



# Full wwPDB NMR Structure Validation Report ⓘ

Oct 13, 2024 – 12:41 AM EDT

PDB ID : 1URK  
Title : SOLUTION STRUCTURE OF THE AMINO TERMINAL FRAGMENT OF UROKINASE-TYPE PLASMINOGEN ACTIVATOR  
Authors : Hansen, A.P.; Petros, A.M.; Meadows, R.P.; Nettlesheim, D.G.; Mazar, A.P.; Olejniczak, E.T.; Xu, R.X.; Pederson, T.M.; Henkin, J.; Fesik, S.W.  
Deposited on : 1994-01-10

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467  
Mogul : 2022.3.0, CSD as543be (2022)  
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)  
wwPDB-RCI : v\_1n\_11\_5\_13\_A (Berjanski et al., 2005)  
PANAV : Wang et al. (2010)  
wwPDB-ShiftChecker : v1.2  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.39

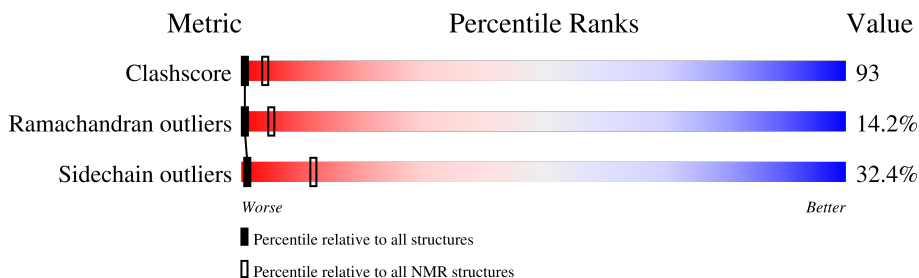
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*SOLUTION NMR*

The overall completeness of chemical shifts assignment 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            | 210492                      | 14027                     |
| Ramachandran outliers | 207382                      | 12486                     |
| Sidechain outliers    | 206894                      | 12463                     |

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     | 130    |                  |

## 2 Ensemble composition and analysis

This entry contains 15 models. Model 11 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:11-A:46 (36)        | 1.21              | 9            |
| 2                                    | A:54-A:129 (76)       | 0.95              | 11           |

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 4 clusters. No single-model clusters were found.

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

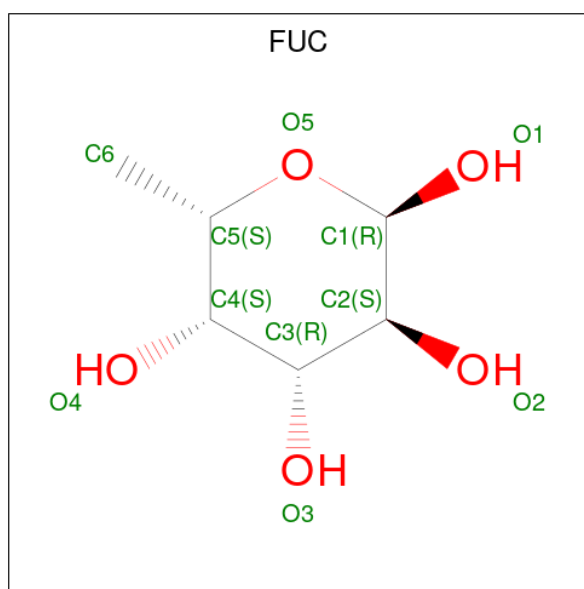
### 3 Entry composition [i](#)

There are 2 unique types of molecules in this entry. The entry contains 1035 atoms, of which 0 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called PLASMINOGEN ACTIVATOR.

| Mol | Chain | Residues | Atoms |     |     |     | Trace |   |
|-----|-------|----------|-------|-----|-----|-----|-------|---|
|     |       |          | Total | C   | N   | O   |       | S |
| 1   | A     | 130      | 1025  | 630 | 194 | 187 | 14    | 0 |

- Molecule 2 is alpha-L-fucopyranose (three-letter code: FUC) (formula: C<sub>6</sub>H<sub>12</sub>O<sub>5</sub>).



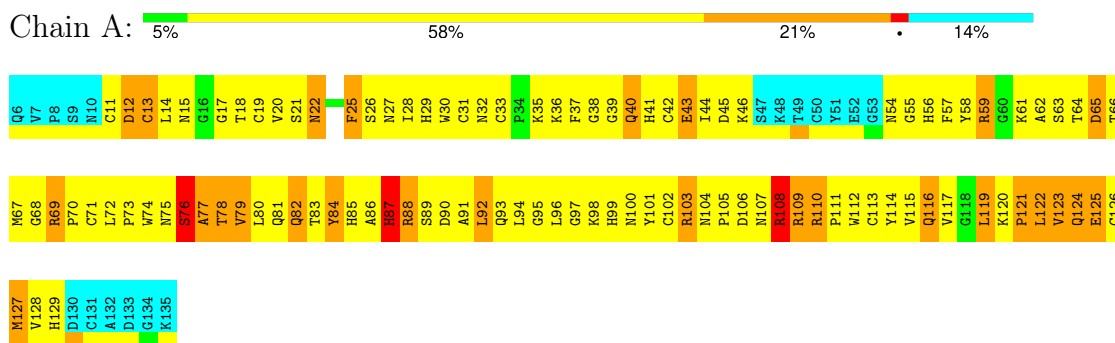
| Mol | Chain | Residues | Atoms |   |   |
|-----|-------|----------|-------|---|---|
|     |       |          | Total | C | O |
| 2   | A     | 1        | 10    | 6 | 4 |

## 4 Residue-property plots

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

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

- Molecule 1: PLASMINOGEN ACTIVATOR

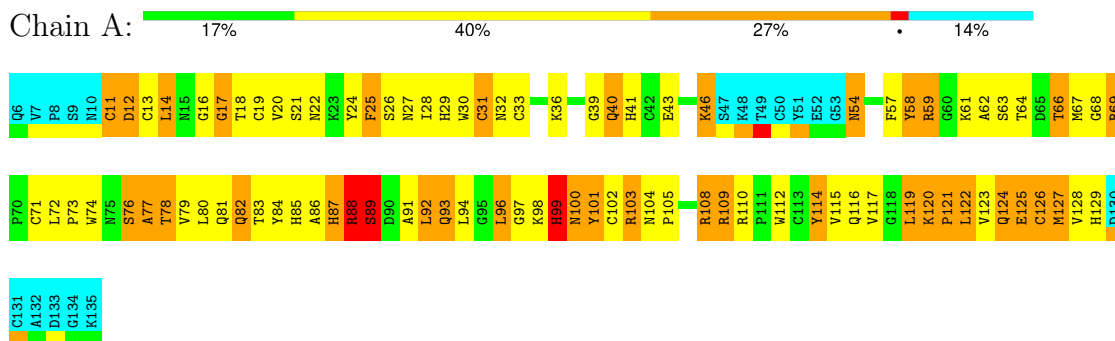


### 4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

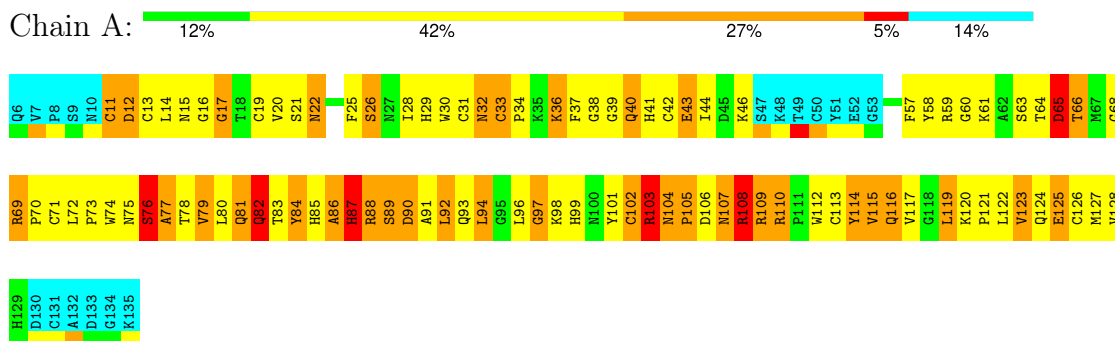
#### 4.2.1 Score per residue for model 1

- Molecule 1: PLASMINOGEN ACTIVATOR



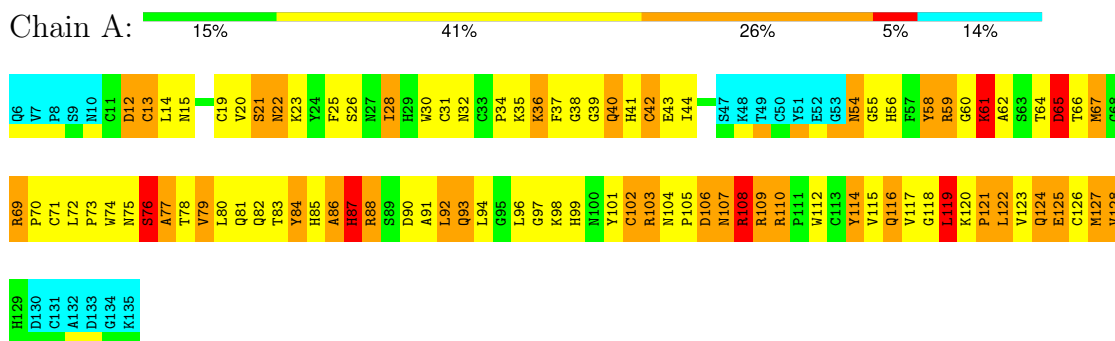
### 4.2.2 Score per residue for model 2

- Molecule 1: PLASMINOGEN ACTIVATOR



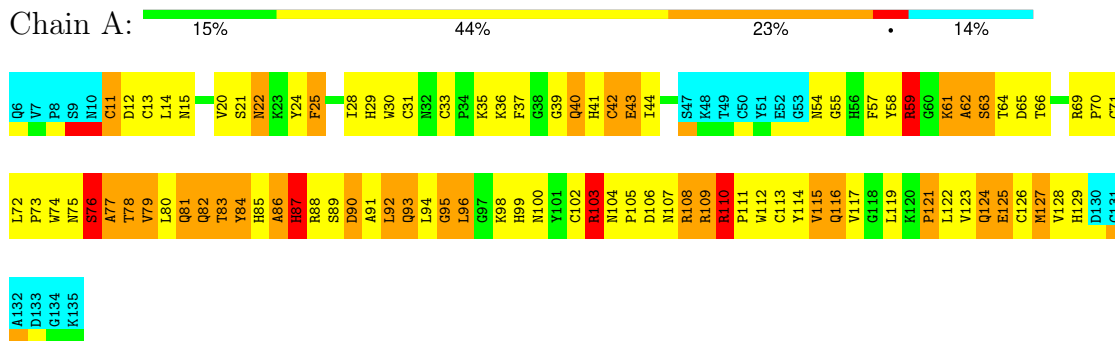
### 4.2.3 Score per residue for model 3

- Molecule 1: PLASMINOGEN ACTIVATOR



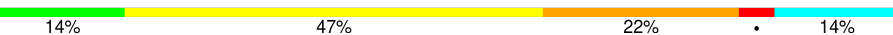
### 4.2.4 Score per residue for model 4

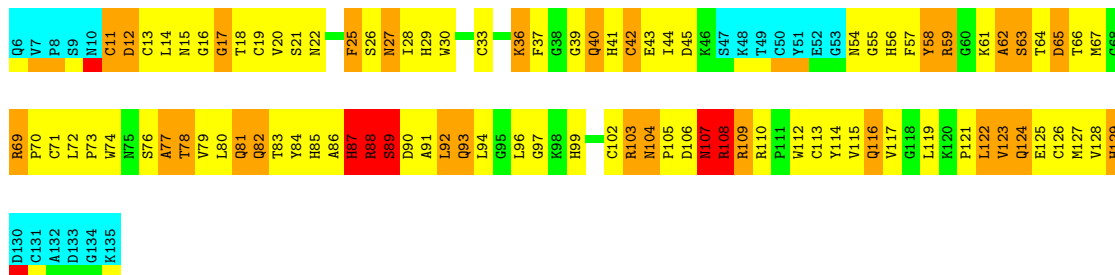
- Molecule 1: PLASMINOGEN ACTIVATOR



### 4.2.5 Score per residue for model 5

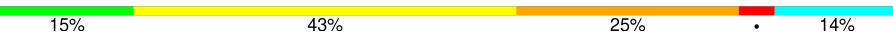
- Molecule 1: PLASMINOGEN ACTIVATOR

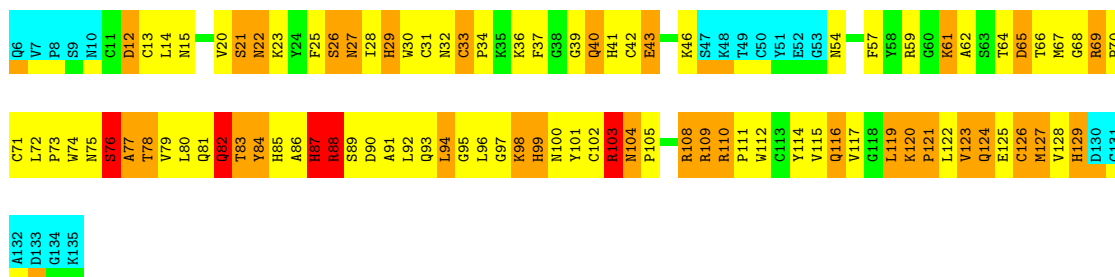
Chain A: 



### 4.2.6 Score per residue for model 6

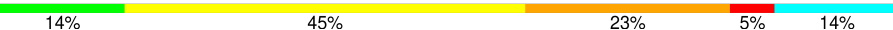
- Molecule 1: PLASMINOGEN ACTIVATOR

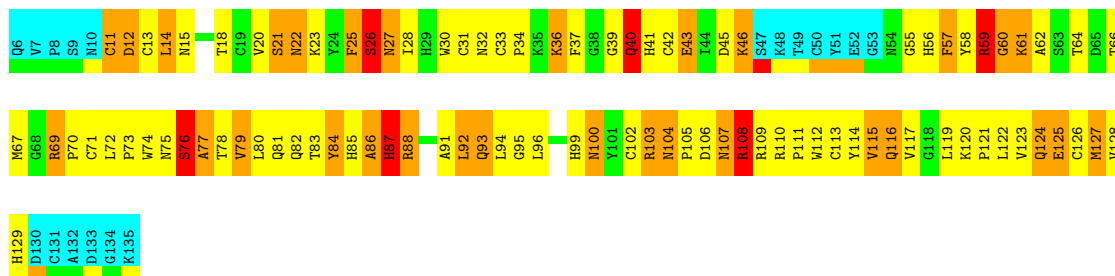
Chain A: 



### 4.2.7 Score per residue for model 7

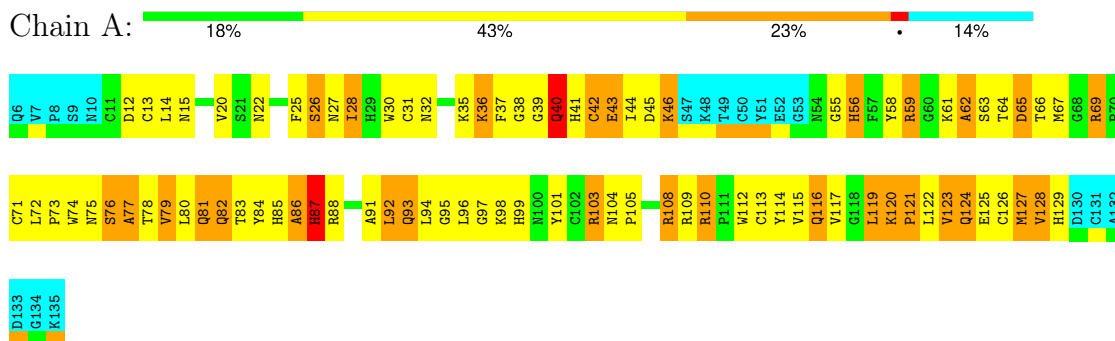
- Molecule 1: PLASMINOGEN ACTIVATOR

Chain A: 



