:HB3  | 0.50     | 2.41        | 4      | 1     |
| 1:A:26:VAL:HG22 | 1:A:27:LEU:N    | 0.50     | 2.22        | 1      | 1     |
| 1:A:10:ARG:O    | 1:A:13:ARG:HB2  | 0.50     | 2.07        | 6      | 2     |
| 1:A:47:GLN:NE2  | 1:A:53:LYS:HG2  | 0.50     | 2.22        | 1      | 2     |
| 1:A:12:LEU:CD2  | 1:A:89:ALA:HB3  | 0.50     | 2.37        | 2      | 2     |
| 1:A:39:ASN:N    | 1:A:39:ASN:OD1  | 0.50     | 2.43        | 6      | 1     |
| 1:A:10:ARG:O    | 1:A:13:ARG:CB   | 0.50     | 2.60        | 14     | 2     |
| 1:A:27:LEU:HD13 | 1:A:47:GLN:OE1  | 0.49     | 2.05        | 15     | 1     |
| 1:A:26:VAL:O    | 1:A:30:LEU:CG   | 0.49     | 2.59        | 12     | 4     |
| 1:A:57:LEU:HD12 | 1:A:61:LEU:HD11 | 0.49     | 1.81        | 4      | 2     |
| 1:A:69:PHE:CE1  | 1:A:72:PHE:CE2  | 0.49     | 3.00        | 4      | 4     |
| 1:A:37:THR:N    | 1:A:40:HIS:CD2  | 0.49     | 2.81        | 10     | 1     |
| 1:A:89:ALA:O    | 1:A:93:ALA:N    | 0.49     | 2.46        | 5      | 7     |
| 1:A:72:PHE:CD1  | 1:A:72:PHE:O    | 0.49     | 2.65        | 12     | 3     |
| 1:A:33:GLU:OE1  | 1:A:33:GLU:CA   | 0.49     | 2.59        | 8      | 1     |
| 1:A:36:LEU:HA   | 1:A:40:HIS:CG   | 0.49     | 2.42        | 15     | 2     |
| 1:A:79:PHE:CD1  | 1:A:79:PHE:N    | 0.49     | 2.81        | 2      | 9     |
| 1:A:30:LEU:HB2  | 1:A:36:LEU:CD1  | 0.49     | 2.37        | 2      | 2     |
| 1:A:85:LYS:CE   | 1:A:85:LYS:CA   | 0.49     | 2.89        | 4      | 2     |
| 1:A:81:TRP:O    | 1:A:85:LYS:CE   | 0.49     | 2.60        | 6      | 1     |
| 1:A:40:HIS:CE1  | 1:A:60:ILE:HD12 | 0.49     | 2.41        | 7      | 3     |
| 1:A:34:GLY:O    | 1:A:35:ILE:C    | 0.49     | 2.51        | 13     | 13    |
| 1:A:29:TYR:O    | 1:A:33:GLU:CB   | 0.49     | 2.60        | 7      | 4     |
| 1:A:35:ILE:HG21 | 1:A:57:LEU:HD11 | 0.49     | 1.84        | 3      | 2     |
| 1:A:54:THR:O    | 1:A:58:LEU:HD12 | 0.49     | 2.07        | 5      | 1     |
| 1:A:9:LEU:HG    | 1:A:61:LEU:CB   | 0.49     | 2.38        | 15     | 2     |
| 1:A:9:LEU:O     | 1:A:13:ARG:HB2  | 0.49     | 2.08        | 14     | 2     |
| 1:A:29:TYR:CE2  | 1:A:74:ASP:CB   | 0.49     | 2.96        | 5      | 2     |
| 1:A:31:TYR:N    | 1:A:36:LEU:HD13 | 0.49     | 2.23        | 5      | 5     |
| 1:A:36:LEU:HB2  | 1:A:40:HIS:CG   | 0.49     | 2.42        | 4      | 2     |
| 1:A:69:PHE:CD2  | 1:A:73:LEU:HD11 | 0.49     | 2.43        | 15     | 2     |
| 1:A:11:SER:OG   | 1:A:12:LEU:N    | 0.49     | 2.46        | 7      | 1     |
| 1:A:10:ARG:O    | 1:A:14:LEU:HD23 | 0.49     | 2.07        | 12     | 1     |
| 1:A:31:TYR:OH   | 1:A:41:ILE:HA   | 0.49     | 2.08        | 15     | 8     |
| 1:A:57:LEU:CD1  | 1:A:61:LEU:HG   | 0.49     | 2.38        | 6      | 8     |
| 1:A:27:LEU:CA   | 1:A:30:LEU:HD12 | 0.49     | 2.33        | 3      | 2     |
| 1:A:31:TYR:HH   | 1:A:41:ILE:HA   | 0.49     | 1.66        | 1      | 4     |
| 1:A:68:ALA:O    | 1:A:72:PHE:HB3  | 0.49     | 2.08        | 9      | 13    |
| 1:A:69:PHE:CD1  | 1:A:73:LEU:CD1  | 0.49     | 2.95        | 2      | 1     |

