



## Full wwPDB EM Validation Report ⓘ

Dec 17, 2025 – 07:06 PM JST

PDB ID : 9LGJ / pdb\_00009lgj  
EMDB ID : EMD-63067  
Title : Cryo-EM structure of a designed AAV2-based vector  
Authors : Luo, S.; Ke, X.; Zheng, Q.  
Deposited on : 2025-01-10  
Resolution : 2.58 Å(reported)

This is a Full wwPDB EM 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/EMValidationReportHelp>

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:

EMDB validation analysis : 0.0.1.dev129  
MolProbity : 4-5-2 with Phenix2.0  
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)  
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)  
MapQ : 1.9.13  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.47

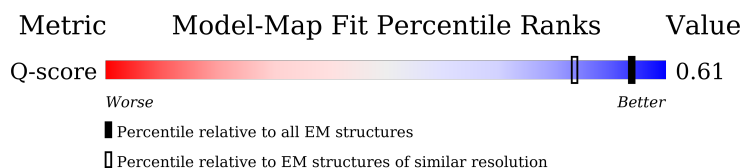
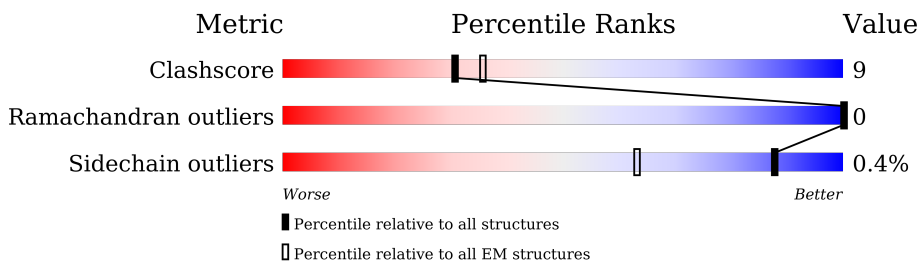
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 2.58 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.



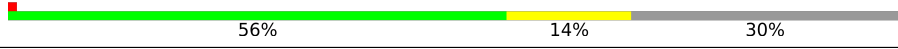
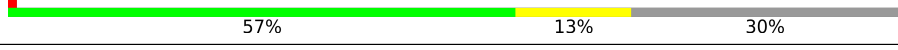
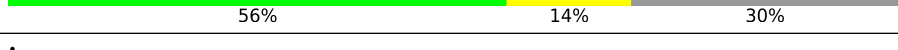
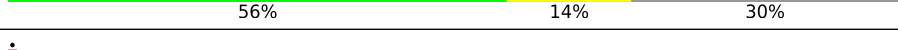
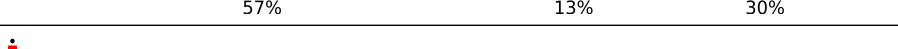
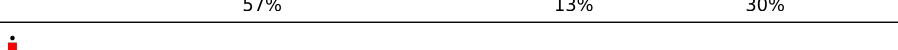
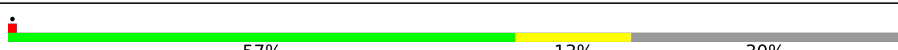
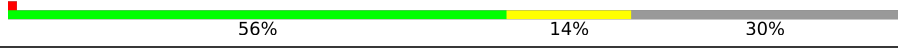
| Metric                | Whole archive<br>(#Entries) | EM structures<br>(#Entries) | Similar EM resolution<br>(#Entries, resolution range(Å)) |
|-----------------------|-----------------------------|-----------------------------|----------------------------------------------------------|
| Clashscore            | 210492                      | 15764                       | -                                                        |
| Ramachandran outliers | 207382                      | 16835                       | -                                                        |
| Sidechain outliers    | 206894                      | 16415                       | -                                                        |
| Q-score               | -                           | 25397                       | 7675 ( 2.08 - 3.08 )                                     |

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the 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 EM map (all-atom inclusion  $< 40\%$ ). The numeric value is given above the bar.

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1   | A     | 743    |                  |
| 1   | AA    | 743    |                  |
| 1   | AB    | 743    |                  |
| 1   | B     | 743    |                  |

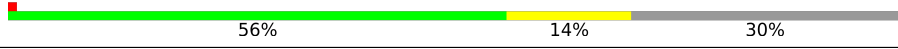
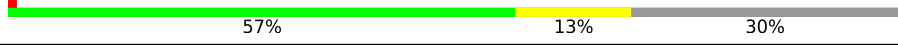
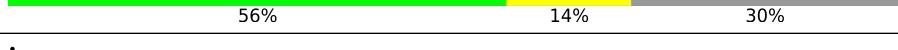
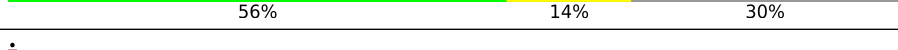
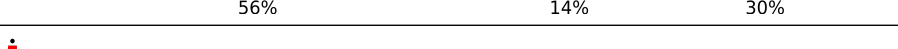
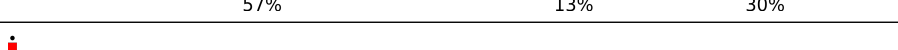
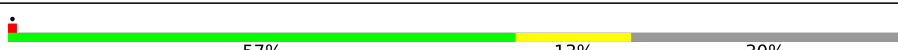
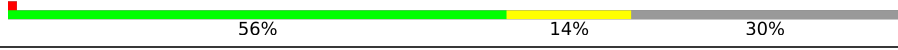
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| Mol | Chain | Length | Quality of chain                                                                     |
|-----|-------|--------|--------------------------------------------------------------------------------------|
| 1   | BA    | 743    |    |
| 1   | BB    | 743    |    |
| 1   | C     | 743    |    |
| 1   | CA    | 743    |    |
| 1   | CB    | 743    |    |
| 1   | D     | 743    |    |
| 1   | DA    | 743    |    |
| 1   | DB    | 743    |    |
| 1   | E     | 743    |    |
| 1   | EA    | 743    |    |
| 1   | EB    | 743    |    |
| 1   | F     | 743    |  |
| 1   | FA    | 743    |  |
| 1   | FB    | 743    |  |
| 1   | G     | 743    |  |
| 1   | GA    | 743    |  |
| 1   | GB    | 743    |  |
| 1   | H     | 743    |  |
| 1   | HA    | 743    |  |
| 1   | HB    | 743    |  |
| 1   | I     | 743    |  |
| 1   | IA    | 743    |  |
| 1   | IB    | 743    |  |
| 1   | J     | 743    |  |
| 1   | JA    | 743    |  |

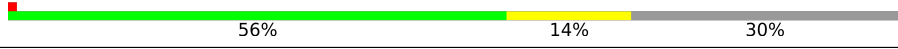
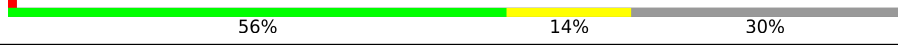
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| Mol | Chain | Length | Quality of chain                                                                     |
|-----|-------|--------|--------------------------------------------------------------------------------------|
| 1   | K     | 743    |    |
| 1   | KA    | 743    |    |
| 1   | L     | 743    |    |
| 1   | LA    | 743    |    |
| 1   | M     | 743    |    |
| 1   | MA    | 743    |    |
| 1   | N     | 743    |    |
| 1   | NA    | 743    |    |
| 1   | O     | 743    |    |
| 1   | OA    | 743    |    |
| 1   | P     | 743    |    |
| 1   | PA    | 743    |  |
| 1   | Q     | 743    |  |
| 1   | QA    | 743    |  |
| 1   | R     | 743    |  |
| 1   | RA    | 743    |  |
| 1   | S     | 743    |  |
| 1   | SA    | 743    |  |
| 1   | T     | 743    |  |
| 1   | TA    | 743    |  |
| 1   | UA    | 743    |  |
| 1   | V     | 743    |  |
| 1   | VA    | 743    |  |
| 1   | W     | 743    |  |
| 1   | WA    | 743    |  |

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| Mol | Chain | Length | Quality of chain                                                                   |
|-----|-------|--------|------------------------------------------------------------------------------------|
| 1   | X     | 743    |  |
| 1   | XA    | 743    |  |
| 1   | Y     | 743    |  |
| 1   | YA    | 743    |  |
| 1   | Z     | 743    |  |
| 1   | ZA    | 743    |  |

## 2 Entry composition [i](#)

There is only 1 type of molecule in this entry. The entry contains 249660 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 Capsid protein VP1.

| Mol | Chain | Residues | Atoms         |           |          |          |         | AltConf | Trace |
|-----|-------|----------|---------------|-----------|----------|----------|---------|---------|-------|
| 1   | A     | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | B     | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | C     | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | D     | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | E     | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | F     | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | G     | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | H     | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | I     | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | J     | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | K     | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | L     | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | M     | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | N     | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | O     | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | P     | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | Q     | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |

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| Mol | Chain | Residues | Atoms         |           |          |          |         | AltConf | Trace |
|-----|-------|----------|---------------|-----------|----------|----------|---------|---------|-------|
| 1   | R     | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | S     | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | T     | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | V     | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | W     | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | X     | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | Y     | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | Z     | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | AA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | BA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | CA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | DA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | EA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | FA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | GA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | HA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | IA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | JA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | KA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | LA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | MA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |

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| Mol | Chain | Residues | Atoms         |           |          |          |         | AltConf | Trace |
|-----|-------|----------|---------------|-----------|----------|----------|---------|---------|-------|
| 1   | NA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | OA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | PA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | QA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | RA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | SA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | TA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | UA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | VA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | WA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | XA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | YA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | ZA    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | AB    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | BB    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | CB    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | DB    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | EB    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | FB    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | GB    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |
| 1   | HB    | 520      | Total<br>4161 | C<br>2616 | N<br>726 | O<br>806 | S<br>13 | 0       | 0     |

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| Mol | Chain | Residues | Atoms |      |     |     |    | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| 1   | IB    | 520      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 4161  | 2616 | 726 | 806 | 13 |         |       |

There are 600 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment             | Reference  |
|-------|---------|----------|--------|---------------------|------------|
| A     | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| A     | 588     | ILE      | -      | insertion           | UNP P03135 |
| A     | 589     | ALA      | -      | insertion           | UNP P03135 |
| A     | 590     | ASP      | -      | insertion           | UNP P03135 |
| A     | 591     | SER      | -      | insertion           | UNP P03135 |
| A     | 592     | SER      | -      | insertion           | UNP P03135 |
| A     | 593     | ARG      | -      | insertion           | UNP P03135 |
| A     | 594     | THR      | -      | insertion           | UNP P03135 |
| A     | 595     | SER      | -      | insertion           | UNP P03135 |
| A     | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| B     | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| B     | 588     | ILE      | -      | insertion           | UNP P03135 |
| B     | 589     | ALA      | -      | insertion           | UNP P03135 |
| B     | 590     | ASP      | -      | insertion           | UNP P03135 |
| B     | 591     | SER      | -      | insertion           | UNP P03135 |
| B     | 592     | SER      | -      | insertion           | UNP P03135 |
| B     | 593     | ARG      | -      | insertion           | UNP P03135 |
| B     | 594     | THR      | -      | insertion           | UNP P03135 |
| B     | 595     | SER      | -      | insertion           | UNP P03135 |
| B     | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| C     | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| C     | 588     | ILE      | -      | insertion           | UNP P03135 |
| C     | 589     | ALA      | -      | insertion           | UNP P03135 |
| C     | 590     | ASP      | -      | insertion           | UNP P03135 |
| C     | 591     | SER      | -      | insertion           | UNP P03135 |
| C     | 592     | SER      | -      | insertion           | UNP P03135 |
| C     | 593     | ARG      | -      | insertion           | UNP P03135 |
| C     | 594     | THR      | -      | insertion           | UNP P03135 |
| C     | 595     | SER      | -      | insertion           | UNP P03135 |
| C     | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| D     | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| D     | 588     | ILE      | -      | insertion           | UNP P03135 |
| D     | 589     | ALA      | -      | insertion           | UNP P03135 |
| D     | 590     | ASP      | -      | insertion           | UNP P03135 |
| D     | 591     | SER      | -      | insertion           | UNP P03135 |
| D     | 592     | SER      | -      | insertion           | UNP P03135 |

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| Chain | Residue | Modelled | Actual | Comment             | Reference  |
|-------|---------|----------|--------|---------------------|------------|
| D     | 593     | ARG      | -      | insertion           | UNP P03135 |
| D     | 594     | THR      | -      | insertion           | UNP P03135 |
| D     | 595     | SER      | -      | insertion           | UNP P03135 |
| D     | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| E     | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| E     | 588     | ILE      | -      | insertion           | UNP P03135 |
| E     | 589     | ALA      | -      | insertion           | UNP P03135 |
| E     | 590     | ASP      | -      | insertion           | UNP P03135 |
| E     | 591     | SER      | -      | insertion           | UNP P03135 |
| E     | 592     | SER      | -      | insertion           | UNP P03135 |
| E     | 593     | ARG      | -      | insertion           | UNP P03135 |
| E     | 594     | THR      | -      | insertion           | UNP P03135 |
| E     | 595     | SER      | -      | insertion           | UNP P03135 |
| E     | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| F     | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| F     | 588     | ILE      | -      | insertion           | UNP P03135 |
| F     | 589     | ALA      | -      | insertion           | UNP P03135 |
| F     | 590     | ASP      | -      | insertion           | UNP P03135 |
| F     | 591     | SER      | -      | insertion           | UNP P03135 |
| F     | 592     | SER      | -      | insertion           | UNP P03135 |
| F     | 593     | ARG      | -      | insertion           | UNP P03135 |
| F     | 594     | THR      | -      | insertion           | UNP P03135 |
| F     | 595     | SER      | -      | insertion           | UNP P03135 |
| F     | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| G     | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| G     | 588     | ILE      | -      | insertion           | UNP P03135 |
| G     | 589     | ALA      | -      | insertion           | UNP P03135 |
| G     | 590     | ASP      | -      | insertion           | UNP P03135 |
| G     | 591     | SER      | -      | insertion           | UNP P03135 |
| G     | 592     | SER      | -      | insertion           | UNP P03135 |
| G     | 593     | ARG      | -      | insertion           | UNP P03135 |
| G     | 594     | THR      | -      | insertion           | UNP P03135 |
| G     | 595     | SER      | -      | insertion           | UNP P03135 |
| G     | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| H     | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| H     | 588     | ILE      | -      | insertion           | UNP P03135 |
| H     | 589     | ALA      | -      | insertion           | UNP P03135 |
| H     | 590     | ASP      | -      | insertion           | UNP P03135 |
| H     | 591     | SER      | -      | insertion           | UNP P03135 |
| H     | 592     | SER      | -      | insertion           | UNP P03135 |
| H     | 593     | ARG      | -      | insertion           | UNP P03135 |
| H     | 594     | THR      | -      | insertion           | UNP P03135 |

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| Chain | Residue | Modelled | Actual | Comment             | Reference  |
|-------|---------|----------|--------|---------------------|------------|
| H     | 595     | SER      | -      | insertion           | UNP P03135 |
| H     | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| I     | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| I     | 588     | ILE      | -      | insertion           | UNP P03135 |
| I     | 589     | ALA      | -      | insertion           | UNP P03135 |
| I     | 590     | ASP      | -      | insertion           | UNP P03135 |
| I     | 591     | SER      | -      | insertion           | UNP P03135 |
| I     | 592     | SER      | -      | insertion           | UNP P03135 |
| I     | 593     | ARG      | -      | insertion           | UNP P03135 |
| I     | 594     | THR      | -      | insertion           | UNP P03135 |
| I     | 595     | SER      | -      | insertion           | UNP P03135 |
| I     | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| J     | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| J     | 588     | ILE      | -      | insertion           | UNP P03135 |
| J     | 589     | ALA      | -      | insertion           | UNP P03135 |
| J     | 590     | ASP      | -      | insertion           | UNP P03135 |
| J     | 591     | SER      | -      | insertion           | UNP P03135 |
| J     | 592     | SER      | -      | insertion           | UNP P03135 |
| J     | 593     | ARG      | -      | insertion           | UNP P03135 |
| J     | 594     | THR      | -      | insertion           | UNP P03135 |
| J     | 595     | SER      | -      | insertion           | UNP P03135 |
| J     | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| K     | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| K     | 588     | ILE      | -      | insertion           | UNP P03135 |
| K     | 589     | ALA      | -      | insertion           | UNP P03135 |
| K     | 590     | ASP      | -      | insertion           | UNP P03135 |
| K     | 591     | SER      | -      | insertion           | UNP P03135 |
| K     | 592     | SER      | -      | insertion           | UNP P03135 |
| K     | 593     | ARG      | -      | insertion           | UNP P03135 |
| K     | 594     | THR      | -      | insertion           | UNP P03135 |
| K     | 595     | SER      | -      | insertion           | UNP P03135 |
| K     | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| L     | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| L     | 588     | ILE      | -      | insertion           | UNP P03135 |
| L     | 589     | ALA      | -      | insertion           | UNP P03135 |
| L     | 590     | ASP      | -      | insertion           | UNP P03135 |
| L     | 591     | SER      | -      | insertion           | UNP P03135 |
| L     | 592     | SER      | -      | insertion           | UNP P03135 |
| L     | 593     | ARG      | -      | insertion           | UNP P03135 |
| L     | 594     | THR      | -      | insertion           | UNP P03135 |
| L     | 595     | SER      | -      | insertion           | UNP P03135 |
| L     | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |

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| Chain | Residue | Modelled | Actual | Comment             | Reference  |
|-------|---------|----------|--------|---------------------|------------|
| M     | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| M     | 588     | ILE      | -      | insertion           | UNP P03135 |
| M     | 589     | ALA      | -      | insertion           | UNP P03135 |
| M     | 590     | ASP      | -      | insertion           | UNP P03135 |
| M     | 591     | SER      | -      | insertion           | UNP P03135 |
| M     | 592     | SER      | -      | insertion           | UNP P03135 |
| M     | 593     | ARG      | -      | insertion           | UNP P03135 |
| M     | 594     | THR      | -      | insertion           | UNP P03135 |
| M     | 595     | SER      | -      | insertion           | UNP P03135 |
| M     | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| N     | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| N     | 588     | ILE      | -      | insertion           | UNP P03135 |
| N     | 589     | ALA      | -      | insertion           | UNP P03135 |
| N     | 590     | ASP      | -      | insertion           | UNP P03135 |
| N     | 591     | SER      | -      | insertion           | UNP P03135 |
| N     | 592     | SER      | -      | insertion           | UNP P03135 |
| N     | 593     | ARG      | -      | insertion           | UNP P03135 |
| N     | 594     | THR      | -      | insertion           | UNP P03135 |
| N     | 595     | SER      | -      | insertion           | UNP P03135 |
| N     | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| O     | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| O     | 588     | ILE      | -      | insertion           | UNP P03135 |
| O     | 589     | ALA      | -      | insertion           | UNP P03135 |
| O     | 590     | ASP      | -      | insertion           | UNP P03135 |
| O     | 591     | SER      | -      | insertion           | UNP P03135 |
| O     | 592     | SER      | -      | insertion           | UNP P03135 |
| O     | 593     | ARG      | -      | insertion           | UNP P03135 |
| O     | 594     | THR      | -      | insertion           | UNP P03135 |
| O     | 595     | SER      | -      | insertion           | UNP P03135 |
| O     | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| P     | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| P     | 588     | ILE      | -      | insertion           | UNP P03135 |
| P     | 589     | ALA      | -      | insertion           | UNP P03135 |
| P     | 590     | ASP      | -      | insertion           | UNP P03135 |
| P     | 591     | SER      | -      | insertion           | UNP P03135 |
| P     | 592     | SER      | -      | insertion           | UNP P03135 |
| P     | 593     | ARG      | -      | insertion           | UNP P03135 |
| P     | 594     | THR      | -      | insertion           | UNP P03135 |
| P     | 595     | SER      | -      | insertion           | UNP P03135 |
| P     | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| Q     | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| Q     | 588     | ILE      | -      | insertion           | UNP P03135 |

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| Chain | Residue | Modelled | Actual | Comment             | Reference  |
|-------|---------|----------|--------|---------------------|------------|
| Q     | 589     | ALA      | -      | insertion           | UNP P03135 |
| Q     | 590     | ASP      | -      | insertion           | UNP P03135 |
| Q     | 591     | SER      | -      | insertion           | UNP P03135 |
| Q     | 592     | SER      | -      | insertion           | UNP P03135 |
| Q     | 593     | ARG      | -      | insertion           | UNP P03135 |
| Q     | 594     | THR      | -      | insertion           | UNP P03135 |
| Q     | 595     | SER      | -      | insertion           | UNP P03135 |
| Q     | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| R     | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| R     | 588     | ILE      | -      | insertion           | UNP P03135 |
| R     | 589     | ALA      | -      | insertion           | UNP P03135 |
| R     | 590     | ASP      | -      | insertion           | UNP P03135 |
| R     | 591     | SER      | -      | insertion           | UNP P03135 |
| R     | 592     | SER      | -      | insertion           | UNP P03135 |
| R     | 593     | ARG      | -      | insertion           | UNP P03135 |
| R     | 594     | THR      | -      | insertion           | UNP P03135 |
| R     | 595     | SER      | -      | insertion           | UNP P03135 |
| R     | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| S     | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| S     | 588     | ILE      | -      | insertion           | UNP P03135 |
| S     | 589     | ALA      | -      | insertion           | UNP P03135 |
| S     | 590     | ASP      | -      | insertion           | UNP P03135 |
| S     | 591     | SER      | -      | insertion           | UNP P03135 |
| S     | 592     | SER      | -      | insertion           | UNP P03135 |
| S     | 593     | ARG      | -      | insertion           | UNP P03135 |
| S     | 594     | THR      | -      | insertion           | UNP P03135 |
| S     | 595     | SER      | -      | insertion           | UNP P03135 |
| S     | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| T     | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| T     | 588     | ILE      | -      | insertion           | UNP P03135 |
| T     | 589     | ALA      | -      | insertion           | UNP P03135 |
| T     | 590     | ASP      | -      | insertion           | UNP P03135 |
| T     | 591     | SER      | -      | insertion           | UNP P03135 |
| T     | 592     | SER      | -      | insertion           | UNP P03135 |
| T     | 593     | ARG      | -      | insertion           | UNP P03135 |
| T     | 594     | THR      | -      | insertion           | UNP P03135 |
| T     | 595     | SER      | -      | insertion           | UNP P03135 |
| T     | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| V     | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| V     | 588     | ILE      | -      | insertion           | UNP P03135 |
| V     | 589     | ALA      | -      | insertion           | UNP P03135 |
| V     | 590     | ASP      | -      | insertion           | UNP P03135 |

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| Chain | Residue | Modelled | Actual | Comment             | Reference  |
|-------|---------|----------|--------|---------------------|------------|
| V     | 591     | SER      | -      | insertion           | UNP P03135 |
| V     | 592     | SER      | -      | insertion           | UNP P03135 |
| V     | 593     | ARG      | -      | insertion           | UNP P03135 |
| V     | 594     | THR      | -      | insertion           | UNP P03135 |
| V     | 595     | SER      | -      | insertion           | UNP P03135 |
| V     | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| W     | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| W     | 588     | ILE      | -      | insertion           | UNP P03135 |
| W     | 589     | ALA      | -      | insertion           | UNP P03135 |
| W     | 590     | ASP      | -      | insertion           | UNP P03135 |
| W     | 591     | SER      | -      | insertion           | UNP P03135 |
| W     | 592     | SER      | -      | insertion           | UNP P03135 |
| W     | 593     | ARG      | -      | insertion           | UNP P03135 |
| W     | 594     | THR      | -      | insertion           | UNP P03135 |
| W     | 595     | SER      | -      | insertion           | UNP P03135 |
| W     | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| X     | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| X     | 588     | ILE      | -      | insertion           | UNP P03135 |
| X     | 589     | ALA      | -      | insertion           | UNP P03135 |
| X     | 590     | ASP      | -      | insertion           | UNP P03135 |
| X     | 591     | SER      | -      | insertion           | UNP P03135 |
| X     | 592     | SER      | -      | insertion           | UNP P03135 |
| X     | 593     | ARG      | -      | insertion           | UNP P03135 |
| X     | 594     | THR      | -      | insertion           | UNP P03135 |
| X     | 595     | SER      | -      | insertion           | UNP P03135 |
| X     | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| Y     | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| Y     | 588     | ILE      | -      | insertion           | UNP P03135 |
| Y     | 589     | ALA      | -      | insertion           | UNP P03135 |
| Y     | 590     | ASP      | -      | insertion           | UNP P03135 |
| Y     | 591     | SER      | -      | insertion           | UNP P03135 |
| Y     | 592     | SER      | -      | insertion           | UNP P03135 |
| Y     | 593     | ARG      | -      | insertion           | UNP P03135 |
| Y     | 594     | THR      | -      | insertion           | UNP P03135 |
| Y     | 595     | SER      | -      | insertion           | UNP P03135 |
| Y     | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| Z     | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| Z     | 588     | ILE      | -      | insertion           | UNP P03135 |
| Z     | 589     | ALA      | -      | insertion           | UNP P03135 |
| Z     | 590     | ASP      | -      | insertion           | UNP P03135 |
| Z     | 591     | SER      | -      | insertion           | UNP P03135 |
| Z     | 592     | SER      | -      | insertion           | UNP P03135 |

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| Chain | Residue | Modelled | Actual | Comment             | Reference  |
|-------|---------|----------|--------|---------------------|------------|
| Z     | 593     | ARG      | -      | insertion           | UNP P03135 |
| Z     | 594     | THR      | -      | insertion           | UNP P03135 |
| Z     | 595     | SER      | -      | insertion           | UNP P03135 |
| Z     | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| AA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| AA    | 588     | ILE      | -      | insertion           | UNP P03135 |
| AA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| AA    | 590     | ASP      | -      | insertion           | UNP P03135 |
| AA    | 591     | SER      | -      | insertion           | UNP P03135 |
| AA    | 592     | SER      | -      | insertion           | UNP P03135 |
| AA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| AA    | 594     | THR      | -      | insertion           | UNP P03135 |
| AA    | 595     | SER      | -      | insertion           | UNP P03135 |
| AA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| BA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| BA    | 588     | ILE      | -      | insertion           | UNP P03135 |
| BA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| BA    | 590     | ASP      | -      | insertion           | UNP P03135 |
| BA    | 591     | SER      | -      | insertion           | UNP P03135 |
| BA    | 592     | SER      | -      | insertion           | UNP P03135 |
| BA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| BA    | 594     | THR      | -      | insertion           | UNP P03135 |
| BA    | 595     | SER      | -      | insertion           | UNP P03135 |
| BA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| CA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| CA    | 588     | ILE      | -      | insertion           | UNP P03135 |
| CA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| CA    | 590     | ASP      | -      | insertion           | UNP P03135 |
| CA    | 591     | SER      | -      | insertion           | UNP P03135 |
| CA    | 592     | SER      | -      | insertion           | UNP P03135 |
| CA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| CA    | 594     | THR      | -      | insertion           | UNP P03135 |
| CA    | 595     | SER      | -      | insertion           | UNP P03135 |
| CA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| DA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| DA    | 588     | ILE      | -      | insertion           | UNP P03135 |
| DA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| DA    | 590     | ASP      | -      | insertion           | UNP P03135 |
| DA    | 591     | SER      | -      | insertion           | UNP P03135 |
| DA    | 592     | SER      | -      | insertion           | UNP P03135 |
| DA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| DA    | 594     | THR      | -      | insertion           | UNP P03135 |

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| Chain | Residue | Modelled | Actual | Comment             | Reference  |
|-------|---------|----------|--------|---------------------|------------|
| DA    | 595     | SER      | -      | insertion           | UNP P03135 |
| DA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| EA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| EA    | 588     | ILE      | -      | insertion           | UNP P03135 |
| EA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| EA    | 590     | ASP      | -      | insertion           | UNP P03135 |
| EA    | 591     | SER      | -      | insertion           | UNP P03135 |
| EA    | 592     | SER      | -      | insertion           | UNP P03135 |
| EA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| EA    | 594     | THR      | -      | insertion           | UNP P03135 |
| EA    | 595     | SER      | -      | insertion           | UNP P03135 |
| EA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| FA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| FA    | 588     | ILE      | -      | insertion           | UNP P03135 |
| FA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| FA    | 590     | ASP      | -      | insertion           | UNP P03135 |
| FA    | 591     | SER      | -      | insertion           | UNP P03135 |
| FA    | 592     | SER      | -      | insertion           | UNP P03135 |
| FA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| FA    | 594     | THR      | -      | insertion           | UNP P03135 |
| FA    | 595     | SER      | -      | insertion           | UNP P03135 |
| FA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| GA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| GA    | 588     | ILE      | -      | insertion           | UNP P03135 |
| GA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| GA    | 590     | ASP      | -      | insertion           | UNP P03135 |
| GA    | 591     | SER      | -      | insertion           | UNP P03135 |
| GA    | 592     | SER      | -      | insertion           | UNP P03135 |
| GA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| GA    | 594     | THR      | -      | insertion           | UNP P03135 |
| GA    | 595     | SER      | -      | insertion           | UNP P03135 |
| GA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| HA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| HA    | 588     | ILE      | -      | insertion           | UNP P03135 |
| HA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| HA    | 590     | ASP      | -      | insertion           | UNP P03135 |
| HA    | 591     | SER      | -      | insertion           | UNP P03135 |
| HA    | 592     | SER      | -      | insertion           | UNP P03135 |
| HA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| HA    | 594     | THR      | -      | insertion           | UNP P03135 |
| HA    | 595     | SER      | -      | insertion           | UNP P03135 |
| HA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |

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| Chain | Residue | Modelled | Actual | Comment             | Reference  |
|-------|---------|----------|--------|---------------------|------------|
| IA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| IA    | 588     | ILE      | -      | insertion           | UNP P03135 |
| IA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| IA    | 590     | ASP      | -      | insertion           | UNP P03135 |
| IA    | 591     | SER      | -      | insertion           | UNP P03135 |
| IA    | 592     | SER      | -      | insertion           | UNP P03135 |
| IA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| IA    | 594     | THR      | -      | insertion           | UNP P03135 |
| IA    | 595     | SER      | -      | insertion           | UNP P03135 |
| IA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| JA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| JA    | 588     | ILE      | -      | insertion           | UNP P03135 |
| JA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| JA    | 590     | ASP      | -      | insertion           | UNP P03135 |
| JA    | 591     | SER      | -      | insertion           | UNP P03135 |
| JA    | 592     | SER      | -      | insertion           | UNP P03135 |
| JA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| JA    | 594     | THR      | -      | insertion           | UNP P03135 |
| JA    | 595     | SER      | -      | insertion           | UNP P03135 |
| JA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| KA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| KA    | 588     | ILE      | -      | insertion           | UNP P03135 |
| KA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| KA    | 590     | ASP      | -      | insertion           | UNP P03135 |
| KA    | 591     | SER      | -      | insertion           | UNP P03135 |
| KA    | 592     | SER      | -      | insertion           | UNP P03135 |
| KA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| KA    | 594     | THR      | -      | insertion           | UNP P03135 |
| KA    | 595     | SER      | -      | insertion           | UNP P03135 |
| KA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| LA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| LA    | 588     | ILE      | -      | insertion           | UNP P03135 |
| LA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| LA    | 590     | ASP      | -      | insertion           | UNP P03135 |
| LA    | 591     | SER      | -      | insertion           | UNP P03135 |
| LA    | 592     | SER      | -      | insertion           | UNP P03135 |
| LA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| LA    | 594     | THR      | -      | insertion           | UNP P03135 |
| LA    | 595     | SER      | -      | insertion           | UNP P03135 |
| LA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| MA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| MA    | 588     | ILE      | -      | insertion           | UNP P03135 |

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| Chain | Residue | Modelled | Actual | Comment             | Reference  |
|-------|---------|----------|--------|---------------------|------------|
| MA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| MA    | 590     | ASP      | -      | insertion           | UNP P03135 |
| MA    | 591     | SER      | -      | insertion           | UNP P03135 |
| MA    | 592     | SER      | -      | insertion           | UNP P03135 |
| MA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| MA    | 594     | THR      | -      | insertion           | UNP P03135 |
| MA    | 595     | SER      | -      | insertion           | UNP P03135 |
| MA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| NA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| NA    | 588     | ILE      | -      | insertion           | UNP P03135 |
| NA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| NA    | 590     | ASP      | -      | insertion           | UNP P03135 |
| NA    | 591     | SER      | -      | insertion           | UNP P03135 |
| NA    | 592     | SER      | -      | insertion           | UNP P03135 |
| NA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| NA    | 594     | THR      | -      | insertion           | UNP P03135 |
| NA    | 595     | SER      | -      | insertion           | UNP P03135 |
| NA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| OA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| OA    | 588     | ILE      | -      | insertion           | UNP P03135 |
| OA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| OA    | 590     | ASP      | -      | insertion           | UNP P03135 |
| OA    | 591     | SER      | -      | insertion           | UNP P03135 |
| OA    | 592     | SER      | -      | insertion           | UNP P03135 |
| OA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| OA    | 594     | THR      | -      | insertion           | UNP P03135 |
| OA    | 595     | SER      | -      | insertion           | UNP P03135 |
| OA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| PA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| PA    | 588     | ILE      | -      | insertion           | UNP P03135 |
| PA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| PA    | 590     | ASP      | -      | insertion           | UNP P03135 |
| PA    | 591     | SER      | -      | insertion           | UNP P03135 |
| PA    | 592     | SER      | -      | insertion           | UNP P03135 |
| PA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| PA    | 594     | THR      | -      | insertion           | UNP P03135 |
| PA    | 595     | SER      | -      | insertion           | UNP P03135 |
| PA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| QA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| QA    | 588     | ILE      | -      | insertion           | UNP P03135 |
| QA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| QA    | 590     | ASP      | -      | insertion           | UNP P03135 |

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| Chain | Residue | Modelled | Actual | Comment             | Reference  |
|-------|---------|----------|--------|---------------------|------------|
| QA    | 591     | SER      | -      | insertion           | UNP P03135 |
| QA    | 592     | SER      | -      | insertion           | UNP P03135 |
| QA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| QA    | 594     | THR      | -      | insertion           | UNP P03135 |
| QA    | 595     | SER      | -      | insertion           | UNP P03135 |
| QA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| RA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| RA    | 588     | ILE      | -      | insertion           | UNP P03135 |
| RA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| RA    | 590     | ASP      | -      | insertion           | UNP P03135 |
| RA    | 591     | SER      | -      | insertion           | UNP P03135 |
| RA    | 592     | SER      | -      | insertion           | UNP P03135 |
| RA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| RA    | 594     | THR      | -      | insertion           | UNP P03135 |
| RA    | 595     | SER      | -      | insertion           | UNP P03135 |
| RA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| SA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| SA    | 588     | ILE      | -      | insertion           | UNP P03135 |
| SA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| SA    | 590     | ASP      | -      | insertion           | UNP P03135 |
| SA    | 591     | SER      | -      | insertion           | UNP P03135 |
| SA    | 592     | SER      | -      | insertion           | UNP P03135 |
| SA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| SA    | 594     | THR      | -      | insertion           | UNP P03135 |
| SA    | 595     | SER      | -      | insertion           | UNP P03135 |
| SA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| TA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| TA    | 588     | ILE      | -      | insertion           | UNP P03135 |
| TA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| TA    | 590     | ASP      | -      | insertion           | UNP P03135 |
| TA    | 591     | SER      | -      | insertion           | UNP P03135 |
| TA    | 592     | SER      | -      | insertion           | UNP P03135 |
| TA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| TA    | 594     | THR      | -      | insertion           | UNP P03135 |
| TA    | 595     | SER      | -      | insertion           | UNP P03135 |
| TA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| UA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| UA    | 588     | ILE      | -      | insertion           | UNP P03135 |
| UA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| UA    | 590     | ASP      | -      | insertion           | UNP P03135 |
| UA    | 591     | SER      | -      | insertion           | UNP P03135 |
| UA    | 592     | SER      | -      | insertion           | UNP P03135 |

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| Chain | Residue | Modelled | Actual | Comment             | Reference  |
|-------|---------|----------|--------|---------------------|------------|
| UA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| UA    | 594     | THR      | -      | insertion           | UNP P03135 |
| UA    | 595     | SER      | -      | insertion           | UNP P03135 |
| UA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| VA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| VA    | 588     | ILE      | -      | insertion           | UNP P03135 |
| VA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| VA    | 590     | ASP      | -      | insertion           | UNP P03135 |
| VA    | 591     | SER      | -      | insertion           | UNP P03135 |
| VA    | 592     | SER      | -      | insertion           | UNP P03135 |
| VA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| VA    | 594     | THR      | -      | insertion           | UNP P03135 |
| VA    | 595     | SER      | -      | insertion           | UNP P03135 |
| VA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| WA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| WA    | 588     | ILE      | -      | insertion           | UNP P03135 |
| WA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| WA    | 590     | ASP      | -      | insertion           | UNP P03135 |
| WA    | 591     | SER      | -      | insertion           | UNP P03135 |
| WA    | 592     | SER      | -      | insertion           | UNP P03135 |
| WA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| WA    | 594     | THR      | -      | insertion           | UNP P03135 |
| WA    | 595     | SER      | -      | insertion           | UNP P03135 |
| WA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| XA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| XA    | 588     | ILE      | -      | insertion           | UNP P03135 |
| XA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| XA    | 590     | ASP      | -      | insertion           | UNP P03135 |
| XA    | 591     | SER      | -      | insertion           | UNP P03135 |
| XA    | 592     | SER      | -      | insertion           | UNP P03135 |
| XA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| XA    | 594     | THR      | -      | insertion           | UNP P03135 |
| XA    | 595     | SER      | -      | insertion           | UNP P03135 |
| XA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| YA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| YA    | 588     | ILE      | -      | insertion           | UNP P03135 |
| YA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| YA    | 590     | ASP      | -      | insertion           | UNP P03135 |
| YA    | 591     | SER      | -      | insertion           | UNP P03135 |
| YA    | 592     | SER      | -      | insertion           | UNP P03135 |
| YA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| YA    | 594     | THR      | -      | insertion           | UNP P03135 |

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| Chain | Residue | Modelled | Actual | Comment             | Reference  |
|-------|---------|----------|--------|---------------------|------------|
| YA    | 595     | SER      | -      | insertion           | UNP P03135 |
| YA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| ZA    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| ZA    | 588     | ILE      | -      | insertion           | UNP P03135 |
| ZA    | 589     | ALA      | -      | insertion           | UNP P03135 |
| ZA    | 590     | ASP      | -      | insertion           | UNP P03135 |
| ZA    | 591     | SER      | -      | insertion           | UNP P03135 |
| ZA    | 592     | SER      | -      | insertion           | UNP P03135 |
| ZA    | 593     | ARG      | -      | insertion           | UNP P03135 |
| ZA    | 594     | THR      | -      | insertion           | UNP P03135 |
| ZA    | 595     | SER      | -      | insertion           | UNP P03135 |
| ZA    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| AB    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| AB    | 588     | ILE      | -      | insertion           | UNP P03135 |
| AB    | 589     | ALA      | -      | insertion           | UNP P03135 |
| AB    | 590     | ASP      | -      | insertion           | UNP P03135 |
| AB    | 591     | SER      | -      | insertion           | UNP P03135 |
| AB    | 592     | SER      | -      | insertion           | UNP P03135 |
| AB    | 593     | ARG      | -      | insertion           | UNP P03135 |
| AB    | 594     | THR      | -      | insertion           | UNP P03135 |
| AB    | 595     | SER      | -      | insertion           | UNP P03135 |
| AB    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| BB    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| BB    | 588     | ILE      | -      | insertion           | UNP P03135 |
| BB    | 589     | ALA      | -      | insertion           | UNP P03135 |
| BB    | 590     | ASP      | -      | insertion           | UNP P03135 |
| BB    | 591     | SER      | -      | insertion           | UNP P03135 |
| BB    | 592     | SER      | -      | insertion           | UNP P03135 |
| BB    | 593     | ARG      | -      | insertion           | UNP P03135 |
| BB    | 594     | THR      | -      | insertion           | UNP P03135 |
| BB    | 595     | SER      | -      | insertion           | UNP P03135 |
| BB    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| CB    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| CB    | 588     | ILE      | -      | insertion           | UNP P03135 |
| CB    | 589     | ALA      | -      | insertion           | UNP P03135 |
| CB    | 590     | ASP      | -      | insertion           | UNP P03135 |
| CB    | 591     | SER      | -      | insertion           | UNP P03135 |
| CB    | 592     | SER      | -      | insertion           | UNP P03135 |
| CB    | 593     | ARG      | -      | insertion           | UNP P03135 |
| CB    | 594     | THR      | -      | insertion           | UNP P03135 |
| CB    | 595     | SER      | -      | insertion           | UNP P03135 |
| CB    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |

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| Chain | Residue | Modelled | Actual | Comment             | Reference  |
|-------|---------|----------|--------|---------------------|------------|
| DB    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| DB    | 588     | ILE      | -      | insertion           | UNP P03135 |
| DB    | 589     | ALA      | -      | insertion           | UNP P03135 |
| DB    | 590     | ASP      | -      | insertion           | UNP P03135 |
| DB    | 591     | SER      | -      | insertion           | UNP P03135 |
| DB    | 592     | SER      | -      | insertion           | UNP P03135 |
| DB    | 593     | ARG      | -      | insertion           | UNP P03135 |
| DB    | 594     | THR      | -      | insertion           | UNP P03135 |
| DB    | 595     | SER      | -      | insertion           | UNP P03135 |
| DB    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| EB    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| EB    | 588     | ILE      | -      | insertion           | UNP P03135 |
| EB    | 589     | ALA      | -      | insertion           | UNP P03135 |
| EB    | 590     | ASP      | -      | insertion           | UNP P03135 |
| EB    | 591     | SER      | -      | insertion           | UNP P03135 |
| EB    | 592     | SER      | -      | insertion           | UNP P03135 |
| EB    | 593     | ARG      | -      | insertion           | UNP P03135 |
| EB    | 594     | THR      | -      | insertion           | UNP P03135 |
| EB    | 595     | SER      | -      | insertion           | UNP P03135 |
| EB    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| FB    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| FB    | 588     | ILE      | -      | insertion           | UNP P03135 |
| FB    | 589     | ALA      | -      | insertion           | UNP P03135 |
| FB    | 590     | ASP      | -      | insertion           | UNP P03135 |
| FB    | 591     | SER      | -      | insertion           | UNP P03135 |
| FB    | 592     | SER      | -      | insertion           | UNP P03135 |
| FB    | 593     | ARG      | -      | insertion           | UNP P03135 |
| FB    | 594     | THR      | -      | insertion           | UNP P03135 |
| FB    | 595     | SER      | -      | insertion           | UNP P03135 |
| FB    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| GB    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| GB    | 588     | ILE      | -      | insertion           | UNP P03135 |
| GB    | 589     | ALA      | -      | insertion           | UNP P03135 |
| GB    | 590     | ASP      | -      | insertion           | UNP P03135 |
| GB    | 591     | SER      | -      | insertion           | UNP P03135 |
| GB    | 592     | SER      | -      | insertion           | UNP P03135 |
| GB    | 593     | ARG      | -      | insertion           | UNP P03135 |
| GB    | 594     | THR      | -      | insertion           | UNP P03135 |
| GB    | 595     | SER      | -      | insertion           | UNP P03135 |
| GB    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| HB    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| HB    | 588     | ILE      | -      | insertion           | UNP P03135 |

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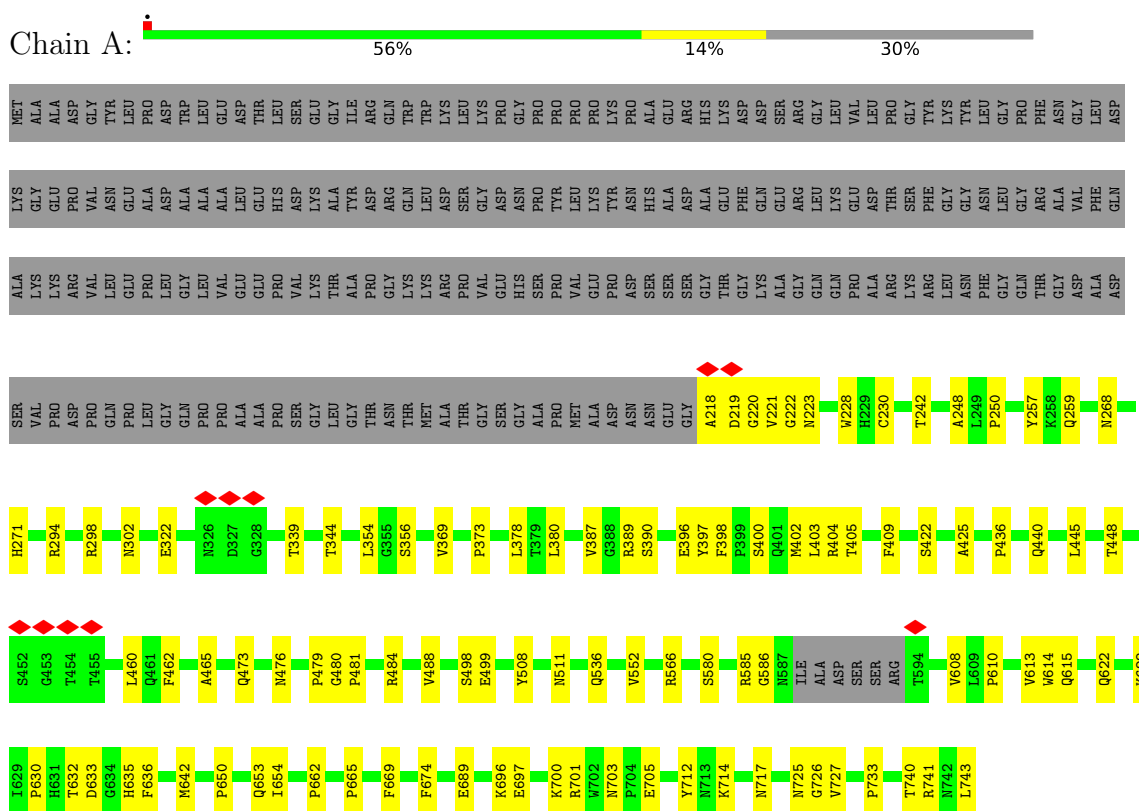
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| Chain | Residue | Modelled | Actual | Comment             | Reference  |
|-------|---------|----------|--------|---------------------|------------|
| HB    | 589     | ALA      | -      | insertion           | UNP P03135 |
| HB    | 590     | ASP      | -      | insertion           | UNP P03135 |
| HB    | 591     | SER      | -      | insertion           | UNP P03135 |
| HB    | 592     | SER      | -      | insertion           | UNP P03135 |
| HB    | 593     | ARG      | -      | insertion           | UNP P03135 |
| HB    | 594     | THR      | -      | insertion           | UNP P03135 |
| HB    | 595     | SER      | -      | insertion           | UNP P03135 |
| HB    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |
| IB    | 240     | THR      | ILE    | engineered mutation | UNP P03135 |
| IB    | 588     | ILE      | -      | insertion           | UNP P03135 |
| IB    | 589     | ALA      | -      | insertion           | UNP P03135 |
| IB    | 590     | ASP      | -      | insertion           | UNP P03135 |
| IB    | 591     | SER      | -      | insertion           | UNP P03135 |
| IB    | 592     | SER      | -      | insertion           | UNP P03135 |
| IB    | 593     | ARG      | -      | insertion           | UNP P03135 |
| IB    | 594     | THR      | -      | insertion           | UNP P03135 |
| IB    | 595     | SER      | -      | insertion           | UNP P03135 |
| IB    | 716     | ILE      | VAL    | engineered mutation | UNP P03135 |

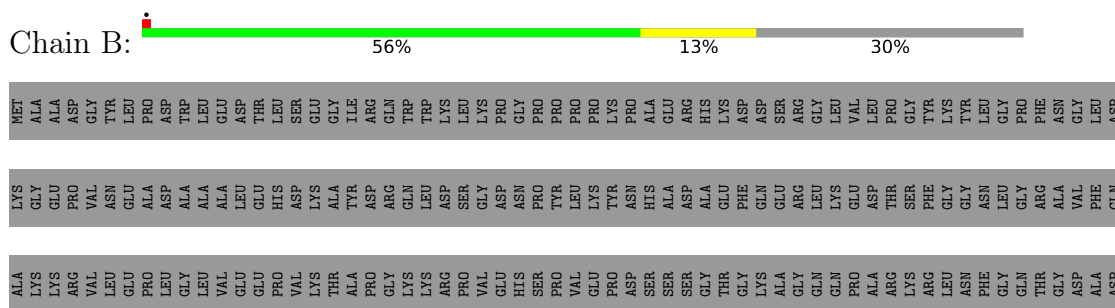
### 3 Residue-property plots

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 atom inclusion in map 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 diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). 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.