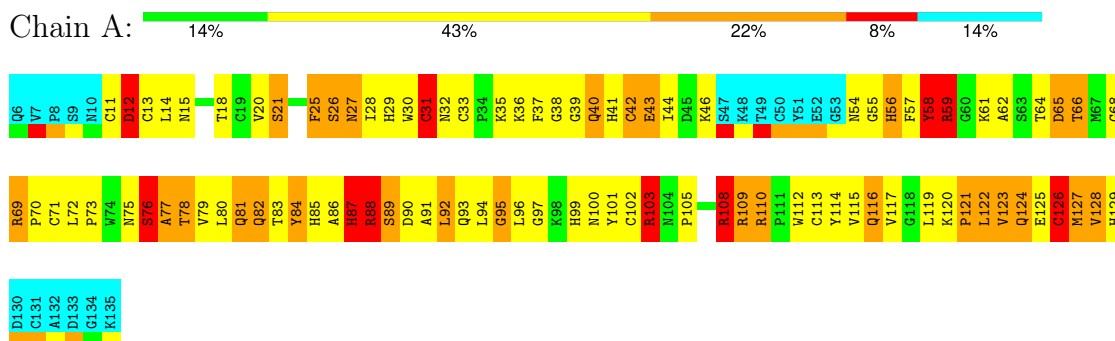
### 4.2.8 Score per residue for model 8

- Molecule 1: PLASMINOGEN ACTIVATOR



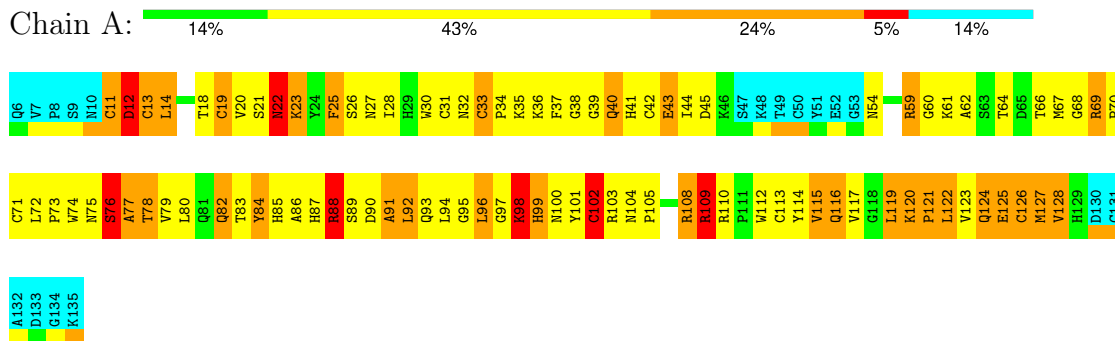
### 4.2.9 Score per residue for model 9

- Molecule 1: PLASMINOGEN ACTIVATOR



### 4.2.10 Score per residue for model 10

- Molecule 1: PLASMINOGEN ACTIVATOR

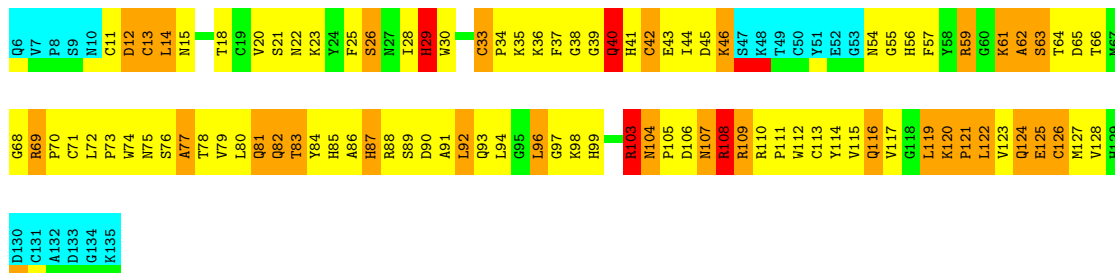




### 4.2.11 Score per residue for model 11 (medoid)

- Molecule 1: PLASMINOGEN ACTIVATOR

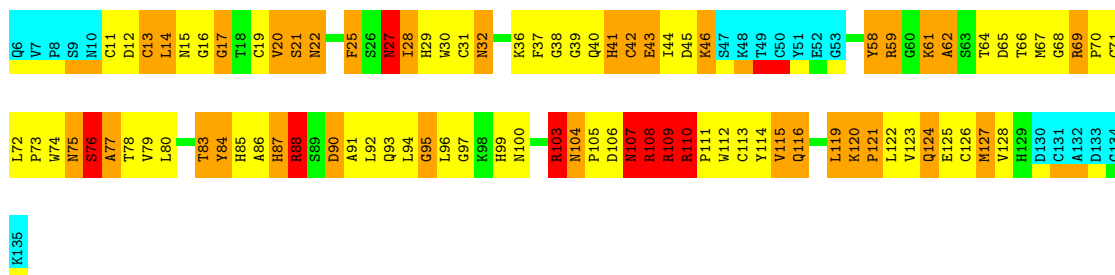
Chain A:  12% 48% 23% 14%



### 4.2.12 Score per residue for model 12

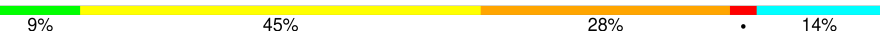
- Molecule 1: PLASMINOGEN ACTIVATOR

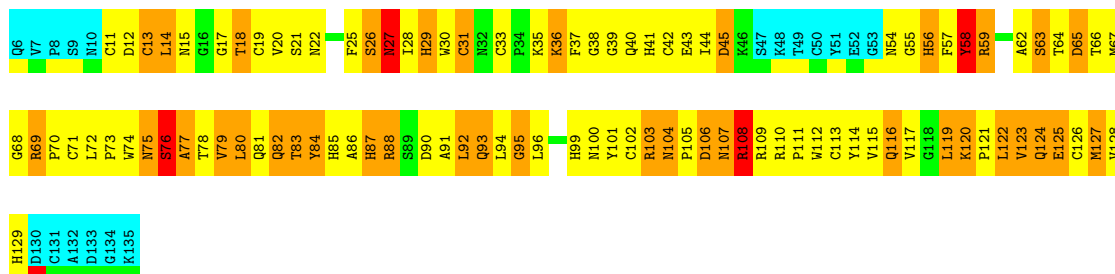
Chain A:  17% 38% 25% 6% 14%



### 4.2.13 Score per residue for model 13

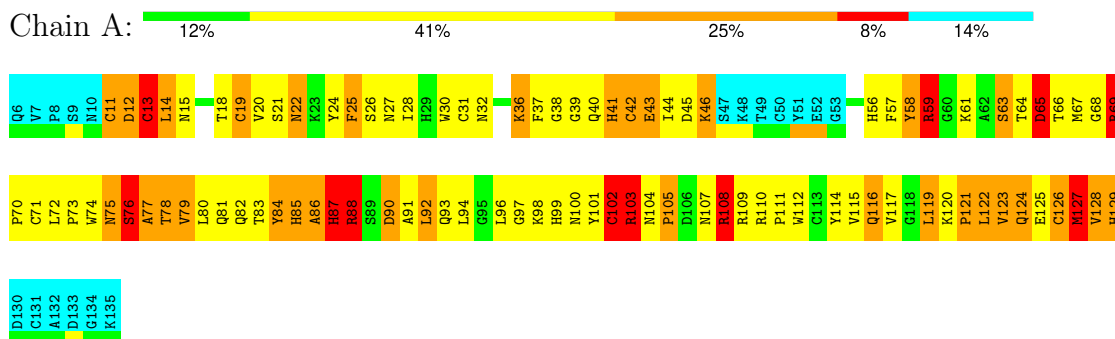
- Molecule 1: PLASMINOGEN ACTIVATOR

Chain A:  9% 45% 28% 14%



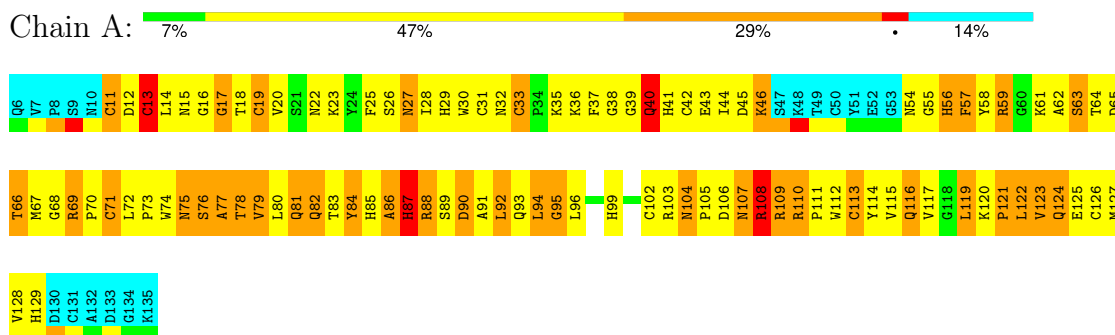
## 4.2.14 Score per residue for model 14

## • Molecule 1: PLASMINOGEN ACTIVATOR



## 4.2.15 Score per residue for model 15

## • Molecule 1: PLASMINOGEN ACTIVATOR



## 5 Refinement protocol and experimental data overview

Of the ? calculated structures, 15 were deposited, based on the following criterion: ?.

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

| Software name | Classification | Version |
|---------------|----------------|---------|
| X-PLOR        | refinement     |         |

No chemical shift data was provided.

## 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: FUC

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

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   | 6.8±0.4   |
| All | All   | 0         | 102       |

There are no bond-length outliers.

There are no bond-angle outliers.

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     | 59  | ARG  | Sidechain | 15             |
| 1   | A     | 88  | ARG  | Sidechain | 15             |
| 1   | A     | 108 | ARG  | Sidechain | 15             |
| 1   | A     | 109 | ARG  | Sidechain | 15             |
| 1   | A     | 110 | ARG  | Sidechain | 15             |
| 1   | A     | 69  | ARG  | Sidechain | 14             |
| 1   | A     | 103 | ARG  | Sidechain | 13             |

### 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     | 894   | 0        | 840      | 163±13  |
| 2   | A     | 10    | 0        | 10       | 1±1     |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes |
|-----|-------|-------|----------|----------|---------|
| All | All   | 13560 | 0        | 12750    | 2451    |

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 93.

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

| Atom-1           | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|------------------|------------------|----------|-------------|--------|-------|
|                  |                  |          |             | Worst  | Total |
| 1:A:13:CYS:SG    | 1:A:33:CYS:SG    | 1.07     | 2.52        | 7      | 5     |
| 1:A:94:LEU:HD13  | 1:A:105:PRO:CB   | 1.00     | 1.86        | 3      | 2     |
| 1:A:88:ARG:CZ    | 1:A:91:ALA:HB2   | 1.00     | 1.87        | 10     | 2     |
| 1:A:25:PHE:CD2   | 1:A:28:ILE:HD13  | 0.99     | 1.93        | 10     | 1     |
| 1:A:27:ASN:O     | 1:A:28:ILE:HD13  | 0.96     | 1.60        | 14     | 4     |
| 1:A:66:THR:HG23  | 1:A:125:GLU:O    | 0.94     | 1.62        | 15     | 6     |
| 1:A:20:VAL:HG21  | 1:A:30:TRP:CE2   | 0.94     | 1.97        | 3      | 7     |
| 1:A:114:TYR:CE1  | 1:A:123:VAL:HG12 | 0.89     | 2.02        | 8      | 9     |
| 1:A:91:ALA:O     | 1:A:96:LEU:HD12  | 0.88     | 1.68        | 14     | 4     |
| 1:A:119:LEU:HD13 | 1:A:119:LEU:N    | 0.87     | 1.85        | 14     | 5     |
| 1:A:20:VAL:HG22  | 1:A:30:TRP:O     | 0.87     | 1.69        | 13     | 8     |
| 1:A:86:ALA:HB2   | 1:A:97:GLY:O     | 0.86     | 1.70        | 11     | 6     |
| 1:A:71:CYS:CB    | 1:A:115:VAL:HG12 | 0.84     | 2.02        | 13     | 1     |
| 1:A:14:LEU:HD13  | 1:A:41:HIS:O     | 0.84     | 1.71        | 13     | 1     |
| 1:A:119:LEU:HD22 | 1:A:119:LEU:O    | 0.84     | 1.72        | 1      | 5     |
| 1:A:18:THR:HG21  | 2:A:136:FUC:O2   | 0.83     | 1.73        | 10     | 3     |
| 1:A:33:CYS:SG    | 1:A:37:PHE:CB    | 0.83     | 2.67        | 11     | 3     |
| 1:A:42:CYS:SG    | 1:A:42:CYS:O     | 0.82     | 2.37        | 11     | 2     |
| 1:A:94:LEU:HD22  | 1:A:94:LEU:N     | 0.81     | 1.90        | 6      | 12    |
| 1:A:19:CYS:SG    | 1:A:31:CYS:SG    | 0.81     | 2.78        | 10     | 1     |
| 1:A:72:LEU:HD21  | 1:A:116:GLN:HG3  | 0.81     | 1.52        | 13     | 3     |
| 1:A:120:LYS:HD2  | 1:A:122:LEU:HD23 | 0.81     | 1.50        | 11     | 1     |
| 1:A:66:THR:HG22  | 1:A:127:MET:HG2  | 0.81     | 1.51        | 1      | 4     |
| 1:A:119:LEU:HD22 | 1:A:120:LYS:N    | 0.81     | 1.90        | 14     | 5     |
| 1:A:80:LEU:HD23  | 1:A:85:HIS:CD2   | 0.80     | 2.10        | 2      | 10    |
| 1:A:66:THR:HG22  | 1:A:127:MET:CG   | 0.80     | 2.05        | 1      | 3     |
| 1:A:14:LEU:HD12  | 1:A:41:HIS:HB2   | 0.80     | 1.53        | 1      | 3     |
| 1:A:14:LEU:HD12  | 1:A:15:ASN:N     | 0.80     | 1.91        | 9      | 5     |
| 1:A:93:GLN:C     | 1:A:94:LEU:HD13  | 0.80     | 1.97        | 6      | 1     |
| 1:A:37:PHE:CB    | 1:A:42:CYS:SG    | 0.80     | 2.70        | 5      | 9     |
| 1:A:62:ALA:HB1   | 1:A:128:VAL:CG2  | 0.79     | 2.07        | 15     | 1     |
| 1:A:71:CYS:HA    | 1:A:115:VAL:HG23 | 0.79     | 1.52        | 14     | 4     |
| 1:A:99:HIS:HE2   | 1:A:101:TYR:CB   | 0.79     | 1.90        | 6      | 2     |
| 1:A:119:LEU:C    | 1:A:119:LEU:HD22 | 0.78     | 1.99        | 11     | 3     |

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| Atom-1           | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|------------------|------------------|----------|-------------|--------|-------|
|                  |                  |          |             | Worst  | Total |
| 1:A:79:VAL:HG22  | 1:A:85:HIS:CB    | 0.78     | 2.08        | 7      | 15    |
| 1:A:20:VAL:HG21  | 1:A:30:TRP:NE1   | 0.78     | 1.92        | 2      | 11    |
| 1:A:33:CYS:SG    | 1:A:37:PHE:HB2   | 0.77     | 2.18        | 11     | 3     |
| 1:A:91:ALA:HB1   | 1:A:96:LEU:HD12  | 0.77     | 1.56        | 7      | 4     |
| 1:A:118:GLY:O    | 1:A:119:LEU:HD23 | 0.77     | 1.79        | 3      | 1     |
| 1:A:12:ASP:O     | 1:A:13:CYS:SG    | 0.77     | 2.43        | 13     | 7     |
| 1:A:64:THR:O     | 1:A:126:CYS:SG   | 0.77     | 2.43        | 15     | 3     |
| 1:A:119:LEU:HD22 | 1:A:119:LEU:C    | 0.77     | 2.00        | 6      | 7     |
| 1:A:118:GLY:C    | 1:A:119:LEU:HD23 | 0.77     | 1.99        | 3      | 1     |
| 1:A:65:ASP:O     | 1:A:127:MET:SD   | 0.77     | 2.42        | 3      | 1     |
| 1:A:37:PHE:HB3   | 1:A:42:CYS:SG    | 0.77     | 2.19        | 2      | 8     |
| 1:A:88:ARG:NH1   | 1:A:91:ALA:HB2   | 0.76     | 1.94        | 10     | 1     |
| 1:A:124:GLN:OE1  | 1:A:126:CYS:SG   | 0.76     | 2.43        | 8      | 2     |
| 1:A:79:VAL:HG22  | 1:A:85:HIS:HB3   | 0.76     | 1.55        | 10     | 8     |
| 1:A:93:GLN:C     | 1:A:94:LEU:HD23  | 0.76     | 2.00        | 2      | 2     |
| 1:A:14:LEU:HD12  | 1:A:41:HIS:CB    | 0.76     | 2.11        | 14     | 4     |
| 1:A:12:ASP:O     | 1:A:31:CYS:SG    | 0.75     | 2.44        | 8      | 2     |
| 1:A:66:THR:HG22  | 1:A:125:GLU:O    | 0.75     | 1.81        | 10     | 2     |
| 1:A:88:ARG:HG2   | 1:A:91:ALA:HB2   | 0.75     | 1.56        | 14     | 1     |
| 1:A:63:SER:O     | 1:A:102:CYS:SG   | 0.75     | 2.44        | 5      | 2     |
| 1:A:65:ASP:CG    | 1:A:115:VAL:HG21 | 0.75     | 2.01        | 6      | 1     |
| 1:A:14:LEU:HD22  | 1:A:43:GLU:CD    | 0.75     | 2.02        | 11     | 1     |
| 1:A:102:CYS:SG   | 1:A:111:PRO:C    | 0.74     | 2.65        | 6      | 3     |
| 1:A:94:LEU:HD12  | 1:A:105:PRO:HA   | 0.74     | 1.58        | 14     | 1     |
| 1:A:102:CYS:SG   | 1:A:112:TRP:O    | 0.74     | 2.45        | 4      | 2     |
| 1:A:126:CYS:SG   | 1:A:126:CYS:O    | 0.74     | 2.46        | 1      | 1     |
| 1:A:12:ASP:C     | 1:A:31:CYS:SG    | 0.73     | 2.66        | 8      | 3     |
| 1:A:83:THR:HG23  | 1:A:88:ARG:NH2   | 0.73     | 1.99        | 15     | 2     |
| 1:A:77:ALA:HA    | 1:A:80:LEU:HD12  | 0.73     | 1.61        | 5      | 5     |
| 1:A:94:LEU:HD13  | 1:A:105:PRO:HB3  | 0.73     | 1.59        | 3      | 1     |
| 1:A:71:CYS:HB2   | 1:A:115:VAL:HG12 | 0.73     | 1.60        | 13     | 1     |
| 1:A:117:VAL:HG12 | 1:A:117:VAL:O    | 0.73     | 1.84        | 8      | 13    |
| 1:A:28:ILE:HG22  | 1:A:28:ILE:O     | 0.72     | 1.84        | 1      | 3     |
| 1:A:93:GLN:O     | 1:A:94:LEU:HD13  | 0.72     | 1.83        | 6      | 1     |
| 1:A:71:CYS:SG    | 1:A:115:VAL:HB   | 0.72     | 2.24        | 7      | 12    |
| 1:A:12:ASP:C     | 1:A:13:CYS:SG    | 0.72     | 2.67        | 15     | 4     |
| 1:A:27:ASN:C     | 1:A:28:ILE:HD13  | 0.72     | 2.04        | 14     | 3     |
| 1:A:128:VAL:HG22 | 1:A:128:VAL:O    | 0.71     | 1.85        | 10     | 7     |
| 1:A:91:ALA:HB1   | 1:A:96:LEU:CD1   | 0.71     | 2.15        | 7      | 4     |
| 1:A:80:LEU:HD22  | 1:A:87:HIS:ND1   | 0.71     | 1.99        | 14     | 1     |
| 1:A:94:LEU:HD23  | 1:A:94:LEU:N     | 0.71     | 2.00        | 2      | 2     |

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| Atom-1           | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|------------------|------------------|----------|-------------|--------|-------|
|                  |                  |          |             | Worst  | Total |
| 1:A:76:SER:O     | 1:A:79:VAL:HG12  | 0.71     | 1.85        | 10     | 5     |
| 1:A:66:THR:HA    | 1:A:127:MET:SD   | 0.71     | 2.26        | 9      | 3     |
| 1:A:65:ASP:OD1   | 1:A:113:CYS:SG   | 0.71     | 2.49        | 2      | 1     |
| 1:A:102:CYS:SG   | 1:A:111:PRO:O    | 0.70     | 2.49        | 4      | 1     |
| 1:A:123:VAL:HG23 | 1:A:123:VAL:O    | 0.70     | 1.84        | 10     | 5     |
| 1:A:85:HIS:O     | 1:A:86:ALA:HB3   | 0.70     | 1.87        | 15     | 7     |
| 1:A:14:LEU:HD13  | 1:A:43:GLU:CG    | 0.70     | 2.16        | 10     | 1     |
| 1:A:13:CYS:SG    | 1:A:42:CYS:HB2   | 0.70     | 2.26        | 5      | 6     |
| 1:A:65:ASP:OD2   | 1:A:115:VAL:HG21 | 0.70     | 1.86        | 6      | 4     |
| 1:A:72:LEU:HD11  | 1:A:116:GLN:N    | 0.70     | 2.01        | 3      | 15    |
| 1:A:14:LEU:HD11  | 1:A:43:GLU:HA    | 0.70     | 1.64        | 8      | 5     |
| 1:A:79:VAL:HG23  | 1:A:114:TYR:CD2  | 0.70     | 2.22        | 11     | 5     |
| 1:A:73:PRO:O     | 1:A:79:VAL:HG11  | 0.69     | 1.86        | 1      | 15    |
| 1:A:18:THR:O     | 1:A:31:CYS:SG    | 0.69     | 2.50        | 13     | 2     |
| 1:A:102:CYS:SG   | 1:A:112:TRP:C    | 0.69     | 2.70        | 4      | 5     |
| 1:A:128:VAL:O    | 1:A:128:VAL:HG23 | 0.69     | 1.87        | 4      | 1     |
| 1:A:114:TYR:CD1  | 1:A:123:VAL:HG12 | 0.69     | 2.22        | 6      | 6     |
| 1:A:11:CYS:SG    | 1:A:20:VAL:O     | 0.69     | 2.50        | 14     | 2     |
| 1:A:74:TRP:CD2   | 1:A:96:LEU:HD23  | 0.69     | 2.22        | 1      | 2     |
| 1:A:67:MET:SD    | 1:A:69:ARG:NH2   | 0.69     | 2.66        | 15     | 1     |
| 1:A:79:VAL:HG22  | 1:A:85:HIS:HB2   | 0.68     | 1.65        | 8      | 13    |
| 1:A:14:LEU:HD12  | 1:A:41:HIS:HB3   | 0.68     | 1.64        | 14     | 2     |
| 1:A:62:ALA:HB1   | 1:A:128:VAL:HG22 | 0.68     | 1.64        | 15     | 1     |
| 1:A:66:THR:HG23  | 1:A:126:CYS:C    | 0.68     | 2.09        | 2      | 1     |
| 1:A:13:CYS:HB3   | 1:A:33:CYS:SG    | 0.68     | 2.27        | 15     | 1     |
| 1:A:82:GLN:NE2   | 1:A:114:TYR:CG   | 0.68     | 2.62        | 8      | 1     |
| 1:A:13:CYS:SG    | 1:A:33:CYS:HB3   | 0.67     | 2.29        | 10     | 1     |
| 1:A:13:CYS:SG    | 1:A:17:GLY:HA3   | 0.67     | 2.29        | 13     | 2     |
| 1:A:89:SER:O     | 1:A:92:LEU:HD21  | 0.67     | 1.89        | 4      | 1     |
| 1:A:102:CYS:SG   | 1:A:112:TRP:N    | 0.67     | 2.67        | 6      | 3     |
| 1:A:92:LEU:H     | 1:A:92:LEU:HD13  | 0.67     | 1.50        | 3      | 11    |
| 1:A:99:HIS:NE2   | 1:A:101:TYR:CD2  | 0.67     | 2.63        | 10     | 2     |
| 1:A:102:CYS:SG   | 1:A:111:PRO:HB2  | 0.67     | 2.30        | 6      | 1     |
| 1:A:102:CYS:SG   | 1:A:113:CYS:HB3  | 0.67     | 2.30        | 10     | 3     |
| 1:A:99:HIS:NE2   | 1:A:101:TYR:CG   | 0.67     | 2.60        | 6      | 3     |
| 1:A:94:LEU:HD13  | 1:A:105:PRO:HB2  | 0.66     | 1.64        | 3      | 1     |
| 1:A:14:LEU:C     | 1:A:14:LEU:HD12  | 0.66     | 2.10        | 4      | 2     |
| 1:A:62:ALA:CB    | 1:A:128:VAL:HG21 | 0.66     | 2.20        | 12     | 1     |
| 1:A:85:HIS:CD2   | 1:A:87:HIS:N     | 0.66     | 2.63        | 12     | 14    |
| 1:A:89:SER:C     | 1:A:92:LEU:HD21  | 0.66     | 2.10        | 4      | 2     |
| 1:A:20:VAL:HG21  | 1:A:30:TRP:CD1   | 0.66     | 2.25        | 6      | 2     |

