



# Full wwPDB X-ray Structure Validation Report ⓘ

May 3, 2025 – 01:53 PM EDT

PDB ID : 4GZA / pdb\_00004gza  
Title : Complex of mouse Plexin A2 - Semaphorin 3A - Neuropilin-1  
Authors : Janssen, B.J.C.; Malinauskas, T.; Siebold, C.; Jones, E.Y.  
Deposited on : 2012-09-06  
Resolution : 7.00 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

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

A user guide is available at

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

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 : 4-5-2 with Phenix2.0rc1  
Xtrriage (Phenix) : 2.0rc1  
EDS : 3.0  
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)  
CCP4 : 9.0.006 (Gargrove)  
Density-Fitness : 1.0.12  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.43.1

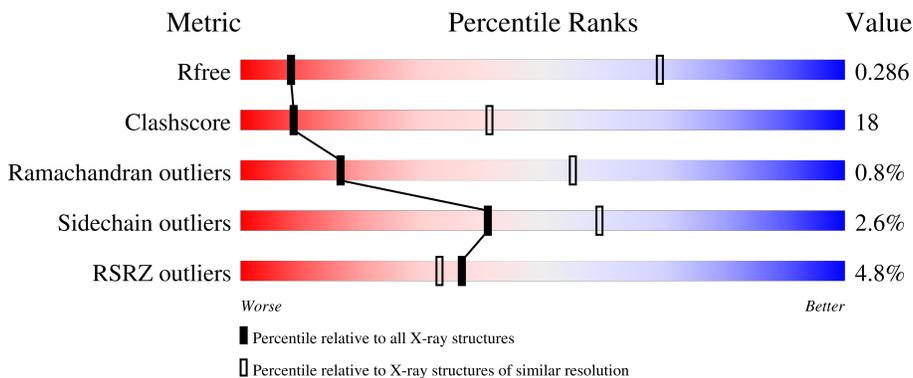
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 7.00 Å.

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) | Similar resolution<br>(#Entries, resolution range(Å)) |
|-----------------------|-----------------------------|---|
| $R_{free}$            | 164625                      | 1107 (10.00-4.00)                                     |
| Clashscore            | 180529                      | 1146 (10.00-4.00)                                     |
| Ramachandran outliers | 177936                      | 1014 (10.00-4.00)                                     |
| Sidechain outliers    | 177891                      | 1035 (10.00-3.96)                                     |
| RSRZ outliers         | 164620                      | 1102 (10.00-4.00)                                     |

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria respectively. 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  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1   | A     | 681    | <br>5% 70% 25%   |
| 1   | B     | 681    | <br>4% 72% 22%   |
| 1   | C     | 681    | <br>5% 72% 23%   |
| 1   | D     | 681    | <br>3% 72% 22%   |
| 1   | E     | 681    | <br>5% 73% 22%   |

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| Mol | Chain | Length | Quality of chain   |
|-----|-------|--------|--|
| 1   | F     | 681    |  |
| 2   | G     | 538    |  |
| 3   | H     | 577    |  |

## 2 Entry composition i

There are 4 unique types of molecules in this entry. The entry contains 35655 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Plexin-A2.

| Mol | Chain | Residues | Atoms |      |     |     |    | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|---------|-------|
|     |       |          | Total | C    | N   | O   | S  |         |         |       |
| 1   | A     | 656      | 5138  | 3255 | 876 | 972 | 35 | 0       | 0       | 0     |
| 1   | B     | 656      | 5138  | 3255 | 876 | 972 | 35 | 0       | 0       | 0     |
| 1   | C     | 656      | 5138  | 3255 | 876 | 972 | 35 | 0       | 0       | 0     |
| 1   | D     | 656      | 5138  | 3255 | 876 | 972 | 35 | 0       | 0       | 0     |
| 1   | E     | 656      | 5138  | 3255 | 876 | 972 | 35 | 0       | 0       | 0     |
| 1   | F     | 656      | 5138  | 3255 | 876 | 972 | 35 | 0       | 0       | 0     |

There are 60 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment        | Reference  |
|-------|---------|----------|--------|----------------|------------|
| A     | 32      | GLU      | -      | expression tag | UNP P70207 |
| A     | 704     | GLY      | -      | expression tag | UNP P70207 |
| A     | 705     | THR      | -      | expression tag | UNP P70207 |
| A     | 706     | LYS      | -      | expression tag | UNP P70207 |
| A     | 707     | HIS      | -      | expression tag | UNP P70207 |
| A     | 708     | HIS      | -      | expression tag | UNP P70207 |
| A     | 709     | HIS      | -      | expression tag | UNP P70207 |
| A     | 710     | HIS      | -      | expression tag | UNP P70207 |
| A     | 711     | HIS      | -      | expression tag | UNP P70207 |
| A     | 712     | HIS      | -      | expression tag | UNP P70207 |
| B     | 32      | GLU      | -      | expression tag | UNP P70207 |
| B     | 704     | GLY      | -      | expression tag | UNP P70207 |
| B     | 705     | THR      | -      | expression tag | UNP P70207 |
| B     | 706     | LYS      | -      | expression tag | UNP P70207 |
| B     | 707     | HIS      | -      | expression tag | UNP P70207 |
| B     | 708     | HIS      | -      | expression tag | UNP P70207 |
| B     | 709     | HIS      | -      | expression tag | UNP P70207 |

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| Chain | Residue | Modelled | Actual | Comment        | Reference  |
|-------|---------|----------|--------|----------------|------------|
| B     | 710     | HIS      | -      | expression tag | UNP P70207 |
| B     | 711     | HIS      | -      | expression tag | UNP P70207 |
| B     | 712     | HIS      | -      | expression tag | UNP P70207 |
| C     | 32      | GLU      | -      | expression tag | UNP P70207 |
| C     | 704     | GLY      | -      | expression tag | UNP P70207 |
| C     | 705     | THR      | -      | expression tag | UNP P70207 |
| C     | 706     | LYS      | -      | expression tag | UNP P70207 |
| C     | 707     | HIS      | -      | expression tag | UNP P70207 |
| C     | 708     | HIS      | -      | expression tag | UNP P70207 |
| C     | 709     | HIS      | -      | expression tag | UNP P70207 |
| C     | 710     | HIS      | -      | expression tag | UNP P70207 |
| C     | 711     | HIS      | -      | expression tag | UNP P70207 |
| C     | 712     | HIS      | -      | expression tag | UNP P70207 |
| D     | 32      | GLU      | -      | expression tag | UNP P70207 |
| D     | 704     | GLY      | -      | expression tag | UNP P70207 |
| D     | 705     | THR      | -      | expression tag | UNP P70207 |
| D     | 706     | LYS      | -      | expression tag | UNP P70207 |
| D     | 707     | HIS      | -      | expression tag | UNP P70207 |
| D     | 708     | HIS      | -      | expression tag | UNP P70207 |
| D     | 709     | HIS      | -      | expression tag | UNP P70207 |
| D     | 710     | HIS      | -      | expression tag | UNP P70207 |
| D     | 711     | HIS      | -      | expression tag | UNP P70207 |
| D     | 712     | HIS      | -      | expression tag | UNP P70207 |
| E     | 32      | GLU      | -      | expression tag | UNP P70207 |
| E     | 704     | GLY      | -      | expression tag | UNP P70207 |
| E     | 705     | THR      | -      | expression tag | UNP P70207 |
| E     | 706     | LYS      | -      | expression tag | UNP P70207 |
| E     | 707     | HIS      | -      | expression tag | UNP P70207 |
| E     | 708     | HIS      | -      | expression tag | UNP P70207 |
| E     | 709     | HIS      | -      | expression tag | UNP P70207 |
| E     | 710     | HIS      | -      | expression tag | UNP P70207 |
| E     | 711     | HIS      | -      | expression tag | UNP P70207 |
| E     | 712     | HIS      | -      | expression tag | UNP P70207 |
| F     | 32      | GLU      | -      | expression tag | UNP P70207 |
| F     | 704     | GLY      | -      | expression tag | UNP P70207 |
| F     | 705     | THR      | -      | expression tag | UNP P70207 |
| F     | 706     | LYS      | -      | expression tag | UNP P70207 |
| F     | 707     | HIS      | -      | expression tag | UNP P70207 |
| F     | 708     | HIS      | -      | expression tag | UNP P70207 |
| F     | 709     | HIS      | -      | expression tag | UNP P70207 |
| F     | 710     | HIS      | -      | expression tag | UNP P70207 |
| F     | 711     | HIS      | -      | expression tag | UNP P70207 |

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| Chain | Residue | Modelled | Actual | Comment        | Reference  |
|-------|---------|----------|--------|----------------|------------|
| F     | 712     | HIS      | -      | expression tag | UNP P70207 |

- Molecule 2 is a protein called Semaphorin-3A.

| Mol | Chain | Residues | Atoms |      |     |     |    | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|---------|-------|
|     |       |          | Total | C    | N   | O   | S  |         |         |       |
| 2   | G     | 484      | 3882  | 2474 | 669 | 720 | 19 | 0       | 0       | 0     |

There are 4 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment        | Reference  |
|-------|---------|----------|--------|----------------|------------|
| G     | 18      | GLU      | -      | expression tag | UNP O08665 |
| G     | 19      | THR      | -      | expression tag | UNP O08665 |
| G     | 20      | GLY      | -      | expression tag | UNP O08665 |
| G     | 475     | VAL      | ILE    | SEE REMARK 999 | UNP O08665 |

- Molecule 3 is a protein called Neuropilin-1.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
|     |       |          | Total | C   | N   | O   | S |         |         |       |
| 3   | H     | 117      | 944   | 611 | 152 | 176 | 5 | 0       | 0       | 0     |

There are 12 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment        | Reference  |
|-------|---------|----------|--------|----------------|------------|
| H     | 19      | GLU      | -      | expression tag | UNP P97333 |
| H     | 20      | THR      | -      | expression tag | UNP P97333 |
| H     | 21      | GLY      | -      | expression tag | UNP P97333 |
| H     | 587     | ARG      | -      | expression tag | UNP P97333 |
| H     | 588     | THR      | -      | expression tag | UNP P97333 |
| H     | 589     | LYS      | -      | expression tag | UNP P97333 |
| H     | 590     | HIS      | -      | expression tag | UNP P97333 |
| H     | 591     | HIS      | -      | expression tag | UNP P97333 |
| H     | 592     | HIS      | -      | expression tag | UNP P97333 |
| H     | 593     | HIS      | -      | expression tag | UNP P97333 |
| H     | 594     | HIS      | -      | expression tag | UNP P97333 |
| H     | 595     | HIS      | -      | expression tag | UNP P97333 |

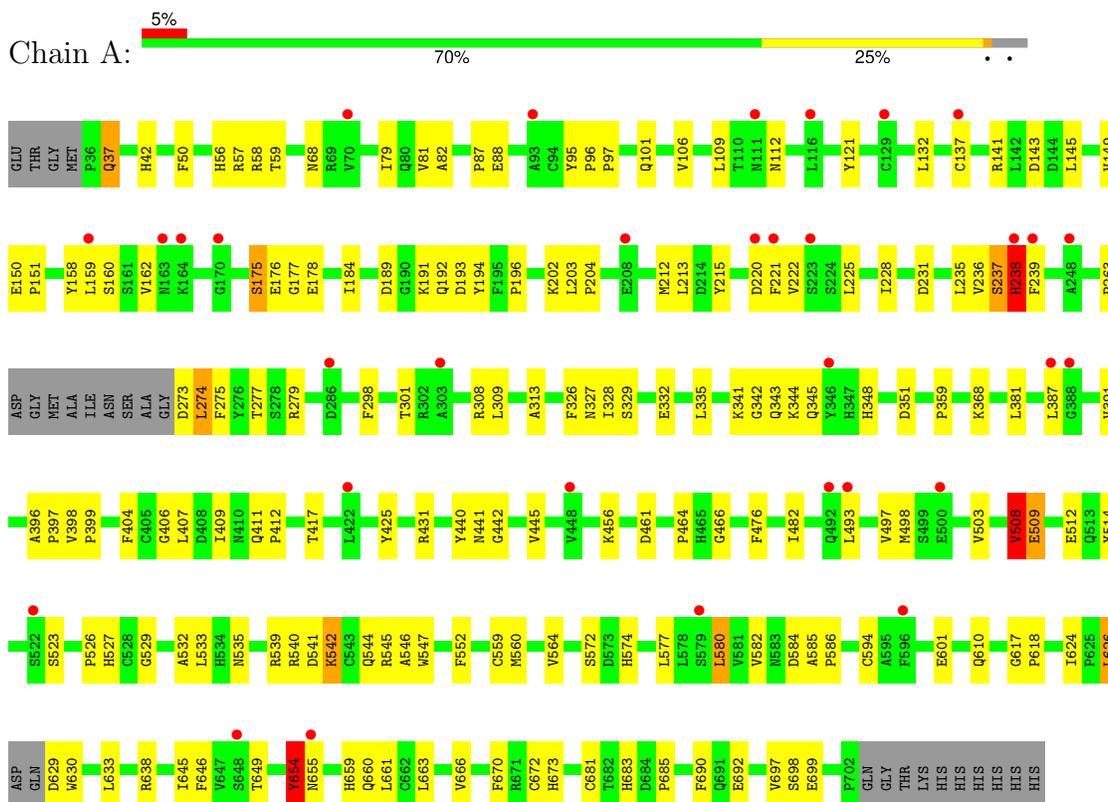
- Molecule 4 is CALCIUM ION (CCD ID: CA) (formula: Ca).

| <b>Mol</b> | <b>Chain</b> | <b>Residues</b> | <b>Atoms</b> |         | <b>ZeroOcc</b> | <b>AltConf</b> |
|------------|--------------|-----------------|--------------|---------|----------------|----------------|
| 4          | H            | 1               | Total<br>1   | Ca<br>1 | 0              | 0              |

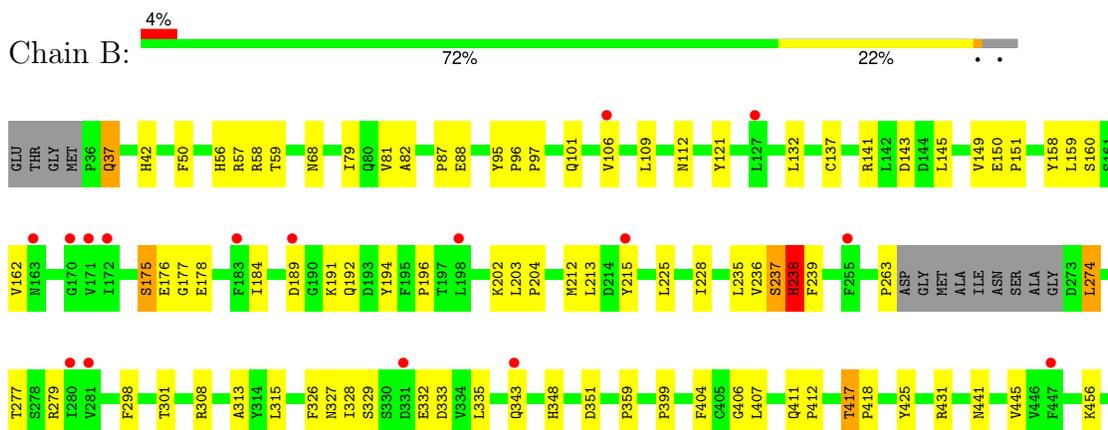
### 3 Residue-property plots [i](#)

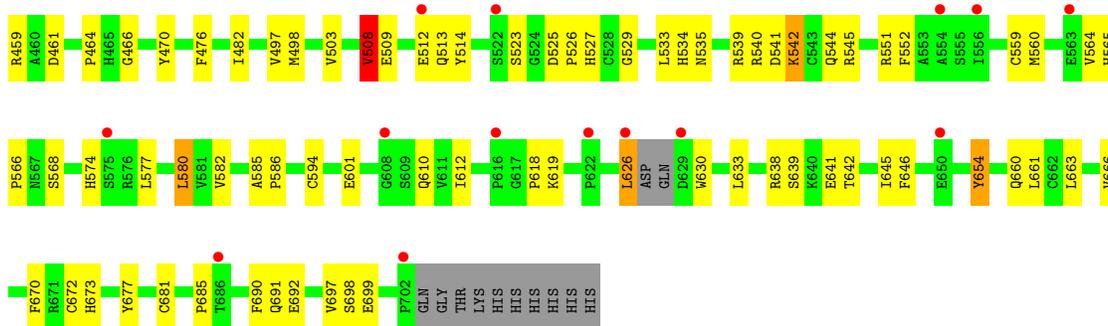
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-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. A red dot above a residue indicates a poor fit to the electron density ( $RSRZ > 2$ ). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

#### • Molecule 1: Plexin-A2

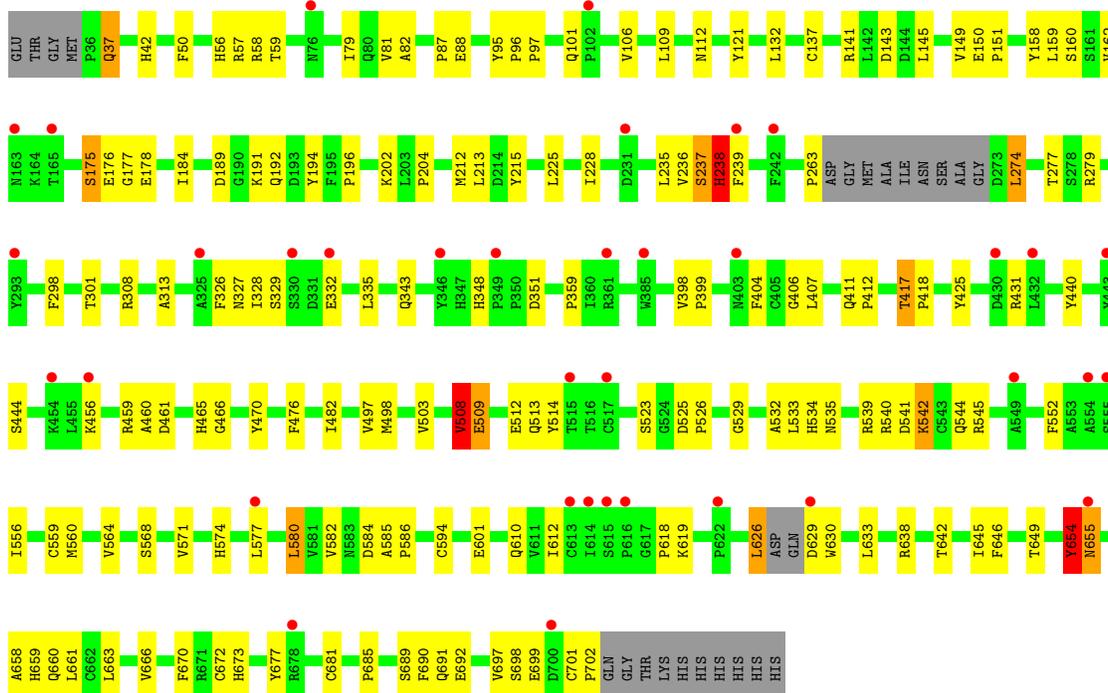


#### • Molecule 1: Plexin-A2

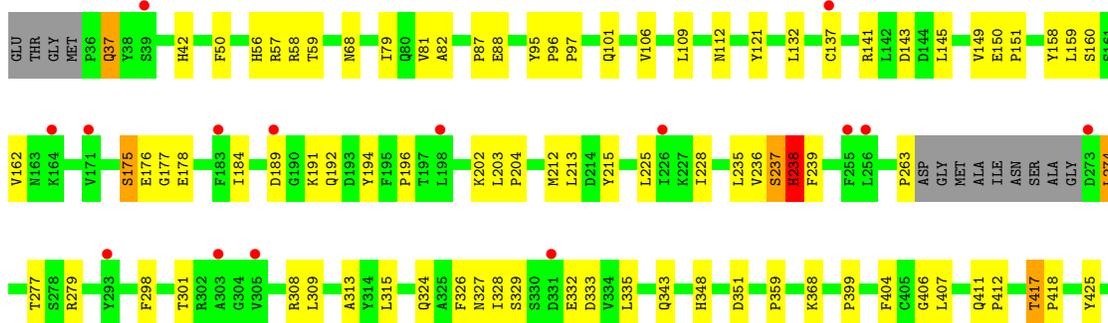


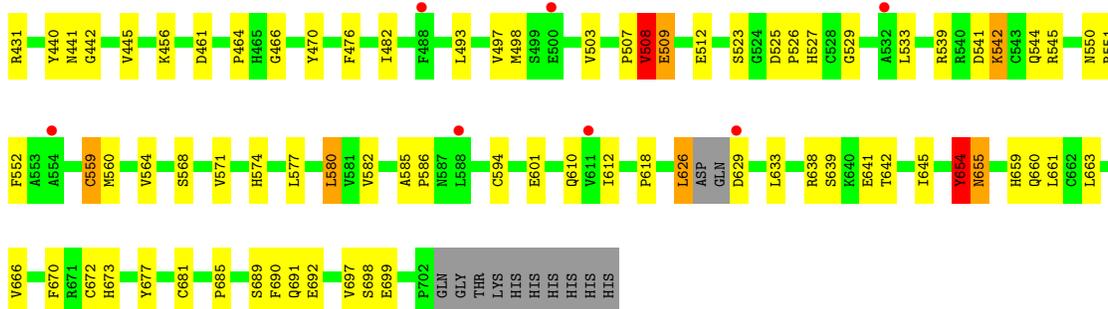


• Molecule 1: Plexin-A2

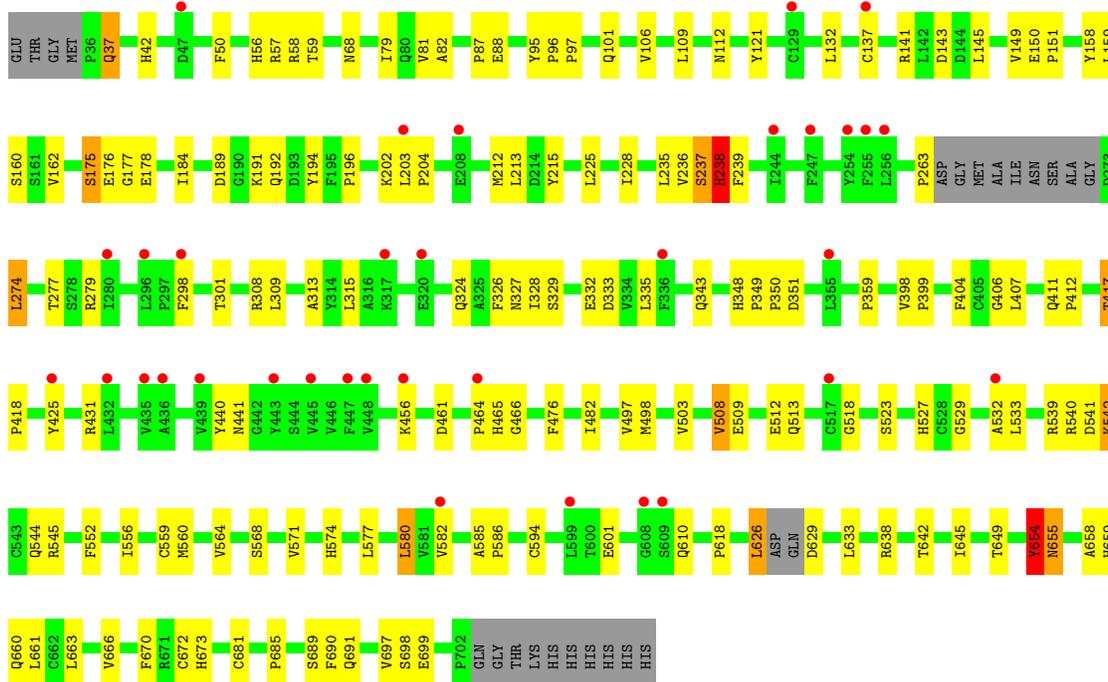


• Molecule 1: Plexin-A2

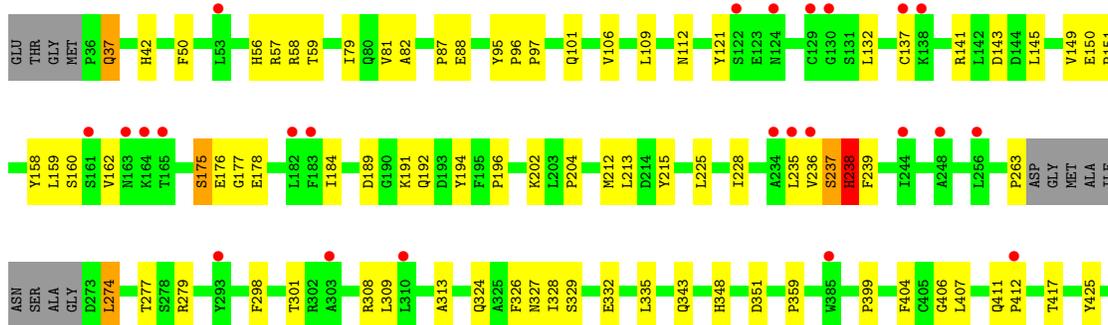


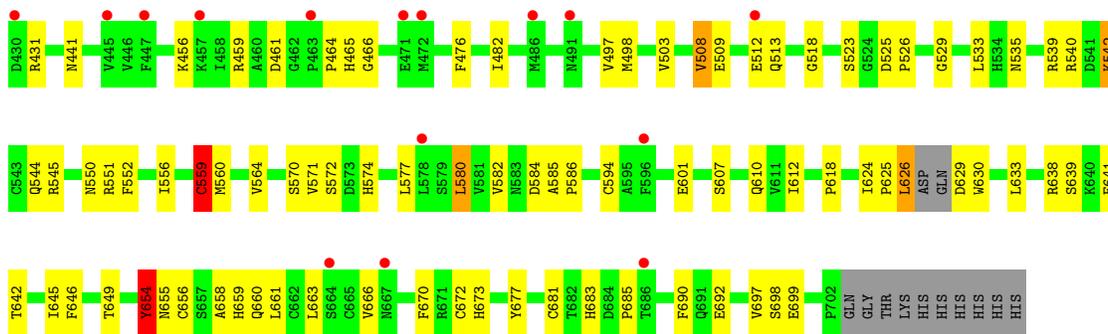


● Molecule 1: Plexin-A2

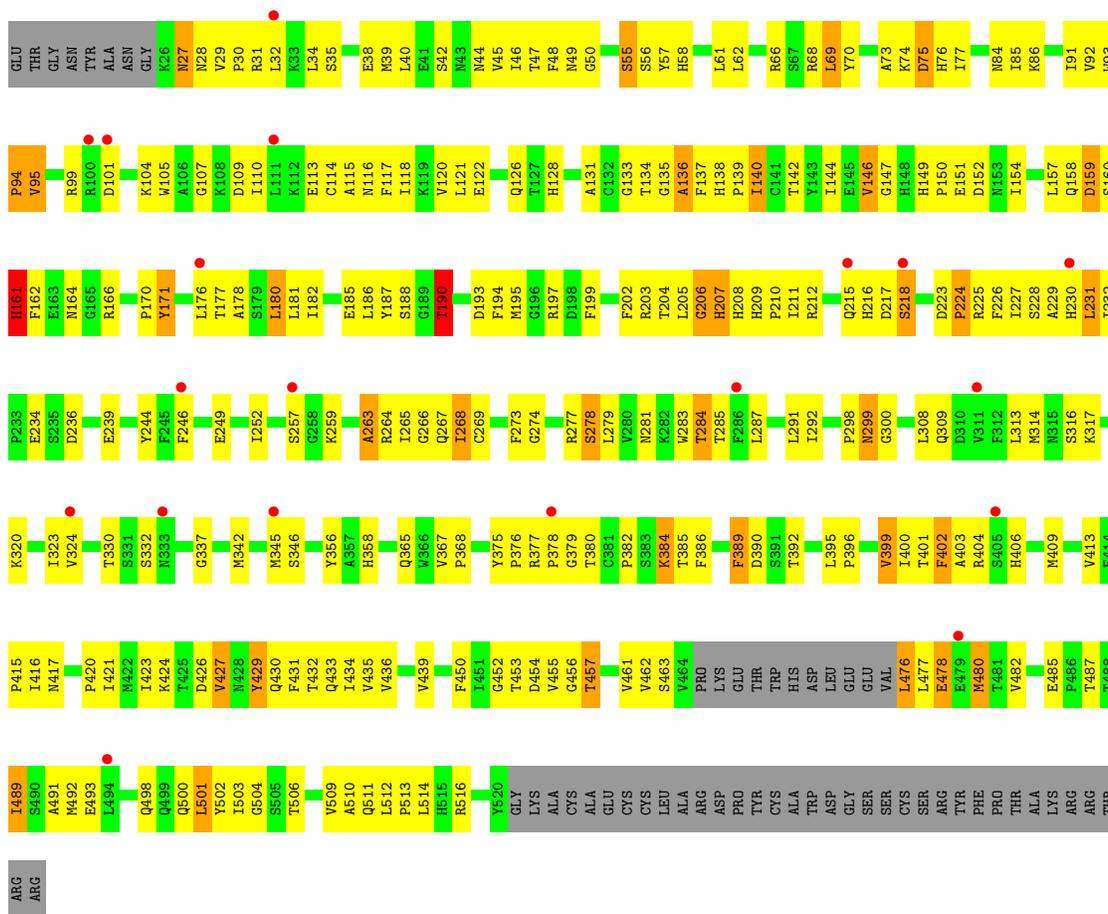


● Molecule 1: Plexin-A2

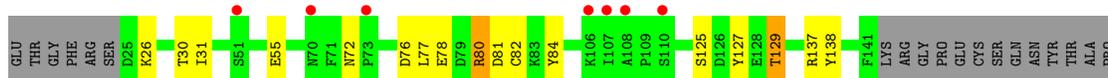




• Molecule 2: Semaphorin-3A



• Molecule 3: Neuropilin-1





## 4 Data and refinement statistics

| Property  | Value   | Source           |
|---|---|------------------|
| Space group   | C 1 2 1   | Depositor        |
| Cell constants<br>a, b, c, $\alpha$ , $\beta$ , $\gamma$                | 191.63Å 293.60Å 252.18Å<br>90.00° 106.38° 90.00°            | Depositor        |
| Resolution (Å)  | 125.51 – 7.00<br>125.51 – 7.00                              | Depositor<br>EDS |
| % Data completeness<br>(in resolution range)                            | 95.6 (125.51-7.00)<br>95.5 (125.51-7.00)                    | Depositor<br>EDS |
| $R_{merge}$   | (Not available)   | Depositor        |
| $R_{sym}$   | (Not available)   | Depositor        |
| $\langle I/\sigma(I) \rangle$ <sup>1</sup>                              | 2.23 (at 6.73Å)   | Xtrriage         |
| Refinement program  | PHENIX (phenix.refine: 1.7.3_928)                           | Depositor        |
| R, $R_{free}$   | 0.285 , 0.285<br>0.281 , 0.286                              | Depositor<br>DCC |
| $R_{free}$ test set   | 1022 reflections (5.06%)                                    | wwPDB-VP         |
| Wilson B-factor (Å <sup>2</sup> )                                       | 293.7   | Xtrriage         |
| Anisotropy  | 0.196   | Xtrriage         |
| Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> ) | 0.37 , 478.1  | EDS              |
| L-test for twinning <sup>2</sup>  | $\langle  L  \rangle = 0.40$ , $\langle L^2 \rangle = 0.23$ | Xtrriage         |
| Estimated twinning fraction   | No twinning to report.                                      | Xtrriage         |
| $F_o, F_c$ correlation  | 0.76  | EDS              |
| Total number of atoms   | 35655   | wwPDB-VP         |
| Average B, all atoms (Å <sup>2</sup> )                                  | 323.0   | wwPDB-VP         |