*Continued on next page...*

*Continued from previous page...*

| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:27:LEU:HD12 | 1:A:31:TYR:CD1  | 0.49     | 2.43        | 4      | 1     |
| 1:A:47:GLN:NE2  | 1:A:53:LYS:CD   | 0.48     | 2.76        | 1      | 1     |
| 1:A:47:GLN:O    | 1:A:48:THR:HG22 | 0.48     | 2.08        | 1      | 1     |
| 1:A:76:LEU:HD13 | 1:A:83:ARG:HA   | 0.48     | 1.85        | 10     | 6     |
| 1:A:40:HIS:O    | 1:A:41:ILE:C    | 0.48     | 2.51        | 12     | 14    |
| 1:A:40:HIS:ND1  | 1:A:60:ILE:CG2  | 0.48     | 2.76        | 4      | 1     |
| 1:A:8:VAL:HG13  | 1:A:90:ARG:CA   | 0.48     | 2.38        | 3      | 4     |
| 1:A:36:LEU:CD2  | 1:A:57:LEU:HD21 | 0.48     | 2.37        | 1      | 1     |
| 1:A:16:LEU:CD1  | 1:A:16:LEU:C    | 0.48     | 2.81        | 2      | 2     |
| 1:A:56:LEU:O    | 1:A:60:ILE:N    | 0.48     | 2.47        | 8      | 9     |
| 1:A:47:GLN:CG   | 1:A:53:LYS:CA   | 0.48     | 2.91        | 6      | 2     |
| 1:A:84:GLU:OE1  | 1:A:84:GLU:CA   | 0.48     | 2.62        | 7      | 1     |
| 1:A:44:ILE:O    | 1:A:47:GLN:HG3  | 0.48     | 2.07        | 1      | 1     |
| 1:A:72:PHE:CZ   | 1:A:86:LEU:HD11 | 0.48     | 2.44        | 1      | 2     |
| 1:A:12:LEU:HD21 | 1:A:89:ALA:HB2  | 0.48     | 1.84        | 6      | 1     |
| 1:A:52:ARG:O    | 1:A:56:LEU:N    | 0.48     | 2.46        | 10     | 1     |
| 1:A:9:LEU:HD11  | 1:A:61:LEU:HB2  | 0.48     | 1.84        | 8      | 1     |
| 1:A:9:LEU:CD1   | 1:A:61:LEU:HB2  | 0.48     | 2.39        | 6      | 6     |
| 1:A:79:PHE:CA   | 1:A:83:ARG:HB3  | 0.48     | 2.39        | 15     | 15    |
| 1:A:8:VAL:HG11  | 1:A:69:PHE:CE2  | 0.48     | 2.43        | 3      | 4     |
| 1:A:26:VAL:O    | 1:A:30:LEU:HG   | 0.48     | 2.09        | 9      | 9     |
| 1:A:31:TYR:N    | 1:A:36:LEU:HG   | 0.48     | 2.24        | 15     | 1     |
| 1:A:69:PHE:O    | 1:A:71:THR:N    | 0.48     | 2.47        | 7      | 9     |
| 1:A:13:ARG:HG3  | 1:A:14:LEU:N    | 0.47     | 2.24        | 11     | 2     |
| 1:A:29:TYR:OH   | 1:A:71:THR:O    | 0.47     | 2.32        | 8      | 5     |
| 1:A:10:ARG:CD   | 1:A:10:ARG:C    | 0.47     | 2.81        | 13     | 1     |
| 1:A:85:LYS:HA   | 1:A:88:LYS:CD   | 0.47     | 2.39        | 1      | 4     |
| 1:A:53:LYS:HG2  | 1:A:54:THR:N    | 0.47     | 2.24        | 6      | 1     |
| 1:A:27:LEU:HD11 | 1:A:44:ILE:CD1  | 0.47     | 2.39        | 13     | 1     |
| 1:A:29:TYR:CE2  | 1:A:71:THR:O    | 0.47     | 2.67        | 1      | 1     |
| 1:A:44:ILE:HD13 | 1:A:56:LEU:CB   | 0.47     | 2.38        | 1      | 4     |
| 1:A:76:LEU:CD2  | 1:A:82:VAL:CG2  | 0.47     | 2.81        | 13     | 11    |
| 1:A:40:HIS:HD2  | 1:A:60:ILE:HD13 | 0.47     | 1.57        | 4      | 1     |
| 1:A:31:TYR:OH   | 1:A:60:ILE:HD13 | 0.47     | 2.09        | 7      | 2     |
| 1:A:78:GLU:HG3  | 1:A:82:VAL:CG1  | 0.47     | 2.40        | 1      | 8     |
| 1:A:9:LEU:HD13  | 1:A:61:LEU:CB   | 0.47     | 2.40        | 2      | 1     |
| 1:A:79:PHE:N    | 1:A:82:VAL:CG2  | 0.47     | 2.77        | 10     | 8     |
| 1:A:57:LEU:CA   | 1:A:60:ILE:HD12 | 0.47     | 2.39        | 4      | 1     |
| 1:A:27:LEU:O    | 1:A:31:TYR:N    | 0.47     | 2.47        | 5      | 1     |
| 1:A:5:ASP:O     | 1:A:9:LEU:HD23  | 0.47     | 2.09        | 7      | 1     |
| 1:A:81:TRP:O    | 1:A:85:LYS:HG2  | 0.47     | 2.09        | 1      | 5     |