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| Atom-1           | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|------------------|-----------------|----------|-------------|--------|-------|
|                  |                 |          |             | Worst  | Total |
| 1:A:85:HIS:O     | 1:A:86:ALA:CB   | 0.66     | 2.44        | 8      | 7     |
| 1:A:83:THR:HG23  | 1:A:88:ARG:CZ   | 0.66     | 2.21        | 2      | 1     |
| 1:A:80:LEU:HD21  | 1:A:86:ALA:O    | 0.66     | 1.91        | 13     | 1     |
| 1:A:113:CYS:HB3  | 1:A:126:CYS:SG  | 0.65     | 2.31        | 4      | 2     |
| 1:A:80:LEU:HD22  | 1:A:87:HIS:CG   | 0.65     | 2.26        | 14     | 1     |
| 1:A:14:LEU:HD12  | 1:A:14:LEU:C    | 0.65     | 2.11        | 6      | 3     |
| 1:A:25:PHE:CD1   | 1:A:25:PHE:O    | 0.65     | 2.50        | 3      | 2     |
| 1:A:74:TRP:CE3   | 1:A:96:LEU:CD2  | 0.65     | 2.80        | 11     | 3     |
| 1:A:25:PHE:CD1   | 1:A:28:ILE:CG2  | 0.65     | 2.80        | 10     | 1     |
| 1:A:82:GLN:NE2   | 1:A:114:TYR:CE2 | 0.65     | 2.65        | 13     | 1     |
| 1:A:25:PHE:CD1   | 1:A:25:PHE:N    | 0.65     | 2.65        | 1      | 5     |
| 1:A:119:LEU:HD13 | 1:A:119:LEU:H   | 0.65     | 1.50        | 15     | 10    |
| 1:A:74:TRP:CZ3   | 1:A:103:ARG:NH2 | 0.65     | 2.65        | 12     | 1     |
| 1:A:86:ALA:O     | 1:A:87:HIS:CD2  | 0.64     | 2.50        | 12     | 14    |
| 1:A:22:ASN:CB    | 1:A:25:PHE:CD2  | 0.64     | 2.80        | 12     | 1     |
| 1:A:102:CYS:SG   | 1:A:112:TRP:CA  | 0.64     | 2.86        | 14     | 3     |
| 1:A:14:LEU:HD13  | 1:A:43:GLU:HG2  | 0.64     | 1.68        | 10     | 1     |
| 1:A:84:TYR:CD2   | 1:A:94:LEU:CD1  | 0.64     | 2.80        | 3      | 1     |
| 1:A:82:GLN:NE2   | 1:A:114:TYR:CD2 | 0.64     | 2.66        | 8      | 1     |
| 1:A:114:TYR:CE1  | 1:A:123:VAL:CG1 | 0.64     | 2.81        | 6      | 7     |
| 1:A:20:VAL:CG2   | 1:A:30:TRP:CD1  | 0.64     | 2.81        | 12     | 3     |
| 1:A:84:TYR:CE1   | 1:A:105:PRO:CB  | 0.64     | 2.80        | 12     | 1     |
| 1:A:86:ALA:O     | 1:A:87:HIS:CG   | 0.64     | 2.51        | 13     | 11    |
| 1:A:99:HIS:CD2   | 1:A:100:ASN:N   | 0.64     | 2.66        | 6      | 2     |
| 1:A:84:TYR:CE1   | 1:A:90:ASP:CB   | 0.64     | 2.80        | 4      | 1     |
| 1:A:103:ARG:NH2  | 1:A:112:TRP:CZ3 | 0.64     | 2.66        | 12     | 1     |
| 1:A:85:HIS:CE1   | 1:A:88:ARG:CG   | 0.64     | 2.81        | 7      | 3     |
| 1:A:14:LEU:HD13  | 1:A:43:GLU:HB3  | 0.63     | 1.70        | 10     | 4     |
| 1:A:85:HIS:CD2   | 1:A:86:ALA:N    | 0.63     | 2.67        | 5      | 9     |
| 1:A:15:ASN:CB    | 1:A:37:PHE:CE2  | 0.63     | 2.81        | 14     | 1     |
| 1:A:74:TRP:CZ3   | 1:A:96:LEU:CD2  | 0.63     | 2.81        | 5      | 2     |
| 1:A:94:LEU:HD12  | 1:A:105:PRO:CA  | 0.63     | 2.24        | 14     | 1     |
| 1:A:99:HIS:NE2   | 1:A:101:TYR:CD1 | 0.63     | 2.67        | 6      | 1     |
| 1:A:99:HIS:CG    | 1:A:100:ASN:N   | 0.63     | 2.66        | 10     | 3     |
| 1:A:20:VAL:HG21  | 1:A:30:TRP:CD2  | 0.63     | 2.28        | 9      | 2     |
| 1:A:14:LEU:HD13  | 1:A:43:GLU:HB2  | 0.63     | 1.68        | 11     | 1     |
| 1:A:14:LEU:HD22  | 1:A:43:GLU:CB   | 0.63     | 2.23        | 14     | 1     |
| 1:A:63:SER:HA    | 1:A:102:CYS:SG  | 0.62     | 2.34        | 15     | 1     |
| 1:A:14:LEU:CD1   | 1:A:15:ASN:N    | 0.62     | 2.62        | 9      | 5     |
| 1:A:117:VAL:HG21 | 1:A:122:LEU:CB  | 0.62     | 2.25        | 11     | 6     |
| 1:A:84:TYR:CD2   | 1:A:88:ARG:NH1  | 0.62     | 2.66        | 1      | 1     |

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| Atom-1           | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|------------------|------------------|----------|-------------|--------|-------|
|                  |                  |          |             | Worst  | Total |
| 1:A:22:ASN:HB3   | 1:A:25:PHE:CD2   | 0.62     | 2.29        | 12     | 1     |
| 1:A:33:CYS:SG    | 1:A:34:PRO:HD2   | 0.62     | 2.35        | 2      | 1     |
| 1:A:72:LEU:HD12  | 1:A:114:TYR:O    | 0.62     | 1.94        | 15     | 6     |
| 1:A:91:ALA:CB    | 1:A:96:LEU:HD12  | 0.62     | 2.25        | 8      | 6     |
| 1:A:119:LEU:N    | 1:A:119:LEU:CD1  | 0.62     | 2.60        | 10     | 10    |
| 1:A:115:VAL:HG13 | 1:A:124:GLN:NE2  | 0.62     | 2.10        | 10     | 3     |
| 1:A:37:PHE:C     | 1:A:42:CYS:SG    | 0.61     | 2.79        | 5      | 2     |
| 1:A:22:ASN:CB    | 1:A:28:ILE:CG1   | 0.61     | 2.77        | 10     | 1     |
| 1:A:25:PHE:CD2   | 1:A:28:ILE:CD1   | 0.61     | 2.79        | 10     | 1     |
| 1:A:84:TYR:CE2   | 1:A:105:PRO:CG   | 0.61     | 2.83        | 1      | 1     |
| 1:A:104:ASN:N    | 1:A:105:PRO:CD   | 0.61     | 2.63        | 10     | 7     |
| 1:A:63:SER:C     | 1:A:102:CYS:SG   | 0.61     | 2.79        | 15     | 1     |
| 1:A:103:ARG:NH1  | 1:A:105:PRO:CG   | 0.61     | 2.64        | 12     | 1     |
| 1:A:92:LEU:HD22  | 1:A:93:GLN:N     | 0.61     | 2.11        | 7      | 11    |
| 1:A:85:HIS:O     | 1:A:96:LEU:HD13  | 0.61     | 1.95        | 9      | 2     |
| 1:A:94:LEU:N     | 1:A:94:LEU:CD2   | 0.61     | 2.63        | 14     | 12    |
| 1:A:88:ARG:CZ    | 1:A:88:ARG:CB    | 0.61     | 2.79        | 6      | 1     |
| 1:A:74:TRP:CE3   | 1:A:96:LEU:HD22  | 0.60     | 2.31        | 5      | 8     |
| 1:A:74:TRP:CD1   | 1:A:96:LEU:O     | 0.60     | 2.55        | 2      | 2     |
| 1:A:14:LEU:HD13  | 1:A:43:GLU:CB    | 0.60     | 2.25        | 10     | 2     |
| 1:A:22:ASN:HB3   | 1:A:28:ILE:HG21  | 0.60     | 1.72        | 13     | 3     |
| 1:A:72:LEU:CD1   | 1:A:116:GLN:N    | 0.60     | 2.64        | 10     | 15    |
| 1:A:30:TRP:CD1   | 1:A:30:TRP:O     | 0.60     | 2.55        | 6      | 4     |
| 1:A:80:LEU:HA    | 1:A:85:HIS:CG    | 0.60     | 2.31        | 4      | 14    |
| 1:A:99:HIS:CE1   | 1:A:100:ASN:O    | 0.60     | 2.54        | 1      | 1     |
| 1:A:88:ARG:CZ    | 1:A:91:ALA:CB    | 0.60     | 2.79        | 12     | 1     |
| 1:A:88:ARG:CG    | 1:A:91:ALA:HB2   | 0.60     | 2.26        | 14     | 2     |
| 1:A:79:VAL:HG23  | 1:A:82:GLN:HE21  | 0.60     | 1.56        | 8      | 1     |
| 1:A:78:THR:HG22  | 1:A:121:PRO:CD   | 0.60     | 2.27        | 10     | 4     |
| 1:A:88:ARG:HH22  | 1:A:96:LEU:HD13  | 0.60     | 1.56        | 1      | 1     |
| 1:A:96:LEU:O     | 1:A:99:HIS:CE1   | 0.60     | 2.54        | 2      | 1     |
| 1:A:29:HIS:N     | 1:A:29:HIS:CD2   | 0.60     | 2.70        | 4      | 3     |
| 1:A:80:LEU:O     | 1:A:85:HIS:CE1   | 0.59     | 2.55        | 14     | 6     |
| 1:A:22:ASN:CB    | 1:A:28:ILE:HG13  | 0.59     | 2.27        | 10     | 1     |
| 1:A:71:CYS:SG    | 1:A:115:VAL:HG12 | 0.59     | 2.37        | 13     | 1     |
| 1:A:83:THR:O     | 1:A:84:TYR:C     | 0.59     | 2.41        | 6      | 8     |
| 1:A:94:LEU:CD2   | 1:A:94:LEU:N     | 0.59     | 2.65        | 4      | 1     |
| 1:A:22:ASN:OD1   | 1:A:25:PHE:CD2   | 0.59     | 2.55        | 7      | 2     |
| 1:A:13:CYS:SG    | 1:A:42:CYS:SG    | 0.59     | 3.01        | 7      | 1     |
| 1:A:78:THR:HG22  | 1:A:121:PRO:CG   | 0.59     | 2.28        | 10     | 8     |
| 1:A:39:GLY:O     | 1:A:41:HIS:N     | 0.59     | 2.36        | 2      | 15    |

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| Atom-1           | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|------------------|------------------|----------|-------------|--------|-------|
|                  |                  |          |             | Worst  | Total |
| 1:A:94:LEU:CD1   | 1:A:105:PRO:CB   | 0.59     | 2.80        | 2      | 2     |
| 1:A:78:THR:CG2   | 1:A:121:PRO:CG   | 0.59     | 2.81        | 10     | 11    |
| 1:A:88:ARG:O     | 1:A:89:SER:CB    | 0.59     | 2.50        | 5      | 2     |
| 1:A:84:TYR:CE1   | 1:A:94:LEU:CD1   | 0.59     | 2.86        | 2      | 1     |
| 1:A:91:ALA:CB    | 1:A:96:LEU:CD1   | 0.59     | 2.81        | 7      | 5     |
| 1:A:85:HIS:NE2   | 1:A:87:HIS:CB    | 0.59     | 2.66        | 5      | 13    |
| 1:A:99:HIS:HE2   | 1:A:101:TYR:HB2  | 0.59     | 1.57        | 6      | 3     |
| 1:A:14:LEU:HD12  | 1:A:43:GLU:HA    | 0.59     | 1.73        | 5      | 3     |
| 1:A:82:GLN:OE1   | 1:A:114:TYR:CE1  | 0.59     | 2.55        | 2      | 1     |
| 1:A:71:CYS:SG    | 1:A:115:VAL:CB   | 0.59     | 2.91        | 7      | 9     |
| 1:A:108:ARG:NH2  | 1:A:123:VAL:HG21 | 0.59     | 2.12        | 4      | 1     |
| 1:A:14:LEU:HD13  | 1:A:14:LEU:N     | 0.59     | 2.13        | 13     | 1     |
| 1:A:14:LEU:C     | 1:A:14:LEU:CD2   | 0.59     | 2.71        | 13     | 1     |
| 1:A:94:LEU:HD22  | 1:A:105:PRO:HB3  | 0.59     | 1.75        | 3      | 1     |
| 1:A:88:ARG:CD    | 1:A:91:ALA:HB2   | 0.58     | 2.27        | 5      | 1     |
| 1:A:92:LEU:H     | 1:A:92:LEU:HD23  | 0.58     | 1.56        | 6      | 1     |
| 1:A:28:ILE:O     | 1:A:30:TRP:CE3   | 0.58     | 2.56        | 7      | 2     |
| 1:A:92:LEU:HD22  | 1:A:92:LEU:N     | 0.58     | 2.12        | 1      | 11    |
| 1:A:22:ASN:CB    | 1:A:28:ILE:HG21  | 0.58     | 2.28        | 3      | 3     |
| 1:A:112:TRP:O    | 1:A:112:TRP:CE3  | 0.58     | 2.56        | 6      | 2     |
| 1:A:79:VAL:HG23  | 1:A:114:TYR:HD2  | 0.58     | 1.56        | 11     | 1     |
| 1:A:28:ILE:O     | 1:A:30:TRP:CZ3   | 0.58     | 2.56        | 7      | 1     |
| 1:A:82:GLN:NE2   | 1:A:84:TYR:O     | 0.58     | 2.37        | 8      | 1     |
| 1:A:25:PHE:O     | 1:A:25:PHE:CG    | 0.58     | 2.57        | 3      | 1     |
| 1:A:106:ASP:O    | 1:A:108:ARG:N    | 0.58     | 2.37        | 11     | 4     |
| 1:A:115:VAL:HG12 | 1:A:124:GLN:HE21 | 0.58     | 1.58        | 9      | 4     |
| 1:A:117:VAL:HG21 | 1:A:122:LEU:HB3  | 0.58     | 1.75        | 9      | 3     |
| 1:A:25:PHE:CD1   | 1:A:28:ILE:HB    | 0.58     | 2.33        | 3      | 1     |
| 1:A:96:LEU:O     | 1:A:99:HIS:CD2   | 0.58     | 2.57        | 4      | 4     |
| 1:A:18:THR:HG22  | 1:A:19:CYS:N     | 0.58     | 2.14        | 5      | 3     |
| 1:A:13:CYS:HA    | 1:A:41:HIS:O     | 0.58     | 1.98        | 13     | 12    |
| 1:A:86:ALA:O     | 1:A:87:HIS:CB    | 0.58     | 2.52        | 13     | 1     |
| 1:A:85:HIS:CD2   | 1:A:87:HIS:HB2   | 0.58     | 2.34        | 7      | 14    |
| 1:A:104:ASN:OD1  | 1:A:112:TRP:CD1  | 0.58     | 2.57        | 4      | 3     |
| 1:A:36:LYS:CD    | 1:A:36:LYS:N     | 0.58     | 2.66        | 5      | 1     |
| 1:A:66:THR:C     | 1:A:127:MET:SD   | 0.58     | 2.82        | 10     | 1     |
| 1:A:84:TYR:CD2   | 1:A:105:PRO:CG   | 0.58     | 2.86        | 1      | 1     |
| 1:A:12:ASP:OD1   | 1:A:41:HIS:CE1   | 0.58     | 2.57        | 2      | 1     |
| 1:A:93:GLN:C     | 1:A:94:LEU:HD22  | 0.58     | 2.20        | 14     | 3     |
| 1:A:119:LEU:HD22 | 1:A:120:LYS:CG   | 0.57     | 2.29        | 2      | 1     |
| 1:A:79:VAL:O     | 1:A:82:GLN:CG    | 0.57     | 2.51        | 8      | 1     |

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| Atom-1          | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|-----------------|------------------|----------|-------------|--------|-------|
|                 |                  |          |             | Worst  | Total |
| 1:A:14:LEU:N    | 1:A:41:HIS:O     | 0.57     | 2.38        | 10     | 5     |
| 1:A:104:ASN:ND2 | 1:A:112:TRP:CD1  | 0.57     | 2.72        | 13     | 2     |
| 1:A:84:TYR:O    | 1:A:114:TYR:CE1  | 0.57     | 2.57        | 15     | 2     |
| 1:A:84:TYR:CD2  | 1:A:105:PRO:HG2  | 0.57     | 2.33        | 1      | 3     |
| 1:A:105:PRO:HG2 | 1:A:112:TRP:CH2  | 0.57     | 2.35        | 13     | 8     |
| 1:A:20:VAL:CG2  | 1:A:30:TRP:NE1   | 0.57     | 2.67        | 11     | 6     |
| 1:A:89:SER:O    | 1:A:90:ASP:CB    | 0.57     | 2.53        | 2      | 1     |
| 1:A:100:ASN:O   | 1:A:101:TYR:CD1  | 0.57     | 2.57        | 10     | 1     |
| 1:A:75:ASN:ND2  | 1:A:76:SER:N     | 0.57     | 2.53        | 15     | 2     |
| 1:A:30:TRP:O    | 1:A:30:TRP:CD1   | 0.57     | 2.57        | 3      | 4     |
| 1:A:84:TYR:CZ   | 1:A:94:LEU:HD11  | 0.57     | 2.35        | 3      | 1     |
| 1:A:25:PHE:HB3  | 1:A:28:ILE:HG22  | 0.57     | 1.75        | 15     | 3     |
| 1:A:20:VAL:HG23 | 1:A:30:TRP:CD1   | 0.57     | 2.35        | 12     | 1     |
| 1:A:119:LEU:C   | 1:A:119:LEU:CD2  | 0.57     | 2.74        | 11     | 9     |
| 1:A:65:ASP:CG   | 1:A:115:VAL:HG11 | 0.57     | 2.20        | 2      | 1     |
| 1:A:84:TYR:CZ   | 1:A:105:PRO:O    | 0.57     | 2.57        | 6      | 2     |
| 1:A:85:HIS:O    | 1:A:88:ARG:NH1   | 0.57     | 2.38        | 10     | 1     |
| 1:A:64:THR:HG21 | 1:A:68:GLY:O     | 0.57     | 1.99        | 2      | 5     |
| 1:A:12:ASP:O    | 1:A:41:HIS:CD2   | 0.56     | 2.57        | 1      | 1     |
| 1:A:88:ARG:NH2  | 1:A:96:LEU:HD13  | 0.56     | 2.14        | 1      | 1     |
| 1:A:14:LEU:HD21 | 1:A:43:GLU:HB3   | 0.56     | 1.75        | 3      | 3     |
| 1:A:66:THR:CG2  | 1:A:125:GLU:O    | 0.56     | 2.53        | 14     | 8     |
| 1:A:66:THR:CA   | 1:A:127:MET:SD   | 0.56     | 2.93        | 10     | 2     |
| 1:A:85:HIS:NE2  | 1:A:87:HIS:HB2   | 0.56     | 2.14        | 10     | 13    |
| 1:A:14:LEU:HD22 | 1:A:43:GLU:OE1   | 0.56     | 2.01        | 11     | 1     |
| 1:A:104:ASN:N   | 1:A:105:PRO:HD3  | 0.56     | 2.16        | 3      | 6     |
| 1:A:117:VAL:O   | 1:A:117:VAL:CG1  | 0.56     | 2.52        | 3      | 11    |
| 1:A:14:LEU:HD11 | 1:A:43:GLU:CB    | 0.56     | 2.31        | 6      | 6     |
| 1:A:91:ALA:CA   | 1:A:96:LEU:HD12  | 0.56     | 2.31        | 9      | 5     |
| 1:A:69:ARG:HD2  | 1:A:115:VAL:HG21 | 0.56     | 1.77        | 13     | 1     |
| 1:A:80:LEU:CD2  | 1:A:85:HIS:CD2   | 0.56     | 2.89        | 1      | 10    |
| 1:A:91:ALA:HA   | 1:A:96:LEU:HD12  | 0.56     | 1.77        | 9      | 7     |
| 1:A:84:TYR:CE1  | 1:A:90:ASP:HB3   | 0.56     | 2.35        | 4      | 4     |
| 1:A:84:TYR:CE2  | 1:A:105:PRO:HG2  | 0.56     | 2.35        | 1      | 1     |
| 1:A:125:GLU:O   | 1:A:126:CYS:C    | 0.56     | 2.43        | 14     | 13    |
| 1:A:94:LEU:HD22 | 1:A:94:LEU:H     | 0.56     | 1.60        | 10     | 3     |
| 1:A:92:LEU:HD13 | 1:A:92:LEU:N     | 0.56     | 2.15        | 13     | 10    |
| 1:A:85:HIS:CE1  | 1:A:88:ARG:HG3   | 0.56     | 2.36        | 3      | 2     |
| 1:A:25:PHE:O    | 1:A:26:SER:CB    | 0.56     | 2.53        | 3      | 5     |
| 1:A:94:LEU:CD1  | 1:A:105:PRO:HB2  | 0.56     | 2.31        | 2      | 1     |
| 1:A:25:PHE:CD1  | 1:A:28:ILE:HG23  | 0.56     | 2.35        | 10     | 1     |