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.92% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical values of  $\langle |L| \rangle$ ,  $\langle L^2 \rangle$  for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

## 5 Model quality i

### 5.1 Standard geometry i

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

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

| Mol | Chain | Bond lengths |                 | Bond angles |                  |
|-----|-------|--------------|-----------------|-------------|------------------|
|     |       | RMSZ         | # Z  >5         | RMSZ        | # Z  >5          |
| 1   | A     | 0.77         | 6/5260 (0.1%)   | 0.79        | 14/7138 (0.2%)   |
| 1   | B     | 0.41         | 7/5260 (0.1%)   | 0.87        | 12/7138 (0.2%)   |
| 1   | C     | 0.62         | 8/5260 (0.2%)   | 1.00        | 10/7138 (0.1%)   |
| 1   | D     | 0.69         | 7/5261 (0.1%)   | 0.98        | 13/7141 (0.2%)   |
| 1   | E     | 0.40         | 6/5261 (0.1%)   | 1.07        | 15/7141 (0.2%)   |
| 1   | F     | 0.50         | 6/5261 (0.1%)   | 0.87        | 16/7141 (0.2%)   |
| 2   | G     | 0.61         | 0/3988          | 1.04        | 20/5411 (0.4%)   |
| 3   | H     | 0.70         | 0/977           | 0.80        | 1/1325 (0.1%)    |
| All | All   | 0.59         | 40/36528 (0.1%) | 0.94        | 101/49573 (0.2%) |

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

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 1   | A     | 0                   | 1                   |
| 1   | B     | 0                   | 1                   |
| 1   | C     | 0                   | 2                   |
| 1   | D     | 0                   | 2                   |
| 1   | E     | 0                   | 1                   |
| 1   | F     | 0                   | 2                   |
| 2   | G     | 0                   | 2                   |
| 3   | H     | 0                   | 1                   |
| All | All   | 0                   | 12                  |

All (40) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z      | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|-------|--------|-------------|----------|
| 1   | A     | 508 | VAL  | C-N   | 46.75  | 1.91        | 1.33     |
| 1   | C     | 508 | VAL  | C-N   | -34.26 | 0.85        | 1.33     |

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| Mol | Chain | Res | Type | Atoms   | Z      | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|--------|-------------|----------|
| 1   | D     | 559 | CYS  | C-N     | 31.58  | 1.79        | 1.33     |
| 1   | F     | 508 | VAL  | C-N     | 23.45  | 1.63        | 1.33     |
| 1   | D     | 654 | TYR  | C-N     | -20.15 | 1.05        | 1.33     |
| 1   | D     | 508 | VAL  | C-N     | -19.09 | 1.10        | 1.33     |
| 1   | A     | 654 | TYR  | C-N     | 14.05  | 1.52        | 1.33     |
| 1   | E     | 559 | CYS  | C-N     | -11.02 | 1.19        | 1.33     |
| 1   | B     | 508 | VAL  | C-N     | 9.93   | 1.47        | 1.33     |
| 1   | C     | 654 | TYR  | C-N     | -9.16  | 1.20        | 1.33     |
| 1   | D     | 37  | GLN  | CD-OE1  | 5.40   | 1.33        | 1.23     |
| 1   | A     | 37  | GLN  | CD-OE1  | 5.38   | 1.33        | 1.23     |
| 1   | B     | 37  | GLN  | CD-OE1  | 5.37   | 1.33        | 1.23     |
| 1   | A     | 42  | HIS  | ND1-CE1 | 5.34   | 1.37        | 1.32     |
| 1   | B     | 42  | HIS  | ND1-CE1 | 5.33   | 1.37        | 1.32     |
| 1   | E     | 37  | GLN  | CD-OE1  | 5.33   | 1.33        | 1.23     |
| 1   | C     | 37  | GLN  | CD-OE1  | 5.30   | 1.33        | 1.23     |
| 1   | F     | 37  | GLN  | CD-OE1  | 5.30   | 1.33        | 1.23     |
| 1   | A     | 238 | HIS  | ND1-CE1 | 5.28   | 1.37        | 1.32     |
| 1   | B     | 238 | HIS  | ND1-CE1 | 5.26   | 1.37        | 1.32     |
| 1   | B     | 654 | TYR  | C-N     | -5.26  | 1.26        | 1.33     |
| 1   | C     | 42  | HIS  | ND1-CE1 | 5.25   | 1.37        | 1.32     |
| 1   | C     | 238 | HIS  | ND1-CE1 | 5.25   | 1.37        | 1.32     |
| 1   | E     | 42  | HIS  | ND1-CE1 | 5.22   | 1.37        | 1.32     |
| 1   | B     | 101 | GLN  | CD-OE1  | 5.21   | 1.33        | 1.23     |
| 1   | D     | 42  | HIS  | ND1-CE1 | 5.21   | 1.37        | 1.32     |
| 1   | F     | 101 | GLN  | CD-OE1  | 5.20   | 1.33        | 1.23     |
| 1   | C     | 101 | GLN  | CD-OE1  | 5.18   | 1.33        | 1.23     |
| 1   | E     | 238 | HIS  | ND1-CE1 | 5.17   | 1.37        | 1.32     |
| 1   | D     | 101 | GLN  | CD-OE1  | 5.16   | 1.33        | 1.23     |
| 1   | F     | 238 | HIS  | ND1-CE1 | 5.16   | 1.37        | 1.32     |
| 1   | D     | 238 | HIS  | ND1-CE1 | 5.15   | 1.37        | 1.32     |
| 1   | E     | 101 | GLN  | CD-OE1  | 5.13   | 1.33        | 1.23     |
| 1   | A     | 101 | GLN  | CD-OE1  | 5.10   | 1.33        | 1.23     |
| 1   | B     | 513 | GLN  | CD-OE1  | 5.09   | 1.33        | 1.23     |
| 1   | F     | 42  | HIS  | ND1-CE1 | 5.08   | 1.37        | 1.32     |
| 1   | E     | 513 | GLN  | CD-OE1  | 5.08   | 1.33        | 1.23     |
| 1   | C     | 513 | GLN  | CD-OE1  | 5.04   | 1.33        | 1.23     |
| 1   | F     | 513 | GLN  | CD-OE1  | 5.01   | 1.33        | 1.23     |
| 1   | C     | 42  | HIS  | CD2-NE2 | -5.00  | 1.32        | 1.37     |

All (101) bond angle outliers are listed below:

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| Mol | Chain | Res | Type | Atoms     | Z      | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-----------|--------|-------------|----------|
| 1   | C     | 654 | TYR  | O-C-N     | -53.52 | 51.41       | 122.59   |
| 1   | D     | 654 | TYR  | O-C-N     | -49.21 | 57.14       | 122.59   |
| 1   | E     | 654 | TYR  | O-C-N     | -41.76 | 72.32       | 123.27   |
| 1   | E     | 654 | TYR  | CA-C-N    | 29.11  | 174.09      | 121.70   |
| 1   | E     | 654 | TYR  | C-N-CA    | 29.11  | 174.09      | 121.70   |
| 1   | B     | 654 | TYR  | CA-C-N    | 20.26  | 152.12      | 122.95   |
| 1   | B     | 654 | TYR  | C-N-CA    | 20.26  | 152.12      | 122.95   |
| 1   | B     | 654 | TYR  | O-C-N     | -16.14 | 102.16      | 123.15   |
| 1   | F     | 559 | CYS  | CA-C-N    | -15.91 | 97.81       | 122.62   |
| 1   | F     | 559 | CYS  | C-N-CA    | -15.91 | 97.81       | 122.62   |
| 1   | C     | 508 | VAL  | O-C-N     | -15.70 | 102.95      | 122.57   |
| 1   | A     | 654 | TYR  | O-C-N     | -14.96 | 105.77      | 123.27   |
| 1   | B     | 508 | VAL  | O-C-N     | -14.87 | 103.98      | 122.57   |
| 1   | E     | 559 | CYS  | O-C-N     | 14.03  | 140.01      | 122.89   |
| 1   | F     | 508 | VAL  | O-C-N     | -13.44 | 108.30      | 121.87   |
| 1   | E     | 559 | CYS  | CA-C-N    | -12.64 | 101.09      | 120.94   |
| 1   | E     | 559 | CYS  | C-N-CA    | -12.64 | 101.09      | 120.94   |
| 1   | F     | 654 | TYR  | CA-C-N    | -12.48 | 100.86      | 122.07   |
| 1   | F     | 654 | TYR  | C-N-CA    | -12.48 | 100.86      | 122.07   |
| 1   | D     | 559 | CYS  | O-C-N     | -11.87 | 106.45      | 122.36   |
| 1   | F     | 508 | VAL  | CA-C-N    | 10.14  | 139.78      | 121.94   |
| 1   | F     | 508 | VAL  | C-N-CA    | 10.14  | 139.78      | 121.94   |
| 1   | E     | 508 | VAL  | O-C-N     | 9.71   | 131.68      | 121.87   |
| 1   | D     | 508 | VAL  | CA-C-N    | -9.67  | 100.92      | 121.81   |
| 1   | D     | 508 | VAL  | C-N-CA    | -9.67  | 100.92      | 121.81   |
| 2   | G     | 402 | PHE  | N-CA-C    | -9.48  | 98.44       | 110.19   |
| 1   | F     | 559 | CYS  | O-C-N     | -9.21  | 110.34      | 122.59   |
| 2   | G     | 126 | GLN  | N-CA-C    | -8.29  | 103.15      | 113.18   |
| 1   | A     | 654 | TYR  | CA-C-N    | 7.38   | 134.12      | 122.17   |
| 1   | A     | 654 | TYR  | C-N-CA    | 7.38   | 134.12      | 122.17   |
| 1   | A     | 508 | VAL  | O-C-N     | -7.23  | 113.25      | 122.22   |
| 2   | G     | 399 | VAL  | N-CA-C    | -6.67  | 104.67      | 110.74   |
| 1   | F     | 238 | HIS  | CB-CG-CD2 | -6.63  | 122.59      | 131.20   |
| 1   | E     | 238 | HIS  | CB-CG-CD2 | -6.60  | 122.62      | 131.20   |
| 1   | A     | 238 | HIS  | CB-CG-CD2 | -6.59  | 122.63      | 131.20   |
| 1   | B     | 238 | HIS  | CB-CG-CD2 | -6.58  | 122.65      | 131.20   |
| 1   | D     | 42  | HIS  | CB-CG-CD2 | -6.57  | 122.66      | 131.20   |
| 1   | E     | 42  | HIS  | CB-CG-CD2 | -6.56  | 122.67      | 131.20   |
| 1   | C     | 238 | HIS  | CB-CG-CD2 | -6.53  | 122.72      | 131.20   |
| 1   | A     | 42  | HIS  | CB-CG-CD2 | -6.52  | 122.73      | 131.20   |
| 1   | B     | 42  | HIS  | CB-CG-CD2 | -6.52  | 122.73      | 131.20   |

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| Mol | Chain | Res | Type | Atoms     | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-----------|-------|-------------|----------|
| 1   | F     | 42  | HIS  | CB-CG-CD2 | -6.51 | 122.73      | 131.20   |
| 1   | C     | 42  | HIS  | CB-CG-CD2 | -6.51 | 122.74      | 131.20   |
| 1   | D     | 238 | HIS  | CB-CG-CD2 | -6.48 | 122.77      | 131.20   |
| 2   | G     | 171 | TYR  | N-CA-C    | -6.37 | 105.63      | 113.41   |
| 2   | G     | 193 | ASP  | N-CA-C    | 6.26  | 119.40      | 109.50   |
| 2   | G     | 463 | SER  | N-CA-C    | 6.19  | 118.60      | 109.69   |
| 2   | G     | 47  | THR  | N-CA-C    | 6.14  | 119.47      | 109.59   |
| 2   | G     | 461 | VAL  | N-CA-C    | 6.07  | 117.51      | 108.46   |
| 2   | G     | 284 | THR  | N-CA-C    | -6.02 | 105.23      | 113.30   |
| 2   | G     | 207 | HIS  | N-CA-C    | 5.90  | 123.36      | 110.80   |
| 2   | G     | 346 | SER  | N-CA-C    | -5.88 | 104.46      | 111.69   |
| 1   | A     | 348 | HIS  | CA-C-N    | 5.83  | 123.92      | 119.66   |
| 1   | A     | 348 | HIS  | C-N-CA    | 5.83  | 123.92      | 119.66   |
| 1   | F     | 348 | HIS  | CA-C-N    | 5.80  | 123.90      | 119.66   |
| 1   | F     | 348 | HIS  | C-N-CA    | 5.80  | 123.90      | 119.66   |
| 2   | G     | 480 | MET  | N-CA-C    | 5.80  | 118.25      | 107.99   |
| 1   | C     | 348 | HIS  | CA-C-N    | 5.78  | 123.88      | 119.66   |
| 1   | C     | 348 | HIS  | C-N-CA    | 5.78  | 123.88      | 119.66   |
| 1   | D     | 348 | HIS  | CA-C-N    | 5.76  | 123.87      | 119.66   |
| 1   | D     | 348 | HIS  | C-N-CA    | 5.76  | 123.87      | 119.66   |
| 1   | E     | 348 | HIS  | CA-C-N    | 5.73  | 123.84      | 119.66   |
| 1   | E     | 348 | HIS  | C-N-CA    | 5.73  | 123.84      | 119.66   |
| 2   | G     | 478 | GLU  | N-CA-C    | 5.72  | 117.82      | 108.55   |
| 1   | B     | 348 | HIS  | CA-C-N    | 5.71  | 123.83      | 119.66   |
| 1   | B     | 348 | HIS  | C-N-CA    | 5.71  | 123.83      | 119.66   |
| 1   | A     | 238 | HIS  | CB-CG-ND1 | 5.69  | 131.23      | 122.70   |
| 1   | F     | 238 | HIS  | CB-CG-ND1 | 5.68  | 131.23      | 122.70   |
| 1   | B     | 238 | HIS  | CB-CG-ND1 | 5.68  | 131.22      | 122.70   |
| 1   | E     | 238 | HIS  | CB-CG-ND1 | 5.67  | 131.21      | 122.70   |
| 1   | C     | 238 | HIS  | CB-CG-ND1 | 5.66  | 131.20      | 122.70   |
| 2   | G     | 263 | ALA  | N-CA-C    | -5.66 | 102.65      | 110.35   |
| 1   | A     | 617 | GLY  | CA-C-N    | 5.66  | 125.13      | 119.24   |
| 1   | A     | 617 | GLY  | C-N-CA    | 5.66  | 125.13      | 119.24   |
| 2   | G     | 136 | ALA  | N-CA-C    | -5.66 | 103.60      | 111.52   |
| 1   | D     | 238 | HIS  | CB-CG-ND1 | 5.65  | 131.18      | 122.70   |
| 1   | D     | 42  | HIS  | CB-CG-ND1 | 5.64  | 131.16      | 122.70   |
| 1   | F     | 42  | HIS  | CB-CG-ND1 | 5.63  | 131.15      | 122.70   |
| 1   | C     | 42  | HIS  | CB-CG-ND1 | 5.62  | 131.13      | 122.70   |
| 1   | E     | 42  | HIS  | CB-CG-ND1 | 5.59  | 131.09      | 122.70   |
| 1   | A     | 42  | HIS  | CB-CG-ND1 | 5.59  | 131.08      | 122.70   |
| 1   | B     | 42  | HIS  | CB-CG-ND1 | 5.57  | 131.05      | 122.70   |
| 2   | G     | 489 | ILE  | N-CA-C    | -5.52 | 101.56      | 108.84   |

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| Mol | Chain | Res | Type | Atoms   | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 2   | G     | 128 | HIS  | N-CA-C  | 5.43  | 117.94      | 109.52   |
| 2   | G     | 190 | THR  | CB-CA-C | -5.41 | 102.71      | 113.80   |
| 2   | G     | 236 | ASP  | N-CA-C  | -5.37 | 106.58      | 113.02   |
| 1   | C     | 417 | THR  | CA-C-N  | 5.30  | 125.20      | 119.85   |
| 1   | C     | 417 | THR  | C-N-CA  | 5.30  | 125.20      | 119.85   |
| 2   | G     | 439 | VAL  | N-CA-C  | 5.25  | 115.66      | 107.99   |
| 1   | D     | 417 | THR  | CA-C-N  | 5.19  | 125.09      | 119.85   |
| 1   | D     | 417 | THR  | C-N-CA  | 5.19  | 125.09      | 119.85   |
| 1   | E     | 417 | THR  | CA-C-N  | 5.18  | 125.08      | 119.85   |
| 1   | E     | 417 | THR  | C-N-CA  | 5.18  | 125.08      | 119.85   |
| 1   | F     | 417 | THR  | CA-C-N  | 5.15  | 125.05      | 119.85   |
| 1   | F     | 417 | THR  | C-N-CA  | 5.15  | 125.05      | 119.85   |
| 3   | H     | 129 | THR  | N-CA-C  | 5.14  | 121.76      | 110.80   |
| 1   | B     | 417 | THR  | CA-C-N  | 5.14  | 125.04      | 119.85   |
| 1   | B     | 417 | THR  | C-N-CA  | 5.14  | 125.04      | 119.85   |
| 1   | A     | 417 | THR  | CA-C-N  | 5.11  | 125.01      | 119.85   |
| 1   | A     | 417 | THR  | C-N-CA  | 5.11  | 125.01      | 119.85   |
| 1   | D     | 508 | VAL  | O-C-N   | 5.02  | 128.84      | 122.57   |

There are no chirality outliers.

All (12) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group     |
|-----|-------|-----|------|-----------|
| 1   | A     | 654 | TYR  | Mainchain |
| 1   | B     | 508 | VAL  | Mainchain |
| 1   | C     | 508 | VAL  | Mainchain |
| 1   | C     | 654 | TYR  | Mainchain |
| 1   | D     | 508 | VAL  | Mainchain |
| 1   | D     | 654 | TYR  | Mainchain |
| 1   | E     | 654 | TYR  | Mainchain |
| 1   | F     | 559 | CYS  | Mainchain |
| 1   | F     | 654 | TYR  | Mainchain |
| 2   | G     | 429 | TYR  | Sidechain |
| 2   | G     | 57  | TYR  | Sidechain |
| 3   | H     | 80  | ARG  | Peptide   |

## 5.2 Too-close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the 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 within

the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 1   | A     | 5138  | 0        | 4989     | 294     | 34           |
| 1   | B     | 5138  | 0        | 4991     | 186     | 18           |
| 1   | C     | 5138  | 0        | 4990     | 238     | 0            |
| 1   | D     | 5138  | 0        | 4989     | 197     | 0            |
| 1   | E     | 5138  | 0        | 4993     | 165     | 29           |
| 1   | F     | 5138  | 0        | 4995     | 180     | 23           |
| 2   | G     | 3882  | 0        | 3747     | 302     | 11           |
| 3   | H     | 944   | 0        | 875      | 43      | 5            |
| 4   | H     | 1     | 0        | 0        | 0       | 0            |
| All | All   | 35655 | 0        | 34569    | 1291    | 63           |

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 18.