*Continued on next page...*

*Continued from previous page...*

| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:43:GLU:HB3  | 1:A:56:LEU:CD2  | 0.47     | 2.40        | 5      | 11    |
| 1:A:75:SER:O    | 1:A:76:LEU:C    | 0.47     | 2.53        | 4      | 15    |
| 1:A:37:THR:H    | 1:A:40:HIS:HB2  | 0.47     | 1.69        | 13     | 2     |
| 1:A:55:MET:O    | 1:A:59:ASP:OD2  | 0.47     | 2.32        | 10     | 1     |
| 1:A:36:LEU:CD1  | 1:A:36:LEU:C    | 0.47     | 2.75        | 11     | 4     |
| 1:A:52:ARG:CZ   | 1:A:55:MET:SD   | 0.47     | 3.03        | 13     | 1     |
| 1:A:36:LEU:O    | 1:A:37:THR:HB   | 0.47     | 2.09        | 15     | 1     |
| 1:A:76:LEU:HB3  | 1:A:82:VAL:CG2  | 0.47     | 2.39        | 15     | 15    |
| 1:A:53:LYS:CG   | 1:A:54:THR:N    | 0.47     | 2.78        | 5      | 3     |
| 1:A:28:GLN:O    | 1:A:32:GLN:HB2  | 0.47     | 2.10        | 9      | 7     |
| 1:A:29:TYR:CE1  | 1:A:30:LEU:CD2  | 0.47     | 2.98        | 6      | 1     |
| 1:A:13:ARG:CG   | 1:A:58:LEU:HB3  | 0.47     | 2.40        | 6      | 2     |
| 1:A:35:ILE:C    | 1:A:36:LEU:HD23 | 0.47     | 2.30        | 1      | 2     |
| 1:A:31:TYR:HA   | 1:A:36:LEU:HB2  | 0.47     | 1.86        | 6      | 5     |
| 1:A:16:LEU:C    | 1:A:16:LEU:CD1  | 0.47     | 2.83        | 7      | 2     |
| 1:A:47:GLN:O    | 1:A:48:THR:OG1  | 0.47     | 2.32        | 8      | 1     |
| 1:A:28:GLN:O    | 1:A:32:GLN:CB   | 0.47     | 2.63        | 11     | 4     |
| 1:A:27:LEU:HD21 | 1:A:57:LEU:HD23 | 0.47     | 1.86        | 8      | 1     |
| 1:A:13:ARG:CD   | 1:A:58:LEU:HB3  | 0.46     | 2.40        | 1      | 1     |
| 1:A:31:TYR:CE2  | 1:A:36:LEU:HD12 | 0.46     | 2.44        | 1      | 1     |
| 1:A:31:TYR:OH   | 1:A:40:HIS:C    | 0.46     | 2.54        | 5      | 6     |
| 1:A:47:GLN:HG2  | 1:A:53:LYS:N    | 0.46     | 2.25        | 6      | 3     |
| 1:A:84:GLU:O    | 1:A:88:LYS:HD3  | 0.46     | 2.10        | 10     | 5     |
| 1:A:31:TYR:CB   | 1:A:36:LEU:HG   | 0.46     | 2.41        | 10     | 4     |
| 1:A:85:LYS:HE2  | 1:A:85:LYS:N    | 0.46     | 2.25        | 10     | 1     |
| 1:A:58:LEU:O    | 1:A:62:PRO:HG2  | 0.46     | 2.09        | 1      | 1     |
| 1:A:31:TYR:CG   | 1:A:36:LEU:CG   | 0.46     | 2.98        | 11     | 5     |
| 1:A:9:LEU:CD1   | 1:A:58:LEU:HA   | 0.46     | 2.40        | 8      | 9     |
| 1:A:56:LEU:O    | 1:A:57:LEU:C    | 0.46     | 2.54        | 11     | 15    |
| 1:A:9:LEU:CD1   | 1:A:61:LEU:HB3  | 0.46     | 2.39        | 2      | 1     |
| 1:A:81:TRP:CG   | 1:A:85:LYS:HE3  | 0.46     | 2.44        | 5      | 1     |
| 1:A:82:VAL:HG23 | 1:A:83:ARG:N    | 0.46     | 2.26        | 14     | 4     |
| 1:A:31:TYR:OH   | 1:A:41:ILE:CA   | 0.46     | 2.63        | 1      | 7     |
| 1:A:69:PHE:O    | 1:A:70:ASP:C    | 0.46     | 2.53        | 3      | 15    |
| 1:A:29:TYR:OH   | 1:A:74:ASP:HB3  | 0.46     | 2.10        | 12     | 6     |
| 1:A:12:LEU:HG   | 1:A:89:ALA:CB   | 0.46     | 2.41        | 12     | 3     |
| 1:A:34:GLY:O    | 1:A:36:LEU:O    | 0.46     | 2.34        | 10     | 7     |
| 1:A:79:PHE:CA   | 1:A:82:VAL:HG22 | 0.46     | 2.40        | 7      | 15    |
| 1:A:72:PHE:O    | 1:A:75:SER:OG   | 0.46     | 2.32        | 5      | 2     |
| 1:A:10:ARG:O    | 1:A:13:ARG:HB3  | 0.46     | 2.11        | 2      | 7     |
| 1:A:8:VAL:O     | 1:A:11:SER:OG   | 0.46     | 2.32        | 3      | 1     |

*Continued on next page...*

Continued from previous page...

| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:29:TYR:HE1  | 1:A:30:LEU:HD23 | 0.46     | 1.70        | 9      | 2     |
| 1:A:47:GLN:CG   | 1:A:53:LYS:HA   | 0.46     | 2.41        | 13     | 3     |
| 1:A:43:GLU:O    | 1:A:56:LEU:HD21 | 0.46     | 2.11        | 13     | 1     |
| 1:A:31:TYR:CE1  | 1:A:40:HIS:HB3  | 0.46     | 2.45        | 15     | 1     |
| 1:A:30:LEU:O    | 1:A:31:TYR:C    | 0.46     | 2.54        | 1      | 9     |
| 1:A:30:LEU:HB3  | 1:A:35:ILE:HB   | 0.46     | 1.86        | 5      | 2     |
| 1:A:31:TYR:CE1  | 1:A:36:LEU:CB   | 0.46     | 2.98        | 13     | 3     |
| 1:A:8:VAL:CG1   | 1:A:90:ARG:HA   | 0.46     | 2.41        | 11     | 4     |
| 1:A:27:LEU:HD11 | 1:A:53:LYS:CG   | 0.46     | 2.39        | 6      | 1     |
| 1:A:40:HIS:NE2  | 1:A:60:ILE:HB   | 0.46     | 2.25        | 13     | 1     |
| 1:A:37:THR:O    | 1:A:38:GLU:C    | 0.46     | 2.54        | 9      | 11    |
| 1:A:30:LEU:HD21 | 1:A:75:SER:OG   | 0.46     | 2.11        | 3      | 1     |
| 1:A:31:TYR:OH   | 1:A:40:HIS:HB3  | 0.46     | 2.11        | 10     | 7     |
| 1:A:61:LEU:HB2  | 1:A:62:PRO:CD   | 0.46     | 2.41        | 9      | 2     |
| 1:A:90:ARG:O    | 1:A:94:MET:HB2  | 0.46     | 2.11        | 14     | 5     |
| 1:A:82:VAL:O    | 1:A:86:LEU:HB2  | 0.46     | 2.11        | 2      | 11    |
| 1:A:8:VAL:HG11  | 1:A:90:ARG:HA   | 0.46     | 1.87        | 2      | 1     |
| 1:A:29:TYR:O    | 1:A:33:GLU:HB2  | 0.46     | 2.11        | 12     | 7     |
| 1:A:68:ALA:O    | 1:A:72:PHE:N    | 0.46     | 2.47        | 15     | 8     |
| 1:A:75:SER:C    | 1:A:79:PHE:CE2  | 0.45     | 2.90        | 6      | 9     |
| 1:A:30:LEU:HD13 | 1:A:57:LEU:CD2  | 0.45     | 2.42        | 15     | 1     |
| 1:A:76:LEU:HD22 | 1:A:82:VAL:HB   | 0.45     | 1.88        | 10     | 1     |
| 1:A:29:TYR:OH   | 1:A:71:THR:HA   | 0.45     | 2.10        | 4      | 5     |
| 1:A:31:TYR:CE1  | 1:A:36:LEU:HD22 | 0.45     | 2.46        | 5      | 1     |
| 1:A:31:TYR:HA   | 1:A:36:LEU:CD1  | 0.45     | 2.41        | 10     | 1     |
| 1:A:36:LEU:HB3  | 1:A:40:HIS:CD2  | 0.45     | 2.46        | 15     | 1     |
| 1:A:31:TYR:CE1  | 1:A:36:LEU:HB2  | 0.45     | 2.47        | 13     | 2     |
| 1:A:80:PRO:O    | 1:A:84:GLU:HG3  | 0.45     | 2.10        | 7      | 2     |
| 1:A:13:ARG:O    | 1:A:17:GLY:N    | 0.45     | 2.49        | 5      | 3     |
| 1:A:78:GLU:OE2  | 1:A:82:VAL:HG11 | 0.45     | 2.12        | 5      | 1     |
| 1:A:26:VAL:HG22 | 1:A:30:LEU:HD11 | 0.45     | 1.88        | 2      | 1     |
| 1:A:30:LEU:CD2  | 1:A:35:ILE:HG13 | 0.45     | 2.41        | 13     | 3     |
| 1:A:60:ILE:O    | 1:A:61:LEU:C    | 0.45     | 2.55        | 9      | 6     |
| 1:A:47:GLN:NE2  | 1:A:53:LYS:HD3  | 0.45     | 2.26        | 1      | 1     |
| 1:A:4:ARG:O     | 1:A:8:VAL:CG2   | 0.45     | 2.63        | 1      | 6     |
| 1:A:36:LEU:CD2  | 1:A:36:LEU:C    | 0.45     | 2.83        | 4      | 1     |
| 1:A:27:LEU:HD13 | 1:A:31:TYR:CE1  | 0.45     | 2.44        | 7      | 1     |
| 1:A:8:VAL:HB    | 1:A:69:PHE:CZ   | 0.45     | 2.47        | 4      | 2     |
| 1:A:10:ARG:CA   | 1:A:13:ARG:HB2  | 0.45     | 2.42        | 14     | 2     |
| 1:A:29:TYR:O    | 1:A:33:GLU:HG3  | 0.45     | 2.12        | 7      | 1     |
| 1:A:44:ILE:CD1  | 1:A:56:LEU:CG   | 0.45     | 2.92        | 8      | 1     |

Continued on next page...



*Continued from previous page...*

| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:11:SER:CB   | 1:A:93:ALA:CB   | 0.45     | 2.94        | 9      | 2     |
| 1:A:13:ARG:CD   | 1:A:13:ARG:C    | 0.45     | 2.85        | 11     | 1     |
| 1:A:38:GLU:OE1  | 1:A:39:ASN:ND2  | 0.45     | 2.49        | 11     | 1     |
| 1:A:73:LEU:O    | 1:A:76:LEU:HB2  | 0.45     | 2.12        | 10     | 14    |
| 1:A:16:LEU:CD1  | 1:A:17:GLY:N    | 0.45     | 2.77        | 7      | 2     |
| 1:A:12:LEU:HG   | 1:A:86:LEU:HD23 | 0.45     | 1.89        | 9      | 1     |
| 1:A:13:ARG:HD3  | 1:A:58:LEU:CB   | 0.45     | 2.41        | 1      | 1     |
| 1:A:73:LEU:CD2  | 1:A:86:LEU:HB3  | 0.45     | 2.42        | 2      | 4     |
| 1:A:30:LEU:CD2  | 1:A:72:PHE:HA   | 0.45     | 2.42        | 14     | 7     |
| 1:A:8:VAL:HG11  | 1:A:69:PHE:CZ   | 0.45     | 2.47        | 15     | 1     |
| 1:A:47:GLN:O    | 1:A:48:THR:CB   | 0.44     | 2.64        | 1      | 1     |
| 1:A:87:LYS:HG2  | 1:A:88:LYS:CD   | 0.44     | 2.43        | 4      | 2     |
| 1:A:31:TYR:CG   | 1:A:36:LEU:HD13 | 0.44     | 2.47        | 5      | 1     |
| 1:A:31:TYR:CE2  | 1:A:44:ILE:CG1  | 0.44     | 2.97        | 10     | 2     |
| 1:A:29:TYR:CZ   | 1:A:71:THR:O    | 0.44     | 2.70        | 15     | 2     |
| 1:A:10:ARG:HG3  | 1:A:11:SER:N    | 0.44     | 2.27        | 13     | 1     |
| 1:A:36:LEU:HB3  | 1:A:40:HIS:CB   | 0.44     | 2.42        | 15     | 1     |
| 1:A:30:LEU:C    | 1:A:32:GLN:N    | 0.44     | 2.71        | 5      | 10    |
| 1:A:90:ARG:O    | 1:A:94:MET:HB3  | 0.44     | 2.12        | 3      | 1     |
| 1:A:31:TYR:CA   | 1:A:36:LEU:HD13 | 0.44     | 2.43        | 5      | 1     |
| 1:A:29:TYR:CD1  | 1:A:30:LEU:HD23 | 0.44     | 2.47        | 14     | 2     |
| 1:A:9:LEU:HD13  | 1:A:61:LEU:CD2  | 0.44     | 2.43        | 2      | 1     |
| 1:A:26:VAL:CG1  | 1:A:77:GLN:HB2  | 0.44     | 2.42        | 6      | 1     |
| 1:A:37:THR:N    | 1:A:40:HIS:HB2  | 0.44     | 2.27        | 15     | 1     |
| 1:A:44:ILE:C    | 1:A:46:ALA:N    | 0.44     | 2.71        | 13     | 6     |
| 1:A:28:GLN:O    | 1:A:32:GLN:HG2  | 0.44     | 2.11        | 4      | 1     |
| 1:A:37:THR:O    | 1:A:40:HIS:HB2  | 0.44     | 2.13        | 11     | 6     |
| 1:A:61:LEU:CD2  | 1:A:68:ALA:HB1  | 0.44     | 2.42        | 9      | 2     |
| 1:A:16:LEU:HD13 | 1:A:58:LEU:HD11 | 0.44     | 1.86        | 11     | 2     |
| 1:A:26:VAL:CG1  | 1:A:27:LEU:N    | 0.44     | 2.81        | 10     | 2     |
| 1:A:26:VAL:CG1  | 1:A:77:GLN:HB3  | 0.44     | 2.43        | 13     | 1     |
| 1:A:47:GLN:HA   | 1:A:52:ARG:CB   | 0.44     | 2.43        | 1      | 1     |
| 1:A:88:LYS:HD2  | 1:A:88:LYS:O    | 0.44     | 2.13        | 2      | 1     |
| 1:A:81:TRP:O    | 1:A:81:TRP:CD1  | 0.44     | 2.71        | 5      | 1     |
| 1:A:10:ARG:CA   | 1:A:13:ARG:HB3  | 0.44     | 2.43        | 11     | 1     |
| 1:A:9:LEU:CD1   | 1:A:61:LEU:HD13 | 0.44     | 2.43        | 2      | 1     |
| 1:A:41:ILE:O    | 1:A:45:ASN:OD1  | 0.44     | 2.34        | 12     | 2     |
| 1:A:47:GLN:NE2  | 1:A:53:LYS:HB3  | 0.44     | 2.28        | 9      | 1     |
| 1:A:29:TYR:O    | 1:A:33:GLU:HG2  | 0.44     | 2.12        | 10     | 1     |
| 1:A:36:LEU:N    | 1:A:36:LEU:CD2  | 0.44     | 2.79        | 1      | 1     |
| 1:A:31:TYR:CG   | 1:A:36:LEU:HB2  | 0.44     | 2.48        | 3      | 1     |