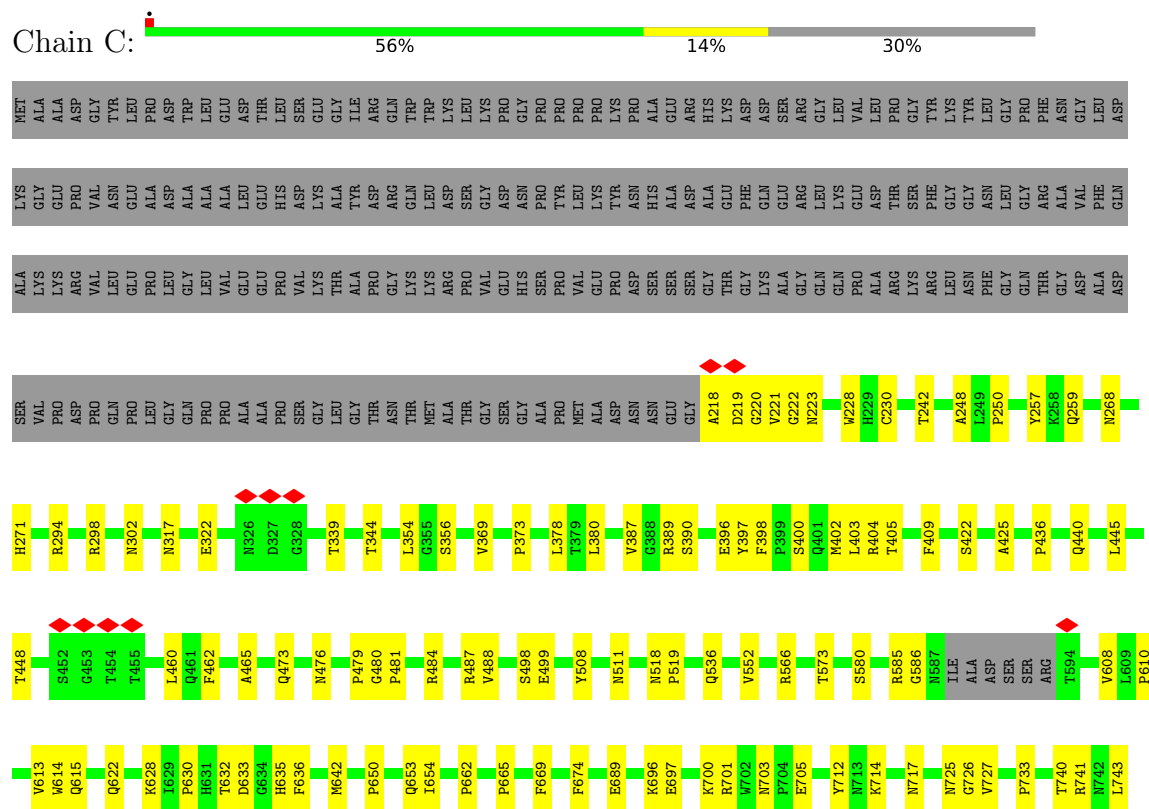
#### • Molecule 1: Capsid protein VP1



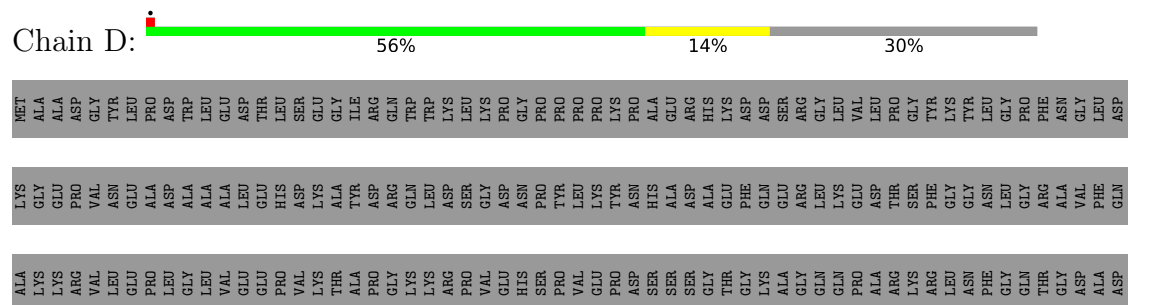
#### • Molecule 1: Capsid protein VP1



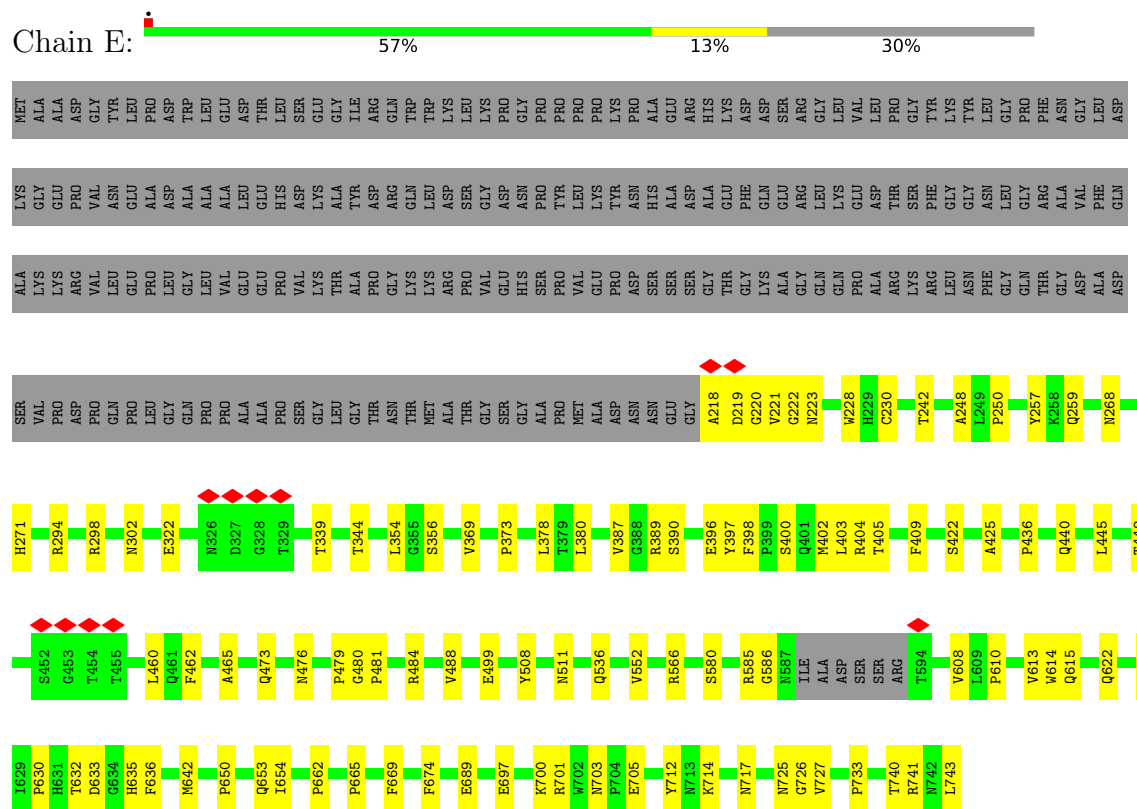
- Molecule 1: Capsid protein VP1



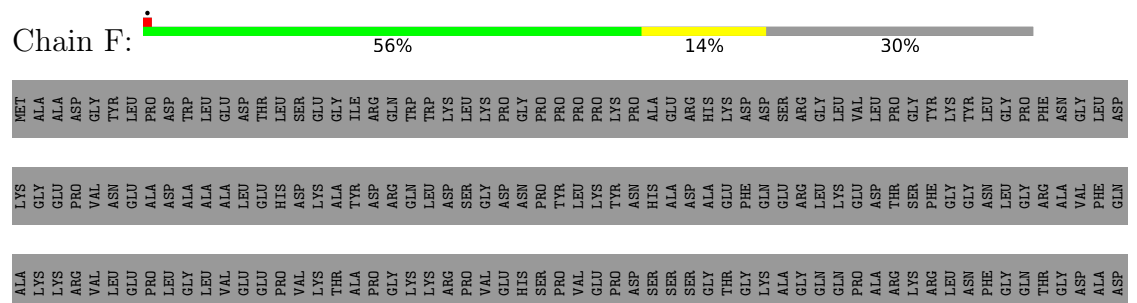
- Molecule 1: Capsid protein VP1



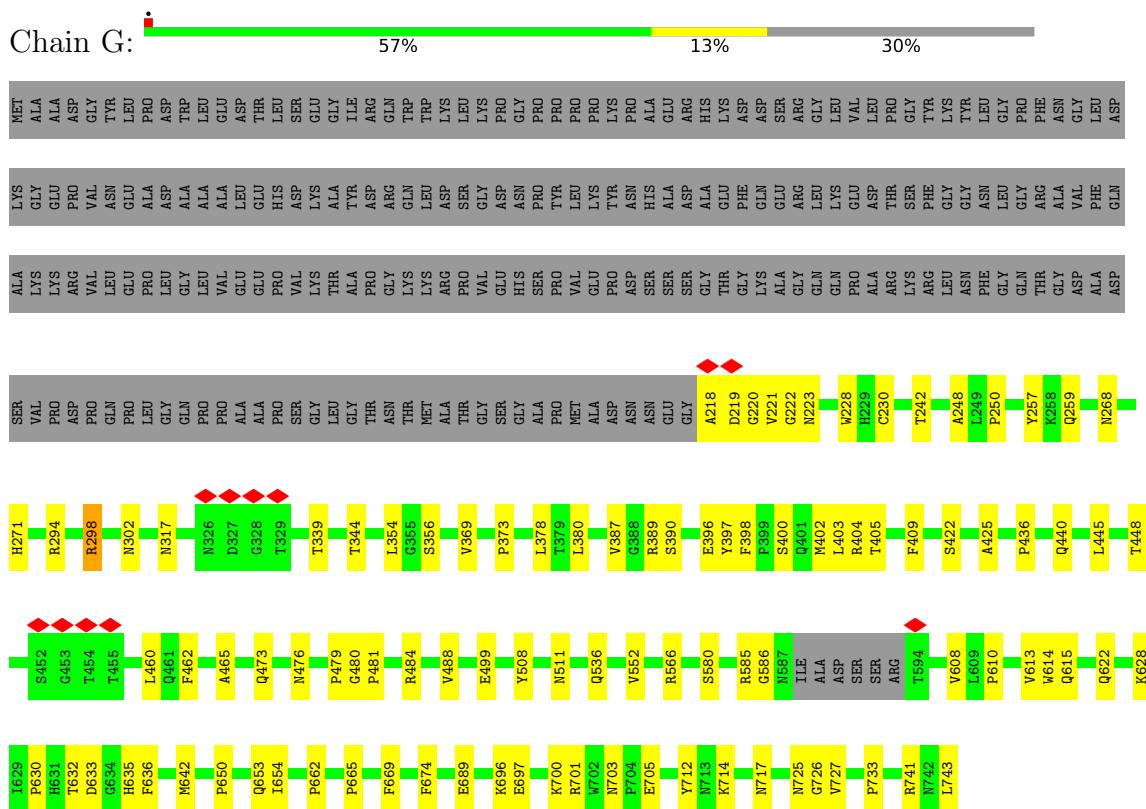
- Molecule 1: Capsid protein VP1



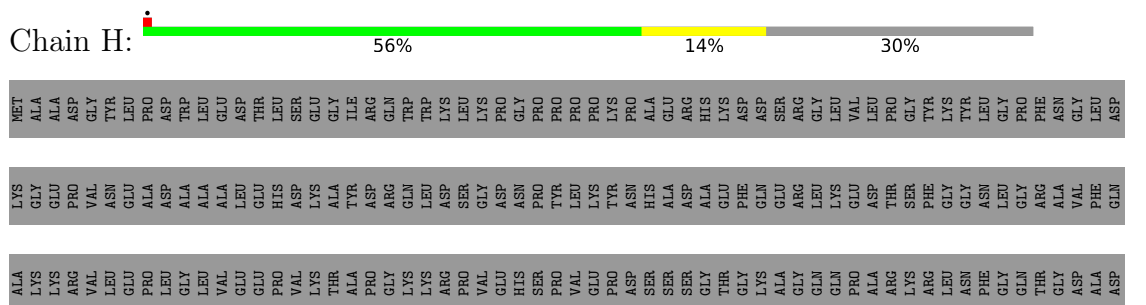
- Molecule 1: Capsid protein VP1



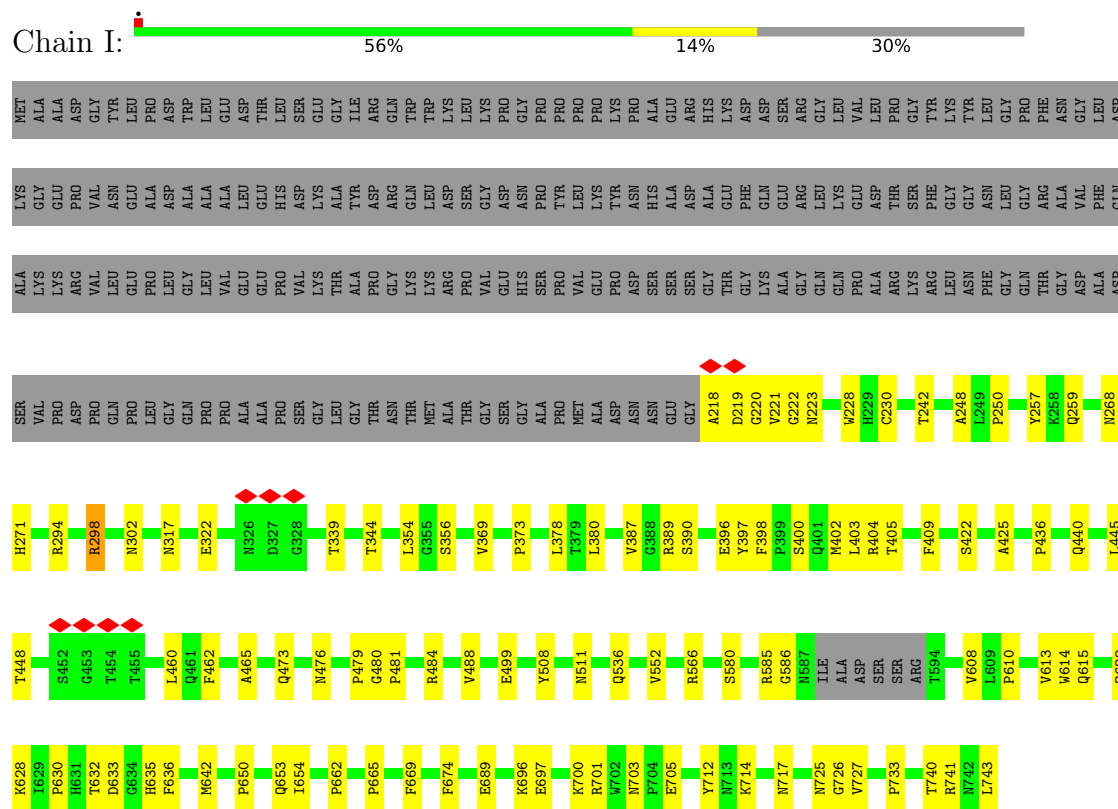
- Molecule 1: Capsid protein VP1



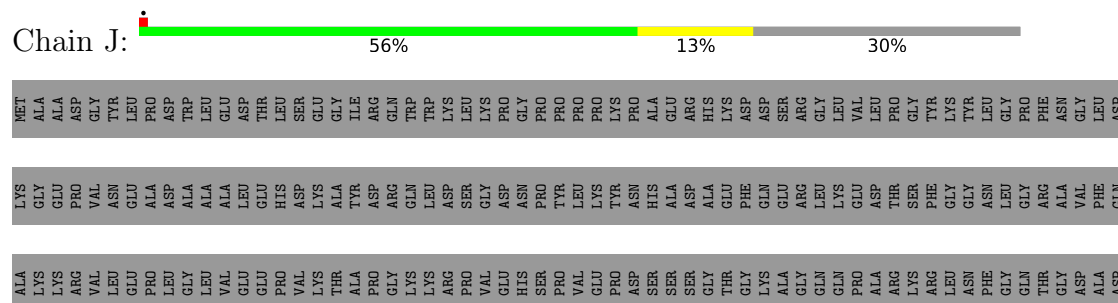
- Molecule 1: Capsid protein VP1

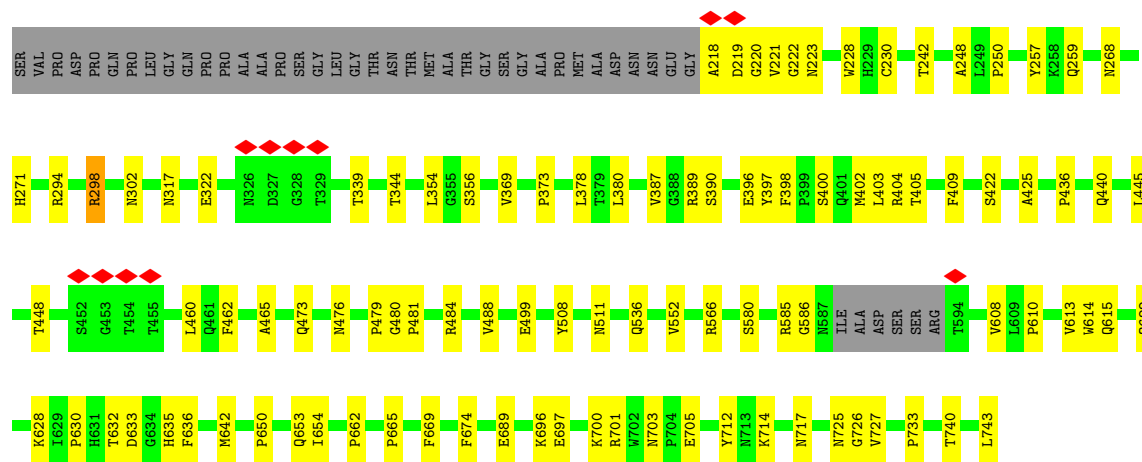


- Molecule 1: Capsid protein VP1



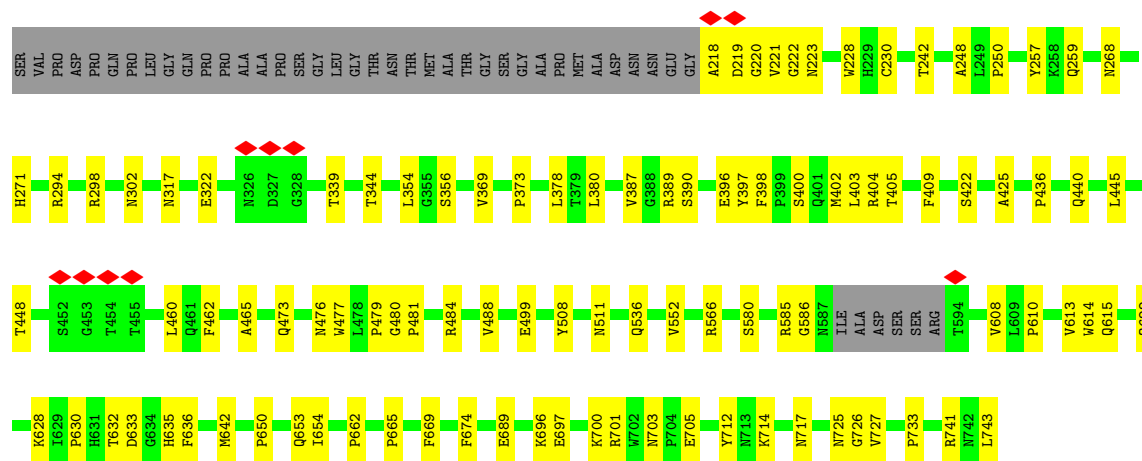
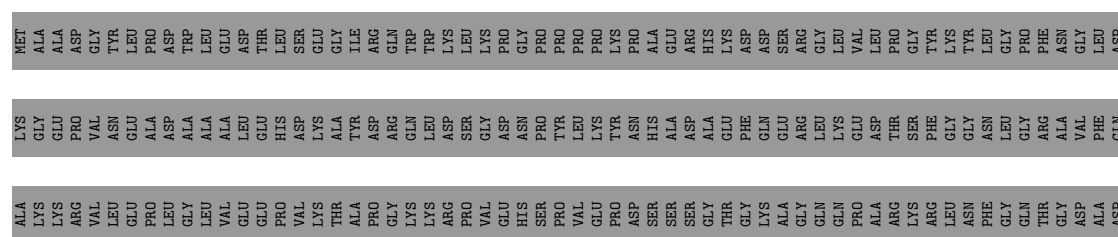
- Molecule 1: Capsid protein VP1





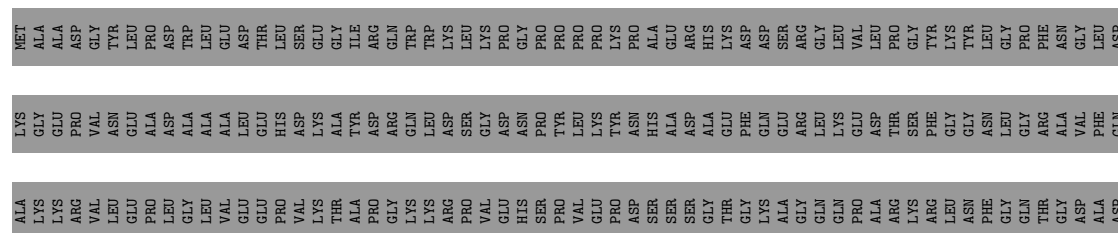
• Molecule 1: Capsid protein VP1

Chain K: 56% 14% 30%

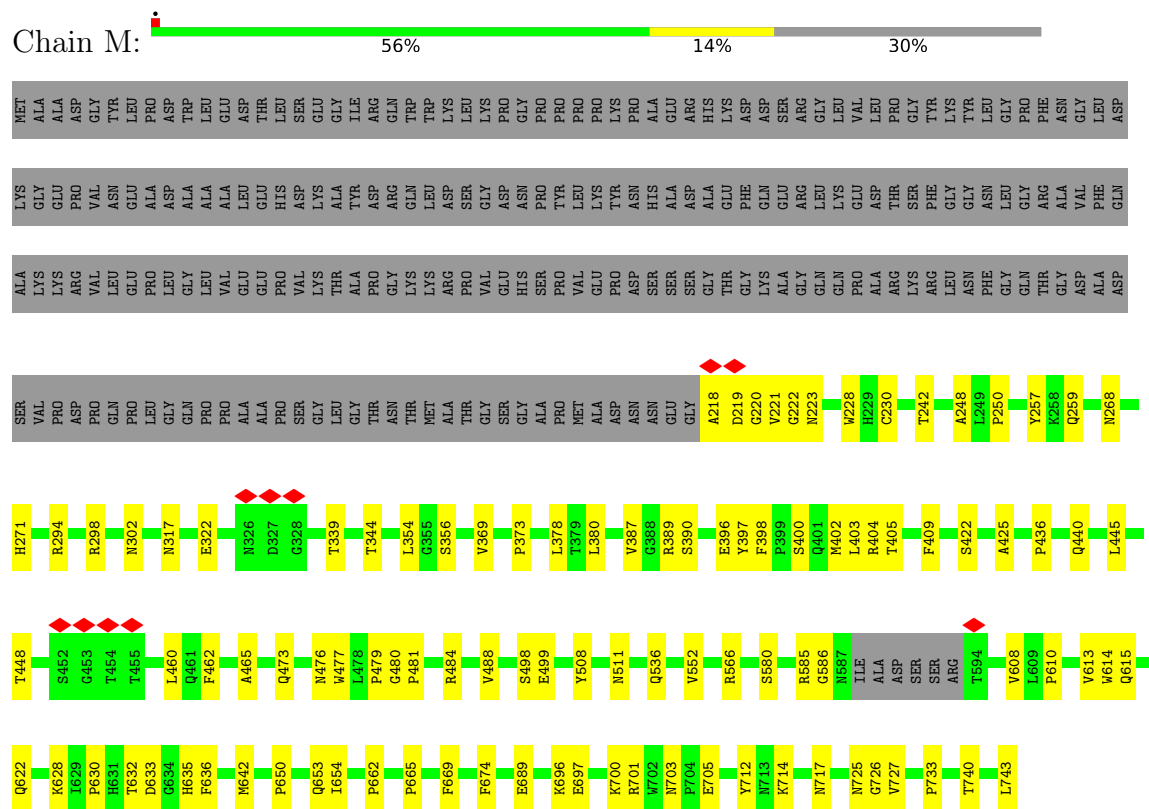


• Molecule 1: Capsid protein VP1

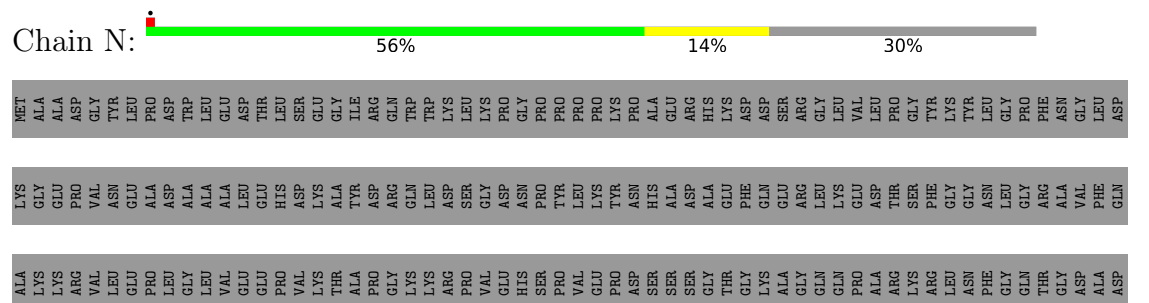
Chain L: 56% 14% 30%

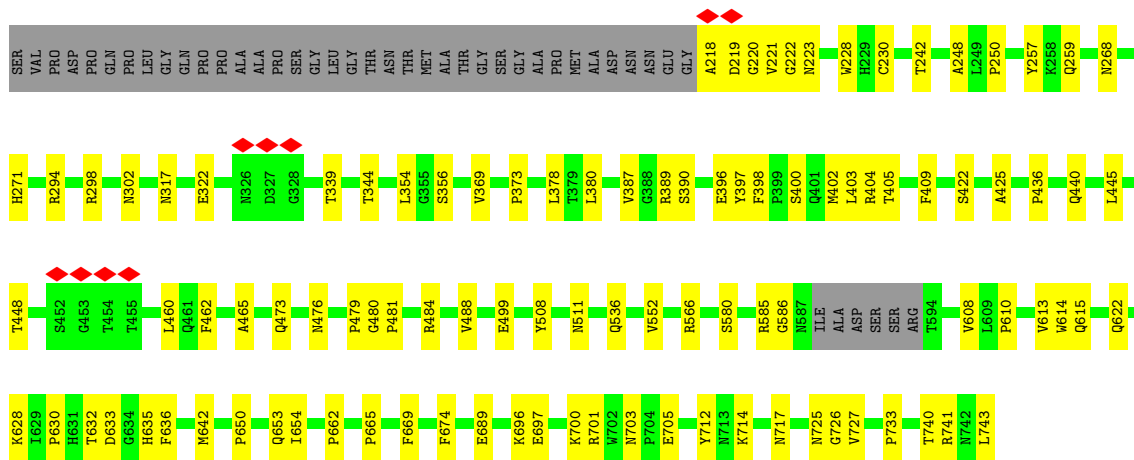


- Molecule 1: Capsid protein VP1

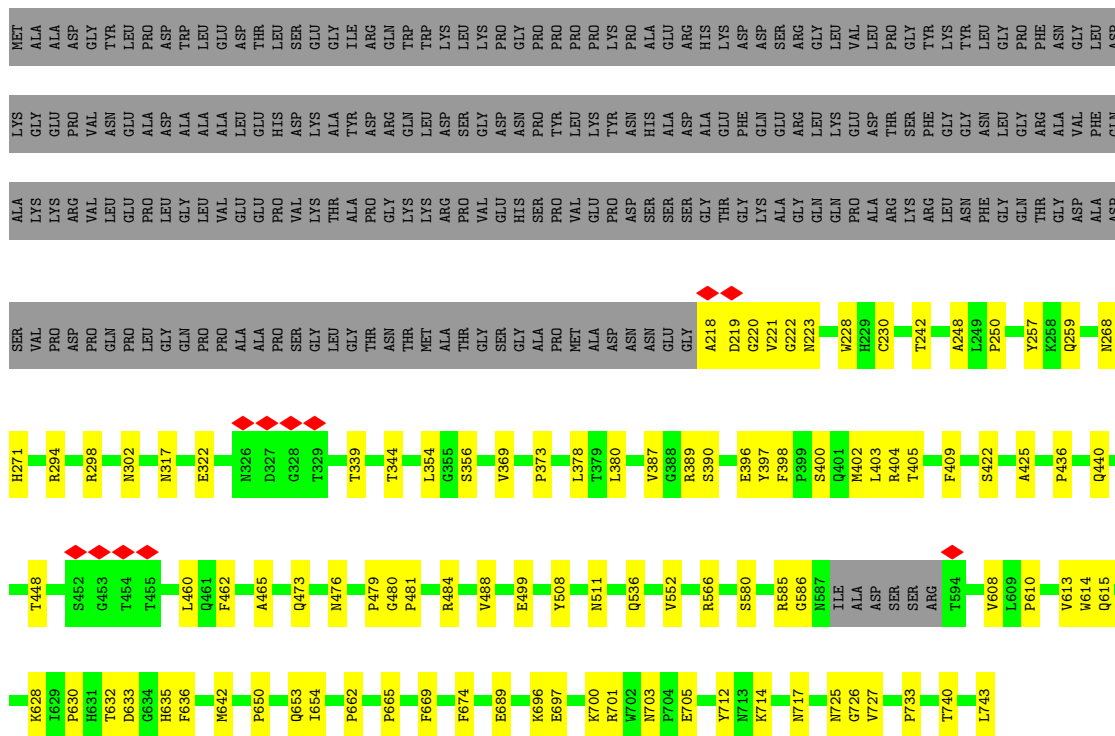


- Molecule 1: Capsid protein VP1

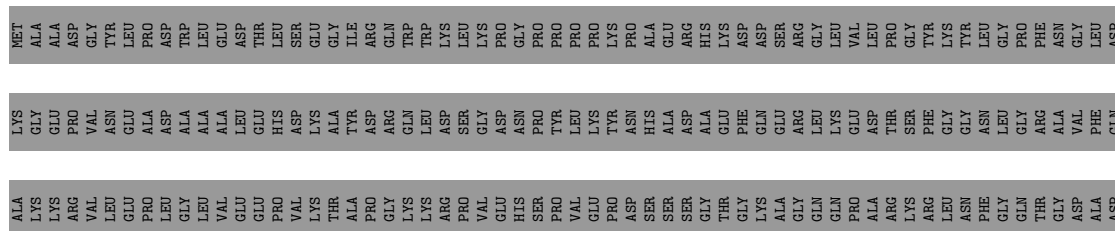


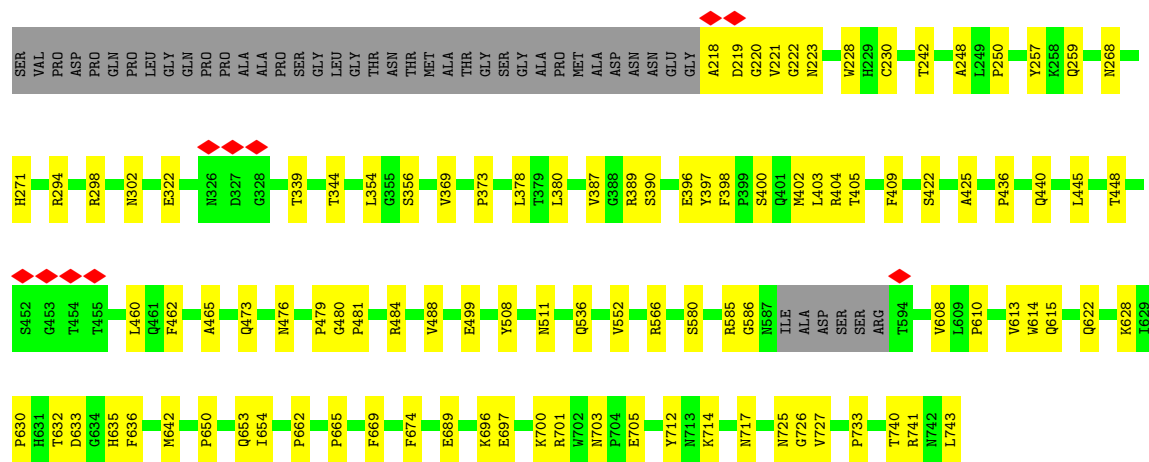


- Molecule 1: Capsid protein VP1



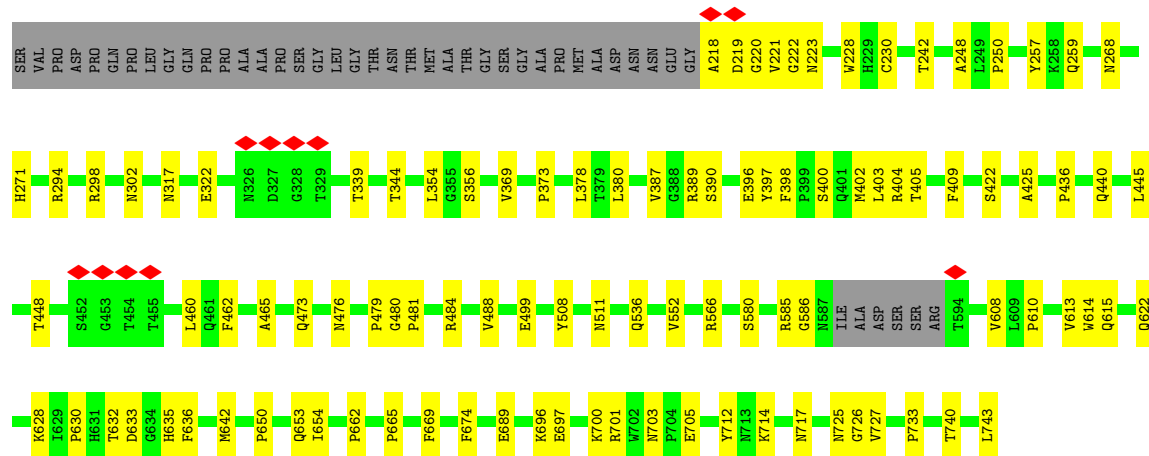
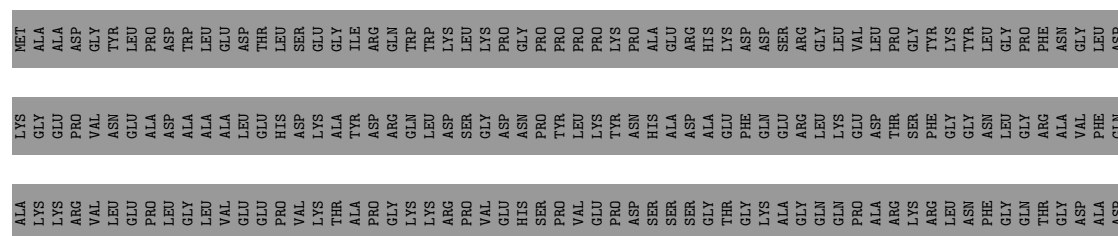
- Molecule 1: Capsid protein VP1





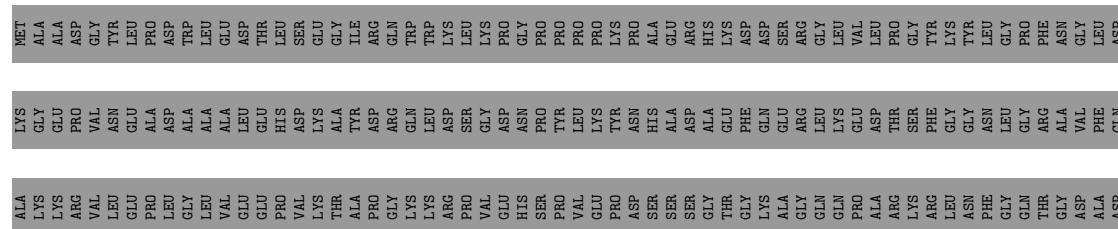
• Molecule 1: Capsid protein VP1

Chain Q: 56% 14% 30%

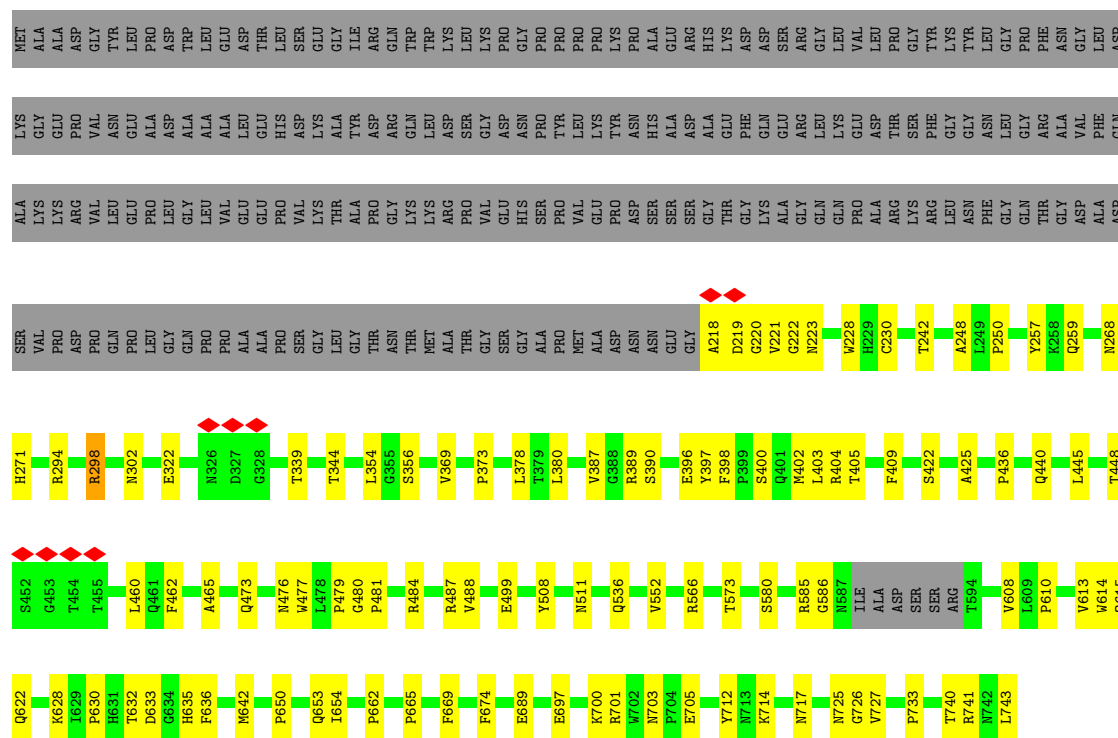


• Molecule 1: Capsid protein VP1

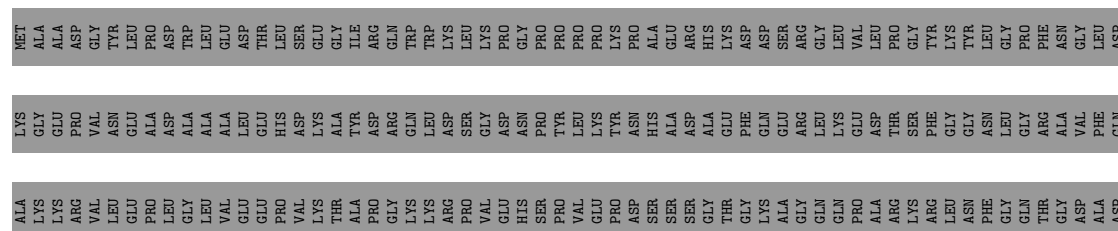
Chain R: 56% 14% 30%



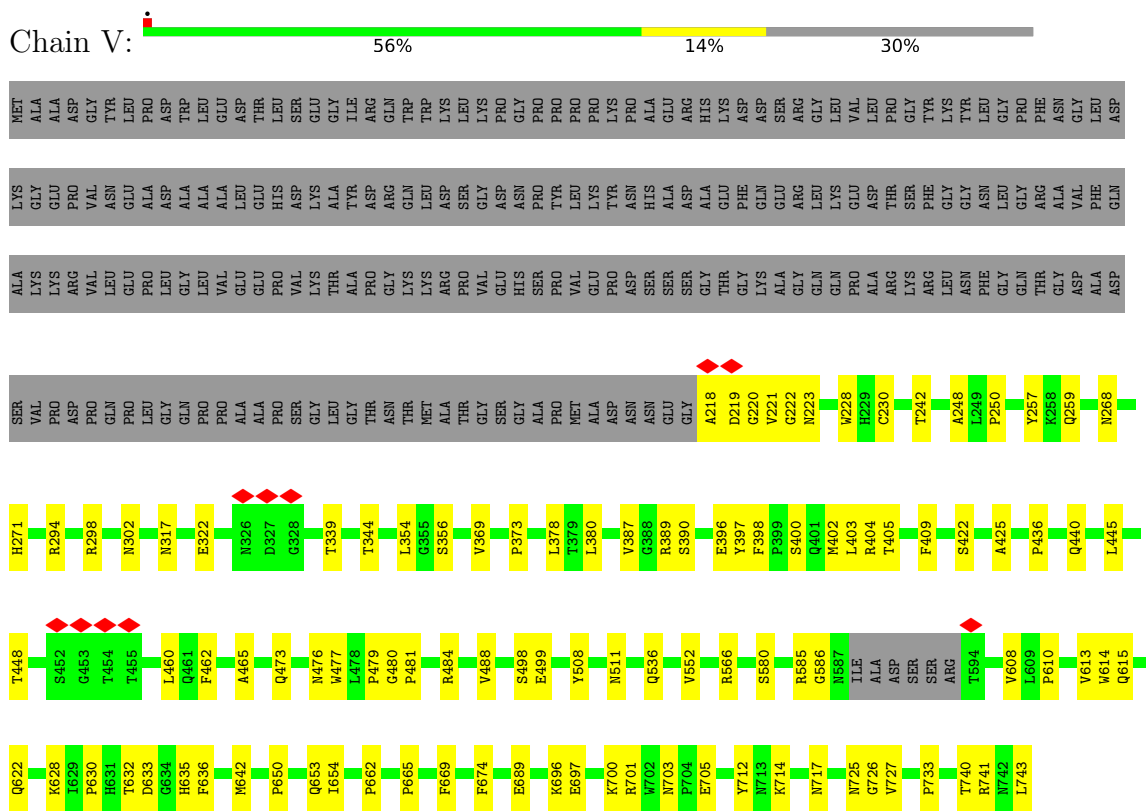
- Molecule 1: Capsid protein VP1



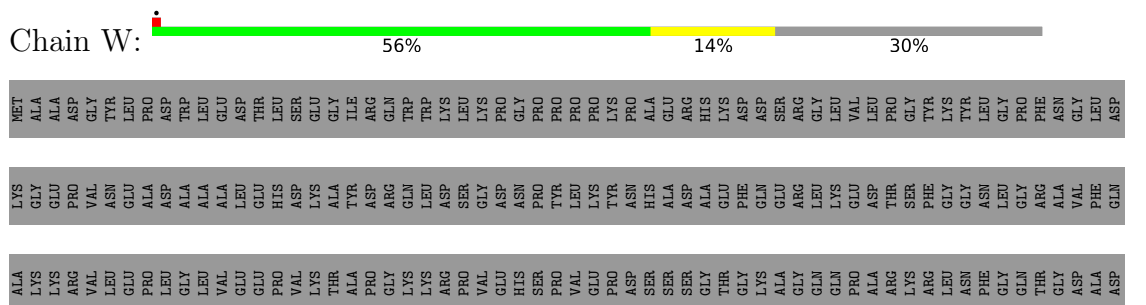
- Molecule 1: Capsid protein VP1



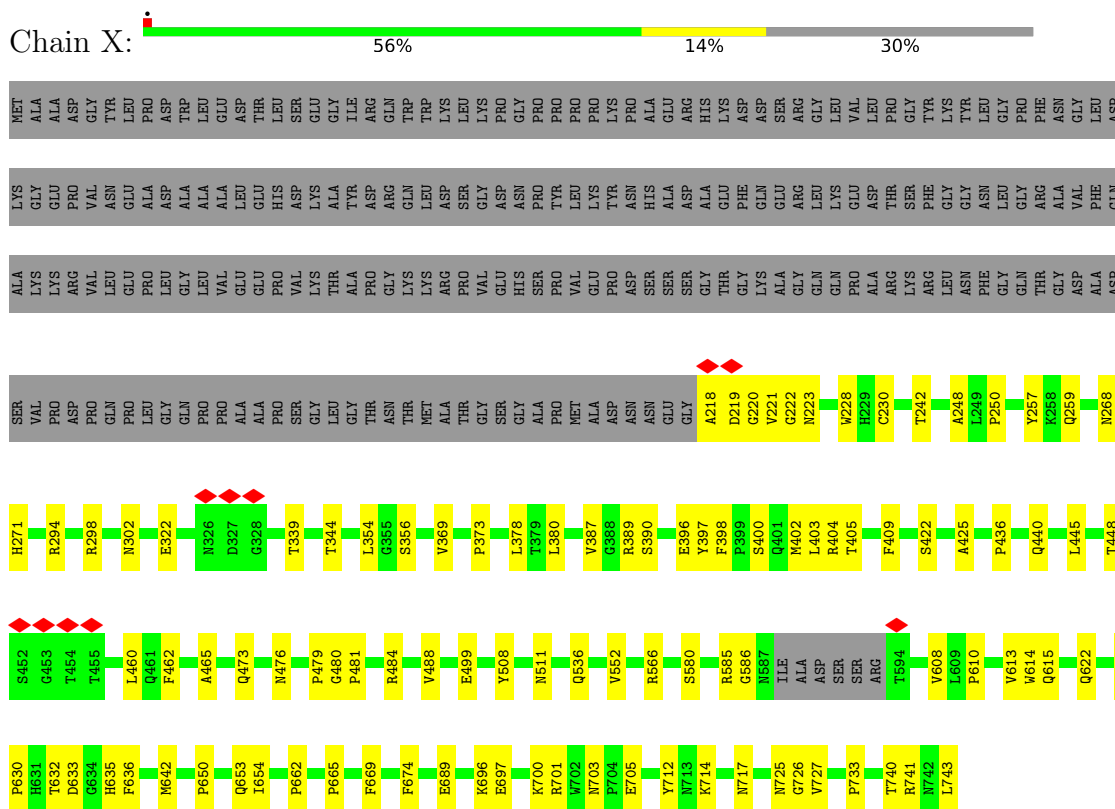
- Molecule 1: Capsid protein VP1



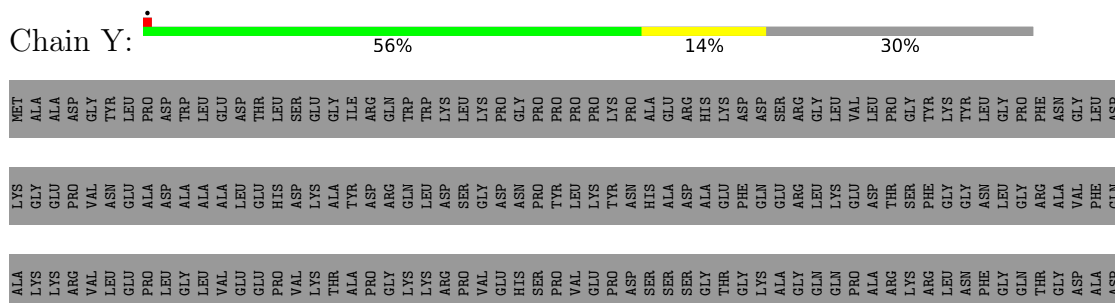
- Molecule 1: Capsid protein VP1



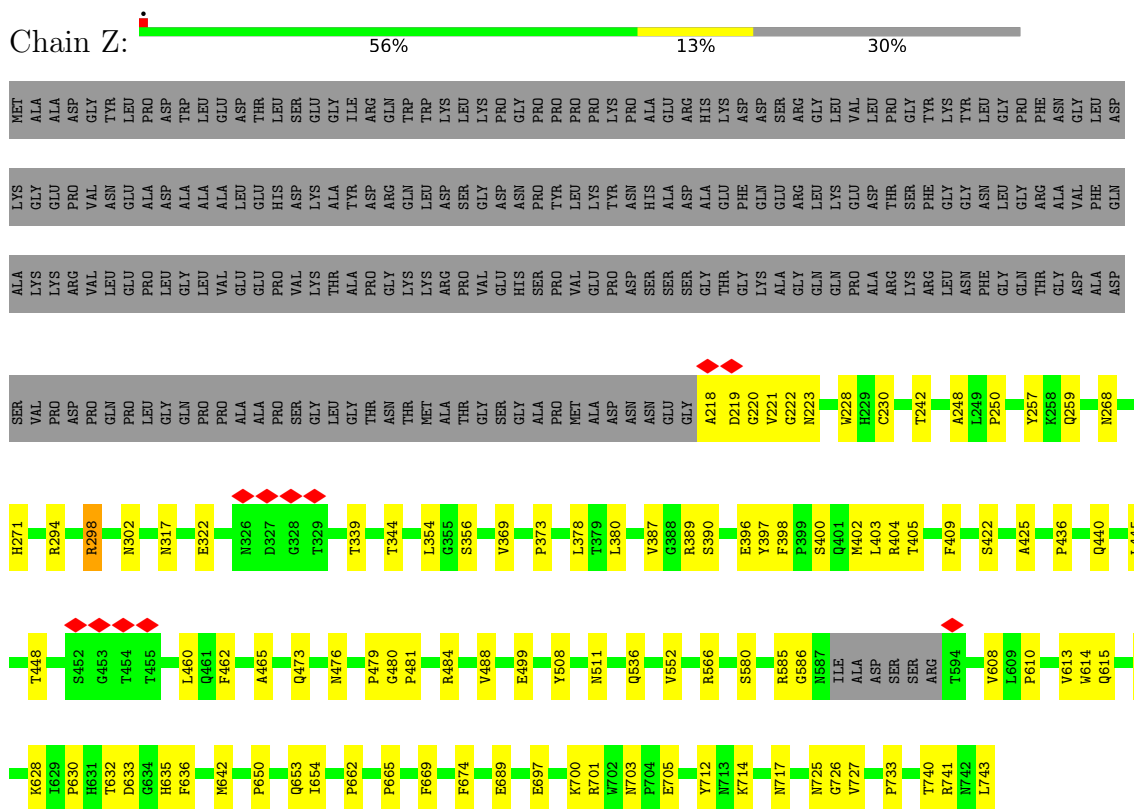
- Molecule 1: Capsid protein VP1



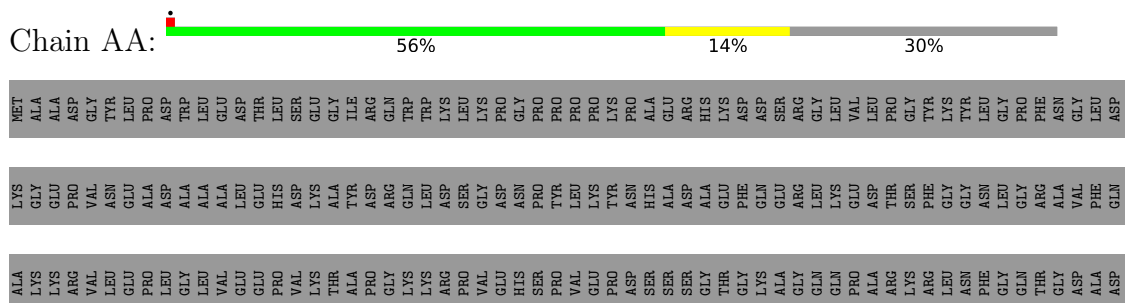
- Molecule 1: Capsid protein VP1

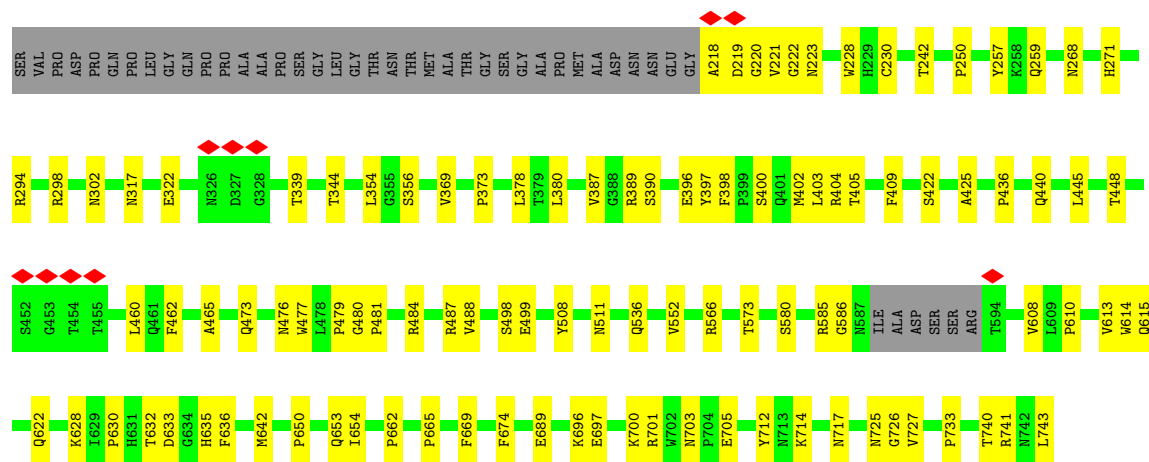


- Molecule 1: Capsid protein VP1



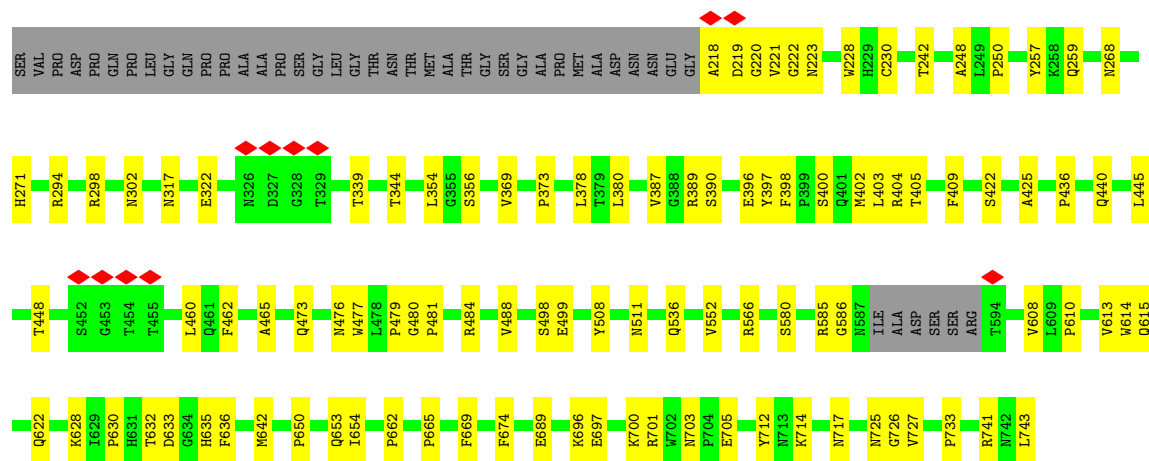
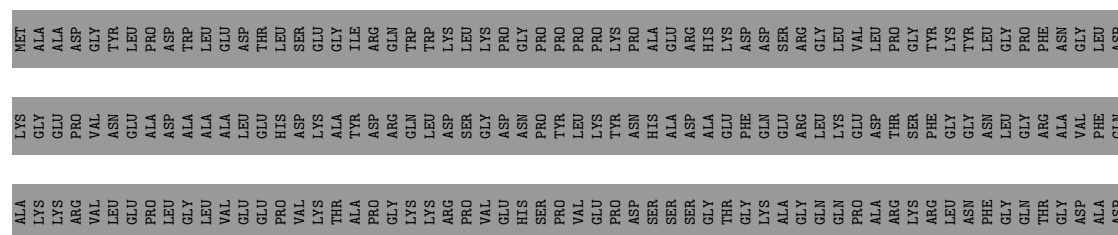
- Molecule 1: Capsid protein VP1