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| Atom-1          | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|-----------------|------------------|----------|-------------|--------|-------|
|                 |                  |          |             | Worst  | Total |
| 1:A:108:ARG:NH2 | 1:A:123:VAL:CG2  | 0.56     | 2.69        | 4      | 2     |
| 1:A:71:CYS:SG   | 1:A:115:VAL:CA   | 0.56     | 2.93        | 7      | 2     |
| 1:A:63:SER:CB   | 1:A:100:ASN:ND2  | 0.56     | 2.69        | 13     | 1     |
| 1:A:33:CYS:CB   | 1:A:34:PRO:CD    | 0.56     | 2.83        | 2      | 1     |
| 1:A:74:TRP:CD1  | 1:A:99:HIS:O     | 0.56     | 2.59        | 2      | 3     |
| 1:A:55:GLY:O    | 1:A:56:HIS:CB    | 0.56     | 2.53        | 8      | 3     |
| 1:A:84:TYR:O    | 1:A:114:TYR:CE2  | 0.56     | 2.59        | 4      | 2     |
| 1:A:14:LEU:CD1  | 1:A:43:GLU:CB    | 0.55     | 2.85        | 2      | 3     |
| 1:A:94:LEU:N    | 1:A:94:LEU:HD22  | 0.55     | 2.14        | 4      | 1     |
| 1:A:88:ARG:HD2  | 1:A:91:ALA:HB2   | 0.55     | 1.77        | 5      | 1     |
| 1:A:26:SER:O    | 1:A:27:ASN:CB    | 0.55     | 2.53        | 6      | 4     |
| 1:A:108:ARG:O   | 1:A:109:ARG:CB   | 0.55     | 2.54        | 11     | 1     |
| 1:A:14:LEU:HD11 | 1:A:43:GLU:HB2   | 0.55     | 1.78        | 13     | 1     |
| 1:A:74:TRP:CE3  | 1:A:96:LEU:HD23  | 0.55     | 2.37        | 1      | 1     |
| 1:A:74:TRP:CE2  | 1:A:96:LEU:HD23  | 0.55     | 2.35        | 1      | 2     |
| 1:A:92:LEU:CD2  | 1:A:93:GLN:N     | 0.55     | 2.70        | 14     | 11    |
| 1:A:91:ALA:O    | 1:A:95:GLY:N     | 0.55     | 2.39        | 12     | 4     |
| 1:A:84:TYR:CE1  | 1:A:94:LEU:HD12  | 0.55     | 2.36        | 2      | 1     |
| 1:A:91:ALA:O    | 1:A:96:LEU:CD1   | 0.55     | 2.54        | 2      | 1     |
| 1:A:14:LEU:HD11 | 1:A:43:GLU:CA    | 0.55     | 2.32        | 8      | 5     |
| 1:A:112:TRP:CZ3 | 1:A:114:TYR:CE1  | 0.55     | 2.95        | 13     | 3     |
| 1:A:85:HIS:O    | 1:A:91:ALA:HB1   | 0.55     | 2.01        | 5      | 1     |
| 1:A:91:ALA:HB2  | 1:A:96:LEU:HD12  | 0.55     | 1.77        | 13     | 2     |
| 1:A:91:ALA:HA   | 1:A:96:LEU:CD1   | 0.55     | 2.31        | 1      | 6     |
| 1:A:99:HIS:N    | 1:A:99:HIS:CD2   | 0.55     | 2.74        | 9      | 5     |
| 1:A:84:TYR:CD1  | 1:A:105:PRO:CB   | 0.55     | 2.90        | 12     | 2     |
| 1:A:14:LEU:C    | 1:A:14:LEU:HD22  | 0.55     | 2.20        | 13     | 1     |
| 1:A:72:LEU:HD11 | 1:A:116:GLN:CA   | 0.55     | 2.31        | 13     | 13    |
| 1:A:76:SER:O    | 1:A:78:THR:N     | 0.55     | 2.40        | 11     | 15    |
| 1:A:84:TYR:CE2  | 1:A:88:ARG:NH1   | 0.55     | 2.75        | 1      | 1     |
| 1:A:82:GLN:CD   | 1:A:114:TYR:CE2  | 0.55     | 2.80        | 8      | 1     |
| 1:A:38:GLY:O    | 1:A:44:ILE:CG1   | 0.55     | 2.55        | 12     | 3     |
| 1:A:127:MET:O   | 1:A:128:VAL:HG12 | 0.55     | 2.01        | 9      | 1     |
| 1:A:84:TYR:CE1  | 1:A:88:ARG:NH1   | 0.55     | 2.75        | 14     | 1     |
| 1:A:105:PRO:HD2 | 1:A:112:TRP:CZ2  | 0.55     | 2.37        | 11     | 13    |
| 1:A:57:PHE:O    | 1:A:58:TYR:CB    | 0.55     | 2.54        | 4      | 2     |
| 1:A:84:TYR:CE2  | 1:A:94:LEU:HD11  | 0.55     | 2.37        | 3      | 1     |
| 1:A:85:HIS:NE2  | 1:A:87:HIS:O     | 0.55     | 2.39        | 10     | 3     |
| 1:A:113:CYS:O   | 1:A:115:VAL:HG12 | 0.55     | 2.02        | 2      | 1     |
| 1:A:123:VAL:CG2 | 1:A:123:VAL:O    | 0.55     | 2.55        | 8      | 7     |
| 1:A:112:TRP:CB  | 1:A:124:GLN:O    | 0.55     | 2.55        | 9      | 4     |

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| Atom-1           | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|------------------|------------------|----------|-------------|--------|-------|
|                  |                  |          |             | Worst  | Total |
| 1:A:14:LEU:CD1   | 1:A:41:HIS:O     | 0.55     | 2.53        | 13     | 2     |
| 1:A:123:VAL:O    | 1:A:123:VAL:CG2  | 0.54     | 2.55        | 10     | 5     |
| 1:A:86:ALA:CB    | 1:A:97:GLY:O     | 0.54     | 2.55        | 2      | 6     |
| 1:A:22:ASN:HB2   | 1:A:28:ILE:CG1   | 0.54     | 2.33        | 10     | 1     |
| 1:A:28:ILE:C     | 1:A:29:HIS:CG    | 0.54     | 2.81        | 11     | 1     |
| 1:A:15:ASN:HB3   | 1:A:37:PHE:CE2   | 0.54     | 2.37        | 14     | 1     |
| 1:A:108:ARG:HB2  | 1:A:112:TRP:CD1  | 0.54     | 2.38        | 2      | 4     |
| 1:A:113:CYS:SG   | 1:A:126:CYS:SG   | 0.54     | 3.05        | 5      | 1     |
| 1:A:105:PRO:HG2  | 1:A:112:TRP:CZ2  | 0.54     | 2.37        | 14     | 6     |
| 1:A:20:VAL:CG2   | 1:A:30:TRP:CE2   | 0.54     | 2.84        | 3      | 2     |
| 1:A:62:ALA:HB1   | 1:A:128:VAL:HG23 | 0.54     | 1.77        | 5      | 1     |
| 1:A:25:PHE:O     | 1:A:28:ILE:CG1   | 0.54     | 2.56        | 8      | 1     |
| 1:A:30:TRP:C     | 1:A:30:TRP:CD1   | 0.54     | 2.81        | 10     | 2     |
| 1:A:117:VAL:HG21 | 1:A:122:LEU:HB2  | 0.54     | 1.79        | 13     | 7     |
| 1:A:99:HIS:CD2   | 1:A:99:HIS:N     | 0.54     | 2.75        | 4      | 4     |
| 1:A:25:PHE:CD2   | 1:A:28:ILE:HG12  | 0.54     | 2.37        | 12     | 1     |
| 1:A:15:ASN:HB2   | 1:A:37:PHE:CE2   | 0.54     | 2.37        | 14     | 1     |
| 1:A:13:CYS:CA    | 1:A:41:HIS:O     | 0.54     | 2.55        | 14     | 4     |
| 1:A:96:LEU:O     | 1:A:99:HIS:NE2   | 0.54     | 2.41        | 12     | 8     |
| 1:A:25:PHE:CD1   | 1:A:28:ILE:CB    | 0.54     | 2.90        | 3      | 1     |
| 1:A:89:SER:O     | 1:A:92:LEU:HD22  | 0.54     | 2.02        | 6      | 1     |
| 1:A:36:LYS:CD    | 1:A:37:PHE:CE1   | 0.54     | 2.91        | 3      | 1     |
| 1:A:61:LYS:O     | 1:A:62:ALA:HB3   | 0.54     | 2.03        | 3      | 2     |
| 1:A:71:CYS:SG    | 1:A:115:VAL:N    | 0.54     | 2.81        | 7      | 2     |
| 1:A:84:TYR:CE1   | 1:A:105:PRO:HB3  | 0.54     | 2.37        | 11     | 2     |
| 1:A:85:HIS:CD2   | 1:A:85:HIS:C     | 0.54     | 2.81        | 7      | 8     |
| 1:A:112:TRP:CZ3  | 1:A:114:TYR:CE2  | 0.54     | 2.96        | 2      | 1     |
| 1:A:84:TYR:CE1   | 1:A:105:PRO:HB2  | 0.54     | 2.38        | 12     | 9     |
| 1:A:11:CYS:O     | 1:A:12:ASP:CB    | 0.54     | 2.56        | 5      | 4     |
| 1:A:37:PHE:CE1   | 1:A:45:ASP:OD1   | 0.54     | 2.61        | 7      | 1     |
| 1:A:64:THR:CG2   | 1:A:68:GLY:O     | 0.54     | 2.56        | 10     | 10    |
| 1:A:25:PHE:CD2   | 1:A:28:ILE:HG13  | 0.54     | 2.38        | 8      | 2     |
| 1:A:22:ASN:HB2   | 1:A:28:ILE:HD11  | 0.54     | 1.79        | 10     | 1     |
| 1:A:83:THR:O     | 1:A:85:HIS:CG    | 0.54     | 2.60        | 14     | 1     |
| 1:A:106:ASP:O    | 1:A:107:ASN:C    | 0.53     | 2.47        | 3      | 4     |
| 1:A:44:ILE:N     | 1:A:44:ILE:HD13  | 0.53     | 2.18        | 11     | 1     |
| 1:A:83:THR:O     | 1:A:85:HIS:N     | 0.53     | 2.41        | 2      | 10    |
| 1:A:84:TYR:CE1   | 1:A:90:ASP:HB2   | 0.53     | 2.38        | 4      | 1     |
| 1:A:57:PHE:N     | 1:A:57:PHE:CD1   | 0.53     | 2.75        | 11     | 2     |
| 1:A:74:TRP:CH2   | 1:A:103:ARG:NH2  | 0.53     | 2.76        | 12     | 1     |
| 1:A:88:ARG:NH1   | 1:A:88:ARG:O     | 0.53     | 2.41        | 12     | 1     |

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| Atom-1          | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|-----------------|------------------|----------|-------------|--------|-------|
|                 |                  |          |             | Worst  | Total |
| 1:A:84:TYR:CE2  | 1:A:94:LEU:CD1   | 0.53     | 2.91        | 3      | 1     |
| 1:A:14:LEU:HD12 | 1:A:43:GLU:CA    | 0.53     | 2.33        | 5      | 2     |
| 1:A:91:ALA:O    | 1:A:95:GLY:CA    | 0.53     | 2.56        | 12     | 4     |
| 1:A:104:ASN:ND2 | 1:A:107:ASN:O    | 0.53     | 2.41        | 12     | 1     |
| 1:A:84:TYR:CD1  | 1:A:88:ARG:HD3   | 0.53     | 2.38        | 15     | 1     |
| 1:A:84:TYR:CD1  | 1:A:90:ASP:HB3   | 0.53     | 2.38        | 6      | 2     |
| 1:A:124:GLN:O   | 1:A:126:CYS:N    | 0.53     | 2.42        | 1      | 6     |
| 1:A:33:CYS:CB   | 1:A:34:PRO:HD2   | 0.53     | 2.34        | 2      | 1     |
| 1:A:74:TRP:CD1  | 1:A:99:HIS:CD2   | 0.53     | 2.96        | 8      | 3     |
| 1:A:98:LYS:O    | 1:A:99:HIS:CB    | 0.53     | 2.56        | 1      | 1     |
| 1:A:65:ASP:OD2  | 1:A:69:ARG:CG    | 0.53     | 2.57        | 2      | 2     |
| 1:A:79:VAL:CG2  | 1:A:85:HIS:CB    | 0.53     | 2.87        | 8      | 7     |
| 1:A:15:ASN:O    | 1:A:37:PHE:CE2   | 0.53     | 2.62        | 3      | 3     |
| 1:A:122:LEU:O   | 1:A:124:GLN:NE2  | 0.53     | 2.42        | 10     | 9     |
| 1:A:69:ARG:CD   | 1:A:115:VAL:HG21 | 0.53     | 2.34        | 13     | 2     |
| 1:A:82:GLN:OE1  | 1:A:84:TYR:N     | 0.53     | 2.41        | 13     | 1     |
| 1:A:63:SER:CB   | 1:A:100:ASN:O    | 0.53     | 2.57        | 4      | 2     |
| 1:A:22:ASN:OD1  | 1:A:25:PHE:CB    | 0.53     | 2.57        | 8      | 3     |
| 1:A:57:PHE:O    | 1:A:58:TYR:CD2   | 0.53     | 2.62        | 9      | 1     |
| 1:A:126:CYS:O   | 1:A:127:MET:CB   | 0.53     | 2.55        | 14     | 1     |
| 1:A:101:TYR:N   | 1:A:101:TYR:CD1  | 0.53     | 2.75        | 1      | 1     |
| 1:A:85:HIS:O    | 1:A:91:ALA:CB    | 0.53     | 2.56        | 5      | 1     |
| 1:A:112:TRP:HA  | 1:A:124:GLN:O    | 0.53     | 2.04        | 6      | 4     |
| 1:A:99:HIS:CD2  | 1:A:101:TYR:CD1  | 0.53     | 2.97        | 6      | 1     |
| 1:A:20:VAL:CG2  | 1:A:30:TRP:O     | 0.53     | 2.57        | 11     | 3     |
| 1:A:14:LEU:HD22 | 1:A:43:GLU:HB2   | 0.53     | 1.79        | 14     | 1     |
| 1:A:33:CYS:SG   | 1:A:34:PRO:CD    | 0.53     | 2.97        | 2      | 1     |
| 1:A:79:VAL:O    | 1:A:85:HIS:CB    | 0.53     | 2.57        | 8      | 6     |
| 1:A:104:ASN:ND2 | 1:A:108:ARG:O    | 0.53     | 2.42        | 4      | 1     |
| 1:A:22:ASN:HB3  | 1:A:25:PHE:CD1   | 0.53     | 2.39        | 11     | 1     |
| 1:A:88:ARG:NH1  | 1:A:90:ASP:OD2   | 0.53     | 2.42        | 13     | 1     |
| 1:A:25:PHE:CD1  | 1:A:28:ILE:HG13  | 0.52     | 2.39        | 9      | 1     |
| 1:A:63:SER:CA   | 1:A:102:CYS:SG   | 0.52     | 2.98        | 15     | 1     |
| 1:A:112:TRP:CE3 | 1:A:123:VAL:HB   | 0.52     | 2.39        | 9      | 15    |
| 1:A:117:VAL:CG2 | 1:A:124:GLN:NE2  | 0.52     | 2.72        | 2      | 1     |
| 1:A:25:PHE:CG   | 1:A:28:ILE:HG13  | 0.52     | 2.39        | 9      | 3     |
| 1:A:82:GLN:HB3  | 1:A:114:TYR:CE1  | 0.52     | 2.40        | 5      | 1     |
| 1:A:87:HIS:N    | 1:A:88:ARG:NH2   | 0.52     | 2.58        | 12     | 1     |
| 1:A:64:THR:O    | 1:A:126:CYS:CB   | 0.52     | 2.58        | 15     | 1     |
| 1:A:86:ALA:HB2  | 1:A:97:GLY:HA2   | 0.52     | 1.80        | 1      | 1     |
| 1:A:92:LEU:HD22 | 1:A:93:GLN:H     | 0.52     | 1.64        | 3      | 9     |

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| Atom-1          | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|-----------------|------------------|----------|-------------|--------|-------|
|                 |                  |          |             | Worst  | Total |
| 1:A:12:ASP:O    | 1:A:13:CYS:CB    | 0.52     | 2.57        | 15     | 2     |
| 1:A:117:VAL:CG2 | 1:A:122:LEU:HB2  | 0.52     | 2.34        | 14     | 13    |
| 1:A:70:PRO:O    | 1:A:71:CYS:CB    | 0.52     | 2.57        | 9      | 9     |
| 1:A:22:ASN:HB2  | 1:A:28:ILE:HG21  | 0.52     | 1.81        | 3      | 1     |
| 1:A:89:SER:O    | 1:A:92:LEU:CD2   | 0.52     | 2.57        | 6      | 1     |
| 1:A:18:THR:O    | 1:A:32:ASN:CB    | 0.52     | 2.57        | 10     | 2     |
| 1:A:65:ASP:OD1  | 1:A:69:ARG:CG    | 0.52     | 2.58        | 9      | 1     |
| 1:A:25:PHE:CE1  | 1:A:28:ILE:HG21  | 0.52     | 2.39        | 10     | 1     |
| 1:A:90:ASP:O    | 1:A:94:LEU:CD2   | 0.52     | 2.58        | 5      | 4     |
| 1:A:124:GLN:OE1 | 1:A:126:CYS:CA   | 0.52     | 2.57        | 6      | 1     |
| 1:A:106:ASP:O   | 1:A:107:ASN:CB   | 0.52     | 2.56        | 2      | 3     |
| 1:A:37:PHE:HB2  | 1:A:42:CYS:SG    | 0.52     | 2.44        | 5      | 3     |
| 1:A:84:TYR:CZ   | 1:A:90:ASP:CB    | 0.52     | 2.93        | 4      | 1     |
| 1:A:57:PHE:O    | 1:A:59:ARG:N     | 0.52     | 2.43        | 5      | 1     |
| 1:A:74:TRP:O    | 1:A:80:LEU:CD2   | 0.52     | 2.58        | 6      | 4     |
| 1:A:104:ASN:N   | 1:A:104:ASN:OD1  | 0.52     | 2.41        | 6      | 2     |
| 1:A:22:ASN:HB3  | 1:A:28:ILE:HG13  | 0.52     | 1.82        | 10     | 1     |
| 1:A:36:LYS:O    | 1:A:46:LYS:N     | 0.52     | 2.43        | 14     | 3     |
| 1:A:33:CYS:SG   | 1:A:34:PRO:N     | 0.52     | 2.83        | 2      | 1     |
| 1:A:75:ASN:O    | 1:A:80:LEU:HD11  | 0.52     | 2.05        | 6      | 3     |
| 1:A:37:PHE:CE1  | 1:A:45:ASP:CG    | 0.52     | 2.83        | 7      | 1     |
| 1:A:62:ALA:HB1  | 1:A:128:VAL:HG21 | 0.52     | 1.80        | 15     | 1     |
| 1:A:83:THR:CG2  | 1:A:88:ARG:CZ    | 0.52     | 2.87        | 15     | 1     |
| 1:A:76:SER:O    | 1:A:79:VAL:CG1   | 0.52     | 2.56        | 6      | 4     |
| 1:A:94:LEU:CG   | 1:A:105:PRO:HB3  | 0.52     | 2.35        | 14     | 4     |
| 1:A:37:PHE:HD2  | 1:A:42:CYS:SG    | 0.52     | 2.27        | 11     | 2     |
| 1:A:92:LEU:HG   | 1:A:93:GLN:N     | 0.52     | 2.20        | 6      | 1     |
| 1:A:88:ARG:NH1  | 1:A:90:ASP:OD1   | 0.52     | 2.43        | 9      | 1     |
| 1:A:100:ASN:N   | 1:A:100:ASN:OD1  | 0.52     | 2.43        | 1      | 2     |
| 1:A:79:VAL:O    | 1:A:85:HIS:HB3   | 0.52     | 2.05        | 8      | 8     |
| 1:A:54:ASN:O    | 1:A:54:ASN:ND2   | 0.52     | 2.43        | 3      | 2     |
| 1:A:66:THR:HG22 | 1:A:127:MET:SD   | 0.52     | 2.45        | 9      | 1     |
| 1:A:74:TRP:O    | 1:A:80:LEU:HD21  | 0.51     | 2.04        | 12     | 4     |
| 1:A:25:PHE:HB3  | 1:A:28:ILE:CG2   | 0.51     | 2.35        | 6      | 3     |
| 1:A:25:PHE:O    | 1:A:28:ILE:HD11  | 0.51     | 2.04        | 8      | 1     |
| 1:A:57:PHE:C    | 1:A:58:TYR:CG    | 0.51     | 2.84        | 9      | 1     |
| 1:A:22:ASN:OD1  | 1:A:23:LYS:N     | 0.51     | 2.42        | 10     | 1     |
| 1:A:123:VAL:O   | 1:A:123:VAL:HG23 | 0.51     | 2.04        | 11     | 6     |
| 1:A:88:ARG:NH2  | 1:A:90:ASP:OD2   | 0.51     | 2.43        | 9      | 1     |
| 1:A:11:CYS:O    | 1:A:41:HIS:NE2   | 0.51     | 2.44        | 11     | 1     |
| 1:A:25:PHE:CD1  | 1:A:28:ILE:HG12  | 0.51     | 2.40        | 3      | 1     |