All (1291) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:344:LYS:CD   | 3:H:80:ARG:HH11  | 1.00                     | 1.58              |
| 1:A:344:LYS:HD3  | 3:H:80:ARG:CD    | 1.23                     | 1.57              |
| 1:A:222:VAL:CG2  | 2:G:166:ARG:HH12 | 1.17                     | 1.54              |
| 1:D:577:LEU:HD11 | 1:F:607:SER:CB   | 1.44                     | 1.47              |
| 1:E:324:GLN:NE2  | 1:F:518:GLY:HA3  | 1.23                     | 1.47              |
| 1:A:221:PHE:HZ   | 2:G:202:PHE:CE2  | 1.32                     | 1.45              |
| 1:A:368:LYS:NZ   | 1:B:630:TRP:HZ2  | 1.09                     | 1.44              |
| 1:E:324:GLN:NE2  | 1:F:518:GLY:CA   | 1.80                     | 1.43              |
| 1:E:324:GLN:HE22 | 1:F:518:GLY:CA   | 1.30                     | 1.43              |
| 1:A:546:ALA:HB1  | 1:C:690:PHE:CE2  | 1.52                     | 1.42              |
| 1:A:409:ILE:HG23 | 2:G:194:PHE:CE2  | 1.53                     | 1.41              |
| 1:A:409:ILE:CG2  | 2:G:194:PHE:HE2  | 1.31                     | 1.41              |
| 1:A:96:PRO:HD3   | 2:G:277:ARG:NE   | 1.10                     | 1.40              |
| 1:A:344:LYS:HD2  | 3:H:80:ARG:NH1   | 1.32                     | 1.40              |
| 1:D:559:CYS:C    | 1:D:560:MET:N    | 1.79                     | 1.38              |
| 1:C:568:SER:OG   | 1:C:670:PHE:HE1  | 1.06                     | 1.37              |
| 1:A:221:PHE:CZ   | 2:G:202:PHE:CE2  | 2.14                     | 1.34              |
| 1:A:344:LYS:CD   | 3:H:80:ARG:NH1   | 1.78                     | 1.33              |
| 1:A:442:GLY:N    | 1:C:691:GLN:HE22 | 1.22                     | 1.33              |
| 1:A:440:TYR:CZ   | 1:C:692:GLU:OE2  | 1.80                     | 1.32              |
| 1:E:518:GLY:HA3  | 1:F:324:GLN:NE2  | 1.44                     | 1.32              |
| 1:C:465:HIS:HE1  | 1:D:523:SER:O    | 0.99                     | 1.31              |
| 1:B:691:GLN:OE1  | 1:D:442:GLY:N    | 1.63                     | 1.31              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:341:LYS:NZ   | 3:H:84:TYR:CE1   | 1.97                     | 1.31              |
| 1:A:222:VAL:HG23 | 2:G:166:ARG:NH1  | 1.47                     | 1.30              |
| 1:E:654:TYR:CD2  | 1:E:670:PHE:CD1  | 2.19                     | 1.30              |
| 1:A:546:ALA:HB1  | 1:C:690:PHE:CZ   | 1.67                     | 1.29              |
| 1:A:546:ALA:CB   | 1:C:690:PHE:HE2  | 1.46                     | 1.29              |
| 1:C:626:LEU:CD1  | 1:D:399:PRO:HG3  | 1.62                     | 1.28              |
| 1:E:465:HIS:HE1  | 1:F:523:SER:O    | 1.11                     | 1.28              |
| 1:A:508:VAL:C    | 1:A:509:GLU:N    | 1.91                     | 1.28              |
| 1:A:546:ALA:CB   | 1:C:690:PHE:CE2  | 2.15                     | 1.27              |
| 1:A:409:ILE:CG2  | 2:G:194:PHE:CE2  | 2.10                     | 1.27              |
| 1:B:577:LEU:HD12 | 1:C:610:GLN:OE1  | 1.28                     | 1.26              |
| 1:E:465:HIS:CE1  | 1:F:523:SER:O    | 1.86                     | 1.26              |
| 1:A:222:VAL:CG2  | 2:G:166:ARG:NH1  | 1.96                     | 1.26              |
| 1:A:368:LYS:NZ   | 1:B:630:TRP:CZ2  | 2.02                     | 1.26              |
| 1:A:96:PRO:CD    | 2:G:277:ARG:NE   | 1.98                     | 1.26              |
| 1:A:221:PHE:CZ   | 2:G:202:PHE:CZ   | 2.23                     | 1.25              |
| 1:E:654:TYR:HB3  | 1:E:670:PHE:CE2  | 1.72                     | 1.25              |
| 1:D:577:LEU:CD1  | 1:F:607:SER:HB2  | 1.67                     | 1.23              |
| 1:C:465:HIS:CE1  | 1:D:523:SER:O    | 1.90                     | 1.23              |
| 1:E:518:GLY:CA   | 1:F:324:GLN:NE2  | 2.02                     | 1.23              |
| 1:A:344:LYS:CD   | 3:H:80:ARG:CD    | 2.18                     | 1.21              |
| 1:C:508:VAL:C    | 1:C:509:GLU:CA   | 2.10                     | 1.21              |
| 1:C:508:VAL:O    | 1:C:509:GLU:N    | 1.65                     | 1.21              |
| 1:A:96:PRO:HD3   | 2:G:277:ARG:CZ   | 1.70                     | 1.19              |
| 1:E:518:GLY:CA   | 1:F:324:GLN:HE22 | 1.55                     | 1.19              |
| 1:F:624:ILE:HG13 | 1:F:655:ASN:HB2  | 1.23                     | 1.17              |
| 1:A:344:LYS:CD   | 3:H:80:ARG:HD3   | 1.75                     | 1.16              |
| 1:A:626:LEU:CD1  | 1:B:399:PRO:HG3  | 1.74                     | 1.16              |
| 1:D:612:ILE:CD1  | 1:F:612:ILE:HD12 | 1.76                     | 1.15              |
| 1:E:523:SER:O    | 1:F:465:HIS:HE1  | 1.27                     | 1.14              |
| 1:F:630:TRP:HB3  | 1:F:670:PHE:CE2  | 1.82                     | 1.13              |
| 1:A:344:LYS:CG   | 3:H:80:ARG:NH1   | 2.09                     | 1.13              |
| 1:E:654:TYR:CE2  | 1:E:670:PHE:CD1  | 2.36                     | 1.12              |
| 1:F:629:ASP:OD1  | 1:F:659:HIS:NE2  | 1.82                     | 1.12              |
| 1:B:610:GLN:OE1  | 1:C:577:LEU:HD12 | 1.48                     | 1.12              |
| 1:F:533:LEU:HB3  | 1:F:642:THR:HG21 | 1.18                     | 1.12              |
| 1:A:222:VAL:HG21 | 2:G:166:ARG:HH12 | 1.08                     | 1.11              |
| 1:A:273:ASP:HB3  | 3:H:80:ARG:CZ    | 1.79                     | 1.11              |
| 1:A:341:LYS:NZ   | 3:H:84:TYR:HE1   | 1.39                     | 1.11              |
| 1:D:690:PHE:CG   | 1:E:540:ARG:HD2  | 1.74                     | 1.11              |
| 1:A:442:GLY:N    | 1:C:691:GLN:NE2  | 1.99                     | 1.10              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:96:PRO:HD3   | 2:G:277:ARG:CD   | 1.80                     | 1.10              |
| 1:A:626:LEU:HD12 | 1:B:399:PRO:HG3  | 1.19                     | 1.10              |
| 1:B:577:LEU:CD1  | 1:C:610:GLN:OE1  | 2.00                     | 1.09              |
| 1:B:610:GLN:OE1  | 1:C:577:LEU:CG   | 2.00                     | 1.09              |
| 1:A:552:PHE:CD2  | 1:C:690:PHE:CE1  | 2.41                     | 1.08              |
| 1:C:508:VAL:CA   | 1:C:509:GLU:N    | 2.16                     | 1.08              |
| 1:E:518:GLY:HA2  | 1:F:324:GLN:HE22 | 1.10                     | 1.07              |
| 1:C:630:TRP:HZ2  | 1:D:368:LYS:NZ   | 1.53                     | 1.06              |
| 1:F:533:LEU:HB3  | 1:F:642:THR:CG2  | 1.85                     | 1.06              |
| 1:E:654:TYR:CD2  | 1:E:670:PHE:CE1  | 2.42                     | 1.06              |
| 1:B:691:GLN:OE1  | 1:D:441:ASN:C    | 1.96                     | 1.06              |
| 1:C:523:SER:HA   | 1:D:464:PRO:HD2  | 1.38                     | 1.06              |
| 1:A:344:LYS:HD3  | 3:H:80:ARG:HD2   | 1.37                     | 1.05              |
| 1:D:690:PHE:CG   | 1:E:540:ARG:CD   | 2.37                     | 1.05              |
| 1:A:192:GLN:HE22 | 2:G:404:ARG:NH2  | 1.53                     | 1.05              |
| 1:A:341:LYS:NZ   | 3:H:84:TYR:CD1   | 2.24                     | 1.05              |
| 1:A:440:TYR:CE1  | 1:C:692:GLU:OE2  | 2.08                     | 1.05              |
| 1:B:610:GLN:OE1  | 1:C:577:LEU:CD1  | 2.04                     | 1.05              |
| 1:D:677:TYR:CZ   | 1:E:541:ASP:HB3  | 1.91                     | 1.04              |
| 1:A:222:VAL:HG23 | 2:G:166:ARG:HH12 | 0.92                     | 1.04              |
| 1:D:692:GLU:OE2  | 1:E:440:TYR:CD1  | 2.11                     | 1.03              |
| 1:A:344:LYS:NZ   | 3:H:78:GLU:OE2   | 1.92                     | 1.03              |
| 1:E:523:SER:O    | 1:F:465:HIS:CE1  | 2.11                     | 1.03              |
| 1:C:654:TYR:CE2  | 1:C:670:PHE:CD1  | 2.47                     | 1.03              |
| 1:E:654:TYR:CG   | 1:E:670:PHE:CG   | 2.46                     | 1.02              |
| 1:A:630:TRP:HB3  | 1:A:670:PHE:CE2  | 1.94                     | 1.01              |
| 1:C:626:LEU:HD11 | 1:D:399:PRO:HG3  | 1.41                     | 1.01              |
| 1:B:610:GLN:OE1  | 1:C:577:LEU:HB2  | 1.60                     | 1.01              |
| 1:C:523:SER:HA   | 1:D:464:PRO:CD   | 1.91                     | 1.00              |
| 1:E:654:TYR:CG   | 1:E:670:PHE:CD2  | 2.49                     | 1.00              |
| 1:E:654:TYR:CB   | 1:E:670:PHE:CE2  | 2.44                     | 1.00              |
| 2:G:273:PHE:H    | 2:G:392:THR:HG21 | 1.24                     | 1.00              |
| 1:E:324:GLN:HE22 | 1:F:518:GLY:HA2  | 0.86                     | 1.00              |
| 2:G:287:LEU:HD22 | 2:G:409:MET:CE   | 1.91                     | 1.00              |
| 1:A:464:PRO:HG3  | 1:B:514:TYR:HE1  | 1.23                     | 0.99              |
| 1:B:577:LEU:HD12 | 1:C:610:GLN:CD   | 1.86                     | 0.99              |
| 1:B:610:GLN:CD   | 1:C:577:LEU:HD12 | 1.86                     | 0.99              |
| 1:F:624:ILE:HG13 | 1:F:655:ASN:CB   | 1.93                     | 0.99              |
| 1:A:654:TYR:HB3  | 1:A:670:PHE:CD2  | 1.97                     | 0.98              |
| 1:E:654:TYR:CD2  | 1:E:670:PHE:CG   | 2.52                     | 0.97              |
| 1:B:610:GLN:OE1  | 1:C:577:LEU:CB   | 2.13                     | 0.97              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:691:GLN:HB3  | 1:D:441:ASN:HA   | 1.43                     | 0.97              |
| 1:B:610:GLN:CD   | 1:C:577:LEU:HB2  | 1.91                     | 0.96              |
| 1:A:344:LYS:HG2  | 3:H:80:ARG:NH1   | 1.80                     | 0.96              |
| 1:E:654:TYR:CB   | 1:E:670:PHE:CD2  | 2.49                     | 0.96              |
| 1:A:441:ASN:OD1  | 1:C:691:GLN:HB2  | 1.65                     | 0.95              |
| 1:D:689:SER:HB3  | 1:E:540:ARG:HD3  | 1.47                     | 0.95              |
| 1:A:344:LYS:HD3  | 3:H:80:ARG:HD3   | 0.98                     | 0.95              |
| 1:A:546:ALA:HB3  | 1:C:690:PHE:HE2  | 1.31                     | 0.95              |
| 1:C:508:VAL:C    | 1:C:509:GLU:N    | 0.85                     | 0.95              |
| 1:C:559:CYS:C    | 1:C:560:MET:N    | 2.24                     | 0.95              |
| 1:A:654:TYR:CD2  | 1:A:670:PHE:CD1  | 2.56                     | 0.94              |
| 1:E:237:SER:HA   | 1:E:239:PHE:H    | 1.33                     | 0.94              |
| 1:F:630:TRP:CB   | 1:F:670:PHE:CE2  | 2.50                     | 0.94              |
| 1:A:237:SER:HA   | 1:A:239:PHE:H    | 1.33                     | 0.94              |
| 1:A:344:LYS:HD3  | 3:H:80:ARG:NE    | 1.82                     | 0.94              |
| 1:E:324:GLN:OE1  | 1:F:556:ILE:HD11 | 1.67                     | 0.93              |
| 1:A:221:PHE:CE1  | 2:G:202:PHE:HZ   | 1.87                     | 0.93              |
| 1:A:344:LYS:CG   | 3:H:80:ARG:HH11  | 1.78                     | 0.93              |
| 1:C:630:TRP:CZ2  | 1:D:368:LYS:NZ   | 2.38                     | 0.92              |
| 1:A:654:TYR:CB   | 1:A:670:PHE:CD2  | 2.52                     | 0.92              |
| 1:A:626:LEU:CD1  | 1:B:399:PRO:CG   | 2.48                     | 0.92              |
| 1:A:654:TYR:CG   | 1:A:670:PHE:CB   | 2.53                     | 0.92              |
| 1:F:630:TRP:HB3  | 1:F:670:PHE:HE2  | 1.34                     | 0.92              |
| 1:A:442:GLY:H    | 1:C:691:GLN:HE22 | 1.15                     | 0.92              |
| 1:A:654:TYR:CG   | 1:A:670:PHE:CG   | 2.57                     | 0.92              |
| 1:A:221:PHE:CE1  | 2:G:202:PHE:CZ   | 2.58                     | 0.91              |
| 1:C:237:SER:HA   | 1:C:239:PHE:H    | 1.33                     | 0.91              |
| 1:E:518:GLY:HA3  | 1:F:324:GLN:HE21 | 1.12                     | 0.91              |
| 1:E:654:TYR:CE1  | 1:E:670:PHE:HB3  | 2.05                     | 0.91              |
| 1:D:237:SER:HA   | 1:D:239:PHE:H    | 1.33                     | 0.91              |
| 1:F:237:SER:HA   | 1:F:239:PHE:H    | 1.33                     | 0.91              |
| 1:D:612:ILE:HD13 | 1:F:612:ILE:HD12 | 1.53                     | 0.90              |
| 1:B:237:SER:HA   | 1:B:239:PHE:H    | 1.33                     | 0.90              |
| 1:D:445:VAL:HG22 | 1:D:526:PRO:HG2  | 1.52                     | 0.90              |
| 1:D:577:LEU:HD11 | 1:F:607:SER:HB2  | 0.92                     | 0.90              |
| 1:B:610:GLN:NE2  | 1:C:577:LEU:HB2  | 1.85                     | 0.90              |
| 1:A:552:PHE:CG   | 1:C:690:PHE:CZ   | 2.60                     | 0.90              |
| 2:G:287:LEU:HD22 | 2:G:409:MET:HE1  | 1.52                     | 0.89              |
| 1:A:221:PHE:CZ   | 2:G:202:PHE:HZ   | 1.87                     | 0.89              |
| 1:B:654:TYR:CD2  | 1:B:670:PHE:CD1  | 2.60                     | 0.89              |
| 1:A:409:ILE:HG22 | 2:G:194:PHE:HE2  | 1.33                     | 0.89              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:612:ILE:CD1  | 1:F:612:ILE:CD1  | 2.49                     | 0.89              |
| 1:A:345:GLN:OE1  | 3:H:127:TYR:OH   | 1.92                     | 0.88              |
| 1:A:630:TRP:HB3  | 1:A:670:PHE:HE2  | 1.34                     | 0.87              |
| 1:B:692:GLU:OE2  | 1:D:440:TYR:CD1  | 2.28                     | 0.87              |
| 1:A:344:LYS:CD   | 3:H:80:ARG:CZ    | 2.52                     | 0.87              |
| 1:A:654:TYR:CD2  | 1:A:670:PHE:HB3  | 2.09                     | 0.87              |
| 1:A:464:PRO:CG   | 1:B:514:TYR:HE1  | 1.88                     | 0.87              |
| 1:E:464:PRO:HD3  | 1:F:523:SER:HA   | 1.56                     | 0.87              |
| 1:A:193:ASP:OD2  | 2:G:404:ARG:NH2  | 2.07                     | 0.86              |
| 1:F:570:SER:HB2  | 1:F:683:HIS:CB   | 2.05                     | 0.86              |
| 1:D:577:LEU:CD1  | 1:F:607:SER:CB   | 2.39                     | 0.86              |
| 1:A:368:LYS:HZ2  | 1:B:630:TRP:HZ2  | 1.23                     | 0.86              |
| 1:B:692:GLU:OE2  | 1:D:440:TYR:CG   | 2.29                     | 0.86              |
| 1:A:221:PHE:CZ   | 2:G:202:PHE:HE2  | 1.69                     | 0.86              |
| 1:A:464:PRO:HG3  | 1:B:514:TYR:CE1  | 2.10                     | 0.85              |
| 1:C:440:TYR:HA   | 1:F:692:GLU:OE2  | 1.76                     | 0.85              |
| 1:A:514:TYR:HE1  | 1:B:464:PRO:HG3  | 1.41                     | 0.85              |
| 1:B:577:LEU:CG   | 1:C:610:GLN:OE1  | 2.23                     | 0.85              |
| 1:A:654:TYR:CD2  | 1:A:670:PHE:CG   | 2.63                     | 0.85              |
| 1:A:368:LYS:HZ3  | 1:B:630:TRP:HZ2  | 0.90                     | 0.85              |
| 1:A:381:LEU:HD11 | 2:G:195:MET:HE1  | 1.59                     | 0.85              |
| 1:A:508:VAL:CG1  | 1:A:527:HIS:NE2  | 2.38                     | 0.85              |
| 1:D:568:SER:CB   | 1:D:670:PHE:CE1  | 2.60                     | 0.85              |
| 1:A:445:VAL:HG22 | 1:A:526:PRO:HG2  | 1.57                     | 0.84              |
| 1:B:691:GLN:OE1  | 1:D:442:GLY:CA   | 2.26                     | 0.84              |
| 1:D:568:SER:CB   | 1:D:670:PHE:HE1  | 1.89                     | 0.84              |
| 1:A:96:PRO:CD    | 2:G:277:ARG:CZ   | 2.48                     | 0.84              |
| 1:F:629:ASP:CG   | 1:F:659:HIS:CE1  | 2.55                     | 0.84              |
| 1:A:559:CYS:O    | 1:A:584:ASP:OD2  | 1.96                     | 0.84              |
| 2:G:94:PRO:O     | 2:G:95:VAL:HB    | 1.77                     | 0.83              |
| 1:D:612:ILE:HD13 | 1:F:612:ILE:CD1  | 2.09                     | 0.83              |
| 1:A:192:GLN:HE22 | 2:G:404:ARG:HH21 | 1.25                     | 0.83              |
| 1:D:571:VAL:HG22 | 1:D:655:ASN:HB2  | 1.60                     | 0.83              |
| 1:B:677:TYR:CZ   | 1:D:541:ASP:HB3  | 2.15                     | 0.82              |
| 1:A:409:ILE:HG22 | 2:G:194:PHE:CE2  | 2.07                     | 0.82              |
| 2:G:32:LEU:HD22  | 2:G:34:LEU:HD21  | 1.61                     | 0.82              |
| 1:C:532:ALA:HB1  | 1:C:560:MET:CE   | 2.10                     | 0.82              |
| 1:A:552:PHE:CD2  | 1:C:690:PHE:HE1  | 1.92                     | 0.81              |
| 1:B:445:VAL:HG22 | 1:B:526:PRO:HG2  | 1.61                     | 0.81              |
| 1:A:552:PHE:CB   | 1:C:690:PHE:HZ   | 1.94                     | 0.81              |
| 1:A:532:ALA:HB1  | 1:A:560:MET:CE   | 2.11                     | 0.81              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:610:GLN:HE22 | 1:C:577:LEU:HB2  | 1.45                     | 0.81              |
| 1:C:571:VAL:HG22 | 1:C:655:ASN:HB2  | 1.63                     | 0.81              |
| 2:G:44:ASN:OD1   | 2:G:516:ARG:HG3  | 1.81                     | 0.81              |
| 1:D:533:LEU:HB3  | 1:D:642:THR:HG21 | 1.61                     | 0.80              |
| 1:A:391:VAL:HG21 | 2:G:197:ARG:NH1  | 1.96                     | 0.80              |
| 1:C:571:VAL:CG2  | 1:C:655:ASN:HB2  | 2.12                     | 0.80              |
| 1:A:192:GLN:NE2  | 2:G:404:ARG:NH2  | 2.29                     | 0.79              |
| 1:A:654:TYR:CE2  | 1:A:670:PHE:HB3  | 2.17                     | 0.79              |
| 1:C:568:SER:CB   | 1:C:670:PHE:HE1  | 1.96                     | 0.79              |
| 1:A:552:PHE:CB   | 1:C:690:PHE:CZ   | 2.65                     | 0.79              |
| 1:F:570:SER:CB   | 1:F:683:HIS:CG   | 2.65                     | 0.79              |
| 1:A:540:ARG:CZ   | 1:C:690:PHE:HA   | 2.11                     | 0.79              |
| 1:D:677:TYR:CE1  | 1:E:541:ASP:HB3  | 2.16                     | 0.79              |
| 1:A:221:PHE:HZ   | 2:G:202:PHE:HE2  | 0.82                     | 0.79              |
| 1:F:624:ILE:CG1  | 1:F:655:ASN:HB2  | 2.10                     | 0.79              |
| 1:E:324:GLN:NE2  | 1:F:518:GLY:HA2  | 1.68                     | 0.79              |
| 1:E:440:TYR:CE2  | 1:E:527:HIS:HA   | 2.19                     | 0.78              |
| 2:G:273:PHE:N    | 2:G:392:THR:HG21 | 1.99                     | 0.78              |
| 1:A:546:ALA:HB3  | 1:C:690:PHE:CE2  | 2.10                     | 0.78              |
| 1:D:577:LEU:HD12 | 1:F:610:GLN:OE1  | 1.82                     | 0.78              |
| 2:G:489:ILE:HG23 | 2:G:503:ILE:HG23 | 1.64                     | 0.78              |
| 2:G:269:CYS:SG   | 2:G:285:THR:HG21 | 2.23                     | 0.78              |
| 2:G:453:THR:HG21 | 2:G:455:VAL:HG12 | 1.66                     | 0.78              |
| 1:A:222:VAL:HG21 | 2:G:166:ARG:NH1  | 1.78                     | 0.78              |
| 1:D:551:ARG:NH1  | 1:D:641:GLU:OE2  | 2.14                     | 0.78              |
| 1:E:464:PRO:CD   | 1:F:523:SER:HA   | 2.14                     | 0.78              |
| 1:C:514:TYR:HE1  | 1:D:464:PRO:HG3  | 1.48                     | 0.77              |
| 2:G:285:THR:O    | 2:G:285:THR:HG22 | 1.84                     | 0.77              |
| 1:A:275:PHE:CE2  | 3:H:80:ARG:NE    | 2.45                     | 0.77              |
| 1:A:441:ASN:OD1  | 1:C:691:GLN:CB   | 2.32                     | 0.77              |
| 1:C:654:TYR:CG   | 1:C:670:PHE:CD2  | 2.72                     | 0.77              |
| 1:A:391:VAL:HG21 | 2:G:197:ARG:CZ   | 2.14                     | 0.77              |
| 1:B:690:PHE:HZ   | 1:D:552:PHE:CD2  | 2.03                     | 0.77              |
| 1:C:654:TYR:CD2  | 1:C:670:PHE:CE2  | 2.73                     | 0.77              |
| 2:G:152:ASP:HB2  | 2:G:154:ILE:HD11 | 1.65                     | 0.77              |
| 1:C:568:SER:CB   | 1:C:670:PHE:CE1  | 2.68                     | 0.77              |
| 1:C:654:TYR:CE2  | 1:C:670:PHE:CG   | 2.72                     | 0.76              |
| 1:A:95:TYR:C     | 2:G:277:ARG:NH2  | 2.43                     | 0.76              |
| 1:B:654:TYR:CD2  | 1:B:670:PHE:CG   | 2.73                     | 0.76              |
| 1:B:654:TYR:HB3  | 1:B:670:PHE:CE2  | 2.19                     | 0.76              |
| 1:E:324:GLN:HE21 | 1:F:518:GLY:HA3  | 0.94                     | 0.76              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:G:215:GLN:HE21 | 2:G:216:HIS:CD2  | 2.03                     | 0.76              |
| 1:B:551:ARG:HH12 | 1:B:641:GLU:CD   | 1.92                     | 0.76              |
| 1:E:654:TYR:HD2  | 1:E:670:PHE:CE1  | 2.00                     | 0.76              |
| 1:A:342:GLY:HA3  | 3:H:84:TYR:OH    | 1.86                     | 0.76              |
| 1:E:654:TYR:CE1  | 1:E:670:PHE:CB   | 2.69                     | 0.76              |
| 1:E:654:TYR:CZ   | 1:E:670:PHE:HB3  | 2.20                     | 0.76              |
| 1:A:440:TYR:OH   | 1:C:692:GLU:OE2  | 2.02                     | 0.76              |
| 1:A:221:PHE:HE1  | 2:G:212:ARG:HD2  | 1.50                     | 0.75              |
| 1:A:552:PHE:CG   | 1:C:690:PHE:CE1  | 2.74                     | 0.75              |
| 1:D:677:TYR:CZ   | 1:E:541:ASP:CB   | 2.69                     | 0.75              |
| 1:A:654:TYR:CB   | 1:A:670:PHE:CG   | 2.70                     | 0.75              |
| 1:B:551:ARG:NH1  | 1:B:641:GLU:OE2  | 2.14                     | 0.75              |
| 1:B:577:LEU:HB2  | 1:C:610:GLN:OE1  | 1.86                     | 0.75              |
| 2:G:402:PHE:O    | 2:G:403:ALA:HB3  | 1.86                     | 0.75              |
| 1:C:626:LEU:HD13 | 1:D:399:PRO:HG3  | 1.65                     | 0.75              |
| 1:A:387:LEU:HD22 | 2:G:197:ARG:HH12 | 1.52                     | 0.74              |
| 1:C:540:ARG:HD2  | 1:F:690:PHE:CG   | 1.87                     | 0.74              |
| 1:C:399:PRO:HG3  | 1:D:626:LEU:HD12 | 1.69                     | 0.74              |
| 2:G:453:THR:CG2  | 2:G:455:VAL:HG12 | 2.17                     | 0.74              |
| 1:D:577:LEU:CD1  | 1:F:610:GLN:OE1  | 2.34                     | 0.74              |
| 1:D:690:PHE:HE2  | 1:E:540:ARG:C    | 1.52                     | 0.74              |
| 1:A:654:TYR:CG   | 1:A:670:PHE:HB3  | 2.20                     | 0.74              |
| 1:A:654:TYR:HB3  | 1:A:670:PHE:CE2  | 2.22                     | 0.74              |
| 1:A:441:ASN:C    | 1:C:691:GLN:NE2  | 2.39                     | 0.74              |
| 1:D:571:VAL:CG2  | 1:D:655:ASN:HB2  | 2.17                     | 0.74              |
| 1:E:556:ILE:HD11 | 1:F:324:GLN:OE1  | 1.86                     | 0.74              |
| 2:G:287:LEU:HB3  | 2:G:409:MET:HE3  | 1.69                     | 0.74              |
| 1:D:568:SER:HB2  | 1:D:670:PHE:CE1  | 2.22                     | 0.74              |
| 1:B:610:GLN:OE1  | 1:C:577:LEU:HG   | 1.87                     | 0.74              |
| 1:C:399:PRO:HG3  | 1:D:626:LEU:CD1  | 2.18                     | 0.74              |
| 1:A:441:ASN:OD1  | 1:C:691:GLN:OE1  | 2.04                     | 0.73              |
| 1:A:344:LYS:HD3  | 3:H:80:ARG:CZ    | 2.13                     | 0.73              |
| 1:D:507:PRO:C    | 1:D:509:GLU:N    | 2.42                     | 0.73              |
| 1:E:544:GLN:HG2  | 1:E:545:ARG:HG2  | 1.71                     | 0.73              |
| 1:A:368:LYS:HZ1  | 1:B:630:TRP:HZ2  | 1.34                     | 0.73              |
| 1:B:544:GLN:HG2  | 1:B:545:ARG:HG2  | 1.71                     | 0.73              |
| 1:F:544:GLN:HG2  | 1:F:545:ARG:HG2  | 1.71                     | 0.73              |
| 1:C:654:TYR:CD2  | 1:C:670:PHE:CZ   | 2.77                     | 0.72              |
| 1:D:544:GLN:HG2  | 1:D:545:ARG:HG2  | 1.71                     | 0.72              |
| 1:B:677:TYR:CE1  | 1:D:541:ASP:HB3  | 2.24                     | 0.72              |
| 1:A:544:GLN:HG2  | 1:A:545:ARG:HG2  | 1.71                     | 0.72              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:96:PRO:CD    | 2:G:277:ARG:CD   | 2.58                     | 0.72              |
| 1:A:96:PRO:CD    | 2:G:277:ARG:HE   | 1.98                     | 0.72              |
| 1:A:399:PRO:HG3  | 1:B:626:LEU:CD1  | 2.20                     | 0.72              |
| 1:D:577:LEU:HB2  | 1:F:610:GLN:OE1  | 1.90                     | 0.72              |
| 1:A:192:GLN:NE2  | 2:G:404:ARG:HH21 | 1.88                     | 0.72              |
| 1:A:464:PRO:CG   | 1:B:514:TYR:CE1  | 2.72                     | 0.72              |
| 2:G:501:LEU:HD22 | 2:G:503:ILE:CD1  | 2.19                     | 0.72              |
| 1:A:95:TYR:C     | 2:G:277:ARG:CZ   | 2.63                     | 0.71              |
| 2:G:453:THR:HG22 | 2:G:455:VAL:H    | 1.54                     | 0.71              |
| 1:A:654:TYR:HB3  | 1:A:670:PHE:CG   | 2.25                     | 0.71              |
| 1:C:544:GLN:HG2  | 1:C:545:ARG:HG2  | 1.71                     | 0.71              |
| 2:G:498:GLN:O    | 2:G:500:GLN:HG2  | 1.90                     | 0.71              |
| 2:G:502:TYR:C    | 2:G:503:ILE:HD12 | 2.16                     | 0.71              |
| 1:C:630:TRP:HZ2  | 1:D:368:LYS:HZ1  | 1.37                     | 0.71              |
| 1:D:612:ILE:HD12 | 1:F:612:ILE:HD12 | 1.69                     | 0.71              |
| 2:G:170:PRO:HD3  | 2:G:190:THR:HG21 | 1.71                     | 0.71              |
| 2:G:186:LEU:HB2  | 2:G:205:LEU:HD22 | 1.71                     | 0.71              |
| 1:A:560:MET:HE2  | 1:A:586:PRO:HD3  | 1.73                     | 0.71              |
| 1:D:560:MET:HE2  | 1:D:586:PRO:HD3  | 1.73                     | 0.71              |
| 1:C:560:MET:HE2  | 1:C:586:PRO:HD3  | 1.73                     | 0.71              |
| 1:F:560:MET:HE2  | 1:F:586:PRO:HD3  | 1.73                     | 0.71              |
| 1:A:342:GLY:CA   | 3:H:84:TYR:OH    | 2.39                     | 0.70              |
| 1:D:577:LEU:HD11 | 1:F:607:SER:OG   | 1.89                     | 0.70              |
| 1:F:697:VAL:HG12 | 1:F:699:GLU:H    | 1.57                     | 0.70              |
| 1:A:654:TYR:CD1  | 1:A:670:PHE:CB   | 2.74                     | 0.70              |
| 1:A:697:VAL:HG12 | 1:A:699:GLU:H    | 1.56                     | 0.70              |
| 1:E:560:MET:HE2  | 1:E:586:PRO:HD3  | 1.73                     | 0.70              |
| 1:B:560:MET:HE2  | 1:B:586:PRO:HD3  | 1.73                     | 0.70              |
| 1:C:697:VAL:HG12 | 1:C:699:GLU:H    | 1.56                     | 0.70              |
| 1:A:344:LYS:HD2  | 3:H:80:ARG:HH11  | 0.54                     | 0.70              |
| 1:A:532:ALA:HB1  | 1:A:560:MET:HE3  | 1.73                     | 0.70              |
| 1:B:692:GLU:OE2  | 1:D:441:ASN:N    | 2.24                     | 0.70              |
| 1:B:697:VAL:HG12 | 1:B:699:GLU:H    | 1.56                     | 0.70              |
| 1:D:677:TYR:CE1  | 1:E:541:ASP:CB   | 2.74                     | 0.70              |
| 1:A:654:TYR:CD2  | 1:A:670:PHE:CB   | 2.71                     | 0.70              |
| 1:C:654:TYR:CD2  | 1:C:670:PHE:CD2  | 2.79                     | 0.70              |
| 1:D:697:VAL:HG12 | 1:D:699:GLU:H    | 1.56                     | 0.70              |
| 1:A:344:LYS:CD   | 3:H:80:ARG:HD2   | 2.05                     | 0.70              |
| 2:G:452:GLY:CA   | 2:G:492:MET:HE1  | 2.22                     | 0.70              |
| 1:A:535:ASN:HB2  | 1:A:646:PHE:HA   | 1.73                     | 0.70              |
| 1:C:523:SER:HA   | 1:D:464:PRO:HD3  | 1.73                     | 0.70              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:654:TYR:CD1  | 1:E:670:PHE:CG   | 2.79                     | 0.70              |
| 1:A:96:PRO:CG    | 2:G:277:ARG:HE   | 2.05                     | 0.69              |
| 2:G:116:ASN:HA   | 2:G:134:THR:O    | 1.91                     | 0.69              |
| 1:C:508:VAL:O    | 1:C:509:GLU:CA   | 2.27                     | 0.69              |
| 1:F:533:LEU:O    | 1:F:642:THR:OG1  | 2.04                     | 0.69              |
| 1:A:95:TYR:O     | 2:G:277:ARG:NH1  | 2.25                     | 0.69              |
| 1:F:629:ASP:OD1  | 1:F:659:HIS:CE1  | 2.45                     | 0.69              |
| 2:G:273:PHE:H    | 2:G:392:THR:CG2  | 2.01                     | 0.69              |
| 1:A:273:ASP:CB   | 3:H:80:ARG:CZ    | 2.67                     | 0.69              |
| 1:F:533:LEU:CB   | 1:F:642:THR:HG21 | 2.10                     | 0.69              |
| 1:E:697:VAL:HG12 | 1:E:699:GLU:H    | 1.57                     | 0.69              |
| 1:B:577:LEU:HB2  | 1:C:610:GLN:HE22 | 1.57                     | 0.69              |