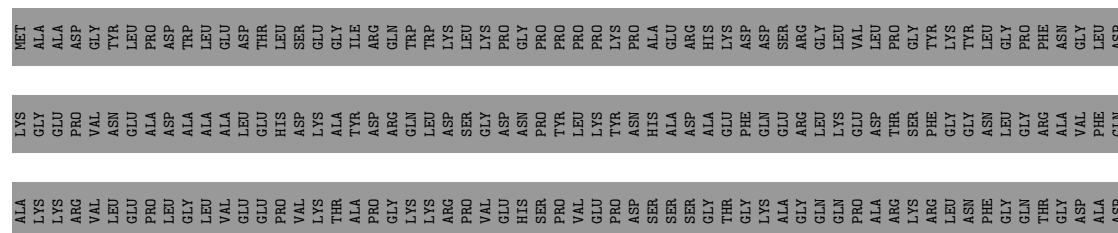
• Molecule 1: Capsid protein VP1

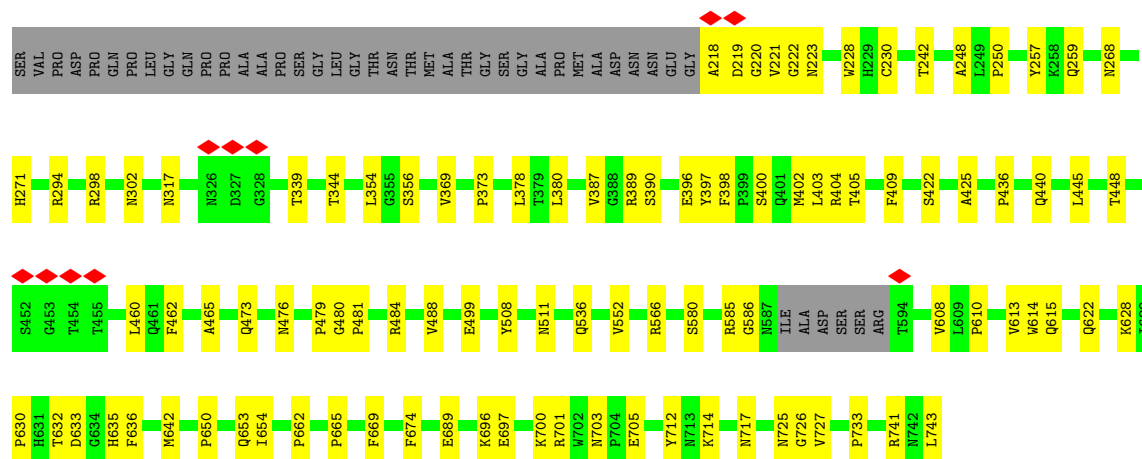
Chain BA: 56% 14% 30%



• Molecule 1: Capsid protein VP1

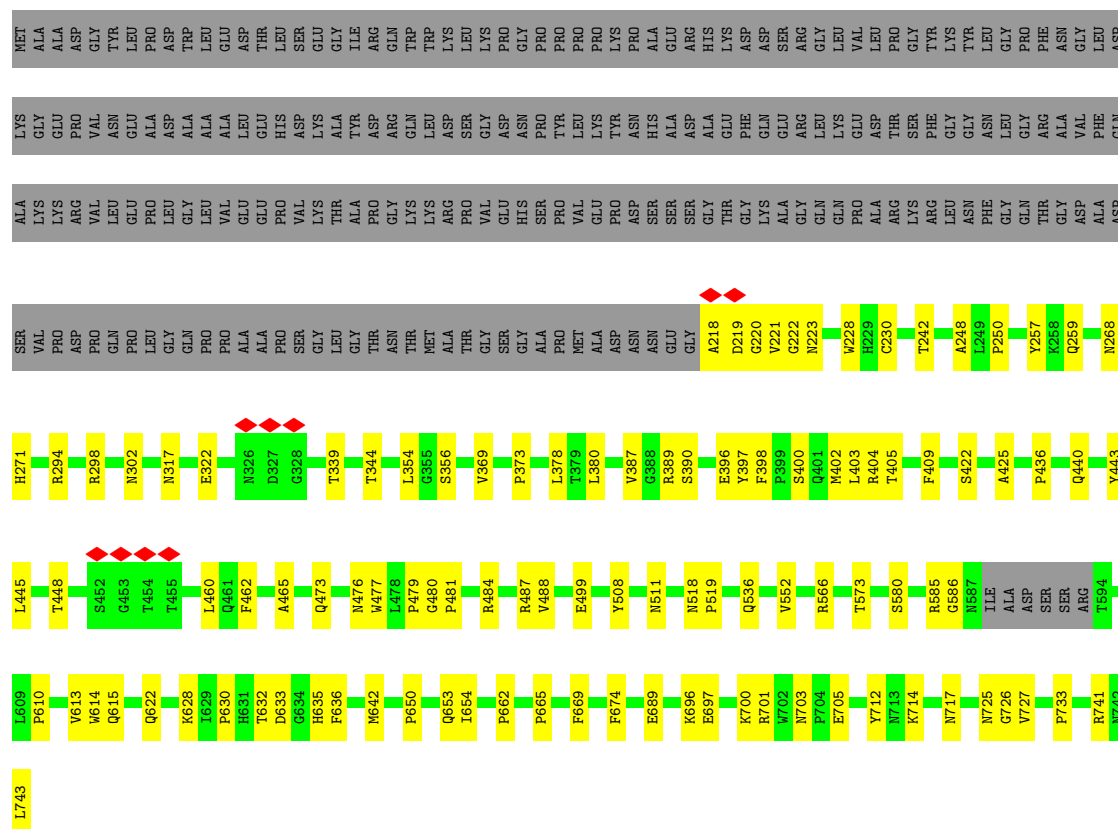
Chain CA: 57% 13% 30%





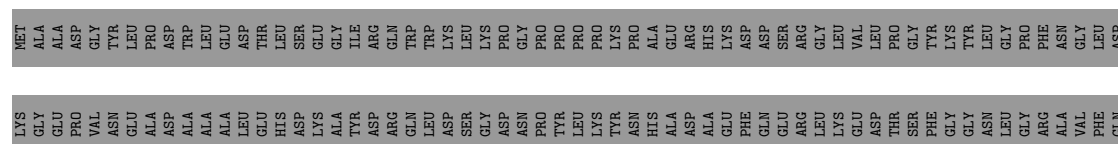
• Molecule 1: Capsid protein VP1

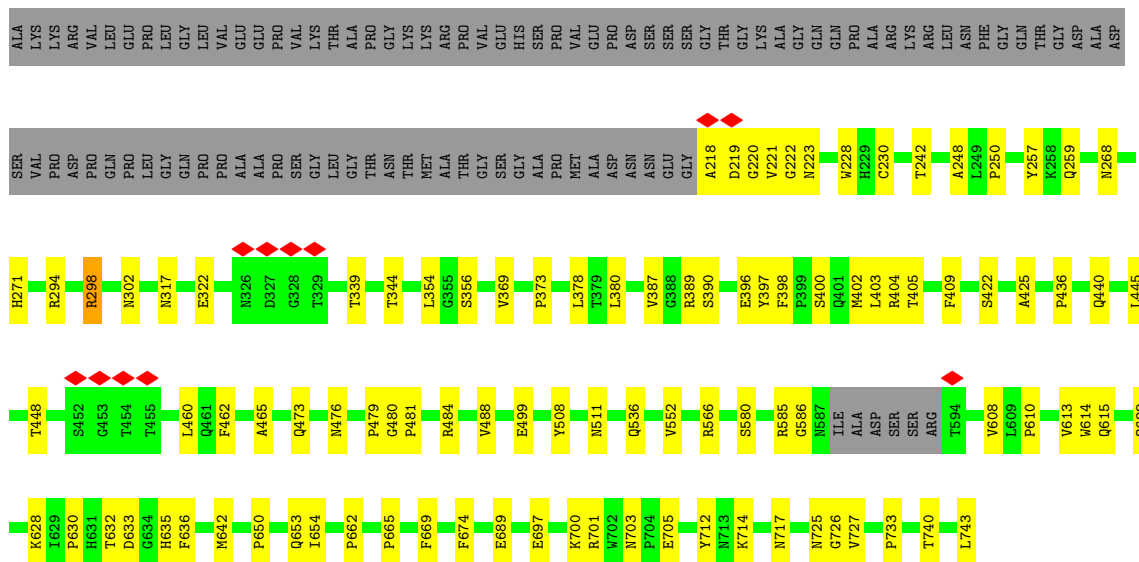
Chain DA: 56% 14% 30%



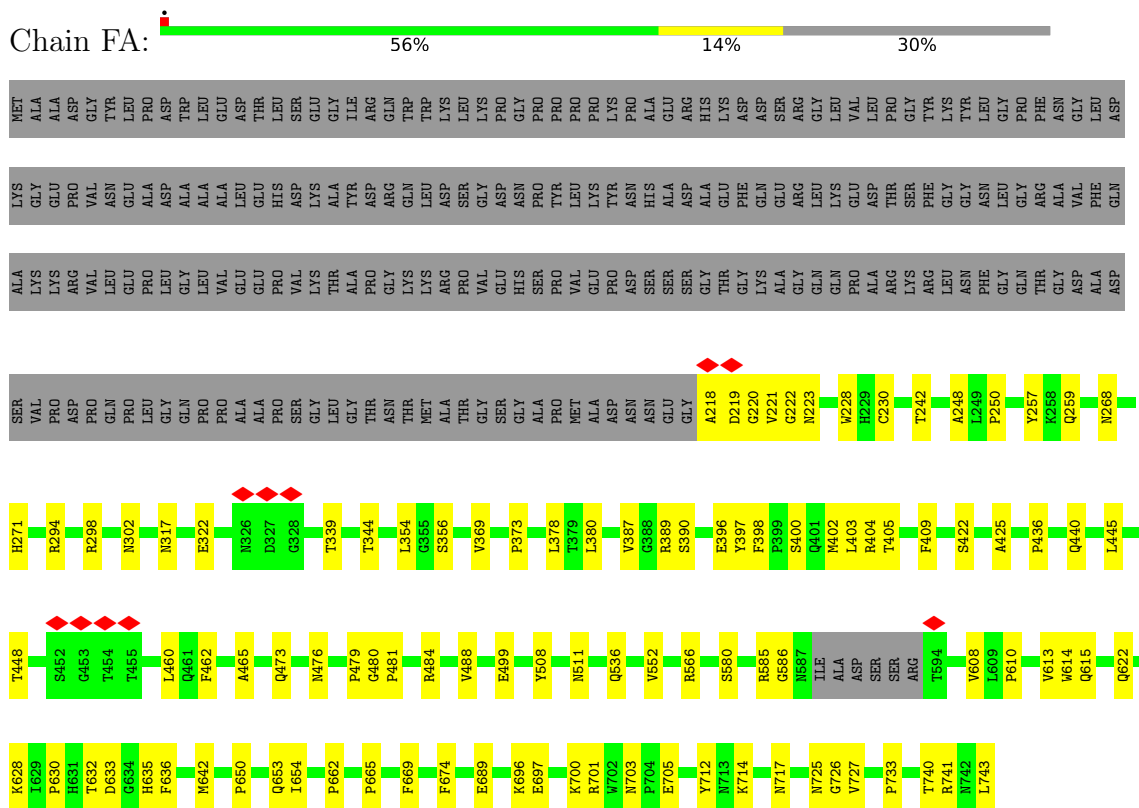
• Molecule 1: Capsid protein VP1

Chain EA: 57% 13% 30%

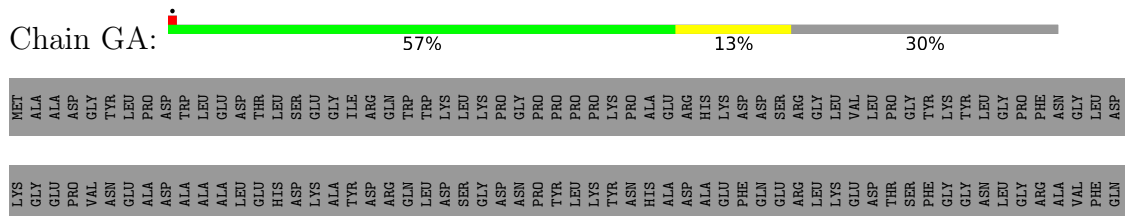


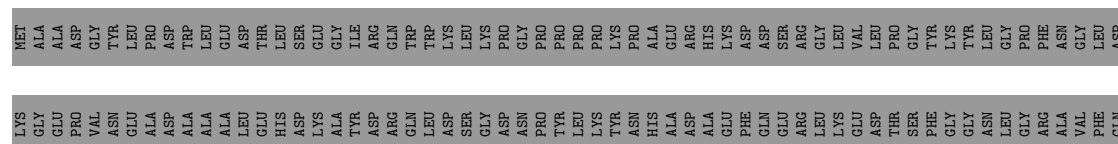


- Molecule 1: Capsid protein VP1

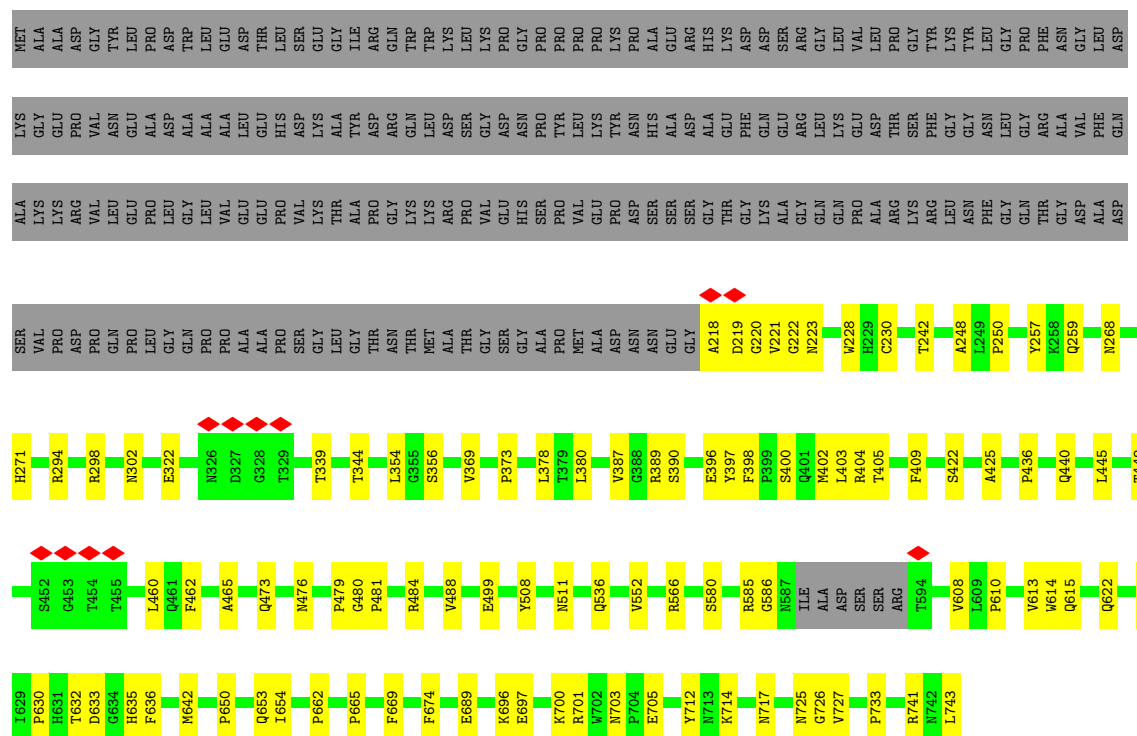


- Molecule 1: Capsid protein VP1

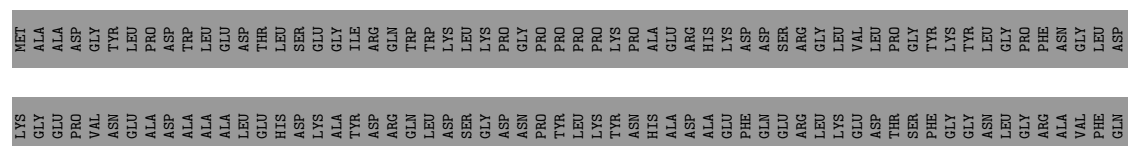


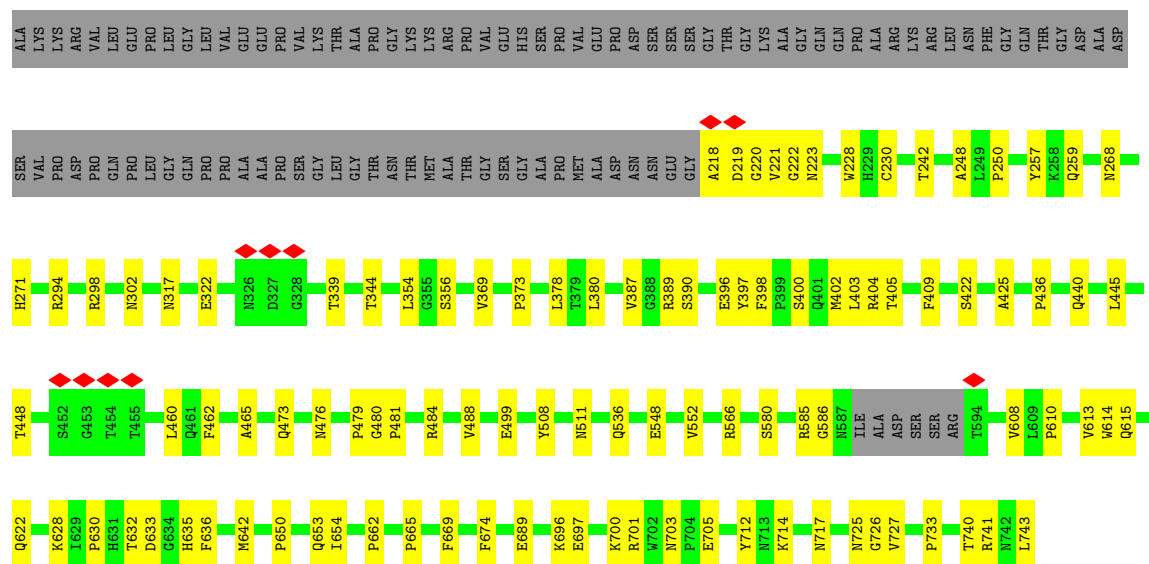


- Molecule 1: Capsid protein VP1

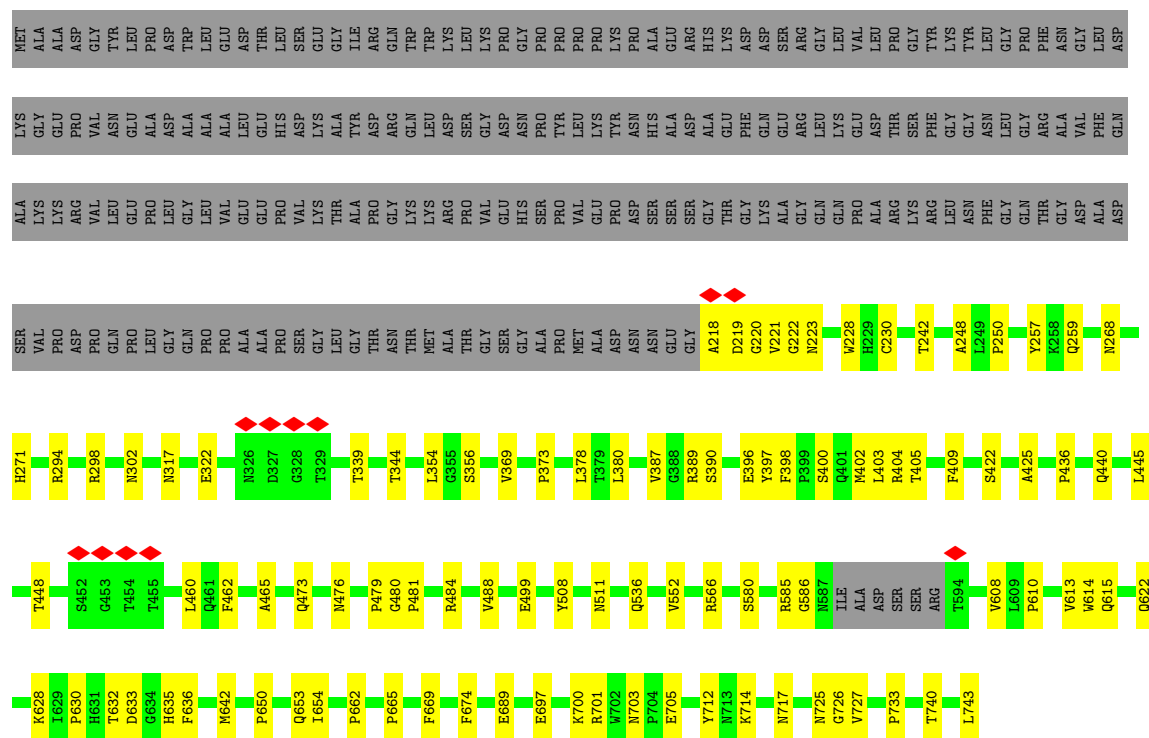


- Molecule 1: Capsid protein VP1

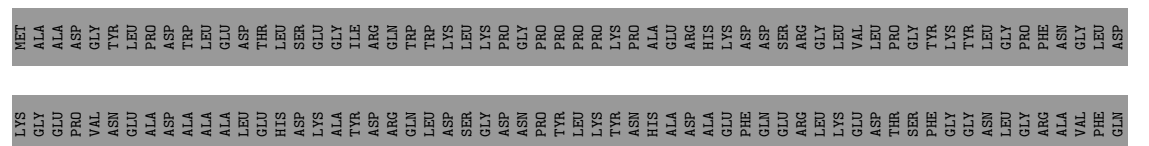


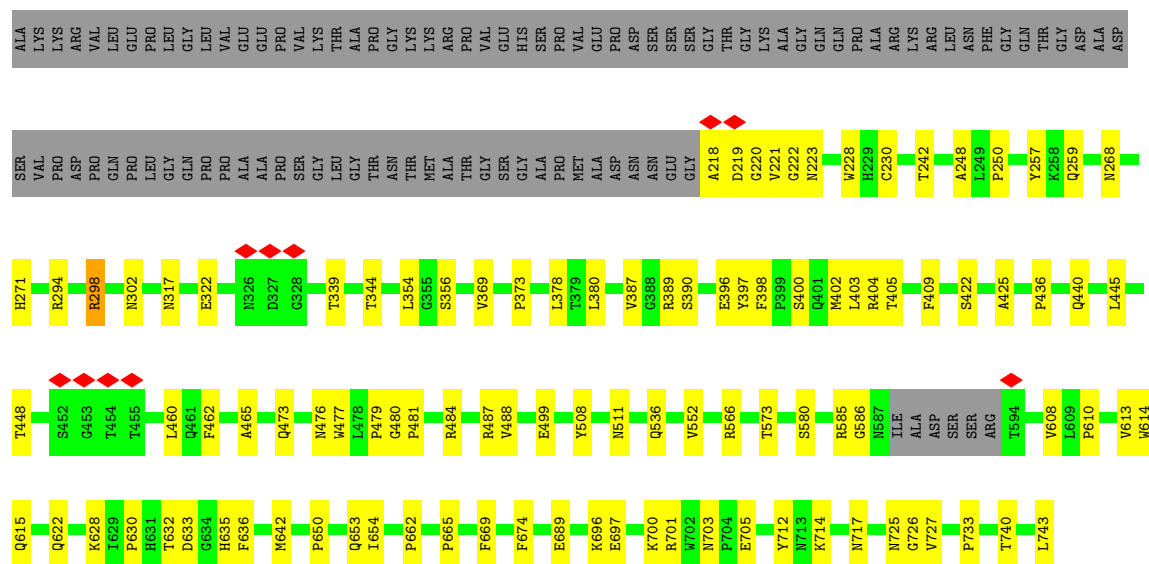


- Molecule 1: Capsid protein VP1

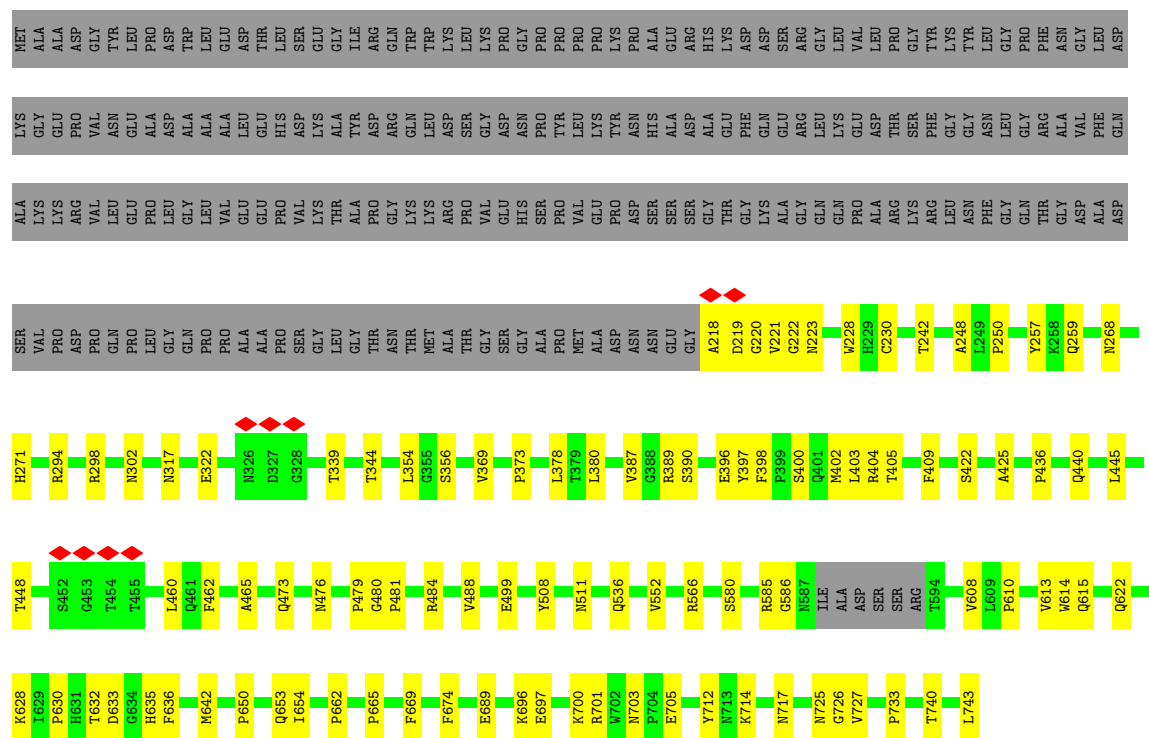


- Molecule 1: Capsid protein VP1

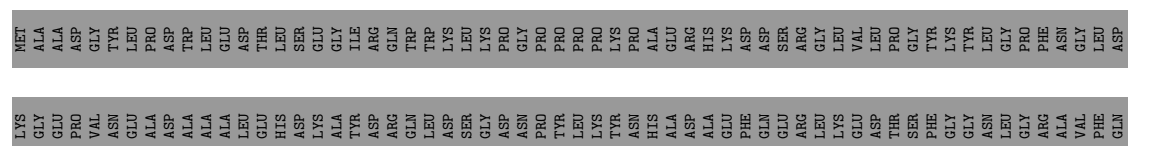


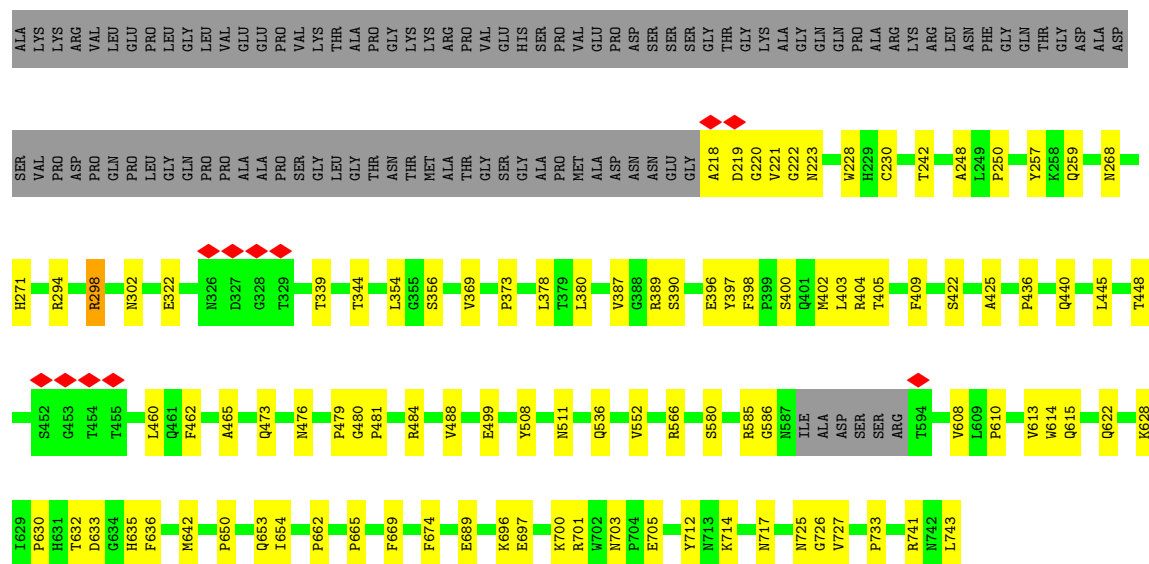


- Molecule 1: Capsid protein VP1

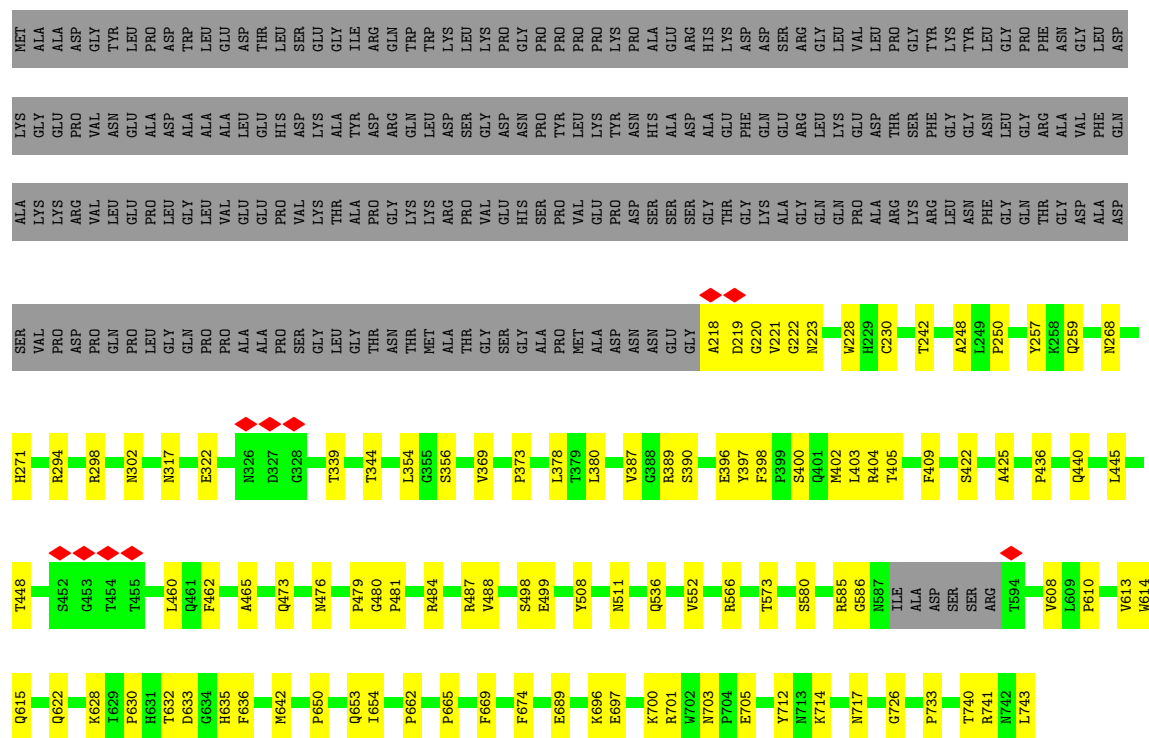


- Molecule 1: Capsid protein VP1

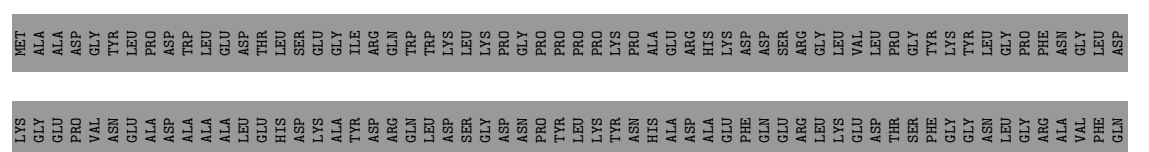


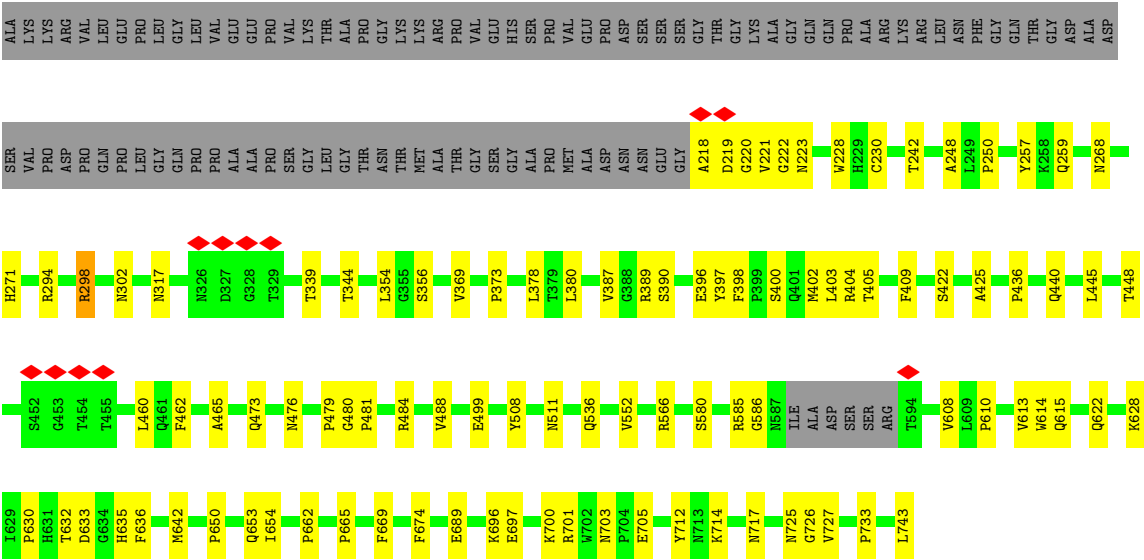


● Molecule 1: Capsid protein VP1

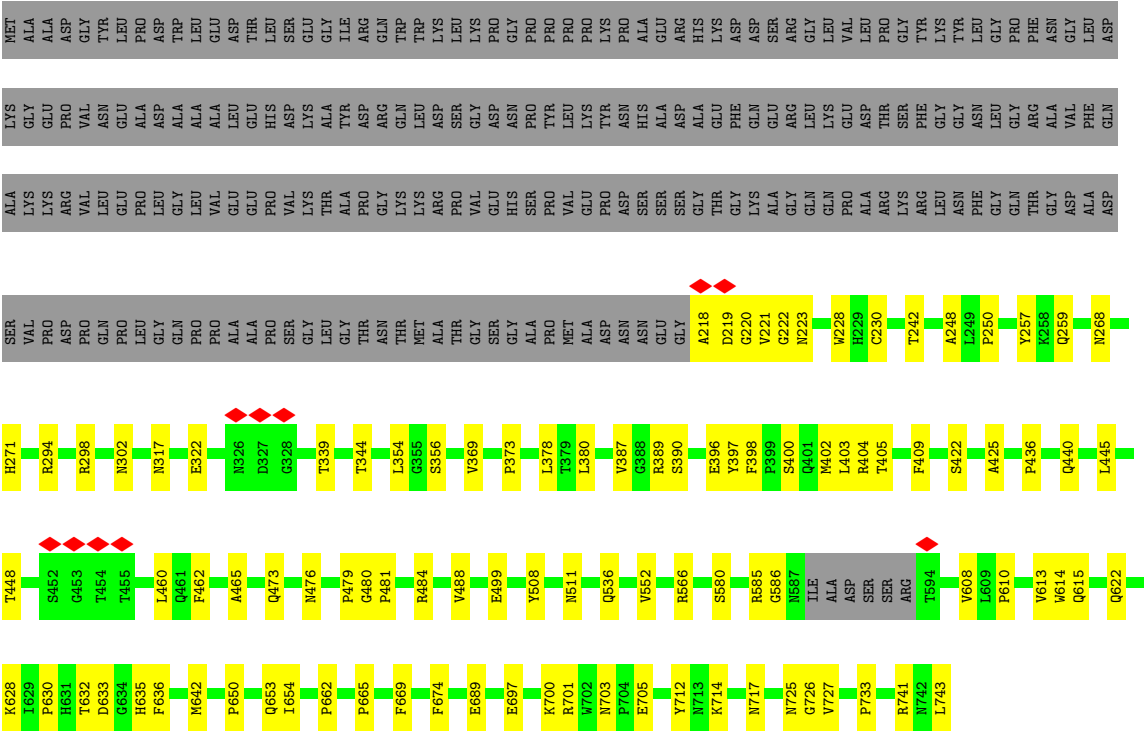


● Molecule 1: Capsid protein VP1

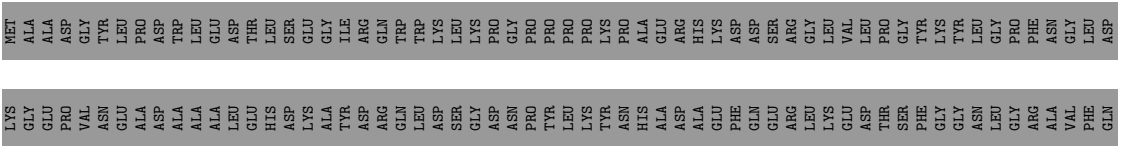


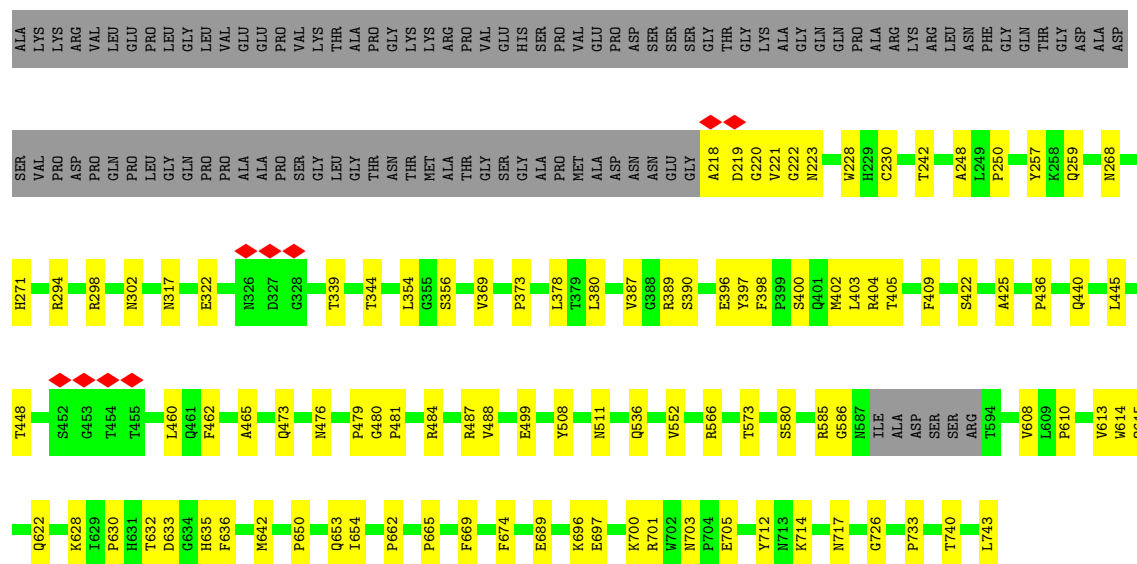


• Molecule 1: Capsid protein VP1

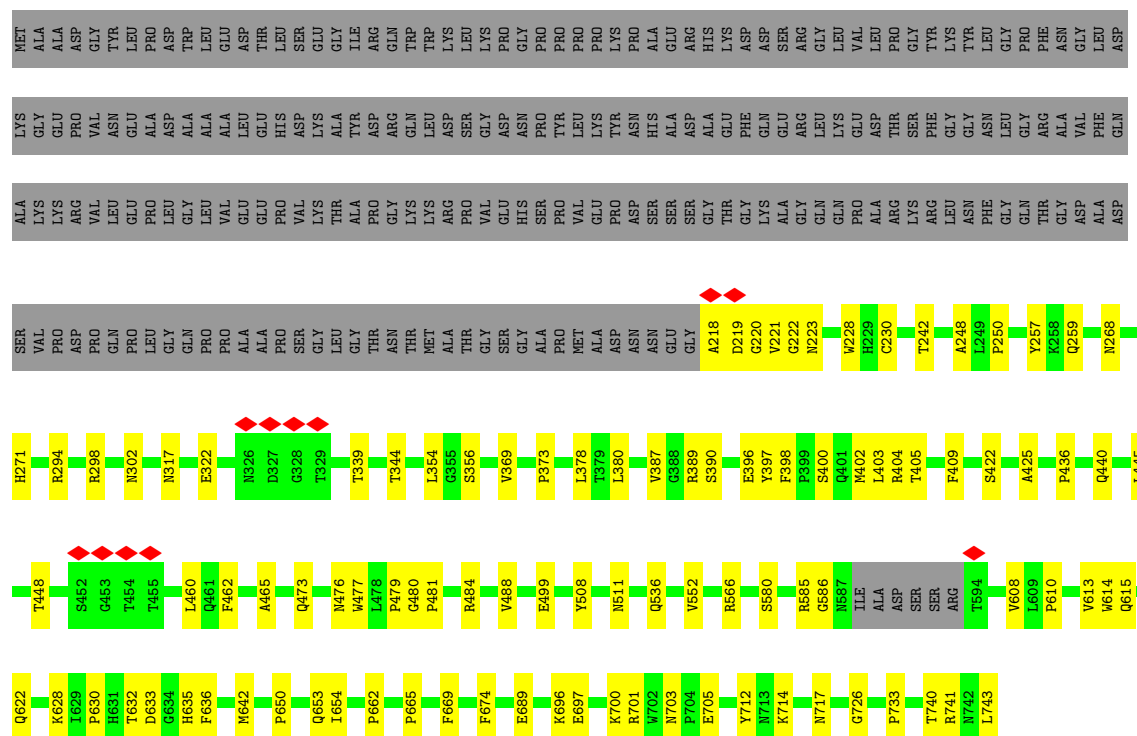


• Molecule 1: Capsid protein VP1

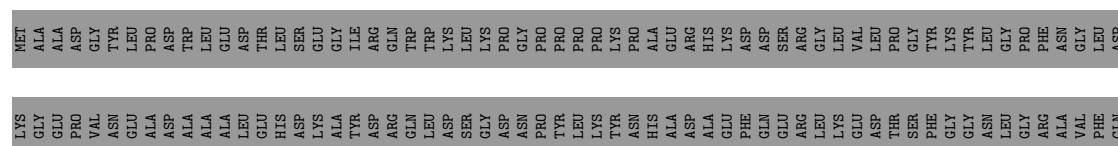


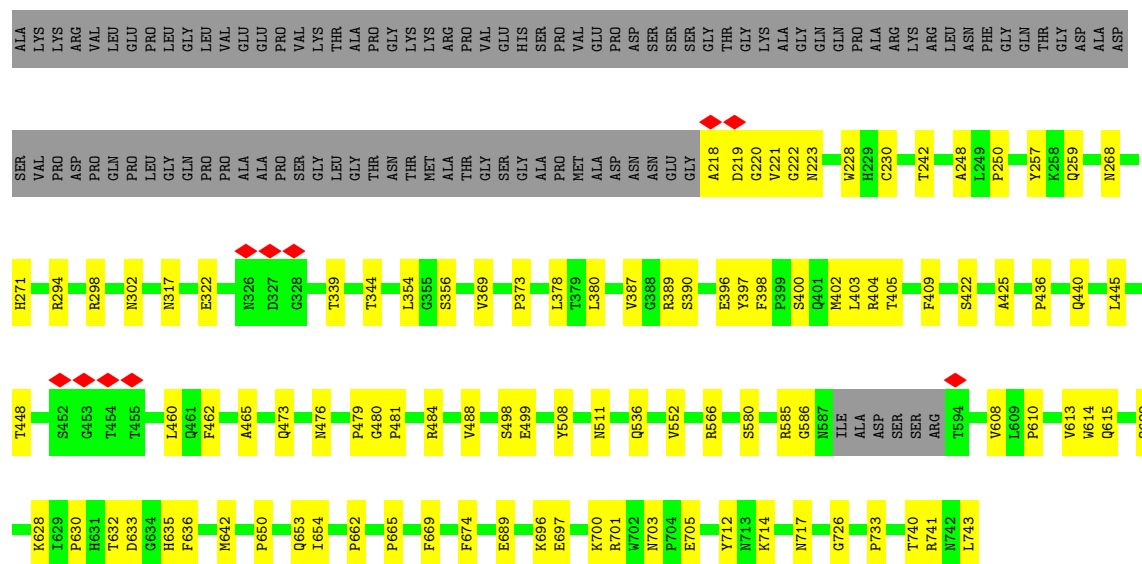


- Molecule 1: Capsid protein VP1

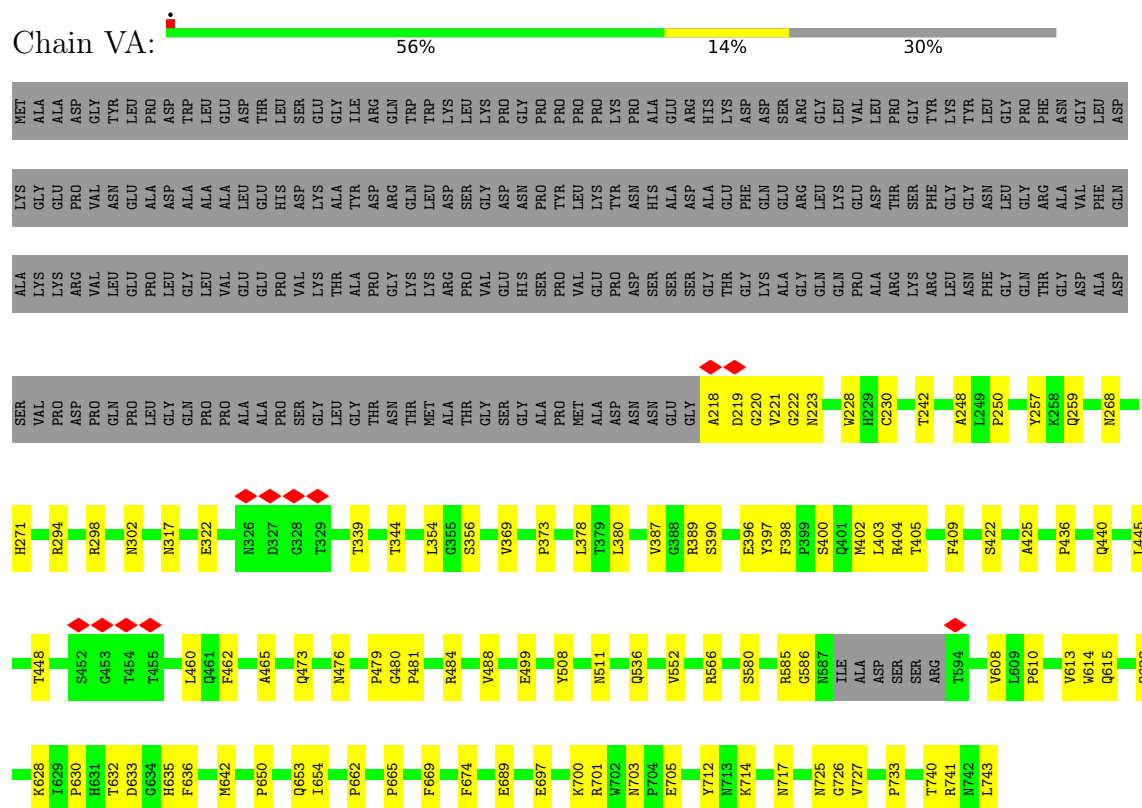


- Molecule 1: Capsid protein VP1

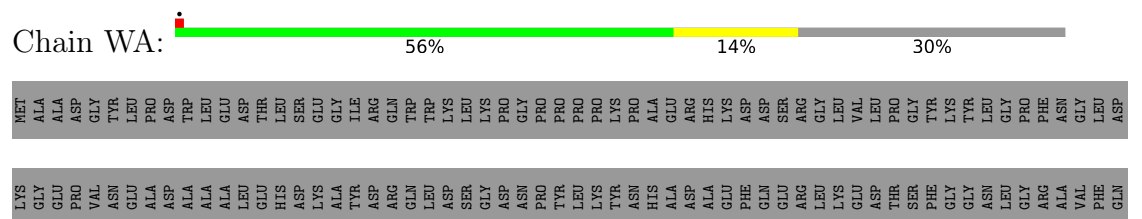


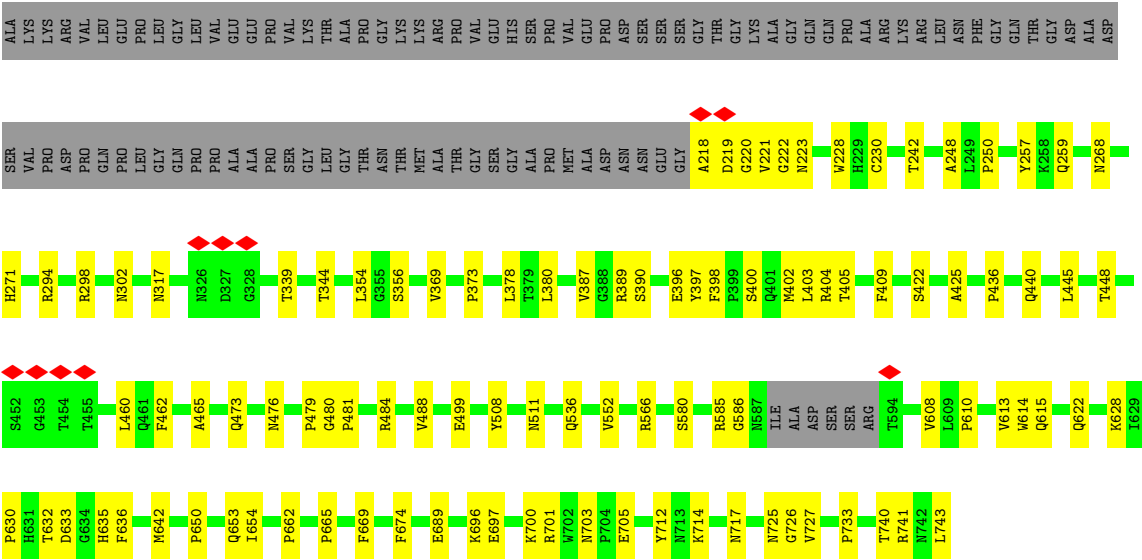


- Molecule 1: Capsid protein VP1

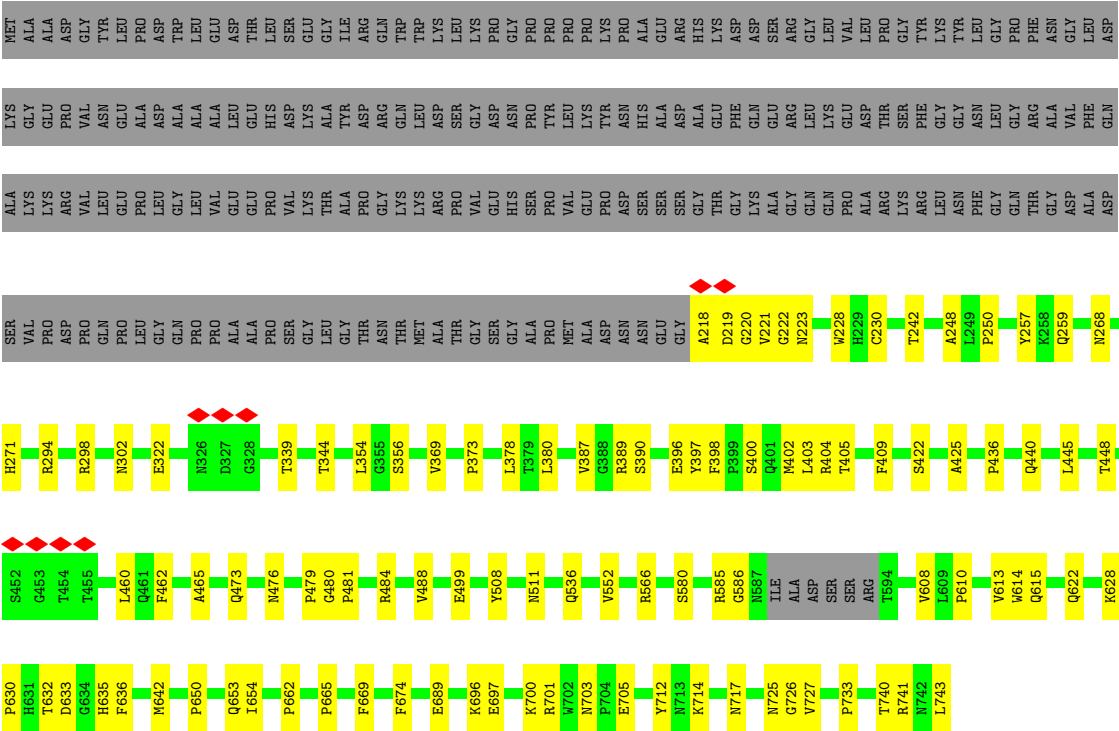


- Molecule 1: Capsid protein VP1

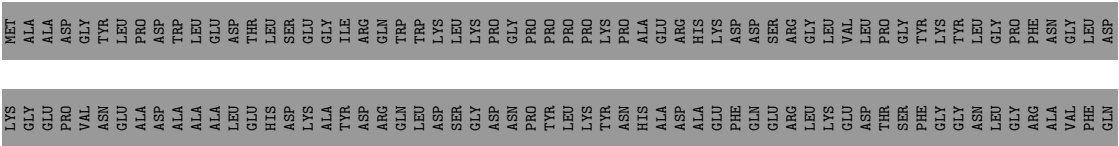


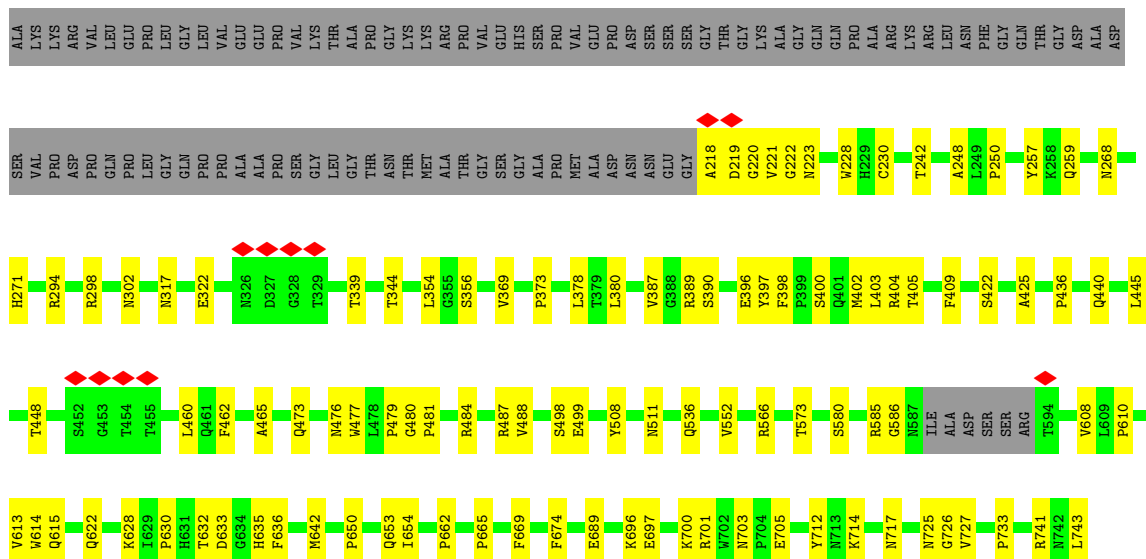


● Molecule 1: Capsid protein VP1

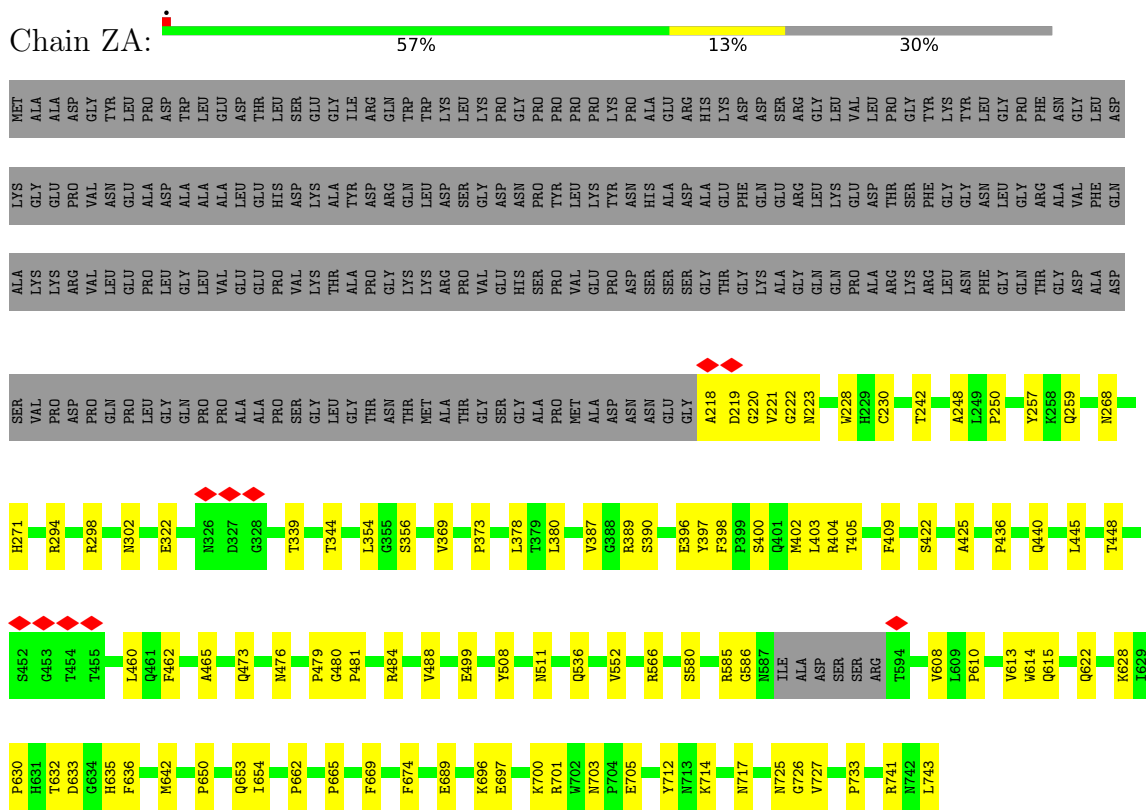


● Molecule 1: Capsid protein VP1

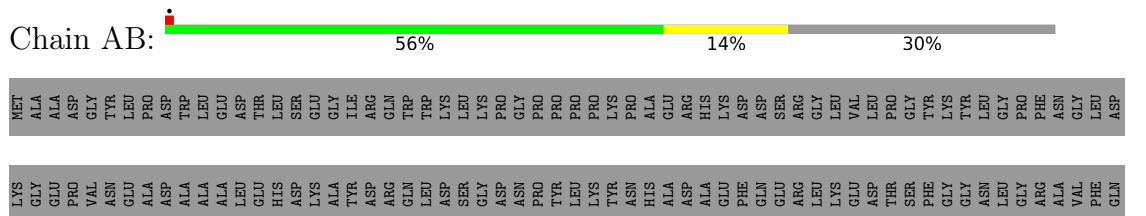


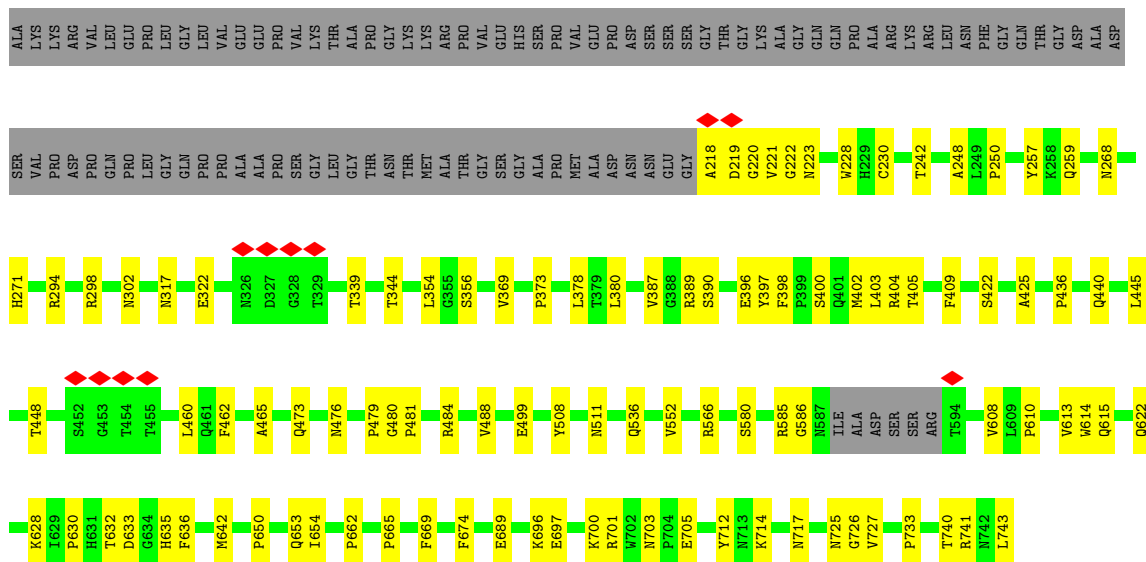


- Molecule 1: Capsid protein VP1

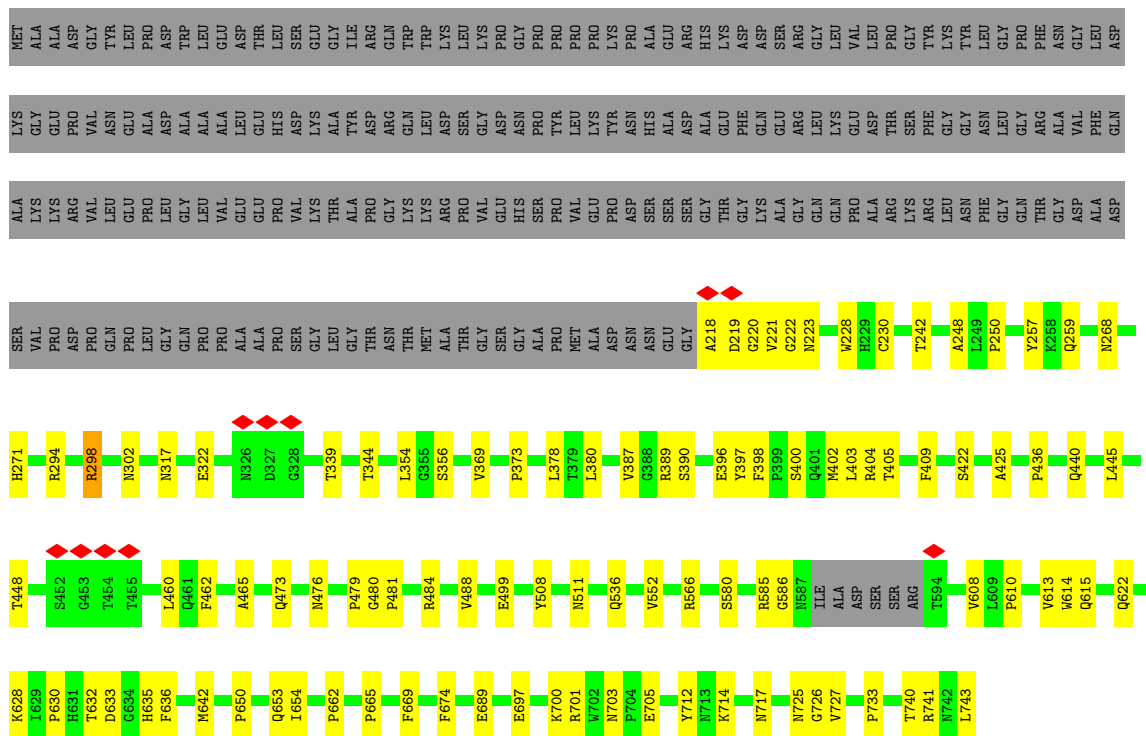


- Molecule 1: Capsid protein VP1

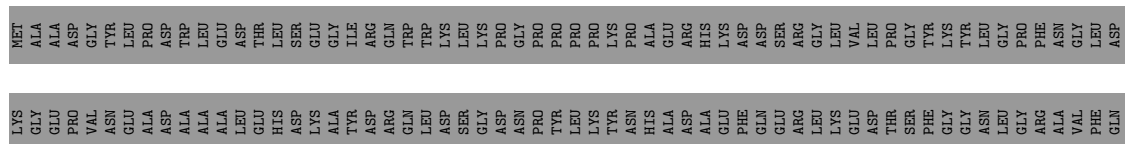


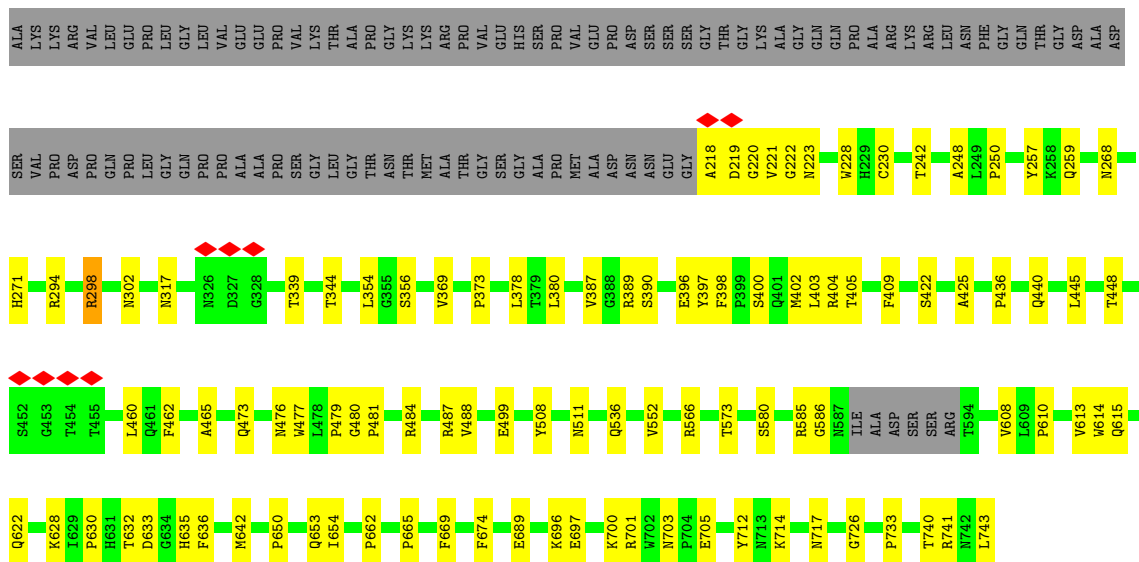


- Molecule 1: Capsid protein VP1

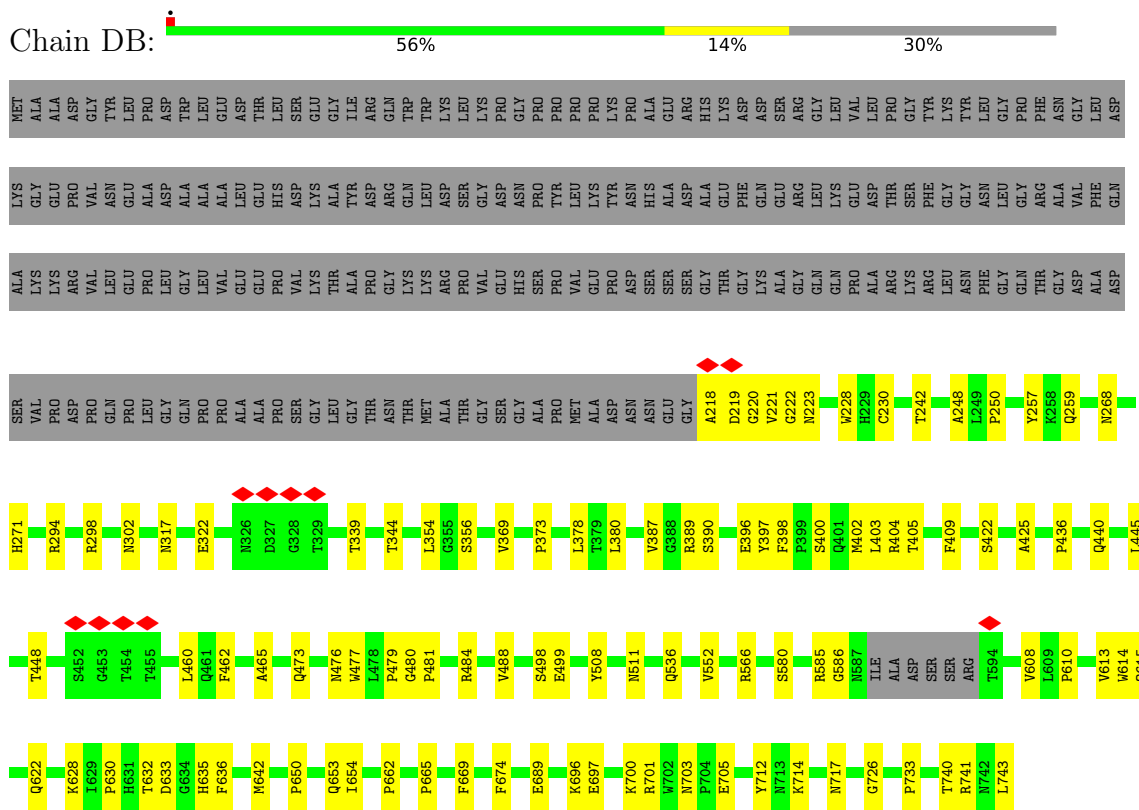


- Molecule 1: Capsid protein VP1

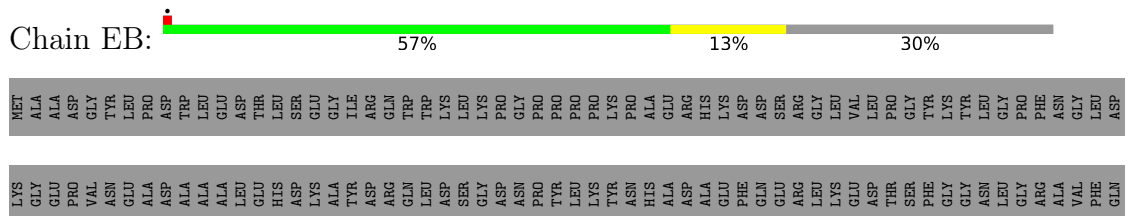


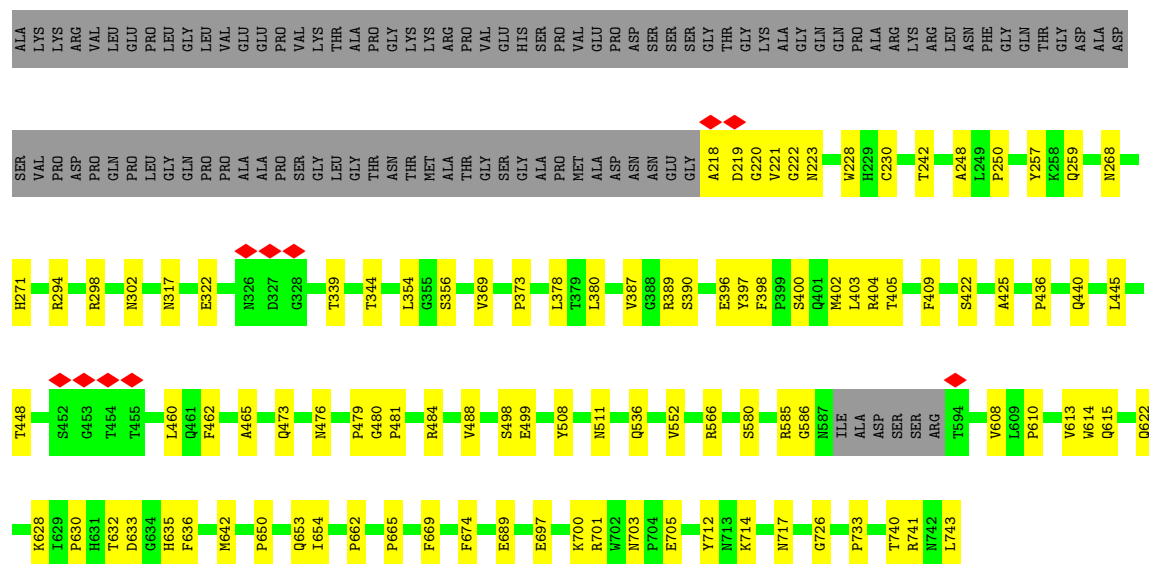


- Molecule 1: Capsid protein VP1

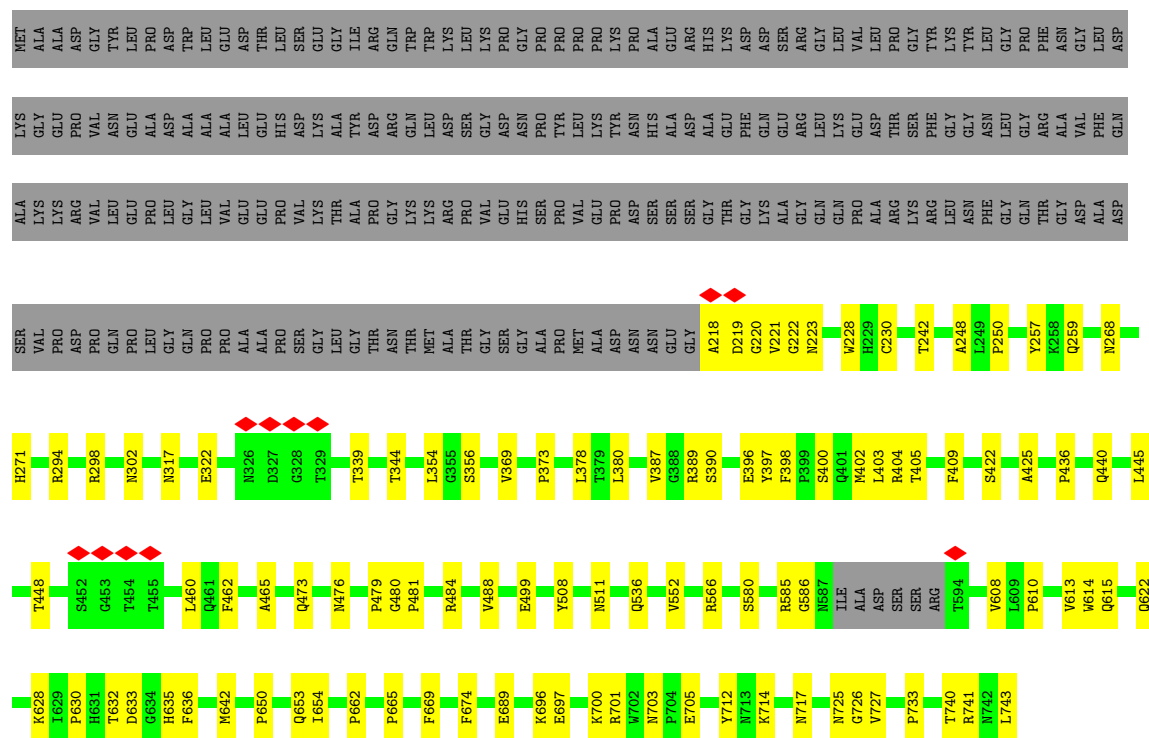


- Molecule 1: Capsid protein VP1

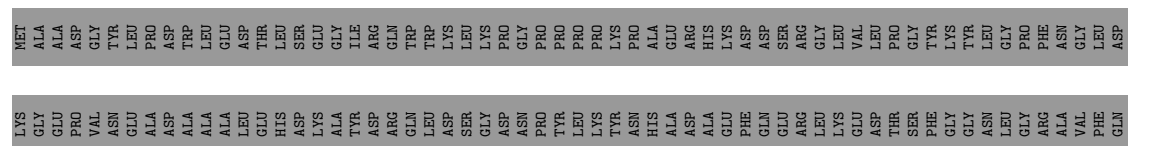


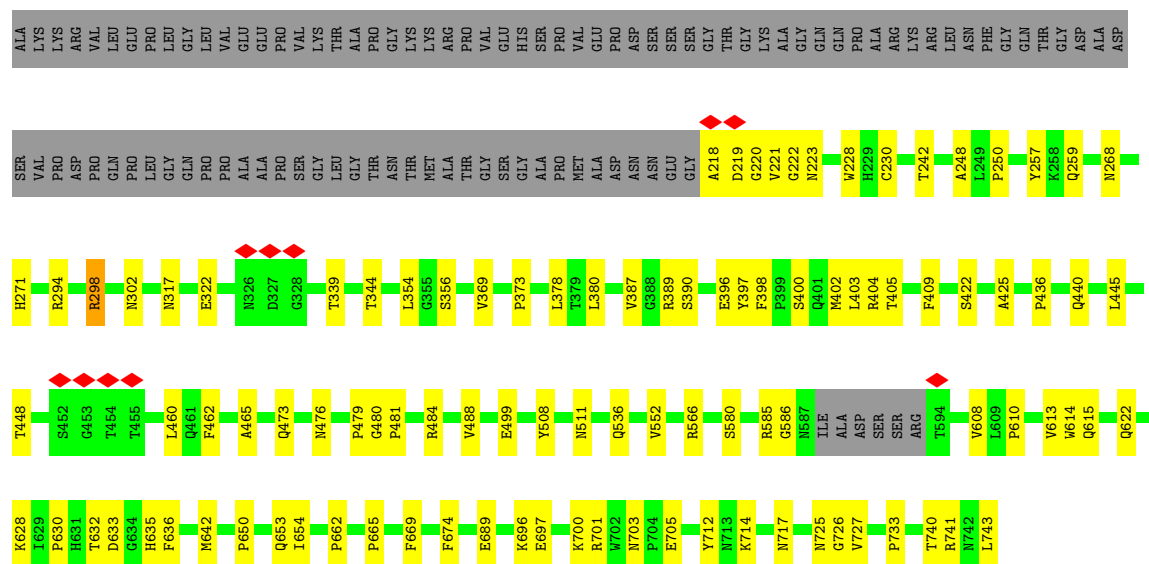


- Molecule 1: Capsid protein VP1

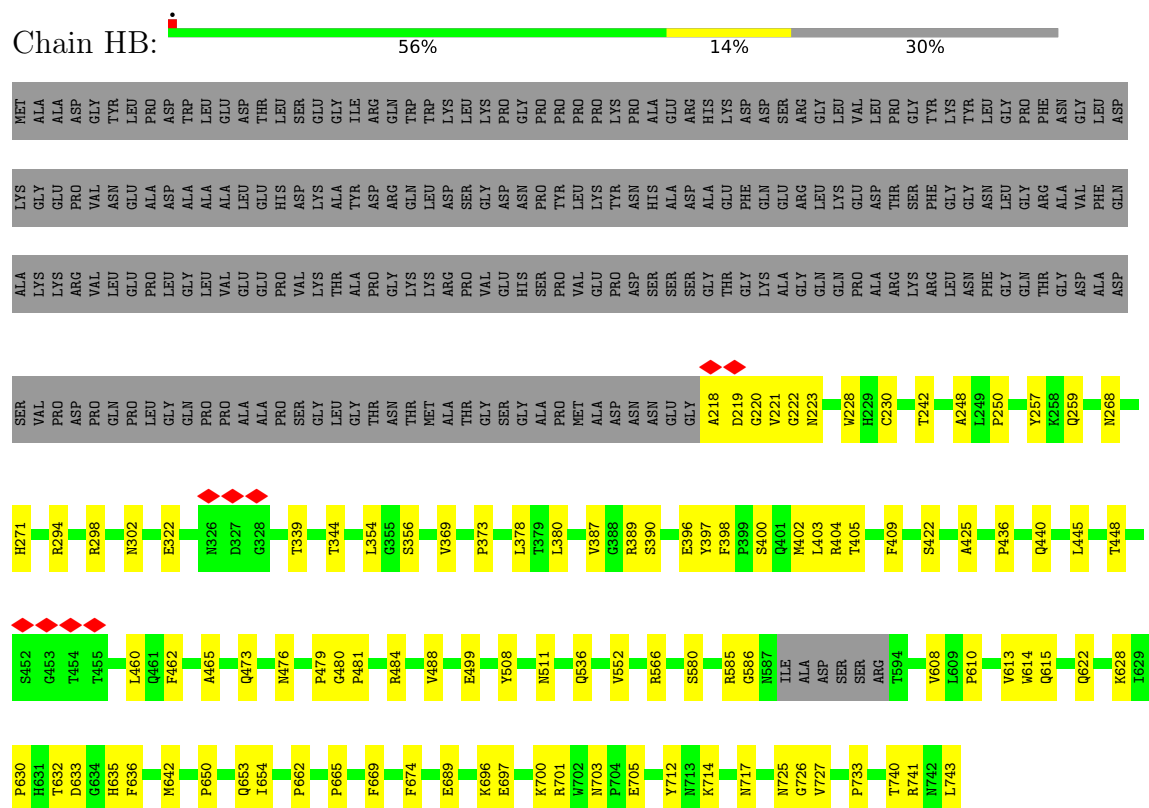


- Molecule 1: Capsid protein VP1

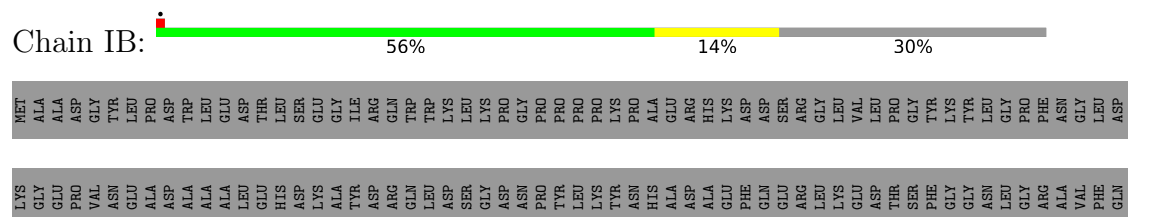


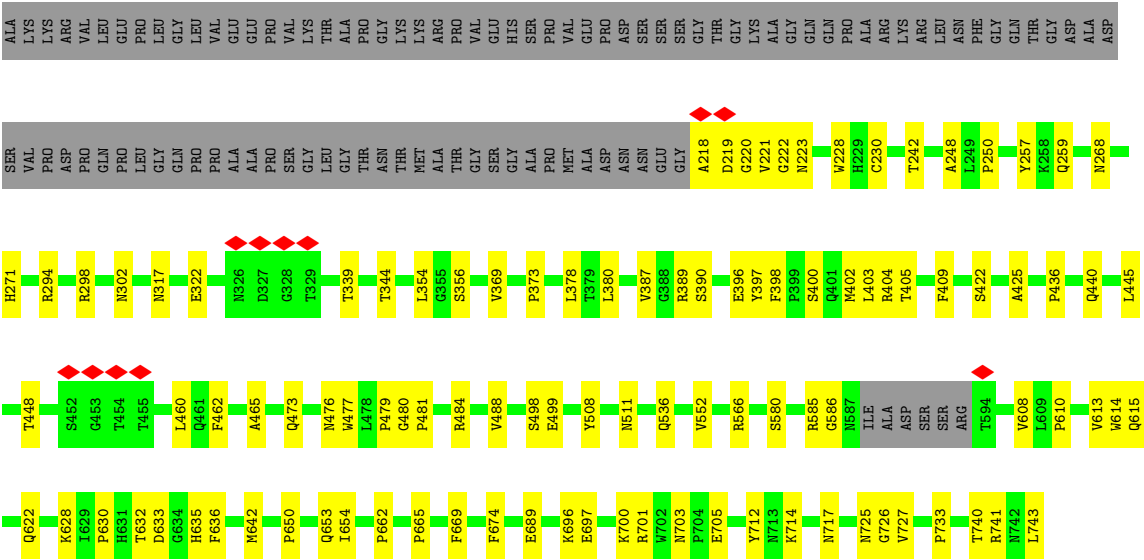


- Molecule 1: Capsid protein VP1



- Molecule 1: Capsid protein VP1





## 4 Experimental information

| Property                             | Value                                   | Source    |
|--------------------------------------|-----------------------------------------|-----------|
| EM reconstruction method             | SINGLE PARTICLE                         | Depositor |
| Imposed symmetry                     | POINT, Not provided                     |           |
| Number of particles used             | 19555                                   | Depositor |
| Resolution determination method      | FSC 0.143 CUT-OFF                       | Depositor |
| CTF correction method                | PHASE FLIPPING AND AMPLITUDE CORRECTION | Depositor |
| Microscope                           | TFS KRIOS                               | Depositor |
| Voltage (kV)                         | 300                                     | Depositor |
| Electron dose ( $e^-/\text{\AA}^2$ ) | 50                                      | Depositor |
| Minimum defocus (nm)                 | 5000                                    | Depositor |
| Maximum defocus (nm)                 | 10000                                   | Depositor |
| Magnification                        | Not provided                            |           |
| Image detector                       | FEI FALCON IV (4k x 4k)                 | Depositor |
| Maximum map value                    | 0.387                                   | Depositor |
| Minimum map value                    | -0.099                                  | Depositor |
| Average map value                    | 0.002                                   | Depositor |
| Map value standard deviation         | 0.025                                   | Depositor |
| Recommended contour level            | 0.1                                     | Depositor |
| Map size ( $\text{\AA}$ )            | 476.16, 476.16, 476.16                  | wwPDB     |
| Map dimensions                       | 512, 512, 512                           | wwPDB     |
| Map angles ( $^\circ$ )              | 90.0, 90.0, 90.0                        | wwPDB     |
| Pixel spacing ( $\text{\AA}$ )       | 0.93, 0.93, 0.93                        | Depositor |

## 5 Model quality

### 5.1 Standard geometry

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     | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | AA    | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | AB    | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | B     | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | BA    | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | BB    | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | C     | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | CA    | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | CB    | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | D     | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | DA    | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | DB    | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | E     | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | EA    | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | EB    | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | F     | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | FA    | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | FB    | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | G     | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | GA    | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | GB    | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | H     | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | HA    | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | HB    | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | I     | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | IA    | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | IB    | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | J     | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | JA    | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | K     | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | KA    | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | L     | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | LA    | 0.32         | 0/4283      | 0.49        | 0/5837      |
| 1   | M     | 0.32         | 0/4283      | 0.49        | 0/5837      |

| Mol | Chain | Bond lengths |          | Bond angles |          |
|-----|-------|--------------|----------|-------------|----------|
|     |       | RMSZ         | # Z  >5  | RMSZ        | # Z  >5  |
| 1   | MA    | 0.32         | 0/4283   | 0.49        | 0/5837   |
| 1   | N     | 0.32         | 0/4283   | 0.49        | 0/5837   |
| 1   | NA    | 0.32         | 0/4283   | 0.49        | 0/5837   |
| 1   | O     | 0.32         | 0/4283   | 0.49        | 0/5837   |
| 1   | OA    | 0.32         | 0/4283   | 0.49        | 0/5837   |
| 1   | P     | 0.32         | 0/4283   | 0.49        | 0/5837   |
| 1   | PA    | 0.32         | 0/4283   | 0.49        | 0/5837   |
| 1   | Q     | 0.32         | 0/4283   | 0.49        | 0/5837   |
| 1   | QA    | 0.32         | 0/4283   | 0.49        | 0/5837   |
| 1   | R     | 0.32         | 0/4283   | 0.49        | 0/5837   |
| 1   | RA    | 0.32         | 0/4283   | 0.49        | 0/5837   |
| 1   | S     | 0.32         | 0/4283   | 0.49        | 0/5837   |
| 1   | SA    | 0.32         | 0/4283   | 0.49        | 0/5837   |
| 1   | T     | 0.32         | 0/4283   | 0.49        | 0/5837   |
| 1   | TA    | 0.32         | 0/4283   | 0.49        | 0/5837   |
| 1   | UA    | 0.32         | 0/4283   | 0.49        | 0/5837   |
| 1   | V     | 0.32         | 0/4283   | 0.49        | 0/5837   |
| 1   | VA    | 0.32         | 0/4283   | 0.49        | 0/5837   |
| 1   | W     | 0.32         | 0/4283   | 0.49        | 0/5837   |
| 1   | WA    | 0.32         | 0/4283   | 0.49        | 0/5837   |
| 1   | X     | 0.32         | 0/4283   | 0.49        | 0/5837   |
| 1   | XA    | 0.32         | 0/4283   | 0.49        | 0/5837   |
| 1   | Y     | 0.32         | 0/4283   | 0.49        | 0/5837   |
| 1   | YA    | 0.32         | 0/4283   | 0.49        | 0/5837   |
| 1   | Z     | 0.32         | 0/4283   | 0.49        | 0/5837   |
| 1   | ZA    | 0.32         | 0/4283   | 0.49        | 0/5837   |
| All | All   | 0.32         | 0/256980 | 0.49        | 0/350220 |

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

## 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     | 4161  | 0        | 3910     | 118     | 0            |
| 1   | AA    | 4161  | 0        | 3910     | 120     | 0            |
| 1   | AB    | 4161  | 0        | 3910     | 115     | 0            |
| 1   | B     | 4161  | 0        | 3910     | 115     | 0            |
| 1   | BA    | 4161  | 0        | 3910     | 118     | 0            |
| 1   | BB    | 4161  | 0        | 3910     | 117     | 0            |
| 1   | C     | 4161  | 0        | 3910     | 121     | 0            |
| 1   | CA    | 4161  | 0        | 3910     | 115     | 0            |
| 1   | CB    | 4161  | 0        | 3910     | 117     | 0            |
| 1   | D     | 4161  | 0        | 3910     | 119     | 0            |
| 1   | DA    | 4161  | 0        | 3910     | 121     | 0            |
| 1   | DB    | 4161  | 0        | 3910     | 119     | 0            |
| 1   | E     | 4161  | 0        | 3910     | 117     | 0            |
| 1   | EA    | 4161  | 0        | 3910     | 117     | 0            |
| 1   | EB    | 4161  | 0        | 3910     | 117     | 0            |
| 1   | F     | 4161  | 0        | 3910     | 117     | 0            |
| 1   | FA    | 4161  | 0        | 3910     | 117     | 0            |
| 1   | FB    | 4161  | 0        | 3910     | 115     | 0            |
| 1   | G     | 4161  | 0        | 3910     | 116     | 0            |
| 1   | GA    | 4161  | 0        | 3910     | 114     | 0            |
| 1   | GB    | 4161  | 0        | 3910     | 117     | 0            |
| 1   | H     | 4161  | 0        | 3910     | 118     | 0            |
| 1   | HA    | 4161  | 0        | 3910     | 120     | 0            |
| 1   | HB    | 4161  | 0        | 3910     | 118     | 0            |
| 1   | I     | 4161  | 0        | 3910     | 117     | 0            |
| 1   | IA    | 4161  | 0        | 3910     | 118     | 0            |
| 1   | IB    | 4161  | 0        | 3910     | 119     | 0            |
| 1   | J     | 4161  | 0        | 3910     | 118     | 0            |
| 1   | JA    | 4161  | 0        | 3910     | 114     | 0            |
| 1   | K     | 4161  | 0        | 3910     | 119     | 0            |
| 1   | KA    | 4161  | 0        | 3910     | 117     | 0            |
| 1   | L     | 4161  | 0        | 3910     | 116     | 0            |
| 1   | LA    | 4161  | 0        | 3910     | 115     | 0            |
| 1   | M     | 4161  | 0        | 3910     | 119     | 0            |
| 1   | MA    | 4161  | 0        | 3910     | 121     | 0            |
| 1   | N     | 4161  | 0        | 3910     | 120     | 0            |
| 1   | NA    | 4161  | 0        | 3910     | 118     | 0            |
| 1   | O     | 4161  | 0        | 3910     | 119     | 0            |
| 1   | OA    | 4161  | 0        | 3910     | 116     | 0            |
| 1   | P     | 4161  | 0        | 3910     | 116     | 0            |
| 1   | PA    | 4161  | 0        | 3910     | 119     | 0            |
| 1   | Q     | 4161  | 0        | 3910     | 115     | 0            |
| 1   | QA    | 4161  | 0        | 3910     | 116     | 0            |

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| Mol | Chain | Non-H  | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|--------|----------|----------|---------|--------------|
| 1   | R     | 4161   | 0        | 3910     | 119     | 0            |
| 1   | RA    | 4161   | 0        | 3910     | 117     | 0            |
| 1   | S     | 4161   | 0        | 3910     | 118     | 0            |
| 1   | SA    | 4161   | 0        | 3910     | 116     | 0            |
| 1   | T     | 4161   | 0        | 3910     | 117     | 0            |
| 1   | TA    | 4161   | 0        | 3910     | 117     | 0            |
| 1   | UA    | 4161   | 0        | 3910     | 118     | 0            |
| 1   | V     | 4161   | 0        | 3910     | 120     | 0            |
| 1   | VA    | 4161   | 0        | 3910     | 115     | 0            |
| 1   | W     | 4161   | 0        | 3910     | 119     | 0            |
| 1   | WA    | 4161   | 0        | 3910     | 117     | 0            |
| 1   | X     | 4161   | 0        | 3910     | 115     | 0            |
| 1   | XA    | 4161   | 0        | 3910     | 118     | 0            |
| 1   | Y     | 4161   | 0        | 3910     | 121     | 0            |
| 1   | YA    | 4161   | 0        | 3910     | 118     | 0            |
| 1   | Z     | 4161   | 0        | 3910     | 116     | 0            |
| 1   | ZA    | 4161   | 0        | 3910     | 114     | 0            |
| All | All   | 249660 | 0        | 234600   | 4220    | 0            |

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 9.

All (4220) 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:O:642:MET:HB2  | 1:FA:476:ASN:OD1 | 1.84                     | 0.78              |
| 1:S:642:MET:HB2  | 1:TA:476:ASN:OD1 | 1.84                     | 0.78              |
| 1:D:642:MET:HB2  | 1:DB:476:ASN:OD1 | 1.84                     | 0.78              |
| 1:J:642:MET:HB2  | 1:KA:476:ASN:OD1 | 1.84                     | 0.78              |
| 1:LA:642:MET:HB2 | 1:AB:476:ASN:OD1 | 1.84                     | 0.78              |
| 1:JA:642:MET:HB2 | 1:ZA:476:ASN:OD1 | 1.84                     | 0.78              |
| 1:OA:476:ASN:OD1 | 1:CB:642:MET:HB2 | 1.84                     | 0.78              |
| 1:OA:642:MET:HB2 | 1:PA:476:ASN:OD1 | 1.84                     | 0.78              |
| 1:I:476:ASN:OD1  | 1:P:642:MET:HB2  | 1.84                     | 0.78              |
| 1:K:726:GLY:HA2  | 1:VA:257:TYR:O   | 1.85                     | 0.78              |
| 1:DA:476:ASN:OD1 | 1:KA:642:MET:HB2 | 1.84                     | 0.78              |
| 1:EA:642:MET:HB2 | 1:EB:476:ASN:OD1 | 1.84                     | 0.78              |
| 1:GA:642:MET:HB2 | 1:QA:476:ASN:OD1 | 1.84                     | 0.78              |
| 1:JA:476:ASN:OD1 | 1:SA:642:MET:HB2 | 1.84                     | 0.78              |
| 1:A:642:MET:HB2  | 1:N:476:ASN:OD1  | 1.84                     | 0.77              |
| 1:F:726:GLY:HA2  | 1:FB:257:TYR:O   | 1.85                     | 0.77              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:O:726:GLY:HA2  | 1:MA:257:TYR:O   | 1.85                     | 0.77              |
| 1:Y:476:ASN:OD1  | 1:FA:642:MET:HB2 | 1.84                     | 0.77              |
| 1:MA:726:GLY:HA2 | 1:HB:257:TYR:O   | 1.85                     | 0.77              |
| 1:J:726:GLY:HA2  | 1:HA:257:TYR:O   | 1.85                     | 0.77              |
| 1:O:476:ASN:OD1  | 1:Y:642:MET:HB2  | 1.84                     | 0.77              |
| 1:Z:642:MET:HB2  | 1:UA:476:ASN:OD1 | 1.84                     | 0.77              |
| 1:HA:726:GLY:HA2 | 1:XA:257:TYR:O   | 1.85                     | 0.77              |
| 1:MA:476:ASN:OD1 | 1:RA:642:MET:HB2 | 1.84                     | 0.77              |
| 1:E:476:ASN:OD1  | 1:NA:642:MET:HB2 | 1.84                     | 0.77              |
| 1:J:476:ASN:OD1  | 1:DA:642:MET:HB2 | 1.84                     | 0.77              |
| 1:V:642:MET:HB2  | 1:IA:476:ASN:OD1 | 1.84                     | 0.77              |
| 1:W:257:TYR:O    | 1:PA:726:GLY:HA2 | 1.85                     | 0.77              |
| 1:Z:476:ASN:OD1  | 1:HB:642:MET:HB2 | 1.84                     | 0.77              |
| 1:AA:642:MET:HB2 | 1:NA:476:ASN:OD1 | 1.84                     | 0.77              |
| 1:A:726:GLY:HA2  | 1:QA:257:TYR:O   | 1.85                     | 0.77              |
| 1:B:642:MET:HB2  | 1:LA:476:ASN:OD1 | 1.84                     | 0.77              |
| 1:B:726:GLY:HA2  | 1:YA:257:TYR:O   | 1.85                     | 0.77              |
| 1:P:726:GLY:HA2  | 1:AB:257:TYR:O   | 1.85                     | 0.77              |
| 1:Q:642:MET:HB2  | 1:GA:476:ASN:OD1 | 1.84                     | 0.77              |
| 1:BA:257:TYR:O   | 1:ZA:726:GLY:HA2 | 1.85                     | 0.77              |
| 1:EA:476:ASN:OD1 | 1:XA:642:MET:HB2 | 1.84                     | 0.77              |
| 1:HA:476:ASN:OD1 | 1:BB:642:MET:HB2 | 1.84                     | 0.77              |
| 1:C:726:GLY:HA2  | 1:IA:257:TYR:O   | 1.85                     | 0.77              |
| 1:M:726:GLY:HA2  | 1:DA:257:TYR:O   | 1.85                     | 0.77              |
| 1:Q:726:GLY:HA2  | 1:IB:257:TYR:O   | 1.85                     | 0.77              |
| 1:T:476:ASN:OD1  | 1:IA:642:MET:HB2 | 1.84                     | 0.77              |
| 1:X:726:GLY:HA2  | 1:CB:257:TYR:O   | 1.85                     | 0.77              |
| 1:CA:476:ASN:OD1 | 1:GB:642:MET:HB2 | 1.84                     | 0.77              |
| 1:F:476:ASN:OD1  | 1:TA:642:MET:HB2 | 1.84                     | 0.77              |
| 1:G:726:GLY:HA2  | 1:DB:257:TYR:O   | 1.85                     | 0.77              |
| 1:H:726:GLY:HA2  | 1:Y:257:TYR:O    | 1.85                     | 0.77              |
| 1:M:257:TYR:O    | 1:YA:726:GLY:HA2 | 1.85                     | 0.77              |
| 1:R:257:TYR:O    | 1:DB:726:GLY:HA2 | 1.85                     | 0.77              |
| 1:R:726:GLY:HA2  | 1:NA:257:TYR:O   | 1.85                     | 0.77              |
| 1:X:476:ASN:OD1  | 1:WA:642:MET:HB2 | 1.84                     | 0.77              |
| 1:CA:726:GLY:HA2 | 1:SA:257:TYR:O   | 1.85                     | 0.77              |
| 1:JA:257:TYR:O   | 1:VA:726:GLY:HA2 | 1.85                     | 0.77              |
| 1:C:257:TYR:O    | 1:TA:726:GLY:HA2 | 1.85                     | 0.77              |
| 1:C:476:ASN:OD1  | 1:CA:642:MET:HB2 | 1.84                     | 0.77              |
| 1:K:476:ASN:OD1  | 1:DB:642:MET:HB2 | 1.84                     | 0.77              |
| 1:L:726:GLY:HA2  | 1:TA:257:TYR:O   | 1.85                     | 0.77              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:R:476:ASN:OD1  | 1:X:642:MET:HB2  | 1.84                     | 0.77              |
| 1:T:642:MET:HB2  | 1:V:476:ASN:OD1  | 1.84                     | 0.77              |
| 1:Z:726:GLY:HA2  | 1:RA:257:TYR:O   | 1.85                     | 0.77              |
| 1:LA:257:TYR:O   | 1:UA:726:GLY:HA2 | 1.84                     | 0.77              |
| 1:H:257:TYR:O    | 1:IB:726:GLY:HA2 | 1.85                     | 0.77              |
| 1:OA:257:TYR:O   | 1:FB:726:GLY:HA2 | 1.85                     | 0.77              |
| 1:ZA:257:TYR:O   | 1:HB:726:GLY:HA2 | 1.85                     | 0.77              |
| 1:D:726:GLY:HA2  | 1:F:257:TYR:O    | 1.85                     | 0.77              |
| 1:F:642:MET:HB2  | 1:S:476:ASN:OD1  | 1.84                     | 0.77              |
| 1:K:257:TYR:O    | 1:S:726:GLY:HA2  | 1.85                     | 0.77              |
| 1:L:476:ASN:OD1  | 1:FB:642:MET:HB2 | 1.84                     | 0.77              |
| 1:N:257:TYR:O    | 1:RA:726:GLY:HA2 | 1.84                     | 0.77              |
| 1:GA:257:TYR:O   | 1:EB:726:GLY:HA2 | 1.85                     | 0.77              |
| 1:IA:726:GLY:HA2 | 1:KA:257:TYR:O   | 1.85                     | 0.77              |
| 1:PA:257:TYR:O   | 1:XA:726:GLY:HA2 | 1.85                     | 0.77              |
| 1:D:476:ASN:OD1  | 1:K:642:MET:HB2  | 1.84                     | 0.77              |
| 1:E:642:MET:HB2  | 1:AA:476:ASN:OD1 | 1.84                     | 0.77              |
| 1:H:642:MET:HB2  | 1:RA:476:ASN:OD1 | 1.84                     | 0.77              |
| 1:I:257:TYR:O    | 1:BB:726:GLY:HA2 | 1.85                     | 0.77              |
| 1:L:642:MET:HB2  | 1:W:476:ASN:OD1  | 1.84                     | 0.77              |
| 1:M:642:MET:HB2  | 1:BB:476:ASN:OD1 | 1.84                     | 0.77              |
| 1:Q:476:ASN:OD1  | 1:QA:642:MET:HB2 | 1.84                     | 0.77              |
| 1:EA:726:GLY:HA2 | 1:BB:257:TYR:O   | 1.85                     | 0.77              |
| 1:FA:257:TYR:O   | 1:NA:726:GLY:HA2 | 1.85                     | 0.77              |
| 1:B:476:ASN:OD1  | 1:AB:642:MET:HB2 | 1.84                     | 0.76              |
| 1:G:476:ASN:OD1  | 1:VA:642:MET:HB2 | 1.84                     | 0.76              |
| 1:R:642:MET:HB2  | 1:WA:476:ASN:OD1 | 1.84                     | 0.76              |
| 1:JA:726:GLY:HA2 | 1:GB:257:TYR:O   | 1.85                     | 0.76              |
| 1:PA:642:MET:HB2 | 1:CB:476:ASN:OD1 | 1.84                     | 0.76              |
| 1:C:642:MET:HB2  | 1:GB:476:ASN:OD1 | 1.84                     | 0.76              |
| 1:M:476:ASN:OD1  | 1:HA:642:MET:HB2 | 1.84                     | 0.76              |
| 1:Z:257:TYR:O    | 1:AB:726:GLY:HA2 | 1.85                     | 0.76              |
| 1:SA:476:ASN:OD1 | 1:ZA:642:MET:HB2 | 1.84                     | 0.76              |
| 1:G:642:MET:HB2  | 1:BA:476:ASN:OD1 | 1.84                     | 0.76              |
| 1:T:257:TYR:O    | 1:LA:726:GLY:HA2 | 1.85                     | 0.76              |
| 1:W:642:MET:HB2  | 1:FB:476:ASN:OD1 | 1.84                     | 0.76              |
| 1:EA:257:TYR:O   | 1:QA:726:GLY:HA2 | 1.85                     | 0.76              |
| 1:OA:726:GLY:HA2 | 1:WA:257:TYR:O   | 1.85                     | 0.76              |
| 1:SA:726:GLY:HA2 | 1:UA:257:TYR:O   | 1.85                     | 0.76              |
| 1:A:476:ASN:OD1  | 1:IB:642:MET:HB2 | 1.84                     | 0.76              |
| 1:D:257:TYR:O    | 1:WA:726:GLY:HA2 | 1.85                     | 0.76              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:G:257:TYR:O    | 1:FA:726:GLY:HA2 | 1.85                     | 0.76              |
| 1:H:476:ASN:OD1  | 1:MA:642:MET:HB2 | 1.84                     | 0.76              |
| 1:L:257:TYR:O    | 1:KA:726:GLY:HA2 | 1.84                     | 0.76              |
| 1:N:642:MET:HB2  | 1:IB:476:ASN:OD1 | 1.84                     | 0.76              |
| 1:BA:642:MET:HB2 | 1:VA:476:ASN:OD1 | 1.84                     | 0.76              |
| 1:UA:642:MET:HB2 | 1:HB:476:ASN:OD1 | 1.84                     | 0.76              |
| 1:XA:476:ASN:OD1 | 1:EB:642:MET:HB2 | 1.84                     | 0.76              |
| 1:E:257:TYR:O    | 1:GA:726:GLY:HA2 | 1.85                     | 0.76              |
| 1:I:642:MET:HB2  | 1:YA:476:ASN:OD1 | 1.84                     | 0.76              |
| 1:O:257:TYR:O    | 1:BA:726:GLY:HA2 | 1.85                     | 0.76              |
| 1:P:476:ASN:OD1  | 1:YA:642:MET:HB2 | 1.84                     | 0.76              |
| 1:S:257:TYR:O    | 1:GB:726:GLY:HA2 | 1.85                     | 0.76              |
| 1:CB:726:GLY:HA2 | 1:EB:257:TYR:O   | 1.85                     | 0.76              |
| 1:J:257:TYR:O    | 1:W:726:GLY:HA2  | 1.85                     | 0.76              |
| 1:N:726:GLY:HA2  | 1:P:257:TYR:O    | 1.85                     | 0.76              |
| 1:A:257:TYR:O    | 1:I:726:GLY:HA2  | 1.85                     | 0.76              |
| 1:Q:257:TYR:O    | 1:AA:726:GLY:HA2 | 1.85                     | 0.76              |
| 1:B:257:TYR:O    | 1:V:726:GLY:HA2  | 1.85                     | 0.75              |
| 1:V:257:TYR:O    | 1:DA:726:GLY:HA2 | 1.85                     | 0.75              |
| 1:E:726:GLY:HA2  | 1:X:257:TYR:O    | 1.85                     | 0.75              |
| 1:Y:726:GLY:HA2  | 1:AA:257:TYR:O   | 1.85                     | 0.75              |
| 1:T:726:GLY:HA2  | 1:CA:257:TYR:O   | 1.85                     | 0.75              |
| 1:E:440:GLN:NE2  | 1:NA:356:SER:O   | 2.21                     | 0.73              |
| 1:T:440:GLN:NE2  | 1:IA:356:SER:O   | 2.21                     | 0.73              |
| 1:HA:440:GLN:NE2 | 1:BB:356:SER:O   | 2.21                     | 0.73              |
| 1:MA:440:GLN:NE2 | 1:RA:356:SER:O   | 2.21                     | 0.73              |
| 1:Z:356:SER:O    | 1:UA:440:GLN:NE2 | 2.21                     | 0.72              |
| 1:A:440:GLN:NE2  | 1:IB:356:SER:O   | 2.20                     | 0.72              |
| 1:H:356:SER:O    | 1:RA:440:GLN:NE2 | 2.21                     | 0.72              |
| 1:M:356:SER:O    | 1:BB:440:GLN:NE2 | 2.21                     | 0.72              |
| 1:EA:356:SER:O   | 1:EB:440:GLN:NE2 | 2.21                     | 0.72              |
| 1:K:440:GLN:NE2  | 1:DB:356:SER:O   | 2.20                     | 0.72              |
| 1:F:440:GLN:NE2  | 1:TA:356:SER:O   | 2.21                     | 0.72              |
| 1:Y:440:GLN:NE2  | 1:FA:356:SER:O   | 2.21                     | 0.72              |
| 1:B:356:SER:O    | 1:LA:440:GLN:NE2 | 2.21                     | 0.72              |
| 1:W:356:SER:O    | 1:FB:440:GLN:NE2 | 2.20                     | 0.71              |
| 1:I:356:SER:O    | 1:YA:440:GLN:NE2 | 2.21                     | 0.71              |
| 1:Q:356:SER:O    | 1:GA:440:GLN:NE2 | 2.21                     | 0.71              |
| 1:R:440:GLN:NE2  | 1:X:356:SER:O    | 2.21                     | 0.71              |
| 1:OA:440:GLN:NE2 | 1:CB:356:SER:O   | 2.21                     | 0.71              |
| 1:A:356:SER:O    | 1:N:440:GLN:NE2  | 2.21                     | 0.71              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:Q:440:GLN:NE2  | 1:QA:356:SER:O   | 2.21                     | 0.71              |
| 1:V:356:SER:O    | 1:IA:440:GLN:NE2 | 2.21                     | 0.71              |
| 1:DA:440:GLN:NE2 | 1:KA:356:SER:O   | 2.21                     | 0.71              |
| 1:AA:356:SER:O   | 1:NA:440:GLN:NE2 | 2.21                     | 0.71              |
| 1:I:440:GLN:NE2  | 1:P:356:SER:O    | 2.21                     | 0.71              |
| 1:N:356:SER:O    | 1:IB:440:GLN:NE2 | 2.21                     | 0.71              |
| 1:BA:356:SER:O   | 1:VA:440:GLN:NE2 | 2.21                     | 0.71              |
| 1:B:440:GLN:NE2  | 1:AB:356:SER:O   | 2.21                     | 0.71              |
| 1:C:440:GLN:NE2  | 1:CA:356:SER:O   | 2.21                     | 0.71              |
| 1:JA:440:GLN:NE2 | 1:SA:356:SER:O   | 2.21                     | 0.71              |
| 1:G:440:GLN:NE2  | 1:VA:356:SER:O   | 2.21                     | 0.71              |
| 1:L:440:GLN:NE2  | 1:FB:356:SER:O   | 2.21                     | 0.71              |
| 1:PA:356:SER:O   | 1:CB:440:GLN:NE2 | 2.21                     | 0.71              |
| 1:G:356:SER:O    | 1:BA:440:GLN:NE2 | 2.21                     | 0.71              |
| 1:GA:356:SER:O   | 1:QA:440:GLN:NE2 | 2.21                     | 0.71              |
| 1:SA:440:GLN:NE2 | 1:ZA:356:SER:O   | 2.21                     | 0.70              |
| 1:LA:356:SER:O   | 1:AB:440:GLN:NE2 | 2.21                     | 0.70              |
| 1:L:356:SER:O    | 1:W:440:GLN:NE2  | 2.21                     | 0.70              |
| 1:WA:219:ASP:HB3 | 1:WA:223:ASN:HB3 | 1.74                     | 0.70              |
| 1:E:356:SER:O    | 1:AA:440:GLN:NE2 | 2.21                     | 0.69              |
| 1:F:298:ARG:NH1  | 1:L:697:GLU:OE1  | 2.26                     | 0.69              |
| 1:G:697:GLU:OE1  | 1:K:298:ARG:NH1  | 2.25                     | 0.69              |
| 1:J:219:ASP:HB3  | 1:J:223:ASN:HB3  | 1.74                     | 0.69              |
| 1:AA:298:ARG:NH1 | 1:GA:697:GLU:OE1 | 2.25                     | 0.69              |
| 1:WA:697:GLU:OE1 | 1:DB:298:ARG:NH1 | 2.25                     | 0.69              |
| 1:H:697:GLU:OE1  | 1:O:298:ARG:NH1  | 2.26                     | 0.69              |
| 1:J:298:ARG:NH1  | 1:M:697:GLU:OE1  | 2.26                     | 0.69              |
| 1:T:356:SER:O    | 1:V:440:GLN:NE2  | 2.21                     | 0.69              |
| 1:V:298:ARG:NH1  | 1:LA:697:GLU:OE1 | 2.26                     | 0.69              |
| 1:EA:298:ARG:NH1 | 1:HA:697:GLU:OE1 | 2.26                     | 0.69              |
| 1:UA:219:ASP:HB3 | 1:UA:223:ASN:HB3 | 1.74                     | 0.69              |
| 1:XA:298:ARG:NH1 | 1:CB:697:GLU:OE1 | 2.26                     | 0.69              |
| 1:GB:219:ASP:HB3 | 1:GB:223:ASN:HB3 | 1.74                     | 0.69              |
| 1:C:697:GLU:OE1  | 1:T:298:ARG:NH1  | 2.26                     | 0.69              |
| 1:E:298:ARG:NH1  | 1:R:697:GLU:OE1  | 2.25                     | 0.69              |
| 1:J:440:GLN:NE2  | 1:DA:356:SER:O   | 2.21                     | 0.69              |
| 1:O:219:ASP:HB3  | 1:O:223:ASN:HB3  | 1.74                     | 0.69              |
| 1:W:697:GLU:OE1  | 1:KA:298:ARG:NH1 | 2.25                     | 0.69              |
| 1:Z:298:ARG:NH1  | 1:MA:697:GLU:OE1 | 2.26                     | 0.69              |
| 1:AA:697:GLU:OE1 | 1:GA:298:ARG:NH1 | 2.26                     | 0.69              |
| 1:SA:298:ARG:NH1 | 1:HB:697:GLU:OE1 | 2.26                     | 0.69              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:TA:298:ARG:NH1  | 1:GB:697:GLU:OE1  | 2.26                     | 0.69              |
| 1:VA:697:GLU:OE1  | 1:ZA:298:ARG:NH1  | 2.25                     | 0.69              |
| 1:XA:697:GLU:OE1  | 1:CB:298:ARG:NH1  | 2.26                     | 0.69              |
| 1:D:219:ASP:HB3   | 1:D:223:ASN:HB3   | 1.74                     | 0.69              |
| 1:D:697:GLU:OE1   | 1:S:298:ARG:NH1   | 2.26                     | 0.69              |
| 1:F:356:SER:O     | 1:S:440:GLN:NE2   | 2.21                     | 0.69              |
| 1:V:697:GLU:OE1   | 1:LA:298:ARG:NH1  | 2.26                     | 0.69              |
| 1:X:697:GLU:OE1   | 1:OA:298:ARG:NH1  | 2.25                     | 0.69              |
| 1:BA:697:GLU:OE1  | 1:FA:298:ARG:NH1  | 2.26                     | 0.69              |
| 1:PA:298:ARG:NH1  | 1:FB:697:GLU:OE1  | 2.26                     | 0.69              |
| 1:SA:697:GLU:OE1  | 1:HB:298:ARG:NH1  | 2.26                     | 0.69              |
| 1:XA:440:GLN:NE2  | 1:EB:356:SER:O    | 2.21                     | 0.69              |
| 1:EB:219:ASP:HB3  | 1:EB:223:ASN:HB3  | 1.74                     | 0.69              |
| 1:A:662:PRO:HG3   | 1:I:369:VAL:HG11  | 1.75                     | 0.69              |
| 1:D:298:ARG:NH1   | 1:S:697:GLU:OE1   | 2.26                     | 0.69              |
| 1:O:440:GLN:NE2   | 1:Y:356:SER:O     | 2.21                     | 0.69              |