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| Atom-1           | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|------------------|-----------------|----------|-------------|--------|-------|
|                  |                 |          |             | Worst  | Total |
| 1:A:39:GLY:C     | 1:A:40:GLN:CG   | 0.51     | 2.79        | 11     | 1     |
| 1:A:75:ASN:O     | 1:A:76:SER:C    | 0.51     | 2.49        | 8      | 12    |
| 1:A:64:THR:CB    | 1:A:69:ARG:O    | 0.51     | 2.59        | 7      | 10    |
| 1:A:75:ASN:OD1   | 1:A:76:SER:N    | 0.51     | 2.44        | 3      | 1     |
| 1:A:90:ASP:N     | 1:A:90:ASP:OD1  | 0.51     | 2.44        | 4      | 2     |
| 1:A:117:VAL:HG12 | 1:A:120:LYS:O   | 0.51     | 2.06        | 15     | 1     |
| 1:A:99:HIS:NE2   | 1:A:101:TYR:HB2 | 0.51     | 2.20        | 6      | 3     |
| 1:A:94:LEU:HD12  | 1:A:105:PRO:CB  | 0.51     | 2.36        | 14     | 2     |
| 1:A:24:TYR:C     | 1:A:25:PHE:CD1  | 0.51     | 2.84        | 4      | 2     |
| 1:A:14:LEU:CD1   | 1:A:15:ASN:OD1  | 0.51     | 2.59        | 8      | 2     |
| 1:A:88:ARG:CZ    | 1:A:88:ARG:HB2  | 0.51     | 2.35        | 6      | 1     |
| 1:A:119:LEU:CD2  | 1:A:119:LEU:C   | 0.51     | 2.79        | 10     | 1     |
| 1:A:25:PHE:CD2   | 1:A:26:SER:N    | 0.51     | 2.79        | 11     | 1     |
| 1:A:14:LEU:HD21  | 1:A:43:GLU:HA   | 0.51     | 1.81        | 13     | 1     |
| 1:A:18:THR:HG23  | 2:A:136:FUC:O5  | 0.51     | 2.05        | 14     | 1     |
| 1:A:14:LEU:CD1   | 1:A:43:GLU:HB2  | 0.51     | 2.35        | 2      | 1     |
| 1:A:22:ASN:CG    | 1:A:25:PHE:CE1  | 0.51     | 2.84        | 4      | 1     |
| 1:A:75:ASN:O     | 1:A:80:LEU:CD1  | 0.51     | 2.59        | 7      | 4     |
| 1:A:66:THR:HA    | 1:A:127:MET:CB  | 0.51     | 2.35        | 5      | 1     |
| 1:A:115:VAL:CG1  | 1:A:124:GLN:NE2 | 0.51     | 2.74        | 9      | 2     |
| 1:A:119:LEU:HD22 | 1:A:120:LYS:HB3 | 0.51     | 1.82        | 15     | 2     |
| 1:A:128:VAL:HG22 | 1:A:129:HIS:N   | 0.51     | 2.21        | 14     | 1     |
| 1:A:31:CYS:SG    | 1:A:32:ASN:N    | 0.50     | 2.84        | 12     | 3     |
| 1:A:124:GLN:OE1  | 1:A:126:CYS:N   | 0.50     | 2.44        | 6      | 1     |
| 1:A:14:LEU:HD11  | 1:A:43:GLU:HB3  | 0.50     | 1.83        | 7      | 1     |
| 1:A:65:ASP:HB3   | 1:A:113:CYS:SG  | 0.50     | 2.46        | 12     | 1     |
| 1:A:28:ILE:HG22  | 1:A:30:TRP:CZ3  | 0.50     | 2.41        | 2      | 2     |
| 1:A:94:LEU:CD1   | 1:A:105:PRO:HB3 | 0.50     | 2.33        | 3      | 3     |
| 1:A:85:HIS:NE2   | 1:A:87:HIS:C    | 0.50     | 2.64        | 13     | 4     |
| 1:A:22:ASN:CB    | 1:A:28:ILE:CG2  | 0.50     | 2.89        | 3      | 1     |
| 1:A:117:VAL:CG2  | 1:A:122:LEU:CB  | 0.50     | 2.89        | 9      | 5     |
| 1:A:80:LEU:O     | 1:A:85:HIS:ND1  | 0.50     | 2.45        | 14     | 3     |
| 1:A:65:ASP:CG    | 1:A:69:ARG:CG   | 0.50     | 2.79        | 9      | 1     |
| 1:A:128:VAL:HG22 | 1:A:129:HIS:H   | 0.50     | 1.65        | 9      | 2     |
| 1:A:12:ASP:OD2   | 1:A:41:HIS:NE2  | 0.50     | 2.44        | 1      | 1     |
| 1:A:66:THR:HG22  | 1:A:127:MET:HG3 | 0.50     | 1.84        | 4      | 1     |
| 1:A:18:THR:HG22  | 1:A:20:VAL:HG13 | 0.50     | 1.82        | 1      | 1     |
| 1:A:25:PHE:CD2   | 1:A:28:ILE:CG1  | 0.50     | 2.94        | 12     | 1     |
| 1:A:14:LEU:CB    | 1:A:43:GLU:CB   | 0.50     | 2.89        | 1      | 2     |
| 1:A:80:LEU:HA    | 1:A:85:HIS:CD2  | 0.50     | 2.42        | 11     | 5     |
| 1:A:102:CYS:O    | 1:A:112:TRP:O   | 0.50     | 2.30        | 6      | 2     |

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| Atom-1           | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|------------------|------------------|----------|-------------|--------|-------|
|                  |                  |          |             | Worst  | Total |
| 1:A:65:ASP:OD2   | 1:A:115:VAL:HG11 | 0.50     | 2.07        | 2      | 1     |
| 1:A:14:LEU:CB    | 1:A:43:GLU:HB3   | 0.50     | 2.37        | 1      | 3     |
| 1:A:37:PHE:CD2   | 1:A:42:CYS:SG    | 0.50     | 3.05        | 11     | 2     |
| 1:A:65:ASP:OD1   | 1:A:65:ASP:N     | 0.50     | 2.45        | 9      | 2     |
| 1:A:58:TYR:C     | 1:A:59:ARG:CD    | 0.50     | 2.80        | 14     | 1     |
| 1:A:22:ASN:CB    | 1:A:28:ILE:O     | 0.50     | 2.60        | 14     | 2     |
| 1:A:84:TYR:CD1   | 1:A:105:PRO:HB2  | 0.50     | 2.42        | 4      | 3     |
| 1:A:45:ASP:N     | 1:A:45:ASP:OD1   | 0.50     | 2.44        | 14     | 2     |
| 1:A:90:ASP:O     | 1:A:92:LEU:N     | 0.50     | 2.45        | 10     | 1     |
| 1:A:18:THR:CG2   | 2:A:136:FUC:O5   | 0.50     | 2.59        | 14     | 2     |
| 1:A:83:THR:HG22  | 1:A:84:TYR:N     | 0.50     | 2.20        | 15     | 2     |
| 1:A:113:CYS:SG   | 1:A:113:CYS:O    | 0.49     | 2.69        | 2      | 1     |
| 1:A:14:LEU:HD12  | 1:A:15:ASN:CB    | 0.49     | 2.37        | 6      | 2     |
| 1:A:74:TRP:O     | 1:A:85:HIS:O     | 0.49     | 2.31        | 2      | 7     |
| 1:A:94:LEU:HG    | 1:A:105:PRO:CB   | 0.49     | 2.38        | 5      | 3     |
| 1:A:25:PHE:CE1   | 1:A:28:ILE:CG2   | 0.49     | 2.95        | 10     | 1     |
| 1:A:119:LEU:CD2  | 1:A:120:LYS:CG   | 0.49     | 2.90        | 2      | 1     |
| 1:A:90:ASP:O     | 1:A:94:LEU:HD23  | 0.49     | 2.07        | 14     | 3     |
| 1:A:33:CYS:SG    | 1:A:37:PHE:HB3   | 0.49     | 2.45        | 11     | 1     |
| 1:A:119:LEU:HD13 | 1:A:120:LYS:N    | 0.49     | 2.22        | 6      | 5     |
| 1:A:33:CYS:SG    | 1:A:37:PHE:CD2   | 0.49     | 3.05        | 11     | 1     |
| 1:A:28:ILE:HG22  | 1:A:30:TRP:HZ3   | 0.49     | 1.67        | 2      | 1     |
| 1:A:92:LEU:CD2   | 1:A:92:LEU:C     | 0.49     | 2.81        | 8      | 6     |
| 1:A:94:LEU:CD2   | 1:A:105:PRO:HB3  | 0.49     | 2.37        | 9      | 4     |
| 1:A:30:TRP:O     | 1:A:30:TRP:CG    | 0.49     | 2.64        | 9      | 3     |
| 1:A:14:LEU:CD1   | 1:A:41:HIS:HB2   | 0.49     | 2.38        | 13     | 2     |
| 1:A:84:TYR:CD1   | 1:A:105:PRO:HB3  | 0.49     | 2.42        | 11     | 1     |
| 1:A:34:PRO:HG2   | 1:A:37:PHE:CE2   | 0.49     | 2.43        | 11     | 3     |
| 1:A:65:ASP:HA    | 1:A:126:CYS:SG   | 0.49     | 2.47        | 2      | 1     |
| 1:A:74:TRP:NE1   | 1:A:99:HIS:CE1   | 0.49     | 2.80        | 4      | 2     |
| 1:A:105:PRO:CG   | 1:A:112:TRP:CH2  | 0.49     | 2.95        | 9      | 4     |
| 1:A:128:VAL:O    | 1:A:128:VAL:CG2  | 0.49     | 2.60        | 7      | 4     |
| 1:A:40:GLN:CD    | 1:A:40:GLN:N     | 0.49     | 2.66        | 8      | 1     |
| 1:A:85:HIS:O     | 1:A:96:LEU:CD1   | 0.49     | 2.61        | 9      | 1     |
| 1:A:113:CYS:SG   | 1:A:114:TYR:N    | 0.49     | 2.86        | 15     | 2     |
| 1:A:103:ARG:NH1  | 1:A:105:PRO:HG2  | 0.49     | 2.21        | 12     | 1     |
| 1:A:96:LEU:C     | 1:A:99:HIS:NE2   | 0.49     | 2.66        | 8      | 5     |
| 1:A:124:GLN:O    | 1:A:125:GLU:O    | 0.49     | 2.31        | 13     | 2     |
| 1:A:27:ASN:O     | 1:A:28:ILE:CD1   | 0.49     | 2.57        | 7      | 1     |
| 1:A:25:PHE:C     | 1:A:25:PHE:CD1   | 0.49     | 2.85        | 12     | 1     |
| 1:A:38:GLY:O     | 1:A:44:ILE:N     | 0.49     | 2.46        | 11     | 4     |

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| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:71:CYS:SG   | 1:A:72:LEU:N    | 0.49     | 2.86        | 3      | 2     |
| 1:A:104:ASN:OD1 | 1:A:112:TRP:NE1 | 0.49     | 2.46        | 10     | 1     |
| 1:A:71:CYS:SG   | 1:A:114:TYR:C   | 0.49     | 2.91        | 13     | 2     |
| 1:A:96:LEU:O    | 1:A:97:GLY:C    | 0.48     | 2.51        | 14     | 2     |
| 1:A:108:ARG:HD3 | 1:A:112:TRP:CD1 | 0.48     | 2.43        | 12     | 2     |
| 1:A:14:LEU:CB   | 1:A:43:GLU:HA   | 0.48     | 2.38        | 11     | 2     |
| 1:A:88:ARG:NE   | 1:A:91:ALA:HB2  | 0.48     | 2.22        | 12     | 1     |
| 1:A:103:ARG:CD  | 1:A:103:ARG:C   | 0.48     | 2.81        | 12     | 1     |
| 1:A:123:VAL:C   | 1:A:124:GLN:NE2 | 0.48     | 2.67        | 15     | 1     |
| 1:A:14:LEU:C    | 1:A:14:LEU:CD1  | 0.48     | 2.81        | 4      | 4     |
| 1:A:14:LEU:CD1  | 1:A:15:ASN:CG   | 0.48     | 2.81        | 3      | 2     |
| 1:A:81:GLN:O    | 1:A:82:GLN:O    | 0.48     | 2.30        | 8      | 6     |
| 1:A:94:LEU:N    | 1:A:94:LEU:HD13 | 0.48     | 2.23        | 6      | 1     |
| 1:A:85:HIS:CE1  | 1:A:88:ARG:HG2  | 0.48     | 2.42        | 7      | 1     |
| 1:A:27:ASN:N    | 1:A:27:ASN:OD1  | 0.48     | 2.45        | 9      | 1     |
| 1:A:25:PHE:CD1  | 1:A:28:ILE:HG21 | 0.48     | 2.42        | 10     | 1     |
| 1:A:22:ASN:HB3  | 1:A:28:ILE:CG2  | 0.48     | 2.38        | 15     | 2     |
| 1:A:80:LEU:CD2  | 1:A:87:HIS:CG   | 0.48     | 2.96        | 14     | 1     |
| 1:A:84:TYR:CZ   | 1:A:90:ASP:HB3  | 0.48     | 2.43        | 4      | 1     |
| 1:A:63:SER:HB2  | 1:A:100:ASN:ND2 | 0.48     | 2.23        | 13     | 1     |
| 1:A:74:TRP:CG   | 1:A:96:LEU:HB3  | 0.48     | 2.43        | 1      | 2     |
| 1:A:76:SER:O    | 1:A:77:ALA:C    | 0.48     | 2.52        | 6      | 15    |
| 1:A:56:HIS:CE1  | 1:A:94:LEU:HD12 | 0.48     | 2.43        | 9      | 1     |
| 1:A:126:CYS:O   | 1:A:127:MET:HB2 | 0.48     | 2.09        | 9      | 1     |
| 1:A:127:MET:O   | 1:A:128:VAL:O   | 0.48     | 2.32        | 9      | 1     |
| 1:A:14:LEU:HD21 | 1:A:43:GLU:CB   | 0.48     | 2.38        | 13     | 1     |
| 1:A:36:LYS:HD2  | 1:A:37:PHE:CE1  | 0.48     | 2.43        | 3      | 2     |
| 1:A:84:TYR:CG   | 1:A:94:LEU:HD12 | 0.48     | 2.44        | 3      | 1     |
| 1:A:34:PRO:HB2  | 1:A:37:PHE:CD1  | 0.48     | 2.43        | 10     | 2     |
| 1:A:74:TRP:CD2  | 1:A:96:LEU:HD22 | 0.48     | 2.42        | 15     | 2     |
| 1:A:27:ASN:HA   | 1:A:29:HIS:CE1  | 0.48     | 2.44        | 12     | 1     |
| 1:A:14:LEU:HB3  | 1:A:43:GLU:CB   | 0.48     | 2.39        | 1      | 1     |
| 1:A:69:ARG:NH1  | 1:A:69:ARG:CG   | 0.48     | 2.77        | 1      | 1     |
| 1:A:39:GLY:HA3  | 1:A:44:ILE:CD1  | 0.48     | 2.39        | 8      | 5     |
| 1:A:34:PRO:HD2  | 1:A:37:PHE:CD2  | 0.48     | 2.43        | 11     | 4     |
| 1:A:65:ASP:C    | 1:A:126:CYS:O   | 0.48     | 2.51        | 9      | 1     |
| 1:A:83:THR:O    | 1:A:85:HIS:ND1  | 0.48     | 2.47        | 9      | 4     |
| 1:A:94:LEU:CB   | 1:A:105:PRO:HB3 | 0.48     | 2.39        | 5      | 1     |
| 1:A:22:ASN:HB2  | 1:A:28:ILE:CD1  | 0.48     | 2.38        | 10     | 1     |
| 1:A:84:TYR:CZ   | 1:A:105:PRO:HB2 | 0.48     | 2.43        | 13     | 5     |
| 1:A:94:LEU:HD21 | 1:A:105:PRO:HB3 | 0.48     | 1.85        | 6      | 2     |

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| Atom-1           | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|------------------|------------------|----------|-------------|--------|-------|
|                  |                  |          |             | Worst  | Total |
| 1:A:80:LEU:HD21  | 1:A:86:ALA:HB3   | 0.48     | 1.86        | 9      | 1     |
| 1:A:115:VAL:HG11 | 1:A:124:GLN:HB2  | 0.48     | 1.86        | 10     | 1     |
| 1:A:113:CYS:O    | 1:A:115:VAL:HG13 | 0.48     | 2.08        | 13     | 1     |
| 1:A:26:SER:O     | 1:A:27:ASN:ND2   | 0.48     | 2.47        | 1      | 1     |
| 1:A:119:LEU:O    | 1:A:119:LEU:CD2  | 0.48     | 2.55        | 13     | 4     |
| 1:A:62:ALA:CB    | 1:A:128:VAL:HG23 | 0.48     | 2.39        | 5      | 1     |
| 1:A:14:LEU:HD12  | 1:A:14:LEU:N     | 0.48     | 2.24        | 7      | 1     |
| 1:A:74:TRP:CD2   | 1:A:96:LEU:CD2   | 0.47     | 2.96        | 15     | 3     |
| 1:A:25:PHE:CB    | 1:A:28:ILE:HG12  | 0.47     | 2.38        | 4      | 2     |
| 1:A:92:LEU:CD2   | 1:A:93:GLN:HG3   | 0.47     | 2.39        | 2      | 1     |
| 1:A:84:TYR:CE2   | 1:A:105:PRO:HB2  | 0.47     | 2.44        | 5      | 2     |
| 1:A:15:ASN:HB3   | 1:A:37:PHE:CE1   | 0.47     | 2.43        | 8      | 1     |
| 1:A:124:GLN:CD   | 1:A:124:GLN:O    | 0.47     | 2.52        | 8      | 1     |
| 1:A:94:LEU:HG    | 1:A:105:PRO:CA   | 0.47     | 2.39        | 12     | 2     |
| 1:A:119:LEU:CD2  | 1:A:120:LYS:HG3  | 0.47     | 2.39        | 2      | 1     |
| 1:A:74:TRP:CD1   | 1:A:99:HIS:NE2   | 0.47     | 2.82        | 8      | 4     |
| 1:A:119:LEU:CD2  | 1:A:120:LYS:N    | 0.47     | 2.74        | 10     | 1     |
| 1:A:115:VAL:HG12 | 1:A:124:GLN:NE2  | 0.47     | 2.24        | 9      | 1     |
| 1:A:98:LYS:CG    | 1:A:98:LYS:O     | 0.47     | 2.62        | 10     | 1     |
| 1:A:26:SER:O     | 1:A:27:ASN:O     | 0.47     | 2.33        | 7      | 1     |
| 1:A:64:THR:HA    | 1:A:69:ARG:O     | 0.47     | 2.09        | 4      | 15    |
| 1:A:69:ARG:HD3   | 1:A:115:VAL:CG2  | 0.47     | 2.39        | 9      | 1     |
| 1:A:94:LEU:O     | 1:A:95:GLY:O     | 0.47     | 2.33        | 15     | 1     |
| 1:A:21:SER:O     | 1:A:22:ASN:O     | 0.47     | 2.33        | 3      | 2     |
| 1:A:26:SER:OG    | 1:A:27:ASN:N     | 0.47     | 2.47        | 5      | 1     |
| 1:A:74:TRP:CE3   | 1:A:84:TYR:O     | 0.47     | 2.68        | 10     | 2     |
| 1:A:14:LEU:CD1   | 1:A:43:GLU:HB3   | 0.47     | 2.40        | 7      | 3     |
| 1:A:125:GLU:O    | 1:A:127:MET:N    | 0.47     | 2.48        | 10     | 3     |
| 1:A:66:THR:CG2   | 1:A:126:CYS:C    | 0.47     | 2.83        | 2      | 1     |
| 1:A:65:ASP:HA    | 1:A:124:GLN:OE1  | 0.47     | 2.09        | 9      | 4     |
| 1:A:115:VAL:O    | 1:A:117:VAL:HG23 | 0.47     | 2.10        | 9      | 2     |
| 1:A:88:ARG:NH2   | 1:A:91:ALA:HB2   | 0.47     | 2.21        | 10     | 1     |
| 1:A:120:LYS:CD   | 1:A:122:LEU:HD23 | 0.47     | 2.32        | 11     | 1     |
| 1:A:30:TRP:CD1   | 1:A:31:CYS:N     | 0.47     | 2.83        | 12     | 1     |
| 1:A:74:TRP:CH2   | 1:A:103:ARG:CZ   | 0.47     | 2.97        | 12     | 1     |
| 1:A:83:THR:CG2   | 1:A:88:ARG:NH1   | 0.47     | 2.77        | 15     | 1     |
| 1:A:107:ASN:O    | 1:A:108:ARG:O    | 0.47     | 2.33        | 15     | 1     |
| 1:A:22:ASN:ND2   | 1:A:22:ASN:C     | 0.47     | 2.67        | 2      | 1     |
| 1:A:64:THR:O     | 1:A:65:ASP:O     | 0.47     | 2.33        | 3      | 2     |
| 1:A:38:GLY:O     | 1:A:44:ILE:HG12  | 0.47     | 2.10        | 10     | 2     |
| 1:A:124:GLN:O    | 1:A:124:GLN:CD   | 0.47     | 2.53        | 6      | 4     |