*Continued on next page...*

*Continued from previous page...*

| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:12:LEU:O    | 1:A:16:LEU:HG   | 0.43     | 2.13        | 1      | 12    |
| 1:A:54:THR:O    | 1:A:58:LEU:HG   | 0.43     | 2.13        | 5      | 3     |
| 1:A:71:THR:O    | 1:A:74:ASP:N    | 0.43     | 2.51        | 6      | 3     |
| 1:A:52:ARG:O    | 1:A:55:MET:HB2  | 0.43     | 2.13        | 8      | 1     |
| 1:A:58:LEU:O    | 1:A:62:PRO:HG3  | 0.43     | 2.13        | 15     | 3     |
| 1:A:41:ILE:HG22 | 1:A:42:GLN:N    | 0.43     | 2.29        | 5      | 6     |
| 1:A:47:GLN:HG2  | 1:A:53:LYS:HA   | 0.43     | 1.90        | 2      | 1     |
| 1:A:9:LEU:CD2   | 1:A:72:PHE:CE2  | 0.43     | 3.01        | 2      | 1     |
| 1:A:36:LEU:HD23 | 1:A:41:ILE:HD13 | 0.43     | 1.90        | 12     | 1     |
| 1:A:29:TYR:CD1  | 1:A:75:SER:HB2  | 0.43     | 2.48        | 12     | 1     |
| 1:A:55:MET:O    | 1:A:59:ASP:HB2  | 0.43     | 2.13        | 5      | 10    |
| 1:A:47:GLN:NE2  | 1:A:53:LYS:HA   | 0.43     | 2.28        | 3      | 1     |
| 1:A:29:TYR:OH   | 1:A:71:THR:CA   | 0.43     | 2.67        | 6      | 2     |
| 1:A:30:LEU:N    | 1:A:30:LEU:HD23 | 0.43     | 2.29        | 1      | 1     |
| 1:A:41:ILE:O    | 1:A:45:ASN:CG   | 0.43     | 2.57        | 1      | 2     |
| 1:A:52:ARG:O    | 1:A:53:LYS:C    | 0.43     | 2.56        | 1      | 2     |
| 1:A:8:VAL:HG11  | 1:A:69:PHE:HE2  | 0.43     | 1.73        | 1      | 1     |
| 1:A:9:LEU:CD2   | 1:A:72:PHE:CD2  | 0.43     | 3.02        | 2      | 1     |
| 1:A:47:GLN:HG2  | 1:A:53:LYS:CB   | 0.43     | 2.43        | 6      | 1     |
| 1:A:32:GLN:O    | 1:A:33:GLU:C    | 0.43     | 2.56        | 3      | 1     |
| 1:A:26:VAL:HG11 | 1:A:77:GLN:HB2  | 0.43     | 1.89        | 6      | 1     |
| 1:A:31:TYR:CZ   | 1:A:36:LEU:HB2  | 0.43     | 2.48        | 13     | 3     |
| 1:A:76:LEU:O    | 1:A:77:GLN:C    | 0.43     | 2.57        | 6      | 9     |
| 1:A:88:LYS:HG2  | 1:A:89:ALA:N    | 0.43     | 2.28        | 13     | 4     |
| 1:A:78:GLU:C    | 1:A:80:PRO:HD2  | 0.43     | 2.34        | 12     | 14    |
| 1:A:16:LEU:HD11 | 1:A:58:LEU:HD22 | 0.43     | 1.90        | 2      | 1     |
| 1:A:29:TYR:CD2  | 1:A:75:SER:CB   | 0.43     | 3.02        | 4      | 1     |
| 1:A:44:ILE:HA   | 1:A:56:LEU:HG   | 0.43     | 1.90        | 3      | 3     |
| 1:A:79:PHE:CA   | 1:A:82:VAL:CG2  | 0.43     | 2.97        | 11     | 2     |
| 1:A:56:LEU:C    | 1:A:60:ILE:HG13 | 0.43     | 2.34        | 15     | 1     |
| 1:A:48:THR:HG23 | 1:A:48:THR:O    | 0.43     | 2.14        | 1      | 1     |
| 1:A:9:LEU:HD21  | 1:A:69:PHE:CE1  | 0.43     | 2.49        | 2      | 1     |
| 1:A:79:PHE:O    | 1:A:80:PRO:C    | 0.43     | 2.57        | 11     | 4     |
| 1:A:69:PHE:C    | 1:A:73:LEU:CD1  | 0.43     | 2.85        | 8      | 2     |
| 1:A:57:LEU:HD22 | 1:A:60:ILE:CD1  | 0.43     | 2.43        | 5      | 3     |
| 1:A:29:TYR:HH   | 1:A:71:THR:C    | 0.43     | 2.16        | 6      | 1     |
| 1:A:56:LEU:C    | 1:A:60:ILE:CG1  | 0.43     | 2.87        | 15     | 2     |
| 1:A:85:LYS:HD2  | 1:A:85:LYS:N    | 0.43     | 2.29        | 8      | 2     |
| 1:A:31:TYR:HH   | 1:A:44:ILE:HG12 | 0.43     | 1.74        | 12     | 1     |
| 1:A:60:ILE:C    | 1:A:62:PRO:HD2  | 0.43     | 2.34        | 1      | 2     |
| 1:A:13:ARG:O    | 1:A:17:GLY:HA3  | 0.43     | 2.14        | 2      | 9     |