| 2:G:226:PHE:O    | 2:G:227:ILE:HD12 | 1.93                     | 0.69              |
| 1:A:237:SER:HA   | 1:A:239:PHE:N    | 2.08                     | 0.69              |
| 1:A:96:PRO:HG3   | 2:G:277:ARG:HE   | 1.57                     | 0.69              |
| 1:B:237:SER:HA   | 1:B:239:PHE:N    | 2.08                     | 0.68              |
| 1:E:654:TYR:CD1  | 1:E:670:PHE:CB   | 2.76                     | 0.68              |
| 1:D:568:SER:OG   | 1:D:670:PHE:CE1  | 2.46                     | 0.68              |
| 2:G:420:PRO:HG3  | 2:G:423:ILE:HD11 | 1.75                     | 0.68              |
| 1:E:79:ILE:HD11  | 1:E:82:ALA:HB2   | 1.76                     | 0.68              |
| 1:F:79:ILE:HD11  | 1:F:82:ALA:HB2   | 1.76                     | 0.68              |
| 1:B:691:GLN:CD   | 1:D:442:GLY:N    | 2.51                     | 0.68              |
| 1:C:237:SER:HA   | 1:C:239:PHE:N    | 2.07                     | 0.68              |
| 1:F:630:TRP:CG   | 1:F:670:PHE:HE2  | 2.12                     | 0.68              |
| 1:C:626:LEU:HD12 | 1:D:399:PRO:HG3  | 1.69                     | 0.68              |
| 2:G:330:THR:HG22 | 2:G:332:SER:H    | 1.57                     | 0.68              |
| 1:A:273:ASP:HB3  | 3:H:80:ARG:NH1   | 2.09                     | 0.68              |
| 1:A:572:SER:HB2  | 1:A:683:HIS:CE1  | 2.28                     | 0.68              |
| 1:B:79:ILE:HD11  | 1:B:82:ALA:HB2   | 1.75                     | 0.68              |
| 1:E:564:VAL:HG22 | 1:E:580:LEU:HD13 | 1.76                     | 0.68              |
| 1:A:541:ASP:HB3  | 1:C:677:TYR:OH   | 1.94                     | 0.68              |
| 1:C:630:TRP:HZ2  | 1:D:368:LYS:HZ2  | 1.38                     | 0.68              |
| 1:C:534:HIS:CD2  | 1:C:642:THR:HB   | 2.28                     | 0.67              |
| 1:E:532:ALA:HB1  | 1:E:560:MET:HE3  | 1.77                     | 0.67              |
| 1:A:96:PRO:CG    | 2:G:277:ARG:NE   | 2.57                     | 0.67              |
| 1:F:237:SER:HA   | 1:F:239:PHE:N    | 2.08                     | 0.67              |
| 1:B:564:VAL:HG22 | 1:B:580:LEU:HD13 | 1.76                     | 0.67              |
| 1:B:577:LEU:HB2  | 1:C:610:GLN:NE2  | 2.09                     | 0.67              |
| 1:D:237:SER:HA   | 1:D:239:PHE:N    | 2.08                     | 0.67              |
| 1:E:654:TYR:HB3  | 1:E:670:PHE:CZ   | 2.29                     | 0.67              |
| 1:D:79:ILE:HD11  | 1:D:82:ALA:HB2   | 1.75                     | 0.67              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:79:ILE:HD11  | 1:A:82:ALA:HB2   | 1.76                     | 0.67              |
| 1:C:79:ILE:HD11  | 1:C:82:ALA:HB2   | 1.75                     | 0.67              |
| 1:C:564:VAL:HG22 | 1:C:580:LEU:HD13 | 1.76                     | 0.67              |
| 1:C:666:VAL:HG11 | 1:C:698:SER:N    | 2.10                     | 0.67              |
| 1:D:666:VAL:HG11 | 1:D:698:SER:N    | 2.10                     | 0.67              |
| 1:E:629:ASP:OD1  | 1:E:659:HIS:CE1  | 2.47                     | 0.67              |
| 1:F:564:VAL:HG22 | 1:F:580:LEU:HD13 | 1.76                     | 0.67              |
| 2:G:30:PRO:HG3   | 2:G:476:LEU:HD13 | 1.75                     | 0.67              |
| 1:B:666:VAL:HG11 | 1:B:698:SER:N    | 2.10                     | 0.67              |
| 1:F:666:VAL:HG11 | 1:F:698:SER:N    | 2.10                     | 0.67              |
| 1:A:523:SER:HA   | 1:B:464:PRO:HD2  | 1.78                     | 0.66              |
| 1:F:570:SER:CB   | 1:F:683:HIS:CB   | 2.72                     | 0.66              |
| 2:G:274:GLY:O    | 2:G:392:THR:HG23 | 1.94                     | 0.66              |
| 2:G:516:ARG:HA   | 2:G:516:ARG:NE   | 2.10                     | 0.66              |
| 1:F:533:LEU:HD13 | 1:F:642:THR:HG23 | 1.77                     | 0.66              |
| 1:A:399:PRO:HG3  | 1:B:626:LEU:HD11 | 1.76                     | 0.66              |
| 1:B:654:TYR:CG   | 1:B:670:PHE:CG   | 2.83                     | 0.66              |
| 1:C:654:TYR:CE2  | 1:C:670:PHE:CE1  | 2.84                     | 0.66              |
| 1:D:533:LEU:HD22 | 1:D:639:SER:HB2  | 1.78                     | 0.66              |
| 1:E:666:VAL:HG11 | 1:E:698:SER:N    | 2.10                     | 0.66              |
| 1:F:570:SER:HB2  | 1:F:683:HIS:HB2  | 1.76                     | 0.66              |
| 1:D:564:VAL:HG22 | 1:D:580:LEU:HD13 | 1.76                     | 0.66              |
| 1:E:523:SER:HA   | 1:F:464:PRO:HD3  | 1.75                     | 0.66              |
| 1:A:552:PHE:HB2  | 1:C:690:PHE:HZ   | 1.59                     | 0.66              |
| 1:B:577:LEU:CB   | 1:C:610:GLN:OE1  | 2.43                     | 0.66              |
| 1:C:626:LEU:HD11 | 1:D:399:PRO:CG   | 2.23                     | 0.66              |
| 2:G:180:LEU:HD11 | 2:G:182:ILE:HD13 | 1.78                     | 0.66              |
| 1:A:666:VAL:HG11 | 1:A:698:SER:N    | 2.10                     | 0.66              |
| 1:A:564:VAL:HG22 | 1:A:580:LEU:HD13 | 1.76                     | 0.66              |
| 1:E:237:SER:HA   | 1:E:239:PHE:N    | 2.07                     | 0.66              |
| 1:F:571:VAL:HG22 | 1:F:655:ASN:HA   | 1.78                     | 0.66              |
| 1:D:533:LEU:HB3  | 1:D:642:THR:CG2  | 2.27                     | 0.65              |
| 2:G:56:SER:HA    | 2:G:506:THR:HG22 | 1.77                     | 0.65              |
| 1:B:654:TYR:HB3  | 1:B:670:PHE:CD2  | 2.31                     | 0.65              |
| 1:D:568:SER:HG   | 1:D:670:PHE:HD1  | 1.39                     | 0.65              |
| 2:G:404:ARG:HH11 | 2:G:404:ARG:HG2  | 1.62                     | 0.65              |
| 1:F:630:TRP:CG   | 1:F:670:PHE:CE2  | 2.85                     | 0.65              |
| 1:A:95:TYR:O     | 2:G:277:ARG:CZ   | 2.44                     | 0.65              |
| 1:B:577:LEU:HB2  | 1:C:610:GLN:CD   | 2.22                     | 0.65              |
| 1:F:630:TRP:CB   | 1:F:670:PHE:HE2  | 1.97                     | 0.65              |
| 2:G:95:VAL:HG23  | 2:G:116:ASN:HB2  | 1.78                     | 0.65              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:523:SER:HA   | 1:B:464:PRO:CD   | 2.28                     | 0.64              |
| 1:E:88:GLU:HB2   | 1:E:132:LEU:HD21 | 1.79                     | 0.64              |
| 1:E:629:ASP:CG   | 1:E:659:HIS:CE1  | 2.75                     | 0.64              |
| 1:C:514:TYR:CE1  | 1:D:464:PRO:HG3  | 2.31                     | 0.64              |
| 1:D:691:GLN:HB3  | 1:E:441:ASN:HA   | 1.78                     | 0.64              |
| 1:D:88:GLU:HB2   | 1:D:132:LEU:HD21 | 1.79                     | 0.64              |
| 1:F:88:GLU:HB2   | 1:F:132:LEU:HD21 | 1.79                     | 0.64              |
| 1:A:88:GLU:HB2   | 1:A:132:LEU:HD21 | 1.79                     | 0.64              |
| 1:C:532:ALA:HB1  | 1:C:560:MET:HE2  | 1.77                     | 0.64              |
| 1:F:551:ARG:NH1  | 1:F:641:GLU:OE2  | 2.31                     | 0.64              |
| 1:B:660:GLN:HB2  | 2:G:105:TRP:HE1  | 1.63                     | 0.64              |
| 2:G:226:PHE:C    | 2:G:227:ILE:HD12 | 2.22                     | 0.64              |
| 1:A:192:GLN:HE22 | 2:G:404:ARG:HH22 | 1.44                     | 0.64              |
| 1:B:559:CYS:C    | 1:B:560:MET:N    | 2.56                     | 0.64              |
| 1:E:533:LEU:HB3  | 1:E:642:THR:HG21 | 1.79                     | 0.64              |
| 2:G:85:ILE:HG12  | 2:G:511:GLN:HE21 | 1.63                     | 0.64              |
| 1:A:442:GLY:H    | 1:C:691:GLN:NE2  | 1.79                     | 0.64              |
| 1:B:654:TYR:CB   | 1:B:670:PHE:CD2  | 2.80                     | 0.64              |
| 1:A:654:TYR:CZ   | 1:A:670:PHE:HB3  | 2.33                     | 0.63              |
| 1:C:88:GLU:HB2   | 1:C:132:LEU:HD21 | 1.79                     | 0.63              |
| 2:G:452:GLY:HA3  | 2:G:492:MET:HE1  | 1.79                     | 0.63              |
| 1:E:568:SER:HB2  | 1:E:670:PHE:HE1  | 1.63                     | 0.63              |
| 1:E:654:TYR:HB2  | 1:E:670:PHE:CD2  | 2.32                     | 0.63              |
| 2:G:478:GLU:CD   | 2:G:480:MET:HE2  | 2.22                     | 0.63              |
| 1:E:568:SER:CB   | 1:E:670:PHE:HE1  | 2.11                     | 0.63              |
| 1:A:508:VAL:HG13 | 1:A:527:HIS:NE2  | 2.14                     | 0.63              |
| 1:B:677:TYR:OH   | 1:D:541:ASP:HB3  | 1.99                     | 0.63              |
| 2:G:48:PHE:CE2   | 2:G:50:GLY:HA2   | 2.33                     | 0.63              |
| 2:G:209:HIS:HD2  | 2:G:210:PRO:O    | 1.82                     | 0.63              |
| 2:G:218:SER:HB2  | 2:G:252:ILE:HD11 | 1.80                     | 0.63              |
| 2:G:317:LYS:HE2  | 2:G:317:LYS:HA   | 1.79                     | 0.63              |
| 1:A:344:LYS:HZ2  | 3:H:80:ARG:HD2   | 1.64                     | 0.63              |
| 1:B:534:HIS:NE2  | 1:B:642:THR:HB   | 2.14                     | 0.63              |
| 1:C:654:TYR:CD2  | 1:C:670:PHE:CE1  | 2.87                     | 0.63              |
| 2:G:85:ILE:H     | 2:G:511:GLN:HE22 | 1.46                     | 0.63              |
| 1:F:629:ASP:CG   | 1:F:659:HIS:NE2  | 2.54                     | 0.62              |
| 2:G:203:ARG:NH2  | 2:G:273:PHE:CE2  | 2.65                     | 0.62              |
| 1:A:344:LYS:HG2  | 3:H:80:ARG:CZ    | 2.29                     | 0.62              |
| 1:D:274:LEU:HD12 | 1:D:274:LEU:H    | 1.64                     | 0.62              |
| 1:A:654:TYR:CD1  | 1:A:670:PHE:HB2  | 2.34                     | 0.62              |
| 1:B:88:GLU:HB2   | 1:B:132:LEU:HD21 | 1.79                     | 0.62              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:629:ASP:OD1  | 1:C:659:HIS:CE1  | 2.53                     | 0.62              |
| 1:D:568:SER:OG   | 1:D:670:PHE:CD1  | 2.51                     | 0.62              |
| 1:D:654:TYR:CD2  | 1:D:670:PHE:CG   | 2.88                     | 0.62              |
| 1:E:50:PHE:HB3   | 1:E:498:MET:HE2  | 1.82                     | 0.62              |
| 2:G:396:PRO:HG2  | 2:G:399:VAL:HG12 | 1.81                     | 0.62              |
| 1:A:50:PHE:HB3   | 1:A:498:MET:HE2  | 1.82                     | 0.62              |
| 1:A:630:TRP:CB   | 1:A:670:PHE:CE2  | 2.77                     | 0.62              |
| 1:B:690:PHE:CZ   | 1:D:552:PHE:CD2  | 2.87                     | 0.62              |
| 1:C:654:TYR:CZ   | 1:C:670:PHE:CG   | 2.88                     | 0.62              |
| 1:F:274:LEU:HD12 | 1:F:274:LEU:H    | 1.64                     | 0.62              |
| 1:A:552:PHE:HD2  | 1:C:690:PHE:HE1  | 1.43                     | 0.62              |
| 1:D:50:PHE:HB3   | 1:D:498:MET:HE2  | 1.82                     | 0.62              |
| 2:G:249:GLU:OE2  | 2:G:264:ARG:CD   | 2.47                     | 0.62              |
| 1:A:654:TYR:CD1  | 1:A:670:PHE:HB3  | 2.34                     | 0.61              |
| 1:B:508:VAL:CG1  | 1:B:527:HIS:NE2  | 2.63                     | 0.61              |
| 2:G:154:ILE:HD12 | 2:G:154:ILE:H    | 1.65                     | 0.61              |
| 1:F:572:SER:HB2  | 1:F:683:HIS:CE1  | 2.35                     | 0.61              |
| 2:G:118:ILE:HD12 | 2:G:118:ILE:N    | 2.16                     | 0.61              |
| 1:C:534:HIS:CE1  | 1:C:642:THR:HG22 | 2.35                     | 0.61              |
| 1:A:442:GLY:CA   | 1:C:691:GLN:HE22 | 2.10                     | 0.61              |
| 1:C:50:PHE:HB3   | 1:C:498:MET:HE2  | 1.82                     | 0.61              |
| 2:G:164:ASN:HD22 | 2:G:166:ARG:H    | 1.47                     | 0.61              |
| 1:A:222:VAL:HG21 | 2:G:166:ARG:CZ   | 2.30                     | 0.61              |
| 1:A:546:ALA:HB1  | 1:C:690:PHE:HZ   | 1.53                     | 0.61              |
| 1:B:274:LEU:H    | 1:B:274:LEU:HD12 | 1.64                     | 0.61              |
| 2:G:285:THR:HG23 | 2:G:379:GLY:HA2  | 1.82                     | 0.61              |
| 1:B:50:PHE:HB3   | 1:B:498:MET:HE2  | 1.82                     | 0.61              |
| 1:C:274:LEU:HD12 | 1:C:274:LEU:H    | 1.64                     | 0.61              |
| 2:G:427:VAL:HG21 | 2:G:429:TYR:OH   | 2.00                     | 0.61              |
| 1:A:396:ALA:CB   | 2:G:107:GLY:HA3  | 2.31                     | 0.61              |
| 1:D:191:LYS:HB3  | 1:D:194:TYR:HB2  | 1.83                     | 0.61              |
| 1:D:654:TYR:HB3  | 1:D:670:PHE:CE2  | 2.35                     | 0.61              |
| 1:E:274:LEU:H    | 1:E:274:LEU:HD12 | 1.64                     | 0.61              |
| 1:A:274:LEU:HD12 | 1:A:274:LEU:H    | 1.64                     | 0.61              |
| 2:G:85:ILE:H     | 2:G:511:GLN:NE2  | 1.99                     | 0.61              |
| 1:A:547:TRP:HA   | 1:C:689:SER:CB   | 2.31                     | 0.60              |
| 1:C:459:ARG:HG3  | 1:C:526:PRO:HG3  | 1.82                     | 0.60              |
| 1:E:191:LYS:HB3  | 1:E:194:TYR:HB2  | 1.83                     | 0.60              |
| 1:D:692:GLU:OE2  | 1:E:440:TYR:CG   | 2.55                     | 0.60              |
| 1:C:654:TYR:CD2  | 1:C:670:PHE:CG   | 2.89                     | 0.60              |
| 1:F:50:PHE:HB3   | 1:F:498:MET:HE2  | 1.82                     | 0.60              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:G:164:ASN:ND2  | 2:G:166:ARG:H    | 1.98                     | 0.60              |
| 2:G:268:ILE:HD13 | 2:G:283:TRP:CD2  | 2.35                     | 0.60              |
| 2:G:453:THR:HG22 | 2:G:455:VAL:N    | 2.15                     | 0.60              |
| 1:A:464:PRO:HD2  | 1:B:523:SER:HA   | 1.82                     | 0.60              |
| 1:F:191:LYS:HB3  | 1:F:194:TYR:HB2  | 1.83                     | 0.60              |
| 1:A:397:PRO:HD2  | 2:G:107:GLY:HA2  | 1.83                     | 0.60              |
| 1:A:398:VAL:HG22 | 2:G:105:TRP:O    | 2.00                     | 0.60              |
| 1:D:508:VAL:CG1  | 1:D:527:HIS:NE2  | 2.65                     | 0.60              |
| 1:F:654:TYR:HB3  | 1:F:670:PHE:CD2  | 2.37                     | 0.60              |
| 1:B:191:LYS:HB3  | 1:B:194:TYR:HB2  | 1.83                     | 0.60              |
| 1:A:191:LYS:HB3  | 1:A:194:TYR:HB2  | 1.83                     | 0.60              |
| 1:A:273:ASP:HB3  | 3:H:80:ARG:NE    | 2.14                     | 0.60              |
| 2:G:66:ARG:HA    | 2:G:150:PRO:CB   | 2.32                     | 0.60              |
| 1:F:654:TYR:CD2  | 1:F:670:PHE:HB3  | 2.36                     | 0.60              |
| 2:G:154:ILE:HD12 | 2:G:154:ILE:N    | 2.17                     | 0.60              |
| 1:C:535:ASN:CG   | 1:C:646:PHE:HA   | 2.27                     | 0.60              |
| 1:F:626:LEU:HD21 | 1:F:658:ALA:O    | 2.01                     | 0.60              |
| 2:G:501:LEU:HD22 | 2:G:503:ILE:HD11 | 1.84                     | 0.60              |
| 2:G:66:ARG:HA    | 2:G:150:PRO:HB3  | 1.84                     | 0.59              |
| 2:G:105:TRP:HA   | 2:G:105:TRP:CE3  | 2.36                     | 0.59              |
| 1:B:663:LEU:HD23 | 1:B:698:SER:HB2  | 1.84                     | 0.59              |
| 1:C:626:LEU:CD1  | 1:D:399:PRO:CG   | 2.58                     | 0.59              |
| 1:D:692:GLU:OE2  | 1:E:440:TYR:HA   | 2.02                     | 0.59              |
| 2:G:209:HIS:CD2  | 2:G:210:PRO:O    | 2.56                     | 0.59              |
| 2:G:313:LEU:HD22 | 2:G:324:VAL:HG22 | 1.83                     | 0.59              |
| 1:C:191:LYS:HB3  | 1:C:194:TYR:HB2  | 1.83                     | 0.59              |
| 1:C:663:LEU:HD23 | 1:C:698:SER:HB2  | 1.84                     | 0.59              |
| 1:E:654:TYR:CD2  | 1:E:670:PHE:CZ   | 2.90                     | 0.59              |
| 1:E:663:LEU:HD23 | 1:E:698:SER:HB2  | 1.84                     | 0.59              |
| 1:F:663:LEU:HD23 | 1:F:698:SER:HB2  | 1.84                     | 0.59              |
| 1:A:663:LEU:HD23 | 1:A:698:SER:HB2  | 1.84                     | 0.59              |
| 1:B:533:LEU:HD22 | 1:B:639:SER:HB2  | 1.84                     | 0.59              |
| 2:G:367:VAL:HG13 | 2:G:368:PRO:HD2  | 1.85                     | 0.59              |
| 2:G:48:PHE:CZ    | 2:G:50:GLY:HA2   | 2.37                     | 0.59              |
| 2:G:176:LEU:O    | 2:G:190:THR:HG23 | 2.03                     | 0.59              |
| 1:A:341:LYS:NZ   | 3:H:84:TYR:HD1   | 1.93                     | 0.59              |
| 1:D:97:PRO:HG2   | 1:D:158:TYR:CE1  | 2.38                     | 0.59              |
| 1:D:663:LEU:HD23 | 1:D:698:SER:HB2  | 1.84                     | 0.59              |
| 2:G:249:GLU:OE2  | 2:G:264:ARG:HD2  | 2.03                     | 0.59              |
| 1:C:654:TYR:CZ   | 1:C:670:PHE:HB3  | 2.38                     | 0.58              |
| 1:E:629:ASP:OD1  | 1:E:659:HIS:NE2  | 2.36                     | 0.58              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:G:46:ILE:O     | 2:G:85:ILE:HD11  | 2.03                     | 0.58              |
| 1:F:97:PRO:HG2   | 1:F:158:TYR:CE1  | 2.38                     | 0.58              |
| 1:A:97:PRO:HG2   | 1:A:158:TYR:CE1  | 2.38                     | 0.58              |
| 1:A:654:TYR:HB2  | 1:A:670:PHE:CD2  | 2.35                     | 0.58              |
| 1:E:97:PRO:HG2   | 1:E:158:TYR:CE1  | 2.38                     | 0.58              |
| 1:E:532:ALA:HB1  | 1:E:560:MET:CE   | 2.33                     | 0.58              |
| 2:G:404:ARG:HG2  | 2:G:404:ARG:NH1  | 2.18                     | 0.58              |
| 1:B:690:PHE:CZ   | 1:D:552:PHE:CE2  | 2.92                     | 0.58              |
| 1:C:571:VAL:HG22 | 1:C:655:ASN:CB   | 2.32                     | 0.58              |
| 1:E:523:SER:HA   | 1:F:464:PRO:CD   | 2.32                     | 0.58              |
| 2:G:186:LEU:O    | 2:G:203:ARG:HA   | 2.04                     | 0.58              |
| 2:G:493:GLU:O    | 2:G:501:LEU:HD23 | 2.04                     | 0.58              |
| 1:C:97:PRO:HG2   | 1:C:158:TYR:CE1  | 2.38                     | 0.58              |
| 1:C:541:ASP:HB3  | 1:F:677:TYR:CZ   | 2.39                     | 0.58              |
| 2:G:178:ALA:O    | 2:G:188:SER:HA   | 2.03                     | 0.58              |
| 1:A:341:LYS:HZ2  | 3:H:84:TYR:HE1   | 0.67                     | 0.58              |
| 1:A:547:TRP:HA   | 1:C:689:SER:HB3  | 1.85                     | 0.58              |
| 1:C:508:VAL:C    | 1:C:509:GLU:CB   | 2.77                     | 0.58              |
| 1:C:654:TYR:CG   | 1:C:670:PHE:CE2  | 2.91                     | 0.58              |
| 1:F:626:LEU:HD22 | 1:F:658:ALA:HB1  | 1.85                     | 0.58              |
| 2:G:70:TYR:OH    | 2:G:146:VAL:HG21 | 2.04                     | 0.58              |
| 2:G:501:LEU:HD22 | 2:G:503:ILE:HD12 | 1.86                     | 0.58              |
| 2:G:140:ILE:HD13 | 2:G:140:ILE:H    | 1.68                     | 0.58              |
| 1:F:533:LEU:HD22 | 1:F:639:SER:OG   | 2.03                     | 0.58              |
| 2:G:287:LEU:HD22 | 2:G:409:MET:HE2  | 1.83                     | 0.58              |
| 1:B:97:PRO:HG2   | 1:B:158:TYR:CE1  | 2.38                     | 0.57              |
| 1:D:175:SER:OG   | 1:D:178:GLU:HG2  | 2.04                     | 0.57              |
| 1:A:175:SER:OG   | 1:A:178:GLU:HG2  | 2.05                     | 0.57              |
| 1:C:654:TYR:CD2  | 1:C:670:PHE:CD1  | 2.93                     | 0.57              |
| 1:A:552:PHE:HB3  | 1:C:690:PHE:CE1  | 2.40                     | 0.57              |
| 1:C:629:ASP:HA   | 1:C:658:ALA:HB1  | 1.86                     | 0.57              |
| 1:A:231:ASP:CG   | 2:G:217:ASP:HA   | 2.30                     | 0.57              |
| 2:G:435:VAL:HG23 | 2:G:450:PHE:HB2  | 1.87                     | 0.57              |
| 1:B:175:SER:OG   | 1:B:178:GLU:HG2  | 2.04                     | 0.57              |
| 1:E:407:LEU:O    | 1:E:411:GLN:HG2  | 2.05                     | 0.57              |
| 1:D:533:LEU:HD22 | 1:D:639:SER:CB   | 2.35                     | 0.57              |
| 1:F:175:SER:OG   | 1:F:178:GLU:HG2  | 2.04                     | 0.57              |
| 2:G:187:TYR:CE2  | 2:G:203:ARG:HD3  | 2.40                     | 0.57              |
| 2:G:309:GLN:OE1  | 2:G:309:GLN:HA   | 2.05                     | 0.57              |
| 1:B:407:LEU:O    | 1:B:411:GLN:HG2  | 2.05                     | 0.57              |
| 1:C:425:TYR:OH   | 1:C:456:LYS:HE2  | 2.05                     | 0.57              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:G:120:VAL:O    | 2:G:131:ALA:HA   | 2.04                     | 0.57              |
| 1:C:465:HIS:NE2  | 1:D:470:TYR:HA   | 2.20                     | 0.57              |
| 1:D:407:LEU:O    | 1:D:411:GLN:HG2  | 2.05                     | 0.57              |
| 1:D:577:LEU:CB   | 1:F:610:GLN:OE1  | 2.52                     | 0.57              |
| 2:G:170:PRO:HD3  | 2:G:177:THR:OG1  | 2.05                     | 0.57              |
| 2:G:265:ILE:HB   | 2:G:291:LEU:HD11 | 1.87                     | 0.57              |
| 1:A:559:CYS:O    | 1:A:584:ASP:CG   | 2.48                     | 0.56              |
| 1:B:612:ILE:HG13 | 1:C:577:LEU:HD13 | 1.86                     | 0.56              |
| 1:C:175:SER:OG   | 1:C:178:GLU:HG2  | 2.05                     | 0.56              |
| 1:E:175:SER:OG   | 1:E:178:GLU:HG2  | 2.05                     | 0.56              |
| 2:G:135:GLY:H    | 2:G:139:PRO:HA   | 1.68                     | 0.56              |
| 1:A:407:LEU:O    | 1:A:411:GLN:HG2  | 2.05                     | 0.56              |
| 1:F:529:GLY:HA3  | 1:F:552:PHE:CZ   | 2.40                     | 0.56              |
| 1:A:222:VAL:HG21 | 2:G:166:ARG:HH22 | 1.70                     | 0.56              |
| 1:A:654:TYR:HD2  | 1:A:670:PHE:CD1  | 2.16                     | 0.56              |
| 1:C:407:LEU:O    | 1:C:411:GLN:HG2  | 2.05                     | 0.56              |
| 1:C:529:GLY:HA3  | 1:C:552:PHE:CZ   | 2.40                     | 0.56              |
| 1:D:529:GLY:HA3  | 1:D:552:PHE:CZ   | 2.40                     | 0.56              |
| 1:F:407:LEU:O    | 1:F:411:GLN:HG2  | 2.05                     | 0.56              |
| 1:A:629:ASP:OD1  | 1:A:659:HIS:NE2  | 2.38                     | 0.56              |
| 1:C:470:TYR:CE1  | 1:C:525:ASP:CG   | 2.84                     | 0.56              |
| 1:E:571:VAL:HG21 | 1:E:655:ASN:HB2  | 1.88                     | 0.56              |
| 1:F:425:TYR:OH   | 1:F:456:LYS:HE2  | 2.05                     | 0.56              |
| 1:A:514:TYR:CE1  | 1:B:464:PRO:HG3  | 2.30                     | 0.56              |
| 1:E:529:GLY:HA3  | 1:E:552:PHE:CZ   | 2.41                     | 0.56              |
| 2:G:457:THR:H    | 2:G:489:ILE:HD11 | 1.70                     | 0.56              |
| 1:E:425:TYR:OH   | 1:E:456:LYS:HE2  | 2.05                     | 0.56              |
| 1:F:570:SER:OG   | 1:F:683:HIS:CG   | 2.59                     | 0.56              |
| 1:A:425:TYR:OH   | 1:A:456:LYS:HE2  | 2.05                     | 0.56              |
| 1:B:529:GLY:HA3  | 1:B:552:PHE:CZ   | 2.40                     | 0.56              |
| 1:E:626:LEU:HD21 | 1:E:658:ALA:O    | 2.05                     | 0.56              |
| 1:F:535:ASN:OD1  | 1:F:646:PHE:HA   | 2.05                     | 0.56              |
| 1:F:570:SER:HB2  | 1:F:683:HIS:HB3  | 1.86                     | 0.56              |
| 1:E:568:SER:HB2  | 1:E:670:PHE:CE1  | 2.40                     | 0.56              |
| 2:G:227:ILE:O    | 2:G:228:SER:HB3  | 2.04                     | 0.56              |
| 1:A:274:LEU:O    | 3:H:80:ARG:NH2   | 2.13                     | 0.56              |
| 1:B:425:TYR:OH   | 1:B:456:LYS:HE2  | 2.05                     | 0.56              |
| 1:D:235:LEU:HG   | 1:D:236:VAL:HG23 | 1.88                     | 0.56              |
| 2:G:285:THR:O    | 2:G:285:THR:CG2  | 2.52                     | 0.56              |
| 1:A:344:LYS:CE   | 3:H:80:ARG:HD3   | 2.35                     | 0.55              |
| 1:A:398:VAL:CG2  | 2:G:105:TRP:O    | 2.53                     | 0.55              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:568:SER:OG   | 1:C:670:PHE:CE1  | 1.98                     | 0.55              |
| 2:G:149:HIS:C    | 2:G:151:GLU:H    | 2.13                     | 0.55              |
| 1:C:235:LEU:HG   | 1:C:236:VAL:HG23 | 1.88                     | 0.55              |
| 2:G:45:VAL:HG11  | 2:G:482:VAL:HG13 | 1.88                     | 0.55              |
| 2:G:402:PHE:O    | 2:G:403:ALA:CB   | 2.52                     | 0.55              |
| 1:A:654:TYR:CE1  | 1:A:670:PHE:HB3  | 2.42                     | 0.55              |
| 2:G:104:LYS:HD2  | 2:G:110:ILE:HD11 | 1.87                     | 0.55              |
| 1:A:222:VAL:HG21 | 2:G:166:ARG:NH2  | 2.22                     | 0.55              |
| 1:A:529:GLY:HA3  | 1:A:552:PHE:CZ   | 2.41                     | 0.55              |
| 1:E:235:LEU:HG   | 1:E:236:VAL:HG23 | 1.88                     | 0.55              |
| 2:G:420:PRO:CG   | 2:G:423:ILE:HD11 | 2.37                     | 0.55              |
| 2:G:426:ASP:N    | 2:G:426:ASP:OD1  | 2.40                     | 0.55              |
| 1:A:221:PHE:CE1  | 2:G:212:ARG:HD2  | 2.36                     | 0.55              |
| 1:C:571:VAL:HG21 | 1:C:655:ASN:HB2  | 1.88                     | 0.55              |
| 1:D:425:TYR:OH   | 1:D:456:LYS:HE2  | 2.05                     | 0.55              |
| 1:F:533:LEU:HD22 | 1:F:639:SER:CB   | 2.37                     | 0.55              |
| 2:G:389:PHE:HD1  | 2:G:389:PHE:H    | 1.53                     | 0.55              |
| 2:G:249:GLU:OE2  | 2:G:264:ARG:HD3  | 2.07                     | 0.55              |
| 1:A:235:LEU:HG   | 1:A:236:VAL:HG23 | 1.88                     | 0.55              |
| 1:C:574:HIS:ND1  | 1:C:618:PRO:HD3  | 2.22                     | 0.55              |
| 1:E:629:ASP:CG   | 1:E:659:HIS:HE1  | 2.14                     | 0.55              |
| 1:A:552:PHE:CG   | 1:C:690:PHE:HZ   | 2.13                     | 0.54              |
| 1:D:689:SER:HB3  | 1:E:540:ARG:CD   | 2.31                     | 0.54              |
| 1:E:574:HIS:ND1  | 1:E:618:PRO:HD3  | 2.22                     | 0.54              |
| 1:F:574:HIS:ND1  | 1:F:618:PRO:HD3  | 2.23                     | 0.54              |
| 1:A:220:ASP:OD2  | 2:G:209:HIS:NE2  | 2.40                     | 0.54              |
| 1:A:221:PHE:HE1  | 2:G:212:ARG:CD   | 2.20                     | 0.54              |
| 1:A:532:ALA:HB1  | 1:A:560:MET:HE2  | 1.88                     | 0.54              |
| 1:B:235:LEU:HG   | 1:B:236:VAL:HG23 | 1.88                     | 0.54              |
| 1:B:574:HIS:ND1  | 1:B:618:PRO:HD3  | 2.22                     | 0.54              |
| 1:F:235:LEU:HG   | 1:F:236:VAL:HG23 | 1.89                     | 0.54              |
| 2:G:30:PRO:HG3   | 2:G:476:LEU:CD1  | 2.37                     | 0.54              |
| 2:G:378:PRO:HG3  | 2:G:399:VAL:HG23 | 1.87                     | 0.54              |
| 1:B:610:GLN:CD   | 1:C:577:LEU:CD1  | 2.68                     | 0.54              |
| 1:D:574:HIS:ND1  | 1:D:618:PRO:HD3  | 2.22                     | 0.54              |
| 2:G:32:LEU:HB2   | 2:G:478:GLU:HB3  | 1.89                     | 0.54              |
| 1:A:87:PRO:HB2   | 1:A:109:LEU:HD11 | 1.90                     | 0.54              |
| 1:B:551:ARG:NH1  | 1:B:641:GLU:CD   | 2.62                     | 0.54              |
| 1:D:571:VAL:HG22 | 1:D:655:ASN:CB   | 2.34                     | 0.54              |
| 1:E:399:PRO:HG3  | 1:F:626:LEU:HD11 | 1.90                     | 0.54              |
| 2:G:401:THR:O    | 2:G:404:ARG:HB3  | 2.07                     | 0.54              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:95:TYR:HA    | 1:B:96:PRO:C     | 2.33                     | 0.54              |
| 1:D:551:ARG:HH12 | 1:D:641:GLU:CD   | 2.13                     | 0.54              |
| 1:D:612:ILE:HD11 | 1:F:612:ILE:CD1  | 2.38                     | 0.54              |
| 2:G:384:LYS:NZ   | 2:G:384:LYS:HB3  | 2.23                     | 0.54              |
| 1:D:87:PRO:HB2   | 1:D:109:LEU:HD11 | 1.90                     | 0.53              |
| 1:A:660:GLN:C    | 1:A:661:LEU:HD12 | 2.34                     | 0.53              |
| 1:B:87:PRO:HB2   | 1:B:109:LEU:HD11 | 1.90                     | 0.53              |