| 1:S:219:ASP:HB3   | 1:S:223:ASN:HB3   | 1.74                     | 0.69              |
| 1:Z:369:VAL:HG11  | 1:RA:662:PRO:HG3  | 1.75                     | 0.69              |
| 1:W:298:ARG:NH1   | 1:KA:697:GLU:OE1  | 2.26                     | 0.69              |
| 1:CA:369:VAL:HG11 | 1:SA:662:PRO:HG3  | 1.75                     | 0.69              |
| 1:CA:697:GLU:OE1  | 1:JA:298:ARG:NH1  | 2.26                     | 0.69              |
| 1:EA:369:VAL:HG11 | 1:BB:662:PRO:HG3  | 1.75                     | 0.69              |
| 1:LA:662:PRO:HG3  | 1:UA:369:VAL:HG11 | 1.75                     | 0.69              |
| 1:UA:356:SER:O    | 1:HB:440:GLN:NE2  | 2.21                     | 0.69              |
| 1:VA:219:ASP:HB3  | 1:VA:223:ASN:HB3  | 1.74                     | 0.69              |
| 1:ZA:662:PRO:HG3  | 1:HB:369:VAL:HG11 | 1.75                     | 0.69              |
| 1:F:369:VAL:HG11  | 1:FB:662:PRO:HG3  | 1.75                     | 0.69              |
| 1:J:662:PRO:HG3   | 1:W:369:VAL:HG11  | 1.75                     | 0.69              |
| 1:L:369:VAL:HG11  | 1:TA:662:PRO:HG3  | 1.75                     | 0.69              |
| 1:N:369:VAL:HG11  | 1:P:662:PRO:HG3   | 1.75                     | 0.69              |
| 1:O:608:VAL:O     | 1:Y:608:VAL:HG23  | 1.93                     | 0.69              |
| 1:X:369:VAL:HG11  | 1:CB:662:PRO:HG3  | 1.75                     | 0.69              |
| 1:BA:298:ARG:NH1  | 1:FA:697:GLU:OE1  | 2.26                     | 0.69              |
| 1:CA:440:GLN:NE2  | 1:GB:356:SER:O    | 2.21                     | 0.69              |
| 1:HA:369:VAL:HG11 | 1:XA:662:PRO:HG3  | 1.75                     | 0.69              |
| 1:JA:608:VAL:O    | 1:SA:608:VAL:HG23 | 1.93                     | 0.69              |
| 1:MA:369:VAL:HG11 | 1:HB:662:PRO:HG3  | 1.75                     | 0.69              |
| 1:OA:608:VAL:O    | 1:CB:608:VAL:HG23 | 1.93                     | 0.69              |
| 1:PA:662:PRO:HG3  | 1:XA:369:VAL:HG11 | 1.75                     | 0.69              |
| 1:D:440:GLN:NE2   | 1:K:356:SER:O     | 2.21                     | 0.69              |
| 1:E:608:VAL:HG23  | 1:AA:608:VAL:O    | 1.93                     | 0.69              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:G:369:VAL:HG11 | 1:DB:662:PRO:HG3  | 1.75                     | 0.69              |
| 1:I:608:VAL:HG23 | 1:YA:608:VAL:O    | 1.93                     | 0.69              |
| 1:J:608:VAL:O    | 1:DA:608:VAL:HG23 | 1.93                     | 0.69              |
| 1:K:369:VAL:HG11 | 1:VA:662:PRO:HG3  | 1.75                     | 0.69              |
| 1:N:608:VAL:HG23 | 1:IB:608:VAL:O    | 1.93                     | 0.69              |
| 1:O:662:PRO:HG3  | 1:BA:369:VAL:HG11 | 1.75                     | 0.69              |
| 1:T:608:VAL:HG23 | 1:V:608:VAL:O     | 1.93                     | 0.69              |
| 1:X:440:GLN:NE2  | 1:WA:356:SER:O    | 2.21                     | 0.69              |
| 1:DA:298:ARG:NH1 | 1:IA:697:GLU:OE1  | 2.26                     | 0.69              |
| 1:GA:662:PRO:HG3 | 1:EB:369:VAL:HG11 | 1.75                     | 0.69              |
| 1:JA:662:PRO:HG3 | 1:VA:369:VAL:HG11 | 1.75                     | 0.69              |
| 1:OA:662:PRO:HG3 | 1:FB:369:VAL:HG11 | 1.75                     | 0.69              |
| 1:QA:219:ASP:HB3 | 1:QA:223:ASN:HB3  | 1.74                     | 0.69              |
| 1:QA:298:ARG:NH1 | 1:EB:697:GLU:OE1  | 2.26                     | 0.69              |
| 1:QA:697:GLU:OE1 | 1:EB:298:ARG:NH1  | 2.25                     | 0.69              |
| 1:UA:697:GLU:OE1 | 1:AB:298:ARG:NH1  | 2.26                     | 0.69              |
| 1:AB:219:ASP:HB3 | 1:AB:223:ASN:HB3  | 1.74                     | 0.69              |
| 1:FB:219:ASP:HB3 | 1:FB:223:ASN:HB3  | 1.74                     | 0.69              |
| 1:A:298:ARG:NH1  | 1:Q:697:GLU:OE1   | 2.25                     | 0.69              |
| 1:E:697:GLU:OE1  | 1:R:298:ARG:NH1   | 2.26                     | 0.69              |
| 1:P:440:GLN:NE2  | 1:YA:356:SER:O    | 2.21                     | 0.69              |
| 1:Y:298:ARG:NH1  | 1:NA:697:GLU:OE1  | 2.26                     | 0.69              |
| 1:HA:219:ASP:HB3 | 1:HA:223:ASN:HB3  | 1.74                     | 0.69              |
| 1:MA:219:ASP:HB3 | 1:MA:223:ASN:HB3  | 1.74                     | 0.69              |
| 1:SA:219:ASP:HB3 | 1:SA:223:ASN:HB3  | 1.74                     | 0.69              |
| 1:UA:298:ARG:NH1 | 1:AB:697:GLU:OE1  | 2.26                     | 0.69              |
| 1:F:219:ASP:HB3  | 1:F:223:ASN:HB3   | 1.74                     | 0.69              |
| 1:I:608:VAL:O    | 1:P:608:VAL:HG23  | 1.93                     | 0.69              |
| 1:T:219:ASP:HB3  | 1:T:223:ASN:HB3   | 1.74                     | 0.69              |
| 1:X:298:ARG:NH1  | 1:OA:697:GLU:OE1  | 2.26                     | 0.69              |
| 1:Y:697:GLU:OE1  | 1:NA:298:ARG:NH1  | 2.26                     | 0.69              |
| 1:DA:697:GLU:OE1 | 1:IA:298:ARG:NH1  | 2.26                     | 0.69              |
| 1:RA:697:GLU:OE1 | 1:IB:298:ARG:NH1  | 2.26                     | 0.69              |
| 1:YA:298:ARG:NH1 | 1:BB:697:GLU:OE1  | 2.26                     | 0.69              |
| 1:YA:697:GLU:OE1 | 1:BB:298:ARG:NH1  | 2.26                     | 0.69              |
| 1:A:608:VAL:HG23 | 1:N:608:VAL:O     | 1.94                     | 0.68              |
| 1:A:697:GLU:OE1  | 1:Q:298:ARG:NH1   | 2.26                     | 0.68              |
| 1:C:219:ASP:HB3  | 1:C:223:ASN:HB3   | 1.74                     | 0.68              |
| 1:C:298:ARG:NH1  | 1:T:697:GLU:OE1   | 2.26                     | 0.68              |
| 1:C:726:GLY:CA   | 1:IA:257:TYR:O    | 2.42                     | 0.68              |
| 1:D:356:SER:O    | 1:DB:440:GLN:NE2  | 2.21                     | 0.68              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:G:608:VAL:O     | 1:VA:608:VAL:HG23 | 1.93                     | 0.68              |
| 1:K:219:ASP:HB3   | 1:K:223:ASN:HB3   | 1.74                     | 0.68              |
| 1:L:608:VAL:O     | 1:FB:608:VAL:HG23 | 1.93                     | 0.68              |
| 1:M:440:GLN:NE2   | 1:HA:356:SER:O    | 2.21                     | 0.68              |
| 1:R:219:ASP:HB3   | 1:R:223:ASN:HB3   | 1.74                     | 0.68              |
| 1:R:356:SER:O     | 1:WA:440:GLN:NE2  | 2.21                     | 0.68              |
| 1:T:608:VAL:O     | 1:IA:608:VAL:HG23 | 1.93                     | 0.68              |
| 1:V:608:VAL:HG23  | 1:IA:608:VAL:O    | 1.94                     | 0.68              |
| 1:EA:697:GLU:OE1  | 1:HA:298:ARG:NH1  | 2.26                     | 0.68              |
| 1:HA:608:VAL:O    | 1:BB:608:VAL:HG23 | 1.93                     | 0.68              |
| 1:LA:608:VAL:HG23 | 1:AB:608:VAL:O    | 1.93                     | 0.68              |
| 1:NA:219:ASP:HB3  | 1:NA:223:ASN:HB3  | 1.74                     | 0.68              |
| 1:OA:219:ASP:HB3  | 1:OA:223:ASN:HB3  | 1.74                     | 0.68              |
| 1:OA:369:VAL:HG11 | 1:WA:662:PRO:HG3  | 1.75                     | 0.68              |
| 1:RA:298:ARG:NH1  | 1:IB:697:GLU:OE1  | 2.26                     | 0.68              |
| 1:SA:369:VAL:HG11 | 1:UA:662:PRO:HG3  | 1.75                     | 0.68              |
| 1:A:369:VAL:HG11  | 1:QA:662:PRO:HG3  | 1.75                     | 0.68              |
| 1:B:608:VAL:O     | 1:AB:608:VAL:HG23 | 1.93                     | 0.68              |
| 1:B:697:GLU:OE1   | 1:P:298:ARG:NH1   | 2.26                     | 0.68              |
| 1:C:356:SER:O     | 1:GB:440:GLN:NE2  | 2.21                     | 0.68              |
| 1:C:662:PRO:HG3   | 1:TA:369:VAL:HG11 | 1.75                     | 0.68              |
| 1:E:219:ASP:HB3   | 1:E:223:ASN:HB3   | 1.74                     | 0.68              |
| 1:F:697:GLU:OE1   | 1:L:298:ARG:NH1   | 2.26                     | 0.68              |
| 1:G:608:VAL:HG23  | 1:BA:608:VAL:O    | 1.94                     | 0.68              |
| 1:K:662:PRO:HG3   | 1:S:369:VAL:HG11  | 1.75                     | 0.68              |
| 1:L:608:VAL:HG23  | 1:W:608:VAL:O     | 1.93                     | 0.68              |
| 1:R:726:GLY:CA    | 1:NA:257:TYR:O    | 2.42                     | 0.68              |
| 1:S:356:SER:O     | 1:TA:440:GLN:NE2  | 2.21                     | 0.68              |
| 1:T:662:PRO:HG3   | 1:LA:369:VAL:HG11 | 1.75                     | 0.68              |
| 1:W:662:PRO:HG3   | 1:PA:369:VAL:HG11 | 1.75                     | 0.68              |
| 1:Y:608:VAL:O     | 1:FA:608:VAL:HG23 | 1.93                     | 0.68              |
| 1:AA:608:VAL:HG23 | 1:NA:608:VAL:O    | 1.94                     | 0.68              |
| 1:BA:662:PRO:HG3  | 1:ZA:369:VAL:HG11 | 1.75                     | 0.68              |
| 1:CA:298:ARG:NH1  | 1:JA:697:GLU:OE1  | 2.26                     | 0.68              |
| 1:GA:608:VAL:HG23 | 1:QA:608:VAL:O    | 1.93                     | 0.68              |
| 1:JA:219:ASP:HB3  | 1:JA:223:ASN:HB3  | 1.74                     | 0.68              |
| 1:JA:369:VAL:HG11 | 1:GB:662:PRO:HG3  | 1.75                     | 0.68              |
| 1:MA:608:VAL:O    | 1:RA:608:VAL:HG23 | 1.93                     | 0.68              |
| 1:TA:219:ASP:HB3  | 1:TA:223:ASN:HB3  | 1.74                     | 0.68              |
| 1:CB:219:ASP:HB3  | 1:CB:223:ASN:HB3  | 1.74                     | 0.68              |
| 1:CB:369:VAL:HG11 | 1:EB:662:PRO:HG3  | 1.75                     | 0.68              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:DB:219:ASP:HB3  | 1:DB:223:ASN:HB3  | 1.74                     | 0.68              |
| 1:B:298:ARG:NH1   | 1:P:697:GLU:OE1   | 2.26                     | 0.68              |
| 1:C:608:VAL:O     | 1:CA:608:VAL:HG23 | 1.93                     | 0.68              |
| 1:D:369:VAL:HG11  | 1:F:662:PRO:HG3   | 1.75                     | 0.68              |
| 1:E:608:VAL:O     | 1:NA:608:VAL:HG23 | 1.93                     | 0.68              |
| 1:G:298:ARG:NH1   | 1:K:697:GLU:OE1   | 2.26                     | 0.68              |
| 1:I:298:ARG:NH1   | 1:N:697:GLU:OE1   | 2.26                     | 0.68              |
| 1:I:697:GLU:OE1   | 1:N:298:ARG:NH1   | 2.26                     | 0.68              |
| 1:J:356:SER:O     | 1:KA:440:GLN:NE2  | 2.20                     | 0.68              |
| 1:M:726:GLY:CA    | 1:DA:257:TYR:O    | 2.42                     | 0.68              |
| 1:P:369:VAL:HG11  | 1:AB:662:PRO:HG3  | 1.75                     | 0.68              |
| 1:R:662:PRO:HG3   | 1:DB:369:VAL:HG11 | 1.75                     | 0.68              |
| 1:Z:697:GLU:OE1   | 1:MA:298:ARG:NH1  | 2.26                     | 0.68              |
| 1:DA:608:VAL:O    | 1:KA:608:VAL:HG23 | 1.94                     | 0.68              |
| 1:FA:662:PRO:HG3  | 1:NA:369:VAL:HG11 | 1.75                     | 0.68              |
| 1:IA:219:ASP:HB3  | 1:IA:223:ASN:HB3  | 1.74                     | 0.68              |
| 1:IA:369:VAL:HG11 | 1:KA:662:PRO:HG3  | 1.75                     | 0.68              |
| 1:JA:257:TYR:O    | 1:VA:726:GLY:CA   | 2.42                     | 0.68              |
| 1:KA:219:ASP:HB3  | 1:KA:223:ASN:HB3  | 1.74                     | 0.68              |
| 1:PA:697:GLU:OE1  | 1:FB:298:ARG:NH1  | 2.26                     | 0.68              |
| 1:VA:298:ARG:NH1  | 1:ZA:697:GLU:OE1  | 2.26                     | 0.68              |
| 1:E:662:PRO:HG3   | 1:GA:369:VAL:HG11 | 1.75                     | 0.68              |
| 1:H:726:GLY:CA    | 1:Y:257:TYR:O     | 2.42                     | 0.68              |
| 1:K:608:VAL:O     | 1:DB:608:VAL:HG23 | 1.93                     | 0.68              |
| 1:L:257:TYR:O     | 1:KA:726:GLY:CA   | 2.42                     | 0.68              |
| 1:R:608:VAL:O     | 1:X:608:VAL:HG23  | 1.94                     | 0.68              |
| 1:X:608:VAL:O     | 1:WA:608:VAL:HG23 | 1.93                     | 0.68              |
| 1:CA:219:ASP:HB3  | 1:CA:223:ASN:HB3  | 1.74                     | 0.68              |
| 1:CA:608:VAL:O    | 1:GB:608:VAL:HG23 | 1.93                     | 0.68              |
| 1:FA:219:ASP:HB3  | 1:FA:223:ASN:HB3  | 1.74                     | 0.68              |
| 1:GA:219:ASP:HB3  | 1:GA:223:ASN:HB3  | 1.74                     | 0.68              |
| 1:LA:257:TYR:O    | 1:UA:726:GLY:CA   | 2.42                     | 0.68              |
| 1:OA:257:TYR:O    | 1:FB:726:GLY:CA   | 2.42                     | 0.68              |
| 1:SA:726:GLY:CA   | 1:UA:257:TYR:O    | 2.42                     | 0.68              |
| 1:YA:219:ASP:HB3  | 1:YA:223:ASN:HB3  | 1.74                     | 0.68              |
| 1:ZA:219:ASP:HB3  | 1:ZA:223:ASN:HB3  | 1.74                     | 0.68              |
| 1:IB:219:ASP:HB3  | 1:IB:223:ASN:HB3  | 1.74                     | 0.68              |
| 1:H:440:GLN:NE2   | 1:MA:356:SER:O    | 2.21                     | 0.68              |
| 1:Q:608:VAL:O     | 1:QA:608:VAL:HG23 | 1.93                     | 0.68              |
| 1:V:219:ASP:HB3   | 1:V:223:ASN:HB3   | 1.74                     | 0.68              |
| 1:X:219:ASP:HB3   | 1:X:223:ASN:HB3   | 1.74                     | 0.68              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:FA:257:TYR:O    | 1:NA:726:GLY:CA   | 2.42                     | 0.68              |
| 1:GA:257:TYR:O    | 1:EB:726:GLY:CA   | 2.42                     | 0.68              |
| 1:PA:219:ASP:HB3  | 1:PA:223:ASN:HB3  | 1.74                     | 0.68              |
| 1:WA:298:ARG:NH1  | 1:DB:697:GLU:OE1  | 2.26                     | 0.68              |
| 1:ZA:257:TYR:O    | 1:HB:726:GLY:CA   | 2.42                     | 0.68              |
| 1:BB:219:ASP:HB3  | 1:BB:223:ASN:HB3  | 1.74                     | 0.68              |
| 1:B:662:PRO:HG3   | 1:V:369:VAL:HG11  | 1.75                     | 0.68              |
| 1:D:726:GLY:CA    | 1:F:257:TYR:O     | 2.42                     | 0.68              |
| 1:F:608:VAL:O     | 1:TA:608:VAL:HG23 | 1.93                     | 0.68              |
| 1:G:257:TYR:O     | 1:FA:726:GLY:CA   | 2.42                     | 0.68              |
| 1:H:608:VAL:HG23  | 1:RA:608:VAL:O    | 1.93                     | 0.68              |
| 1:K:257:TYR:O     | 1:S:726:GLY:CA    | 2.42                     | 0.68              |
| 1:N:257:TYR:O     | 1:RA:726:GLY:CA   | 2.42                     | 0.68              |
| 1:O:608:VAL:HG23  | 1:FA:608:VAL:O    | 1.93                     | 0.68              |
| 1:R:369:VAL:HG11  | 1:NA:662:PRO:HG3  | 1.75                     | 0.68              |
| 1:AA:219:ASP:HB3  | 1:AA:223:ASN:HB3  | 1.74                     | 0.68              |
| 1:BA:608:VAL:HG23 | 1:VA:608:VAL:O    | 1.93                     | 0.68              |
| 1:IA:726:GLY:CA   | 1:KA:257:TYR:O    | 2.42                     | 0.68              |
| 1:LA:219:ASP:HB3  | 1:LA:223:ASN:HB3  | 1.74                     | 0.68              |
| 1:PA:257:TYR:O    | 1:XA:726:GLY:CA   | 2.42                     | 0.68              |
| 1:RA:219:ASP:HB3  | 1:RA:223:ASN:HB3  | 1.74                     | 0.68              |
| 1:CB:726:GLY:CA   | 1:EB:257:TYR:O    | 2.42                     | 0.68              |
| 1:C:369:VAL:HG11  | 1:IA:662:PRO:HG3  | 1.75                     | 0.68              |
| 1:J:608:VAL:HG23  | 1:KA:608:VAL:O    | 1.93                     | 0.68              |
| 1:N:662:PRO:HG3   | 1:RA:369:VAL:HG11 | 1.75                     | 0.68              |
| 1:Q:662:PRO:HG3   | 1:AA:369:VAL:HG11 | 1.75                     | 0.68              |
| 1:W:608:VAL:HG23  | 1:FB:608:VAL:O    | 1.93                     | 0.68              |
| 1:TA:697:GLU:OE1  | 1:GB:298:ARG:NH1  | 2.26                     | 0.68              |
| 1:A:726:GLY:CA    | 1:QA:257:TYR:O    | 2.42                     | 0.68              |
| 1:E:369:VAL:HG11  | 1:X:662:PRO:HG3   | 1.75                     | 0.68              |
| 1:G:219:ASP:HB3   | 1:G:223:ASN:HB3   | 1.74                     | 0.68              |
| 1:M:608:VAL:HG23  | 1:BB:608:VAL:O    | 1.94                     | 0.68              |
| 1:O:356:SER:O     | 1:FA:440:GLN:NE2  | 2.21                     | 0.68              |
| 1:O:726:GLY:CA    | 1:MA:257:TYR:O    | 2.42                     | 0.68              |
| 1:P:726:GLY:CA    | 1:AB:257:TYR:O    | 2.42                     | 0.68              |
| 1:BA:219:ASP:HB3  | 1:BA:223:ASN:HB3  | 1.74                     | 0.68              |
| 1:PA:608:VAL:HG23 | 1:CB:608:VAL:O    | 1.94                     | 0.68              |
| 1:SA:608:VAL:O    | 1:ZA:608:VAL:HG23 | 1.93                     | 0.68              |
| 1:XA:608:VAL:O    | 1:EB:608:VAL:HG23 | 1.94                     | 0.68              |
| 1:E:726:GLY:CA    | 1:X:257:TYR:O     | 2.42                     | 0.68              |
| 1:H:219:ASP:HB3   | 1:H:223:ASN:HB3   | 1.74                     | 0.68              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:I:257:TYR:O     | 1:BB:726:GLY:CA   | 2.42                     | 0.68              |
| 1:I:662:PRO:HG3   | 1:BB:369:VAL:HG11 | 1.75                     | 0.68              |
| 1:J:726:GLY:CA    | 1:HA:257:TYR:O    | 2.42                     | 0.68              |
| 1:L:219:ASP:HB3   | 1:L:223:ASN:HB3   | 1.74                     | 0.68              |
| 1:R:257:TYR:O     | 1:DB:726:GLY:CA   | 2.42                     | 0.68              |
| 1:T:369:VAL:HG11  | 1:CA:662:PRO:HG3  | 1.75                     | 0.68              |
| 1:W:219:ASP:HB3   | 1:W:223:ASN:HB3   | 1.74                     | 0.68              |
| 1:CA:726:GLY:CA   | 1:SA:257:TYR:O    | 2.42                     | 0.68              |
| 1:EA:608:VAL:HG23 | 1:EB:608:VAL:O    | 1.93                     | 0.68              |
| 1:EA:726:GLY:CA   | 1:BB:257:TYR:O    | 2.42                     | 0.68              |
| 1:JA:356:SER:O    | 1:ZA:440:GLN:NE2  | 2.21                     | 0.68              |
| 1:UA:608:VAL:HG23 | 1:HB:608:VAL:O    | 1.94                     | 0.68              |
| 1:A:219:ASP:HB3   | 1:A:223:ASN:HB3   | 1.74                     | 0.68              |
| 1:C:257:TYR:O     | 1:TA:726:GLY:CA   | 2.42                     | 0.68              |
| 1:H:298:ARG:NH1   | 1:O:697:GLU:OE1   | 2.26                     | 0.68              |
| 1:I:219:ASP:HB3   | 1:I:223:ASN:HB3   | 1.74                     | 0.68              |
| 1:M:219:ASP:HB3   | 1:M:223:ASN:HB3   | 1.74                     | 0.68              |
| 1:O:257:TYR:O     | 1:BA:726:GLY:CA   | 2.42                     | 0.68              |
| 1:P:219:ASP:HB3   | 1:P:223:ASN:HB3   | 1.74                     | 0.68              |
| 1:Q:219:ASP:HB3   | 1:Q:223:ASN:HB3   | 1.74                     | 0.68              |
| 1:T:726:GLY:CA    | 1:CA:257:TYR:O    | 2.42                     | 0.68              |
| 1:X:726:GLY:CA    | 1:CB:257:TYR:O    | 2.42                     | 0.68              |
| 1:Z:608:VAL:HG23  | 1:UA:608:VAL:O    | 1.93                     | 0.68              |
| 1:Z:726:GLY:CA    | 1:RA:257:TYR:O    | 2.42                     | 0.68              |
| 1:OA:356:SER:O    | 1:PA:440:GLN:NE2  | 2.21                     | 0.68              |
| 1:XA:219:ASP:HB3  | 1:XA:223:ASN:HB3  | 1.74                     | 0.68              |
| 1:B:219:ASP:HB3   | 1:B:223:ASN:HB3   | 1.74                     | 0.67              |
| 1:B:369:VAL:HG11  | 1:YA:662:PRO:HG3  | 1.75                     | 0.67              |
| 1:F:608:VAL:HG23  | 1:S:608:VAL:O     | 1.94                     | 0.67              |
| 1:F:615:GLN:NE2   | 1:TA:633:ASP:H    | 1.93                     | 0.67              |
| 1:J:257:TYR:O     | 1:W:726:GLY:CA    | 2.42                     | 0.67              |
| 1:J:633:ASP:H     | 1:KA:615:GLN:NE2  | 1.93                     | 0.67              |
| 1:J:697:GLU:OE1   | 1:M:298:ARG:NH1   | 2.26                     | 0.67              |
| 1:K:615:GLN:NE2   | 1:DB:633:ASP:H    | 1.93                     | 0.67              |
| 1:L:662:PRO:HG3   | 1:KA:369:VAL:HG11 | 1.75                     | 0.67              |
| 1:N:219:ASP:HB3   | 1:N:223:ASN:HB3   | 1.74                     | 0.67              |
| 1:O:633:ASP:H     | 1:FA:615:GLN:NE2  | 1.93                     | 0.67              |
| 1:V:662:PRO:HG3   | 1:DA:369:VAL:HG11 | 1.75                     | 0.67              |
| 1:Y:369:VAL:HG11  | 1:AA:662:PRO:HG3  | 1.75                     | 0.67              |
| 1:Z:615:GLN:NE2   | 1:HB:633:ASP:H    | 1.92                     | 0.67              |
| 1:Z:662:PRO:HG3   | 1:AB:369:VAL:HG11 | 1.75                     | 0.67              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:EA:615:GLN:NE2 | 1:XA:633:ASP:H    | 1.92                     | 0.67              |
| 1:E:633:ASP:H    | 1:AA:615:GLN:NE2  | 1.93                     | 0.67              |
| 1:F:633:ASP:H    | 1:S:615:GLN:NE2   | 1.93                     | 0.67              |
| 1:G:662:PRO:HG3  | 1:FA:369:VAL:HG11 | 1.75                     | 0.67              |
| 1:J:615:GLN:NE2  | 1:DA:633:ASP:H    | 1.92                     | 0.67              |
| 1:O:615:GLN:NE2  | 1:Y:633:ASP:H     | 1.92                     | 0.67              |
| 1:Q:726:GLY:CA   | 1:IB:257:TYR:O    | 2.42                     | 0.67              |
| 1:T:615:GLN:NE2  | 1:IA:633:ASP:H    | 1.92                     | 0.67              |
| 1:T:633:ASP:H    | 1:V:615:GLN:NE2   | 1.92                     | 0.67              |
| 1:DA:219:ASP:HB3 | 1:DA:223:ASN:HB3  | 1.74                     | 0.67              |
| 1:EA:662:PRO:HG3 | 1:QA:369:VAL:HG11 | 1.75                     | 0.67              |
| 1:HB:219:ASP:HB3 | 1:HB:223:ASN:HB3  | 1.74                     | 0.67              |
| 1:B:608:VAL:HG23 | 1:LA:608:VAL:O    | 1.93                     | 0.67              |
| 1:B:726:GLY:CA   | 1:YA:257:TYR:O    | 2.42                     | 0.67              |
| 1:D:633:ASP:H    | 1:DB:615:GLN:NE2  | 1.92                     | 0.67              |
| 1:M:608:VAL:O    | 1:HA:608:VAL:HG23 | 1.93                     | 0.67              |
| 1:Q:257:TYR:O    | 1:AA:726:GLY:CA   | 2.42                     | 0.67              |
| 1:Q:369:VAL:HG11 | 1:IB:662:PRO:HG3  | 1.75                     | 0.67              |
| 1:S:257:TYR:O    | 1:GB:726:GLY:CA   | 2.42                     | 0.67              |
| 1:Y:219:ASP:HB3  | 1:Y:223:ASN:HB3   | 1.74                     | 0.67              |
| 1:EA:440:GLN:NE2 | 1:XA:356:SER:O    | 2.21                     | 0.67              |
| 1:D:257:TYR:O    | 1:WA:726:GLY:CA   | 2.42                     | 0.67              |
| 1:D:608:VAL:O    | 1:K:608:VAL:HG23  | 1.94                     | 0.67              |
| 1:D:615:GLN:NE2  | 1:K:633:ASP:H     | 1.93                     | 0.67              |
| 1:E:615:GLN:NE2  | 1:NA:633:ASP:H    | 1.93                     | 0.67              |
| 1:K:726:GLY:CA   | 1:VA:257:TYR:O    | 2.42                     | 0.67              |
| 1:N:726:GLY:CA   | 1:P:257:TYR:O     | 2.42                     | 0.67              |
| 1:S:608:VAL:HG23 | 1:TA:608:VAL:O    | 1.93                     | 0.67              |
| 1:S:633:ASP:H    | 1:TA:615:GLN:NE2  | 1.93                     | 0.67              |
| 1:EA:219:ASP:HB3 | 1:EA:223:ASN:HB3  | 1.74                     | 0.67              |
| 1:GA:633:ASP:H   | 1:QA:615:GLN:NE2  | 1.93                     | 0.67              |
| 1:HA:726:GLY:CA  | 1:XA:257:TYR:O    | 2.42                     | 0.67              |
| 1:JA:615:GLN:NE2 | 1:SA:633:ASP:H    | 1.92                     | 0.67              |
| 1:JA:633:ASP:H   | 1:ZA:615:GLN:NE2  | 1.92                     | 0.67              |
| 1:LA:633:ASP:H   | 1:AB:615:GLN:NE2  | 1.93                     | 0.67              |
| 1:MA:726:GLY:CA  | 1:HB:257:TYR:O    | 2.42                     | 0.67              |
| 1:B:257:TYR:O    | 1:V:726:GLY:CA    | 2.42                     | 0.67              |
| 1:B:615:GLN:NE2  | 1:AB:633:ASP:H    | 1.93                     | 0.67              |
| 1:D:608:VAL:HG23 | 1:DB:608:VAL:O    | 1.93                     | 0.67              |
| 1:H:608:VAL:O    | 1:MA:608:VAL:HG23 | 1.93                     | 0.67              |
| 1:Q:608:VAL:HG23 | 1:GA:608:VAL:O    | 1.94                     | 0.67              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:Z:608:VAL:O     | 1:HB:608:VAL:HG23 | 1.93                     | 0.67              |
| 1:EA:608:VAL:O    | 1:XA:608:VAL:HG23 | 1.93                     | 0.67              |
| 1:JA:608:VAL:HG23 | 1:ZA:608:VAL:O    | 1.93                     | 0.67              |
| 1:OA:608:VAL:HG23 | 1:PA:608:VAL:O    | 1.93                     | 0.67              |
| 1:OA:615:GLN:NE2  | 1:CB:633:ASP:H    | 1.92                     | 0.67              |
| 1:A:257:TYR:O     | 1:I:726:GLY:CA    | 2.42                     | 0.67              |
| 1:E:257:TYR:O     | 1:GA:726:GLY:CA   | 2.42                     | 0.67              |
| 1:F:726:GLY:CA    | 1:FB:257:TYR:O    | 2.42                     | 0.67              |
| 1:H:633:ASP:H     | 1:RA:615:GLN:NE2  | 1.93                     | 0.67              |
| 1:M:633:ASP:H     | 1:BB:615:GLN:NE2  | 1.93                     | 0.67              |
| 1:P:608:VAL:O     | 1:YA:608:VAL:HG23 | 1.93                     | 0.67              |
| 1:Q:615:GLN:NE2   | 1:QA:633:ASP:H    | 1.93                     | 0.67              |
| 1:Z:440:GLN:NE2   | 1:HB:356:SER:O    | 2.21                     | 0.67              |
| 1:EA:257:TYR:O    | 1:QA:726:GLY:CA   | 2.42                     | 0.67              |
| 1:OA:633:ASP:H    | 1:PA:615:GLN:NE2  | 1.93                     | 0.67              |
| 1:A:608:VAL:O     | 1:IB:608:VAL:HG23 | 1.93                     | 0.67              |
| 1:C:633:ASP:H     | 1:GB:615:GLN:NE2  | 1.93                     | 0.67              |
| 1:M:257:TYR:O     | 1:YA:726:GLY:CA   | 2.42                     | 0.67              |
| 1:T:257:TYR:O     | 1:LA:726:GLY:CA   | 2.42                     | 0.67              |
| 1:Z:219:ASP:HB3   | 1:Z:223:ASN:HB3   | 1.74                     | 0.67              |
| 1:BA:633:ASP:H    | 1:VA:615:GLN:NE2  | 1.93                     | 0.67              |
| 1:G:726:GLY:CA    | 1:DB:257:TYR:O    | 2.42                     | 0.67              |
| 1:H:257:TYR:O     | 1:IB:726:GLY:CA   | 2.42                     | 0.67              |
| 1:O:369:VAL:HG11  | 1:MA:662:PRO:HG3  | 1.75                     | 0.67              |
| 1:R:633:ASP:H     | 1:WA:615:GLN:NE2  | 1.93                     | 0.67              |
| 1:S:662:PRO:HG3   | 1:GB:369:VAL:HG11 | 1.75                     | 0.67              |
| 1:Z:257:TYR:O     | 1:AB:726:GLY:CA   | 2.42                     | 0.67              |
| 1:G:633:ASP:H     | 1:BA:615:GLN:NE2  | 1.93                     | 0.67              |
| 1:H:369:VAL:HG11  | 1:Y:662:PRO:HG3   | 1.75                     | 0.67              |
| 1:L:726:GLY:CA    | 1:TA:257:TYR:O    | 2.42                     | 0.67              |
| 1:M:662:PRO:HG3   | 1:YA:369:VAL:HG11 | 1.75                     | 0.67              |
| 1:W:633:ASP:H     | 1:FB:615:GLN:NE2  | 1.93                     | 0.67              |
| 1:Y:615:GLN:NE2   | 1:FA:633:ASP:H    | 1.93                     | 0.67              |
| 1:B:633:ASP:H     | 1:LA:615:GLN:NE2  | 1.93                     | 0.67              |
| 1:D:662:PRO:HG3   | 1:WA:369:VAL:HG11 | 1.75                     | 0.67              |
| 1:Q:633:ASP:H     | 1:GA:615:GLN:NE2  | 1.93                     | 0.67              |
| 1:R:608:VAL:HG23  | 1:WA:608:VAL:O    | 1.94                     | 0.67              |
| 1:DA:615:GLN:NE2  | 1:KA:633:ASP:H    | 1.93                     | 0.67              |
| 1:A:633:ASP:H     | 1:N:615:GLN:NE2   | 1.93                     | 0.66              |
| 1:C:608:VAL:HG23  | 1:GB:608:VAL:O    | 1.93                     | 0.66              |
| 1:I:633:ASP:H     | 1:YA:615:GLN:NE2  | 1.92                     | 0.66              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:J:369:VAL:HG11  | 1:HA:662:PRO:HG3  | 1.75                     | 0.66              |
| 1:N:633:ASP:H     | 1:IB:615:GLN:NE2  | 1.92                     | 0.66              |
| 1:UA:633:ASP:H    | 1:HB:615:GLN:NE2  | 1.93                     | 0.66              |
| 1:XA:615:GLN:NE2  | 1:EB:633:ASP:H    | 1.93                     | 0.66              |
| 1:H:662:PRO:HG3   | 1:IB:369:VAL:HG11 | 1.75                     | 0.66              |
| 1:I:615:GLN:NE2   | 1:P:633:ASP:H     | 1.93                     | 0.66              |
| 1:M:369:VAL:HG11  | 1:DA:662:PRO:HG3  | 1.75                     | 0.66              |
| 1:M:615:GLN:NE2   | 1:HA:633:ASP:H    | 1.93                     | 0.66              |
| 1:CA:615:GLN:NE2  | 1:GB:633:ASP:H    | 1.93                     | 0.66              |
| 1:HA:615:GLN:NE2  | 1:BB:633:ASP:H    | 1.93                     | 0.66              |
| 1:OA:726:GLY:CA   | 1:WA:257:TYR:O    | 2.42                     | 0.66              |
| 1:G:615:GLN:NE2   | 1:VA:633:ASP:H    | 1.93                     | 0.66              |
| 1:L:633:ASP:H     | 1:W:615:GLN:NE2   | 1.93                     | 0.66              |
| 1:V:633:ASP:H     | 1:IA:615:GLN:NE2  | 1.93                     | 0.66              |
| 1:BA:257:TYR:O    | 1:ZA:726:GLY:CA   | 2.42                     | 0.66              |
| 1:JA:726:GLY:CA   | 1:GB:257:TYR:O    | 2.42                     | 0.66              |
| 1:MA:615:GLN:NE2  | 1:RA:633:ASP:H    | 1.93                     | 0.66              |
| 1:H:615:GLN:NE2   | 1:MA:633:ASP:H    | 1.93                     | 0.66              |
| 1:W:257:TYR:O     | 1:PA:726:GLY:CA   | 2.42                     | 0.66              |
| 1:L:615:GLN:NE2   | 1:FB:633:ASP:H    | 1.93                     | 0.66              |
| 1:X:615:GLN:NE2   | 1:WA:633:ASP:H    | 1.93                     | 0.66              |
| 1:AA:633:ASP:H    | 1:NA:615:GLN:NE2  | 1.93                     | 0.66              |
| 1:A:615:GLN:NE2   | 1:IB:633:ASP:H    | 1.93                     | 0.66              |
| 1:Y:726:GLY:CA    | 1:AA:257:TYR:O    | 2.42                     | 0.66              |
| 1:P:615:GLN:NE2   | 1:YA:633:ASP:H    | 1.92                     | 0.66              |
| 1:R:615:GLN:NE2   | 1:X:633:ASP:H     | 1.93                     | 0.66              |
| 1:V:257:TYR:O     | 1:DA:726:GLY:CA   | 2.42                     | 0.66              |
| 1:Z:633:ASP:H     | 1:UA:615:GLN:NE2  | 1.93                     | 0.66              |
| 1:C:615:GLN:NE2   | 1:CA:633:ASP:H    | 1.93                     | 0.66              |
| 1:EA:633:ASP:H    | 1:EB:615:GLN:NE2  | 1.93                     | 0.66              |
| 1:SA:615:GLN:NE2  | 1:ZA:633:ASP:H    | 1.93                     | 0.65              |
| 1:PA:633:ASP:H    | 1:CB:615:GLN:NE2  | 1.93                     | 0.65              |
| 1:XA:448:THR:OG1  | 1:EB:499:GLU:HA   | 1.97                     | 0.65              |
| 1:Q:448:THR:OG1   | 1:QA:499:GLU:HA   | 1.97                     | 0.65              |
| 1:Z:354:LEU:HD13  | 1:Z:653:GLN:HG2   | 1.79                     | 0.65              |
| 1:DA:354:LEU:HD13 | 1:DA:653:GLN:HG2  | 1.79                     | 0.65              |
| 1:DA:448:THR:OG1  | 1:KA:499:GLU:HA   | 1.97                     | 0.65              |
| 1:UA:499:GLU:HA   | 1:HB:448:THR:OG1  | 1.97                     | 0.65              |
| 1:CB:354:LEU:HD13 | 1:CB:653:GLN:HG2  | 1.80                     | 0.65              |
| 1:B:448:THR:OG1   | 1:AB:499:GLU:HA   | 1.97                     | 0.64              |
| 1:L:499:GLU:HA    | 1:W:448:THR:OG1   | 1.97                     | 0.64              |