*Continued on next page...*

Continued from previous page...

| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:9:LEU:HG    | 1:A:61:LEU:HB2  | 0.43     | 1.90        | 15     | 2     |
| 1:A:16:LEU:C    | 1:A:16:LEU:HD12 | 0.43     | 2.32        | 7      | 4     |
| 1:A:76:LEU:CD1  | 1:A:83:ARG:CA   | 0.43     | 2.96        | 4      | 4     |
| 1:A:79:PHE:HA   | 1:A:82:VAL:HG23 | 0.43     | 1.90        | 11     | 5     |
| 1:A:13:ARG:HA   | 1:A:58:LEU:HD22 | 0.43     | 1.90        | 10     | 1     |
| 1:A:9:LEU:HD13  | 1:A:61:LEU:CG   | 0.43     | 2.44        | 2      | 1     |
| 1:A:31:TYR:CE1  | 1:A:41:ILE:HD13 | 0.43     | 2.49        | 3      | 2     |
| 1:A:29:TYR:CD1  | 1:A:30:LEU:N    | 0.43     | 2.87        | 7      | 2     |
| 1:A:85:LYS:N    | 1:A:85:LYS:HD3  | 0.43     | 2.28        | 13     | 1     |
| 1:A:78:GLU:CG   | 1:A:82:VAL:CG1  | 0.42     | 2.97        | 1      | 2     |
| 1:A:73:LEU:HD13 | 1:A:87:LYS:HE3  | 0.42     | 1.91        | 1      | 1     |
| 1:A:76:LEU:CB   | 1:A:79:PHE:CD2  | 0.42     | 3.02        | 5      | 9     |
| 1:A:56:LEU:HD22 | 1:A:56:LEU:HA   | 0.42     | 1.65        | 2      | 2     |
| 1:A:79:PHE:HB3  | 1:A:83:ARG:HB3  | 0.42     | 1.91        | 3      | 8     |
| 1:A:30:LEU:HD13 | 1:A:57:LEU:HG   | 0.42     | 1.90        | 2      | 1     |
| 1:A:46:ALA:HB1  | 1:A:52:ARG:NH2  | 0.42     | 2.29        | 3      | 1     |
| 1:A:7:GLN:NE2   | 1:A:94:MET:O    | 0.42     | 2.51        | 4      | 1     |
| 1:A:16:LEU:HD11 | 1:A:58:LEU:HD13 | 0.42     | 1.91        | 6      | 1     |
| 1:A:26:VAL:HG23 | 1:A:27:LEU:N    | 0.42     | 2.29        | 13     | 2     |
| 1:A:58:LEU:O    | 1:A:62:PRO:CD   | 0.42     | 2.67        | 10     | 3     |
| 1:A:8:VAL:HG21  | 1:A:90:ARG:CA   | 0.42     | 2.39        | 2      | 1     |
| 1:A:56:LEU:HA   | 1:A:56:LEU:HD22 | 0.42     | 1.65        | 3      | 2     |
| 1:A:78:GLU:OE2  | 1:A:82:VAL:CG1  | 0.42     | 2.67        | 5      | 1     |
| 1:A:27:LEU:O    | 1:A:31:TYR:HB2  | 0.42     | 2.14        | 12     | 3     |
| 1:A:13:ARG:CD   | 1:A:58:LEU:CB   | 0.42     | 2.97        | 1      | 1     |
| 1:A:27:LEU:HD11 | 1:A:44:ILE:HG13 | 0.42     | 1.90        | 12     | 1     |
| 1:A:47:GLN:O    | 1:A:48:THR:HB   | 0.42     | 2.15        | 2      | 2     |
| 1:A:81:TRP:O    | 1:A:85:LYS:CD   | 0.42     | 2.67        | 5      | 1     |
| 1:A:26:VAL:CG2  | 1:A:75:SER:HB2  | 0.42     | 2.44        | 10     | 1     |
| 1:A:36:LEU:CD2  | 1:A:41:ILE:HD13 | 0.42     | 2.44        | 12     | 1     |
| 1:A:16:LEU:HD12 | 1:A:16:LEU:C    | 0.42     | 2.34        | 15     | 1     |
| 1:A:36:LEU:CB   | 1:A:40:HIS:CD2  | 0.42     | 3.03        | 15     | 1     |
| 1:A:93:ALA:O    | 1:A:94:MET:C    | 0.42     | 2.58        | 6      | 2     |
| 1:A:78:GLU:O    | 1:A:80:PRO:N    | 0.42     | 2.53        | 10     | 2     |
| 1:A:85:LYS:CE   | 1:A:85:LYS:HA   | 0.42     | 2.45        | 9      | 1     |
| 1:A:85:LYS:O    | 1:A:88:LYS:HD3  | 0.42     | 2.15        | 13     | 1     |
| 1:A:13:ARG:HG2  | 1:A:58:LEU:HB3  | 0.42     | 1.91        | 14     | 1     |
| 1:A:44:ILE:CD1  | 1:A:56:LEU:CD1  | 0.42     | 2.97        | 14     | 5     |
| 1:A:28:GLN:O    | 1:A:32:GLN:HG3  | 0.42     | 2.15        | 13     | 1     |
| 1:A:85:LYS:O    | 1:A:88:LYS:HD2  | 0.41     | 2.14        | 6      | 1     |
| 1:A:44:ILE:O    | 1:A:47:GLN:HG2  | 0.41     | 2.14        | 1      | 1     |

Continued on next page...