| 1:C:534:HIS:CE1  | 1:C:642:THR:CG2  | 2.92                     | 0.53              |
| 1:E:95:TYR:HA    | 1:E:96:PRO:C     | 2.33                     | 0.53              |
| 2:G:31:ARG:N     | 2:G:31:ARG:HD2   | 2.23                     | 0.53              |
| 2:G:199:PHE:CZ   | 2:G:225:ARG:NH1  | 2.76                     | 0.53              |
| 1:D:95:TYR:HA    | 1:D:96:PRO:C     | 2.33                     | 0.53              |
| 2:G:279:LEU:HD12 | 2:G:400:ILE:HG23 | 1.90                     | 0.53              |
| 1:A:344:LYS:NZ   | 3:H:80:ARG:HD2   | 2.23                     | 0.53              |
| 1:B:535:ASN:HB2  | 1:B:646:PHE:HA   | 1.90                     | 0.53              |
| 1:D:660:GLN:C    | 1:D:661:LEU:HD12 | 2.34                     | 0.53              |
| 2:G:134:THR:HG23 | 2:G:171:TYR:O    | 2.08                     | 0.53              |
| 1:A:574:HIS:ND1  | 1:A:618:PRO:HD3  | 2.22                     | 0.53              |
| 2:G:93:TRP:CH2   | 2:G:142:THR:HG22 | 2.43                     | 0.53              |
| 2:G:218:SER:HB2  | 2:G:252:ILE:CD1  | 2.39                     | 0.53              |
| 1:C:95:TYR:HA    | 1:C:96:PRO:C     | 2.33                     | 0.53              |
| 1:B:534:HIS:CD2  | 1:B:642:THR:HB   | 2.44                     | 0.53              |
| 1:E:87:PRO:HB2   | 1:E:109:LEU:HD11 | 1.90                     | 0.53              |
| 1:E:660:GLN:C    | 1:E:661:LEU:HD12 | 2.34                     | 0.53              |
| 1:C:508:VAL:CG1  | 1:C:539:ARG:NH2  | 2.72                     | 0.53              |
| 2:G:56:SER:CA    | 2:G:506:THR:HG22 | 2.38                     | 0.53              |
| 2:G:267:GLN:O    | 2:G:268:ILE:HG13 | 2.09                     | 0.53              |
| 1:F:87:PRO:HB2   | 1:F:109:LEU:HD11 | 1.90                     | 0.53              |
| 2:G:204:THR:O    | 2:G:205:LEU:HB2  | 2.09                     | 0.53              |
| 1:A:95:TYR:HA    | 1:A:96:PRO:C     | 2.33                     | 0.53              |
| 1:C:660:GLN:C    | 1:C:661:LEU:HD12 | 2.34                     | 0.53              |
| 1:A:552:PHE:CB   | 1:C:690:PHE:CE1  | 2.92                     | 0.52              |
| 1:C:87:PRO:HB2   | 1:C:109:LEU:HD11 | 1.90                     | 0.52              |
| 1:C:459:ARG:CG   | 1:C:526:PRO:HG3  | 2.39                     | 0.52              |
| 1:F:660:GLN:C    | 1:F:661:LEU:HD12 | 2.34                     | 0.52              |
| 1:A:327:ASN:CG   | 1:A:327:ASN:O    | 2.52                     | 0.52              |
| 1:C:535:ASN:HB2  | 1:C:646:PHE:HA   | 1.92                     | 0.52              |
| 1:D:507:PRO:O    | 1:D:509:GLU:N    | 2.42                     | 0.52              |
| 1:F:533:LEU:HD11 | 1:F:641:GLU:OE1  | 2.09                     | 0.52              |
| 1:A:540:ARG:NH1  | 1:C:689:SER:O    | 2.42                     | 0.52              |
| 1:C:568:SER:HB2  | 1:C:670:PHE:CE1  | 2.44                     | 0.52              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:327:ASN:O    | 1:E:327:ASN:CG   | 2.52                     | 0.52              |
| 2:G:161:HIS:O    | 2:G:162:PHE:HB2  | 2.08                     | 0.52              |
| 1:C:459:ARG:CD   | 1:C:526:PRO:HG3  | 2.39                     | 0.52              |
| 2:G:427:VAL:HG13 | 2:G:429:TYR:CD2  | 2.44                     | 0.52              |
| 2:G:39:MET:HE3   | 2:G:45:VAL:HG13  | 1.91                     | 0.52              |
| 1:F:95:TYR:HA    | 1:F:96:PRO:C     | 2.33                     | 0.52              |
| 2:G:35:SER:OG    | 2:G:38:GLU:HG3   | 2.09                     | 0.52              |
| 2:G:453:THR:H    | 2:G:489:ILE:HD12 | 1.75                     | 0.52              |
| 1:A:552:PHE:HD2  | 1:C:690:PHE:CE1  | 2.17                     | 0.52              |
| 1:B:660:GLN:C    | 1:B:661:LEU:HD12 | 2.34                     | 0.52              |
| 1:B:327:ASN:CG   | 1:B:327:ASN:O    | 2.52                     | 0.52              |
| 1:C:308:ARG:HB2  | 1:C:343:GLN:HG2  | 1.92                     | 0.52              |
| 1:D:235:LEU:HD21 | 1:D:263:PRO:HG2  | 1.92                     | 0.52              |
| 1:A:96:PRO:N     | 2:G:277:ARG:CZ   | 2.72                     | 0.52              |
| 1:A:308:ARG:HB2  | 1:A:343:GLN:HG2  | 1.92                     | 0.52              |
| 1:C:654:TYR:CZ   | 1:C:670:PHE:CB   | 2.93                     | 0.52              |
| 1:F:235:LEU:HD21 | 1:F:263:PRO:HG2  | 1.92                     | 0.52              |
| 1:A:274:LEU:HD12 | 1:A:274:LEU:N    | 2.25                     | 0.51              |
| 1:B:610:GLN:CG   | 1:C:577:LEU:HD12 | 2.40                     | 0.51              |
| 1:D:274:LEU:HD12 | 1:D:274:LEU:N    | 2.25                     | 0.51              |
| 1:A:547:TRP:HA   | 1:C:689:SER:OG   | 2.09                     | 0.51              |
| 1:C:559:CYS:O    | 1:C:584:ASP:OD2  | 2.27                     | 0.51              |
| 1:B:176:GLU:HG3  | 1:B:177:GLY:N    | 2.26                     | 0.51              |
| 1:E:235:LEU:HD21 | 1:E:263:PRO:HG2  | 1.93                     | 0.51              |
| 1:F:274:LEU:HD12 | 1:F:274:LEU:N    | 2.25                     | 0.51              |
| 1:F:327:ASN:CG   | 1:F:327:ASN:O    | 2.52                     | 0.51              |
| 1:A:344:LYS:CE   | 3:H:80:ARG:CD    | 2.88                     | 0.51              |
| 1:C:274:LEU:HD12 | 1:C:274:LEU:N    | 2.26                     | 0.51              |
| 1:D:176:GLU:HG3  | 1:D:177:GLY:N    | 2.26                     | 0.51              |
| 1:D:677:TYR:CE1  | 1:E:541:ASP:HB2  | 2.45                     | 0.51              |
| 1:E:308:ARG:HB2  | 1:E:343:GLN:HG2  | 1.92                     | 0.51              |
| 2:G:46:ILE:HD12  | 2:G:511:GLN:NE2  | 2.26                     | 0.51              |
| 2:G:46:ILE:HB    | 2:G:511:GLN:HB3  | 1.91                     | 0.51              |
| 2:G:66:ARG:O     | 2:G:68:ARG:HG3   | 2.11                     | 0.51              |
| 1:A:235:LEU:HD21 | 1:A:263:PRO:HG2  | 1.93                     | 0.51              |
| 1:A:176:GLU:HG3  | 1:A:177:GLY:N    | 2.26                     | 0.51              |
| 1:C:176:GLU:HG3  | 1:C:177:GLY:N    | 2.26                     | 0.51              |
| 1:C:327:ASN:CG   | 1:C:327:ASN:O    | 2.52                     | 0.51              |
| 1:B:308:ARG:HB2  | 1:B:343:GLN:HG2  | 1.92                     | 0.51              |
| 1:D:308:ARG:HB2  | 1:D:343:GLN:HG2  | 1.92                     | 0.51              |
| 1:D:327:ASN:CG   | 1:D:327:ASN:O    | 2.52                     | 0.51              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:461:ASP:O    | 1:E:466:GLY:O    | 2.29                     | 0.51              |
| 2:G:274:GLY:HA2  | 2:G:284:THR:HG23 | 1.93                     | 0.51              |
| 1:A:624:ILE:HG13 | 1:A:655:ASN:HB2  | 1.93                     | 0.51              |
| 1:E:176:GLU:HG3  | 1:E:177:GLY:N    | 2.26                     | 0.51              |
| 1:E:274:LEU:HD12 | 1:E:274:LEU:N    | 2.25                     | 0.51              |
| 1:A:461:ASP:O    | 1:A:466:GLY:O    | 2.29                     | 0.51              |
| 1:F:308:ARG:HB2  | 1:F:343:GLN:HG2  | 1.92                     | 0.51              |
| 1:B:612:ILE:CD1  | 1:C:577:LEU:HD13 | 2.40                     | 0.51              |
| 1:C:235:LEU:HD21 | 1:C:263:PRO:HG2  | 1.93                     | 0.51              |
| 1:D:574:HIS:CE1  | 1:D:618:PRO:HD3  | 2.46                     | 0.51              |
| 1:B:574:HIS:CE1  | 1:B:618:PRO:HD3  | 2.46                     | 0.50              |
| 1:B:690:PHE:HZ   | 1:D:552:PHE:CE2  | 2.28                     | 0.50              |
| 1:E:654:TYR:CE2  | 1:E:670:PHE:HD1  | 2.17                     | 0.50              |
| 2:G:455:VAL:HG13 | 2:G:455:VAL:O    | 2.10                     | 0.50              |
| 1:A:626:LEU:HD11 | 1:B:399:PRO:CG   | 2.38                     | 0.50              |
| 1:F:570:SER:OG   | 1:F:683:HIS:ND1  | 2.44                     | 0.50              |
| 2:G:462:VAL:CG2  | 2:G:477:LEU:HD11 | 2.41                     | 0.50              |
| 2:G:234:GLU:O    | 2:G:320:LYS:HD3  | 2.12                     | 0.50              |
| 2:G:503:ILE:HD12 | 2:G:503:ILE:N    | 2.25                     | 0.50              |
| 1:A:221:PHE:CE1  | 2:G:202:PHE:CE2  | 2.88                     | 0.50              |
| 1:B:274:LEU:HD12 | 1:B:274:LEU:N    | 2.25                     | 0.50              |
| 2:G:109:ASP:HB3  | 2:G:113:GLU:HG3  | 1.93                     | 0.50              |
| 1:A:275:PHE:CD2  | 3:H:80:ARG:NE    | 2.78                     | 0.50              |
| 1:B:235:LEU:HD21 | 1:B:263:PRO:HG2  | 1.93                     | 0.50              |
| 1:D:508:VAL:HG13 | 1:D:527:HIS:CE1  | 2.46                     | 0.50              |
| 1:F:176:GLU:HG3  | 1:F:177:GLY:N    | 2.26                     | 0.50              |
| 1:F:574:HIS:CE1  | 1:F:618:PRO:HD3  | 2.46                     | 0.50              |
| 1:A:514:TYR:HE1  | 1:B:464:PRO:CG   | 2.20                     | 0.50              |
| 1:A:539:ARG:HD2  | 1:A:542:LYS:NZ   | 2.27                     | 0.50              |
| 1:A:552:PHE:HB3  | 1:C:690:PHE:CZ   | 2.44                     | 0.50              |
| 1:B:461:ASP:O    | 1:B:466:GLY:O    | 2.29                     | 0.50              |
| 1:E:574:HIS:CE1  | 1:E:618:PRO:HD3  | 2.46                     | 0.50              |
| 1:F:539:ARG:HD2  | 1:F:542:LYS:NZ   | 2.27                     | 0.50              |
| 1:B:654:TYR:CZ   | 1:B:670:PHE:HB3  | 2.46                     | 0.50              |
| 1:D:654:TYR:CG   | 1:D:670:PHE:CD2  | 3.00                     | 0.50              |
| 1:E:518:GLY:HA2  | 1:F:324:GLN:NE2  | 1.87                     | 0.50              |
| 1:F:630:TRP:CB   | 1:F:670:PHE:CZ   | 2.93                     | 0.50              |
| 2:G:140:ILE:HD13 | 2:G:140:ILE:N    | 2.27                     | 0.50              |
| 1:C:574:HIS:CE1  | 1:C:618:PRO:HD3  | 2.46                     | 0.50              |
| 1:A:574:HIS:CE1  | 1:A:618:PRO:HD3  | 2.46                     | 0.50              |
| 2:G:491:ALA:HB3  | 2:G:504:GLY:HA3  | 1.94                     | 0.49              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:508:VAL:CG1  | 1:A:527:HIS:HE2  | 2.23                     | 0.49              |
| 1:D:461:ASP:O    | 1:D:466:GLY:O    | 2.29                     | 0.49              |
| 1:A:399:PRO:HG3  | 1:B:626:LEU:HD13 | 1.94                     | 0.49              |
| 2:G:313:LEU:CD2  | 2:G:324:VAL:HG22 | 2.42                     | 0.49              |
| 1:A:508:VAL:HG13 | 1:A:527:HIS:CE1  | 2.48                     | 0.49              |
| 1:C:539:ARG:HD2  | 1:C:542:LYS:NZ   | 2.27                     | 0.49              |
| 1:D:673:HIS:CD2  | 1:D:685:PRO:HG3  | 2.48                     | 0.49              |
| 1:F:461:ASP:O    | 1:F:466:GLY:O    | 2.29                     | 0.49              |
| 2:G:157:LEU:HD13 | 2:G:157:LEU:O    | 2.13                     | 0.49              |
| 1:E:137:CYS:SG   | 1:E:159:LEU:HD11 | 2.53                     | 0.49              |
| 1:F:411:GLN:HA   | 1:F:412:PRO:C    | 2.38                     | 0.49              |
| 2:G:69:LEU:HD13  | 2:G:69:LEU:O     | 2.12                     | 0.49              |
| 2:G:178:ALA:HB1  | 2:G:228:SER:HA   | 1.94                     | 0.49              |
| 2:G:202:PHE:CZ   | 2:G:212:ARG:HD2  | 2.48                     | 0.49              |
| 1:A:508:VAL:CG1  | 1:A:527:HIS:CD2  | 2.96                     | 0.49              |
| 1:B:237:SER:OG   | 1:B:238:HIS:HA   | 2.13                     | 0.49              |
| 1:C:508:VAL:O    | 1:C:509:GLU:HA   | 2.11                     | 0.49              |
| 1:E:539:ARG:HD2  | 1:E:542:LYS:NZ   | 2.27                     | 0.49              |
| 2:G:453:THR:HG22 | 2:G:455:VAL:HG12 | 1.93                     | 0.49              |
| 2:G:512:LEU:HD23 | 2:G:512:LEU:C    | 2.38                     | 0.49              |
| 1:A:673:HIS:CD2  | 1:A:685:PRO:HG3  | 2.48                     | 0.49              |
| 1:C:137:CYS:SG   | 1:C:159:LEU:HD11 | 2.53                     | 0.49              |
| 1:C:461:ASP:O    | 1:C:466:GLY:O    | 2.29                     | 0.49              |
| 2:G:118:ILE:N    | 2:G:118:ILE:CD1  | 2.76                     | 0.49              |
| 1:D:445:VAL:CG2  | 1:D:526:PRO:HG2  | 2.33                     | 0.49              |
| 1:E:673:HIS:CD2  | 1:E:685:PRO:HG3  | 2.48                     | 0.49              |
| 2:G:399:VAL:HG13 | 2:G:400:ILE:H    | 1.77                     | 0.49              |
| 1:A:464:PRO:CD   | 1:B:523:SER:HA   | 2.42                     | 0.49              |
| 1:B:411:GLN:HA   | 1:B:412:PRO:C    | 2.38                     | 0.49              |
| 1:D:411:GLN:HA   | 1:D:412:PRO:C    | 2.38                     | 0.49              |
| 1:F:137:CYS:SG   | 1:F:159:LEU:HD11 | 2.53                     | 0.49              |
| 2:G:206:GLY:O    | 2:G:208:HIS:N    | 2.41                     | 0.49              |
| 1:B:137:CYS:SG   | 1:B:159:LEU:HD11 | 2.53                     | 0.49              |
| 1:B:560:MET:CE   | 1:B:586:PRO:HD3  | 2.43                     | 0.49              |
| 1:C:629:ASP:CG   | 1:C:659:HIS:CE1  | 2.91                     | 0.49              |
| 1:D:137:CYS:SG   | 1:D:159:LEU:HD11 | 2.53                     | 0.49              |
| 1:E:411:GLN:HA   | 1:E:412:PRO:C    | 2.38                     | 0.49              |
| 1:C:673:HIS:CD2  | 1:C:685:PRO:HG3  | 2.48                     | 0.48              |
| 1:F:50:PHE:CE2   | 1:F:503:VAL:HG23 | 2.48                     | 0.48              |
| 1:C:514:TYR:HE1  | 1:D:464:PRO:CG   | 2.22                     | 0.48              |
| 1:D:539:ARG:HD2  | 1:D:542:LYS:NZ   | 2.27                     | 0.48              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:237:SER:OG   | 1:E:238:HIS:HA   | 2.13                     | 0.48              |
| 2:G:429:TYR:O    | 2:G:430:GLN:HG3  | 2.14                     | 0.48              |
| 1:A:50:PHE:CE2   | 1:A:503:VAL:HG23 | 2.48                     | 0.48              |
| 1:A:411:GLN:HA   | 1:A:412:PRO:C    | 2.38                     | 0.48              |
| 1:B:539:ARG:HD2  | 1:B:542:LYS:NZ   | 2.27                     | 0.48              |
| 1:D:690:PHE:HE2  | 1:E:541:ASP:N    | 2.06                     | 0.48              |
| 1:F:237:SER:OG   | 1:F:238:HIS:HA   | 2.13                     | 0.48              |
| 1:F:570:SER:HG   | 1:F:683:HIS:CG   | 2.31                     | 0.48              |
| 1:B:673:HIS:CD2  | 1:B:685:PRO:HG3  | 2.48                     | 0.48              |
| 1:D:50:PHE:CE2   | 1:D:503:VAL:HG23 | 2.48                     | 0.48              |
| 1:E:560:MET:CE   | 1:E:586:PRO:HD3  | 2.43                     | 0.48              |
| 1:F:673:HIS:CD2  | 1:F:685:PRO:HG3  | 2.48                     | 0.48              |
| 2:G:170:PRO:CD   | 2:G:190:THR:HG21 | 2.42                     | 0.48              |
| 1:C:237:SER:OG   | 1:C:238:HIS:HA   | 2.13                     | 0.48              |
| 1:E:351:ASP:HA   | 1:E:431:ARG:HB2  | 1.96                     | 0.48              |
| 1:E:568:SER:HG   | 1:E:670:PHE:HE1  | 1.60                     | 0.48              |
| 1:A:137:CYS:SG   | 1:A:159:LEU:HD11 | 2.53                     | 0.48              |
| 1:C:411:GLN:HA   | 1:C:412:PRO:C    | 2.38                     | 0.48              |
| 1:D:237:SER:OG   | 1:D:238:HIS:HA   | 2.13                     | 0.48              |
| 2:G:433:GLN:HB2  | 2:G:492:MET:HE3  | 1.95                     | 0.48              |
| 1:A:237:SER:OG   | 1:A:238:HIS:HA   | 2.13                     | 0.48              |
| 1:B:508:VAL:HB   | 1:B:539:ARG:NH2  | 2.28                     | 0.48              |
| 1:D:417:THR:HA   | 1:D:418:PRO:HD3  | 1.74                     | 0.48              |
| 1:F:535:ASN:CG   | 1:F:645:ILE:O    | 2.57                     | 0.48              |
| 1:F:559:CYS:HB3  | 1:F:560:MET:H    | 1.31                     | 0.48              |
| 1:C:654:TYR:CE1  | 1:C:670:PHE:CB   | 2.96                     | 0.48              |
| 1:E:50:PHE:CE2   | 1:E:503:VAL:HG23 | 2.48                     | 0.48              |
| 2:G:427:VAL:HG11 | 2:G:429:TYR:CE1  | 2.48                     | 0.48              |
| 1:A:326:PHE:CG   | 1:A:359:PRO:HG3  | 2.49                     | 0.48              |
| 1:A:445:VAL:CG2  | 1:A:526:PRO:HG2  | 2.36                     | 0.48              |
| 1:B:50:PHE:CE2   | 1:B:503:VAL:HG23 | 2.48                     | 0.48              |
| 1:B:691:GLN:CB   | 1:D:441:ASN:HA   | 2.31                     | 0.48              |
| 1:C:50:PHE:CE2   | 1:C:503:VAL:HG23 | 2.48                     | 0.48              |
| 1:C:326:PHE:CG   | 1:C:359:PRO:HG3  | 2.49                     | 0.48              |
| 1:B:141:ARG:HD2  | 1:B:143:ASP:OD1  | 2.14                     | 0.47              |
| 1:E:141:ARG:HD2  | 1:E:143:ASP:OD1  | 2.14                     | 0.47              |
| 1:F:594:CYS:O    | 1:F:601:GLU:HA   | 2.14                     | 0.47              |
| 1:E:326:PHE:CG   | 1:E:359:PRO:HG3  | 2.49                     | 0.47              |
| 1:F:533:LEU:CD1  | 1:F:641:GLU:CD   | 2.87                     | 0.47              |
| 1:F:351:ASP:HA   | 1:F:431:ARG:HB2  | 1.96                     | 0.47              |
| 2:G:211:ILE:CD1  | 2:G:281:ASN:HA   | 2.44                     | 0.47              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:G:285:THR:HG23 | 2:G:379:GLY:CA   | 2.44                     | 0.47              |
| 1:A:594:CYS:O    | 1:A:601:GLU:HA   | 2.14                     | 0.47              |
| 2:G:84:ASN:C     | 2:G:86:LYS:H     | 2.22                     | 0.47              |
| 2:G:263:ALA:O    | 2:G:264:ARG:HG2  | 2.15                     | 0.47              |
| 1:A:141:ARG:HD2  | 1:A:143:ASP:OD1  | 2.15                     | 0.47              |
| 1:F:141:ARG:HD2  | 1:F:143:ASP:OD1  | 2.15                     | 0.47              |
| 2:G:453:THR:CG2  | 2:G:454:ASP:N    | 2.78                     | 0.47              |
| 1:D:351:ASP:HA   | 1:D:431:ARG:HB2  | 1.96                     | 0.47              |
| 1:D:470:TYR:CE1  | 1:D:525:ASP:CG   | 2.92                     | 0.47              |
| 1:D:654:TYR:CD2  | 1:D:670:PHE:CD1  | 3.02                     | 0.47              |
| 2:G:246:PHE:CZ   | 2:G:265:ILE:HD12 | 2.49                     | 0.47              |
| 2:G:427:VAL:CG1  | 2:G:429:TYR:H    | 2.27                     | 0.47              |
| 1:C:594:CYS:O    | 1:C:601:GLU:HA   | 2.14                     | 0.47              |
| 1:E:654:TYR:CD1  | 1:E:670:PHE:HB2  | 2.49                     | 0.47              |
| 2:G:287:LEU:HD11 | 2:G:379:GLY:HA3  | 1.96                     | 0.47              |
| 2:G:377:ARG:O    | 2:G:380:THR:HB   | 2.14                     | 0.47              |
| 1:A:508:VAL:CG1  | 1:A:527:HIS:CE1  | 2.97                     | 0.47              |
| 1:F:326:PHE:CG   | 1:F:359:PRO:HG3  | 2.49                     | 0.47              |
| 1:B:508:VAL:HG13 | 1:B:527:HIS:NE2  | 2.29                     | 0.47              |
| 1:B:638:ARG:HB2  | 1:B:645:ILE:HD13 | 1.97                     | 0.47              |
| 1:D:141:ARG:HD2  | 1:D:143:ASP:OD1  | 2.14                     | 0.47              |
| 1:D:594:CYS:O    | 1:D:601:GLU:HA   | 2.14                     | 0.47              |
| 2:G:482:VAL:HG12 | 2:G:510:ALA:HB1  | 1.97                     | 0.47              |
| 2:G:509:VAL:HG12 | 2:G:510:ALA:N    | 2.30                     | 0.47              |
| 1:A:409:ILE:CG2  | 2:G:194:PHE:CD2  | 2.89                     | 0.47              |
| 1:B:594:CYS:O    | 1:B:601:GLU:HA   | 2.14                     | 0.47              |
| 1:F:459:ARG:HD3  | 1:F:526:PRO:HG3  | 1.97                     | 0.47              |
| 2:G:160:SER:HB3  | 2:G:161:HIS:CE1  | 2.49                     | 0.47              |
| 1:A:476:PHE:CE2  | 1:A:482:ILE:HD13 | 2.51                     | 0.46              |
| 1:C:417:THR:HA   | 1:C:418:PRO:HD3  | 1.74                     | 0.46              |
| 1:C:560:MET:CE   | 1:C:586:PRO:HD3  | 2.43                     | 0.46              |
| 1:E:594:CYS:O    | 1:E:601:GLU:HA   | 2.14                     | 0.46              |
| 1:F:533:LEU:HD13 | 1:F:641:GLU:HB3  | 1.96                     | 0.46              |
| 1:F:570:SER:HB3  | 1:F:683:HIS:CG   | 2.49                     | 0.46              |
| 2:G:92:VAL:HG12  | 2:G:94:PRO:HD3   | 1.97                     | 0.46              |
| 1:A:508:VAL:HG11 | 1:A:527:HIS:NE2  | 2.27                     | 0.46              |
| 1:B:326:PHE:CG   | 1:B:359:PRO:HG3  | 2.49                     | 0.46              |
| 1:C:351:ASP:HA   | 1:C:431:ARG:HB2  | 1.96                     | 0.46              |
| 1:A:630:TRP:CB   | 1:A:670:PHE:CZ   | 2.98                     | 0.46              |
| 1:B:159:LEU:HD13 | 1:B:184:ILE:HD13 | 1.98                     | 0.46              |
| 1:C:141:ARG:HD2  | 1:C:143:ASP:OD1  | 2.14                     | 0.46              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:539:ARG:HB2  | 1:C:542:LYS:HD3  | 1.97                     | 0.46              |
| 1:D:326:PHE:CG   | 1:D:359:PRO:HG3  | 2.49                     | 0.46              |
| 1:F:533:LEU:HB3  | 1:F:642:THR:HG23 | 1.86                     | 0.46              |
| 1:F:654:TYR:CG   | 1:F:670:PHE:CB   | 2.98                     | 0.46              |
| 1:A:96:PRO:N     | 2:G:277:ARG:NH2  | 2.62                     | 0.46              |
| 1:B:328:ILE:HB   | 1:B:332:GLU:OE1  | 2.16                     | 0.46              |
| 1:B:654:TYR:CE2  | 1:B:670:PHE:HB3  | 2.50                     | 0.46              |
| 1:C:328:ILE:HB   | 1:C:332:GLU:OE1  | 2.16                     | 0.46              |
| 1:D:577:LEU:HD11 | 1:F:607:SER:HB3  | 1.75                     | 0.46              |
| 1:F:159:LEU:HD13 | 1:F:184:ILE:HD13 | 1.98                     | 0.46              |
| 2:G:164:ASN:ND2  | 2:G:166:ARG:HG3  | 2.31                     | 0.46              |
| 2:G:358:HIS:CD2  | 2:G:406:HIS:HE1  | 2.33                     | 0.46              |
| 1:A:638:ARG:HB2  | 1:A:645:ILE:HD13 | 1.97                     | 0.46              |
| 1:D:638:ARG:HB2  | 1:D:645:ILE:HD13 | 1.97                     | 0.46              |
| 1:E:476:PHE:CE2  | 1:E:482:ILE:HD13 | 2.51                     | 0.46              |
| 1:F:81:VAL:HG11  | 1:F:145:LEU:HB2  | 1.98                     | 0.46              |
| 1:A:464:PRO:HG2  | 1:B:514:TYR:CE1  | 2.51                     | 0.46              |
| 1:B:81:VAL:HG11  | 1:B:145:LEU:HB2  | 1.98                     | 0.46              |
| 1:B:351:ASP:HA   | 1:B:431:ARG:HB2  | 1.96                     | 0.46              |
| 1:B:539:ARG:HB2  | 1:B:542:LYS:HD3  | 1.97                     | 0.46              |
| 1:D:203:LEU:HD23 | 1:D:203:LEU:HA   | 1.83                     | 0.46              |
| 1:D:476:PHE:CE2  | 1:D:482:ILE:HD13 | 2.51                     | 0.46              |
| 1:E:277:THR:HG22 | 1:E:279:ARG:HG3  | 1.98                     | 0.46              |
| 1:E:539:ARG:HB2  | 1:E:542:LYS:HD3  | 1.97                     | 0.46              |
| 1:F:476:PHE:CE2  | 1:F:482:ILE:HD13 | 2.51                     | 0.46              |
| 1:F:533:LEU:CD1  | 1:F:641:GLU:OE1  | 2.64                     | 0.46              |
| 2:G:121:LEU:C    | 2:G:122:GLU:HG2  | 2.40                     | 0.46              |
| 1:A:159:LEU:HD13 | 1:A:184:ILE:HD13 | 1.98                     | 0.46              |
| 1:A:539:ARG:HB2  | 1:A:542:LYS:HD3  | 1.97                     | 0.46              |
| 1:D:328:ILE:HB   | 1:D:332:GLU:OE1  | 2.16                     | 0.46              |
| 1:F:539:ARG:HB2  | 1:F:542:LYS:HD3  | 1.97                     | 0.46              |
| 1:F:672:CYS:HB3  | 1:F:681:CYS:SG   | 2.56                     | 0.46              |
| 2:G:115:ALA:HB3  | 2:G:117:PHE:CE1  | 2.50                     | 0.46              |
| 1:B:476:PHE:CE2  | 1:B:482:ILE:HD13 | 2.51                     | 0.46              |
| 1:D:539:ARG:HB2  | 1:D:542:LYS:HD3  | 1.97                     | 0.46              |
| 1:D:691:GLN:CB   | 1:E:441:ASN:HA   | 2.43                     | 0.46              |
| 2:G:134:THR:O    | 2:G:136:ALA:N    | 2.43                     | 0.46              |
| 1:A:351:ASP:HA   | 1:A:431:ARG:HB2  | 1.96                     | 0.46              |
| 1:D:550:ASN:HB2  | 1:D:586:PRO:HA   | 1.97                     | 0.46              |
| 1:E:329:SER:HB3  | 1:E:332:GLU:HG3  | 1.98                     | 0.46              |
| 1:F:638:ARG:HB2  | 1:F:645:ILE:HD13 | 1.97                     | 0.46              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:G:180:LEU:HD11 | 2:G:182:ILE:CD1  | 2.46                     | 0.46              |
| 1:A:112:ASN:HB2  | 1:A:132:LEU:HD22 | 1.98                     | 0.46              |
| 1:B:329:SER:HB3  | 1:B:332:GLU:HG3  | 1.98                     | 0.46              |
| 1:C:81:VAL:HG11  | 1:C:145:LEU:HB2  | 1.98                     | 0.46              |
| 1:D:81:VAL:HG11  | 1:D:145:LEU:HB2  | 1.98                     | 0.46              |
| 1:D:329:SER:HB3  | 1:D:332:GLU:HG3  | 1.98                     | 0.46              |
| 1:E:654:TYR:CG   | 1:E:670:PHE:CE2  | 2.92                     | 0.46              |
| 2:G:323:ILE:HD12 | 2:G:323:ILE:N    | 2.31                     | 0.46              |
| 2:G:342:MET:HG3  | 2:G:421:ILE:CG1  | 2.46                     | 0.46              |
| 1:B:112:ASN:HB2  | 1:B:132:LEU:HD22 | 1.98                     | 0.45              |
| 1:B:470:TYR:CE1  | 1:B:525:ASP:CG   | 2.94                     | 0.45              |
| 1:C:277:THR:HG22 | 1:C:279:ARG:HG3  | 1.98                     | 0.45              |
| 1:C:638:ARG:HB2  | 1:C:645:ILE:HD13 | 1.97                     | 0.45              |
| 1:F:277:THR:HG22 | 1:F:279:ARG:HG3  | 1.98                     | 0.45              |
| 1:F:559:CYS:O    | 1:F:584:ASP:HB2  | 2.16                     | 0.45              |
| 2:G:432:THR:CG2  | 2:G:454:ASP:HB3  | 2.46                     | 0.45              |
| 1:A:274:LEU:O    | 3:H:80:ARG:CZ    | 2.63                     | 0.45              |
| 1:C:112:ASN:HB2  | 1:C:132:LEU:HD22 | 1.98                     | 0.45              |
| 1:C:329:SER:HB3  | 1:C:332:GLU:HG3  | 1.98                     | 0.45              |
| 1:C:654:TYR:HB3  | 1:C:670:PHE:CE2  | 2.50                     | 0.45              |
| 1:C:672:CYS:HB3  | 1:C:681:CYS:SG   | 2.56                     | 0.45              |
| 1:E:626:LEU:C    | 1:F:399:PRO:HA   | 2.40                     | 0.45              |
| 2:G:180:LEU:HD13 | 2:G:180:LEU:C    | 2.41                     | 0.45              |
| 1:A:231:ASP:OD2  | 2:G:218:SER:N    | 2.45                     | 0.45              |
| 1:A:342:GLY:HA2  | 3:H:84:TYR:OH    | 2.16                     | 0.45              |
| 1:B:660:GLN:HB2  | 2:G:105:TRP:NE1  | 2.31                     | 0.45              |
| 1:C:476:PHE:CE2  | 1:C:482:ILE:HD13 | 2.51                     | 0.45              |
| 1:C:514:TYR:CE1  | 1:D:464:PRO:CG   | 2.98                     | 0.45              |
| 1:D:560:MET:CE   | 1:D:586:PRO:HD3  | 2.43                     | 0.45              |
| 1:E:328:ILE:HB   | 1:E:332:GLU:OE1  | 2.16                     | 0.45              |
| 1:B:533:LEU:HD23 | 1:B:533:LEU:HA   | 1.84                     | 0.45              |
| 1:B:672:CYS:HB3  | 1:B:681:CYS:SG   | 2.56                     | 0.45              |
| 1:D:508:VAL:HB   | 1:D:539:ARG:NH2  | 2.32                     | 0.45              |
| 1:E:638:ARG:HB2  | 1:E:645:ILE:HD13 | 1.97                     | 0.45              |
| 2:G:62:LEU:C     | 2:G:62:LEU:HD13  | 2.41                     | 0.45              |
| 2:G:110:ILE:HA   | 2:G:114:CYS:HB2  | 1.98                     | 0.45              |
| 2:G:375:TYR:HA   | 2:G:376:PRO:C    | 2.42                     | 0.45              |
| 2:G:399:VAL:HG13 | 2:G:400:ILE:N    | 2.32                     | 0.45              |
| 1:A:328:ILE:HB   | 1:A:332:GLU:OE1  | 2.16                     | 0.45              |
| 1:A:533:LEU:HD23 | 1:A:533:LEU:HA   | 1.84                     | 0.45              |
| 1:D:112:ASN:HB2  | 1:D:132:LEU:HD22 | 1.98                     | 0.45              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:508:VAL:CG1  | 1:D:527:HIS:CD2  | 3.00                     | 0.45              |
| 1:A:277:THR:HG22 | 1:A:279:ARG:HG3  | 1.98                     | 0.45              |