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| Atom-1            | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 1:EA:354:LEU:HD13 | 1:EA:653:GLN:HG2 | 1.80                     | 0.64              |
| 1:SA:354:LEU:HD13 | 1:SA:653:GLN:HG2 | 1.80                     | 0.64              |
| 1:TA:354:LEU:HD13 | 1:TA:653:GLN:HG2 | 1.80                     | 0.64              |
| 1:DB:354:LEU:HD13 | 1:DB:653:GLN:HG2 | 1.80                     | 0.64              |
| 1:Y:354:LEU:HD13  | 1:Y:653:GLN:HG2  | 1.80                     | 0.64              |
| 1:Y:448:THR:OG1   | 1:FA:499:GLU:HA  | 1.97                     | 0.64              |
| 1:BA:354:LEU:HD13 | 1:BA:653:GLN:HG2 | 1.79                     | 0.64              |
| 1:BB:354:LEU:HD13 | 1:BB:653:GLN:HG2 | 1.80                     | 0.64              |
| 1:GB:354:LEU:HD13 | 1:GB:653:GLN:HG2 | 1.80                     | 0.64              |
| 1:B:354:LEU:HD13  | 1:B:653:GLN:HG2  | 1.80                     | 0.64              |
| 1:G:499:GLU:HA    | 1:BA:448:THR:OG1 | 1.98                     | 0.64              |
| 1:W:354:LEU:HD13  | 1:W:653:GLN:HG2  | 1.80                     | 0.64              |
| 1:QA:354:LEU:HD13 | 1:QA:653:GLN:HG2 | 1.80                     | 0.64              |
| 1:RA:354:LEU:HD13 | 1:RA:653:GLN:HG2 | 1.80                     | 0.64              |
| 1:WA:354:LEU:HD13 | 1:WA:653:GLN:HG2 | 1.80                     | 0.64              |
| 1:AB:354:LEU:HD13 | 1:AB:653:GLN:HG2 | 1.80                     | 0.64              |
| 1:C:448:THR:OG1   | 1:CA:499:GLU:HA  | 1.97                     | 0.64              |
| 1:Q:354:LEU:HD13  | 1:Q:653:GLN:HG2  | 1.79                     | 0.64              |
| 1:R:499:GLU:HA    | 1:WA:448:THR:OG1 | 1.97                     | 0.64              |
| 1:Z:499:GLU:HA    | 1:UA:448:THR:OG1 | 1.98                     | 0.64              |
| 1:EA:499:GLU:HA   | 1:EB:448:THR:OG1 | 1.98                     | 0.64              |
| 1:HA:354:LEU:HD13 | 1:HA:653:GLN:HG2 | 1.80                     | 0.64              |
| 1:JA:448:THR:OG1  | 1:SA:499:GLU:HA  | 1.98                     | 0.64              |
| 1:MA:354:LEU:HD13 | 1:MA:653:GLN:HG2 | 1.79                     | 0.64              |
| 1:PA:499:GLU:HA   | 1:CB:448:THR:OG1 | 1.97                     | 0.64              |
| 1:SA:448:THR:OG1  | 1:ZA:499:GLU:HA  | 1.97                     | 0.64              |
| 1:EB:354:LEU:HD13 | 1:EB:653:GLN:HG2 | 1.80                     | 0.64              |
| 1:A:354:LEU:HD13  | 1:A:653:GLN:HG2  | 1.80                     | 0.64              |
| 1:C:499:GLU:HA    | 1:GB:448:THR:OG1 | 1.98                     | 0.64              |
| 1:D:448:THR:OG1   | 1:K:499:GLU:HA   | 1.97                     | 0.64              |
| 1:G:354:LEU:HD13  | 1:G:653:GLN:HG2  | 1.80                     | 0.64              |
| 1:L:354:LEU:HD13  | 1:L:653:GLN:HG2  | 1.79                     | 0.64              |
| 1:P:354:LEU:HD13  | 1:P:653:GLN:HG2  | 1.80                     | 0.64              |
| 1:R:448:THR:OG1   | 1:X:499:GLU:HA   | 1.97                     | 0.64              |
| 1:BA:499:GLU:HA   | 1:VA:448:THR:OG1 | 1.98                     | 0.64              |
| 1:PA:354:LEU:HD13 | 1:PA:653:GLN:HG2 | 1.80                     | 0.64              |
| 1:UA:354:LEU:HD13 | 1:UA:653:GLN:HG2 | 1.80                     | 0.64              |
| 1:D:499:GLU:HA    | 1:DB:448:THR:OG1 | 1.98                     | 0.64              |
| 1:S:499:GLU:HA    | 1:TA:448:THR:OG1 | 1.98                     | 0.64              |
| 1:FA:354:LEU:HD13 | 1:FA:653:GLN:HG2 | 1.80                     | 0.64              |
| 1:OA:448:THR:OG1  | 1:CB:499:GLU:HA  | 1.98                     | 0.64              |

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| Atom-1            | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 1:OA:499:GLU:HA   | 1:PA:448:THR:OG1 | 1.98                     | 0.64              |
| 1:XA:354:LEU:HD13 | 1:XA:653:GLN:HG2 | 1.79                     | 0.64              |
| 1:ZA:354:LEU:HD13 | 1:ZA:653:GLN:HG2 | 1.80                     | 0.64              |
| 1:HB:354:LEU:HD13 | 1:HB:653:GLN:HG2 | 1.80                     | 0.64              |
| 1:E:448:THR:OG1   | 1:NA:499:GLU:HA  | 1.98                     | 0.64              |
| 1:H:354:LEU:HD13  | 1:H:653:GLN:HG2  | 1.79                     | 0.64              |
| 1:M:354:LEU:HD13  | 1:M:653:GLN:HG2  | 1.80                     | 0.64              |
| 1:V:499:GLU:HA    | 1:IA:448:THR:OG1 | 1.97                     | 0.64              |
| 1:AA:499:GLU:HA   | 1:NA:448:THR:OG1 | 1.97                     | 0.64              |
| 1:KA:354:LEU:HD13 | 1:KA:653:GLN:HG2 | 1.80                     | 0.64              |
| 1:YA:354:LEU:HD13 | 1:YA:653:GLN:HG2 | 1.80                     | 0.64              |
| 1:F:499:GLU:HA    | 1:S:448:THR:OG1  | 1.97                     | 0.64              |
| 1:P:448:THR:OG1   | 1:YA:499:GLU:HA  | 1.98                     | 0.64              |
| 1:W:499:GLU:HA    | 1:FB:448:THR:OG1 | 1.98                     | 0.64              |
| 1:IB:354:LEU:HD13 | 1:IB:653:GLN:HG2 | 1.80                     | 0.64              |
| 1:A:448:THR:OG1   | 1:IB:499:GLU:HA  | 1.98                     | 0.64              |
| 1:G:448:THR:OG1   | 1:VA:499:GLU:HA  | 1.97                     | 0.64              |
| 1:I:499:GLU:HA    | 1:YA:448:THR:OG1 | 1.98                     | 0.64              |
| 1:T:448:THR:OG1   | 1:IA:499:GLU:HA  | 1.98                     | 0.64              |
| 1:JA:499:GLU:HA   | 1:ZA:448:THR:OG1 | 1.98                     | 0.64              |
| 1:E:354:LEU:HD13  | 1:E:653:GLN:HG2  | 1.79                     | 0.64              |
| 1:F:448:THR:OG1   | 1:TA:499:GLU:HA  | 1.98                     | 0.64              |
| 1:H:448:THR:OG1   | 1:MA:499:GLU:HA  | 1.98                     | 0.64              |
| 1:K:448:THR:OG1   | 1:DB:499:GLU:HA  | 1.98                     | 0.64              |
| 1:HA:448:THR:OG1  | 1:BB:499:GLU:HA  | 1.97                     | 0.64              |
| 1:J:499:GLU:HA    | 1:KA:448:THR:OG1 | 1.98                     | 0.63              |
| 1:M:448:THR:OG1   | 1:HA:499:GLU:HA  | 1.98                     | 0.63              |
| 1:N:499:GLU:HA    | 1:IB:448:THR:OG1 | 1.98                     | 0.63              |
| 1:L:448:THR:OG1   | 1:FB:499:GLU:HA  | 1.98                     | 0.63              |
| 1:O:499:GLU:HA    | 1:FA:448:THR:OG1 | 1.98                     | 0.63              |
| 1:T:354:LEU:HD13  | 1:T:653:GLN:HG2  | 1.80                     | 0.63              |
| 1:LA:499:GLU:HA   | 1:AB:448:THR:OG1 | 1.97                     | 0.63              |
| 1:MA:448:THR:OG1  | 1:RA:499:GLU:HA  | 1.97                     | 0.63              |
| 1:X:354:LEU:HD13  | 1:X:653:GLN:HG2  | 1.79                     | 0.63              |
| 1:X:448:THR:OG1   | 1:WA:499:GLU:HA  | 1.97                     | 0.63              |
| 1:CA:448:THR:OG1  | 1:GB:499:GLU:HA  | 1.97                     | 0.63              |
| 1:I:354:LEU:HD13  | 1:I:653:GLN:HG2  | 1.80                     | 0.63              |
| 1:V:354:LEU:HD13  | 1:V:653:GLN:HG2  | 1.80                     | 0.63              |
| 1:AA:354:LEU:HD13 | 1:AA:653:GLN:HG2 | 1.80                     | 0.63              |
| 1:GA:499:GLU:HA   | 1:QA:448:THR:OG1 | 1.98                     | 0.63              |
| 1:CA:354:LEU:HD13 | 1:CA:653:GLN:HG2 | 1.80                     | 0.63              |