*Continued from previous page...*

| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:85:LYS:HA   | 1:A:88:LYS:HD3  | 0.41     | 1.91        | 1      | 1     |
| 1:A:32:GLN:HA   | 1:A:32:GLN:OE1  | 0.41     | 2.16        | 4      | 1     |
| 1:A:61:LEU:HD22 | 1:A:68:ALA:HB1  | 0.41     | 1.92        | 12     | 1     |
| 1:A:56:LEU:HD12 | 1:A:60:ILE:CD1  | 0.41     | 2.45        | 15     | 1     |
| 1:A:57:LEU:HA   | 1:A:57:LEU:HD22 | 0.41     | 1.75        | 9      | 1     |
| 1:A:37:THR:H    | 1:A:40:HIS:CD2  | 0.41     | 2.33        | 10     | 1     |
| 1:A:31:TYR:CE2  | 1:A:44:ILE:HG21 | 0.41     | 2.47        | 14     | 1     |
| 1:A:11:SER:HB2  | 1:A:93:ALA:CB   | 0.41     | 2.46        | 9      | 1     |
| 1:A:84:GLU:O    | 1:A:88:LYS:HB2  | 0.41     | 2.15        | 11     | 1     |
| 1:A:78:GLU:CD   | 1:A:82:VAL:HG11 | 0.41     | 2.36        | 1      | 1     |
| 1:A:68:ALA:O    | 1:A:69:PHE:C    | 0.41     | 2.59        | 4      | 1     |
| 1:A:37:THR:H    | 1:A:40:HIS:CG   | 0.41     | 2.33        | 12     | 2     |
| 1:A:52:ARG:O    | 1:A:55:MET:CB   | 0.41     | 2.68        | 8      | 1     |
| 1:A:35:ILE:HD11 | 1:A:71:THR:C    | 0.41     | 2.36        | 5      | 2     |
| 1:A:13:ARG:HB3  | 1:A:13:ARG:CZ   | 0.41     | 2.46        | 6      | 1     |
| 1:A:27:LEU:CD2  | 1:A:44:ILE:HD12 | 0.41     | 2.45        | 3      | 1     |
| 1:A:61:LEU:O    | 1:A:62:PRO:C    | 0.41     | 2.59        | 12     | 1     |
| 1:A:79:PHE:CB   | 1:A:83:ARG:HB3  | 0.41     | 2.45        | 15     | 1     |
| 1:A:30:LEU:HA   | 1:A:35:ILE:HG13 | 0.41     | 1.93        | 1      | 1     |
| 1:A:60:ILE:C    | 1:A:62:PRO:CD   | 0.41     | 2.89        | 1      | 1     |
| 1:A:76:LEU:CD2  | 1:A:82:VAL:HG21 | 0.41     | 2.41        | 2      | 1     |
| 1:A:82:VAL:O    | 1:A:86:LEU:N    | 0.41     | 2.54        | 6      | 1     |
| 1:A:44:ILE:CD1  | 1:A:56:LEU:HG   | 0.41     | 2.37        | 8      | 1     |
| 1:A:8:VAL:HA    | 1:A:93:ALA:HB3  | 0.41     | 1.93        | 11     | 1     |
| 1:A:85:LYS:O    | 1:A:89:ALA:CB   | 0.41     | 2.69        | 12     | 1     |
| 1:A:46:ALA:O    | 1:A:48:THR:OG1  | 0.41     | 2.35        | 12     | 1     |
| 1:A:40:HIS:CE1  | 1:A:60:ILE:CB   | 0.41     | 3.04        | 15     | 1     |
| 1:A:79:PHE:O    | 1:A:83:ARG:N    | 0.41     | 2.52        | 15     | 1     |
| 1:A:31:TYR:N    | 1:A:36:LEU:HD12 | 0.41     | 2.31        | 5      | 1     |
| 1:A:86:LEU:HA   | 1:A:86:LEU:HD23 | 0.41     | 1.73        | 13     | 2     |
| 1:A:8:VAL:O     | 1:A:9:LEU:C     | 0.41     | 2.59        | 9      | 1     |
| 1:A:26:VAL:HG12 | 1:A:77:GLN:H    | 0.41     | 1.76        | 15     | 1     |
| 1:A:31:TYR:HA   | 1:A:36:LEU:HG   | 0.40     | 1.93        | 1      | 1     |
| 1:A:86:LEU:HD23 | 1:A:86:LEU:HA   | 0.40     | 1.73        | 1      | 1     |
| 1:A:84:GLU:O    | 1:A:88:LYS:CD   | 0.40     | 2.69        | 4      | 2     |
| 1:A:30:LEU:HD23 | 1:A:30:LEU:N    | 0.40     | 2.30        | 5      | 1     |
| 1:A:61:LEU:HD11 | 1:A:72:PHE:CB   | 0.40     | 2.46        | 5      | 1     |
| 1:A:57:LEU:HD11 | 1:A:61:LEU:HD21 | 0.40     | 1.93        | 1      | 2     |
| 1:A:72:PHE:C    | 1:A:72:PHE:CD1  | 0.40     | 2.93        | 3      | 1     |
| 1:A:40:HIS:CD2  | 1:A:40:HIS:N    | 0.40     | 2.89        | 5      | 1     |
| 1:A:72:PHE:HE2  | 1:A:86:LEU:HD11 | 0.40     | 1.74        | 8      | 1     |

*Continued on next page...*

Continued from previous page...