| 1:B:568:SER:HB2  | 1:B:670:PHE:CE1  | 2.51                     | 0.45              |
| 1:B:577:LEU:HD13 | 1:C:612:ILE:CD1  | 2.45                     | 0.45              |
| 1:B:612:ILE:HD13 | 1:C:612:ILE:HD13 | 1.97                     | 0.45              |
| 1:D:159:LEU:HD13 | 1:D:184:ILE:HD13 | 1.98                     | 0.45              |
| 2:G:512:LEU:HD23 | 2:G:513:PRO:O    | 2.17                     | 0.45              |
| 1:A:672:CYS:HB3  | 1:A:681:CYS:SG   | 2.56                     | 0.45              |
| 1:B:630:TRP:HB3  | 1:B:670:PHE:HE2  | 1.81                     | 0.45              |
| 1:B:661:LEU:HD11 | 2:G:105:TRP:CD1  | 2.52                     | 0.45              |
| 1:E:159:LEU:HD13 | 1:E:184:ILE:HD13 | 1.98                     | 0.45              |
| 1:F:328:ILE:HB   | 1:F:332:GLU:OE1  | 2.16                     | 0.45              |
| 2:G:263:ALA:C    | 2:G:264:ARG:HG2  | 2.42                     | 0.45              |
| 1:B:612:ILE:HD12 | 1:C:612:ILE:HG21 | 1.99                     | 0.45              |
| 1:D:677:TYR:CE2  | 1:E:541:ASP:HB3  | 2.45                     | 0.45              |
| 2:G:160:SER:O    | 2:G:161:HIS:C    | 2.60                     | 0.45              |
| 2:G:239:GLU:OE1  | 2:G:384:LYS:HG3  | 2.17                     | 0.45              |
| 1:D:277:THR:HG22 | 1:D:279:ARG:HG3  | 1.98                     | 0.45              |
| 1:F:560:MET:CE   | 1:F:586:PRO:HD3  | 2.43                     | 0.45              |
| 2:G:27:ASN:ND2   | 2:G:28:ASN:H     | 2.14                     | 0.45              |
| 2:G:77:ILE:CD1   | 2:G:144:ILE:HD11 | 2.47                     | 0.45              |
| 2:G:152:ASP:HB2  | 2:G:154:ILE:CD1  | 2.40                     | 0.45              |
| 2:G:427:VAL:HG13 | 2:G:429:TYR:CE2  | 2.52                     | 0.45              |
| 1:A:162:VAL:CG2  | 1:A:189:ASP:HB2  | 2.47                     | 0.45              |
| 1:A:329:SER:HB3  | 1:A:332:GLU:HG3  | 1.98                     | 0.45              |
| 1:B:661:LEU:HD11 | 2:G:105:TRP:HD1  | 1.82                     | 0.45              |
| 1:C:159:LEU:HD13 | 1:C:184:ILE:HD13 | 1.98                     | 0.45              |
| 1:C:571:VAL:CG2  | 1:C:655:ASN:CB   | 2.89                     | 0.45              |
| 1:E:81:VAL:HG11  | 1:E:145:LEU:HB2  | 1.98                     | 0.45              |
| 2:G:105:TRP:HA   | 2:G:105:TRP:HE3  | 1.80                     | 0.45              |
| 1:A:547:TRP:HB3  | 1:C:677:TYR:HB3  | 2.00                     | 0.44              |
| 1:F:570:SER:CB   | 1:F:683:HIS:HB3  | 2.45                     | 0.44              |
| 2:G:91:ILE:HD13  | 2:G:157:LEU:HB2  | 1.98                     | 0.44              |
| 2:G:95:VAL:HG13  | 2:G:99:ARG:HB3   | 1.99                     | 0.44              |
| 2:G:502:TYR:CD1  | 2:G:502:TYR:N    | 2.85                     | 0.44              |
| 1:B:162:VAL:CG2  | 1:B:189:ASP:HB2  | 2.47                     | 0.44              |
| 1:C:535:ASN:CB   | 1:C:646:PHE:HA   | 2.47                     | 0.44              |
| 1:E:112:ASN:HB2  | 1:E:132:LEU:HD22 | 1.98                     | 0.44              |
| 1:E:672:CYS:HB3  | 1:E:681:CYS:SG   | 2.56                     | 0.44              |
| 1:A:81:VAL:HG11  | 1:A:145:LEU:HB2  | 1.98                     | 0.44              |
| 1:B:277:THR:HG22 | 1:B:279:ARG:HG3  | 1.98                     | 0.44              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:612:ILE:CG1  | 1:C:577:LEU:HD13 | 2.47                     | 0.44              |
| 1:D:672:CYS:HB3  | 1:D:681:CYS:SG   | 2.56                     | 0.44              |
| 1:E:417:THR:HA   | 1:E:418:PRO:HD3  | 1.74                     | 0.44              |
| 1:E:533:LEU:HD23 | 1:E:533:LEU:HA   | 1.84                     | 0.44              |
| 1:E:533:LEU:HD13 | 1:E:642:THR:HG23 | 2.00                     | 0.44              |
| 2:G:181:LEU:HD23 | 2:G:181:LEU:C    | 2.42                     | 0.44              |
| 2:G:277:ARG:O    | 2:G:278:SER:O    | 2.35                     | 0.44              |
| 1:F:329:SER:HB3  | 1:F:332:GLU:HG3  | 1.98                     | 0.44              |
| 1:C:162:VAL:CG2  | 1:C:189:ASP:HB2  | 2.48                     | 0.44              |
| 1:F:112:ASN:HB2  | 1:F:132:LEU:HD22 | 1.98                     | 0.44              |
| 1:F:162:VAL:CG2  | 1:F:189:ASP:HB2  | 2.47                     | 0.44              |
| 1:F:654:TYR:HB3  | 1:F:670:PHE:CG   | 2.52                     | 0.44              |
| 3:H:80:ARG:O     | 3:H:82:CYS:N     | 2.51                     | 0.44              |
| 1:F:482:ILE:HG23 | 1:F:497:VAL:HG13 | 2.00                     | 0.44              |
| 1:A:409:ILE:HG21 | 2:G:194:PHE:HE2  | 1.57                     | 0.44              |
| 1:E:162:VAL:CG2  | 1:E:189:ASP:HB2  | 2.48                     | 0.44              |
| 2:G:478:GLU:CG   | 2:G:480:MET:HE2  | 2.48                     | 0.44              |
| 1:A:231:ASP:OD1  | 2:G:217:ASP:HA   | 2.18                     | 0.44              |
| 1:B:630:TRP:HB3  | 1:B:670:PHE:CE2  | 2.53                     | 0.44              |
| 1:C:149:VAL:HG22 | 1:C:150:GLU:N    | 2.33                     | 0.44              |
| 1:C:191:LYS:HD2  | 1:C:191:LYS:N    | 2.33                     | 0.44              |
| 1:C:482:ILE:HG23 | 1:C:497:VAL:HG13 | 2.00                     | 0.44              |
| 1:D:525:ASP:HA   | 1:D:526:PRO:HD3  | 1.86                     | 0.44              |
| 1:D:551:ARG:NH1  | 1:D:641:GLU:CD   | 2.74                     | 0.44              |
| 2:G:66:ARG:HA    | 2:G:150:PRO:HB2  | 1.98                     | 0.44              |
| 2:G:149:HIS:HB2  | 2:G:152:ASP:OD2  | 2.17                     | 0.44              |
| 1:A:225:LEU:C    | 1:A:225:LEU:HD12 | 2.43                     | 0.44              |
| 1:A:523:SER:HA   | 1:B:464:PRO:HD3  | 1.99                     | 0.44              |
| 1:B:191:LYS:N    | 1:B:191:LYS:HD2  | 2.33                     | 0.44              |
| 1:C:459:ARG:HG3  | 1:C:526:PRO:CG   | 2.47                     | 0.44              |
| 1:D:149:VAL:HG22 | 1:D:150:GLU:N    | 2.33                     | 0.44              |
| 1:D:690:PHE:CE2  | 1:E:541:ASP:N    | 2.85                     | 0.44              |
| 1:F:149:VAL:HG22 | 1:F:150:GLU:N    | 2.33                     | 0.44              |
| 1:F:225:LEU:C    | 1:F:225:LEU:HD12 | 2.43                     | 0.44              |
| 2:G:287:LEU:HD11 | 2:G:378:PRO:O    | 2.17                     | 0.44              |
| 2:G:382:PRO:HA   | 2:G:389:PHE:CZ   | 2.53                     | 0.44              |
| 1:A:396:ALA:HB2  | 2:G:107:GLY:HA3  | 1.98                     | 0.43              |
| 1:A:547:TRP:CA   | 1:C:689:SER:OG   | 2.66                     | 0.43              |
| 1:C:313:ALA:HB1  | 1:C:335:LEU:HD11 | 2.00                     | 0.43              |
| 1:D:508:VAL:HG13 | 1:D:527:HIS:NE2  | 2.33                     | 0.43              |
| 1:E:149:VAL:HG22 | 1:E:150:GLU:N    | 2.33                     | 0.43              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:191:LYS:HD2  | 1:E:191:LYS:N    | 2.33                     | 0.43              |
| 1:F:654:TYR:CD1  | 1:F:656:CYS:SG   | 3.11                     | 0.43              |
| 1:B:313:ALA:HB1  | 1:B:335:LEU:HD11 | 2.00                     | 0.43              |
| 1:C:539:ARG:HD2  | 1:C:542:LYS:HZ2  | 1.83                     | 0.43              |
| 1:E:57:ARG:HG2   | 1:E:121:TYR:CE1  | 2.53                     | 0.43              |
| 1:F:629:ASP:CG   | 1:F:659:HIS:HE1  | 2.16                     | 0.43              |
| 2:G:181:LEU:HA   | 2:G:185:GLU:O    | 2.17                     | 0.43              |
| 1:A:191:LYS:HD2  | 1:A:191:LYS:N    | 2.33                     | 0.43              |
| 1:B:525:ASP:HA   | 1:B:526:PRO:HD3  | 1.85                     | 0.43              |
| 1:D:629:ASP:OD1  | 1:D:659:HIS:CE1  | 2.71                     | 0.43              |
| 1:F:191:LYS:HD2  | 1:F:191:LYS:N    | 2.33                     | 0.43              |
| 2:G:492:MET:HG3  | 2:G:501:LEU:HD21 | 2.01                     | 0.43              |
| 1:B:482:ILE:HG23 | 1:B:497:VAL:HG13 | 2.00                     | 0.43              |
| 1:D:482:ILE:HG23 | 1:D:497:VAL:HG13 | 2.00                     | 0.43              |
| 1:A:273:ASP:CB   | 3:H:80:ARG:NE    | 2.79                     | 0.43              |
| 1:A:560:MET:CE   | 1:A:586:PRO:HD3  | 2.43                     | 0.43              |
| 1:B:202:LYS:C    | 1:B:204:PRO:HD3  | 2.44                     | 0.43              |
| 1:D:313:ALA:HB1  | 1:D:335:LEU:HD11 | 2.00                     | 0.43              |
| 1:A:149:VAL:HG22 | 1:A:150:GLU:N    | 2.33                     | 0.43              |
| 1:A:202:LYS:C    | 1:A:204:PRO:HD3  | 2.44                     | 0.43              |
| 1:B:149:VAL:HG22 | 1:B:150:GLU:N    | 2.33                     | 0.43              |
| 1:B:225:LEU:HD12 | 1:B:225:LEU:C    | 2.43                     | 0.43              |
| 1:D:56:HIS:HB3   | 1:D:59:THR:OG1   | 2.19                     | 0.43              |
| 1:F:56:HIS:HB3   | 1:F:59:THR:OG1   | 2.19                     | 0.43              |
| 1:F:57:ARG:HG2   | 1:F:121:TYR:CE1  | 2.54                     | 0.43              |
| 2:G:285:THR:HG23 | 2:G:379:GLY:C    | 2.43                     | 0.43              |
| 2:G:292:ILE:O    | 2:G:415:PRO:HD3  | 2.18                     | 0.43              |
| 3:H:76:ASP:O     | 3:H:77:LEU:HD23  | 2.19                     | 0.43              |
| 1:A:313:ALA:HB1  | 1:A:335:LEU:HD11 | 2.00                     | 0.43              |
| 1:D:162:VAL:CG2  | 1:D:189:ASP:HB2  | 2.47                     | 0.43              |
| 2:G:75:ASP:HB3   | 2:G:94:PRO:HB3   | 2.01                     | 0.43              |
| 2:G:118:ILE:HA   | 2:G:133:GLY:CA   | 2.49                     | 0.43              |
| 2:G:356:TYR:OH   | 2:G:377:ARG:NH1  | 2.51                     | 0.43              |
| 1:A:96:PRO:HD3   | 2:G:277:ARG:HD3  | 1.88                     | 0.43              |
| 1:D:191:LYS:N    | 1:D:191:LYS:HD2  | 2.33                     | 0.43              |
| 1:D:225:LEU:HD12 | 1:D:225:LEU:C    | 2.44                     | 0.43              |
| 1:E:225:LEU:C    | 1:E:225:LEU:HD12 | 2.44                     | 0.43              |
| 2:G:375:TYR:CD1  | 2:G:376:PRO:HA   | 2.54                     | 0.43              |
| 1:D:57:ARG:HG2   | 1:D:121:TYR:CE1  | 2.54                     | 0.43              |
| 1:E:56:HIS:HB3   | 1:E:59:THR:OG1   | 2.19                     | 0.43              |
| 2:G:287:LEU:CD2  | 2:G:409:MET:CE   | 2.82                     | 0.43              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:482:ILE:HG23 | 1:A:497:VAL:HG13 | 2.00                     | 0.43              |
| 1:B:417:THR:HA   | 1:B:418:PRO:HD3  | 1.74                     | 0.43              |
| 1:C:57:ARG:HG2   | 1:C:121:TYR:CE1  | 2.53                     | 0.43              |
| 1:C:532:ALA:HB1  | 1:C:560:MET:HE3  | 1.95                     | 0.43              |
| 1:E:196:PRO:HG3  | 1:E:215:TYR:OH   | 2.19                     | 0.43              |
| 2:G:503:ILE:CD1  | 2:G:503:ILE:N    | 2.82                     | 0.43              |
| 1:A:57:ARG:HG2   | 1:A:121:TYR:CE1  | 2.54                     | 0.42              |
| 1:B:533:LEU:HB3  | 1:B:642:THR:HG21 | 2.01                     | 0.42              |
| 1:C:654:TYR:HD2  | 1:C:670:PHE:CZ   | 2.34                     | 0.42              |
| 2:G:137:PHE:CD2  | 2:G:171:TYR:HB3  | 2.53                     | 0.42              |
| 2:G:149:HIS:C    | 2:G:151:GLU:N    | 2.76                     | 0.42              |
| 1:A:151:PRO:HG2  | 1:A:213:LEU:HD12 | 2.02                     | 0.42              |
| 1:C:225:LEU:C    | 1:C:225:LEU:HD12 | 2.44                     | 0.42              |
| 1:D:196:PRO:HG3  | 1:D:215:TYR:OH   | 2.19                     | 0.42              |
| 1:D:654:TYR:CD2  | 1:D:670:PHE:CD2  | 3.07                     | 0.42              |
| 2:G:182:ILE:CD1  | 2:G:231:LEU:HG   | 2.48                     | 0.42              |
| 2:G:229:ALA:HA   | 2:G:244:TYR:O    | 2.19                     | 0.42              |
| 1:A:203:LEU:HD23 | 1:A:203:LEU:HA   | 1.84                     | 0.42              |
| 1:C:701:CYS:HA   | 1:C:702:PRO:HD3  | 1.89                     | 0.42              |
| 1:E:192:GLN:HG3  | 1:E:228:ILE:O    | 2.19                     | 0.42              |
| 2:G:431:PHE:N    | 2:G:431:PHE:CD1  | 2.83                     | 0.42              |
| 1:A:56:HIS:HB3   | 1:A:59:THR:OG1   | 2.19                     | 0.42              |
| 1:B:57:ARG:HG2   | 1:B:121:TYR:CE1  | 2.54                     | 0.42              |
| 1:D:192:GLN:HG3  | 1:D:228:ILE:O    | 2.19                     | 0.42              |
| 1:D:202:LYS:C    | 1:D:204:PRO:HD3  | 2.44                     | 0.42              |
| 1:D:610:GLN:HE22 | 1:F:577:LEU:HB3  | 1.84                     | 0.42              |
| 1:E:202:LYS:C    | 1:E:204:PRO:HD3  | 2.44                     | 0.42              |
| 2:G:203:ARG:NH2  | 2:G:273:PHE:CZ   | 2.87                     | 0.42              |
| 2:G:208:HIS:ND1  | 2:G:209:HIS:N    | 2.68                     | 0.42              |
| 2:G:401:THR:C    | 2:G:402:PHE:O    | 2.58                     | 0.42              |
| 1:B:192:GLN:HG3  | 1:B:228:ILE:O    | 2.19                     | 0.42              |
| 1:B:619:LYS:HA   | 1:B:619:LYS:HD3  | 1.91                     | 0.42              |
| 1:F:204:PRO:HD2  | 1:F:212:MET:SD   | 2.60                     | 0.42              |
| 1:C:482:ILE:HD12 | 1:C:497:VAL:HG11 | 2.02                     | 0.42              |
| 1:D:571:VAL:HG21 | 1:D:655:ASN:HB2  | 2.00                     | 0.42              |
| 1:E:654:TYR:CE2  | 1:E:670:PHE:CG   | 2.91                     | 0.42              |
| 1:F:313:ALA:HB1  | 1:F:335:LEU:HD11 | 2.00                     | 0.42              |
| 1:A:196:PRO:HG3  | 1:A:215:TYR:OH   | 2.19                     | 0.42              |
| 1:B:56:HIS:HB3   | 1:B:59:THR:OG1   | 2.19                     | 0.42              |
| 1:C:56:HIS:HB3   | 1:C:59:THR:OG1   | 2.19                     | 0.42              |
| 1:C:202:LYS:C    | 1:C:204:PRO:HD3  | 2.44                     | 0.42              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:619:LYS:HA   | 1:C:619:LYS:HD3  | 1.91                     | 0.42              |
| 1:D:151:PRO:HG2  | 1:D:213:LEU:HD12 | 2.01                     | 0.42              |
| 1:F:57:ARG:HG3   | 1:F:58:ARG:HG3   | 2.02                     | 0.42              |
| 1:F:309:LEU:HD23 | 1:F:309:LEU:HA   | 1.89                     | 0.42              |
| 1:F:476:PHE:HE2  | 1:F:482:ILE:HD13 | 1.85                     | 0.42              |
| 1:F:482:ILE:HD12 | 1:F:497:VAL:HG11 | 2.02                     | 0.42              |
| 1:A:204:PRO:HD2  | 1:A:212:MET:SD   | 2.60                     | 0.42              |
| 1:C:192:GLN:HG3  | 1:C:228:ILE:O    | 2.20                     | 0.42              |
| 1:C:204:PRO:HD2  | 1:C:212:MET:SD   | 2.60                     | 0.42              |
| 1:E:37:GLN:OE1   | 1:E:37:GLN:HA    | 2.20                     | 0.42              |
| 1:E:482:ILE:HG23 | 1:E:497:VAL:HG13 | 2.00                     | 0.42              |
| 1:E:482:ILE:HD12 | 1:E:497:VAL:HG11 | 2.02                     | 0.42              |
| 1:F:624:ILE:HG13 | 1:F:655:ASN:HB3  | 1.91                     | 0.42              |
| 2:G:55:SER:O     | 2:G:73:ALA:HB1   | 2.19                     | 0.42              |
| 1:A:57:ARG:HG3   | 1:A:58:ARG:HG3   | 2.02                     | 0.42              |
| 1:B:577:LEU:HD13 | 1:C:612:ILE:HD11 | 2.02                     | 0.42              |
| 1:B:691:GLN:HE22 | 1:D:442:GLY:HA2  | 1.85                     | 0.42              |
| 1:C:37:GLN:OE1   | 1:C:37:GLN:HA    | 2.20                     | 0.42              |
| 1:C:508:VAL:HG11 | 1:C:539:ARG:NH2  | 2.34                     | 0.42              |
| 1:F:202:LYS:C    | 1:F:204:PRO:HD3  | 2.44                     | 0.42              |
| 1:F:550:ASN:HB2  | 1:F:586:PRO:HA   | 2.02                     | 0.42              |
| 2:G:402:PHE:O    | 2:G:404:ARG:N    | 2.50                     | 0.42              |
| 2:G:453:THR:HG22 | 2:G:454:ASP:N    | 2.34                     | 0.42              |
| 2:G:500:GLN:C    | 2:G:514:LEU:HD21 | 2.45                     | 0.42              |
| 1:A:476:PHE:HE2  | 1:A:482:ILE:HD13 | 1.85                     | 0.42              |
| 1:C:398:VAL:HA   | 1:C:399:PRO:HD3  | 1.93                     | 0.42              |
| 1:E:626:LEU:HG   | 1:F:399:PRO:HG3  | 1.79                     | 0.42              |
| 1:A:192:GLN:HG3  | 1:A:228:ILE:O    | 2.20                     | 0.41              |
| 1:B:459:ARG:HG3  | 1:B:526:PRO:HG3  | 2.00                     | 0.41              |
| 1:C:476:PHE:HE2  | 1:C:482:ILE:HD13 | 1.85                     | 0.41              |
| 1:D:482:ILE:HD12 | 1:D:497:VAL:HG11 | 2.02                     | 0.41              |
| 1:E:87:PRO:HB2   | 1:E:109:LEU:CD1  | 2.51                     | 0.41              |
| 1:E:313:ALA:HB1  | 1:E:335:LEU:HD11 | 2.01                     | 0.41              |
| 1:F:654:TYR:HD1  | 1:F:656:CYS:SG   | 2.42                     | 0.41              |
| 2:G:74:LYS:O     | 2:G:76:HIS:N     | 2.54                     | 0.41              |
| 2:G:427:VAL:HG12 | 2:G:429:TYR:H    | 1.85                     | 0.41              |
| 1:B:196:PRO:HG3  | 1:B:215:TYR:OH   | 2.19                     | 0.41              |
| 1:B:476:PHE:HE2  | 1:B:482:ILE:HD13 | 1.85                     | 0.41              |
| 1:C:57:ARG:HG3   | 1:C:58:ARG:HG3   | 2.02                     | 0.41              |
| 1:D:692:GLU:CD   | 1:E:440:TYR:CD1  | 2.95                     | 0.41              |
| 1:E:149:VAL:HG22 | 1:E:151:PRO:HD3  | 2.02                     | 0.41              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:37:GLN:OE1   | 1:B:37:GLN:HA    | 2.20                     | 0.41              |
| 1:B:204:PRO:HD2  | 1:B:212:MET:SD   | 2.60                     | 0.41              |
| 1:C:525:ASP:HA   | 1:C:526:PRO:HD3  | 1.86                     | 0.41              |
| 1:C:541:ASP:HB3  | 1:F:677:TYR:CE1  | 2.55                     | 0.41              |
| 1:E:203:LEU:HD23 | 1:E:203:LEU:HA   | 1.84                     | 0.41              |
| 1:E:204:PRO:HD2  | 1:E:212:MET:SD   | 2.60                     | 0.41              |
| 1:E:633:LEU:HD12 | 1:E:633:LEU:C    | 2.46                     | 0.41              |
| 1:F:192:GLN:HG3  | 1:F:228:ILE:O    | 2.20                     | 0.41              |
| 2:G:56:SER:HB3   | 2:G:58:HIS:CD2   | 2.54                     | 0.41              |
| 2:G:244:TYR:HA   | 2:G:266:GLY:O    | 2.21                     | 0.41              |
| 2:G:416:ILE:O    | 2:G:417:ASN:HB2  | 2.20                     | 0.41              |
| 1:A:87:PRO:HB2   | 1:A:109:LEU:CD1  | 2.51                     | 0.41              |
| 1:D:37:GLN:OE1   | 1:D:37:GLN:HA    | 2.20                     | 0.41              |
| 1:D:663:LEU:CD2  | 1:D:698:SER:HB2  | 2.51                     | 0.41              |
| 1:E:476:PHE:HE2  | 1:E:482:ILE:HD13 | 1.85                     | 0.41              |
| 1:F:196:PRO:HG3  | 1:F:215:TYR:OH   | 2.20                     | 0.41              |
| 2:G:223:ASP:N    | 2:G:224:PRO:CD   | 2.83                     | 0.41              |
| 2:G:427:VAL:CG2  | 2:G:429:TYR:OH   | 2.69                     | 0.41              |
| 1:A:482:ILE:HD12 | 1:A:497:VAL:HG11 | 2.02                     | 0.41              |
| 1:B:149:VAL:HG22 | 1:B:151:PRO:HD3  | 2.02                     | 0.41              |
| 1:B:633:LEU:HD12 | 1:B:633:LEU:C    | 2.46                     | 0.41              |
| 1:B:692:GLU:CD   | 1:D:440:TYR:CE1  | 2.99                     | 0.41              |
| 1:C:196:PRO:HG3  | 1:C:215:TYR:OH   | 2.19                     | 0.41              |
| 1:D:204:PRO:HD2  | 1:D:212:MET:SD   | 2.60                     | 0.41              |
| 1:F:571:VAL:CG2  | 1:F:655:ASN:HA   | 2.48                     | 0.41              |
| 1:A:552:PHE:CD2  | 1:C:690:PHE:CZ   | 2.92                     | 0.41              |
| 1:A:633:LEU:HD12 | 1:A:633:LEU:C    | 2.45                     | 0.41              |
| 1:A:663:LEU:CD2  | 1:A:698:SER:HB2  | 2.50                     | 0.41              |
| 1:B:151:PRO:HG2  | 1:B:213:LEU:HD12 | 2.01                     | 0.41              |
| 1:B:482:ILE:HD12 | 1:B:497:VAL:HG11 | 2.02                     | 0.41              |
| 1:C:633:LEU:C    | 1:C:633:LEU:HD12 | 2.46                     | 0.41              |
| 1:D:493:LEU:HA   | 1:D:539:ARG:NH2  | 2.35                     | 0.41              |
| 1:D:533:LEU:HD23 | 1:D:533:LEU:HA   | 1.84                     | 0.41              |
| 2:G:77:ILE:HD13  | 2:G:144:ILE:HD11 | 2.02                     | 0.41              |
| 2:G:274:GLY:HA2  | 2:G:284:THR:CG2  | 2.51                     | 0.41              |
| 2:G:316:SER:HB2  | 2:G:323:ILE:CD1  | 2.51                     | 0.41              |
| 1:A:547:TRP:HB2  | 1:C:689:SER:OG   | 2.20                     | 0.41              |
| 1:C:87:PRO:HB2   | 1:C:109:LEU:CD1  | 2.51                     | 0.41              |
| 1:D:87:PRO:HB2   | 1:D:109:LEU:CD1  | 2.51                     | 0.41              |
| 1:D:315:LEU:HD11 | 1:D:333:ASP:HB3  | 2.03                     | 0.41              |
| 1:E:151:PRO:HG2  | 1:E:213:LEU:HD12 | 2.02                     | 0.41              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:582:VAL:CG1  | 1:E:585:ALA:HB2  | 2.51                     | 0.41              |
| 2:G:287:LEU:CD1  | 2:G:379:GLY:HA3  | 2.49                     | 0.41              |
| 2:G:342:MET:HG3  | 2:G:421:ILE:HG12 | 2.02                     | 0.41              |
| 2:G:434:ILE:CG1  | 2:G:435:VAL:N    | 2.83                     | 0.41              |
| 1:A:37:GLN:OE1   | 1:A:37:GLN:HA    | 2.20                     | 0.41              |
| 1:B:57:ARG:HG3   | 1:B:58:ARG:HG3   | 2.02                     | 0.41              |
| 1:B:404:PHE:CE2  | 1:B:406:GLY:HA2  | 2.56                     | 0.41              |
| 1:C:151:PRO:HG2  | 1:C:213:LEU:HD12 | 2.02                     | 0.41              |
| 1:D:57:ARG:HG3   | 1:D:58:ARG:HG3   | 2.02                     | 0.41              |
| 1:D:68:ASN:ND2   | 1:D:87:PRO:HG3   | 2.36                     | 0.41              |
| 1:E:309:LEU:HD23 | 1:E:309:LEU:HA   | 1.89                     | 0.41              |
| 1:E:398:VAL:HA   | 1:E:399:PRO:HD3  | 1.93                     | 0.41              |
| 1:A:404:PHE:CE2  | 1:A:406:GLY:HA2  | 2.56                     | 0.41              |
| 1:B:68:ASN:ND2   | 1:B:87:PRO:HG3   | 2.36                     | 0.41              |
| 1:B:654:TYR:CG   | 1:B:670:PHE:CD2  | 3.09                     | 0.41              |
| 1:C:149:VAL:HG22 | 1:C:151:PRO:HD3  | 2.02                     | 0.41              |
| 1:C:556:ILE:HD11 | 1:D:324:GLN:OE1  | 2.21                     | 0.41              |
| 1:C:663:LEU:CD2  | 1:C:698:SER:HB2  | 2.50                     | 0.41              |
| 1:D:404:PHE:CE2  | 1:D:406:GLY:HA2  | 2.56                     | 0.41              |
| 1:D:582:VAL:CG1  | 1:D:585:ALA:HB2  | 2.51                     | 0.41              |
| 1:E:57:ARG:HG3   | 1:E:58:ARG:HG3   | 2.02                     | 0.41              |
| 1:F:151:PRO:HG2  | 1:F:213:LEU:HD12 | 2.01                     | 0.41              |
| 1:F:633:LEU:HD12 | 1:F:633:LEU:C    | 2.46                     | 0.41              |
| 2:G:48:PHE:C     | 2:G:50:GLY:H     | 2.29                     | 0.41              |
| 2:G:229:ALA:C    | 2:G:230:HIS:CD2  | 2.99                     | 0.41              |
| 2:G:392:THR:O    | 2:G:395:LEU:HD12 | 2.21                     | 0.41              |
| 2:G:427:VAL:HG21 | 2:G:429:TYR:CZ   | 2.55                     | 0.41              |
| 1:A:68:ASN:ND2   | 1:A:87:PRO:HG3   | 2.36                     | 0.41              |
| 1:A:493:LEU:HD22 | 1:A:539:ARG:CZ   | 2.51                     | 0.41              |
| 1:A:564:VAL:HG23 | 1:A:649:THR:HG21 | 2.03                     | 0.41              |
| 1:A:582:VAL:CG1  | 1:A:585:ALA:HB2  | 2.51                     | 0.41              |
| 1:B:582:VAL:CG1  | 1:B:585:ALA:HB2  | 2.51                     | 0.41              |
| 1:D:633:LEU:C    | 1:D:633:LEU:HD12 | 2.46                     | 0.41              |
| 1:E:68:ASN:ND2   | 1:E:87:PRO:HG3   | 2.36                     | 0.41              |
| 1:E:404:PHE:CE2  | 1:E:406:GLY:HA2  | 2.56                     | 0.41              |
| 1:F:149:VAL:HG22 | 1:F:151:PRO:HD3  | 2.03                     | 0.41              |
| 1:B:315:LEU:HD11 | 1:B:333:ASP:HB3  | 2.03                     | 0.40              |
| 1:C:508:VAL:N    | 1:C:509:GLU:N    | 2.67                     | 0.40              |
| 1:C:582:VAL:CG1  | 1:C:585:ALA:HB2  | 2.51                     | 0.40              |
| 1:D:149:VAL:HG22 | 1:D:151:PRO:HD3  | 2.02                     | 0.40              |
| 2:G:232:ILE:HD12 | 2:G:345:MET:HE2  | 2.02                     | 0.40              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:G:427:VAL:CG2  | 2:G:429:TYR:CZ   | 3.04                     | 0.40              |
| 3:H:31:ILE:HG21  | 3:H:138:TYR:CZ   | 2.56                     | 0.40              |
| 1:A:409:ILE:HG22 | 2:G:194:PHE:CD2  | 2.53                     | 0.40              |
| 1:B:203:LEU:HD23 | 1:B:203:LEU:HA   | 1.83                     | 0.40              |
| 1:B:508:VAL:CG1  | 1:B:527:HIS:CD2  | 3.03                     | 0.40              |
| 1:C:404:PHE:CE2  | 1:C:406:GLY:HA2  | 2.56                     | 0.40              |
| 1:C:559:CYS:C    | 1:C:560:MET:CA   | 2.93                     | 0.40              |
| 1:E:315:LEU:HD11 | 1:E:333:ASP:HB3  | 2.03                     | 0.40              |
| 1:F:564:VAL:HG23 | 1:F:649:THR:HG21 | 2.03                     | 0.40              |
| 2:G:337:GLY:HA2  | 2:G:424:LYS:O    | 2.22                     | 0.40              |
| 1:D:690:PHE:CE2  | 1:E:540:ARG:C    | 2.44                     | 0.40              |
| 2:G:135:GLY:HA3  | 2:G:138:HIS:O    | 2.21                     | 0.40              |
| 2:G:164:ASN:HD22 | 2:G:166:ARG:HG3  | 1.86                     | 0.40              |
| 2:G:268:ILE:HD13 | 2:G:283:TRP:CE2  | 2.56                     | 0.40              |
| 1:A:309:LEU:HD23 | 1:A:309:LEU:HA   | 1.89                     | 0.40              |
| 1:B:87:PRO:HB2   | 1:B:109:LEU:CD1  | 2.51                     | 0.40              |
| 1:D:309:LEU:HA   | 1:D:309:LEU:HD23 | 1.88                     | 0.40              |
| 1:D:508:VAL:CG1  | 1:D:527:HIS:CE1  | 3.04                     | 0.40              |
| 1:E:349:PRO:HA   | 1:E:350:PRO:HD3  | 1.96                     | 0.40              |
| 1:E:564:VAL:HG23 | 1:E:649:THR:HG21 | 2.03                     | 0.40              |
| 1:F:37:GLN:OE1   | 1:F:37:GLN:HA    | 2.20                     | 0.40              |
| 1:F:459:ARG:CD   | 1:F:526:PRO:HG3  | 2.52                     | 0.40              |
| 1:F:525:ASP:HA   | 1:F:526:PRO:HD3  | 1.86                     | 0.40              |
| 2:G:29:VAL:HA    | 2:G:30:PRO:HD3   | 1.86                     | 0.40              |
| 2:G:400:ILE:O    | 2:G:402:PHE:O    | 2.38                     | 0.40              |
| 1:B:565:HIS:HA   | 1:B:566:PRO:HA   | 1.96                     | 0.40              |
| 1:B:612:ILE:HD11 | 1:C:577:LEU:HD13 | 2.03                     | 0.40              |
| 1:B:692:GLU:CD   | 1:D:440:TYR:CD1  | 2.98                     | 0.40              |
| 1:C:444:SER:HB3  | 1:C:460:ALA:HB3  | 2.04                     | 0.40              |
| 1:C:533:LEU:HD23 | 1:C:533:LEU:HA   | 1.84                     | 0.40              |
| 1:C:564:VAL:HG23 | 1:C:649:THR:HG21 | 2.03                     | 0.40              |
| 1:D:654:TYR:CE2  | 1:D:670:PHE:CD1  | 3.09                     | 0.40              |
| 1:E:626:LEU:O    | 1:F:399:PRO:HA   | 2.21                     | 0.40              |
| 1:F:404:PHE:CE2  | 1:F:406:GLY:HA2  | 2.56                     | 0.40              |
| 1:F:582:VAL:CG1  | 1:F:585:ALA:HB2  | 2.51                     | 0.40              |
| 1:F:624:ILE:HA   | 1:F:625:PRO:HD2  | 1.94                     | 0.40              |
| 2:G:209:HIS:O    | 2:G:210:PRO:C    | 2.65                     | 0.40              |
| 2:G:482:VAL:HG12 | 2:G:482:VAL:O    | 2.21                     | 0.40              |