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| Atom-1            | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 1:J:354:LEU:HD13  | 1:J:653:GLN:HG2  | 1.80                     | 0.63              |
| 1:J:448:THR:OG1   | 1:DA:499:GLU:HA  | 1.98                     | 0.63              |
| 1:N:354:LEU:HD13  | 1:N:653:GLN:HG2  | 1.80                     | 0.63              |
| 1:Q:499:GLU:HA    | 1:GA:448:THR:OG1 | 1.98                     | 0.63              |
| 1:Z:448:THR:OG1   | 1:HB:499:GLU:HA  | 1.98                     | 0.63              |
| 1:EA:448:THR:OG1  | 1:XA:499:GLU:HA  | 1.98                     | 0.63              |
| 1:GA:354:LEU:HD13 | 1:GA:653:GLN:HG2 | 1.80                     | 0.63              |
| 1:LA:354:LEU:HD13 | 1:LA:653:GLN:HG2 | 1.80                     | 0.63              |
| 1:O:354:LEU:HD13  | 1:O:653:GLN:HG2  | 1.80                     | 0.63              |
| 1:NA:354:LEU:HD13 | 1:NA:653:GLN:HG2 | 1.80                     | 0.63              |
| 1:B:499:GLU:HA    | 1:LA:448:THR:OG1 | 1.98                     | 0.63              |
| 1:O:448:THR:OG1   | 1:Y:499:GLU:HA   | 1.98                     | 0.63              |
| 1:IA:354:LEU:HD13 | 1:IA:653:GLN:HG2 | 1.80                     | 0.63              |
| 1:OA:354:LEU:HD13 | 1:OA:653:GLN:HG2 | 1.80                     | 0.63              |
| 1:K:354:LEU:HD13  | 1:K:653:GLN:HG2  | 1.80                     | 0.63              |
| 1:M:499:GLU:HA    | 1:BB:448:THR:OG1 | 1.97                     | 0.63              |
| 1:JA:354:LEU:HD13 | 1:JA:653:GLN:HG2 | 1.80                     | 0.63              |
| 1:VA:354:LEU:HD13 | 1:VA:653:GLN:HG2 | 1.80                     | 0.63              |
| 1:FB:354:LEU:HD13 | 1:FB:653:GLN:HG2 | 1.80                     | 0.63              |
| 1:F:354:LEU:HD13  | 1:F:653:GLN:HG2  | 1.80                     | 0.62              |
| 1:H:499:GLU:HA    | 1:RA:448:THR:OG1 | 1.97                     | 0.62              |
| 1:A:499:GLU:HA    | 1:N:448:THR:OG1  | 1.97                     | 0.62              |
| 1:D:354:LEU:HD13  | 1:D:653:GLN:HG2  | 1.80                     | 0.62              |
| 1:F:701:ARG:HD3   | 1:F:705:GLU:HG2  | 1.82                     | 0.62              |
| 1:S:701:ARG:HD3   | 1:S:705:GLU:HG2  | 1.81                     | 0.62              |
| 1:FA:701:ARG:HD3  | 1:FA:705:GLU:HG2 | 1.82                     | 0.62              |
| 1:KA:701:ARG:HD3  | 1:KA:705:GLU:HG2 | 1.82                     | 0.62              |
| 1:TA:701:ARG:HD3  | 1:TA:705:GLU:HG2 | 1.81                     | 0.62              |
| 1:AB:701:ARG:HD3  | 1:AB:705:GLU:HG2 | 1.82                     | 0.62              |
| 1:D:701:ARG:HD3   | 1:D:705:GLU:HG2  | 1.82                     | 0.62              |
| 1:I:448:THR:OG1   | 1:P:499:GLU:HA   | 1.98                     | 0.62              |
| 1:K:701:ARG:HD3   | 1:K:705:GLU:HG2  | 1.82                     | 0.62              |
| 1:S:354:LEU:HD13  | 1:S:653:GLN:HG2  | 1.80                     | 0.62              |
| 1:QA:701:ARG:HD3  | 1:QA:705:GLU:HG2 | 1.82                     | 0.62              |
| 1:DB:701:ARG:HD3  | 1:DB:705:GLU:HG2 | 1.82                     | 0.62              |
| 1:AA:701:ARG:HD3  | 1:AA:705:GLU:HG2 | 1.82                     | 0.62              |
| 1:V:701:ARG:HD3   | 1:V:705:GLU:HG2  | 1.82                     | 0.62              |
| 1:HB:701:ARG:HD3  | 1:HB:705:GLU:HG2 | 1.82                     | 0.62              |
| 1:T:499:GLU:HA    | 1:V:448:THR:OG1  | 1.98                     | 0.62              |
| 1:DA:701:ARG:HD3  | 1:DA:705:GLU:HG2 | 1.82                     | 0.62              |
| 1:B:701:ARG:HD3   | 1:B:705:GLU:HG2  | 1.82                     | 0.62              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:Y:701:ARG:HD3  | 1:Y:705:GLU:HG2  | 1.82                     | 0.62              |
| 1:WA:701:ARG:HD3 | 1:WA:705:GLU:HG2 | 1.82                     | 0.62              |
| 1:XA:701:ARG:HD3 | 1:XA:705:GLU:HG2 | 1.82                     | 0.62              |
| 1:E:499:GLU:HA   | 1:AA:448:THR:OG1 | 1.98                     | 0.62              |
| 1:Q:701:ARG:HD3  | 1:Q:705:GLU:HG2  | 1.82                     | 0.62              |
| 1:R:354:LEU:HD13 | 1:R:653:GLN:HG2  | 1.80                     | 0.62              |
| 1:Z:701:ARG:HD3  | 1:Z:705:GLU:HG2  | 1.82                     | 0.62              |
| 1:GB:701:ARG:HD3 | 1:GB:705:GLU:HG2 | 1.82                     | 0.62              |
| 1:C:354:LEU:HD13 | 1:C:653:GLN:HG2  | 1.80                     | 0.62              |
| 1:O:701:ARG:HD3  | 1:O:705:GLU:HG2  | 1.82                     | 0.62              |
| 1:EA:701:ARG:HD3 | 1:EA:705:GLU:HG2 | 1.82                     | 0.62              |
| 1:EB:701:ARG:HD3 | 1:EB:705:GLU:HG2 | 1.82                     | 0.62              |
| 1:J:701:ARG:HD3  | 1:J:705:GLU:HG2  | 1.82                     | 0.62              |
| 1:UA:701:ARG:HD3 | 1:UA:705:GLU:HG2 | 1.82                     | 0.62              |
| 1:L:508:TYR:CD1  | 1:W:479:PRO:HG2  | 2.35                     | 0.61              |
| 1:GA:508:TYR:CD1 | 1:QA:479:PRO:HG2 | 2.35                     | 0.61              |
| 1:G:508:TYR:CD1  | 1:BA:479:PRO:HG2 | 2.35                     | 0.61              |
| 1:P:701:ARG:HD3  | 1:P:705:GLU:HG2  | 1.82                     | 0.61              |
| 1:W:701:ARG:HD3  | 1:W:705:GLU:HG2  | 1.82                     | 0.61              |
| 1:LA:508:TYR:CD1 | 1:AB:479:PRO:HG2 | 2.35                     | 0.61              |
| 1:A:701:ARG:HD3  | 1:A:705:GLU:HG2  | 1.82                     | 0.61              |
| 1:R:701:ARG:HD3  | 1:R:705:GLU:HG2  | 1.82                     | 0.61              |
| 1:BA:701:ARG:HD3 | 1:BA:705:GLU:HG2 | 1.82                     | 0.61              |
| 1:JA:701:ARG:HD3 | 1:JA:705:GLU:HG2 | 1.82                     | 0.61              |
| 1:E:701:ARG:HD3  | 1:E:705:GLU:HG2  | 1.82                     | 0.61              |
| 1:I:701:ARG:HD3  | 1:I:705:GLU:HG2  | 1.82                     | 0.61              |
| 1:J:479:PRO:HG2  | 1:DA:508:TYR:CD1 | 2.35                     | 0.61              |
| 1:L:701:ARG:HD3  | 1:L:705:GLU:HG2  | 1.82                     | 0.61              |
| 1:N:701:ARG:HD3  | 1:N:705:GLU:HG2  | 1.82                     | 0.61              |
| 1:O:479:PRO:HG2  | 1:Y:508:TYR:CD1  | 2.36                     | 0.61              |
| 1:R:508:TYR:CD1  | 1:WA:479:PRO:HG2 | 2.35                     | 0.61              |
| 1:DA:479:PRO:HG2 | 1:KA:508:TYR:CD1 | 2.36                     | 0.61              |
| 1:EA:508:TYR:CD1 | 1:EB:479:PRO:HG2 | 2.35                     | 0.61              |
| 1:SA:701:ARG:HD3 | 1:SA:705:GLU:HG2 | 1.81                     | 0.61              |
| 1:VA:701:ARG:HD3 | 1:VA:705:GLU:HG2 | 1.82                     | 0.61              |
| 1:FB:701:ARG:HD3 | 1:FB:705:GLU:HG2 | 1.82                     | 0.61              |
| 1:C:508:TYR:CD1  | 1:GB:479:PRO:HG2 | 2.36                     | 0.61              |
| 1:C:701:ARG:HD3  | 1:C:705:GLU:HG2  | 1.82                     | 0.61              |
| 1:G:701:ARG:HD3  | 1:G:705:GLU:HG2  | 1.82                     | 0.61              |
| 1:M:701:ARG:HD3  | 1:M:705:GLU:HG2  | 1.82                     | 0.61              |
| 1:T:701:ARG:HD3  | 1:T:705:GLU:HG2  | 1.82                     | 0.61              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:Y:479:PRO:HG2  | 1:FA:508:TYR:CD1 | 2.36                     | 0.61              |
| 1:Z:508:TYR:CD1  | 1:UA:479:PRO:HG2 | 2.36                     | 0.61              |
| 1:PA:508:TYR:CD1 | 1:CB:479:PRO:HG2 | 2.35                     | 0.61              |
| 1:SA:479:PRO:HG2 | 1:ZA:508:TYR:CD1 | 2.36                     | 0.61              |
| 1:YA:701:ARG:HD3 | 1:YA:705:GLU:HG2 | 1.82                     | 0.61              |
| 1:IB:701:ARG:HD3 | 1:IB:705:GLU:HG2 | 1.81                     | 0.61              |
| 1:A:508:TYR:CD1  | 1:N:479:PRO:HG2  | 2.36                     | 0.61              |
| 1:I:508:TYR:CD1  | 1:YA:479:PRO:HG2 | 2.36                     | 0.61              |
| 1:N:508:TYR:CD1  | 1:IB:479:PRO:HG2 | 2.36                     | 0.61              |
| 1:Q:508:TYR:CD1  | 1:GA:479:PRO:HG2 | 2.35                     | 0.61              |
| 1:OA:701:ARG:HD3 | 1:OA:705:GLU:HG2 | 1.82                     | 0.61              |
| 1:A:479:PRO:HG2  | 1:IB:508:TYR:CD1 | 2.36                     | 0.61              |
| 1:B:508:TYR:CD1  | 1:LA:479:PRO:HG2 | 2.35                     | 0.61              |
| 1:IA:701:ARG:HD3 | 1:IA:705:GLU:HG2 | 1.82                     | 0.61              |
| 1:CB:701:ARG:HD3 | 1:CB:705:GLU:HG2 | 1.82                     | 0.61              |
| 1:E:479:PRO:HG2  | 1:NA:508:TYR:CD1 | 2.36                     | 0.61              |
| 1:H:701:ARG:HD3  | 1:H:705:GLU:HG2  | 1.82                     | 0.61              |
| 1:I:479:PRO:HG2  | 1:P:508:TYR:CD1  | 2.36                     | 0.61              |
| 1:M:508:TYR:CD1  | 1:BB:479:PRO:HG2 | 2.35                     | 0.61              |
| 1:Q:479:PRO:HG2  | 1:QA:508:TYR:CD1 | 2.35                     | 0.61              |
| 1:JA:479:PRO:HG2 | 1:SA:508:TYR:CD1 | 2.36                     | 0.61              |
| 1:NA:701:ARG:HD3 | 1:NA:705:GLU:HG2 | 1.82                     | 0.61              |
| 1:B:479:PRO:HG2  | 1:AB:508:TYR:CD1 | 2.35                     | 0.61              |
| 1:E:508:TYR:CD1  | 1:AA:479:PRO:HG2 | 2.35                     | 0.61              |
| 1:H:479:PRO:HG2  | 1:MA:508:TYR:CD1 | 2.35                     | 0.61              |
| 1:H:508:TYR:CD1  | 1:RA:479:PRO:HG2 | 2.35                     | 0.61              |
| 1:M:479:PRO:HG2  | 1:HA:508:TYR:CD1 | 2.36                     | 0.61              |
| 1:P:479:PRO:HG2  | 1:YA:508:TYR:CD1 | 2.36                     | 0.61              |
| 1:T:479:PRO:HG2  | 1:IA:508:TYR:CD1 | 2.36                     | 0.61              |
| 1:AA:508:TYR:CD1 | 1:NA:479:PRO:HG2 | 2.35                     | 0.61              |
| 1:HA:479:PRO:HG2 | 1:BB:508:TYR:CD1 | 2.35                     | 0.61              |
| 1:UA:508:TYR:CD1 | 1:HB:479:PRO:HG2 | 2.36                     | 0.61              |
| 1:XA:479:PRO:HG2 | 1:EB:508:TYR:CD1 | 2.36                     | 0.61              |
| 1:T:508:TYR:CD1  | 1:V:479:PRO:HG2  | 2.35                     | 0.61              |
| 1:HA:701:ARG:HD3 | 1:HA:705:GLU:HG2 | 1.82                     | 0.61              |
| 1:MA:479:PRO:HG2 | 1:RA:508:TYR:CD1 | 2.35                     | 0.61              |
| 1:MA:701:ARG:HD3 | 1:MA:705:GLU:HG2 | 1.82                     | 0.61              |
| 1:OA:479:PRO:HG2 | 1:CB:508:TYR:CD1 | 2.36                     | 0.61              |
| 1:D:479:PRO:HG2  | 1:K:508:TYR:CD1  | 2.35                     | 0.60              |
| 1:L:479:PRO:HG2  | 1:FB:508:TYR:CD1 | 2.35                     | 0.60              |
| 1:V:508:TYR:CD1  | 1:IA:479:PRO:HG2 | 2.36                     | 0.60              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:EA:479:PRO:HG2 | 1:XA:508:TYR:CD1 | 2.36                     | 0.60              |
| 1:JA:508:TYR:CD1 | 1:ZA:479:PRO:HG2 | 2.36                     | 0.60              |
| 1:LA:259:GLN:OE1 | 1:UA:717:ASN:ND2 | 2.34                     | 0.60              |
| 1:OA:508:TYR:CD1 | 1:PA:479:PRO:HG2 | 2.35                     | 0.60              |
| 1:F:508:TYR:CD1  | 1:S:479:PRO:HG2  | 2.36                     | 0.60              |
| 1:G:479:PRO:HG2  | 1:VA:508:TYR:CD1 | 2.35                     | 0.60              |
| 1:Z:422:SER:HB2  | 1:HB:633:ASP:OD1 | 2.01                     | 0.60              |
| 1:BA:508:TYR:CD1 | 1:VA:479:PRO:HG2 | 2.35                     | 0.60              |
| 1:GA:259:GLN:OE1 | 1:EB:717:ASN:ND2 | 2.34                     | 0.60              |
| 1:JA:259:GLN:OE1 | 1:VA:717:ASN:ND2 | 2.34                     | 0.60              |
| 1:JA:633:ASP:OD1 | 1:ZA:422:SER:HB2 | 2.01                     | 0.60              |
| 1:X:479:PRO:HG2  | 1:WA:508:TYR:CD1 | 2.35                     | 0.60              |
| 1:Z:479:PRO:HG2  | 1:HB:508:TYR:CD1 | 2.36                     | 0.60              |
| 1:Z:633:ASP:OD1  | 1:UA:422:SER:HB2 | 2.02                     | 0.60              |
| 1:EA:422:SER:HB2 | 1:XA:633:ASP:OD1 | 2.01                     | 0.60              |
| 1:OA:259:GLN:OE1 | 1:FB:717:ASN:ND2 | 2.34                     | 0.60              |
| 1:BB:701:ARG:HD3 | 1:BB:705:GLU:HG2 | 1.82                     | 0.60              |
| 1:O:508:TYR:CD1  | 1:FA:479:PRO:HG2 | 2.36                     | 0.60              |
| 1:P:422:SER:HB2  | 1:YA:633:ASP:OD1 | 2.01                     | 0.60              |
| 1:W:508:TYR:CD1  | 1:FB:479:PRO:HG2 | 2.35                     | 0.60              |
| 1:GA:701:ARG:HD3 | 1:GA:705:GLU:HG2 | 1.82                     | 0.60              |
| 1:LA:701:ARG:HD3 | 1:LA:705:GLU:HG2 | 1.82                     | 0.60              |
| 1:RA:701:ARG:HD3 | 1:RA:705:GLU:HG2 | 1.82                     | 0.60              |
| 1:C:479:PRO:HG2  | 1:CA:508:TYR:CD1 | 2.35                     | 0.60              |
| 1:J:508:TYR:CD1  | 1:KA:479:PRO:HG2 | 2.36                     | 0.60              |
| 1:R:479:PRO:HG2  | 1:X:508:TYR:CD1  | 2.35                     | 0.60              |
| 1:S:508:TYR:CD1  | 1:TA:479:PRO:HG2 | 2.36                     | 0.60              |
| 1:EA:633:ASP:OD1 | 1:EB:422:SER:HB2 | 2.02                     | 0.60              |
| 1:HA:717:ASN:ND2 | 1:XA:259:GLN:OE1 | 2.34                     | 0.60              |
| 1:OA:633:ASP:OD1 | 1:PA:422:SER:HB2 | 2.02                     | 0.60              |
| 1:D:508:TYR:CD1  | 1:DB:479:PRO:HG2 | 2.36                     | 0.60              |
| 1:E:422:SER:HB2  | 1:NA:633:ASP:OD1 | 2.02                     | 0.60              |
| 1:F:479:PRO:HG2  | 1:TA:508:TYR:CD1 | 2.35                     | 0.60              |
| 1:H:259:GLN:OE1  | 1:IB:717:ASN:ND2 | 2.34                     | 0.60              |
| 1:M:259:GLN:OE1  | 1:YA:717:ASN:ND2 | 2.34                     | 0.60              |
| 1:T:422:SER:HB2  | 1:IA:633:ASP:OD1 | 2.01                     | 0.60              |
| 1:X:701:ARG:HD3  | 1:X:705:GLU:HG2  | 1.82                     | 0.60              |
| 1:CA:479:PRO:HG2 | 1:GB:508:TYR:CD1 | 2.35                     | 0.60              |
| 1:JA:422:SER:HB2 | 1:SA:633:ASP:OD1 | 2.01                     | 0.60              |
| 1:MA:717:ASN:ND2 | 1:HB:259:GLN:OE1 | 2.34                     | 0.60              |
| 1:A:422:SER:HB2  | 1:IB:633:ASP:OD1 | 2.02                     | 0.60              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:717:ASN:ND2  | 1:F:259:GLN:OE1  | 2.34                     | 0.60              |
| 1:K:479:PRO:HG2  | 1:DB:508:TYR:CD1 | 2.36                     | 0.60              |
| 1:T:633:ASP:OD1  | 1:V:422:SER:HB2  | 2.01                     | 0.60              |
| 1:E:633:ASP:OD1  | 1:AA:422:SER:HB2 | 2.02                     | 0.60              |
| 1:G:633:ASP:OD1  | 1:BA:422:SER:HB2 | 2.02                     | 0.60              |
| 1:K:259:GLN:OE1  | 1:S:717:ASN:ND2  | 2.34                     | 0.60              |
| 1:S:633:ASP:OD1  | 1:TA:422:SER:HB2 | 2.01                     | 0.60              |
| 1:CA:701:ARG:HD3 | 1:CA:705:GLU:HG2 | 1.82                     | 0.60              |
| 1:OA:422:SER:HB2 | 1:CB:633:ASP:OD1 | 2.02                     | 0.60              |
| 1:SA:717:ASN:ND2 | 1:UA:259:GLN:OE1 | 2.34                     | 0.60              |
| 1:ZA:259:GLN:OE1 | 1:HB:717:ASN:ND2 | 2.34                     | 0.60              |
| 1:D:633:ASP:OD1  | 1:DB:422:SER:HB2 | 2.02                     | 0.60              |
| 1:I:259:GLN:OE1  | 1:BB:717:ASN:ND2 | 2.34                     | 0.60              |
| 1:L:633:ASP:OD1  | 1:W:422:SER:HB2  | 2.02                     | 0.60              |
| 1:M:633:ASP:OD1  | 1:BB:422:SER:HB2 | 2.02                     | 0.60              |
| 1:N:259:GLN:OE1  | 1:RA:717:ASN:ND2 | 2.34                     | 0.60              |
| 1:PA:259:GLN:OE1 | 1:XA:717:ASN:ND2 | 2.34                     | 0.60              |
| 1:C:633:ASP:OD1  | 1:GB:422:SER:HB2 | 2.02                     | 0.60              |
| 1:F:633:ASP:OD1  | 1:S:422:SER:HB2  | 2.02                     | 0.60              |
| 1:CA:422:SER:HB2 | 1:GB:633:ASP:OD1 | 2.02                     | 0.60              |
| 1:UA:633:ASP:OD1 | 1:HB:422:SER:HB2 | 2.02                     | 0.60              |
| 1:CB:717:ASN:ND2 | 1:EB:259:GLN:OE1 | 2.34                     | 0.60              |
| 1:D:422:SER:HB2  | 1:K:633:ASP:OD1  | 2.02                     | 0.59              |
| 1:H:633:ASP:OD1  | 1:RA:422:SER:HB2 | 2.02                     | 0.59              |
| 1:I:633:ASP:OD1  | 1:YA:422:SER:HB2 | 2.01                     | 0.59              |
| 1:R:633:ASP:OD1  | 1:WA:422:SER:HB2 | 2.02                     | 0.59              |
| 1:X:422:SER:HB2  | 1:WA:633:ASP:OD1 | 2.02                     | 0.59              |
| 1:AA:633:ASP:OD1 | 1:NA:422:SER:HB2 | 2.02                     | 0.59              |
| 1:GA:633:ASP:OD1 | 1:QA:422:SER:HB2 | 2.02                     | 0.59              |
| 1:LA:633:ASP:OD1 | 1:AB:422:SER:HB2 | 2.02                     | 0.59              |
| 1:PA:701:ARG:HD3 | 1:PA:705:GLU:HG2 | 1.82                     | 0.59              |
| 1:XA:422:SER:HB2 | 1:EB:633:ASP:OD1 | 2.02                     | 0.59              |
| 1:G:422:SER:HB2  | 1:VA:633:ASP:OD1 | 2.02                     | 0.59              |
| 1:J:259:GLN:OE1  | 1:W:717:ASN:ND2  | 2.34                     | 0.59              |
| 1:L:422:SER:HB2  | 1:FB:633:ASP:OD1 | 2.02                     | 0.59              |
| 1:N:633:ASP:OD1  | 1:IB:422:SER:HB2 | 2.01                     | 0.59              |
| 1:O:259:GLN:OE1  | 1:BA:717:ASN:ND2 | 2.34                     | 0.59              |
| 1:O:422:SER:HB2  | 1:Y:633:ASP:OD1  | 2.01                     | 0.59              |
| 1:V:633:ASP:OD1  | 1:IA:422:SER:HB2 | 2.02                     | 0.59              |
| 1:ZA:701:ARG:HD3 | 1:ZA:705:GLU:HG2 | 1.82                     | 0.59              |
| 1:E:717:ASN:ND2  | 1:X:259:GLN:OE1  | 2.34                     | 0.59              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:W:633:ASP:OD1  | 1:FB:422:SER:HB2  | 2.02                     | 0.59              |
| 1:A:259:GLN:OE1  | 1:I:717:ASN:ND2   | 2.34                     | 0.59              |
| 1:J:422:SER:HB2  | 1:DA:633:ASP:OD1  | 2.02                     | 0.59              |
| 1:K:422:SER:HB2  | 1:DB:633:ASP:OD1  | 2.02                     | 0.59              |
| 1:T:717:ASN:ND2  | 1:CA:259:GLN:OE1  | 2.34                     | 0.59              |
| 1:BA:633:ASP:OD1 | 1:VA:422:SER:HB2  | 2.02                     | 0.59              |
| 1:PA:633:ASP:OD1 | 1:CB:422:SER:HB2  | 2.02                     | 0.59              |
| 1:B:422:SER:HB2  | 1:AB:633:ASP:OD1  | 2.02                     | 0.59              |
| 1:F:422:SER:HB2  | 1:TA:633:ASP:OD1  | 2.02                     | 0.59              |
| 1:M:422:SER:HB2  | 1:HA:633:ASP:OD1  | 2.02                     | 0.59              |
| 1:N:717:ASN:ND2  | 1:P:259:GLN:OE1   | 2.34                     | 0.59              |
| 1:Q:422:SER:HB2  | 1:QA:633:ASP:OD1  | 2.02                     | 0.59              |
| 1:Q:717:ASN:ND2  | 1:IB:259:GLN:OE1  | 2.34                     | 0.59              |
| 1:EA:259:GLN:OE1 | 1:QA:717:ASN:ND2  | 2.34                     | 0.59              |
| 1:SA:422:SER:HB2 | 1:ZA:633:ASP:OD1  | 2.02                     | 0.59              |
| 1:B:633:ASP:OD1  | 1:LA:422:SER:HB2  | 2.02                     | 0.59              |
| 1:B:717:ASN:ND2  | 1:YA:259:GLN:OE1  | 2.34                     | 0.59              |
| 1:H:422:SER:HB2  | 1:MA:633:ASP:OD1  | 2.02                     | 0.59              |
| 1:V:259:GLN:OE1  | 1:DA:717:ASN:ND2  | 2.34                     | 0.59              |
| 1:Z:259:GLN:OE1  | 1:AB:717:ASN:ND2  | 2.34                     | 0.59              |
| 1:G:259:GLN:OE1  | 1:FA:717:ASN:ND2  | 2.34                     | 0.59              |
| 1:L:259:GLN:OE1  | 1:KA:717:ASN:ND2  | 2.34                     | 0.59              |
| 1:Q:633:ASP:OD1  | 1:GA:422:SER:HB2  | 2.02                     | 0.59              |
| 1:Y:717:ASN:ND2  | 1:AA:259:GLN:OE1  | 2.34                     | 0.59              |
| 1:A:633:ASP:OD1  | 1:N:422:SER:HB2   | 2.02                     | 0.58              |
| 1:I:422:SER:HB2  | 1:P:633:ASP:OD1   | 2.02                     | 0.58              |
| 1:JA:717:ASN:ND2 | 1:GB:259:GLN:OE1  | 2.34                     | 0.58              |
| 1:H:717:ASN:ND2  | 1:Y:259:GLN:OE1   | 2.34                     | 0.58              |
| 1:O:633:ASP:OD1  | 1:FA:422:SER:HB2  | 2.02                     | 0.58              |
| 1:MA:422:SER:HB2 | 1:RA:633:ASP:OD1  | 2.02                     | 0.58              |
| 1:C:422:SER:HB2  | 1:CA:633:ASP:OD1  | 2.02                     | 0.58              |
| 1:DA:422:SER:HB2 | 1:KA:633:ASP:OD1  | 2.02                     | 0.58              |
| 1:FA:259:GLN:OE1 | 1:NA:717:ASN:ND2  | 2.34                     | 0.58              |
| 1:HA:422:SER:HB2 | 1:BB:633:ASP:OD1  | 2.02                     | 0.58              |
| 1:OA:717:ASN:ND2 | 1:WA:259:GLN:OE1  | 2.34                     | 0.58              |
| 1:J:633:ASP:OD1  | 1:KA:422:SER:HB2  | 2.02                     | 0.58              |
| 1:M:717:ASN:ND2  | 1:DA:259:GLN:OE1  | 2.34                     | 0.58              |
| 1:R:422:SER:HB2  | 1:X:633:ASP:OD1   | 2.02                     | 0.58              |
| 1:D:488:VAL:CG1  | 1:DB:460:LEU:HD11 | 2.34                     | 0.58              |
| 1:Y:422:SER:HB2  | 1:FA:633:ASP:OD1  | 2.02                     | 0.58              |
| 1:IA:717:ASN:ND2 | 1:KA:259:GLN:OE1  | 2.34                     | 0.58              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:E:259:GLN:OE1   | 1:GA:717:ASN:ND2  | 2.34                     | 0.58              |
| 1:S:488:VAL:CG1   | 1:TA:460:LEU:HD11 | 2.34                     | 0.58              |
| 1:Y:460:LEU:HD11  | 1:FA:488:VAL:CG1  | 2.34                     | 0.58              |
| 1:DA:460:LEU:HD11 | 1:KA:488:VAL:CG1  | 2.34                     | 0.58              |
| 1:HA:250:PRO:HB3  | 1:XA:665:PRO:HG2  | 1.86                     | 0.58              |
| 1:UA:488:VAL:CG1  | 1:HB:460:LEU:HD11 | 2.34                     | 0.58              |
| 1:C:250:PRO:HB3   | 1:IA:665:PRO:HG2  | 1.86                     | 0.58              |
| 1:J:488:VAL:CG1   | 1:KA:460:LEU:HD11 | 2.34                     | 0.58              |
| 1:K:717:ASN:ND2   | 1:VA:259:GLN:OE1  | 2.34                     | 0.58              |
| 1:R:250:PRO:HB3   | 1:NA:665:PRO:HG2  | 1.86                     | 0.58              |
| 1:T:259:GLN:OE1   | 1:LA:717:ASN:ND2  | 2.34                     | 0.58              |
| 1:MA:250:PRO:HB3  | 1:HB:665:PRO:HG2  | 1.86                     | 0.58              |
| 1:XA:460:LEU:HD11 | 1:EB:488:VAL:CG1  | 2.34                     | 0.58              |
| 1:A:665:PRO:HG2   | 1:I:250:PRO:HB3   | 1.86                     | 0.58              |
| 1:F:717:ASN:ND2   | 1:FB:259:GLN:OE1  | 2.34                     | 0.58              |
| 1:H:488:VAL:CG1   | 1:RA:460:LEU:HD11 | 2.34                     | 0.58              |
| 1:M:488:VAL:CG1   | 1:BB:460:LEU:HD11 | 2.34                     | 0.58              |
| 1:V:665:PRO:HG2   | 1:DA:250:PRO:HB3  | 1.86                     | 0.58              |
| 1:Y:250:PRO:HB3   | 1:AA:665:PRO:HG2  | 1.86                     | 0.58              |
| 1:Z:717:ASN:ND2   | 1:RA:259:GLN:OE1  | 2.34                     | 0.58              |
| 1:LA:665:PRO:HG2  | 1:UA:250:PRO:HB3  | 1.86                     | 0.58              |
| 1:D:259:GLN:OE1   | 1:WA:717:ASN:ND2  | 2.34                     | 0.58              |
| 1:N:250:PRO:HB3   | 1:P:665:PRO:HG2   | 1.86                     | 0.58              |
| 1:O:488:VAL:CG1   | 1:FA:460:LEU:HD11 | 2.34                     | 0.58              |
| 1:JA:665:PRO:HG2  | 1:VA:250:PRO:HB3  | 1.86                     | 0.58              |
| 1:A:488:VAL:CG1   | 1:N:460:LEU:HD11  | 2.34                     | 0.58              |
| 1:B:250:PRO:HB3   | 1:YA:665:PRO:HG2  | 1.86                     | 0.58              |
| 1:C:460:LEU:HD11  | 1:CA:488:VAL:CG1  | 2.34                     | 0.58              |
| 1:D:460:LEU:HD11  | 1:K:488:VAL:CG1   | 2.34                     | 0.58              |
| 1:G:488:VAL:CG1   | 1:BA:460:LEU:HD11 | 2.34                     | 0.58              |
| 1:I:460:LEU:HD11  | 1:P:488:VAL:CG1   | 2.34                     | 0.58              |
| 1:L:665:PRO:HG2   | 1:KA:250:PRO:HB3  | 1.86                     | 0.58              |
| 1:O:665:PRO:HG2   | 1:BA:250:PRO:HB3  | 1.86                     | 0.58              |
| 1:Q:250:PRO:HB3   | 1:IB:665:PRO:HG2  | 1.86                     | 0.58              |
| 1:W:259:GLN:OE1   | 1:PA:717:ASN:ND2  | 2.34                     | 0.58              |
| 1:Z:460:LEU:HD11  | 1:HB:488:VAL:CG1  | 2.34                     | 0.58              |
| 1:GA:665:PRO:HG2  | 1:EB:250:PRO:HB3  | 1.86                     | 0.58              |
| 1:LA:488:VAL:CG1  | 1:AB:460:LEU:HD11 | 2.34                     | 0.58              |
| 1:F:460:LEU:HD11  | 1:TA:488:VAL:CG1  | 2.34                     | 0.57              |
| 1:F:488:VAL:CG1   | 1:S:460:LEU:HD11  | 2.34                     | 0.57              |
| 1:G:665:PRO:HG2   | 1:FA:250:PRO:HB3  | 1.86                     | 0.57              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:H:250:PRO:HB3   | 1:Y:665:PRO:HG2   | 1.86                     | 0.57              |
| 1:J:665:PRO:HG2   | 1:W:250:PRO:HB3   | 1.86                     | 0.57              |
| 1:K:460:LEU:HD11  | 1:DB:488:VAL:CG1  | 2.34                     | 0.57              |
| 1:M:250:PRO:HB3   | 1:DA:665:PRO:HG2  | 1.86                     | 0.57              |
| 1:R:460:LEU:HD11  | 1:X:488:VAL:CG1   | 2.34                     | 0.57              |
| 1:X:460:LEU:HD11  | 1:WA:488:VAL:CG1  | 2.34                     | 0.57              |
| 1:CA:250:PRO:HB3  | 1:SA:665:PRO:HG2  | 1.86                     | 0.57              |
| 1:CA:717:ASN:ND2  | 1:SA:259:GLN:OE1  | 2.34                     | 0.57              |
| 1:EA:460:LEU:HD11 | 1:XA:488:VAL:CG1  | 2.34                     | 0.57              |
| 1:EA:717:ASN:ND2  | 1:BB:259:GLN:OE1  | 2.34                     | 0.57              |
| 1:GA:488:VAL:CG1  | 1:QA:460:LEU:HD11 | 2.34                     | 0.57              |
| 1:HA:460:LEU:HD11 | 1:BB:488:VAL:CG1  | 2.34                     | 0.57              |
| 1:OA:665:PRO:HG2  | 1:FB:250:PRO:HB3  | 1.86                     | 0.57              |
| 1:E:488:VAL:CG1   | 1:AA:460:LEU:HD11 | 2.34                     | 0.57              |
| 1:G:250:PRO:HB3   | 1:DB:665:PRO:HG2  | 1.86                     | 0.57              |
| 1:L:488:VAL:CG1   | 1:W:460:LEU:HD11  | 2.34                     | 0.57              |
| 1:P:460:LEU:HD11  | 1:YA:488:VAL:CG1  | 2.34                     | 0.57              |
| 1:S:259:GLN:OE1   | 1:GB:717:ASN:ND2  | 2.34                     | 0.57              |
| 1:T:488:VAL:CG1   | 1:V:460:LEU:HD11  | 2.34                     | 0.57              |
| 1:X:250:PRO:HB3   | 1:CB:665:PRO:HG2  | 1.86                     | 0.57              |
| 1:BA:259:GLN:OE1  | 1:ZA:717:ASN:ND2  | 2.34                     | 0.57              |
| 1:CA:460:LEU:HD11 | 1:GB:488:VAL:CG1  | 2.34                     | 0.57              |
| 1:A:460:LEU:HD11  | 1:IB:488:VAL:CG1  | 2.34                     | 0.57              |
| 1:B:488:VAL:CG1   | 1:LA:460:LEU:HD11 | 2.34                     | 0.57              |
| 1:D:665:PRO:HG2   | 1:WA:250:PRO:HB3  | 1.86                     | 0.57              |
| 1:M:665:PRO:HG2   | 1:YA:250:PRO:HB3  | 1.86                     | 0.57              |
| 1:X:717:ASN:ND2   | 1:CB:259:GLN:OE1  | 2.34                     | 0.57              |
| 1:MA:460:LEU:HD11 | 1:RA:488:VAL:CG1  | 2.34                     | 0.57              |
| 1:B:259:GLN:OE1   | 1:V:717:ASN:ND2   | 2.34                     | 0.57              |
| 1:B:460:LEU:HD11  | 1:AB:488:VAL:CG1  | 2.34                     | 0.57              |
| 1:C:511:ASN:OD1   | 1:GB:566:ARG:HD2  | 2.05                     | 0.57              |
| 1:C:665:PRO:HG2   | 1:TA:250:PRO:HB3  | 1.86                     | 0.57              |
| 1:E:400:SER:OG    | 1:GA:228:TRP:HB3  | 2.05                     | 0.57              |
| 1:H:665:PRO:HG2   | 1:IB:250:PRO:HB3  | 1.86                     | 0.57              |
| 1:J:566:ARG:HD2   | 1:DA:511:ASN:OD1  | 2.05                     | 0.57              |
| 1:L:250:PRO:HB3   | 1:TA:665:PRO:HG2  | 1.86                     | 0.57              |
| 1:M:566:ARG:HD2   | 1:HA:511:ASN:OD1  | 2.05                     | 0.57              |
| 1:N:488:VAL:CG1   | 1:IB:460:LEU:HD11 | 2.34                     | 0.57              |
| 1:O:566:ARG:HD2   | 1:Y:511:ASN:OD1   | 2.05                     | 0.57              |
| 1:S:665:PRO:HG2   | 1:GB:250:PRO:HB3  | 1.86                     | 0.57              |
| 1:T:400:SER:OG    | 1:LA:228:TRP:HB3  | 2.05                     | 0.57              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:V:488:VAL:CG1  | 1:IA:460:LEU:HD11 | 2.34                     | 0.57              |
| 1:Z:400:SER:OG   | 1:AB:228:TRP:HB3  | 2.05                     | 0.57              |
| 1:Z:665:PRO:HG2  | 1:AB:250:PRO:HB3  | 1.86                     | 0.57              |
| 1:EA:400:SER:OG  | 1:QA:228:TRP:HB3  | 2.05                     | 0.57              |
| 1:EA:511:ASN:OD1 | 1:EB:566:ARG:HD2  | 2.05                     | 0.57              |
| 1:EA:665:PRO:HG2 | 1:QA:250:PRO:HB3  | 1.86                     | 0.57              |
| 1:HA:228:TRP:HB3 | 1:XA:400:SER:OG   | 2.05                     | 0.57              |
| 1:B:665:PRO:HG2  | 1:V:250:PRO:HB3   | 1.86                     | 0.57              |
| 1:C:259:GLN:OE1  | 1:TA:717:ASN:ND2  | 2.34                     | 0.57              |
| 1:C:488:VAL:CG1  | 1:GB:460:LEU:HD11 | 2.34                     | 0.57              |
| 1:G:460:LEU:HD11 | 1:VA:488:VAL:CG1  | 2.34                     | 0.57              |
| 1:H:566:ARG:HD2  | 1:MA:511:ASN:OD1  | 2.05                     | 0.57              |
| 1:I:488:VAL:CG1  | 1:YA:460:LEU:HD11 | 2.34                     | 0.57              |
| 1:L:460:LEU:HD11 | 1:FB:488:VAL:CG1  | 2.34                     | 0.57              |
| 1:Q:460:LEU:HD11 | 1:QA:488:VAL:CG1  | 2.34                     | 0.57              |
| 1:Q:488:VAL:CG1  | 1:GA:460:LEU:HD11 | 2.34                     | 0.57              |
| 1:R:511:ASN:OD1  | 1:WA:566:ARG:HD2  | 2.05                     | 0.57              |
| 1:Z:511:ASN:OD1  | 1:UA:566:ARG:HD2  | 2.05                     | 0.57              |
| 1:EA:566:ARG:HD2 | 1:XA:511:ASN:OD1  | 2.05                     | 0.57              |
| 1:MA:228:TRP:HB3 | 1:HB:400:SER:OG   | 2.05                     | 0.57              |
| 1:PA:665:PRO:HG2 | 1:XA:250:PRO:HB3  | 1.86                     | 0.57              |
| 1:SA:250:PRO:HB3 | 1:UA:665:PRO:HG2  | 1.86                     | 0.57              |
| 1:CB:250:PRO:HB3 | 1:EB:665:PRO:HG2  | 1.86                     | 0.57              |
| 1:D:400:SER:OG   | 1:WA:228:TRP:HB3  | 2.05                     | 0.57              |
| 1:I:400:SER:OG   | 1:BB:228:TRP:HB3  | 2.05                     | 0.57              |
| 1:L:566:ARG:HD2  | 1:FB:511:ASN:OD1  | 2.05                     | 0.57              |
| 1:Q:665:PRO:HG2  | 1:AA:250:PRO:HB3  | 1.86                     | 0.57              |
| 1:R:488:VAL:CG1  | 1:WA:460:LEU:HD11 | 2.34                     | 0.57              |
| 1:R:665:PRO:HG2  | 1:DB:250:PRO:HB3  | 1.86                     | 0.57              |
| 1:Z:566:ARG:HD2  | 1:HB:511:ASN:OD1  | 2.05                     | 0.57              |
| 1:AA:488:VAL:CG1 | 1:NA:460:LEU:HD11 | 2.34                     | 0.57              |
| 1:BA:488:VAL:CG1 | 1:VA:460:LEU:HD11 | 2.34                     | 0.57              |
| 1:DA:566:ARG:HD2 | 1:KA:511:ASN:OD1  | 2.05                     | 0.57              |
| 1:EA:250:PRO:HB3 | 1:BB:665:PRO:HG2  | 1.86                     | 0.57              |
| 1:LA:511:ASN:OD1 | 1:AB:566:ARG:HD2  | 2.05                     | 0.57              |
| 1:OA:400:SER:OG  | 1:FB:228:TRP:HB3  | 2.05                     | 0.57              |
| 1:PA:511:ASN:OD1 | 1:CB:566:ARG:HD2  | 2.05                     | 0.57              |
| 1:SA:566:ARG:HD2 | 1:ZA:511:ASN:OD1  | 2.05                     | 0.57              |
| 1:ZA:665:PRO:HG2 | 1:HB:250:PRO:HB3  | 1.86                     | 0.57              |
| 1:G:566:ARG:HD2  | 1:VA:511:ASN:OD1  | 2.05                     | 0.57              |
| 1:N:400:SER:OG   | 1:RA:228:TRP:HB3  | 2.05                     | 0.57              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:Q:259:GLN:OE1   | 1:AA:717:ASN:ND2  | 2.34                     | 0.57              |
| 1:R:259:GLN:OE1   | 1:DB:717:ASN:ND2  | 2.34                     | 0.57              |
| 1:S:400:SER:OG    | 1:GB:228:TRP:HB3  | 2.05                     | 0.57              |
| 1:T:511:ASN:OD1   | 1:V:566:ARG:HD2   | 2.05                     | 0.57              |
| 1:BA:511:ASN:OD1  | 1:VA:566:ARG:HD2  | 2.05                     | 0.57              |
| 1:GA:511:ASN:OD1  | 1:QA:566:ARG:HD2  | 2.05                     | 0.57              |
| 1:JA:400:SER:OG   | 1:VA:228:TRP:HB3  | 2.05                     | 0.57              |
| 1:JA:488:VAL:CG1  | 1:ZA:460:LEU:HD11 | 2.34                     | 0.57              |
| 1:OA:488:VAL:CG1  | 1:PA:460:LEU:HD11 | 2.34                     | 0.57              |
| 1:ZA:400:SER:OG   | 1:HB:228:TRP:HB3  | 2.05                     | 0.57              |
| 1:B:566:ARG:HD2   | 1:AB:511:ASN:OD1  | 2.05                     | 0.57              |
| 1:E:511:ASN:OD1   | 1:AA:566:ARG:HD2  | 2.05                     | 0.57              |
| 1:F:228:TRP:HB3   | 1:FB:400:SER:OG   | 2.05                     | 0.57              |
| 1:K:228:TRP:HB3   | 1:VA:400:SER:OG   | 2.05                     | 0.57              |
| 1:Q:566:ARG:HD2   | 1:QA:511:ASN:OD1  | 2.05                     | 0.57              |
| 1:T:228:TRP:HB3   | 1:CA:400:SER:OG   | 2.05                     | 0.57              |
| 1:W:488:VAL:CG1   | 1:FB:460:LEU:HD11 | 2.34                     | 0.57              |
| 1:Z:250:PRO:HB3   | 1:RA:665:PRO:HG2  | 1.86                     | 0.57              |
| 1:Z:488:VAL:CG1   | 1:UA:460:LEU:HD11 | 2.34                     | 0.57              |
| 1:JA:460:LEU:HD11 | 1:SA:488:VAL:CG1  | 2.34                     | 0.57              |
| 1:MA:566:ARG:HD2  | 1:RA:511:ASN:OD1  | 2.05                     | 0.57              |
| 1:OA:460:LEU:HD11 | 1:CB:488:VAL:CG1  | 2.34                     | 0.57              |
| 1:PA:400:SER:OG   | 1:XA:228:TRP:HB3  | 2.05                     | 0.57              |
| 1:A:400:SER:OG    | 1:I:228:TRP:HB3   | 2.05                     | 0.57              |
| 1:C:717:ASN:ND2   | 1:IA:259:GLN:OE1  | 2.34                     | 0.57              |
| 1:D:228:TRP:HB3   | 1:F:400:SER:OG    | 2.05                     | 0.57              |
| 1:H:400:SER:OG    | 1:IB:228:TRP:HB3  | 2.05                     | 0.57              |
| 1:H:460:LEU:HD11  | 1:MA:488:VAL:CG1  | 2.34                     | 0.57              |
| 1:J:228:TRP:HB3   | 1:HA:400:SER:OG   | 2.05                     | 0.57              |
| 1:K:400:SER:OG    | 1:S:228:TRP:HB3   | 2.05                     | 0.57              |
| 1:K:566:ARG:HD2   | 1:DB:511:ASN:OD1  | 2.05                     | 0.57              |
| 1:M:460:LEU:HD11  | 1:HA:488:VAL:CG1  | 2.34                     | 0.57              |
| 1:T:250:PRO:HB3   | 1:CA:665:PRO:HG2  | 1.86                     | 0.57              |
| 1:W:511:ASN:OD1   | 1:FB:566:ARG:HD2  | 2.05                     | 0.57              |
| 1:W:665:PRO:HG2   | 1:PA:250:PRO:HB3  | 1.86                     | 0.57              |
| 1:Y:566:ARG:HD2   | 1:FA:511:ASN:OD1  | 2.05                     | 0.57              |
| 1:AA:511:ASN:OD1  | 1:NA:566:ARG:HD2  | 2.05                     | 0.57              |
| 1:BA:665:PRO:HG2  | 1:ZA:250:PRO:HB3  | 1.86                     | 0.57              |
| 1:CA:228:TRP:HB3  | 1:SA:400:SER:OG   | 2.05                     | 0.57              |
| 1:SA:460:LEU:HD11 | 1:ZA:488:VAL:CG1  | 2.34                     | 0.57              |
| 1:E:228:TRP:HB3   | 1:X:400:SER:OG    | 2.05                     | 0.57              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:E:250:PRO:HB3  | 1:X:665:PRO:HG2   | 1.86                     | 0.57              |
| 1:E:460:LEU:HD11 | 1:NA:488:VAL:CG1  | 2.34                     | 0.57              |
| 1:F:566:ARG:HD2  | 1:TA:511:ASN:OD1  | 2.05                     | 0.57              |
| 1:J:460:LEU:HD11 | 1:DA:488:VAL:CG1  | 2.34                     | 0.57              |
| 1:M:400:SER:OG   | 1:YA:228:TRP:HB3  | 2.05                     | 0.57              |
| 1:R:228:TRP:HB3  | 1:NA:400:SER:OG   | 2.05                     | 0.57              |
| 1:X:230:CYS:O    | 1:CB:397:TYR:O    | 2.23                     | 0.57              |
| 1:EA:488:VAL:CG1 | 1:EB:460:LEU:HD11 | 2.34                     | 0.57              |
| 1:A:228:TRP:HB3  | 1:QA:400:SER:OG   | 2.05                     | 0.56              |
| 1:C:228:TRP:HB3  | 1:IA:400:SER:OG   | 2.05                     | 0.56              |
| 1:D:397:TYR:O    | 1:WA:230:CYS:O    | 2.23                     | 0.56              |
| 1:D:511:ASN:OD1  | 1:DB:566:ARG:HD2  | 2.05                     | 0.56              |
| 1:G:400:SER:OG   | 1:FA:228:TRP:HB3  | 2.05                     | 0.56              |
| 1:J:400:SER:OG   | 1:W:228:TRP:HB3   | 2.05                     | 0.56              |
| 1:L:400:SER:OG   | 1:KA:228:TRP:HB3  | 2.05                     | 0.56              |
| 1:N:228:TRP:HB3  | 1:P:400:SER:OG    | 2.05                     | 0.56              |
| 1:O:228:TRP:HB3  | 1:MA:400:SER:OG   | 2.05                     | 0.56              |
| 1:O:400:SER:OG   | 1:BA:228:TRP:HB3  | 2.05                     | 0.56              |
| 1:S:397:TYR:O    | 1:GB:230:CYS:O    | 2.23                     | 0.56              |
| 1:T:460:LEU:HD11 | 1:IA:488:VAL:CG1  | 2.34                     | 0.56              |
| 1:V:511:ASN:OD1  | 1:IA:566:ARG:HD2  | 2.05                     | 0.56              |
| 1:X:228:TRP:HB3  | 1:CB:400:SER:OG   | 2.05                     | 0.56              |
| 1:CA:230:CYS:O   | 1:SA:397:TYR:O    | 2.23                     | 0.56              |
| 1:HA:566:ARG:HD2 | 1:BB:511:ASN:OD1  | 2.05                     | 0.56              |
| 1:IA:230:CYS:O   | 1:KA:397:TYR:O    | 2.23                     | 0.56              |
| 1:OA:511:ASN:OD1 | 1:PA:566:ARG:HD2  | 2.05                     | 0.56              |
| 1:PA:488:VAL:CG1 | 1:CB:460:LEU:HD11 | 2.34                     | 0.56              |
| 1:E:397:TYR:O    | 1:GA:230:CYS:O    | 2.23                     | 0.56              |
| 1:H:228:TRP:HB3  | 1:Y:400:SER:OG    | 2.05                     | 0.56              |
| 1:L:228:TRP:HB3  | 1:TA:400:SER:OG   | 2.05                     | 0.56              |
| 1:P:228:TRP:HB3  | 1:AB:400:SER:OG   | 2.05                     | 0.56              |
| 1:P:717:ASN:ND2  | 1:AB:259:GLN:OE1  | 2.34                     | 0.56              |
| 1:S:511:ASN:OD1  | 1:TA:566:ARG:HD2  | 2.05                     | 0.56              |
| 1:T:397:TYR:O    | 1:LA:230:CYS:O    | 2.23                     | 0.56              |
| 1:T:665:PRO:HG2  | 1:LA:250:PRO:HB3  | 1.86                     | 0.56              |
| 1:FA:397:TYR:O   | 1:NA:230:CYS:O    | 2.24                     | 0.56              |
| 1:FA:665:PRO:HG2 | 1:NA:250:PRO:HB3  | 1.86                     | 0.56              |
| 1:IA:250:PRO:HB3 | 1:KA:665:PRO:HG2  | 1.86                     | 0.56              |
| 1:JA:511:ASN:OD1 | 1:ZA:566:ARG:HD2  | 2.05                     | 0.56              |
| 1:LA:400:SER:OG  | 1:UA:228:TRP:HB3  | 2.05                     | 0.56              |
| 1:SA:230:CYS:O   | 1:UA:397:TYR:O    | 2.24                     | 0.56              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:CB:230:CYS:O   | 1:EB:397:TYR:O   | 2.24                     | 0.56              |
| 1:A:717:ASN:ND2  | 1:QA:259:GLN:OE1 | 2.34                     | 0.56              |
| 1:E:566:ARG:HD2  | 1:NA:511:ASN:OD1 | 2.05                     | 0.56              |
| 1:E:665:PRO:HG2  | 1:GA:250:PRO:HB3 | 1.86                     | 0.56              |
| 1:F:511:ASN:OD1  | 1:S:566:ARG:HD2  | 2.05                     | 0.56              |
| 1:G:228:TRP:HB3  | 1:DB:400:SER:OG  | 2.05                     | 0.56              |
| 1:M:228:TRP:HB3  | 1:DA:400:SER:OG  | 2.05                     | 0.56              |
| 1:O:460:LEU:HD11 | 1:Y:488:VAL:CG1  | 2.34                     | 0.56              |
| 1:O:511:ASN:OD1  | 1:FA:566:ARG:HD2 | 2.05                     | 0.56              |
| 1:P:250:PRO:HB3  | 1:AB:665:PRO:HG2 | 1.86                     | 0.56              |
| 1:P:566:ARG:HD2  | 1:YA:511:ASN:OD1 | 2.05                     | 0.56              |
| 1:R:717:ASN:ND2  | 1:NA:259:GLN:OE1 | 2.34                     | 0.56              |
| 1:T:566:ARG:HD2  | 1:IA:511:ASN:OD1 | 2.05                     | 0.56              |
| 1:FA:400:SER:OG  | 1:NA:228:TRP:HB3 | 2.05                     | 0.56              |
| 1:GA:400:SER:OG  | 1:EB:228:TRP:HB3 | 2.05                     | 0.56              |
| 1:JA:228:TRP:HB3 | 1:GB:400:SER:OG  | 2.05                     | 0.56              |
| 1:JA:566:ARG:HD2 | 1:SA:511:ASN:OD1 | 2.05                     | 0.56              |
| 1:OA:228:TRP:HB3 | 1:WA:400:SER:OG  | 2.05                     | 0.56              |
| 1:A:250:PRO:HB3  | 1:QA:665:PRO:HG2 | 1.86                     | 0.56              |
| 1:A:566:ARG:HD2  | 1:IB:511:ASN:OD1 | 2.05                     | 0.56              |
| 1:D:566:ARG:HD2  | 1:K:511:ASN:OD1  | 2.05                     | 0.56              |
| 1:H:230:CYS:O    | 1:Y:397:TYR:O    | 2.23                     | 0.56              |
| 1:M:230:CYS:O    | 1:DA:397:TYR:O   | 2.23                     | 0.56              |
| 1:M:511:ASN:OD1  | 1:BB:566:ARG:HD2 | 2.05                     | 0.56              |
| 1:R:566:ARG:HD2  | 1:X:511:ASN:OD1  | 2.05                     | 0.56              |
| 1:IA:228:TRP:HB3 | 1:KA:400:SER:OG  | 2.05                     | 0.56              |
| 1:A:397:TYR:O    | 1:I:230:CYS:O    | 2.24                     | 0.56              |
| 1:B:400:SER:OG   | 1:V:228:TRP:HB3  | 2.05                     | 0.56              |
| 1:H:511:ASN:OD1  | 1:RA:566:ARG:HD2 | 2.05                     | 0.56              |
| 1:J:511:ASN:OD1  | 1:KA:566:ARG:HD2 | 2.05                     | 0.56              |
| 1:K:665:PRO:HG2  | 1:S:250:PRO:HB3  | 1.86                     | 0.56              |
| 1:L:511:ASN:OD1  | 1:W:566:ARG:HD2  | 2.05                     | 0.56              |
| 1:Z:230:CYS:O    | 1:RA:397:TYR:O   | 2.24                     | 0.56              |
| 1:EA:230:CYS:O   | 1:BB:397:TYR:O   | 2.24                     | 0.56              |
| 1:OA:566:ARG:HD2 | 1:CB:511:ASN:OD1 | 2.05                     | 0.56              |
| 1:CB:228:TRP:HB3 | 1:EB:400:SER:OG  | 2.05                     | 0.56              |
| 1:C:566:ARG:HD2  | 1:CA:511:ASN:OD1 | 2.05                     | 0.56              |
| 1:D:250:PRO:HB3  | 1:F:665:PRO:HG2  | 1.86                     | 0.56              |
| 1:G:511:ASN:OD1  | 1:BA:566:ARG:HD2 | 2.05                     | 0.56              |
| 1:J:250:PRO:HB3  | 1:HA:665:PRO:HG2 | 1.86                     | 0.56              |
| 1:N:230:CYS:O    | 1:P:397:TYR:O    | 2.23                     | 0.56              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:N:511:ASN:OD1  | 1:IB:566:ARG:HD2 | 2.05                     | 0.56              |
| 1:N:665:PRO:HG2  | 1:RA:250:PRO:HB3 | 1.86                     | 0.56              |
| 1:Q:400:SER:OG   | 1:AA:228:TRP:HB3 | 2.05                     | 0.56              |
| 1:F:230:CYS:O    | 1:FB:397:TYR:O   | 2.24                     | 0.56              |
| 1:I:397:TYR:O    | 1:BB:230:CYS:O   | 2.23                     | 0.56              |
| 1:I:511:ASN:OD1  | 1:YA:566:ARG:HD2 | 2.05                     | 0.56              |
| 1:I:665:PRO:HG2  | 1:BB:250:PRO:HB3 | 1.86                     | 0.56              |
| 1:K:230:CYS:O    | 1:VA:397:TYR:O   | 2.24                     | 0.56              |
| 1:N:397:TYR:O    | 1:RA:230:CYS:O   | 2.23                     | 0.56              |
| 1:O:250:PRO:HB3  | 1:MA:665:PRO:HG2 | 1.86                     | 0.56              |
| 1:SA:228:TRP:HB3 | 1:UA:400:SER:OG  | 2.05                     | 0.56              |
| 1:UA:511:ASN:OD1 | 1:HB:566:ARG:HD2 | 2.05                     | 0.56              |
| 1:XA:566:ARG:HD2 | 1:EB:511:ASN:OD1 | 2.05                     | 0.56              |
| 1:B:511:ASN:OD1  | 1:LA:566:ARG:HD2 | 2.05                     | 0.56              |
| 1:I:566:ARG:HD2  | 1:P:511:ASN:OD1  | 2.05                     | 0.56              |
| 1:L:397:TYR:O    | 1:KA:230:CYS:O   | 2.24                     | 0.56              |
| 1:X:566:ARG:HD2  | 1:WA:511:ASN:OD1 | 2.05                     | 0.56              |
| 1:Y:228:TRP:HB3  | 1:AA:400:SER:OG  | 2.05                     | 0.56              |
| 1:CA:566:ARG:HD2 | 1:GB:511:ASN:OD1 | 2.05                     | 0.56              |
| 1:PA:397:TYR:O   | 1:XA:230:CYS:O   | 2.24                     | 0.56              |
| 1:ZA:397:TYR:O   | 1:HB:230:CYS:O   | 2.24                     | 0.56              |
| 1:A:511:ASN:OD1  | 1:N:566:ARG:HD2  | 2.05                     | 0.56              |
| 1:B:397:TYR:O    | 1:V:230:CYS:O    | 2.24                     | 0.56              |
| 1:G:397:TYR:O    | 1:FA:230:CYS:O   | 2.24                     | 0.56              |
| 1:R:400:SER:OG   | 1:DB:228:TRP:HB3 | 2.05                     | 0.56              |
| 1:EA:228:TRP:HB3 | 1:BB:400:SER:OG  | 2.05                     | 0.56              |
| 1:C:400:SER:OG   | 1:TA:228:TRP:HB3 | 2.05                     | 0.56              |
| 1:G:230:CYS:O    | 1:DB:397:TYR:O   | 2.23                     | 0.56              |
| 1:L:230:CYS:O    | 1:TA:397:TYR:O   | 2.23                     | 0.56              |
| 1:Q:228:TRP:HB3  | 1:IB:400:SER:OG  | 2.05                     | 0.56              |
| 1:Q:397:TYR:O    | 1:AA:230:CYS:O   | 2.24                     | 0.56              |
| 1:Q:511:ASN:OD1  | 1:GA:566:ARG:HD2 | 2.05                     | 0.56              |
| 1:V:400:SER:OG   | 1:DA:228:TRP:HB3 | 2.05                     | 0.56              |
| 1:Z:228:TRP:HB3  | 1:RA:400:SER:OG  | 2.05                     | 0.56              |
| 1:I:380:LEU:HD12 | 1:I:389:ARG:HB3  | 1.89                     | 0.55              |
| 1:C:380:LEU:HD12 | 1:C:389:ARG:HB3  | 1.89                     | 0.55              |
| 1:F:250:PRO:HB3  | 1:FB:665:PRO:HG2 | 1.86                     | 0.55              |
| 1:F:380:LEU:HD12 | 1:F:389:ARG:HB3  | 1.89                     | 0.55              |
| 1:K:380:LEU:HD12 | 1:K:389:ARG:HB3  | 1.89                     | 0.55              |
| 1:N:380:LEU:HD12 | 1:N:389:ARG:HB3  | 1.89                     | 0.55              |
| 1:O:717:ASN:ND2  | 1:MA:259:GLN:OE1 | 2.34                     | 0.55              |

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| Atom-1            | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 1:R:380:LEU:HD12  | 1:R:389:ARG:HB3  | 1.89                     | 0.55              |
| 1:Z:397:TYR:O     | 1:AB:230:CYS:O   | 2.23                     | 0.55              |
| 1:EA:397:TYR:O    | 1:QA:230:CYS:O   | 2.23                     | 0.55              |
| 1:MA:230:CYS:O    | 1:HB:397:TYR:O   | 2.23                     | 0.55              |
| 1:OA:397:TYR:O    | 1:FB:230:CYS:O   | 2.23                     | 0.55              |
| 1:B:228:TRP:HB3   | 1:YA:400:SER:OG  | 2.05                     | 0.55              |
| 1:E:380:LEU:HD12  | 1:E:389:ARG:HB3  | 1.89                     | 0.55              |
| 1:J:397:TYR:O     | 1:W:230:CYS:O    | 2.23                     | 0.55              |
| 1:K:250:PRO:HB3   | 1:VA:665:PRO:HG2 | 1.86                     | 0.55              |
| 1:HA:230:CYS:O    | 1:XA:397:TYR:O   | 2.23                     | 0.55              |
| 1:HA:380:LEU:HD12 | 1:HA:389:ARG:HB3 | 1.89                     | 0.55              |
| 1:JA:250:PRO:HB3  | 1:GB:665:PRO:HG2 | 1.86                     | 0.55              |
| 1:B:230:CYS:O     | 1:YA:397:TYR:O   | 2.23                     | 0.55              |
| 1:J:230:CYS:O     | 1:HA:397:TYR:O   | 2.24                     | 0.55              |
| 1:J:717:ASN:ND2   | 1:HA:259:GLN:OE1 | 2.34                     | 0.55              |
| 1:O:230:CYS:O     | 1:MA:397:TYR:O   | 2.24                     | 0.55              |
| 1:O:397:TYR:O     | 1:BA:230:CYS:O   | 2.23                     | 0.55              |
| 1:LA:397:TYR:O    | 1:UA:230:CYS:O   | 2.24                     | 0.55              |
| 1:MA:380:LEU:HD12 | 1:MA:389:ARG:HB3 | 1.89                     | 0.55              |
| 1:ZA:380:LEU:HD12 | 1:ZA:389:ARG:HB3 | 1.89                     | 0.55              |
| 1:C:230:CYS:O     | 1:IA:397:TYR:O   | 2.23                     | 0.55              |
| 1:H:380:LEU:HD12  | 1:H:389:ARG:HB3  | 1.89                     | 0.55              |
| 1:J:380:LEU:HD12  | 1:J:389:ARG:HB3  | 1.89                     | 0.55              |
| 1:K:397:TYR:O     | 1:S:230:CYS:O    | 2.23                     | 0.55              |
| 1:M:380:LEU:HD12  | 1:M:389:ARG:HB3  | 1.89                     | 0.55              |
| 1:M:397:TYR:O     | 1:YA:230:CYS:O   | 2.24                     | 0.55              |
| 1:O:380:LEU:HD12  | 1:O:389:ARG:HB3  | 1.89                     | 0.55              |
| 1:R:230:CYS:O     | 1:NA:397:TYR:O   | 2.23                     | 0.55              |
| 1:T:380:LEU:HD12  | 1:T:389:ARG:HB3  | 1.89                     | 0.55              |
| 1:W:397:TYR:O     | 1:PA:230:CYS:O   | 2.24                     | 0.55              |
| 1:Y:230:CYS:O     | 1:AA:397:TYR:O   | 2.24                     | 0.55              |
| 1:BA:397:TYR:O    | 1:ZA:230:CYS:O   | 2.24                     | 0.55              |
| 1:BA:400:SER:OG   | 1:ZA:228:TRP:HB3 | 2.05                     | 0.55              |
| 1:FA:380:LEU:HD12 | 1:FA:389:ARG:HB3 | 1.89                     | 0.55              |
| 1:IA:380:LEU:HD12 | 1:IA:389:ARG:HB3 | 1.89                     | 0.55              |
| 1:JA:397:TYR:O    | 1:VA:230:CYS:O   | 2.23                     | 0.55              |
| 1:KA:380:LEU:HD12 | 1:KA:389:ARG:HB3 | 1.89                     | 0.55              |
| 1:NA:380:LEU:HD12 | 1:NA:389:ARG:HB3 | 1.89                     | 0.55              |
| 1:PA:380:LEU:HD12 | 1:PA:389:ARG:HB3 | 1.89                     | 0.55              |
| 1:RA:380:LEU:HD12 | 1:RA:389:ARG:HB3 | 1.89                     | 0.55              |
| 1:TA:380:LEU:HD12 | 1:TA:389:ARG:HB3 | 1.89                     | 0.55              |

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| Atom-1            | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 1:BB:380:LEU:HD12 | 1:BB:389:ARG:HB3 | 1.89                     | 0.55              |
| 1:D:230:CYS:O     | 1:F:397:TYR:O    | 2.24                     | 0.55              |
| 1:H:397:TYR:O     | 1:IB:230:CYS:O   | 2.24                     | 0.55              |
| 1:L:380:LEU:HD12  | 1:L:389:ARG:HB3  | 1.89                     | 0.55              |
| 1:Q:230:CYS:O     | 1:IB:397:TYR:O   | 2.23                     | 0.55              |
| 1:V:397:TYR:O     | 1:DA:230:CYS:O   | 2.24                     | 0.55              |
| 1:W:400:SER:OG    | 1:PA:228:TRP:HB3 | 2.05                     | 0.55              |
| 1:X:380:LEU:HD12  | 1:X:389:ARG:HB3  | 1.89                     | 0.55              |
| 1:GA:397:TYR:O    | 1:EB:230:CYS:O   | 2.24                     | 0.55              |
| 1:LA:380:LEU:HD12 | 1:LA:389:ARG:HB3 | 1.89                     | 0.55              |
| 1:OA:250:PRO:HB3  | 1:WA:665:PRO:HG2 | 1.86                     | 0.55              |
| 1:CB:380:LEU:HD12 | 1:CB:389:ARG:HB3 | 1.89                     | 0.55              |
| 1:DB:380:LEU:HD12 | 1:DB:389:ARG:HB3 | 1.89                     | 0.55              |
| 1:C:397:TYR:O     | 1:TA:230:CYS:O   | 2.24                     | 0.55              |
| 1:G:717:ASN:ND2   | 1:DB:259:GLN:OE1 | 2.34                     | 0.55              |
| 1:L:717:ASN:ND2   | 1:TA:259:GLN:OE1 | 2.34                     | 0.55              |
| 1:CA:380:LEU:HD12 | 1:CA:389:ARG:HB3 | 1.89                     | 0.55              |
| 1:GA:380:LEU:HD12 | 1:GA:389:ARG:HB3 | 1.89                     | 0.55              |
| 1:OA:230:CYS:O    | 1:WA:397:TYR:O   | 2.24                     | 0.55              |
| 1:SA:380:LEU:HD12 | 1:SA:389:ARG:HB3 | 1.89                     | 0.55              |
| 1:AB:380:LEU:HD12 | 1:AB:389:ARG:HB3 | 1.89                     | 0.55              |
| 1:G:380:LEU:HD12  | 1:G:389:ARG:HB3  | 1.89                     | 0.55              |
| 1:S:380:LEU:HD12  | 1:S:389:ARG:HB3  | 1.89                     | 0.55              |
| 1:JA:230:CYS:O    | 1:GB:397:TYR:O   | 2.24                     | 0.55              |
| 1:QA:380:LEU:HD12 | 1:QA:389:ARG:HB3 | 1.89                     | 0.55              |
| 1:D:380:LEU:HD12  | 1:D:389:ARG:HB3  | 1.89                     | 0.55              |
| 1:E:230:CYS:O     | 1:X:397:TYR:O    | 2.24                     | 0.55              |
| 1:R:397:TYR:O     | 1:DB:230:CYS:O   | 2.24                     | 0.55              |
| 1:T:230:CYS:O     | 1:CA:397:TYR:O   | 2.24                     | 0.55              |
| 1:A:230:CYS:O     | 1:QA:397:TYR:O   | 2.24                     | 0.54              |
| 1:P:230:CYS:O     | 1:AB:397:TYR:O   | 2.24                     | 0.54              |
| 1:WA:380:LEU:HD12 | 1:WA:389:ARG:HB3 | 1.89                     | 0.54              |
| 1:B:380:LEU:HD12  | 1:B:389:ARG:HB3  | 1.89                     | 0.54              |
| 1:Q:380:LEU:HD12  | 1:Q:389:ARG:HB3  | 1.89                     | 0.54              |
| 1:UA:380:LEU:HD12 | 1:UA:389:ARG:HB3 | 1.89                     | 0.54              |
| 1:GB:380:LEU:HD12 | 1:GB:389:ARG:HB3 | 1.89                     | 0.54              |
| 1:EB:380:LEU:HD12 | 1:EB:389:ARG:HB3 | 1.89                     | 0.54              |
| 1:YA:380:LEU:HD12 | 1:YA:389:ARG:HB3 | 1.89                     | 0.54              |
| 1:OA:380:LEU:HD12 | 1:OA:389:ARG:HB3 | 1.89                     | 0.54              |
| 1:V:380:LEU:HD12  | 1:V:389:ARG:HB3  | 1.89                     | 0.54              |
| 1:BA:380:LEU:HD12 | 1:BA:389:ARG:HB3 | 1.88                     | 0.54              |

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| Atom-1            | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 1:IB:380:LEU:HD12 | 1:IB:389:ARG:HB3 | 1.89                     | 0.54              |
| 1:L:628:LYS:HB2   | 1:L:650:PRO:HG3  | 1.90                     | 0.54              |
| 1:JA:380:LEU:HD12 | 1:JA:389:ARG:HB3 | 1.89                     | 0.54              |
| 1:XA:628:LYS:HB2  | 1:XA:650:PRO:HG3 | 1.90                     | 0.54              |
| 1:HB:628:LYS:HB2  | 1:HB:650:PRO:HG3 | 1.90                     | 0.54              |
| 1:D:628:LYS:HB2   | 1:D:650:PRO:HG3  | 1.90                     | 0.54              |
| 1:G:628:LYS:HB2   | 1:G:650:PRO:HG3  | 1.90                     | 0.54              |
| 1:P:380:LEU:HD12  | 1:P:389:ARG:HB3  | 1.89                     | 0.54              |
| 1:S:628:LYS:HB2   | 1:S:650:PRO:HG3  | 1.90                     | 0.54              |
| 1:AA:380:LEU:HD12 | 1:AA:389:ARG:HB3 | 1.89                     | 0.54              |
| 1:PA:628:LYS:HB2  | 1:PA:650:PRO:HG3 | 1.90                     | 0.54              |
| 1:ZA:628:LYS:HB2  | 1:ZA:650:PRO:HG3 | 1.90                     | 0.54              |
| 1:A:380:LEU:HD12  | 1:A:389:ARG:HB3  | 1.89                     | 0.54              |
| 1:H:628:LYS:HB2   | 1:H:650:PRO:HG3  | 1.90                     | 0.54              |
| 1:V:628:LYS:HB2   | 1:V:650:PRO:HG3  | 1.90                     | 0.54              |
| 1:Y:380:LEU:HD12  | 1:Y:389:ARG:HB3  | 1.89                     | 0.54              |
| 1:AA:628:LYS:HB2  | 1:AA:650:PRO:HG3 | 1.90                     | 0.54              |
| 1:JA:628:LYS:HB2  | 1:JA:650:PRO:HG3 | 1.90                     | 0.54              |
| 1:W:380:LEU:HD12  | 1:W:389:ARG:HB3  | 1.89                     | 0.53              |
| 1:OA:628:LYS:HB2  | 1:OA:650:PRO:HG3 | 1.90                     | 0.53              |
| 1:BB:628:LYS:HB2  | 1:BB:650:PRO:HG3 | 1.90                     | 0.53              |
| 1:F:628:LYS:HB2   | 1:F:650:PRO:HG3  | 1.90                     | 0.53              |
| 1:K:628:LYS:HB2   | 1:K:650:PRO:HG3  | 1.90                     | 0.53              |
| 1:M:628:LYS:HB2   | 1:M:650:PRO:HG3  | 1.90                     | 0.53              |
| 1:R:628:LYS:HB2   | 1:R:650:PRO:HG3  | 1.90                     | 0.53              |
| 1:DA:380:LEU:HD12 | 1:DA:389:ARG:HB3 | 1.89                     | 0.53              |
| 1:GA:628:LYS:HB2  | 1:GA:650:PRO:HG3 | 1.90                     | 0.53              |
| 1:IA:628:LYS:HB2  | 1:IA:650:PRO:HG3 | 1.90                     | 0.53              |
| 1:JA:405:THR:O    | 1:VA:222:GLY:O   | 2.27                     | 0.53              |
| 1:LA:628:LYS:HB2  | 1:LA:650:PRO:HG3 | 1.90                     | 0.53              |
| 1:NA:628:LYS:HB2  | 1:NA:650:PRO:HG3 | 1.90                     | 0.53              |
| 1:SA:628:LYS:HB2  | 1:SA:650:PRO:HG3 | 1.90                     | 0.53              |
| 1:VA:380:LEU:HD12 | 1:VA:389:ARG:HB3 | 1.89                     | 0.53              |
| 1:CB:628:LYS:HB2  | 1:CB:650:PRO:HG3 | 1.90                     | 0.53              |
| 1:C:628:LYS:HB2   | 1:C:650:PRO:HG3  | 1.90                     | 0.53              |
| 1:N:628:LYS:HB2   | 1:N:650:PRO:HG3  | 1.90                     | 0.53              |
| 1:P:628:LYS:HB2   | 1:P:650:PRO:HG3  | 1.90                     | 0.53              |
| 1:OA:405:THR:O    | 1:FB:222:GLY:O   | 2.27                     | 0.53              |
| 1:RA:628:LYS:HB2  | 1:RA:650:PRO:HG3 | 1.90                     | 0.53              |
| 1:A:628:LYS:HB2   | 1:A:650:PRO:HG3  | 1.90                     | 0.53              |
| 1:FB:380:LEU:HD12 | 1:FB:389:ARG:HB3 | 1.89                     | 0.53              |