| Atom-1         | Atom-2         | Clash(Å) | Distance(Å) | Models |       |
|----------------|----------------|----------|-------------|--------|-------|
|                |                |          |             | Worst  | Total |
| 1:A:44:ILE:O   | 1:A:45:ASN:C   | 0.40     | 2.59        | 13     | 1     |
| 1:A:31:TYR:HA  | 1:A:36:LEU:CG  | 0.40     | 2.46        | 10     | 1     |
| 1:A:36:LEU:C   | 1:A:36:LEU:CD2 | 0.40     | 2.87        | 7      | 1     |
| 1:A:31:TYR:CD2 | 1:A:36:LEU:HB2 | 0.40     | 2.51        | 10     | 1     |
| 1:A:10:ARG:HA  | 1:A:13:ARG:HB2 | 0.40     | 1.94        | 14     | 1     |
| 1:A:40:HIS:NE2 | 1:A:60:ILE:CD1 | 0.40     | 2.82        | 15     | 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     | 79/100 (79%)    | 51±2 (65±2%) | 16±2 (20±3%) | 12±1 (15±2%) | 0           | 4 |
| All | All   | 1185/1500 (79%) | 771 (65%)    | 233 (20%)    | 181 (15%)    | 0           | 4 |

All 23 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     | 80  | PRO  | 15             |
| 1   | A     | 79  | PHE  | 15             |
| 1   | A     | 76  | LEU  | 15             |
| 1   | A     | 47  | GLN  | 15             |
| 1   | A     | 77  | GLN  | 15             |
| 1   | A     | 11  | SER  | 14             |
| 1   | A     | 56  | LEU  | 14             |
| 1   | A     | 41  | ILE  | 10             |
| 1   | A     | 49  | THR  | 10             |
| 1   | A     | 31  | TYR  | 9              |
| 1   | A     | 15  | GLU  | 9              |
| 1   | A     | 70  | ASP  | 8              |
| 1   | A     | 50  | GLY  | 5              |
| 1   | A     | 48  | THR  | 4              |
| 1   | A     | 30  | LEU  | 4              |
| 1   | A     | 69  | PHE  | 3              |

Continued on next page...

*Continued from previous page...*

| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1   | A     | 35  | ILE  | 3              |
| 1   | A     | 9   | LEU  | 3              |
| 1   | A     | 94  | MET  | 3              |
| 1   | A     | 62  | PRO  | 3              |
| 1   | A     | 26  | VAL  | 2              |
| 1   | A     | 4   | ARG  | 1              |
| 1   | A     | 37  | THR  | 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     | 71/87 (82%)     | 37±2 (52±3%) | 34±2 (48±3%) | <b>0</b> <b>1</b> |
| All | All   | 1065/1305 (82%) | 559 (52%)    | 506 (48%)    | <b>0</b> <b>1</b> |

All 61 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     | 83  | ARG  | 15             |
| 1   | A     | 6   | LYS  | 15             |
| 1   | A     | 79  | PHE  | 15             |
| 1   | A     | 10  | ARG  | 15             |
| 1   | A     | 60  | ILE  | 15             |
| 1   | A     | 57  | LEU  | 15             |
| 1   | A     | 56  | LEU  | 15             |
| 1   | A     | 14  | LEU  | 15             |
| 1   | A     | 29  | TYR  | 15             |
| 1   | A     | 78  | GLU  | 14             |
| 1   | A     | 16  | LEU  | 14             |
| 1   | A     | 52  | ARG  | 14             |
| 1   | A     | 88  | LYS  | 14             |
| 1   | A     | 37  | THR  | 14             |
| 1   | A     | 69  | PHE  | 13             |
| 1   | A     | 12  | LEU  | 13             |
| 1   | A     | 74  | ASP  | 13             |
| 1   | A     | 27  | LEU  | 13             |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1   | A     | 35  | ILE  | 12             |
| 1   | A     | 41  | ILE  | 12             |
| 1   | A     | 13  | ARG  | 12             |
| 1   | A     | 90  | ARG  | 12             |
| 1   | A     | 77  | GLN  | 10             |
| 1   | A     | 55  | MET  | 10             |
| 1   | A     | 11  | SER  | 9              |
| 1   | A     | 85  | LYS  | 9              |
| 1   | A     | 59  | ASP  | 9              |
| 1   | A     | 72  | PHE  | 9              |
| 1   | A     | 86  | LEU  | 9              |
| 1   | A     | 15  | GLU  | 8              |
| 1   | A     | 87  | LYS  | 8              |
| 1   | A     | 73  | LEU  | 7              |
| 1   | A     | 9   | LEU  | 7              |
| 1   | A     | 38  | GLU  | 7              |
| 1   | A     | 36  | LEU  | 7              |
| 1   | A     | 51  | LEU  | 6              |
| 1   | A     | 42  | GLN  | 6              |
| 1   | A     | 75  | SER  | 6              |
| 1   | A     | 81  | TRP  | 5              |
| 1   | A     | 7   | GLN  | 5              |
| 1   | A     | 92  | GLU  | 5              |
| 1   | A     | 94  | MET  | 5              |
| 1   | A     | 45  | ASN  | 4              |
| 1   | A     | 33  | GLU  | 4              |
| 1   | A     | 70  | ASP  | 4              |
| 1   | A     | 53  | LYS  | 4              |
| 1   | A     | 49  | THR  | 4              |
| 1   | A     | 48  | THR  | 3              |
| 1   | A     | 39  | ASN  | 3              |
| 1   | A     | 32  | GLN  | 3              |
| 1   | A     | 47  | GLN  | 3              |
| 1   | A     | 54  | THR  | 3              |
| 1   | A     | 84  | GLU  | 3              |
| 1   | A     | 5   | ASP  | 3              |
| 1   | A     | 26  | VAL  | 3              |
| 1   | A     | 43  | GLU  | 2              |
| 1   | A     | 40  | HIS  | 2              |
| 1   | A     | 4   | ARG  | 2              |
| 1   | A     | 31  | TYR  | 2              |
| 1   | A     | 28  | GLN  | 1              |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1   | A     | 71  | THR  | 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 carbohydrates in this entry.

### 6.6 Ligand geometry [i](#)

There are no ligands in this entry.

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

There are no such molecules in this entry.

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

There are no chain breaks in this entry.



## 7 Chemical shift validation

No chemical shift data were provided