All (63) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

| Atom-1          | Atom-2                 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------------|--------------------------|-------------------|
| 1:A:690:PHE:CE1 | 1:F:540:ARG:NE[3_455]  | 0.68                     | 1.52              |
| 1:A:690:PHE:CE2 | 1:F:540:ARG:CG[3_455]  | 0.78                     | 1.42              |
| 1:B:541:ASP:N   | 1:E:690:PHE:CE2[3_455] | 0.79                     | 1.41              |
| 1:A:577:LEU:CD1 | 1:E:610:GLN:OE1[3_455] | 0.87                     | 1.33              |
| 1:B:540:ARG:C   | 1:E:690:PHE:CZ[3_455]  | 0.87                     | 1.33              |
| 1:B:540:ARG:CB  | 1:E:690:PHE:CE1[3_455] | 0.88                     | 1.32              |
| 2:G:386:PHE:CZ  | 3:H:72:ASN:ND2[2_554]  | 0.89                     | 1.31              |
| 1:A:690:PHE:CE1 | 1:F:540:ARG:CZ[3_455]  | 0.94                     | 1.26              |
| 1:A:577:LEU:CG  | 1:E:610:GLN:OE1[3_455] | 1.00                     | 1.20              |
| 1:A:690:PHE:CE2 | 1:F:540:ARG:CD[3_455]  | 1.06                     | 1.14              |
| 1:B:541:ASP:N   | 1:E:690:PHE:CZ[3_455]  | 1.06                     | 1.14              |
| 2:G:365:GLN:NE2 | 2:G:365:GLN:NE2[2_554] | 1.13                     | 1.07              |
| 1:A:690:PHE:CD1 | 1:F:540:ARG:NE[3_455]  | 1.20                     | 1.00              |
| 1:A:690:PHE:CD2 | 1:F:540:ARG:CD[3_455]  | 1.21                     | 0.99              |
| 2:G:386:PHE:CE1 | 3:H:72:ASN:ND2[2_554]  | 1.21                     | 0.99              |
| 1:A:690:PHE:CZ  | 1:F:540:ARG:NE[3_455]  | 1.22                     | 0.98              |
| 1:A:610:GLN:OE1 | 1:E:577:LEU:CD1[3_455] | 1.30                     | 0.90              |
| 1:A:692:GLU:OE2 | 1:F:441:ASN:N[3_455]   | 1.30                     | 0.90              |
| 1:A:577:LEU:CD1 | 1:E:610:GLN:CD[3_455]  | 1.31                     | 0.89              |
| 1:B:541:ASP:CA  | 1:E:690:PHE:CE2[3_455] | 1.35                     | 0.85              |
| 1:A:610:GLN:OE1 | 1:E:577:LEU:CG[3_455]  | 1.39                     | 0.81              |
| 2:G:385:THR:CG2 | 3:H:137:ARG:NH1[2_554] | 1.43                     | 0.77              |
| 1:B:540:ARG:CA  | 1:E:690:PHE:CE1[3_455] | 1.45                     | 0.75              |
| 1:A:690:PHE:CE2 | 1:F:540:ARG:CB[3_455]  | 1.47                     | 0.73              |
| 2:G:386:PHE:CZ  | 3:H:72:ASN:CG[2_554]   | 1.49                     | 0.71              |
| 1:B:441:ASN:N   | 1:E:691:GLN:OE1[3_455] | 1.50                     | 0.70              |
| 1:B:540:ARG:CA  | 1:E:690:PHE:CZ[3_455]  | 1.51                     | 0.69              |
| 2:G:259:LYS:CE  | 2:G:299:ASN:O[2_554]   | 1.58                     | 0.62              |
| 1:A:690:PHE:CZ  | 1:F:540:ARG:CD[3_455]  | 1.62                     | 0.58              |
| 1:A:690:PHE:CE1 | 1:F:540:ARG:NH2[3_455] | 1.66                     | 0.54              |
| 2:G:365:GLN:CA  | 2:G:365:GLN:OE1[2_554] | 1.70                     | 0.50              |
| 1:B:540:ARG:CD  | 1:E:689:SER:O[3_455]   | 1.71                     | 0.49              |
| 1:A:690:PHE:CZ  | 1:F:540:ARG:CG[3_455]  | 1.72                     | 0.48              |
| 1:A:690:PHE:CZ  | 1:F:540:ARG:CZ[3_455]  | 1.81                     | 0.39              |
| 1:B:540:ARG:CB  | 1:E:690:PHE:CD1[3_455] | 1.81                     | 0.39              |
| 1:A:690:PHE:CG  | 1:F:540:ARG:CD[3_455]  | 1.82                     | 0.38              |
| 1:B:540:ARG:C   | 1:E:690:PHE:CE2[3_455] | 1.85                     | 0.35              |
| 1:A:610:GLN:OE1 | 1:E:577:LEU:CB[3_455]  | 1.87                     | 0.33              |
| 1:A:690:PHE:CE2 | 1:F:540:ARG:NE[3_455]  | 1.87                     | 0.33              |
| 1:A:690:PHE:CG  | 1:F:540:ARG:NE[3_455]  | 1.87                     | 0.33              |
| 1:A:692:GLU:OE2 | 1:F:441:ASN:CA[3_455]  | 1.90                     | 0.30              |
| 2:G:365:GLN:CD  | 2:G:365:GLN:NE2[2_554] | 1.92                     | 0.28              |

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| Atom-1          | Atom-2                 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------------|--------------------------|-------------------|
| 2:G:259:LYS:CD  | 2:G:300:GLY:CA[2_554]  | 1.93                     | 0.27              |
| 1:A:690:PHE:CD1 | 1:F:540:ARG:CZ[3_455]  | 1.94                     | 0.26              |
| 1:A:690:PHE:CD2 | 1:F:540:ARG:CG[3_455]  | 1.98                     | 0.22              |
| 1:A:577:LEU:CB  | 1:E:610:GLN:NE2[3_455] | 2.00                     | 0.20              |
| 1:A:577:LEU:CG  | 1:E:610:GLN:CD[3_455]  | 2.01                     | 0.19              |
| 1:B:540:ARG:O   | 1:E:690:PHE:CZ[3_455]  | 2.02                     | 0.18              |
| 2:G:259:LYS:CD  | 2:G:300:GLY:C[2_554]   | 2.03                     | 0.17              |
| 1:A:610:GLN:CD  | 1:E:577:LEU:CD1[3_455] | 2.04                     | 0.16              |
| 1:B:540:ARG:CB  | 1:E:690:PHE:CZ[3_455]  | 2.05                     | 0.15              |
| 1:B:540:ARG:C   | 1:E:690:PHE:CE1[3_455] | 2.05                     | 0.15              |
| 1:B:541:ASP:CB  | 1:E:690:PHE:CE2[3_455] | 2.06                     | 0.14              |
| 1:B:541:ASP:CB  | 1:E:690:PHE:CD2[3_455] | 2.07                     | 0.13              |
| 1:A:577:LEU:CB  | 1:E:610:GLN:OE1[3_455] | 2.08                     | 0.12              |
| 1:B:540:ARG:CG  | 1:E:690:PHE:CE1[3_455] | 2.08                     | 0.12              |
| 1:B:541:ASP:N   | 1:E:690:PHE:CD2[3_455] | 2.09                     | 0.11              |
| 1:A:690:PHE:CE1 | 1:F:540:ARG:CD[3_455]  | 2.10                     | 0.10              |
| 1:A:690:PHE:CD2 | 1:F:540:ARG:NE[3_455]  | 2.11                     | 0.09              |
| 1:A:690:PHE:CE1 | 1:F:540:ARG:NH1[3_455] | 2.17                     | 0.03              |
| 1:A:690:PHE:CD1 | 1:F:540:ARG:CD[3_455]  | 2.18                     | 0.02              |
| 1:A:577:LEU:CD1 | 1:E:610:GLN:CG[3_455]  | 2.19                     | 0.01              |
| 2:G:386:PHE:CZ  | 3:H:72:ASN:CB[2_554]   | 2.19                     | 0.01              |

## 5.3 Torsion angles [i](#)

### 5.3.1 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 X-ray entries followed by that with respect to entries of similar resolution.