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| Atom-1            | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 1:A:405:THR:O     | 1:I:222:GLY:O    | 2.27                     | 0.53              |
| 1:B:628:LYS:HB2   | 1:B:650:PRO:HG3  | 1.90                     | 0.53              |
| 1:D:405:THR:O     | 1:WA:222:GLY:O   | 2.27                     | 0.53              |
| 1:I:628:LYS:HB2   | 1:I:650:PRO:HG3  | 1.90                     | 0.53              |
| 1:N:222:GLY:O     | 1:P:405:THR:O    | 2.27                     | 0.53              |
| 1:S:405:THR:O     | 1:GB:222:GLY:O   | 2.27                     | 0.53              |
| 1:T:405:THR:O     | 1:LA:222:GLY:O   | 2.27                     | 0.53              |
| 1:FA:628:LYS:HB2  | 1:FA:650:PRO:HG3 | 1.90                     | 0.53              |
| 1:KA:628:LYS:HB2  | 1:KA:650:PRO:HG3 | 1.90                     | 0.53              |
| 1:E:405:THR:O     | 1:GA:222:GLY:O   | 2.27                     | 0.53              |
| 1:E:628:LYS:HB2   | 1:E:650:PRO:HG3  | 1.90                     | 0.53              |
| 1:Q:628:LYS:HB2   | 1:Q:650:PRO:HG3  | 1.90                     | 0.53              |
| 1:XA:380:LEU:HD12 | 1:XA:389:ARG:HB3 | 1.89                     | 0.53              |
| 1:A:222:GLY:O     | 1:QA:405:THR:O   | 2.27                     | 0.53              |
| 1:C:223:ASN:ND2   | 1:IA:218:ALA:N   | 2.57                     | 0.53              |
| 1:K:405:THR:O     | 1:S:222:GLY:O    | 2.27                     | 0.53              |
| 1:M:222:GLY:O     | 1:DA:405:THR:O   | 2.27                     | 0.53              |
| 1:P:222:GLY:O     | 1:AB:405:THR:O   | 2.27                     | 0.53              |
| 1:T:218:ALA:N     | 1:LA:223:ASN:ND2 | 2.57                     | 0.53              |
| 1:UA:628:LYS:HB2  | 1:UA:650:PRO:HG3 | 1.90                     | 0.53              |
| 1:VA:628:LYS:HB2  | 1:VA:650:PRO:HG3 | 1.90                     | 0.53              |
| 1:D:222:GLY:O     | 1:F:405:THR:O    | 2.27                     | 0.53              |
| 1:E:218:ALA:N     | 1:GA:223:ASN:ND2 | 2.57                     | 0.53              |
| 1:H:222:GLY:O     | 1:Y:405:THR:O    | 2.27                     | 0.53              |
| 1:H:405:THR:O     | 1:IB:222:GLY:O   | 2.27                     | 0.53              |
| 1:I:405:THR:O     | 1:BB:222:GLY:O   | 2.27                     | 0.53              |
| 1:M:405:THR:O     | 1:YA:222:GLY:O   | 2.27                     | 0.53              |
| 1:N:405:THR:O     | 1:RA:222:GLY:O   | 2.27                     | 0.53              |
| 1:R:223:ASN:ND2   | 1:NA:218:ALA:N   | 2.57                     | 0.53              |
| 1:T:628:LYS:HB2   | 1:T:650:PRO:HG3  | 1.90                     | 0.53              |
| 1:Y:222:GLY:O     | 1:AA:405:THR:O   | 2.27                     | 0.53              |
| 1:Z:222:GLY:O     | 1:RA:405:THR:O   | 2.27                     | 0.53              |
| 1:EA:380:LEU:HD12 | 1:EA:389:ARG:HB3 | 1.89                     | 0.53              |
| 1:HA:628:LYS:HB2  | 1:HA:650:PRO:HG3 | 1.91                     | 0.53              |
| 1:JA:222:GLY:O    | 1:GB:405:THR:O   | 2.27                     | 0.53              |
| 1:LA:218:ALA:N    | 1:UA:223:ASN:ND2 | 2.57                     | 0.53              |
| 1:MA:628:LYS:HB2  | 1:MA:650:PRO:HG3 | 1.90                     | 0.53              |
| 1:EB:628:LYS:HB2  | 1:EB:650:PRO:HG3 | 1.90                     | 0.53              |
| 1:HB:380:LEU:HD12 | 1:HB:389:ARG:HB3 | 1.89                     | 0.53              |
| 1:J:218:ALA:N     | 1:W:223:ASN:ND2  | 2.57                     | 0.53              |
| 1:O:218:ALA:N     | 1:BA:223:ASN:ND2 | 2.57                     | 0.53              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:V:405:THR:O    | 1:DA:222:GLY:O   | 2.27                     | 0.53              |
| 1:Y:628:LYS:HB2  | 1:Y:650:PRO:HG3  | 1.90                     | 0.53              |
| 1:CA:223:ASN:ND2 | 1:SA:218:ALA:N   | 2.57                     | 0.53              |
| 1:DA:628:LYS:HB2 | 1:DA:650:PRO:HG3 | 1.90                     | 0.53              |
| 1:EA:218:ALA:N   | 1:QA:223:ASN:ND2 | 2.57                     | 0.53              |
| 1:EA:222:GLY:O   | 1:BB:405:THR:O   | 2.27                     | 0.53              |
| 1:OA:222:GLY:O   | 1:WA:405:THR:O   | 2.27                     | 0.53              |
| 1:FB:628:LYS:HB2 | 1:FB:650:PRO:HG3 | 1.90                     | 0.53              |
| 1:A:218:ALA:N    | 1:I:223:ASN:ND2  | 2.57                     | 0.53              |
| 1:I:218:ALA:N    | 1:BB:223:ASN:ND2 | 2.57                     | 0.53              |
| 1:N:218:ALA:N    | 1:RA:223:ASN:ND2 | 2.57                     | 0.53              |
| 1:N:223:ASN:ND2  | 1:P:218:ALA:N    | 2.57                     | 0.53              |
| 1:T:223:ASN:ND2  | 1:CA:218:ALA:N   | 2.57                     | 0.53              |
| 1:X:223:ASN:ND2  | 1:CB:218:ALA:N   | 2.57                     | 0.53              |
| 1:Z:218:ALA:N    | 1:AB:223:ASN:ND2 | 2.57                     | 0.53              |
| 1:Z:380:LEU:HD12 | 1:Z:389:ARG:HB3  | 1.89                     | 0.53              |
| 1:CA:222:GLY:O   | 1:SA:405:THR:O   | 2.27                     | 0.53              |
| 1:MA:223:ASN:ND2 | 1:HB:218:ALA:N   | 2.57                     | 0.53              |
| 1:WA:628:LYS:HB2 | 1:WA:650:PRO:HG3 | 1.90                     | 0.53              |
| 1:AB:628:LYS:HB2 | 1:AB:650:PRO:HG3 | 1.90                     | 0.53              |
| 1:GB:628:LYS:HB2 | 1:GB:650:PRO:HG3 | 1.90                     | 0.53              |
| 1:IB:628:LYS:HB2 | 1:IB:650:PRO:HG3 | 1.90                     | 0.53              |
| 1:B:218:ALA:N    | 1:V:223:ASN:ND2  | 2.57                     | 0.52              |
| 1:E:223:ASN:ND2  | 1:X:218:ALA:N    | 2.57                     | 0.52              |
| 1:H:218:ALA:N    | 1:IB:223:ASN:ND2 | 2.57                     | 0.52              |
| 1:H:223:ASN:ND2  | 1:Y:218:ALA:N    | 2.57                     | 0.52              |
| 1:M:223:ASN:ND2  | 1:DA:218:ALA:N   | 2.57                     | 0.52              |
| 1:Q:218:ALA:N    | 1:AA:223:ASN:ND2 | 2.57                     | 0.52              |
| 1:GA:218:ALA:N   | 1:EB:223:ASN:ND2 | 2.57                     | 0.52              |
| 1:HA:223:ASN:ND2 | 1:XA:218:ALA:N   | 2.57                     | 0.52              |
| 1:I:610:PRO:HD3  | 1:P:481:PRO:HG3  | 1.92                     | 0.52              |
| 1:J:481:PRO:HG3  | 1:KA:610:PRO:HD3 | 1.92                     | 0.52              |
| 1:K:222:GLY:O    | 1:VA:405:THR:O   | 2.27                     | 0.52              |
| 1:L:223:ASN:ND2  | 1:TA:218:ALA:N   | 2.57                     | 0.52              |
| 1:M:218:ALA:N    | 1:YA:223:ASN:ND2 | 2.57                     | 0.52              |
| 1:S:481:PRO:HG3  | 1:TA:610:PRO:HD3 | 1.91                     | 0.52              |
| 1:X:222:GLY:O    | 1:CB:405:THR:O   | 2.27                     | 0.52              |
| 1:Z:610:PRO:HD3  | 1:HB:481:PRO:HG3 | 1.91                     | 0.52              |
| 1:OA:218:ALA:N   | 1:FB:223:ASN:ND2 | 2.57                     | 0.52              |
| 1:OA:223:ASN:ND2 | 1:WA:218:ALA:N   | 2.57                     | 0.52              |
| 1:QA:628:LYS:HB2 | 1:QA:650:PRO:HG3 | 1.90                     | 0.52              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:YA:628:LYS:HB2  | 1:YA:650:PRO:HG3  | 1.90                     | 0.52              |
| 1:A:481:PRO:HG3   | 1:N:610:PRO:HD3   | 1.92                     | 0.52              |
| 1:D:223:ASN:ND2   | 1:F:218:ALA:N     | 2.57                     | 0.52              |
| 1:F:222:GLY:O     | 1:FB:405:THR:O    | 2.27                     | 0.52              |
| 1:F:223:ASN:ND2   | 1:FB:218:ALA:N    | 2.57                     | 0.52              |
| 1:G:223:ASN:ND2   | 1:DB:218:ALA:N    | 2.57                     | 0.52              |
| 1:I:630:PRO:HA    | 1:YA:743:LEU:OXT  | 2.10                     | 0.52              |
| 1:J:405:THR:O     | 1:W:222:GLY:O     | 2.27                     | 0.52              |
| 1:J:743:LEU:OXT   | 1:DA:630:PRO:HA   | 2.10                     | 0.52              |
| 1:K:218:ALA:N     | 1:S:223:ASN:ND2   | 2.57                     | 0.52              |
| 1:K:223:ASN:ND2   | 1:VA:218:ALA:N    | 2.57                     | 0.52              |
| 1:O:481:PRO:HG3   | 1:FA:610:PRO:HD3  | 1.92                     | 0.52              |
| 1:EA:610:PRO:HD3  | 1:XA:481:PRO:HG3  | 1.91                     | 0.52              |
| 1:JA:218:ALA:N    | 1:VA:223:ASN:ND2  | 2.57                     | 0.52              |
| 1:JA:223:ASN:ND2  | 1:GB:218:ALA:N    | 2.58                     | 0.52              |
| 1:CB:222:GLY:O    | 1:EB:405:THR:O    | 2.27                     | 0.52              |
| 1:C:405:THR:O     | 1:TA:222:GLY:O    | 2.27                     | 0.52              |
| 1:J:222:GLY:O     | 1:HA:405:THR:O    | 2.27                     | 0.52              |
| 1:J:628:LYS:HB2   | 1:J:650:PRO:HG3   | 1.90                     | 0.52              |
| 1:L:221:VAL:O     | 1:TA:221:VAL:HG23 | 2.10                     | 0.52              |
| 1:N:630:PRO:HA    | 1:IB:743:LEU:OXT  | 2.10                     | 0.52              |
| 1:O:222:GLY:O     | 1:MA:405:THR:O    | 2.27                     | 0.52              |
| 1:O:405:THR:O     | 1:BA:222:GLY:O    | 2.27                     | 0.52              |
| 1:O:743:LEU:OXT   | 1:Y:630:PRO:HA    | 2.10                     | 0.52              |
| 1:JA:221:VAL:HG23 | 1:VA:221:VAL:O    | 2.10                     | 0.52              |
| 1:JA:481:PRO:HG3  | 1:ZA:610:PRO:HD3  | 1.92                     | 0.52              |
| 1:OA:221:VAL:HG23 | 1:FB:221:VAL:O    | 2.10                     | 0.52              |
| 1:OA:481:PRO:HG3  | 1:PA:610:PRO:HD3  | 1.92                     | 0.52              |
| 1:SA:222:GLY:O    | 1:UA:405:THR:O    | 2.27                     | 0.52              |
| 1:TA:628:LYS:HB2  | 1:TA:650:PRO:HG3  | 1.90                     | 0.52              |
| 1:A:221:VAL:HG23  | 1:I:221:VAL:O     | 2.10                     | 0.52              |
| 1:C:610:PRO:HD3   | 1:CA:481:PRO:HG3  | 1.92                     | 0.52              |
| 1:D:218:ALA:N     | 1:WA:223:ASN:ND2  | 2.57                     | 0.52              |
| 1:N:481:PRO:HG3   | 1:IB:610:PRO:HD3  | 1.91                     | 0.52              |
| 1:R:405:THR:O     | 1:DB:222:GLY:O    | 2.27                     | 0.52              |
| 1:R:610:PRO:HD3   | 1:X:481:PRO:HG3   | 1.92                     | 0.52              |
| 1:S:218:ALA:N     | 1:GB:223:ASN:ND2  | 2.57                     | 0.52              |
| 1:S:630:PRO:HA    | 1:TA:743:LEU:OXT  | 2.10                     | 0.52              |
| 1:FA:405:THR:O    | 1:NA:222:GLY:O    | 2.27                     | 0.52              |
| 1:IA:222:GLY:O    | 1:KA:405:THR:O    | 2.27                     | 0.52              |
| 1:SA:610:PRO:HD3  | 1:ZA:481:PRO:HG3  | 1.91                     | 0.52              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:UA:481:PRO:HG3  | 1:HB:610:PRO:HD3  | 1.92                     | 0.52              |
| 1:A:223:ASN:ND2   | 1:QA:218:ALA:N    | 2.57                     | 0.52              |
| 1:D:481:PRO:HG3   | 1:DB:610:PRO:HD3  | 1.92                     | 0.52              |
| 1:D:610:PRO:HD3   | 1:K:481:PRO:HG3   | 1.92                     | 0.52              |
| 1:D:630:PRO:HA    | 1:DB:743:LEU:OXT  | 2.10                     | 0.52              |
| 1:E:743:LEU:OXT   | 1:NA:630:PRO:HA   | 2.10                     | 0.52              |
| 1:G:221:VAL:O     | 1:DB:221:VAL:HG23 | 2.10                     | 0.52              |
| 1:I:481:PRO:HG3   | 1:YA:610:PRO:HD3  | 1.91                     | 0.52              |
| 1:N:221:VAL:O     | 1:P:221:VAL:HG23  | 2.10                     | 0.52              |
| 1:O:628:LYS:HB2   | 1:O:650:PRO:HG3   | 1.90                     | 0.52              |
| 1:P:223:ASN:ND2   | 1:AB:218:ALA:N    | 2.57                     | 0.52              |
| 1:BA:628:LYS:HB2  | 1:BA:650:PRO:HG3  | 1.90                     | 0.52              |
| 1:CA:628:LYS:HB2  | 1:CA:650:PRO:HG3  | 1.90                     | 0.52              |
| 1:GA:481:PRO:HG3  | 1:QA:610:PRO:HD3  | 1.92                     | 0.52              |
| 1:PA:481:PRO:HG3  | 1:CB:610:PRO:HD3  | 1.92                     | 0.52              |
| 1:SA:223:ASN:ND2  | 1:UA:218:ALA:N    | 2.57                     | 0.52              |
| 1:XA:610:PRO:HD3  | 1:EB:481:PRO:HG3  | 1.92                     | 0.52              |
| 1:ZA:218:ALA:N    | 1:HB:223:ASN:ND2  | 2.57                     | 0.52              |
| 1:DB:628:LYS:HB2  | 1:DB:650:PRO:HG3  | 1.90                     | 0.52              |
| 1:C:222:GLY:O     | 1:IA:405:THR:O    | 2.27                     | 0.52              |
| 1:F:481:PRO:HG3   | 1:S:610:PRO:HD3   | 1.92                     | 0.52              |
| 1:G:222:GLY:O     | 1:DB:405:THR:O    | 2.27                     | 0.52              |
| 1:L:218:ALA:N     | 1:KA:223:ASN:ND2  | 2.57                     | 0.52              |
| 1:T:221:VAL:HG23  | 1:LA:221:VAL:O    | 2.10                     | 0.52              |
| 1:T:743:LEU:OXT   | 1:IA:630:PRO:HA   | 2.10                     | 0.52              |
| 1:V:221:VAL:HG23  | 1:DA:221:VAL:O    | 2.10                     | 0.52              |
| 1:W:628:LYS:HB2   | 1:W:650:PRO:HG3   | 1.90                     | 0.52              |
| 1:X:610:PRO:HD3   | 1:WA:481:PRO:HG3  | 1.92                     | 0.52              |
| 1:Y:221:VAL:O     | 1:AA:221:VAL:HG23 | 2.10                     | 0.52              |
| 1:Z:405:THR:O     | 1:AB:222:GLY:O    | 2.27                     | 0.52              |
| 1:EA:743:LEU:OXT  | 1:XA:630:PRO:HA   | 2.10                     | 0.52              |
| 1:FA:221:VAL:HG23 | 1:NA:221:VAL:O    | 2.10                     | 0.52              |
| 1:HA:222:GLY:O    | 1:XA:405:THR:O    | 2.27                     | 0.52              |
| 1:IA:221:VAL:O    | 1:KA:221:VAL:HG23 | 2.10                     | 0.52              |
| 1:JA:610:PRO:HD3  | 1:SA:481:PRO:HG3  | 1.91                     | 0.52              |
| 1:PA:218:ALA:N    | 1:XA:223:ASN:ND2  | 2.57                     | 0.52              |
| 1:ZA:221:VAL:HG23 | 1:HB:221:VAL:O    | 2.10                     | 0.52              |
| 1:CB:223:ASN:ND2  | 1:EB:218:ALA:N    | 2.57                     | 0.52              |
| 1:B:223:ASN:ND2   | 1:YA:218:ALA:N    | 2.57                     | 0.52              |
| 1:B:630:PRO:HA    | 1:LA:743:LEU:OXT  | 2.10                     | 0.52              |
| 1:E:221:VAL:HG23  | 1:GA:221:VAL:O    | 2.10                     | 0.52              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:E:632:THR:HA    | 1:AA:615:GLN:NE2  | 2.25                     | 0.52              |
| 1:F:630:PRO:HA    | 1:S:743:LEU:OXT   | 2.10                     | 0.52              |
| 1:J:610:PRO:HD3   | 1:DA:481:PRO:HG3  | 1.91                     | 0.52              |
| 1:L:222:GLY:O     | 1:TA:405:THR:O    | 2.27                     | 0.52              |
| 1:M:221:VAL:O     | 1:DA:221:VAL:HG23 | 2.10                     | 0.52              |
| 1:Q:223:ASN:ND2   | 1:IB:218:ALA:N    | 2.57                     | 0.52              |
| 1:R:222:GLY:O     | 1:NA:405:THR:O    | 2.27                     | 0.52              |
| 1:Z:630:PRO:HA    | 1:UA:743:LEU:OXT  | 2.10                     | 0.52              |
| 1:Z:743:LEU:OXT   | 1:HB:630:PRO:HA   | 2.10                     | 0.52              |
| 1:CA:610:PRO:HD3  | 1:GB:481:PRO:HG3  | 1.92                     | 0.52              |
| 1:EA:630:PRO:HA   | 1:EB:743:LEU:OXT  | 2.10                     | 0.52              |
| 1:JA:743:LEU:OXT  | 1:SA:630:PRO:HA   | 2.10                     | 0.52              |
| 1:LA:481:PRO:HG3  | 1:AB:610:PRO:HD3  | 1.92                     | 0.52              |
| 1:MA:222:GLY:O    | 1:HB:405:THR:O    | 2.27                     | 0.52              |
| 1:PA:221:VAL:HG23 | 1:XA:221:VAL:O    | 2.10                     | 0.52              |
| 1:B:222:GLY:O     | 1:YA:405:THR:O    | 2.27                     | 0.52              |
| 1:D:743:LEU:OXT   | 1:K:630:PRO:HA    | 2.10                     | 0.52              |
| 1:G:218:ALA:N     | 1:FA:223:ASN:ND2  | 2.57                     | 0.52              |
| 1:G:610:PRO:HD3   | 1:VA:481:PRO:HG3  | 1.92                     | 0.52              |
| 1:H:630:PRO:HA    | 1:RA:743:LEU:OXT  | 2.10                     | 0.52              |
| 1:J:223:ASN:ND2   | 1:HA:218:ALA:N    | 2.57                     | 0.52              |
| 1:J:445:LEU:HD23  | 1:DA:536:GLN:HG3  | 1.92                     | 0.52              |
| 1:L:610:PRO:HD3   | 1:FB:481:PRO:HG3  | 1.92                     | 0.52              |
| 1:M:630:PRO:HA    | 1:BB:743:LEU:OXT  | 2.10                     | 0.52              |
| 1:O:223:ASN:ND2   | 1:MA:218:ALA:N    | 2.57                     | 0.52              |
| 1:O:445:LEU:HD23  | 1:Y:536:GLN:HG3   | 1.92                     | 0.52              |
| 1:O:610:PRO:HD3   | 1:Y:481:PRO:HG3   | 1.91                     | 0.52              |
| 1:Q:630:PRO:HA    | 1:GA:743:LEU:OXT  | 2.10                     | 0.52              |
| 1:T:632:THR:HA    | 1:V:615:GLN:NE2   | 2.25                     | 0.52              |
| 1:X:628:LYS:HB2   | 1:X:650:PRO:HG3   | 1.90                     | 0.52              |
| 1:Z:628:LYS:HB2   | 1:Z:650:PRO:HG3   | 1.90                     | 0.52              |
| 1:EA:405:THR:O    | 1:QA:222:GLY:O    | 2.27                     | 0.52              |
| 1:HA:221:VAL:O    | 1:XA:221:VAL:HG23 | 2.10                     | 0.52              |
| 1:OA:610:PRO:HD3  | 1:CB:481:PRO:HG3  | 1.91                     | 0.52              |
| 1:A:610:PRO:HD3   | 1:IB:481:PRO:HG3  | 1.92                     | 0.52              |
| 1:C:221:VAL:HG23  | 1:TA:221:VAL:O    | 2.10                     | 0.52              |
| 1:C:630:PRO:HA    | 1:GB:743:LEU:OXT  | 2.10                     | 0.52              |
| 1:C:743:LEU:OXT   | 1:CA:630:PRO:HA   | 2.10                     | 0.52              |
| 1:D:221:VAL:O     | 1:F:221:VAL:HG23  | 2.10                     | 0.52              |
| 1:H:221:VAL:O     | 1:Y:221:VAL:HG23  | 2.10                     | 0.52              |
| 1:J:632:THR:HA    | 1:KA:615:GLN:NE2  | 2.25                     | 0.52              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:K:221:VAL:HG23  | 1:S:221:VAL:O     | 2.10                     | 0.52              |
| 1:P:610:PRO:HD3   | 1:YA:481:PRO:HG3  | 1.91                     | 0.52              |
| 1:P:613:VAL:HG12  | 1:YA:635:HIS:HB3  | 1.92                     | 0.52              |
| 1:Q:632:THR:HA    | 1:GA:615:GLN:NE2  | 2.25                     | 0.52              |
| 1:R:630:PRO:HA    | 1:WA:743:LEU:OXT  | 2.10                     | 0.52              |
| 1:T:222:GLY:O     | 1:CA:405:THR:O    | 2.27                     | 0.52              |
| 1:T:613:VAL:HG12  | 1:IA:635:HIS:HB3  | 1.92                     | 0.52              |
| 1:W:481:PRO:HG3   | 1:FB:610:PRO:HD3  | 1.92                     | 0.52              |
| 1:Y:223:ASN:ND2   | 1:AA:218:ALA:N    | 2.57                     | 0.52              |
| 1:Z:221:VAL:HG23  | 1:AB:221:VAL:O    | 2.10                     | 0.52              |
| 1:BA:218:ALA:N    | 1:ZA:223:ASN:ND2  | 2.57                     | 0.52              |
| 1:BA:632:THR:HA   | 1:VA:615:GLN:NE2  | 2.25                     | 0.52              |
| 1:IA:223:ASN:ND2  | 1:KA:218:ALA:N    | 2.57                     | 0.52              |
| 1:JA:615:GLN:NE2  | 1:SA:632:THR:HA   | 2.25                     | 0.52              |
| 1:LA:405:THR:O    | 1:UA:222:GLY:O    | 2.27                     | 0.52              |
| 1:LA:630:PRO:HA   | 1:AB:743:LEU:OXT  | 2.10                     | 0.52              |
| 1:MA:221:VAL:O    | 1:HB:221:VAL:HG23 | 2.10                     | 0.52              |
| 1:OA:615:GLN:NE2  | 1:CB:632:THR:HA   | 2.25                     | 0.52              |
| 1:OA:743:LEU:OXT  | 1:CB:630:PRO:HA   | 2.10                     | 0.52              |
| 1:A:445:LEU:HD23  | 1:IB:536:GLN:HG3  | 1.92                     | 0.51              |
| 1:A:613:VAL:HG12  | 1:IB:635:HIS:HB3  | 1.92                     | 0.51              |
| 1:B:221:VAL:O     | 1:YA:221:VAL:HG23 | 2.10                     | 0.51              |
| 1:C:218:ALA:N     | 1:TA:223:ASN:ND2  | 2.57                     | 0.51              |
| 1:E:613:VAL:HG12  | 1:NA:635:HIS:HB3  | 1.92                     | 0.51              |
| 1:G:743:LEU:OXT   | 1:VA:630:PRO:HA   | 2.10                     | 0.51              |
| 1:H:610:PRO:HD3   | 1:MA:481:PRO:HG3  | 1.92                     | 0.51              |
| 1:P:445:LEU:HD23  | 1:YA:536:GLN:HG3  | 1.92                     | 0.51              |
| 1:P:743:LEU:OXT   | 1:YA:630:PRO:HA   | 2.10                     | 0.51              |
| 1:R:218:ALA:N     | 1:DB:223:ASN:ND2  | 2.57                     | 0.51              |
| 1:R:221:VAL:HG23  | 1:DB:221:VAL:O    | 2.10                     | 0.51              |
| 1:T:481:PRO:HG3   | 1:V:610:PRO:HD3   | 1.92                     | 0.51              |
| 1:W:218:ALA:N     | 1:PA:223:ASN:ND2  | 2.57                     | 0.51              |
| 1:W:632:THR:HA    | 1:FB:615:GLN:NE2  | 2.26                     | 0.51              |
| 1:BA:481:PRO:HG3  | 1:VA:610:PRO:HD3  | 1.92                     | 0.51              |
| 1:EA:221:VAL:HG23 | 1:QA:221:VAL:O    | 2.10                     | 0.51              |
| 1:EA:615:GLN:NE2  | 1:XA:632:THR:HA   | 2.25                     | 0.51              |
| 1:FA:218:ALA:N    | 1:NA:223:ASN:ND2  | 2.57                     | 0.51              |
| 1:JA:445:LEU:HD23 | 1:SA:536:GLN:HG3  | 1.92                     | 0.51              |
| 1:B:632:THR:HA    | 1:LA:615:GLN:NE2  | 2.26                     | 0.51              |
| 1:D:615:GLN:NE2   | 1:K:632:THR:HA    | 2.26                     | 0.51              |
| 1:D:632:THR:HA    | 1:DB:615:GLN:NE2  | 2.25                     | 0.51              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:E:222:GLY:O     | 1:X:405:THR:O     | 2.27                     | 0.51              |
| 1:F:632:THR:HA    | 1:S:615:GLN:NE2   | 2.26                     | 0.51              |
| 1:G:405:THR:O     | 1:FA:222:GLY:O    | 2.27                     | 0.51              |
| 1:J:615:GLN:NE2   | 1:DA:632:THR:HA   | 2.25                     | 0.51              |
| 1:M:610:PRO:HD3   | 1:HA:481:PRO:HG3  | 1.92                     | 0.51              |
| 1:O:632:THR:HA    | 1:FA:615:GLN:NE2  | 2.25                     | 0.51              |
| 1:R:743:LEU:OXT   | 1:X:630:PRO:HA    | 2.10                     | 0.51              |
| 1:Z:536:GLN:HG3   | 1:UA:445:LEU:HD23 | 1.92                     | 0.51              |
| 1:Z:615:GLN:NE2   | 1:HB:632:THR:HA   | 2.25                     | 0.51              |
| 1:Z:632:THR:HA    | 1:UA:615:GLN:NE2  | 2.25                     | 0.51              |
| 1:Z:665:PRO:HB3   | 1:Z:674:PHE:HZ    | 1.76                     | 0.51              |
| 1:BA:405:THR:O    | 1:ZA:222:GLY:O    | 2.27                     | 0.51              |
| 1:EA:628:LYS:HB2  | 1:EA:650:PRO:HG3  | 1.90                     | 0.51              |
| 1:EA:632:THR:HA   | 1:EB:615:GLN:NE2  | 2.25                     | 0.51              |
| 1:EA:665:PRO:HB3  | 1:EA:674:PHE:HZ   | 1.76                     | 0.51              |
| 1:GA:630:PRO:HA   | 1:QA:743:LEU:OXT  | 2.10                     | 0.51              |
| 1:GA:632:THR:HA   | 1:QA:615:GLN:NE2  | 2.25                     | 0.51              |
| 1:KA:665:PRO:HB3  | 1:KA:674:PHE:HZ   | 1.76                     | 0.51              |
| 1:OA:445:LEU:HD23 | 1:CB:536:GLN:HG3  | 1.92                     | 0.51              |
| 1:UA:536:GLN:HG3  | 1:HB:445:LEU:HD23 | 1.92                     | 0.51              |
| 1:UA:630:PRO:HA   | 1:HB:743:LEU:OXT  | 2.10                     | 0.51              |
| 1:UA:665:PRO:HB3  | 1:UA:674:PHE:HZ   | 1.76                     | 0.51              |
| 1:A:743:LEU:OXT   | 1:IB:630:PRO:HA   | 2.10                     | 0.51              |
| 1:E:481:PRO:HG3   | 1:AA:610:PRO:HD3  | 1.92                     | 0.51              |
| 1:F:536:GLN:HG3   | 1:S:445:LEU:HD23  | 1.92                     | 0.51              |
| 1:L:405:THR:O     | 1:KA:222:GLY:O    | 2.27                     | 0.51              |
| 1:L:743:LEU:OXT   | 1:FB:630:PRO:HA   | 2.10                     | 0.51              |
| 1:Q:222:GLY:O     | 1:IB:405:THR:O    | 2.27                     | 0.51              |
| 1:V:218:ALA:N     | 1:DA:223:ASN:ND2  | 2.57                     | 0.51              |
| 1:V:481:PRO:HG3   | 1:IA:610:PRO:HD3  | 1.92                     | 0.51              |
| 1:W:405:THR:O     | 1:PA:222:GLY:O    | 2.27                     | 0.51              |
| 1:Y:743:LEU:OXT   | 1:FA:630:PRO:HA   | 2.10                     | 0.51              |
| 1:Z:221:VAL:O     | 1:RA:221:VAL:HG23 | 2.10                     | 0.51              |
| 1:Z:613:VAL:HG12  | 1:HB:635:HIS:HB3  | 1.92                     | 0.51              |
| 1:FA:665:PRO:HB3  | 1:FA:674:PHE:HZ   | 1.76                     | 0.51              |
| 1:GA:405:THR:O    | 1:EB:222:GLY:O    | 2.27                     | 0.51              |
| 1:HA:743:LEU:OXT  | 1:BB:630:PRO:HA   | 2.10                     | 0.51              |
| 1:JA:536:GLN:HG3  | 1:ZA:445:LEU:HD23 | 1.92                     | 0.51              |
| 1:LA:632:THR:HA   | 1:AB:615:GLN:NE2  | 2.25                     | 0.51              |
| 1:MA:743:LEU:OXT  | 1:RA:630:PRO:HA   | 2.10                     | 0.51              |
| 1:RA:665:PRO:HB3  | 1:RA:674:PHE:HZ   | 1.76                     | 0.51              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:XA:743:LEU:OXT  | 1:EB:630:PRO:HA   | 2.10                     | 0.51              |
| 1:ZA:405:THR:O    | 1:HB:222:GLY:O    | 2.27                     | 0.51              |
| 1:BB:665:PRO:HB3  | 1:BB:674:PHE:HZ   | 1.76                     | 0.51              |
| 1:EB:665:PRO:HB3  | 1:EB:674:PHE:HZ   | 1.76                     | 0.51              |
| 1:A:221:VAL:O     | 1:QA:221:VAL:HG23 | 2.10                     | 0.51              |
| 1:B:481:PRO:HG3   | 1:LA:610:PRO:HD3  | 1.92                     | 0.51              |
| 1:F:221:VAL:O     | 1:FB:221:VAL:HG23 | 2.10                     | 0.51              |
| 1:F:445:LEU:HD23  | 1:TA:536:GLN:HG3  | 1.92                     | 0.51              |
| 1:F:610:PRO:HD3   | 1:TA:481:PRO:HG3  | 1.92                     | 0.51              |
| 1:F:665:PRO:HB3   | 1:F:674:PHE:HZ    | 1.76                     | 0.51              |
| 1:H:481:PRO:HG3   | 1:RA:610:PRO:HD3  | 1.92                     | 0.51              |
| 1:H:632:THR:HA    | 1:RA:615:GLN:NE2  | 2.25                     | 0.51              |
| 1:J:221:VAL:HG23  | 1:W:221:VAL:O     | 2.10                     | 0.51              |
| 1:L:635:HIS:HB3   | 1:W:613:VAL:HG12  | 1.93                     | 0.51              |
| 1:M:481:PRO:HG3   | 1:BB:610:PRO:HD3  | 1.92                     | 0.51              |
| 1:P:221:VAL:O     | 1:AB:221:VAL:HG23 | 2.10                     | 0.51              |
| 1:Q:221:VAL:O     | 1:IB:221:VAL:HG23 | 2.10                     | 0.51              |
| 1:R:221:VAL:O     | 1:NA:221:VAL:HG23 | 2.10                     | 0.51              |
| 1:S:632:THR:HA    | 1:TA:615:GLN:NE2  | 2.25                     | 0.51              |
| 1:X:615:GLN:NE2   | 1:WA:632:THR:HA   | 2.25                     | 0.51              |
| 1:Z:481:PRO:HG3   | 1:UA:610:PRO:HD3  | 1.92                     | 0.51              |
| 1:Z:635:HIS:HB3   | 1:UA:613:VAL:HG12 | 1.92                     | 0.51              |
| 1:AA:481:PRO:HG3  | 1:NA:610:PRO:HD3  | 1.92                     | 0.51              |
| 1:CA:445:LEU:HD23 | 1:GB:536:GLN:HG3  | 1.93                     | 0.51              |
| 1:CA:665:PRO:HB3  | 1:CA:674:PHE:HZ   | 1.75                     | 0.51              |
| 1:DA:743:LEU:OXT  | 1:KA:630:PRO:HA   | 2.10                     | 0.51              |
| 1:EA:223:ASN:ND2  | 1:BB:218:ALA:N    | 2.57                     | 0.51              |
| 1:EA:481:PRO:HG3  | 1:EB:610:PRO:HD3  | 1.92                     | 0.51              |
| 1:EA:536:GLN:HG3  | 1:EB:445:LEU:HD23 | 1.93                     | 0.51              |
| 1:EA:635:HIS:HB3  | 1:EB:613:VAL:HG12 | 1.93                     | 0.51              |
| 1:GA:635:HIS:HB3  | 1:QA:613:VAL:HG12 | 1.93                     | 0.51              |
| 1:HA:613:VAL:HG12 | 1:BB:635:HIS:HB3  | 1.93                     | 0.51              |
| 1:IA:665:PRO:HB3  | 1:IA:674:PHE:HZ   | 1.75                     | 0.51              |
| 1:LA:635:HIS:HB3  | 1:AB:613:VAL:HG12 | 1.93                     | 0.51              |
| 1:NA:665:PRO:HB3  | 1:NA:674:PHE:HZ   | 1.76                     | 0.51              |
| 1:OA:536:GLN:HG3  | 1:PA:445:LEU:HD23 | 1.92                     | 0.51              |
| 1:OA:665:PRO:HB3  | 1:OA:674:PHE:HZ   | 1.76                     | 0.51              |
| 1:B:536:GLN:HG3   | 1:LA:445:LEU:HD23 | 1.93                     | 0.51              |
| 1:B:610:PRO:HD3   | 1:AB:481:PRO:HG3  | 1.92                     | 0.51              |
| 1:C:221:VAL:O     | 1:IA:221:VAL:HG23 | 2.10                     | 0.51              |
| 1:C:481:PRO:HG3   | 1:GB:610:PRO:HD3  | 1.92                     | 0.51              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:C:536:GLN:HG3   | 1:GB:445:LEU:HD23 | 1.93                     | 0.51              |
| 1:D:665:PRO:HB3   | 1:D:674:PHE:HZ    | 1.75                     | 0.51              |
| 1:F:743:LEU:OXT   | 1:TA:630:PRO:HA   | 2.10                     | 0.51              |
| 1:G:635:HIS:HB3   | 1:BA:613:VAL:HG12 | 1.93                     | 0.51              |
| 1:H:221:VAL:HG23  | 1:IB:221:VAL:O    | 2.10                     | 0.51              |
| 1:H:615:GLN:NE2   | 1:MA:632:THR:HA   | 2.25                     | 0.51              |
| 1:I:221:VAL:HG23  | 1:BB:221:VAL:O    | 2.10                     | 0.51              |
| 1:K:221:VAL:O     | 1:VA:221:VAL:HG23 | 2.10                     | 0.51              |
| 1:K:445:LEU:HD23  | 1:DB:536:GLN:HG3  | 1.93                     | 0.51              |
| 1:K:610:PRO:HD3   | 1:DB:481:PRO:HG3  | 1.92                     | 0.51              |
| 1:K:665:PRO:HB3   | 1:K:674:PHE:HZ    | 1.76                     | 0.51              |
| 1:M:615:GLN:NE2   | 1:HA:632:THR:HA   | 2.25                     | 0.51              |
| 1:N:221:VAL:HG23  | 1:RA:221:VAL:O    | 2.10                     | 0.51              |
| 1:O:615:GLN:NE2   | 1:Y:632:THR:HA    | 2.26                     | 0.51              |
| 1:Q:481:PRO:HG3   | 1:GA:610:PRO:HD3  | 1.92                     | 0.51              |
| 1:Q:610:PRO:HD3   | 1:QA:481:PRO:HG3  | 1.92                     | 0.51              |
| 1:S:665:PRO:HB3   | 1:S:674:PHE:HZ    | 1.75                     | 0.51              |
| 1:T:630:PRO:HA    | 1:V:743:LEU:OXT   | 2.10                     | 0.51              |
| 1:X:445:LEU:HD23  | 1:WA:536:GLN:HG3  | 1.93                     | 0.51              |
| 1:X:665:PRO:HB3   | 1:X:674:PHE:HZ    | 1.75                     | 0.51              |
| 1:Y:610:PRO:HD3   | 1:FA:481:PRO:HG3  | 1.92                     | 0.51              |
| 1:Z:223:ASN:ND2   | 1:RA:218:ALA:N    | 2.57                     | 0.51              |
| 1:AA:665:PRO:HB3  | 1:AA:674:PHE:HZ   | 1.76                     | 0.51              |
| 1:CA:615:GLN:NE2  | 1:GB:632:THR:HA   | 2.25                     | 0.51              |
| 1:EA:221:VAL:O    | 1:BB:221:VAL:HG23 | 2.10                     | 0.51              |
| 1:JA:635:HIS:HB3  | 1:ZA:613:VAL:HG12 | 1.92                     | 0.51              |
| 1:JA:665:PRO:HB3  | 1:JA:674:PHE:HZ   | 1.76                     | 0.51              |
| 1:MA:613:VAL:HG12 | 1:RA:635:HIS:HB3  | 1.93                     | 0.51              |
| 1:PA:405:THR:O    | 1:XA:222:GLY:O    | 2.27                     | 0.51              |
| 1:XA:445:LEU:HD23 | 1:EB:536:GLN:HG3  | 1.93                     | 0.51              |
| 1:AB:665:PRO:HB3  | 1:AB:674:PHE:HZ   | 1.75                     | 0.51              |
| 1:DB:665:PRO:HB3  | 1:DB:674:PHE:HZ   | 1.76                     | 0.51              |
| 1:B:221:VAL:HG23  | 1:V:221:VAL:O     | 2.10                     | 0.51              |
| 1:B:405:THR:O     | 1:V:222:GLY:O     | 2.27                     | 0.51              |
| 1:B:615:GLN:NE2   | 1:AB:632:THR:HA   | 2.25                     | 0.51              |
| 1:D:221:VAL:HG23  | 1:WA:221:VAL:O    | 2.10                     | 0.51              |
| 1:D:445:LEU:HD23  | 1:K:536:GLN:HG3   | 1.93                     | 0.51              |
| 1:E:630:PRO:HA    | 1:AA:743:LEU:OXT  | 2.10                     | 0.51              |
| 1:I:536:GLN:HG3   | 1:YA:445:LEU:HD23 | 1.92                     | 0.51              |
| 1:K:743:LEU:OXT   | 1:DB:630:PRO:HA   | 2.10                     | 0.51              |
| 1:M:221:VAL:HG23  | 1:YA:221:VAL:O    | 2.10                     | 0.51              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:M:632:THR:HA    | 1:BB:615:GLN:NE2  | 2.26                     | 0.51              |
| 1:M:665:PRO:HB3   | 1:M:674:PHE:HZ    | 1.76                     | 0.51              |
| 1:N:536:GLN:HG3   | 1:IB:445:LEU:HD23 | 1.92                     | 0.51              |
| 1:O:221:VAL:HG23  | 1:BA:221:VAL:O    | 2.10                     | 0.51              |
| 1:Q:221:VAL:HG23  | 1:AA:221:VAL:O    | 2.10                     | 0.51              |
| 1:Q:405:THR:O     | 1:AA:222:GLY:O    | 2.27                     | 0.51              |
| 1:Q:536:GLN:HG3   | 1:GA:445:LEU:HD23 | 1.93                     | 0.51              |
| 1:R:536:GLN:HG3   | 1:WA:445:LEU:HD23 | 1.93                     | 0.51              |
| 1:V:665:PRO:HB3   | 1:V:674:PHE:HZ    | 1.76                     | 0.51              |
| 1:DA:610:PRO:HD3  | 1:KA:481:PRO:HG3  | 1.92                     | 0.51              |
| 1:EA:613:VAL:HG12 | 1:XA:635:HIS:HB3  | 1.92                     | 0.51              |
| 1:HA:615:GLN:NE2  | 1:BB:632:THR:HA   | 2.25                     | 0.51              |
| 1:OA:635:HIS:HB3  | 1:PA:613:VAL:HG12 | 1.93                     | 0.51              |
| 1:SA:743:LEU:OXT  | 1:ZA:630:PRO:HA   | 2.10                     | 0.51              |
| 1:TA:665:PRO:HB3  | 1:TA:674:PHE:HZ   | 1.76                     | 0.51              |
| 1:E:635:HIS:HB3   | 1:AA:613:VAL:HG12 | 1.92                     | 0.51              |
| 1:H:665:PRO:HB3   | 1:H:674:PHE:HZ    | 1.76                     | 0.51              |
| 1:I:445:LEU:HD23  | 1:P:536:GLN:HG3   | 1.92                     | 0.51              |
| 1:M:635:HIS:HB3   | 1:BB:613:VAL:HG12 | 1.93                     | 0.51              |
| 1:R:481:PRO:HG3   | 1:WA:610:PRO:HD3  | 1.92                     | 0.51              |
| 1:S:221:VAL:HG23  | 1:GB:221:VAL:O    | 2.10                     | 0.51              |
| 1:T:221:VAL:O     | 1:CA:221:VAL:HG23 | 2.10                     | 0.51              |
| 1:V:630:PRO:HA    | 1:IA:743:LEU:OXT  | 2.10                     | 0.51              |
| 1:V:632:THR:HA    | 1:IA:615:GLN:NE2  | 2.26                     | 0.51              |
| 1:W:536:GLN:HG3   | 1:FB:445:LEU:HD23 | 1.93                     | 0.51              |
| 1:AA:632:THR:HA   | 1:NA:615:GLN:NE2  | 2.26                     | 0.51              |
| 1:BA:536:GLN:HG3  | 1:VA:445:LEU:HD23 | 1.93                     | 0.51              |
| 1:BA:630:PRO:HA   | 1:VA:743:LEU:OXT  | 2.10                     | 0.51              |
| 1:MA:610:PRO:HD3  | 1:RA:481:PRO:HG3  | 1.92                     | 0.51              |
| 1:MA:615:GLN:NE2  | 1:RA:632:THR:HA   | 2.25                     | 0.51              |
| 1:QA:665:PRO:HB3  | 1:QA:674:PHE:HZ   | 1.76                     | 0.51              |
| 1:SA:615:GLN:NE2  | 1:ZA:632:THR:HA   | 2.26                     | 0.51              |
| 1:A:536:GLN:HG3   | 1:N:445:LEU:HD23  | 1.92                     | 0.51              |
| 1:E:221:VAL:O     | 1:X:221:VAL:HG23  | 2.10                     | 0.51              |
| 1:G:632:THR:HA    | 1:BA:615:GLN:NE2  | 2.26                     | 0.51              |
| 1:H:635:HIS:HB3   | 1:RA:613:VAL:HG12 | 1.93                     | 0.51              |
| 1:I:613:VAL:HG12  | 1:P:635:HIS:HB3   | 1.92                     | 0.51              |
| 1:J:630:PRO:HA    | 1:KA:743:LEU:OXT  | 2.10                     | 0.51              |
| 1:L:632:THR:HA    | 1:W:615:GLN:NE2   | 2.25                     | 0.51              |
| 1:O:630:PRO:HA    | 1:FA:743:LEU:OXT  | 2.10                     | 0.51              |
| 1:T:445:LEU:HD23  | 1:IA:536:GLN:HG3  | 1.92                     | 0.51              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:T:615:GLN:NE2   | 1:IA:632:THR:HA   | 2.25                     | 0.51              |
| 1:T:635:HIS:HB3   | 1:V:613:VAL:HG12  | 1.92                     | 0.51              |
| 1:X:221:VAL:O     | 1:CB:221:VAL:HG23 | 2.10                     | 0.51              |
| 1:Y:445:LEU:HD23  | 1:FA:536:GLN:HG3  | 1.92                     | 0.51              |
| 1:AA:630:PRO:HA   | 1:NA:743:LEU:OXT  | 2.10                     | 0.51              |
| 1:CA:743:LEU:OXT  | 1:GB:630:PRO:HA   | 2.10                     | 0.51              |
| 1:JA:630:PRO:HA   | 1:ZA:743:LEU:OXT  | 2.10                     | 0.51              |
| 1:JA:632:THR:HA   | 1:ZA:615:GLN:NE2  | 2.25                     | 0.51              |
| 1:OA:632:THR:HA   | 1:PA:615:GLN:NE2  | 2.25                     | 0.51              |
| 1:SA:445:LEU:HD23 | 1:ZA:536:GLN:HG3  | 1.92                     | 0.51              |
| 1:WA:665:PRO:HB3  | 1:WA:674:PHE:HZ   | 1.75                     | 0.51              |
| 1:A:630:PRO:HA    | 1:N:743:LEU:OXT   | 2.10                     | 0.51              |
| 1:A:635:HIS:HB3   | 1:N:613:VAL:HG12  | 1.92                     | 0.51              |
| 1:E:615:GLN:NE2   | 1:NA:632:THR:HA   | 2.25                     | 0.51              |
| 1:E:743:LEU:HD22  | 1:NA:630:PRO:HB3  | 1.93                     | 0.51              |
| 1:J:630:PRO:HB3   | 1:KA:743:LEU:HD22 | 1.93                     | 0.51              |
| 1:L:221:VAL:HG23  | 1:KA:221:VAL:O    | 2.10                     | 0.51              |
| 1:Q:615:GLN:NE2   | 1:QA:632:THR:HA   | 2.26                     | 0.51              |
| 1:T:743:LEU:HD22  | 1:IA:630:PRO:HB3  | 1.93                     | 0.51              |
| 1:W:630:PRO:HA    | 1:FB:743:LEU:OXT  | 2.10                     | 0.51              |
| 1:W:635:HIS:HB3   | 1:FB:613:VAL:HG12 | 1.93                     | 0.51              |
| 1:Y:613:VAL:HG12  | 1:FA:635:HIS:HB3  | 1.92                     | 0.51              |
| 1:Z:445:LEU:HD23  | 1:HB:536:GLN:HG3  | 1.92                     | 0.51              |
| 1:CA:221:VAL:O    | 1:SA:221:VAL:HG23 | 2.10                     | 0.51              |
| 1:DA:445:LEU:HD23 | 1:KA:536:GLN:HG3  | 1.92                     | 0.51              |
| 1:DA:613:VAL:HG12 | 1:KA:635:HIS:HB3  | 1.92                     | 0.51              |
| 1:HA:610:PRO:HD3  | 1:BB:481:PRO:HG3  | 1.92                     | 0.51              |
| 1:PA:536:GLN:HG3  | 1:CB:445:LEU:HD23 | 1.93                     | 0.51              |
| 1:PA:630:PRO:HA   | 1:CB:743:LEU:OXT  | 2.10                     | 0.51              |
| 1:PA:632:THR:HA   | 1:CB:615:GLN:NE2  | 2.26                     | 0.51              |
| 1:SA:221:VAL:O    | 1:UA:221:VAL:HG23 | 2.10                     | 0.51              |
| 1:B:665:PRO:HB3   | 1:B:674:PHE:HZ    | 1.76                     | 0.51              |
| 1:C:632:THR:HA    | 1:GB:615:GLN:NE2  | 2.25                     | 0.51              |
| 1:E:445:LEU:HD23  | 1:NA:536:GLN:HG3  | 1.92                     | 0.51              |
| 1:F:635:HIS:HB3   | 1:S:613:VAL:HG12  | 1.92                     | 0.51              |
| 1:G:221:VAL:HG23  | 1:FA:221:VAL:O    | 2.10                     | 0.51              |
| 1:G:630:PRO:HA    | 1:BA:743:LEU:OXT  | 2.10                     | 0.51              |
| 1:I:615:GLN:NE2   | 1:P:632:THR:HA    | 2.26                     | 0.51              |
| 1:I:743:LEU:OXT   | 1:P:630:PRO:HA    | 2.10                     | 0.51              |
| 1:L:536:GLN:HG3   | 1:W:445:LEU:HD23  | 1.93                     | 0.51              |
| 1:L:630:PRO:HA    | 1:W:743:LEU:OXT   | 2.10                     | 0.51              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:O:221:VAL:O     | 1:MA:221:VAL:HG23 | 2.10                     | 0.51              |
| 1:O:630:PRO:HB3   | 1:FA:743:LEU:HD22 | 1.93                     | 0.51              |
| 1:R:632:THR:HA    | 1:WA:615:GLN:NE2  | 2.26                     | 0.51              |
| 1:R:665:PRO:HB3   | 1:R:674:PHE:HZ    | 1.75                     | 0.51              |
| 1:S:630:PRO:HB3   | 1:TA:743:LEU:HD22 | 1.93                     | 0.51              |
| 1:T:536:GLN:HG3   | 1:V:445:LEU:HD23  | 1.92                     | 0.51              |
| 1:V:635:HIS:HB3   | 1:IA:613:VAL:HG12 | 1.92                     | 0.51              |
| 1:W:221:VAL:HG23  | 1:PA:221:VAL:O    | 2.10                     | 0.51              |
| 1:X:743:LEU:OXT   | 1:WA:630:PRO:HA   | 2.11                     | 0.51              |
| 1:BA:221:VAL:HG23 | 1:ZA:221:VAL:O    | 2.10                     | 0.51              |
| 1:YA:665:PRO:HB3  | 1:YA:674:PHE:HZ   | 1.76                     | 0.51              |
| 1:CB:665:PRO:HB3  | 1:CB:674:PHE:HZ   | 1.76                     | 0.51              |
| 1:GB:665:PRO:HB3  | 1:GB:674:PHE:HZ   | 1.76                     | 0.51              |
| 1:IB:665:PRO:HB3  | 1:IB:674:PHE:HZ   | 1.76                     | 0.51              |
| 1:A:632:THR:HA    | 1:N:615:GLN:NE2   | 2.26                     | 0.50              |
| 1:B:445:LEU:HD23  | 1:AB:536:GLN:HG3  | 1.93                     | 0.50              |
| 1:D:630:PRO:HB3   | 1:DB:743:LEU:HD22 | 1.93                     | 0.50              |
| 1:E:536:GLN:HG3   | 1:AA:445:LEU:HD23 | 1.92                     | 0.50              |
| 1:G:536:GLN:HG3   | 1:BA:445:LEU:HD23 | 1.93                     | 0.50              |
| 1:G:615:GLN:NE2   | 1:VA:632:THR:HA   | 2.25                     | 0.50              |
| 1:H:445:LEU:HD23  | 1:MA:536:GLN:HG3  | 1.93                     | 0.50              |
| 1:I:743:LEU:HD22  | 1:P:630:PRO:HB3   | 1.94                     | 0.50              |
| 1:J:613:VAL:HG12  | 1:DA:635:HIS:HB3  | 1.92                     | 0.50              |
| 1:M:445:LEU:HD23  | 1:HA:536:GLN:HG3  | 1.93                     | 0.50              |
| 1:O:613:VAL:HG12  | 1:Y:635:HIS:HB3   | 1.92                     | 0.50              |
| 1:T:610:PRO:HD3   | 1:IA:481:PRO:HG3  | 1.91                     | 0.50              |
| 1:AA:635:HIS:HB3  | 1:NA:613:VAL:HG12 | 1.92                     | 0.50              |
| 1:BA:635:HIS:HB3  | 1:VA:613:VAL:HG12 | 1.93                     | 0.50              |
| 1:EA:445:LEU:HD23 | 1:XA:536:GLN:HG3  | 1.92                     | 0.50              |
| 1:HA:445:LEU:HD23 | 1:BB:536:GLN:HG3  | 1.93                     | 0.50              |
| 1:LA:221:VAL:HG23 | 1:UA:221:VAL:O    | 2.10                     | 0.50              |
| 1:MA:445:LEU:HD23 | 1:RA:536:GLN:HG3  | 1.93                     | 0.50              |
| 1:OA:630:PRO:HA   | 1:PA:743:LEU:OXT  | 2.10                     | 0.50              |
| 1:SA:665:PRO:HB3  | 1:SA:674:PHE:HZ   | 1.76                     | 0.50              |
| 1:CB:221:VAL:O    | 1:EB:221:VAL:HG23 | 2.10                     | 0.50              |
| 1:A:630:PRO:HB3   | 1:N:743:LEU:HD22  | 1.94                     | 0.50              |
| 1:C:613:VAL:HG12  | 1:CA:635:HIS:HB3  | 1.93                     | 0.50              |
| 1:C:665:PRO:HB3   | 1:C:674:PHE:HZ    | 1.75                     | 0.50              |
| 1:D:536:GLN:HG3   | 1:DB:445:LEU:HD23 | 1.92                     | 0.50              |
| 1:D:613:VAL:HG12  | 1:K:635:HIS:HB3   | 1.93                     | 0.50              |
| 1:E:630:PRO:HB3   | 1:AA:743:LEU:HD22 | 1.93                     | 0.50              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:F:615:GLN:NE2   | 1:TA:632:THR:HA   | 2.25                     | 0.50              |
| 1:H:630:PRO:HB3   | 1:RA:743:LEU:HD22 | 1.94                     | 0.50              |
| 1:J:221:VAL:O     | 1:HA:221:VAL:HG23 | 2.10                     | 0.50              |
| 1:P:615:GLN:NE2   | 1:YA:632:THR:HA   | 2.25                     | 0.50              |
| 1:Q:445:LEU:HD23  | 1:QA:536:GLN:HG3  | 1.93                     | 0.50              |
| 1:R:630:PRO:HB3   | 1:WA:743:LEU:HD22 | 1.94                     | 0.50              |
| 1:T:630:PRO:HB3   | 1:V:743:LEU:HD22  | 1.93                     | 0.50              |
| 1:Y:615:GLN:NE2   | 1:FA:632:THR:HA   | 2.26                     | 0.50              |
| 1:GA:221:VAL:HG23 | 1:EB:221:VAL:O    | 2.10                     | 0.50              |
| 1:JA:221:VAL:O    | 1:GB:221:VAL:HG23 | 2.10                     | 0.50              |
| 1:LA:630:PRO:HB3  | 1:AB:743:LEU:HD22 | 1.94                     | 0.50              |
| 1:FB:665:PRO:HB3  | 1:FB:674:PHE:HZ   | 1.76                     | 0.50              |
| 1:A:615:GLN:NE2   | 1:IB:632:THR:HA   | 2.25                     | 0.50              |
| 1:B:743:LEU:OXT   | 1:AB:630:PRO:HA   | 2.10                     | 0.50              |
| 1:C:630:PRO:HB3   | 1:GB:743:LEU:HD22 | 1.94                     | 0.50              |
| 1:G:613:VAL:HG12  | 1:VA:635:HIS:HB3  | 1.93                     | 0.50              |
| 1:L:613:VAL:HG12  | 1:FB:635:HIS:HB3  | 1.93                     | 0.50              |
| 1:L:615:GLN:NE2   | 1:FB:632:THR:HA   | 2.25                     | 0.50              |
| 1:M:630:PRO:HB3   | 1:BB:743:LEU:HD22 | 1.94                     | 0.50              |
| 1:O:743:LEU:HD22  | 1:Y:630:PRO:HB3   | 1.93                     | 0.50              |
| 1:Q:665:PRO:HB3   | 1:Q:674:PHE:HZ    | 1.76                     | 0.50              |
| 1:R:613:VAL:HG12  | 1:X:635:HIS:HB3   | 1.93                     | 0.50              |
| 1:R:615:GLN:NE2   | 1:X:632:THR:HA    | 2.25                     | 0.50              |
| 1:S:536:GLN:HG3   | 1:TA:445:LEU:HD23 | 1.92                     | 0.50              |
| 1:T:665:PRO:HB3   | 1:T:674:PHE:HZ    | 1.76                     | 0.50              |
| 1:Y:665:PRO:HB3   | 1:Y:674:PHE:HZ    | 1.76                     | 0.50              |
| 1:CA:613:VAL:HG12 | 1:GB:635:HIS:HB3  | 1.93                     | 0.50              |
| 1:DA:665:PRO:HB3  | 1:DA:674:PHE:HZ   | 1.76                     | 0.50              |
| 1:GA:630:PRO:HB3  | 1:QA:743:LEU:HD22 | 1.94                     | 0.50              |
| 1:MA:665:PRO:HB3  | 1:MA:674:PHE:HZ   | 1.76                     | 0.50              |
| 1:VA:665:PRO:HB3  | 1:VA:674:PHE:HZ   | 1.75                     | 0.50              |
| 1:A:665:PRO:HB3   | 1:A:674:PHE:HZ    | 1.76                     | 0.50              |
| 1:C:615:GLN:NE2   | 1:CA:632:THR:HA   | 2.26                     | 0.50              |
| 1:G:630:PRO:HB3   | 1:BA:743:LEU:HD22 | 1.94                     | 0.50              |
| 1:H:536:GLN:HG3   | 1:RA:445:LEU:HD23 | 1.93                     | 0.50              |
| 1:H:743:LEU:OXT   | 1:MA:630:PRO:HA   | 2.10                     | 0.50              |
| 1:I:632:THR:HA    | 1:YA:615:GLN:NE2  | 2.25                     | 0.50              |
| 1:K:615:GLN:NE2   | 1:DB:632:THR:HA   | 2.25                     | 0.50              |
| 1:M:743:LEU:OXT   | 1:HA:630:PRO:HA   | 2.10                     | 0.50              |
| 1:R:743:LEU:HD22  | 1:X:630:PRO:HB3   | 1.94                     | 0.50              |
| 1:S:635:HIS:HB3   | 1:TA:613:VAL:HG12 | 1.92                     | 0.50              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:X:613:VAL:HG12  | 1:WA:635:HIS:HB3  | 1.93                     | 0.50              |
| 1:GA:665:PRO:HB3  | 1:GA:674:PHE:HZ   | 1.76                     | 0.50              |
| 1:JA:630:PRO:HB3  | 1:ZA:743:LEU:HD22 | 1.93                     | 0.50              |
| 1:LA:536:GLN:HG3  | 1:AB:445:LEU:HD23 | 1.93                     | 0.50              |
| 1:OA:221:VAL:O    | 1:WA:221:VAL:HG23 | 2.10                     | 0.50              |
| 1:B:635:HIS:HB3   | 1:LA:613:VAL:HG12 | 1.93                     | 0.50              |
| 1:D:635:HIS:HB3   | 1:DB:613:VAL:HG12 | 1.92                     | 0.50              |
| 1:E:610:PRO:HD3   | 1:NA:481:PRO:HG3  | 1.91                     | 0.50              |
| 1:E:665:PRO:HB3   | 1:E:674:PHE:HZ    | 1.76                     | 0.50              |
| 1:J:743:LEU:HD22  | 1:DA:630:PRO:HB3  | 1.93                     | 0.50              |
| 1:K:613:VAL:HG12  | 1:DB:635:HIS:HB3  | 1.93                     | 0.50              |
| 1:N:632:THR:HA    | 1:IB:615:GLN:NE2  | 2.25                     | 0.50              |
| 1:P:665:PRO:HB3   | 1:P:674:PHE:HZ    | 1.76                     | 0.50              |
| 1:Q:743:LEU:OXT   | 1:QA:630:PRO:HA   | 2.10                     | 0.50              |
| 1:DA:615:GLN:NE2  | 1:KA:632:THR:HA   | 2.26                     | 0.50              |
| 1:GA:536:GLN:HG3  | 1:QA:445:LEU:HD23 | 1.93                     | 0.50              |
| 1:HA:665:PRO:HB3  | 1:HA:674:PHE:HZ   | 1.76                     | 0.50              |
| 1:LA:665:PRO:HB3  | 1:LA:674:PHE:HZ   | 1.76                     | 0.50              |
| 1:SA:613:VAL:HG12 | 1:ZA:635:HIS:HB3  | 1.92                     | 0.50              |
| 1:XA:613:VAL:HG12 | 1:EB:635:HIS:HB3  | 1.92                     | 0.50              |
| 1:HB:665:PRO:HB3  | 1:HB:674:PHE:HZ   | 1.75                     | 0.50              |
| 1:B:613:VAL:HG12  | 1:AB:635:HIS:HB3  | 1.93                     | 0.50              |
| 1:C:445:LEU:HD23  | 1:CA:536:GLN:HG3  | 1.93                     | 0.50              |
| 1:C:743:LEU:HD22  | 1:CA:630:PRO:HB3  | 1.94                     | 0.50              |
| 1:J:536:GLN:HG3   | 1:KA:445:LEU:HD23 | 1.92                     | 0.50              |
| 1:K:743:LEU:HD22  | 1:DB:630:PRO:HB3  | 1.93                     | 0.50              |
| 1:L:630:PRO:HB3   | 1:W:743:LEU:HD22  | 1.94                     | 0.50              |
| 1:M:536:GLN:HG3   | 1:BB:445:LEU:HD23 | 1.93                     | 0.50              |
| 1:N:665:PRO:HB3   | 1:N:674:PHE:HZ    | 1.76                     | 0.50              |
| 1:O:536:GLN:HG3   | 1:FA:445:LEU:HD23 | 1.92                     | 0.50              |
| 1:Q:613:VAL:HG12  | 1:QA:635:HIS:HB3  | 1.93                     | 0.50              |
| 1:Q:635:HIS:HB3   | 1:GA:613:VAL:HG12 | 1.93                     | 0.50              |
| 1:MA:743:LEU:HD22 | 1:RA:630:PRO:HB3  | 1.94                     | 0.50              |
| 1:OA:630:PRO:HB3  | 1:PA:743:LEU:HD22 | 1.93                     | 0.50              |
| 1:UA:635:HIS:HB3  | 1:HB:613:VAL:HG12 | 1.92                     | 0.50              |
| 1:F:613:VAL:HG12  | 1:TA:635:HIS:HB3  | 1.93                     | 0.50              |
| 1:F:630:PRO:HB3   | 1:S:743:LEU:HD22  | 1.94                     | 0.50              |
| 1:F:743:LEU:HD22  | 1:TA:630:PRO:HB3  | 1.93                     | 0.50              |
| 1:L:481:PRO:HG3   | 1:W:610:PRO:HD3   | 1.92                     | 0.50              |
| 1:M:743:LEU:HD22  | 1:HA:630:PRO:HB3  | 1.93                     | 0.50              |
| 1:O:635:HIS:HB3   | 1:FA:613:VAL:HG12 | 1.92                     | 0.50              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:R:445:LEU:HD23  | 1:X:536:GLN:HG3   | 1.93                     | 0.50              |
| 1:HA:743:LEU:HD22 | 1:BB:630:PRO:HB3  | 1.94                     | 0.50              |
| 1:RA:622:GLN:HE22 | 1:RA:733:PRO:HA   | 1.77                     | 0.50              |
| 1:XA:615:GLN:NE2  | 1:EB:632:THR:HA   | 2.26                     | 0.50              |
| 1:BB:622:GLN:HE22 | 1:BB:733:PRO:HA   | 1.77                     | 0.50              |
| 1:B:622:GLN:HE22  | 1:B:733:PRO:HA    | 1.77                     | 0.50              |
| 1:B:743:LEU:HD22  | 1:AB:630:PRO:HB3  | 1.94                     | 0.50              |
| 1:D:743:LEU:HD22  | 1:K:630:PRO:HB3   | 1.94                     | 0.50              |
| 1:G:481:PRO:HG3   | 1:BA:610:PRO:HD3  | 1.92                     | 0.50              |
| 1:G:665:PRO:HB3   | 1:G:674:PHE:HZ    | 1.76                     | 0.50              |
| 1:I:622:GLN:HE22  | 1:I:733:PRO:HA    | 1.77                     | 0.50              |
| 1:I:665:PRO:HB3   | 1:I:674:PHE:HZ    | 1.76                     | 0.50              |
| 1:J:635:HIS:HB3   | 1:KA:613:VAL:HG12 | 1.93                     | 0.50              |
| 1:L:622:GLN:HE22  | 1:L:733:PRO:HA    | 1.77                     | 0.50              |
| 1:Q:622:GLN:HE22  | 1:Q:733:PRO:HA    | 1.77                     | 0.50              |
| 1:V:630:PRO:HB3   | 1:IA:743:LEU:HD22 | 1.94                     | 0.50              |
| 1:AA:630:PRO:HB3  | 1:NA:743:LEU:HD22 | 1.94                     | 0.50              |
| 1:JA:613:VAL:HG12 | 1:SA:635:HIS:HB3  | 1.92                     | 0.50              |
| 1:JA:743:LEU:HD22 | 1:SA:630:PRO:HB3  | 1.93                     | 0.50              |
| 1:OA:613:VAL:HG12 | 1:CB:635:HIS:HB3  | 1.92                     | 0.50              |
| 1:OA:743:LEU:HD22 | 1:CB:630:PRO:HB3  | 1.93                     | 0.50              |
| 1:PA:635:HIS:HB3  | 1:CB:613:VAL:HG12 | 1.93                     | 0.50              |
| 1:XA:665:PRO:HB3  | 1:XA:674:PHE:HZ   | 1.76                     | 0.50              |
| 1:H:743:LEU:HD22  | 1:MA:630:PRO:HB3  | 1.94                     | 0.50              |
| 1:I:566:ARG:NH2   | 1:N:712:TYR:OH    | 2.45                     | 0.50              |
| 1:I:712:TYR:OH    | 1:N:566:ARG:NH2   | 2.45                     | 0.50              |
| 1:J:622:GLN:HE22  | 1:J:733:PRO:HA    | 1.77                     | 0.50              |
| 1:N:622:GLN:HE22  | 1:N:733:PRO:HA    | 1.77                     | 0.50              |
| 1:O:622:GLN:HE22  | 1:O:733:PRO:HA    | 1.77                     | 0.50              |
| 1:T:622:GLN:HE22  | 1:T:733:PRO:HA    | 1.77                     | 0.50              |
| 1:W:630:PRO:HB3   | 1:FB:743:LEU:HD22 | 1.94                     | 0.50              |
| 1:Y:743:LEU:HD22  | 1:FA:630:PRO:HB3  | 1.94                     | 0.50              |
| 1:SA:712:TYR:OH   | 1:HB:566:ARG:NH2  | 2.45                     | 0.50              |
| 1:SA:743:LEU:HD22 | 1:ZA:630:PRO:HB3  | 1.94                     | 0.50              |
| 1:TA:622:GLN:HE22 | 1:TA:733:PRO:HA   | 1.77                     | 0.50              |
| 1:UA:632:THR:HA   | 1:HB:615:GLN:NE2  | 2.26                     | 0.50              |
| 1:XA:566:ARG:NH2  | 1:CB:712:TYR:OH   | 2.45                     | 0.50              |
| 1:DB:622:GLN:HE22 | 1:DB:733:PRO:HA   | 1.77                     | 0.50              |
| 1:A:622:GLN:HE22  | 1:A:733:PRO:HA    | 1.77                     | 0.49              |
| 1:E:622:GLN:HE22  | 1:E:733:PRO:HA    | 1.77                     | 0.49              |
| 1:G:622:GLN:HE22  | 1:G:733:PRO:HA    | 1.77                     | 0.49              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:I:635:HIS:HB3   | 1:YA:613:VAL:HG12 | 1.92                     | 0.49              |
| 1:J:665:PRO:HB3   | 1:J:674:PHE:HZ    | 1.76                     | 0.49              |
| 1:O:665:PRO:HB3   | 1:O:674:PHE:HZ    | 1.76                     | 0.49              |
| 1:P:622:GLN:HE22  | 1:P:733:PRO:HA    | 1.77                     | 0.49              |
| 1:Q:743:LEU:HD22  | 1:QA:630:PRO:HB3  | 1.94                     | 0.49              |
| 1:W:622:GLN:HE22  | 1:W:733:PRO:HA    | 1.77                     | 0.49              |
| 1:BA:630:PRO:HB3  | 1:VA:743:LEU:HD22 | 1.94                     | 0.49              |
| 1:DA:743:LEU:HD22 | 1:KA:630:PRO:HB3  | 1.94                     | 0.49              |
| 1:PA:630:PRO:HB3  | 1:CB:743:LEU:HD22 | 1.94                     | 0.49              |
| 1:C:635:HIS:HB3   | 1:GB:613:VAL:HG12 | 1.93                     | 0.49              |
| 1:E:712:TYR:OH    | 1:R:566:ARG:NH2   | 2.46                     | 0.49              |
| 1:G:566:ARG:NH2   | 1:K:712:TYR:OH    | 2.46                     | 0.49              |
| 1:I:630:PRO:HB3   | 1:YA:743:LEU:HD22 | 1.93                     | 0.49              |
| 1:I:662:PRO:HB3   | 1:I:674:PHE:CD2   | 2.48                     | 0.49              |
| 1:L:665:PRO:HB3   | 1:L:674:PHE:HZ    | 1.76                     | 0.49              |
| 1:N:484:ARG:HD3   | 1:IB:580:SER:O    | 2.12                     | 0.49              |
| 1:Q:662:PRO:HB3   | 1:Q:674:PHE:CD2   | 2.47                     | 0.49              |
| 1:R:635:HIS:HB3   | 1:WA:613:VAL:HG12 | 1.93                     | 0.49              |
| 1:X:622:GLN:HE22  | 1:X:733:PRO:HA    | 1.77                     | 0.49              |
| 1:Z:484:ARG:HD3   | 1:UA:580:SER:O    | 2.13                     | 0.49              |
| 1:BA:622:GLN:HE22 | 1:BA:733:PRO:HA   | 1.77                     | 0.49              |
| 1:EA:630:PRO:HB3  | 1:EB:743:LEU:HD22 | 1.93                     | 0.49              |
| 1:IA:622:GLN:HE22 | 1:IA:733:PRO:HA   | 1.77                     | 0.49              |
| 1:PA:665:PRO:HB3  | 1:PA:674:PHE:HZ   | 1.76                     | 0.49              |
| 1:A:580:SER:O     | 1:IB:484:ARG:HD3  | 2.13                     | 0.49              |
| 1:A:743:LEU:HD22  | 1:IB:630:PRO:HB3  | 1.93                     | 0.49              |
| 1:C:566:ARG:NH2   | 1:T:712:TYR:OH    | 2.46                     | 0.49              |
| 1:E:662:PRO:HB3   | 1:E:674:PHE:CD2   | 2.48                     | 0.49              |
| 1:F:662:PRO:HB3   | 1:F:674:PHE:CD2   | 2.48                     | 0.49              |
| 1:F:712:TYR:OH    | 1:L:566:ARG:NH2   | 2.46                     | 0.49              |
| 1:H:613:VAL:HG12  | 1:MA:635:HIS:HB3  | 1.93                     | 0.49              |
| 1:I:484:ARG:HD3   | 1:YA:580:SER:O    | 2.12                     | 0.49              |
| 1:J:662:PRO:HB3   | 1:J:674:PHE:CD2   | 2.48                     | 0.49              |
| 1:N:630:PRO:HB3   | 1:IB:743:LEU:HD22 | 1.93                     | 0.49              |
| 1:N:662:PRO:HB3   | 1:N:674:PHE:CD2   | 2.48                     | 0.49              |
| 1:P:580:SER:O     | 1:YA:484:ARG:HD3  | 2.12                     | 0.49              |
| 1:V:536:GLN:HG3   | 1:IA:445:LEU:HD23 | 1.92                     | 0.49              |
| 1:Z:566:ARG:NH2   | 1:MA:712:TYR:OH   | 2.45                     | 0.49              |
| 1:DA:662:PRO:HB3  | 1:DA:674:PHE:CD2  | 2.48                     | 0.49              |
| 1:EA:484:ARG:HD3  | 1:EB:580:SER:O    | 2.13                     | 0.49              |
| 1:PA:566:ARG:NH2  | 1:FB:712:TYR:OH   | 2.45                     | 0.49              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:TA:712:TYR:OH   | 1:GB:566:ARG:NH2  | 2.46                     | 0.49              |
| 1:WA:566:ARG:NH2  | 1:DB:712:TYR:OH   | 2.46                     | 0.49              |
| 1:YA:566:ARG:NH2  | 1:BB:712:TYR:OH   | 2.45                     | 0.49              |
| 1:ZA:665:PRO:HB3  | 1:ZA:674:PHE:HZ   | 1.76                     | 0.49              |
| 1:B:662:PRO:HB3   | 1:B:674:PHE:CD2   | 2.48                     | 0.49              |
| 1:K:662:PRO:HB3   | 1:K:674:PHE:CD2   | 2.48                     | 0.49              |
| 1:N:635:HIS:HB3   | 1:IB:613:VAL:HG12 | 1.92                     | 0.49              |
| 1:O:662:PRO:HB3   | 1:O:674:PHE:CD2   | 2.48                     | 0.49              |
| 1:P:743:LEU:HD22  | 1:YA:630:PRO:HB3  | 1.93                     | 0.49              |
| 1:T:662:PRO:HB3   | 1:T:674:PHE:CD2   | 2.48                     | 0.49              |
| 1:V:622:GLN:HE22  | 1:V:733:PRO:HA    | 1.77                     | 0.49              |
| 1:V:662:PRO:HB3   | 1:V:674:PHE:CD2   | 2.48                     | 0.49              |
| 1:W:712:TYR:OH    | 1:KA:566:ARG:NH2  | 2.45                     | 0.49              |
| 1:Y:662:PRO:HB3   | 1:Y:674:PHE:CD2   | 2.48                     | 0.49              |
| 1:Z:630:PRO:HB3   | 1:UA:743:LEU:HD22 | 1.93                     | 0.49              |
| 1:Z:662:PRO:HB3   | 1:Z:674:PHE:CD2   | 2.48                     | 0.49              |
| 1:AA:622:GLN:HE22 | 1:AA:733:PRO:HA   | 1.77                     | 0.49              |
| 1:AA:662:PRO:HB3  | 1:AA:674:PHE:CD2  | 2.48                     | 0.49              |
| 1:BA:712:TYR:OH   | 1:FA:566:ARG:NH2  | 2.45                     | 0.49              |
| 1:CA:622:GLN:HE22 | 1:CA:733:PRO:HA   | 1.77                     | 0.49              |
| 1:EA:566:ARG:NH2  | 1:HA:712:TYR:OH   | 2.45                     | 0.49              |
| 1:EA:662:PRO:HB3  | 1:EA:674:PHE:CD2  | 2.48                     | 0.49              |
| 1:QA:712:TYR:OH   | 1:EB:566:ARG:NH2  | 2.45                     | 0.49              |
| 1:UA:484:ARG:HD3  | 1:HB:580:SER:O    | 2.13                     | 0.49              |
| 1:UA:566:ARG:NH2  | 1:AB:712:TYR:OH   | 2.45                     | 0.49              |
| 1:VA:712:TYR:OH   | 1:ZA:566:ARG:NH2  | 2.45                     | 0.49              |
| 1:WA:712:TYR:OH   | 1:DB:566:ARG:NH2  | 2.45                     | 0.49              |
| 1:D:622:GLN:HE22  | 1:D:733:PRO:HA    | 1.77                     | 0.49              |
| 1:G:712:TYR:OH    | 1:K:566:ARG:NH2   | 2.45                     | 0.49              |
| 1:J:712:TYR:OH    | 1:M:566:ARG:NH2   | 2.46                     | 0.49              |
| 1:Y:622:GLN:HE22  | 1:Y:733:PRO:HA    | 1.77                     | 0.49              |
| 1:Z:622:GLN:HE22  | 1:Z:733:PRO:HA    | 1.77                     | 0.49              |
| 1:Z:712:TYR:OH    | 1:MA:566:ARG:NH2  | 2.46                     | 0.49              |
| 1:AA:536:GLN:HG3  | 1:NA:445:LEU:HD23 | 1.93                     | 0.49              |
| 1:BA:662:PRO:HB3  | 1:BA:674:PHE:CD2  | 2.48                     | 0.49              |
| 1:BA:665:PRO:HB3  | 1:BA:674:PHE:HZ   | 1.76                     | 0.49              |
| 1:DA:622:GLN:HE22 | 1:DA:733:PRO:HA   | 1.77                     | 0.49              |
| 1:FA:622:GLN:HE22 | 1:FA:733:PRO:HA   | 1.77                     | 0.49              |
| 1:NA:622:GLN:HE22 | 1:NA:733:PRO:HA   | 1.77                     | 0.49              |
| 1:RA:566:ARG:NH2  | 1:IB:712:TYR:OH   | 2.46                     | 0.49              |
| 1:RA:712:TYR:OH   | 1:IB:566:ARG:NH2  | 2.46                     | 0.49              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:SA:580:SER:O    | 1:ZA:484:ARG:HD3  | 2.13                     | 0.49              |
| 1:TA:566:ARG:NH2  | 1:GB:712:TYR:OH   | 2.46                     | 0.49              |
| 1:VA:662:PRO:HB3  | 1:VA:674:PHE:CD2  | 2.48                     | 0.49              |
| 1:XA:580:SER:O    | 1:EB:484:ARG:HD3  | 2.13                     | 0.49              |
| 1:B:630:PRO:HB3   | 1:LA:743:LEU:HD22 | 1.94                     | 0.49              |
| 1:H:566:ARG:NH2   | 1:O:712:TYR:OH    | 2.46                     | 0.49              |
| 1:M:613:VAL:HG12  | 1:HA:635:HIS:HB3  | 1.93                     | 0.49              |
| 1:S:622:GLN:HE22  | 1:S:733:PRO:HA    | 1.77                     | 0.49              |
| 1:W:662:PRO:HB3   | 1:W:674:PHE:CD2   | 2.48                     | 0.49              |
| 1:W:665:PRO:HB3   | 1:W:674:PHE:HZ    | 1.76                     | 0.49              |
| 1:GA:622:GLN:HE22 | 1:GA:733:PRO:HA   | 1.77                     | 0.49              |
| 1:IA:662:PRO:HB3  | 1:IA:674:PHE:CD2  | 2.48                     | 0.49              |
| 1:JA:622:GLN:HE22 | 1:JA:733:PRO:HA   | 1.77                     | 0.49              |
| 1:KA:622:GLN:HE22 | 1:KA:733:PRO:HA   | 1.77                     | 0.49              |
| 1:NA:662:PRO:HB3  | 1:NA:674:PHE:CD2  | 2.48                     | 0.49              |
| 1:OA:622:GLN:HE22 | 1:OA:733:PRO:HA   | 1.77                     | 0.49              |
| 1:YA:712:TYR:OH   | 1:BB:566:ARG:NH2  | 2.46                     | 0.49              |
| 1:BB:662:PRO:HB3  | 1:BB:674:PHE:CD2  | 2.48                     | 0.49              |
| 1:FB:662:PRO:HB3  | 1:FB:674:PHE:CD2  | 2.48                     | 0.49              |
| 1:A:662:PRO:HB3   | 1:A:674:PHE:CD2   | 2.48                     | 0.49              |
| 1:C:622:GLN:HE22  | 1:C:733:PRO:HA    | 1.77                     | 0.49              |
| 1:Q:630:PRO:HB3   | 1:GA:743:LEU:HD22 | 1.94                     | 0.49              |
| 1:X:566:ARG:NH2   | 1:OA:712:TYR:OH   | 2.46                     | 0.49              |
| 1:X:743:LEU:HD22  | 1:WA:630:PRO:HB3  | 1.94                     | 0.49              |
| 1:CA:566:ARG:NH2  | 1:JA:712:TYR:OH   | 2.46                     | 0.49              |
| 1:CA:743:LEU:HD22 | 1:GB:630:PRO:HB3  | 1.94                     | 0.49              |
| 1:EA:622:GLN:HE22 | 1:EA:733:PRO:HA   | 1.77                     | 0.49              |
| 1:EA:712:TYR:OH   | 1:HA:566:ARG:NH2  | 2.46                     | 0.49              |
| 1:HA:662:PRO:HB3  | 1:HA:674:PHE:CD2  | 2.48                     | 0.49              |
| 1:JA:580:SER:O    | 1:SA:484:ARG:HD3  | 2.13                     | 0.49              |
| 1:LA:622:GLN:HE22 | 1:LA:733:PRO:HA   | 1.77                     | 0.49              |
| 1:MA:662:PRO:HB3  | 1:MA:674:PHE:CD2  | 2.48                     | 0.49              |
| 1:OA:580:SER:O    | 1:CB:484:ARG:HD3  | 2.13                     | 0.49              |
| 1:PA:484:ARG:HD3  | 1:CB:580:SER:O    | 2.13                     | 0.49              |
| 1:PA:662:PRO:HB3  | 1:PA:674:PHE:CD2  | 2.48                     | 0.49              |
| 1:QA:622:GLN:HE22 | 1:QA:733:PRO:HA   | 1.77                     | 0.49              |
| 1:RA:662:PRO:HB3  | 1:RA:674:PHE:CD2  | 2.48                     | 0.49              |
| 1:ZA:662:PRO:HB3  | 1:ZA:674:PHE:CD2  | 2.48                     | 0.49              |
| 1:AB:622:GLN:HE22 | 1:AB:733:PRO:HA   | 1.77                     | 0.49              |
| 1:A:566:ARG:NH2   | 1:Q:712:TYR:OH    | 2.45                     | 0.49              |
| 1:F:566:ARG:NH2   | 1:L:712:TYR:OH    | 2.45                     | 0.49              |