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| Atom-1          | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|-----------------|------------------|----------|-------------|--------|-------|
|                 |                  |          |             | Worst  | Total |
| 1:A:45:ASP:O    | 1:A:46:LYS:O     | 0.47     | 2.33        | 11     | 3     |
| 1:A:84:TYR:HA   | 1:A:88:ARG:NH2   | 0.47     | 2.25        | 1      | 1     |
| 1:A:14:LEU:CD1  | 1:A:43:GLU:HA    | 0.47     | 2.39        | 5      | 5     |
| 1:A:104:ASN:OD1 | 1:A:110:ARG:O    | 0.47     | 2.33        | 4      | 1     |
| 1:A:85:HIS:NE2  | 1:A:87:HIS:CA    | 0.47     | 2.78        | 5      | 1     |
| 1:A:24:TYR:HB2  | 1:A:25:PHE:CE1   | 0.46     | 2.45        | 1      | 1     |
| 1:A:13:CYS:SG   | 1:A:42:CYS:CB    | 0.46     | 3.03        | 7      | 3     |
| 1:A:18:THR:CG2  | 1:A:19:CYS:N     | 0.46     | 2.78        | 5      | 1     |
| 1:A:84:TYR:CD1  | 1:A:90:ASP:CB    | 0.46     | 2.98        | 10     | 2     |
| 1:A:111:PRO:O   | 1:A:126:CYS:N    | 0.46     | 2.48        | 11     | 2     |
| 1:A:56:HIS:HB3  | 1:A:57:PHE:CE1   | 0.46     | 2.44        | 15     | 1     |
| 1:A:28:ILE:O    | 1:A:28:ILE:CG2   | 0.46     | 2.60        | 9      | 2     |
| 1:A:64:THR:HB   | 1:A:69:ARG:O     | 0.46     | 2.11        | 2      | 10    |
| 1:A:119:LEU:N   | 1:A:119:LEU:HD13 | 0.46     | 2.26        | 11     | 5     |
| 1:A:85:HIS:O    | 1:A:96:LEU:CB    | 0.46     | 2.64        | 13     | 1     |
| 1:A:100:ASN:O   | 1:A:101:TYR:C    | 0.46     | 2.53        | 1      | 1     |
| 1:A:11:CYS:O    | 1:A:12:ASP:OD2   | 0.46     | 2.33        | 2      | 1     |
| 1:A:118:GLY:C   | 1:A:119:LEU:CD2  | 0.46     | 2.80        | 3      | 1     |
| 1:A:82:GLN:OE1  | 1:A:121:PRO:O    | 0.46     | 2.34        | 10     | 2     |
| 1:A:38:GLY:O    | 1:A:44:ILE:HG13  | 0.46     | 2.10        | 14     | 4     |
| 1:A:12:ASP:O    | 1:A:13:CYS:O     | 0.46     | 2.32        | 13     | 3     |
| 1:A:62:ALA:HB2  | 1:A:128:VAL:HG21 | 0.46     | 1.85        | 12     | 1     |
| 1:A:106:ASP:O   | 1:A:107:ASN:HB3  | 0.46     | 2.11        | 15     | 1     |
| 1:A:22:ASN:OD1  | 1:A:25:PHE:CG    | 0.46     | 2.68        | 7      | 1     |
| 1:A:83:THR:OG1  | 1:A:84:TYR:N     | 0.46     | 2.48        | 10     | 1     |
| 1:A:22:ASN:OD1  | 1:A:26:SER:O     | 0.46     | 2.33        | 2      | 1     |
| 1:A:55:GLY:O    | 1:A:56:HIS:O     | 0.46     | 2.33        | 9      | 1     |
| 1:A:16:GLY:O    | 1:A:17:GLY:O     | 0.46     | 2.33        | 5      | 5     |
| 1:A:67:MET:HB3  | 1:A:69:ARG:NH2   | 0.46     | 2.25        | 1      | 1     |
| 1:A:32:ASN:CG   | 2:A:136:FUC:H61  | 0.46     | 2.31        | 7      | 1     |
| 1:A:83:THR:CG2  | 1:A:88:ARG:NH2   | 0.46     | 2.78        | 14     | 1     |
| 1:A:99:HIS:CD2  | 1:A:101:TYR:CD2  | 0.46     | 3.04        | 1      | 1     |
| 1:A:74:TRP:HB3  | 1:A:85:HIS:O     | 0.46     | 2.10        | 2      | 3     |
| 1:A:100:ASN:O   | 1:A:100:ASN:OD1  | 0.46     | 2.33        | 12     | 1     |
| 1:A:15:ASN:OD1  | 1:A:37:PHE:CE1   | 0.46     | 2.69        | 15     | 1     |
| 1:A:39:GLY:O    | 1:A:40:GLN:C     | 0.46     | 2.54        | 4      | 8     |
| 1:A:96:LEU:O    | 1:A:97:GLY:O     | 0.46     | 2.33        | 2      | 1     |
| 1:A:93:GLN:O    | 1:A:94:LEU:HD23  | 0.46     | 2.11        | 3      | 1     |
| 1:A:106:ASP:O   | 1:A:106:ASP:OD1  | 0.46     | 2.34        | 3      | 1     |
| 1:A:66:THR:OG1  | 1:A:67:MET:CE    | 0.46     | 2.64        | 8      | 1     |
| 1:A:79:VAL:O    | 1:A:82:GLN:HG3   | 0.46     | 2.11        | 8      | 2     |

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| Atom-1           | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|------------------|------------------|----------|-------------|--------|-------|
|                  |                  |          |             | Worst  | Total |
| 1:A:25:PHE:CZ    | 1:A:28:ILE:HG21  | 0.46     | 2.46        | 10     | 1     |
| 1:A:26:SER:O     | 1:A:27:ASN:OD1   | 0.46     | 2.34        | 13     | 1     |
| 1:A:86:ALA:CB    | 1:A:97:GLY:HA2   | 0.46     | 2.40        | 1      | 2     |
| 1:A:88:ARG:HG2   | 1:A:89:SER:N     | 0.46     | 2.25        | 1      | 1     |
| 1:A:83:THR:OG1   | 1:A:114:TYR:OH   | 0.46     | 2.34        | 4      | 1     |
| 1:A:22:ASN:OD1   | 1:A:25:PHE:HB2   | 0.46     | 2.11        | 8      | 3     |
| 1:A:30:TRP:O     | 1:A:31:CYS:C     | 0.46     | 2.54        | 6      | 1     |
| 1:A:68:GLY:O     | 1:A:69:ARG:C     | 0.46     | 2.54        | 14     | 3     |
| 1:A:91:ALA:O     | 1:A:95:GLY:HA2   | 0.46     | 2.11        | 12     | 5     |
| 1:A:55:GLY:O     | 1:A:104:ASN:OD1  | 0.46     | 2.34        | 7      | 1     |
| 1:A:54:ASN:O     | 1:A:109:ARG:O    | 0.46     | 2.33        | 6      | 2     |
| 1:A:94:LEU:HG    | 1:A:105:PRO:HB3  | 0.46     | 1.88        | 14     | 3     |
| 1:A:20:VAL:O     | 1:A:21:SER:CB    | 0.46     | 2.63        | 6      | 2     |
| 1:A:12:ASP:HA    | 1:A:41:HIS:CD2   | 0.46     | 2.46        | 8      | 2     |
| 1:A:11:CYS:O     | 1:A:12:ASP:OD1   | 0.46     | 2.34        | 10     | 1     |
| 1:A:108:ARG:O    | 1:A:109:ARG:C    | 0.46     | 2.55        | 12     | 1     |
| 1:A:57:PHE:O     | 1:A:58:TYR:HB3   | 0.45     | 2.11        | 4      | 1     |
| 1:A:99:HIS:NE2   | 1:A:101:TYR:CB   | 0.45     | 2.77        | 10     | 1     |
| 1:A:55:GLY:O     | 1:A:56:HIS:HB2   | 0.45     | 2.11        | 13     | 1     |
| 1:A:126:CYS:O    | 1:A:127:MET:HB3  | 0.45     | 2.10        | 14     | 1     |
| 1:A:119:LEU:HD22 | 1:A:120:LYS:CB   | 0.45     | 2.40        | 15     | 1     |
| 1:A:126:CYS:O    | 1:A:127:MET:O    | 0.45     | 2.34        | 10     | 1     |
| 1:A:91:ALA:HA    | 1:A:96:LEU:HD11  | 0.45     | 1.87        | 4      | 1     |
| 1:A:106:ASP:OD1  | 1:A:106:ASP:C    | 0.45     | 2.55        | 4      | 1     |
| 1:A:18:THR:O     | 1:A:32:ASN:HB3   | 0.45     | 2.11        | 7      | 1     |
| 1:A:65:ASP:CB    | 1:A:115:VAL:HG11 | 0.45     | 2.41        | 12     | 1     |
| 1:A:25:PHE:HB2   | 1:A:28:ILE:CG1   | 0.45     | 2.41        | 1      | 1     |
| 1:A:94:LEU:O     | 1:A:95:GLY:C     | 0.45     | 2.54        | 10     | 4     |
| 1:A:83:THR:CG2   | 1:A:88:ARG:HD2   | 0.45     | 2.41        | 9      | 1     |
| 1:A:102:CYS:SG   | 1:A:113:CYS:SG   | 0.45     | 3.14        | 9      | 1     |
| 1:A:82:GLN:CD    | 1:A:83:THR:N     | 0.45     | 2.70        | 13     | 1     |
| 1:A:115:VAL:CG1  | 1:A:124:GLN:HB2  | 0.45     | 2.41        | 15     | 7     |
| 1:A:14:LEU:HD12  | 1:A:15:ASN:HB2   | 0.45     | 1.87        | 4      | 1     |
| 1:A:28:ILE:HG13  | 1:A:29:HIS:N     | 0.45     | 2.27        | 6      | 1     |
| 1:A:38:GLY:O     | 1:A:44:ILE:CB    | 0.45     | 2.65        | 9      | 2     |
| 1:A:103:ARG:C    | 1:A:103:ARG:HD3  | 0.45     | 2.32        | 12     | 1     |
| 1:A:84:TYR:CZ    | 1:A:88:ARG:NH1   | 0.45     | 2.85        | 14     | 1     |
| 1:A:106:ASP:OD2  | 1:A:112:TRP:CE2  | 0.45     | 2.70        | 4      | 1     |
| 1:A:14:LEU:HD12  | 1:A:43:GLU:CB    | 0.45     | 2.41        | 5      | 1     |
| 1:A:108:ARG:O    | 1:A:110:ARG:N    | 0.45     | 2.50        | 12     | 1     |
| 1:A:85:HIS:NE2   | 1:A:88:ARG:N     | 0.45     | 2.64        | 14     | 1     |

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| Atom-1          | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|-----------------|------------------|----------|-------------|--------|-------|
|                 |                  |          |             | Worst  | Total |
| 1:A:61:LYS:O    | 1:A:62:ALA:C     | 0.45     | 2.55        | 15     | 9     |
| 1:A:119:LEU:C   | 1:A:119:LEU:HD13 | 0.45     | 2.32        | 8      | 3     |
| 1:A:41:HIS:O    | 1:A:42:CYS:C     | 0.45     | 2.55        | 7      | 9     |
| 1:A:55:GLY:O    | 1:A:56:HIS:HB3   | 0.45     | 2.11        | 3      | 2     |
| 1:A:15:ASN:O    | 1:A:15:ASN:OD1   | 0.45     | 2.34        | 4      | 1     |
| 1:A:73:PRO:HA   | 1:A:99:HIS:O     | 0.45     | 2.11        | 15     | 3     |
| 1:A:14:LEU:HB2  | 1:A:43:GLU:CA    | 0.45     | 2.41        | 14     | 1     |
| 1:A:80:LEU:CD2  | 1:A:87:HIS:HB2   | 0.45     | 2.42        | 13     | 3     |
| 1:A:15:ASN:O    | 1:A:37:PHE:CZ    | 0.45     | 2.70        | 7      | 1     |
| 1:A:84:TYR:CE2  | 1:A:105:PRO:O    | 0.45     | 2.70        | 7      | 1     |
| 1:A:113:CYS:O   | 1:A:124:GLN:NE2  | 0.45     | 2.50        | 8      | 2     |
| 1:A:65:ASP:OD1  | 1:A:69:ARG:HG3   | 0.45     | 2.11        | 9      | 1     |
| 1:A:88:ARG:N    | 1:A:88:ARG:CD    | 0.45     | 2.80        | 10     | 1     |
| 1:A:14:LEU:HD21 | 1:A:43:GLU:CA    | 0.45     | 2.42        | 13     | 1     |
| 1:A:108:ARG:CB  | 1:A:112:TRP:CD1  | 0.45     | 2.99        | 2      | 1     |
| 1:A:38:GLY:O    | 1:A:44:ILE:HB    | 0.45     | 2.12        | 9      | 4     |
| 1:A:106:ASP:O   | 1:A:107:ASN:HB2  | 0.44     | 2.12        | 12     | 2     |
| 1:A:14:LEU:HD12 | 1:A:42:CYS:O     | 0.44     | 2.11        | 7      | 1     |
| 1:A:59:ARG:O    | 1:A:60:GLY:O     | 0.44     | 2.35        | 7      | 1     |
| 1:A:119:LEU:CD2 | 1:A:120:LYS:HB3  | 0.44     | 2.41        | 15     | 1     |
| 1:A:45:ASP:O    | 1:A:46:LYS:C     | 0.44     | 2.54        | 15     | 5     |
| 1:A:57:PHE:CD2  | 1:A:58:TYR:N     | 0.44     | 2.85        | 9      | 2     |
| 1:A:58:TYR:N    | 1:A:58:TYR:CD1   | 0.44     | 2.85        | 12     | 1     |
| 1:A:25:PHE:CG   | 1:A:28:ILE:HB    | 0.44     | 2.47        | 6      | 1     |
| 1:A:100:ASN:ND2 | 1:A:100:ASN:N    | 0.44     | 2.65        | 7      | 1     |
| 1:A:34:PRO:HG2  | 1:A:37:PHE:CZ    | 0.44     | 2.48        | 10     | 2     |
| 1:A:103:ARG:C   | 1:A:104:ASN:OD1  | 0.44     | 2.56        | 11     | 1     |
| 1:A:24:TYR:O    | 1:A:25:PHE:CD1   | 0.44     | 2.70        | 14     | 1     |
| 1:A:12:ASP:O    | 1:A:41:HIS:CG    | 0.44     | 2.71        | 1      | 1     |
| 1:A:122:LEU:HB3 | 1:A:124:GLN:NE2  | 0.44     | 2.28        | 1      | 2     |
| 1:A:22:ASN:HB2  | 1:A:28:ILE:O     | 0.44     | 2.13        | 2      | 4     |
| 1:A:82:GLN:CG   | 1:A:83:THR:N     | 0.44     | 2.81        | 2      | 1     |
| 1:A:58:TYR:O    | 1:A:59:ARG:C     | 0.44     | 2.55        | 14     | 2     |
| 1:A:63:SER:HB2  | 1:A:100:ASN:O    | 0.44     | 2.13        | 4      | 1     |
| 1:A:72:LEU:HD11 | 1:A:116:GLN:CB   | 0.44     | 2.43        | 11     | 2     |
| 1:A:78:THR:CG2  | 1:A:121:PRO:CD   | 0.44     | 2.96        | 6      | 2     |
| 1:A:112:TRP:CE3 | 1:A:112:TRP:C    | 0.44     | 2.90        | 6      | 2     |
| 1:A:65:ASP:OD1  | 1:A:69:ARG:HG2   | 0.44     | 2.12        | 12     | 1     |
| 1:A:65:ASP:HB2  | 1:A:125:GLU:O    | 0.44     | 2.13        | 13     | 1     |
| 1:A:40:GLN:HG2  | 1:A:41:HIS:N     | 0.44     | 2.27        | 1      | 1     |
| 1:A:43:GLU:O    | 1:A:45:ASP:OD1   | 0.44     | 2.34        | 5      | 1     |