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     | 648/681 (95%) | 628 (97%) | 18 (3%) | 2 (0%)   | 37 73       |
| 1   | B     | 648/681 (95%) | 629 (97%) | 16 (2%) | 3 (0%)   | 25 64       |
| 1   | C     | 648/681 (95%) | 627 (97%) | 17 (3%) | 4 (1%)   | 22 60       |
| 1   | D     | 650/681 (95%) | 630 (97%) | 16 (2%) | 4 (1%)   | 22 60       |
| 1   | E     | 650/681 (95%) | 632 (97%) | 15 (2%) | 3 (0%)   | 25 64       |

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| Mol | Chain | Analysed        | Favoured   | Allowed  | Outliers | Percentiles |    |
|-----|-------|-----------------|------------|----------|----------|-------------|----|
| 1   | F     | 650/681 (95%)   | 631 (97%)  | 17 (3%)  | 2 (0%)   | 37          | 73 |
| 2   | G     | 480/538 (89%)   | 408 (85%)  | 55 (12%) | 17 (4%)  | 3           | 20 |
| 3   | H     | 115/577 (20%)   | 106 (92%)  | 7 (6%)   | 2 (2%)   | 7           | 37 |
| All | All   | 4489/5201 (86%) | 4291 (96%) | 161 (4%) | 37 (1%)  | 16          | 55 |

All (37) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | D     | 655 | ASN  |
| 2   | G     | 161 | HIS  |
| 2   | G     | 207 | HIS  |
| 2   | G     | 257 | SER  |
| 3   | H     | 81  | ASP  |
| 3   | H     | 129 | THR  |
| 1   | B     | 508 | VAL  |
| 1   | C     | 655 | ASN  |
| 1   | E     | 655 | ASN  |
| 2   | G     | 42  | SER  |
| 2   | G     | 75  | ASP  |
| 2   | G     | 95  | VAL  |
| 2   | G     | 147 | GLY  |
| 2   | G     | 158 | GLN  |
| 2   | G     | 159 | ASP  |
| 2   | G     | 206 | GLY  |
| 2   | G     | 278 | SER  |
| 2   | G     | 456 | GLY  |
| 1   | A     | 160 | SER  |
| 1   | A     | 175 | SER  |
| 1   | B     | 160 | SER  |
| 1   | B     | 175 | SER  |
| 1   | C     | 160 | SER  |
| 1   | C     | 175 | SER  |
| 1   | C     | 508 | VAL  |
| 1   | D     | 160 | SER  |
| 1   | D     | 175 | SER  |
| 1   | E     | 160 | SER  |
| 1   | E     | 175 | SER  |
| 1   | F     | 160 | SER  |
| 1   | F     | 175 | SER  |
| 2   | G     | 55  | SER  |
| 2   | G     | 49  | ASN  |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 2   | G     | 299 | ASN  |
| 2   | G     | 298 | PRO  |
| 1   | D     | 508 | VAL  |
| 2   | G     | 146 | VAL  |

### 5.3.2 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 X-ray entries followed by that with respect to entries of similar resolution.

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     | 578/597 (97%)   | 566 (98%)  | 12 (2%)  | 48          | 66 |
| 1   | B     | 578/597 (97%)   | 566 (98%)  | 12 (2%)  | 48          | 66 |
| 1   | C     | 578/597 (97%)   | 566 (98%)  | 12 (2%)  | 48          | 66 |
| 1   | D     | 578/597 (97%)   | 566 (98%)  | 12 (2%)  | 48          | 66 |
| 1   | E     | 578/597 (97%)   | 566 (98%)  | 12 (2%)  | 48          | 66 |
| 1   | F     | 578/597 (97%)   | 566 (98%)  | 12 (2%)  | 48          | 66 |
| 2   | G     | 428/472 (91%)   | 400 (94%)  | 28 (6%)  | 14          | 35 |
| 3   | H     | 102/506 (20%)   | 98 (96%)   | 4 (4%)   | 27          | 48 |
| All | All   | 3998/4560 (88%) | 3894 (97%) | 104 (3%) | 41          | 59 |

All (104) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | A     | 106 | VAL  |
| 1   | A     | 237 | SER  |
| 1   | A     | 238 | HIS  |
| 1   | A     | 274 | LEU  |
| 1   | A     | 298 | PHE  |
| 1   | A     | 301 | THR  |
| 1   | A     | 508 | VAL  |
| 1   | A     | 509 | GLU  |
| 1   | A     | 512 | GLU  |
| 1   | A     | 542 | LYS  |
| 1   | A     | 580 | LEU  |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | A            | 626        | LEU         |
| 1          | B            | 106        | VAL         |
| 1          | B            | 237        | SER         |
| 1          | B            | 238        | HIS         |
| 1          | B            | 274        | LEU         |
| 1          | B            | 298        | PHE         |
| 1          | B            | 301        | THR         |
| 1          | B            | 508        | VAL         |
| 1          | B            | 509        | GLU         |
| 1          | B            | 512        | GLU         |
| 1          | B            | 542        | LYS         |
| 1          | B            | 580        | LEU         |
| 1          | B            | 626        | LEU         |
| 1          | C            | 106        | VAL         |
| 1          | C            | 237        | SER         |
| 1          | C            | 238        | HIS         |
| 1          | C            | 274        | LEU         |
| 1          | C            | 298        | PHE         |
| 1          | C            | 301        | THR         |
| 1          | C            | 508        | VAL         |
| 1          | C            | 509        | GLU         |
| 1          | C            | 512        | GLU         |
| 1          | C            | 542        | LYS         |
| 1          | C            | 580        | LEU         |
| 1          | C            | 626        | LEU         |
| 1          | D            | 106        | VAL         |
| 1          | D            | 237        | SER         |
| 1          | D            | 238        | HIS         |
| 1          | D            | 274        | LEU         |
| 1          | D            | 298        | PHE         |
| 1          | D            | 301        | THR         |
| 1          | D            | 508        | VAL         |
| 1          | D            | 509        | GLU         |
| 1          | D            | 512        | GLU         |
| 1          | D            | 542        | LYS         |
| 1          | D            | 580        | LEU         |
| 1          | D            | 626        | LEU         |
| 1          | E            | 106        | VAL         |
| 1          | E            | 237        | SER         |
| 1          | E            | 238        | HIS         |
| 1          | E            | 274        | LEU         |
| 1          | E            | 298        | PHE         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | E            | 301        | THR         |
| 1          | E            | 508        | VAL         |
| 1          | E            | 509        | GLU         |
| 1          | E            | 512        | GLU         |
| 1          | E            | 542        | LYS         |
| 1          | E            | 580        | LEU         |
| 1          | E            | 626        | LEU         |
| 1          | F            | 106        | VAL         |
| 1          | F            | 237        | SER         |
| 1          | F            | 238        | HIS         |
| 1          | F            | 274        | LEU         |
| 1          | F            | 298        | PHE         |
| 1          | F            | 301        | THR         |
| 1          | F            | 508        | VAL         |
| 1          | F            | 509        | GLU         |
| 1          | F            | 512        | GLU         |
| 1          | F            | 542        | LYS         |
| 1          | F            | 580        | LEU         |
| 1          | F            | 626        | LEU         |
| 2          | G            | 27         | ASN         |
| 2          | G            | 40         | LEU         |
| 2          | G            | 61         | LEU         |
| 2          | G            | 69         | LEU         |
| 2          | G            | 94         | PRO         |
| 2          | G            | 101        | ASP         |
| 2          | G            | 140        | ILE         |
| 2          | G            | 159        | ASP         |
| 2          | G            | 161        | HIS         |
| 2          | G            | 180        | LEU         |
| 2          | G            | 190        | THR         |
| 2          | G            | 218        | SER         |
| 2          | G            | 224        | PRO         |
| 2          | G            | 231        | LEU         |
| 2          | G            | 268        | ILE         |
| 2          | G            | 308        | LEU         |
| 2          | G            | 314        | MET         |
| 2          | G            | 384        | LYS         |
| 2          | G            | 389        | PHE         |
| 2          | G            | 390        | ASP         |
| 2          | G            | 413        | VAL         |
| 2          | G            | 427        | VAL         |
| 2          | G            | 436        | VAL         |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 2   | G     | 457 | THR  |
| 2   | G     | 476 | LEU  |
| 2   | G     | 485 | GLU  |
| 2   | G     | 487 | THR  |
| 2   | G     | 501 | LEU  |
| 3   | H     | 26  | LYS  |
| 3   | H     | 30  | THR  |
| 3   | H     | 55  | GLU  |
| 3   | H     | 125 | SER  |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (42) such sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | A     | 192 | GLN  |
| 1   | A     | 392 | GLN  |
| 1   | A     | 403 | ASN  |
| 1   | A     | 465 | HIS  |
| 1   | B     | 403 | ASN  |
| 1   | B     | 465 | HIS  |
| 1   | B     | 534 | HIS  |
| 1   | B     | 660 | GLN  |
| 1   | B     | 696 | ASN  |
| 1   | C     | 83  | HIS  |
| 1   | C     | 403 | ASN  |
| 1   | C     | 465 | HIS  |
| 1   | C     | 565 | HIS  |
| 1   | D     | 83  | HIS  |
| 1   | D     | 392 | GLN  |
| 1   | D     | 403 | ASN  |
| 1   | E     | 153 | HIS  |
| 1   | E     | 324 | GLN  |
| 1   | E     | 392 | GLN  |
| 1   | E     | 403 | ASN  |
| 1   | E     | 465 | HIS  |
| 1   | F     | 324 | GLN  |
| 1   | F     | 403 | ASN  |
| 1   | F     | 465 | HIS  |
| 1   | F     | 696 | ASN  |
| 2   | G     | 27  | ASN  |
| 2   | G     | 28  | ASN  |
| 2   | G     | 76  | HIS  |
| 2   | G     | 89  | GLN  |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 2   | G     | 158 | GLN  |
| 2   | G     | 164 | ASN  |
| 2   | G     | 215 | GLN  |
| 2   | G     | 216 | HIS  |
| 2   | G     | 256 | HIS  |
| 2   | G     | 262 | HIS  |
| 2   | G     | 370 | GLN  |
| 2   | G     | 406 | HIS  |
| 2   | G     | 411 | ASN  |
| 2   | G     | 417 | ASN  |
| 2   | G     | 430 | GLN  |
| 2   | G     | 433 | GLN  |
| 2   | G     | 511 | GLN  |

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

### 5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

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

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

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.

No monomer is involved in short contacts.

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

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

The following chains have linkage breaks:

| Mol | Chain | Number of breaks |
|-----|-------|------------------|
| 1   | D     | 3                |
| 1   | A     | 2                |
| 1   | C     | 2                |
| 1   | B     | 1                |
| 1   | F     | 1                |
| 1   | E     | 1                |

All chain breaks are listed below:

| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|-------|-------|-----------|--------|-----------|--------|--------------|
| 1     | A     | 559:CYS   | C      | 560:MET   | N      | 2.86         |
| 1     | B     | 559:CYS   | C      | 560:MET   | N      | 2.56         |
| 1     | C     | 559:CYS   | C      | 560:MET   | N      | 2.24         |
| 1     | A     | 508:VAL   | C      | 509:GLU   | N      | 1.91         |
| 1     | D     | 559:CYS   | C      | 560:MET   | N      | 1.79         |
| 1     | F     | 508:VAL   | C      | 509:GLU   | N      | 1.63         |
| 1     | E     | 559:CYS   | C      | 560:MET   | N      | 1.19         |
| 1     | D     | 508:VAL   | C      | 509:GLU   | N      | 1.10         |
| 1     | D     | 654:TYR   | C      | 655:ASN   | N      | 1.05         |
| 1     | C     | 508:VAL   | C      | 509:GLU   | N      | 0.85         |

## 6 Fit of model and data

### 6.1 Protein, DNA and RNA chains

In the following table, the column labelled ‘#RSRZ > 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95<sup>th</sup> percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q < 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

| Mol | Chain | Analysed        | <RSRZ> | #RSRZ>2        | OWAB(Å <sup>2</sup> ) | Q<0.9 |
|-----|-------|-----------------|--------|----------------|-----------------------|-------|
| 1   | A     | 656/681 (96%)   | 0.45   | 32 (4%) 36 32  | 287, 291, 313, 313    | 0     |
| 1   | B     | 656/681 (96%)   | 0.33   | 30 (4%) 38 34  | 290, 308, 308, 308    | 0     |
| 1   | C     | 656/681 (96%)   | 0.38   | 36 (5%) 32 29  | 278, 322, 327, 327    | 0     |
| 1   | D     | 656/681 (96%)   | 0.13   | 22 (3%) 48 39  | 294, 342, 342, 342    | 0     |
| 1   | E     | 656/681 (96%)   | 0.34   | 34 (5%) 34 30  | 304, 341, 351, 351    | 0     |
| 1   | F     | 656/681 (96%)   | 0.39   | 39 (5%) 29 28  | 305, 348, 370, 370    | 0     |
| 2   | G     | 484/538 (89%)   | 0.27   | 19 (3%) 44 37  | 340, 340, 340, 340    | 0     |
| 3   | H     | 117/577 (20%)   | 0.18   | 7 (5%) 29 27   | 370, 370, 370, 370    | 0     |
| All | All   | 4537/5201 (87%) | 0.33   | 219 (4%) 36 33 | 278, 322, 348, 370    | 0     |

All (219) RSRZ outliers are listed below:

| Mol | Chain | Res | Type | RSRZ |
|-----|-------|-----|------|------|
| 3   | H     | 107 | ILE  | 6.8  |
| 1   | F     | 165 | THR  | 6.2  |
| 1   | E     | 320 | GLU  | 5.5  |
| 1   | D     | 303 | ALA  | 5.4  |
| 1   | E     | 244 | ILE  | 5.1  |
| 1   | C     | 385 | TRP  | 4.5  |
| 1   | A     | 221 | PHE  | 4.5  |
| 1   | B     | 255 | PHE  | 4.4  |
| 1   | F     | 491 | ASN  | 4.4  |
| 1   | B     | 172 | ILE  | 4.4  |
| 1   | A     | 248 | ALA  | 4.4  |
| 1   | E     | 432 | LEU  | 4.3  |
| 1   | E     | 298 | PHE  | 4.3  |
| 1   | B     | 171 | VAL  | 4.3  |
| 1   | F     | 183 | PHE  | 4.2  |
| 1   | F     | 293 | TYR  | 4.2  |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> | <b>RSRZ</b> |
|------------|--------------|------------|-------------|-------------|
| 1          | D            | 256        | LEU         | 4.2         |
| 1          | A            | 387        | LEU         | 4.1         |
| 1          | A            | 93         | ALA         | 3.9         |
| 1          | C            | 432        | LEU         | 3.9         |
| 1          | C            | 346        | TYR         | 3.9         |
| 1          | E            | 280        | ILE         | 3.9         |
| 1          | F            | 471        | GLU         | 3.9         |
| 1          | F            | 472        | MET         | 3.9         |
| 1          | E            | 256        | LEU         | 3.9         |
| 1          | E            | 129        | CYS         | 3.8         |
| 1          | C            | 515        | THR         | 3.8         |
| 1          | A            | 238        | HIS         | 3.8         |
| 1          | F            | 234        | ALA         | 3.8         |
| 2          | G            | 479        | GLU         | 3.7         |
| 1          | A            | 137        | CYS         | 3.7         |
| 1          | A            | 239        | PHE         | 3.6         |
| 1          | E            | 445        | VAL         | 3.5         |
| 1          | F            | 53         | LEU         | 3.5         |
| 1          | A            | 220        | ASP         | 3.5         |
| 1          | A            | 500        | GLU         | 3.5         |
| 1          | D            | 137        | CYS         | 3.4         |
| 2          | G            | 333        | ASN         | 3.4         |
| 1          | D            | 331        | ASP         | 3.4         |
| 1          | F            | 163        | ASN         | 3.3         |
| 1          | F            | 303        | ALA         | 3.3         |
| 1          | A            | 448        | VAL         | 3.3         |
| 1          | B            | 170        | GLY         | 3.3         |
| 1          | B            | 629        | ASP         | 3.3         |
| 1          | D            | 500        | GLU         | 3.3         |
| 1          | B            | 163        | ASN         | 3.3         |
| 1          | A            | 164        | LYS         | 3.3         |
| 1          | F            | 447        | PHE         | 3.3         |
| 1          | A            | 286        | ASP         | 3.2         |
| 1          | C            | 443        | TYR         | 3.2         |
| 1          | E            | 336        | PHE         | 3.2         |
| 3          | H            | 110        | SER         | 3.2         |
| 1          | C            | 332        | GLU         | 3.2         |
| 3          | H            | 51         | SER         | 3.2         |
| 1          | E            | 443        | TYR         | 3.2         |
| 1          | E            | 609        | SER         | 3.2         |
| 1          | C            | 517        | CYS         | 3.1         |
| 2          | G            | 218        | SER         | 3.1         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> | <b>RSRZ</b> |
|------------|--------------|------------|-------------|-------------|
| 1          | E            | 447        | PHE         | 3.1         |
| 1          | A            | 163        | ASN         | 3.1         |
| 1          | E            | 208        | GLU         | 3.0         |
| 1          | C            | 325        | ALA         | 3.0         |
| 1          | C            | 622        | PRO         | 3.0         |
| 2          | G            | 286        | PHE         | 3.0         |
| 1          | D            | 255        | PHE         | 3.0         |
| 2          | G            | 378        | PRO         | 3.0         |
| 1          | B            | 650        | GLU         | 2.9         |
| 1          | E            | 436        | ALA         | 2.9         |
| 1          | F            | 235        | LEU         | 2.9         |
| 1          | F            | 385        | TRP         | 2.9         |
| 1          | A            | 223        | SER         | 2.9         |
| 1          | E            | 137        | CYS         | 2.8         |
| 1          | C            | 165        | THR         | 2.8         |
| 1          | C            | 554        | ALA         | 2.8         |
| 1          | F            | 445        | VAL         | 2.8         |
| 1          | D            | 293        | TYR         | 2.8         |
| 1          | F            | 138        | LYS         | 2.8         |
| 3          | H            | 70         | ASN         | 2.8         |
| 1          | A            | 346        | TYR         | 2.8         |
| 1          | B            | 616        | PRO         | 2.8         |
| 1          | F            | 664        | SER         | 2.8         |
| 1          | A            | 303        | ALA         | 2.8         |
| 1          | C            | 231        | ASP         | 2.8         |
| 2          | G            | 257        | SER         | 2.8         |
| 1          | D            | 588        | LEU         | 2.7         |
| 1          | C            | 456        | LYS         | 2.7         |
| 1          | D            | 488        | PHE         | 2.7         |
| 1          | C            | 615        | SER         | 2.7         |
| 1          | E            | 532        | ALA         | 2.7         |
| 1          | C            | 613        | CYS         | 2.7         |
| 1          | A            | 596        | PHE         | 2.7         |
| 1          | D            | 164        | LYS         | 2.7         |
| 1          | D            | 532        | ALA         | 2.7         |
| 1          | C            | 163        | ASN         | 2.6         |
| 1          | C            | 454        | LYS         | 2.6         |
| 1          | E            | 317        | LYS         | 2.6         |
| 1          | B            | 280        | ILE         | 2.6         |
| 1          | B            | 556        | ILE         | 2.6         |
| 1          | C            | 293        | TYR         | 2.6         |
| 1          | F            | 310        | LEU         | 2.6         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> | <b>RSRZ</b> |
|------------|--------------|------------|-------------|-------------|
| 1          | F            | 512        | GLU         | 2.6         |
| 2          | G            | 215        | GLN         | 2.6         |
| 1          | F            | 486        | MET         | 2.6         |
| 1          | A            | 129        | CYS         | 2.6         |
| 1          | B            | 106        | VAL         | 2.6         |
| 1          | B            | 189        | ASP         | 2.6         |
| 1          | D            | 189        | ASP         | 2.6         |
| 1          | C            | 349        | PRO         | 2.6         |
| 1          | D            | 171        | VAL         | 2.6         |
| 1          | E            | 435        | VAL         | 2.6         |
| 1          | C            | 403        | ASN         | 2.6         |
| 1          | D            | 198        | LEU         | 2.6         |
| 2          | G            | 32         | LEU         | 2.6         |
| 3          | H            | 108        | ALA         | 2.6         |
| 1          | C            | 242        | PHE         | 2.6         |
| 1          | A            | 170        | GLY         | 2.6         |
| 1          | F            | 244        | ILE         | 2.5         |
| 1          | E            | 47         | ASP         | 2.5         |
| 1          | E            | 448        | VAL         | 2.5         |
| 1          | A            | 655        | ASN         | 2.5         |
| 1          | B            | 702        | PRO         | 2.5         |
| 1          | C            | 361        | ARG         | 2.5         |
| 1          | B            | 281        | VAL         | 2.5         |
| 1          | F            | 182        | LEU         | 2.5         |
| 1          | C            | 577        | LEU         | 2.5         |
| 2          | G            | 324        | VAL         | 2.5         |
| 1          | E            | 296        | LEU         | 2.4         |
| 1          | B            | 522        | SER         | 2.4         |
| 1          | C            | 555        | SER         | 2.4         |
| 1          | A            | 116        | LEU         | 2.4         |
| 2          | G            | 176        | LEU         | 2.4         |
| 1          | A            | 208        | GLU         | 2.4         |
| 1          | C            | 102        | PRO         | 2.4         |
| 2          | G            | 246        | PHE         | 2.4         |
| 1          | F            | 130        | GLY         | 2.4         |
| 1          | B            | 686        | THR         | 2.4         |
| 1          | C            | 430        | ASP         | 2.4         |
| 1          | A            | 70         | VAL         | 2.4         |
| 1          | C            | 655        | ASN         | 2.4         |
| 1          | E            | 599        | LEU         | 2.4         |
| 1          | B            | 608        | GLY         | 2.4         |
| 1          | B            | 447        | PHE         | 2.4         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> | <b>RSRZ</b> |
|------------|--------------|------------|-------------|-------------|
| 1          | E            | 456        | LYS         | 2.4         |
| 1          | E            | 582        | VAL         | 2.4         |
| 3          | H            | 106        | LYS         | 2.4         |
| 1          | C            | 629        | ASP         | 2.4         |
| 1          | E            | 355        | LEU         | 2.3         |
| 1          | D            | 226        | ILE         | 2.3         |
| 1          | F            | 463        | PRO         | 2.3         |
| 1          | F            | 137        | CYS         | 2.3         |
| 1          | F            | 164        | LYS         | 2.3         |
| 2          | G            | 111        | LEU         | 2.3         |
| 1          | F            | 129        | CYS         | 2.3         |
| 1          | E            | 254        | TYR         | 2.3         |
| 1          | F            | 457        | LYS         | 2.3         |
| 1          | A            | 522        | SER         | 2.3         |
| 1          | E            | 439        | VAL         | 2.2         |
| 2          | G            | 101        | ASP         | 2.2         |
| 1          | F            | 412        | PRO         | 2.2         |
| 1          | C            | 76         | ASN         | 2.2         |
| 1          | A            | 493        | LEU         | 2.2         |
| 1          | F            | 256        | LEU         | 2.2         |
| 1          | F            | 430        | ASP         | 2.2         |
| 1          | B            | 563        | GLU         | 2.2         |
| 1          | C            | 549        | ALA         | 2.2         |
| 1          | F            | 236        | VAL         | 2.2         |
| 1          | F            | 248        | ALA         | 2.2         |
| 1          | B            | 127        | LEU         | 2.2         |
| 1          | C            | 616        | PRO         | 2.2         |
| 1          | B            | 626        | LEU         | 2.2         |
| 1          | C            | 330        | SER         | 2.2         |
| 1          | D            | 273        | ASP         | 2.2         |
| 1          | F            | 667        | ASN         | 2.2         |
| 1          | D            | 554        | ALA         | 2.2         |
| 1          | E            | 203        | LEU         | 2.2         |
| 1          | F            | 578        | LEU         | 2.2         |
| 2          | G            | 345        | MET         | 2.1         |
| 2          | G            | 405        | SER         | 2.1         |
| 1          | E            | 608        | GLY         | 2.1         |
| 1          | C            | 700        | ASP         | 2.1         |
| 1          | A            | 388        | GLY         | 2.1         |
| 1          | A            | 422        | LEU         | 2.1         |
| 1          | B            | 198        | LEU         | 2.1         |
| 1          | F            | 122        | SER         | 2.1         |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|-----|------|------|
| 2   | G     | 311 | VAL  | 2.1  |
| 1   | F     | 686 | THR  | 2.1  |
| 2   | G     | 494 | LEU  | 2.1  |
| 1   | E     | 425 | TYR  | 2.1  |
| 1   | D     | 611 | VAL  | 2.1  |
| 1   | C     | 239 | PHE  | 2.1  |
| 1   | F     | 161 | SER  | 2.1  |
| 1   | D     | 305 | VAL  | 2.1  |
| 1   | F     | 124 | ASN  | 2.1  |
| 1   | B     | 554 | ALA  | 2.1  |
| 1   | B     | 622 | PRO  | 2.1  |
| 1   | B     | 215 | TYR  | 2.1  |
| 1   | A     | 492 | GLN  | 2.1  |
| 2   | G     | 100 | ARG  | 2.1  |
| 1   | A     | 111 | ASN  | 2.1  |
| 1   | B     | 183 | PHE  | 2.1  |
| 1   | F     | 596 | PHE  | 2.1  |
| 1   | C     | 614 | ILE  | 2.0  |
| 1   | B     | 575 | SER  | 2.0  |
| 1   | B     | 512 | GLU  | 2.0  |
| 1   | E     | 255 | PHE  | 2.0  |
| 1   | A     | 579 | SER  | 2.0  |
| 1   | A     | 648 | SER  | 2.0  |
| 1   | E     | 517 | CYS  | 2.0  |
| 1   | D     | 629 | ASP  | 2.0  |
| 1   | B     | 343 | GLN  | 2.0  |
| 1   | E     | 247 | PHE  | 2.0  |
| 1   | D     | 39  | SER  | 2.0  |
| 3   | H     | 73  | PRO  | 2.0  |
| 1   | B     | 331 | ASP  | 2.0  |
| 1   | A     | 159 | LEU  | 2.0  |
| 1   | D     | 183 | PHE  | 2.0  |
| 1   | C     | 678 | ARG  | 2.0  |
| 2   | G     | 230 | HIS  | 2.0  |
| 1   | E     | 464 | PRO  | 2.0  |

## 6.2 Non-standard residues in protein, DNA, RNA chains

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

### 6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

### 6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

| Mol | Type | Chain | Res | Atoms | RSCC | RSR  | B-factors( $\text{\AA}^2$ ) | Q<0.9 |
|-----|------|-------|-----|-------|------|------|-----------------------------|-------|
| 4   | CA   | H     | 601 | 1/1   | 0.91 | 0.16 | 369,369,369,369             | 0     |

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

There are no such residues in this entry.