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| Atom-1           | Atom-2           | Clash(Å) | Distance(Å) | Models |       |
|------------------|------------------|----------|-------------|--------|-------|
|                  |                  |          |             | Worst  | Total |
| 1:A:26:SER:C     | 1:A:27:ASN:OD1   | 0.44     | 2.56        | 9      | 1     |
| 1:A:103:ARG:O    | 1:A:112:TRP:O    | 0.44     | 2.36        | 11     | 1     |
| 1:A:64:THR:CA    | 1:A:69:ARG:O     | 0.44     | 2.66        | 8      | 6     |
| 1:A:104:ASN:OD1  | 1:A:110:ARG:C    | 0.44     | 2.56        | 15     | 2     |
| 1:A:70:PRO:O     | 1:A:71:CYS:HB3   | 0.44     | 2.13        | 11     | 4     |
| 1:A:84:TYR:CG    | 1:A:94:LEU:CD1   | 0.44     | 3.00        | 3      | 1     |
| 1:A:25:PHE:O     | 1:A:26:SER:HB2   | 0.44     | 2.12        | 9      | 1     |
| 1:A:18:THR:CG2   | 2:A:136:FUC:O2   | 0.44     | 2.57        | 10     | 1     |
| 1:A:97:GLY:O     | 1:A:99:HIS:N     | 0.44     | 2.50        | 10     | 1     |
| 1:A:82:GLN:NE2   | 1:A:114:TYR:CZ   | 0.44     | 2.85        | 13     | 1     |
| 1:A:107:ASN:N    | 1:A:107:ASN:OD1  | 0.44     | 2.49        | 13     | 1     |
| 1:A:58:TYR:O     | 1:A:59:ARG:CB    | 0.44     | 2.64        | 15     | 1     |
| 1:A:114:TYR:CZ   | 1:A:123:VAL:HG12 | 0.44     | 2.47        | 2      | 1     |
| 1:A:61:LYS:O     | 1:A:62:ALA:HB2   | 0.44     | 2.11        | 4      | 1     |
| 1:A:14:LEU:CG    | 1:A:43:GLU:HA    | 0.44     | 2.43        | 5      | 1     |
| 1:A:112:TRP:CA   | 1:A:124:GLN:O    | 0.44     | 2.66        | 6      | 3     |
| 1:A:92:LEU:HD23  | 1:A:92:LEU:N     | 0.44     | 2.27        | 6      | 1     |
| 1:A:102:CYS:O    | 1:A:103:ARG:C    | 0.44     | 2.56        | 6      | 1     |
| 1:A:22:ASN:ND2   | 1:A:25:PHE:HB3   | 0.44     | 2.26        | 10     | 1     |
| 1:A:71:CYS:HA    | 1:A:115:VAL:CB   | 0.44     | 2.42        | 13     | 1     |
| 1:A:102:CYS:O    | 1:A:103:ARG:CB   | 0.44     | 2.66        | 13     | 1     |
| 1:A:124:GLN:O    | 1:A:125:GLU:C    | 0.44     | 2.56        | 2      | 1     |
| 1:A:74:TRP:O     | 1:A:86:ALA:N     | 0.44     | 2.51        | 10     | 1     |
| 1:A:122:LEU:HD13 | 1:A:123:VAL:N    | 0.44     | 2.27        | 15     | 2     |
| 1:A:57:PHE:O     | 1:A:58:TYR:O     | 0.44     | 2.36        | 1      | 1     |
| 1:A:21:SER:O     | 1:A:22:ASN:C     | 0.44     | 2.56        | 2      | 5     |
| 1:A:80:LEU:HA    | 1:A:85:HIS:HB2   | 0.44     | 1.90        | 2      | 4     |
| 1:A:80:LEU:HA    | 1:A:85:HIS:CB    | 0.44     | 2.43        | 2      | 1     |
| 1:A:88:ARG:O     | 1:A:92:LEU:HD11  | 0.44     | 2.13        | 2      | 1     |
| 1:A:66:THR:HG22  | 1:A:127:MET:N    | 0.44     | 2.28        | 6      | 2     |
| 1:A:72:LEU:CD1   | 1:A:121:PRO:HB3  | 0.44     | 2.43        | 8      | 5     |
| 1:A:54:ASN:OD1   | 1:A:104:ASN:HB2  | 0.44     | 2.13        | 5      | 1     |
| 1:A:77:ALA:CA    | 1:A:80:LEU:HD12  | 0.44     | 2.39        | 5      | 1     |
| 1:A:90:ASP:O     | 1:A:91:ALA:C     | 0.44     | 2.56        | 10     | 1     |
| 1:A:90:ASP:C     | 1:A:92:LEU:N     | 0.44     | 2.71        | 10     | 1     |
| 1:A:69:ARG:NH1   | 1:A:69:ARG:HG3   | 0.43     | 2.27        | 1      | 1     |
| 1:A:75:ASN:O     | 1:A:80:LEU:HD12  | 0.43     | 2.13        | 2      | 1     |
| 1:A:79:VAL:C     | 1:A:81:GLN:N     | 0.43     | 2.72        | 8      | 3     |
| 1:A:14:LEU:HD22  | 1:A:43:GLU:HB3   | 0.43     | 1.88        | 14     | 2     |
| 1:A:103:ARG:NH1  | 1:A:103:ARG:HG2  | 0.43     | 2.28        | 12     | 1     |
| 1:A:104:ASN:OD1  | 1:A:111:PRO:N    | 0.43     | 2.51        | 12     | 1     |

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| Atom-1           | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|------------------|-----------------|----------|-------------|--------|-------|
|                  |                 |          |             | Worst  | Total |
| 1:A:107:ASN:O    | 1:A:108:ARG:C   | 0.43     | 2.56        | 15     | 1     |
| 1:A:79:VAL:HA    | 1:A:82:GLN:CG   | 0.43     | 2.43        | 1      | 1     |
| 1:A:43:GLU:C     | 1:A:44:ILE:CG1  | 0.43     | 2.86        | 2      | 2     |
| 1:A:94:LEU:HD12  | 1:A:105:PRO:HB2 | 0.43     | 1.90        | 2      | 1     |
| 1:A:21:SER:HB2   | 1:A:29:HIS:CD2  | 0.43     | 2.48        | 4      | 1     |
| 1:A:85:HIS:CG    | 1:A:86:ALA:N    | 0.43     | 2.85        | 5      | 2     |
| 1:A:13:CYS:SG    | 1:A:31:CYS:O    | 0.43     | 2.76        | 6      | 1     |
| 1:A:85:HIS:ND1   | 1:A:88:ARG:HD2  | 0.43     | 2.28        | 6      | 1     |
| 1:A:14:LEU:HD21  | 1:A:43:GLU:HB2  | 0.43     | 1.89        | 13     | 1     |
| 1:A:75:ASN:ND2   | 1:A:75:ASN:C    | 0.43     | 2.71        | 15     | 2     |
| 1:A:79:VAL:O     | 1:A:80:LEU:C    | 0.43     | 2.55        | 8      | 4     |
| 1:A:104:ASN:CG   | 1:A:107:ASN:O   | 0.43     | 2.56        | 12     | 1     |
| 1:A:89:SER:C     | 1:A:90:ASP:OD1  | 0.43     | 2.57        | 4      | 4     |
| 1:A:43:GLU:CG    | 1:A:44:ILE:N    | 0.43     | 2.81        | 5      | 1     |
| 1:A:77:ALA:HA    | 1:A:80:LEU:CD1  | 0.43     | 2.40        | 5      | 2     |
| 1:A:20:VAL:HG23  | 1:A:30:TRP:O    | 0.43     | 2.14        | 11     | 1     |
| 1:A:88:ARG:HB3   | 1:A:88:ARG:CZ   | 0.43     | 2.43        | 3      | 1     |
| 1:A:124:GLN:OE1  | 1:A:126:CYS:HA  | 0.43     | 2.13        | 6      | 1     |
| 1:A:56:HIS:CD2   | 1:A:56:HIS:C    | 0.43     | 2.92        | 14     | 1     |
| 1:A:64:THR:HG22  | 1:A:70:PRO:HA   | 0.43     | 1.91        | 2      | 3     |
| 1:A:54:ASN:O     | 1:A:54:ASN:CG   | 0.43     | 2.57        | 3      | 1     |
| 1:A:75:ASN:CB    | 1:A:98:LYS:HG3  | 0.43     | 2.44        | 8      | 1     |
| 1:A:122:LEU:HD13 | 1:A:123:VAL:H   | 0.43     | 1.73        | 11     | 1     |
| 1:A:14:LEU:O     | 1:A:15:ASN:C    | 0.43     | 2.57        | 15     | 1     |
| 1:A:39:GLY:HA3   | 1:A:44:ILE:CG1  | 0.43     | 2.43        | 15     | 2     |
| 1:A:105:PRO:CG   | 1:A:112:TRP:CZ2 | 0.43     | 3.02        | 14     | 1     |
| 1:A:22:ASN:OD1   | 1:A:25:PHE:CE1  | 0.43     | 2.71        | 4      | 1     |
| 1:A:113:CYS:O    | 1:A:113:CYS:SG  | 0.43     | 2.77        | 4      | 1     |
| 1:A:124:GLN:CD   | 1:A:124:GLN:C   | 0.43     | 2.78        | 6      | 3     |
| 1:A:43:GLU:O     | 1:A:43:GLU:OE2  | 0.43     | 2.36        | 8      | 1     |
| 1:A:71:CYS:HA    | 1:A:115:VAL:CG2 | 0.43     | 2.44        | 8      | 1     |
| 1:A:110:ARG:CB   | 1:A:125:GLU:OE1 | 0.43     | 2.67        | 8      | 1     |
| 1:A:66:THR:HA    | 1:A:126:CYS:O   | 0.43     | 2.14        | 14     | 2     |
| 1:A:78:THR:CG2   | 1:A:121:PRO:HD3 | 0.43     | 2.44        | 10     | 1     |
| 1:A:22:ASN:OD1   | 1:A:26:SER:C    | 0.43     | 2.58        | 2      | 1     |
| 1:A:104:ASN:OD1  | 1:A:109:ARG:C   | 0.43     | 2.57        | 2      | 1     |
| 1:A:12:ASP:N     | 1:A:31:CYS:SG   | 0.43     | 2.91        | 6      | 1     |
| 1:A:83:THR:HG23  | 1:A:88:ARG:NE   | 0.43     | 2.28        | 9      | 1     |
| 1:A:43:GLU:OE1   | 1:A:43:GLU:C    | 0.43     | 2.57        | 14     | 1     |
| 1:A:110:ARG:CG   | 1:A:111:PRO:HD2 | 0.43     | 2.44        | 15     | 1     |
| 1:A:120:LYS:O    | 1:A:120:LYS:HG3 | 0.43     | 2.14        | 15     | 1     |

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| Atom-1           | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|------------------|-----------------|----------|-------------|--------|-------|
|                  |                 |          |             | Worst  | Total |
| 1:A:56:HIS:CE1   | 1:A:105:PRO:HA  | 0.42     | 2.49        | 3      | 1     |
| 1:A:32:ASN:C     | 1:A:32:ASN:OD1  | 0.42     | 2.57        | 1      | 1     |
| 1:A:54:ASN:OD1   | 1:A:104:ASN:CB  | 0.42     | 2.67        | 5      | 1     |
| 1:A:98:LYS:O     | 1:A:98:LYS:HG3  | 0.42     | 2.14        | 10     | 1     |
| 1:A:20:VAL:C     | 1:A:21:SER:OG   | 0.42     | 2.57        | 12     | 1     |
| 1:A:22:ASN:HB3   | 1:A:25:PHE:CG   | 0.42     | 2.50        | 12     | 1     |
| 1:A:127:MET:SD   | 1:A:127:MET:N   | 0.42     | 2.93        | 3      | 1     |
| 1:A:26:SER:O     | 1:A:27:ASN:HB3  | 0.42     | 2.14        | 9      | 2     |
| 1:A:73:PRO:HG2   | 1:A:75:ASN:OD1  | 0.42     | 2.14        | 7      | 1     |
| 1:A:84:TYR:CE1   | 1:A:90:ASP:CG   | 0.42     | 2.92        | 10     | 1     |
| 1:A:58:TYR:O     | 1:A:59:ARG:HG2  | 0.42     | 2.14        | 14     | 1     |
| 1:A:58:TYR:O     | 1:A:59:ARG:CD   | 0.42     | 2.67        | 14     | 1     |
| 1:A:15:ASN:O     | 1:A:16:GLY:C    | 0.42     | 2.58        | 2      | 1     |
| 1:A:65:ASP:OD1   | 1:A:71:CYS:HB2  | 0.42     | 2.15        | 2      | 1     |
| 1:A:30:TRP:CD1   | 1:A:30:TRP:C    | 0.42     | 2.92        | 4      | 1     |
| 1:A:66:THR:CB    | 1:A:127:MET:HG3 | 0.42     | 2.44        | 8      | 1     |
| 1:A:79:VAL:O     | 1:A:82:GLN:HG2  | 0.42     | 2.13        | 8      | 1     |
| 1:A:73:PRO:CA    | 1:A:99:HIS:O    | 0.42     | 2.68        | 15     | 1     |
| 1:A:126:CYS:O    | 1:A:127:MET:C   | 0.42     | 2.58        | 1      | 3     |
| 1:A:65:ASP:OD1   | 1:A:71:CYS:SG   | 0.42     | 2.78        | 2      | 1     |
| 1:A:65:ASP:OD2   | 1:A:69:ARG:HG3  | 0.42     | 2.13        | 2      | 2     |
| 1:A:67:MET:SD    | 1:A:69:ARG:NH1  | 0.42     | 2.92        | 3      | 1     |
| 1:A:14:LEU:CD1   | 1:A:43:GLU:CA   | 0.42     | 2.98        | 7      | 1     |
| 1:A:54:ASN:CB    | 1:A:109:ARG:O   | 0.42     | 2.67        | 10     | 1     |
| 1:A:54:ASN:O     | 1:A:54:ASN:OD1  | 0.42     | 2.38        | 13     | 1     |
| 1:A:73:PRO:HB2   | 1:A:75:ASN:ND2  | 0.42     | 2.30        | 3      | 1     |
| 1:A:103:ARG:C    | 1:A:105:PRO:HD3 | 0.42     | 2.35        | 11     | 3     |
| 1:A:34:PRO:HG2   | 1:A:37:PHE:CG   | 0.42     | 2.49        | 7      | 1     |
| 1:A:14:LEU:O     | 1:A:15:ASN:HB2  | 0.42     | 2.14        | 9      | 2     |
| 1:A:73:PRO:O     | 1:A:75:ASN:N    | 0.42     | 2.53        | 8      | 1     |
| 1:A:103:ARG:HD2  | 1:A:112:TRP:O   | 0.42     | 2.14        | 12     | 1     |
| 1:A:20:VAL:HG13  | 1:A:32:ASN:HB2  | 0.42     | 1.91        | 14     | 1     |
| 1:A:58:TYR:O     | 1:A:59:ARG:CG   | 0.42     | 2.68        | 14     | 1     |
| 1:A:128:VAL:O    | 1:A:129:HIS:C   | 0.42     | 2.57        | 14     | 1     |
| 1:A:12:ASP:N     | 1:A:12:ASP:OD1  | 0.42     | 2.48        | 1      | 1     |
| 1:A:37:PHE:HA    | 1:A:44:ILE:O    | 0.42     | 2.15        | 2      | 1     |
| 1:A:36:LYS:HD2   | 1:A:37:PHE:CE2  | 0.42     | 2.50        | 8      | 1     |
| 1:A:128:VAL:HG13 | 1:A:129:HIS:N   | 0.42     | 2.29        | 9      | 1     |
| 1:A:19:CYS:SG    | 1:A:31:CYS:HA   | 0.42     | 2.55        | 10     | 1     |
| 1:A:66:THR:HA    | 1:A:127:MET:CG  | 0.42     | 2.45        | 10     | 2     |
| 1:A:115:VAL:HG13 | 1:A:124:GLN:CD  | 0.42     | 2.34        | 10     | 1     |

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| Atom-1          | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|-----------------|-----------------|----------|-------------|--------|-------|
|                 |                 |          |             | Worst  | Total |
| 1:A:13:CYS:C    | 1:A:41:HIS:O    | 0.42     | 2.57        | 1      | 1     |
| 1:A:92:LEU:CD2  | 1:A:93:GLN:CG   | 0.42     | 2.97        | 2      | 1     |
| 1:A:12:ASP:O    | 1:A:13:CYS:HB2  | 0.42     | 2.14        | 3      | 1     |
| 1:A:84:TYR:N    | 1:A:84:TYR:CD1  | 0.42     | 2.85        | 3      | 1     |
| 1:A:102:CYS:O   | 1:A:103:ARG:O   | 0.42     | 2.37        | 6      | 1     |
| 1:A:55:GLY:O    | 1:A:56:HIS:C    | 0.42     | 2.58        | 9      | 2     |
| 1:A:100:ASN:O   | 1:A:100:ASN:CG  | 0.42     | 2.58        | 12     | 1     |
| 1:A:80:LEU:HD23 | 1:A:80:LEU:HA   | 0.42     | 1.73        | 2      | 1     |
| 1:A:106:ASP:OD2 | 1:A:112:TRP:NE1 | 0.42     | 2.53        | 4      | 1     |
| 1:A:56:HIS:O    | 1:A:56:HIS:CG   | 0.42     | 2.72        | 5      | 1     |
| 1:A:98:LYS:O    | 1:A:99:HIS:HB3  | 0.42     | 2.14        | 6      | 1     |
| 1:A:12:ASP:O    | 1:A:13:CYS:HB3  | 0.42     | 2.15        | 12     | 1     |
| 1:A:84:TYR:CD2  | 1:A:105:PRO:HB2 | 0.42     | 2.50        | 5      | 2     |
| 1:A:22:ASN:CG   | 1:A:25:PHE:CB   | 0.42     | 2.88        | 10     | 1     |
| 1:A:67:MET:SD   | 1:A:69:ARG:CZ   | 0.41     | 3.08        | 3      | 1     |
| 1:A:84:TYR:CG   | 1:A:105:PRO:HB2 | 0.41     | 2.49        | 7      | 1     |
| 1:A:25:PHE:CG   | 1:A:28:ILE:CG2  | 0.41     | 3.03        | 10     | 1     |
| 1:A:70:PRO:O    | 1:A:100:ASN:OD1 | 0.41     | 2.37        | 10     | 1     |
| 1:A:69:ARG:CD   | 1:A:115:VAL:CG2 | 0.41     | 2.98        | 13     | 1     |
| 1:A:14:LEU:CD1  | 1:A:41:HIS:CB   | 0.41     | 2.92        | 14     | 1     |
| 1:A:93:GLN:HG2  | 1:A:94:LEU:HD13 | 0.41     | 1.91        | 15     | 1     |
| 1:A:74:TRP:HB2  | 1:A:97:GLY:O    | 0.41     | 2.16        | 12     | 2     |
| 1:A:84:TYR:CG   | 1:A:105:PRO:CG  | 0.41     | 3.02        | 9      | 2     |
| 1:A:102:CYS:O   | 1:A:103:ARG:HB2 | 0.41     | 2.14        | 13     | 2     |
| 1:A:14:LEU:HD13 | 1:A:15:ASN:OD1  | 0.41     | 2.15        | 8      | 1     |
| 1:A:78:THR:CG2  | 1:A:121:PRO:HG3 | 0.41     | 2.45        | 10     | 1     |
| 1:A:94:LEU:HG   | 1:A:105:PRO:CG  | 0.41     | 2.45        | 12     | 1     |
| 1:A:14:LEU:O    | 1:A:16:GLY:N    | 0.41     | 2.53        | 15     | 1     |
| 1:A:11:CYS:O    | 1:A:12:ASP:CG   | 0.41     | 2.58        | 2      | 1     |
| 1:A:127:MET:O   | 1:A:128:VAL:HB  | 0.41     | 2.14        | 3      | 1     |
| 1:A:106:ASP:OD1 | 1:A:107:ASN:N   | 0.41     | 2.53        | 4      | 1     |
| 1:A:14:LEU:CD1  | 1:A:14:LEU:C    | 0.41     | 2.89        | 7      | 1     |
| 1:A:25:PHE:O    | 1:A:28:ILE:CD1  | 0.41     | 2.68        | 8      | 1     |
| 1:A:79:VAL:O    | 1:A:81:GLN:N    | 0.41     | 2.54        | 8      | 1     |
| 1:A:111:PRO:O   | 1:A:125:GLU:HA  | 0.41     | 2.15        | 12     | 2     |
| 1:A:64:THR:O    | 1:A:126:CYS:HB3 | 0.41     | 2.14        | 15     | 1     |
| 1:A:80:LEU:HD22 | 1:A:85:HIS:CD2  | 0.41     | 2.50        | 1      | 1     |
| 1:A:25:PHE:HB2  | 1:A:28:ILE:HG12 | 0.41     | 1.92        | 2      | 1     |
| 1:A:13:CYS:CB   | 1:A:33:CYS:HB3  | 0.41     | 2.46        | 5      | 1     |
| 1:A:26:SER:HB3  | 1:A:28:ILE:HD11 | 0.41     | 1.91        | 8      | 1     |
| 1:A:104:ASN:O   | 1:A:104:ASN:CG  | 0.41     | 2.59        | 8      | 1     |

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| Atom-1           | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|------------------|-----------------|----------|-------------|--------|-------|
|                  |                 |          |             | Worst  | Total |
| 1:A:103:ARG:O    | 1:A:111:PRO:HA  | 0.41     | 2.14        | 12     | 1     |
| 1:A:36:LYS:O     | 1:A:46:LYS:C    | 0.41     | 2.59        | 1      | 1     |
| 1:A:74:TRP:HB2   | 1:A:96:LEU:O    | 0.41     | 2.15        | 1      | 1     |
| 1:A:38:GLY:N     | 1:A:44:ILE:O    | 0.41     | 2.53        | 2      | 1     |
| 1:A:127:MET:O    | 1:A:128:VAL:CB  | 0.41     | 2.68        | 3      | 1     |
| 1:A:29:HIS:ND1   | 1:A:29:HIS:N    | 0.41     | 2.68        | 5      | 2     |
| 1:A:20:VAL:O     | 1:A:21:SER:HB3  | 0.41     | 2.16        | 9      | 2     |
| 1:A:65:ASP:CG    | 1:A:115:VAL:CG2 | 0.41     | 2.83        | 6      | 1     |
| 1:A:66:THR:HG23  | 1:A:124:GLN:HG2 | 0.41     | 1.92        | 6      | 1     |
| 1:A:73:PRO:HB2   | 1:A:75:ASN:OD1  | 0.41     | 2.16        | 7      | 1     |
| 1:A:65:ASP:HB2   | 1:A:124:GLN:HG3 | 0.41     | 1.93        | 9      | 1     |
| 1:A:112:TRP:HB2  | 1:A:124:GLN:O   | 0.41     | 2.14        | 9      | 1     |
| 1:A:39:GLY:C     | 1:A:40:GLN:HG2  | 0.41     | 2.35        | 11     | 1     |
| 1:A:91:ALA:CA    | 1:A:96:LEU:CD1  | 0.41     | 2.99        | 11     | 1     |
| 1:A:79:VAL:CG2   | 1:A:85:HIS:HA   | 0.41     | 2.45        | 2      | 1     |
| 1:A:14:LEU:CD1   | 1:A:15:ASN:HB2  | 0.41     | 2.45        | 4      | 1     |
| 1:A:43:GLU:O     | 1:A:44:ILE:C    | 0.41     | 2.59        | 11     | 2     |
| 1:A:72:LEU:HD11  | 1:A:116:GLN:CG  | 0.41     | 2.46        | 5      | 2     |
| 1:A:12:ASP:CA    | 1:A:31:CYS:SG   | 0.41     | 3.09        | 6      | 1     |
| 1:A:75:ASN:O     | 1:A:80:LEU:HG   | 0.41     | 2.15        | 7      | 1     |
| 1:A:26:SER:O     | 1:A:27:ASN:HB2  | 0.41     | 2.15        | 15     | 3     |
| 1:A:73:PRO:O     | 1:A:79:VAL:CG1  | 0.41     | 2.67        | 11     | 1     |
| 1:A:91:ALA:CB    | 1:A:96:LEU:HB2  | 0.41     | 2.45        | 12     | 1     |
| 1:A:101:TYR:O    | 1:A:103:ARG:N   | 0.41     | 2.54        | 14     | 1     |
| 1:A:15:ASN:OD1   | 1:A:37:PHE:CZ   | 0.41     | 2.73        | 15     | 1     |
| 1:A:57:PHE:O     | 1:A:57:PHE:CD1  | 0.41     | 2.73        | 2      | 1     |
| 1:A:20:VAL:CG2   | 1:A:30:TRP:CD2  | 0.41     | 3.04        | 3      | 1     |
| 1:A:117:VAL:HG22 | 1:A:124:GLN:OE1 | 0.41     | 2.16        | 3      | 1     |
| 1:A:66:THR:HA    | 1:A:127:MET:HB2 | 0.41     | 1.92        | 5      | 1     |
| 1:A:36:LYS:HE3   | 1:A:37:PHE:CE1  | 0.41     | 2.51        | 9      | 1     |
| 1:A:11:CYS:O     | 1:A:12:ASP:HB2  | 0.41     | 2.15        | 10     | 1     |
| 1:A:84:TYR:CE2   | 1:A:106:ASP:OD2 | 0.41     | 2.73        | 11     | 1     |
| 1:A:89:SER:O     | 1:A:90:ASP:OD1  | 0.41     | 2.38        | 11     | 1     |
| 1:A:105:PRO:HD2  | 1:A:112:TRP:CH2 | 0.41     | 2.50        | 11     | 1     |
| 1:A:88:ARG:HG3   | 1:A:91:ALA:N    | 0.41     | 2.30        | 14     | 1     |
| 1:A:84:TYR:CD1   | 1:A:88:ARG:CD   | 0.41     | 3.03        | 15     | 1     |
| 1:A:79:VAL:HA    | 1:A:82:GLN:HG2  | 0.41     | 1.92        | 2      | 1     |
| 1:A:22:ASN:N     | 1:A:30:TRP:CZ3  | 0.41     | 2.89        | 6      | 1     |
| 1:A:58:TYR:CD1   | 1:A:59:ARG:N    | 0.41     | 2.89        | 8      | 1     |
| 1:A:101:TYR:CB   | 1:A:103:ARG:NH1 | 0.41     | 2.84        | 8      | 1     |
| 1:A:88:ARG:NH1   | 1:A:96:LEU:HB2  | 0.41     | 2.31        | 10     | 1     |

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| Atom-1           | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|------------------|-----------------|----------|-------------|--------|-------|
|                  |                 |          |             | Worst  | Total |
| 1:A:98:LYS:O     | 1:A:98:LYS:HG2  | 0.41     | 2.15        | 14     | 1     |
| 1:A:14:LEU:HB3   | 1:A:43:GLU:HA   | 0.41     | 1.92        | 1      | 1     |
| 1:A:89:SER:O     | 1:A:92:LEU:HD11 | 0.41     | 2.15        | 1      | 1     |
| 1:A:80:LEU:HD23  | 1:A:85:HIS:CG   | 0.41     | 2.49        | 2      | 1     |
| 1:A:89:SER:O     | 1:A:90:ASP:HB3  | 0.41     | 2.16        | 2      | 1     |
| 1:A:103:ARG:O    | 1:A:105:PRO:CD  | 0.41     | 2.68        | 2      | 1     |
| 1:A:58:TYR:C     | 1:A:58:TYR:CD1  | 0.41     | 2.94        | 3      | 1     |
| 1:A:43:GLU:HG3   | 1:A:44:ILE:N    | 0.41     | 2.31        | 5      | 1     |
| 1:A:85:HIS:O     | 1:A:96:LEU:HB2  | 0.41     | 2.16        | 6      | 1     |
| 1:A:22:ASN:HA    | 1:A:25:PHE:CE2  | 0.41     | 2.51        | 7      | 1     |
| 1:A:101:TYR:O    | 1:A:103:ARG:CD  | 0.41     | 2.69        | 9      | 1     |
| 1:A:25:PHE:CG    | 1:A:28:ILE:HG21 | 0.41     | 2.51        | 10     | 1     |
| 1:A:36:LYS:O     | 1:A:45:ASP:HA   | 0.41     | 2.16        | 13     | 1     |
| 1:A:65:ASP:O     | 1:A:127:MET:HG2 | 0.41     | 2.14        | 13     | 1     |
| 1:A:38:GLY:O     | 1:A:42:CYS:HA   | 0.41     | 2.16        | 15     | 1     |
| 1:A:124:GLN:NE2  | 1:A:124:GLN:CA  | 0.41     | 2.83        | 15     | 1     |
| 1:A:86:ALA:HB1   | 1:A:97:GLY:HA2  | 0.41     | 1.93        | 6      | 1     |
| 1:A:119:LEU:CD1  | 1:A:119:LEU:H   | 0.41     | 2.29        | 6      | 2     |
| 1:A:57:PHE:O     | 1:A:58:TYR:CG   | 0.41     | 2.74        | 9      | 1     |
| 1:A:127:MET:O    | 1:A:128:VAL:C   | 0.41     | 2.59        | 9      | 1     |
| 1:A:58:TYR:O     | 1:A:59:ARG:HD2  | 0.41     | 2.16        | 12     | 1     |
| 1:A:11:CYS:N     | 1:A:19:CYS:SG   | 0.41     | 2.93        | 14     | 1     |
| 1:A:88:ARG:NH1   | 1:A:90:ASP:HB2  | 0.41     | 2.31        | 14     | 1     |
| 1:A:25:PHE:CB    | 1:A:28:ILE:CG2  | 0.41     | 2.99        | 15     | 1     |
| 1:A:84:TYR:OH    | 1:A:90:ASP:HB3  | 0.40     | 2.16        | 4      | 1     |
| 1:A:103:ARG:C    | 1:A:104:ASN:CG  | 0.40     | 2.80        | 6      | 1     |
| 1:A:61:LYS:O     | 1:A:63:SER:N    | 0.40     | 2.55        | 11     | 1     |
| 1:A:103:ARG:HD2  | 1:A:103:ARG:N   | 0.40     | 2.30        | 12     | 1     |
| 1:A:43:GLU:OE1   | 1:A:44:ILE:N    | 0.40     | 2.54        | 14     | 1     |
| 1:A:122:LEU:HD23 | 1:A:122:LEU:HA  | 0.40     | 1.73        | 14     | 1     |
| 1:A:117:VAL:HG22 | 1:A:117:VAL:O   | 0.40     | 2.16        | 15     | 1     |
| 1:A:37:PHE:O     | 1:A:46:LYS:HE3  | 0.40     | 2.17        | 2      | 1     |
| 1:A:78:THR:HB    | 1:A:121:PRO:HG3 | 0.40     | 1.93        | 10     | 1     |
| 1:A:102:CYS:SG   | 1:A:113:CYS:N   | 0.40     | 2.95        | 10     | 1     |
| 1:A:79:VAL:CG2   | 1:A:85:HIS:HB3  | 0.40     | 2.40        | 12     | 1     |
| 1:A:22:ASN:HB2   | 1:A:28:ILE:N    | 0.40     | 2.32        | 2      | 1     |
| 1:A:86:ALA:HB2   | 1:A:97:GLY:H    | 0.40     | 1.75        | 3      | 1     |
| 1:A:58:TYR:O     | 1:A:59:ARG:HB2  | 0.40     | 2.17        | 5      | 1     |
| 1:A:56:HIS:HA    | 1:A:104:ASN:ND2 | 0.40     | 2.31        | 7      | 1     |
| 1:A:73:PRO:HD2   | 1:A:76:SER:OG   | 0.40     | 2.16        | 11     | 1     |
| 1:A:82:GLN:CB    | 1:A:114:TYR:CE2 | 0.40     | 3.05        | 11     | 1     |

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| Atom-1           | Atom-2          | Clash(Å) | Distance(Å) | Models |       |
|------------------|-----------------|----------|-------------|--------|-------|
|                  |                 |          |             | Worst  | Total |
| 1:A:21:SER:OG    | 1:A:29:HIS:HB3  | 0.40     | 2.17        | 13     | 1     |
| 1:A:119:LEU:HD23 | 1:A:120:LYS:HG3 | 0.40     | 1.92        | 14     | 1     |
| 1:A:97:GLY:O     | 1:A:98:LYS:C    | 0.40     | 2.59        | 1      | 1     |
| 1:A:66:THR:HG22  | 1:A:127:MET:H   | 0.40     | 1.76        | 6      | 1     |
| 1:A:83:THR:HG22  | 1:A:88:ARG:HD2  | 0.40     | 1.93        | 9      | 1     |
| 1:A:25:PHE:CD2   | 1:A:28:ILE:HB   | 0.40     | 2.51        | 13     | 2     |
| 1:A:14:LEU:CB    | 1:A:43:GLU:CA   | 0.40     | 3.00        | 14     | 1     |
| 1:A:54:ASN:CG    | 1:A:55:GLY:N    | 0.40     | 2.75        | 15     | 1     |
| 1:A:93:GLN:HG2   | 1:A:94:LEU:CD1  | 0.40     | 2.46        | 15     | 1     |
| 1:A:12:ASP:CG    | 1:A:41:HIS:CD2  | 0.40     | 2.95        | 1      | 1     |
| 1:A:65:ASP:OD2   | 1:A:69:ARG:HD2  | 0.40     | 2.16        | 2      | 1     |
| 1:A:103:ARG:O    | 1:A:105:PRO:HD3 | 0.40     | 2.15        | 2      | 1     |
| 1:A:55:GLY:HA3   | 1:A:111:PRO:CG  | 0.40     | 2.45        | 4      | 1     |
| 1:A:57:PHE:CD1   | 1:A:58:TYR:N    | 0.40     | 2.90        | 7      | 1     |

## 6.3 Torsion angles [i](#)

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

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

| Mol | Chain | Analysed        | Favoured     | Allowed      | Outliers     | Percentiles         |
|-----|-------|-----------------|--------------|--------------|--------------|---------------------|
| 1   | A     | 112/130 (86%)   | 63±4 (56±4%) | 33±3 (29±3%) | 16±3 (14±3%) | <b>0</b>   <b>5</b> |
| All | All   | 1680/1950 (86%) | 947 (56%)    | 494 (29%)    | 239 (14%)    | <b>0</b>   <b>5</b> |

All 53 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     | 40  | GLN  | 15             |
| 1   | A     | 77  | ALA  | 15             |
| 1   | A     | 87  | HIS  | 14             |
| 1   | A     | 121 | PRO  | 13             |
| 1   | A     | 82  | GLN  | 12             |
| 1   | A     | 76  | SER  | 12             |
| 1   | A     | 84  | TYR  | 11             |
| 1   | A     | 107 | ASN  | 9              |

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| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1   | A     | 46  | LYS  | 8              |
| 1   | A     | 125 | GLU  | 8              |
| 1   | A     | 58  | TYR  | 7              |
| 1   | A     | 86  | ALA  | 7              |
| 1   | A     | 13  | CYS  | 7              |
| 1   | A     | 95  | GLY  | 7              |
| 1   | A     | 126 | CYS  | 6              |
| 1   | A     | 65  | ASP  | 6              |
| 1   | A     | 62  | ALA  | 6              |
| 1   | A     | 27  | ASN  | 6              |
| 1   | A     | 11  | CYS  | 5              |
| 1   | A     | 12  | ASP  | 5              |
| 1   | A     | 17  | GLY  | 5              |
| 1   | A     | 128 | VAL  | 5              |
| 1   | A     | 22  | ASN  | 4              |
| 1   | A     | 114 | TYR  | 3              |
| 1   | A     | 60  | GLY  | 3              |
| 1   | A     | 21  | SER  | 3              |
| 1   | A     | 103 | ARG  | 3              |
| 1   | A     | 129 | HIS  | 3              |
| 1   | A     | 127 | MET  | 3              |
| 1   | A     | 89  | SER  | 2              |
| 1   | A     | 105 | PRO  | 2              |
| 1   | A     | 56  | HIS  | 2              |
| 1   | A     | 102 | CYS  | 2              |
| 1   | A     | 99  | HIS  | 1              |
| 1   | A     | 101 | TYR  | 1              |
| 1   | A     | 90  | ASP  | 1              |
| 1   | A     | 97  | GLY  | 1              |
| 1   | A     | 23  | LYS  | 1              |
| 1   | A     | 54  | ASN  | 1              |
| 1   | A     | 61  | LYS  | 1              |
| 1   | A     | 119 | LEU  | 1              |
| 1   | A     | 26  | SER  | 1              |
| 1   | A     | 111 | PRO  | 1              |
| 1   | A     | 31  | CYS  | 1              |
| 1   | A     | 59  | ARG  | 1              |
| 1   | A     | 91  | ALA  | 1              |
| 1   | A     | 98  | LYS  | 1              |
| 1   | A     | 29  | HIS  | 1              |
| 1   | A     | 110 | ARG  | 1              |
| 1   | A     | 18  | THR  | 1              |

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| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1   | A     | 83  | THR  | 1              |
| 1   | A     | 104 | ASN  | 1              |
| 1   | A     | 108 | ARG  | 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     | 98/113 (87%)    | 66±3 (68±3%) | 32±3 (32±3%) | 1           | 12 |
| All | All   | 1470/1695 (87%) | 994 (68%)    | 476 (32%)    | 1           | 12 |

All 77 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     | 119 | LEU  | 15             |
| 1   | A     | 92  | LEU  | 14             |
| 1   | A     | 108 | ARG  | 14             |
| 1   | A     | 124 | GLN  | 14             |
| 1   | A     | 116 | GLN  | 14             |
| 1   | A     | 81  | GLN  | 13             |
| 1   | A     | 36  | LYS  | 13             |
| 1   | A     | 76  | SER  | 11             |
| 1   | A     | 127 | MET  | 11             |
| 1   | A     | 103 | ARG  | 10             |
| 1   | A     | 120 | LYS  | 10             |
| 1   | A     | 87  | HIS  | 10             |
| 1   | A     | 59  | ARG  | 9              |
| 1   | A     | 63  | SER  | 9              |
| 1   | A     | 93  | GLN  | 9              |
| 1   | A     | 122 | LEU  | 9              |
| 1   | A     | 26  | SER  | 9              |
| 1   | A     | 43  | GLU  | 9              |
| 1   | A     | 25  | PHE  | 8              |
| 1   | A     | 78  | THR  | 8              |
| 1   | A     | 61  | LYS  | 8              |
| 1   | A     | 79  | VAL  | 8              |

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| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1   | A     | 123 | VAL  | 8              |
| 1   | A     | 35  | LYS  | 8              |
| 1   | A     | 42  | CYS  | 8              |
| 1   | A     | 67  | MET  | 8              |
| 1   | A     | 14  | LEU  | 7              |
| 1   | A     | 19  | CYS  | 7              |
| 1   | A     | 31  | CYS  | 7              |
| 1   | A     | 33  | CYS  | 7              |
| 1   | A     | 83  | THR  | 7              |
| 1   | A     | 88  | ARG  | 7              |
| 1   | A     | 65  | ASP  | 7              |
| 1   | A     | 104 | ASN  | 7              |
| 1   | A     | 12  | ASP  | 7              |
| 1   | A     | 109 | ARG  | 7              |
| 1   | A     | 22  | ASN  | 6              |
| 1   | A     | 11  | CYS  | 6              |
| 1   | A     | 32  | ASN  | 6              |
| 1   | A     | 98  | LYS  | 6              |
| 1   | A     | 40  | GLN  | 6              |
| 1   | A     | 66  | THR  | 5              |
| 1   | A     | 89  | SER  | 5              |
| 1   | A     | 102 | CYS  | 5              |
| 1   | A     | 29  | HIS  | 5              |
| 1   | A     | 115 | VAL  | 5              |
| 1   | A     | 90  | ASP  | 5              |
| 1   | A     | 110 | ARG  | 5              |
| 1   | A     | 23  | LYS  | 5              |
| 1   | A     | 21  | SER  | 4              |
| 1   | A     | 96  | LEU  | 4              |
| 1   | A     | 82  | GLN  | 4              |
| 1   | A     | 15  | ASN  | 4              |
| 1   | A     | 27  | ASN  | 4              |
| 1   | A     | 57  | PHE  | 4              |
| 1   | A     | 75  | ASN  | 4              |
| 1   | A     | 99  | HIS  | 3              |
| 1   | A     | 94  | LEU  | 3              |
| 1   | A     | 101 | TYR  | 3              |
| 1   | A     | 28  | ILE  | 3              |
| 1   | A     | 13  | CYS  | 3              |
| 1   | A     | 58  | TYR  | 3              |
| 1   | A     | 54  | ASN  | 2              |
| 1   | A     | 100 | ASN  | 2              |

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| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1   | A     | 106 | ASP  | 2              |
| 1   | A     | 129 | HIS  | 2              |
| 1   | A     | 107 | ASN  | 2              |
| 1   | A     | 56  | HIS  | 2              |
| 1   | A     | 45  | ASP  | 2              |
| 1   | A     | 41  | HIS  | 2              |
| 1   | A     | 126 | CYS  | 1              |
| 1   | A     | 20  | VAL  | 1              |
| 1   | A     | 80  | LEU  | 1              |
| 1   | A     | 69  | ARG  | 1              |
| 1   | A     | 85  | HIS  | 1              |
| 1   | A     | 71  | CYS  | 1              |
| 1   | A     | 113 | CYS  | 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 oligosaccharides in this entry.

## 6.6 Ligand geometry [i](#)

1 ligand is modelled in this entry.

In the following table, the Counts columns list the number of bonds for which Mogul statistics could be retrieved, the number of bonds that are observed in the model and the number of bonds that are defined in the chemical component dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length is the number of standard deviations the observed value is removed from the expected value. A bond length with  $|Z| > 2$  is considered an outlier worth inspection. RMSZ is the average root-mean-square of all Z scores of the bond lengths.

| Mol | Type | Chain | Res | Link | Bond lengths |           |            |
|-----|------|-------|-----|------|--------------|-----------|------------|
|     |      |       |     |      | Counts       | RMSZ      | #Z>2       |
| 2   | FUC  | A     | 136 | 1    | 10,10,11     | 0.28±0.01 | 0±0 (0±0%) |

In the following table, the Counts columns list the number of angles for which Mogul statistics could be retrieved, the number of angles that are observed in the model and the number of angles that are defined in the chemical component dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond angle is the number of standard deviations the observed value is removed from the expected value. A bond angle with  $|Z| > 2$  is considered an outlier worth inspection. RMSZ is the average root-mean-square of all Z scores of the bond angles.

| Mol | Type | Chain | Res | Link | Bond angles |           |            |
|-----|------|-------|-----|------|-------------|-----------|------------|
|     |      |       |     |      | Counts      | RMSZ      | #Z>2       |
| 2   | FUC  | A     | 136 | 1    | 14,14,16    | 0.42±0.00 | 0±0 (0±0%) |

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the chemical component dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings     |
|-----|------|-------|-----|------|---------|----------|-----------|
| 2   | FUC  | A     | 136 | 1    | -       | -        | 0±0,1,1,1 |

There are no bond-length outliers.

There are no bond-angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

## 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