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| Atom-1            | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 1:G:445:LEU:HD23  | 1:VA:536:GLN:HG3 | 1.93                     | 0.49              |
| 1:P:662:PRO:HB3   | 1:P:674:PHE:CD2  | 2.48                     | 0.49              |
| 1:T:580:SER:O     | 1:IA:484:ARG:HD3 | 2.12                     | 0.49              |
| 1:V:566:ARG:NH2   | 1:LA:712:TYR:OH  | 2.45                     | 0.49              |
| 1:BA:566:ARG:NH2  | 1:FA:712:TYR:OH  | 2.45                     | 0.49              |
| 1:HA:622:GLN:HE22 | 1:HA:733:PRO:HA  | 1.77                     | 0.49              |
| 1:WA:662:PRO:HB3  | 1:WA:674:PHE:CD2 | 2.48                     | 0.49              |
| 1:GB:662:PRO:HB3  | 1:GB:674:PHE:CD2 | 2.48                     | 0.49              |
| 1:A:712:TYR:OH    | 1:Q:566:ARG:NH2  | 2.46                     | 0.49              |
| 1:B:712:TYR:OH    | 1:P:566:ARG:NH2  | 2.45                     | 0.49              |
| 1:C:484:ARG:HD3   | 1:GB:580:SER:O   | 2.13                     | 0.49              |
| 1:C:712:TYR:OH    | 1:T:566:ARG:NH2  | 2.45                     | 0.49              |
| 1:E:580:SER:O     | 1:NA:484:ARG:HD3 | 2.12                     | 0.49              |
| 1:G:484:ARG:HD3   | 1:BA:580:SER:O   | 2.13                     | 0.49              |
| 1:H:662:PRO:HB3   | 1:H:674:PHE:CD2  | 2.48                     | 0.49              |
| 1:R:622:GLN:HE22  | 1:R:733:PRO:HA   | 1.77                     | 0.49              |
| 1:V:712:TYR:OH    | 1:LA:566:ARG:NH2 | 2.46                     | 0.49              |
| 1:Y:712:TYR:OH    | 1:NA:566:ARG:NH2 | 2.45                     | 0.49              |
| 1:AA:566:ARG:NH2  | 1:GA:712:TYR:OH  | 2.45                     | 0.49              |
| 1:AA:712:TYR:OH   | 1:GA:566:ARG:NH2 | 2.46                     | 0.49              |
| 1:FA:662:PRO:HB3  | 1:FA:674:PHE:CD2 | 2.48                     | 0.49              |
| 1:KA:662:PRO:HB3  | 1:KA:674:PHE:CD2 | 2.48                     | 0.49              |
| 1:MA:622:GLN:HE22 | 1:MA:733:PRO:HA  | 1.77                     | 0.49              |
| 1:SA:622:GLN:HE22 | 1:SA:733:PRO:HA  | 1.77                     | 0.49              |
| 1:VA:566:ARG:NH2  | 1:ZA:712:TYR:OH  | 2.46                     | 0.49              |
| 1:CB:622:GLN:HE22 | 1:CB:733:PRO:HA  | 1.77                     | 0.49              |
| 1:B:566:ARG:NH2   | 1:P:712:TYR:OH   | 2.46                     | 0.49              |
| 1:E:484:ARG:HD3   | 1:AA:580:SER:O   | 2.13                     | 0.49              |
| 1:E:566:ARG:NH2   | 1:R:712:TYR:OH   | 2.45                     | 0.49              |
| 1:F:580:SER:O     | 1:TA:484:ARG:HD3 | 2.13                     | 0.49              |
| 1:H:712:TYR:OH    | 1:O:566:ARG:NH2  | 2.45                     | 0.49              |
| 1:L:445:LEU:HD23  | 1:FB:536:GLN:HG3 | 1.93                     | 0.49              |
| 1:M:662:PRO:HB3   | 1:M:674:PHE:CD2  | 2.48                     | 0.49              |
| 1:O:484:ARG:HD3   | 1:FA:580:SER:O   | 2.13                     | 0.49              |
| 1:R:662:PRO:HB3   | 1:R:674:PHE:CD2  | 2.48                     | 0.49              |
| 1:T:484:ARG:HD3   | 1:V:580:SER:O    | 2.13                     | 0.49              |
| 1:V:484:ARG:HD3   | 1:IA:580:SER:O   | 2.13                     | 0.49              |
| 1:W:566:ARG:NH2   | 1:KA:712:TYR:OH  | 2.46                     | 0.49              |
| 1:Y:580:SER:O     | 1:FA:484:ARG:HD3 | 2.13                     | 0.49              |
| 1:PA:712:TYR:OH   | 1:FB:566:ARG:NH2 | 2.46                     | 0.49              |
| 1:DB:662:PRO:HB3  | 1:DB:674:PHE:CD2 | 2.48                     | 0.49              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:IB:662:PRO:HB3  | 1:IB:674:PHE:CD2  | 2.48                     | 0.49              |
| 1:B:484:ARG:HD3   | 1:LA:580:SER:O    | 2.13                     | 0.48              |
| 1:C:662:PRO:HB3   | 1:C:674:PHE:CD2   | 2.48                     | 0.48              |
| 1:D:566:ARG:NH2   | 1:S:712:TYR:OH    | 2.45                     | 0.48              |
| 1:D:712:TYR:OH    | 1:S:566:ARG:NH2   | 2.45                     | 0.48              |
| 1:F:484:ARG:HD3   | 1:S:580:SER:O     | 2.13                     | 0.48              |
| 1:G:580:SER:O     | 1:VA:484:ARG:HD3  | 2.13                     | 0.48              |
| 1:H:580:SER:O     | 1:MA:484:ARG:HD3  | 2.13                     | 0.48              |
| 1:J:484:ARG:HD3   | 1:KA:580:SER:O    | 2.13                     | 0.48              |
| 1:J:566:ARG:NH2   | 1:M:712:TYR:OH    | 2.45                     | 0.48              |
| 1:L:484:ARG:HD3   | 1:W:580:SER:O     | 2.13                     | 0.48              |
| 1:L:580:SER:O     | 1:FB:484:ARG:HD3  | 2.13                     | 0.48              |
| 1:O:580:SER:O     | 1:Y:484:ARG:HD3   | 2.13                     | 0.48              |
| 1:Q:484:ARG:HD3   | 1:GA:580:SER:O    | 2.13                     | 0.48              |
| 1:R:484:ARG:HD3   | 1:WA:580:SER:O    | 2.13                     | 0.48              |
| 1:X:712:TYR:OH    | 1:OA:566:ARG:NH2  | 2.45                     | 0.48              |
| 1:Z:580:SER:O     | 1:HB:484:ARG:HD3  | 2.12                     | 0.48              |
| 1:AA:484:ARG:HD3  | 1:NA:580:SER:O    | 2.13                     | 0.48              |
| 1:DA:712:TYR:OH   | 1:IA:566:ARG:NH2  | 2.45                     | 0.48              |
| 1:TA:662:PRO:HB3  | 1:TA:674:PHE:CD2  | 2.48                     | 0.48              |
| 1:UA:630:PRO:HB3  | 1:HB:743:LEU:HD22 | 1.94                     | 0.48              |
| 1:XA:743:LEU:HD22 | 1:EB:630:PRO:HB3  | 1.94                     | 0.48              |
| 1:YA:662:PRO:HB3  | 1:YA:674:PHE:CD2  | 2.48                     | 0.48              |
| 1:C:580:SER:O     | 1:CA:484:ARG:HD3  | 2.13                     | 0.48              |
| 1:D:580:SER:O     | 1:K:484:ARG:HD3   | 2.13                     | 0.48              |
| 1:J:580:SER:O     | 1:DA:484:ARG:HD3  | 2.13                     | 0.48              |
| 1:K:580:SER:O     | 1:DB:484:ARG:HD3  | 2.13                     | 0.48              |
| 1:M:580:SER:O     | 1:HA:484:ARG:HD3  | 2.13                     | 0.48              |
| 1:R:580:SER:O     | 1:X:484:ARG:HD3   | 2.13                     | 0.48              |
| 1:Y:566:ARG:NH2   | 1:NA:712:TYR:OH   | 2.45                     | 0.48              |
| 1:Z:743:LEU:HD22  | 1:HB:630:PRO:HB3  | 1.93                     | 0.48              |
| 1:CA:712:TYR:OH   | 1:JA:566:ARG:NH2  | 2.45                     | 0.48              |
| 1:DA:580:SER:O    | 1:KA:484:ARG:HD3  | 2.13                     | 0.48              |
| 1:EA:580:SER:O    | 1:XA:484:ARG:HD3  | 2.12                     | 0.48              |
| 1:UA:622:GLN:HE22 | 1:UA:733:PRO:HA   | 1.77                     | 0.48              |
| 1:WA:622:GLN:HE22 | 1:WA:733:PRO:HA   | 1.77                     | 0.48              |
| 1:FB:622:GLN:HE22 | 1:FB:733:PRO:HA   | 1.77                     | 0.48              |
| 1:I:608:VAL:HG21  | 1:I:636:PHE:CE2   | 2.49                     | 0.48              |
| 1:N:608:VAL:HG21  | 1:N:636:PHE:CE2   | 2.49                     | 0.48              |
| 1:W:608:VAL:HG21  | 1:W:636:PHE:CE2   | 2.49                     | 0.48              |
| 1:BA:608:VAL:HG21 | 1:BA:636:PHE:CE2  | 2.49                     | 0.48              |

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| Atom-1            | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 1:CA:662:PRO:HB3  | 1:CA:674:PHE:CD2 | 2.48                     | 0.48              |
| 1:EA:743:LEU:HD22 | 1:XA:630:PRO:HB3 | 1.93                     | 0.48              |
| 1:LA:662:PRO:HB3  | 1:LA:674:PHE:CD2 | 2.47                     | 0.48              |
| 1:VA:622:GLN:HE22 | 1:VA:733:PRO:HA  | 1.77                     | 0.48              |
| 1:XA:662:PRO:HB3  | 1:XA:674:PHE:CD2 | 2.48                     | 0.48              |
| 1:YA:608:VAL:HG21 | 1:YA:636:PHE:CE2 | 2.49                     | 0.48              |
| 1:YA:622:GLN:HE22 | 1:YA:733:PRO:HA  | 1.77                     | 0.48              |
| 1:EB:622:GLN:HE22 | 1:EB:733:PRO:HA  | 1.77                     | 0.48              |
| 1:M:622:GLN:HE22  | 1:M:733:PRO:HA   | 1.77                     | 0.48              |
| 1:V:242:THR:HG23  | 1:V:689:GLU:HB2  | 1.96                     | 0.48              |
| 1:X:608:VAL:HG21  | 1:X:636:PHE:CE2  | 2.49                     | 0.48              |
| 1:X:662:PRO:HB3   | 1:X:674:PHE:CD2  | 2.48                     | 0.48              |
| 1:AA:242:THR:HG23 | 1:AA:689:GLU:HB2 | 1.96                     | 0.48              |
| 1:CA:608:VAL:HG21 | 1:CA:636:PHE:CE2 | 2.49                     | 0.48              |
| 1:QA:566:ARG:NH2  | 1:EB:712:TYR:OH  | 2.46                     | 0.48              |
| 1:SA:566:ARG:NH2  | 1:HB:712:TYR:OH  | 2.45                     | 0.48              |
| 1:SA:662:PRO:HB3  | 1:SA:674:PHE:CD2 | 2.48                     | 0.48              |
| 1:UA:608:VAL:HG21 | 1:UA:636:PHE:CE2 | 2.49                     | 0.48              |
| 1:UA:662:PRO:HB3  | 1:UA:674:PHE:CD2 | 2.48                     | 0.48              |
| 1:EB:608:VAL:HG21 | 1:EB:636:PHE:CE2 | 2.49                     | 0.48              |
| 1:EB:662:PRO:HB3  | 1:EB:674:PHE:CD2 | 2.48                     | 0.48              |
| 1:HB:662:PRO:HB3  | 1:HB:674:PHE:CD2 | 2.48                     | 0.48              |
| 1:D:242:THR:HG23  | 1:D:689:GLU:HB2  | 1.96                     | 0.48              |
| 1:F:608:VAL:HG21  | 1:F:636:PHE:CE2  | 2.49                     | 0.48              |
| 1:H:622:GLN:HE22  | 1:H:733:PRO:HA   | 1.77                     | 0.48              |
| 1:K:608:VAL:HG21  | 1:K:636:PHE:CE2  | 2.49                     | 0.48              |
| 1:L:743:LEU:HD22  | 1:FB:630:PRO:HB3 | 1.93                     | 0.48              |
| 1:O:608:VAL:HG21  | 1:O:636:PHE:CE2  | 2.49                     | 0.48              |
| 1:S:484:ARG:HD3   | 1:TA:580:SER:O   | 2.13                     | 0.48              |
| 1:S:608:VAL:HG21  | 1:S:636:PHE:CE2  | 2.49                     | 0.48              |
| 1:W:242:THR:HG23  | 1:W:689:GLU:HB2  | 1.96                     | 0.48              |
| 1:BA:242:THR:HG23 | 1:BA:689:GLU:HB2 | 1.96                     | 0.48              |
| 1:DA:566:ARG:NH2  | 1:IA:712:TYR:OH  | 2.45                     | 0.48              |
| 1:GA:662:PRO:HB3  | 1:GA:674:PHE:CD2 | 2.48                     | 0.48              |
| 1:PA:622:GLN:HE22 | 1:PA:733:PRO:HA  | 1.77                     | 0.48              |
| 1:QA:242:THR:HG23 | 1:QA:689:GLU:HB2 | 1.96                     | 0.48              |
| 1:UA:712:TYR:OH   | 1:AB:566:ARG:NH2 | 2.46                     | 0.48              |
| 1:WA:242:THR:HG23 | 1:WA:689:GLU:HB2 | 1.96                     | 0.48              |
| 1:XA:712:TYR:OH   | 1:CB:566:ARG:NH2 | 2.45                     | 0.48              |
| 1:CB:662:PRO:HB3  | 1:CB:674:PHE:CD2 | 2.48                     | 0.48              |
| 1:GB:622:GLN:HE22 | 1:GB:733:PRO:HA  | 1.77                     | 0.48              |

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| Atom-1            | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 1:IB:608:VAL:HG21 | 1:IB:636:PHE:CE2 | 2.49                     | 0.48              |
| 1:IB:622:GLN:HE22 | 1:IB:733:PRO:HA  | 1.77                     | 0.48              |
| 1:D:608:VAL:HG21  | 1:D:636:PHE:CE2  | 2.49                     | 0.48              |
| 1:G:662:PRO:HB3   | 1:G:674:PHE:CD2  | 2.48                     | 0.48              |
| 1:G:743:LEU:HD22  | 1:VA:630:PRO:HB3 | 1.94                     | 0.48              |
| 1:H:608:VAL:HG21  | 1:H:636:PHE:CE2  | 2.49                     | 0.48              |
| 1:J:608:VAL:HG21  | 1:J:636:PHE:CE2  | 2.49                     | 0.48              |
| 1:L:662:PRO:HB3   | 1:L:674:PHE:CD2  | 2.48                     | 0.48              |
| 1:Q:608:VAL:HG21  | 1:Q:636:PHE:CE2  | 2.49                     | 0.48              |
| 1:S:242:THR:HG23  | 1:S:689:GLU:HB2  | 1.96                     | 0.48              |
| 1:GA:608:VAL:HG21 | 1:GA:636:PHE:CE2 | 2.49                     | 0.48              |
| 1:IA:242:THR:HG23 | 1:IA:689:GLU:HB2 | 1.96                     | 0.48              |
| 1:JA:662:PRO:HB3  | 1:JA:674:PHE:CD2 | 2.48                     | 0.48              |
| 1:LA:608:VAL:HG21 | 1:LA:636:PHE:CE2 | 2.49                     | 0.48              |
| 1:NA:242:THR:HG23 | 1:NA:689:GLU:HB2 | 1.96                     | 0.48              |
| 1:OA:662:PRO:HB3  | 1:OA:674:PHE:CD2 | 2.48                     | 0.48              |
| 1:XA:608:VAL:HG21 | 1:XA:636:PHE:CE2 | 2.49                     | 0.48              |
| 1:AB:242:THR:HG23 | 1:AB:689:GLU:HB2 | 1.96                     | 0.48              |
| 1:AB:662:PRO:HB3  | 1:AB:674:PHE:CD2 | 2.48                     | 0.48              |
| 1:GB:242:THR:HG23 | 1:GB:689:GLU:HB2 | 1.96                     | 0.48              |
| 1:HB:608:VAL:HG21 | 1:HB:636:PHE:CE2 | 2.49                     | 0.48              |
| 1:B:608:VAL:HG21  | 1:B:636:PHE:CE2  | 2.49                     | 0.48              |
| 1:D:484:ARG:HD3   | 1:DB:580:SER:O   | 2.13                     | 0.48              |
| 1:D:662:PRO:HB3   | 1:D:674:PHE:CD2  | 2.48                     | 0.48              |
| 1:M:608:VAL:HG21  | 1:M:636:PHE:CE2  | 2.49                     | 0.48              |
| 1:S:662:PRO:HB3   | 1:S:674:PHE:CD2  | 2.48                     | 0.48              |
| 1:KA:242:THR:HG23 | 1:KA:689:GLU:HB2 | 1.96                     | 0.48              |
| 1:NA:608:VAL:HG21 | 1:NA:636:PHE:CE2 | 2.49                     | 0.48              |
| 1:QA:662:PRO:HB3  | 1:QA:674:PHE:CD2 | 2.48                     | 0.48              |
| 1:WA:608:VAL:HG21 | 1:WA:636:PHE:CE2 | 2.49                     | 0.48              |
| 1:ZA:622:GLN:HE22 | 1:ZA:733:PRO:HA  | 1.77                     | 0.48              |
| 1:F:622:GLN:HE22  | 1:F:733:PRO:HA   | 1.77                     | 0.48              |
| 1:Z:608:VAL:HG21  | 1:Z:636:PHE:CE2  | 2.49                     | 0.48              |
| 1:EA:608:VAL:HG21 | 1:EA:636:PHE:CE2 | 2.49                     | 0.48              |
| 1:FA:242:THR:HG23 | 1:FA:689:GLU:HB2 | 1.96                     | 0.48              |
| 1:HA:580:SER:O    | 1:BB:484:ARG:HD3 | 2.13                     | 0.48              |
| 1:IA:608:VAL:HG21 | 1:IA:636:PHE:CE2 | 2.49                     | 0.48              |
| 1:KA:608:VAL:HG21 | 1:KA:636:PHE:CE2 | 2.49                     | 0.48              |
| 1:OA:608:VAL:HG21 | 1:OA:636:PHE:CE2 | 2.49                     | 0.48              |
| 1:TA:608:VAL:HG21 | 1:TA:636:PHE:CE2 | 2.49                     | 0.48              |
| 1:VA:608:VAL:HG21 | 1:VA:636:PHE:CE2 | 2.49                     | 0.48              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:ZA:242:THR:HG23 | 1:ZA:689:GLU:HB2  | 1.96                     | 0.48              |
| 1:DB:608:VAL:HG21 | 1:DB:636:PHE:CE2  | 2.49                     | 0.48              |
| 1:FB:242:THR:HG23 | 1:FB:689:GLU:HB2  | 1.96                     | 0.48              |
| 1:IB:242:THR:HG23 | 1:IB:689:GLU:HB2  | 1.95                     | 0.48              |
| 1:B:580:SER:O     | 1:AB:484:ARG:HD3  | 2.13                     | 0.48              |
| 1:C:242:THR:HG23  | 1:C:689:GLU:HB2   | 1.96                     | 0.48              |
| 1:C:608:VAL:HG21  | 1:C:636:PHE:CE2   | 2.49                     | 0.48              |
| 1:F:462:PHE:O     | 1:TA:552:VAL:HG22 | 2.14                     | 0.48              |
| 1:K:462:PHE:O     | 1:DB:552:VAL:HG22 | 2.14                     | 0.48              |
| 1:R:608:VAL:HG21  | 1:R:636:PHE:CE2   | 2.49                     | 0.48              |
| 1:W:484:ARG:HD3   | 1:FB:580:SER:O    | 2.13                     | 0.48              |
| 1:BA:484:ARG:HD3  | 1:VA:580:SER:O    | 2.13                     | 0.48              |
| 1:FA:608:VAL:HG21 | 1:FA:636:PHE:CE2  | 2.49                     | 0.48              |
| 1:GA:484:ARG:HD3  | 1:QA:580:SER:O    | 2.13                     | 0.48              |
| 1:HA:608:VAL:HG21 | 1:HA:636:PHE:CE2  | 2.49                     | 0.48              |
| 1:JA:608:VAL:HG21 | 1:JA:636:PHE:CE2  | 2.49                     | 0.48              |
| 1:LA:484:ARG:HD3  | 1:AB:580:SER:O    | 2.13                     | 0.48              |
| 1:QA:608:VAL:HG21 | 1:QA:636:PHE:CE2  | 2.49                     | 0.48              |
| 1:RA:242:THR:HG23 | 1:RA:689:GLU:HB2  | 1.96                     | 0.48              |
| 1:RA:608:VAL:HG21 | 1:RA:636:PHE:CE2  | 2.49                     | 0.48              |
| 1:TA:242:THR:HG23 | 1:TA:689:GLU:HB2  | 1.95                     | 0.48              |
| 1:YA:242:THR:HG23 | 1:YA:689:GLU:HB2  | 1.96                     | 0.48              |
| 1:AB:608:VAL:HG21 | 1:AB:636:PHE:CE2  | 2.49                     | 0.48              |
| 1:BB:242:THR:HG23 | 1:BB:689:GLU:HB2  | 1.96                     | 0.48              |
| 1:FB:608:VAL:HG21 | 1:FB:636:PHE:CE2  | 2.49                     | 0.48              |
| 1:GB:608:VAL:HG21 | 1:GB:636:PHE:CE2  | 2.49                     | 0.48              |
| 1:A:608:VAL:HG21  | 1:A:636:PHE:CE2   | 2.49                     | 0.48              |
| 1:I:580:SER:O     | 1:P:484:ARG:HD3   | 2.13                     | 0.48              |
| 1:K:622:GLN:HE22  | 1:K:733:PRO:HA    | 1.77                     | 0.48              |
| 1:L:242:THR:HG23  | 1:L:689:GLU:HB2   | 1.95                     | 0.48              |
| 1:V:608:VAL:HG21  | 1:V:636:PHE:CE2   | 2.49                     | 0.48              |
| 1:Z:462:PHE:O     | 1:HB:552:VAL:HG22 | 2.14                     | 0.48              |
| 1:DA:242:THR:HG23 | 1:DA:689:GLU:HB2  | 1.96                     | 0.48              |
| 1:EA:462:PHE:O    | 1:XA:552:VAL:HG22 | 2.14                     | 0.48              |
| 1:MA:608:VAL:HG21 | 1:MA:636:PHE:CE2  | 2.49                     | 0.48              |
| 1:PA:242:THR:HG23 | 1:PA:689:GLU:HB2  | 1.96                     | 0.48              |
| 1:XA:622:GLN:HE22 | 1:XA:733:PRO:HA   | 1.77                     | 0.48              |
| 1:BB:608:VAL:HG21 | 1:BB:636:PHE:CE2  | 2.49                     | 0.48              |
| 1:DB:242:THR:HG23 | 1:DB:689:GLU:HB2  | 1.96                     | 0.48              |
| 1:A:242:THR:HG23  | 1:A:689:GLU:HB2   | 1.96                     | 0.47              |
| 1:E:462:PHE:O     | 1:NA:552:VAL:HG22 | 2.14                     | 0.47              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:P:242:THR:HG23  | 1:P:689:GLU:HB2   | 1.96                     | 0.47              |
| 1:P:608:VAL:HG21  | 1:P:636:PHE:CE2   | 2.49                     | 0.47              |
| 1:Q:580:SER:O     | 1:QA:484:ARG:HD3  | 2.13                     | 0.47              |
| 1:T:462:PHE:O     | 1:IA:552:VAL:HG22 | 2.14                     | 0.47              |
| 1:X:580:SER:O     | 1:WA:484:ARG:HD3  | 2.13                     | 0.47              |
| 1:Y:242:THR:HG23  | 1:Y:689:GLU:HB2   | 1.96                     | 0.47              |
| 1:CA:580:SER:O    | 1:GB:484:ARG:HD3  | 2.13                     | 0.47              |
| 1:MA:580:SER:O    | 1:RA:484:ARG:HD3  | 2.13                     | 0.47              |
| 1:VA:242:THR:HG23 | 1:VA:689:GLU:HB2  | 1.96                     | 0.47              |
| 1:HB:242:THR:HG23 | 1:HB:689:GLU:HB2  | 1.96                     | 0.47              |
| 1:HB:622:GLN:HE22 | 1:HB:733:PRO:HA   | 1.77                     | 0.47              |
| 1:G:242:THR:HG23  | 1:G:689:GLU:HB2   | 1.96                     | 0.47              |
| 1:G:462:PHE:O     | 1:VA:552:VAL:HG22 | 2.14                     | 0.47              |
| 1:G:608:VAL:HG21  | 1:G:636:PHE:CE2   | 2.49                     | 0.47              |
| 1:H:484:ARG:HD3   | 1:RA:580:SER:O    | 2.13                     | 0.47              |
| 1:I:552:VAL:HG22  | 1:YA:462:PHE:O    | 2.14                     | 0.47              |
| 1:L:462:PHE:O     | 1:FB:552:VAL:HG22 | 2.14                     | 0.47              |
| 1:L:608:VAL:HG21  | 1:L:636:PHE:CE2   | 2.49                     | 0.47              |
| 1:R:242:THR:HG23  | 1:R:689:GLU:HB2   | 1.96                     | 0.47              |
| 1:Y:462:PHE:O     | 1:FA:552:VAL:HG22 | 2.14                     | 0.47              |
| 1:AA:608:VAL:HG21 | 1:AA:636:PHE:CE2  | 2.49                     | 0.47              |
| 1:DA:462:PHE:O    | 1:KA:552:VAL:HG22 | 2.15                     | 0.47              |
| 1:XA:242:THR:HG23 | 1:XA:689:GLU:HB2  | 1.96                     | 0.47              |
| 1:ZA:608:VAL:HG21 | 1:ZA:636:PHE:CE2  | 2.49                     | 0.47              |
| 1:A:484:ARG:HD3   | 1:N:580:SER:O     | 2.13                     | 0.47              |
| 1:C:552:VAL:HG22  | 1:GB:462:PHE:O    | 2.14                     | 0.47              |
| 1:D:552:VAL:HG22  | 1:DB:462:PHE:O    | 2.14                     | 0.47              |
| 1:P:462:PHE:O     | 1:YA:552:VAL:HG22 | 2.14                     | 0.47              |
| 1:Q:242:THR:HG23  | 1:Q:689:GLU:HB2   | 1.96                     | 0.47              |
| 1:R:552:VAL:HG22  | 1:WA:462:PHE:O    | 2.14                     | 0.47              |
| 1:S:552:VAL:HG22  | 1:TA:462:PHE:O    | 2.14                     | 0.47              |
| 1:X:462:PHE:O     | 1:WA:552:VAL:HG22 | 2.15                     | 0.47              |
| 1:Y:608:VAL:HG21  | 1:Y:636:PHE:CE2   | 2.49                     | 0.47              |
| 1:Z:242:THR:HG23  | 1:Z:689:GLU:HB2   | 1.96                     | 0.47              |
| 1:CA:462:PHE:O    | 1:GB:552:VAL:HG22 | 2.14                     | 0.47              |
| 1:DA:608:VAL:HG21 | 1:DA:636:PHE:CE2  | 2.49                     | 0.47              |
| 1:EA:242:THR:HG23 | 1:EA:689:GLU:HB2  | 1.96                     | 0.47              |
| 1:PA:608:VAL:HG21 | 1:PA:636:PHE:CE2  | 2.49                     | 0.47              |
| 1:CB:242:THR:HG23 | 1:CB:689:GLU:HB2  | 1.96                     | 0.47              |
| 1:A:462:PHE:O     | 1:IB:552:VAL:HG22 | 2.14                     | 0.47              |
| 1:A:552:VAL:HG22  | 1:N:462:PHE:O     | 2.15                     | 0.47              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:B:462:PHE:O     | 1:AB:552:VAL:HG22 | 2.14                     | 0.47              |
| 1:C:462:PHE:O     | 1:CA:552:VAL:HG22 | 2.14                     | 0.47              |
| 1:I:462:PHE:O     | 1:P:552:VAL:HG22  | 2.14                     | 0.47              |
| 1:M:484:ARG:HD3   | 1:BB:580:SER:O    | 2.13                     | 0.47              |
| 1:N:552:VAL:HG22  | 1:IB:462:PHE:O    | 2.14                     | 0.47              |
| 1:HA:242:THR:HG23 | 1:HA:689:GLU:HB2  | 1.96                     | 0.47              |
| 1:JA:484:ARG:HD3  | 1:ZA:580:SER:O    | 2.12                     | 0.47              |
| 1:MA:242:THR:HG23 | 1:MA:689:GLU:HB2  | 1.96                     | 0.47              |
| 1:SA:242:THR:HG23 | 1:SA:689:GLU:HB2  | 1.96                     | 0.47              |
| 1:B:242:THR:HG23  | 1:B:689:GLU:HB2   | 1.96                     | 0.47              |
| 1:E:633:ASP:N     | 1:AA:615:GLN:NE2  | 2.63                     | 0.47              |
| 1:F:552:VAL:HG22  | 1:S:462:PHE:O     | 2.15                     | 0.47              |
| 1:Q:462:PHE:O     | 1:QA:552:VAL:HG22 | 2.14                     | 0.47              |
| 1:T:633:ASP:N     | 1:V:615:GLN:NE2   | 2.63                     | 0.47              |
| 1:EA:552:VAL:HG22 | 1:EB:462:PHE:O    | 2.14                     | 0.47              |
| 1:GA:242:THR:HG23 | 1:GA:689:GLU:HB2  | 1.96                     | 0.47              |
| 1:JA:242:THR:HG23 | 1:JA:689:GLU:HB2  | 1.96                     | 0.47              |
| 1:JA:552:VAL:HG22 | 1:ZA:462:PHE:O    | 2.14                     | 0.47              |
| 1:LA:242:THR:HG23 | 1:LA:689:GLU:HB2  | 1.96                     | 0.47              |
| 1:OA:242:THR:HG23 | 1:OA:689:GLU:HB2  | 1.96                     | 0.47              |
| 1:I:242:THR:HG23  | 1:I:689:GLU:HB2   | 1.96                     | 0.47              |
| 1:M:552:VAL:HG22  | 1:BB:462:PHE:O    | 2.15                     | 0.47              |
| 1:V:552:VAL:HG22  | 1:IA:462:PHE:O    | 2.14                     | 0.47              |
| 1:W:552:VAL:HG22  | 1:FB:462:PHE:O    | 2.14                     | 0.47              |
| 1:Z:669:PHE:CD1   | 1:AB:373:PRO:HA   | 2.50                     | 0.47              |
| 1:HA:462:PHE:O    | 1:BB:552:VAL:HG22 | 2.14                     | 0.47              |
| 1:OA:484:ARG:HD3  | 1:PA:580:SER:O    | 2.13                     | 0.47              |
| 1:OA:552:VAL:HG22 | 1:PA:462:PHE:O    | 2.14                     | 0.47              |
| 1:XA:462:PHE:O    | 1:EB:552:VAL:HG22 | 2.14                     | 0.47              |
| 1:D:462:PHE:O     | 1:K:552:VAL:HG22  | 2.15                     | 0.47              |
| 1:E:552:VAL:HG22  | 1:AA:462:PHE:O    | 2.14                     | 0.47              |
| 1:E:608:VAL:HG21  | 1:E:636:PHE:CE2   | 2.49                     | 0.47              |
| 1:H:552:VAL:HG22  | 1:RA:462:PHE:O    | 2.15                     | 0.47              |
| 1:J:669:PHE:CD1   | 1:W:373:PRO:HA    | 2.50                     | 0.47              |
| 1:N:242:THR:HG23  | 1:N:689:GLU:HB2   | 1.96                     | 0.47              |
| 1:O:669:PHE:CD1   | 1:BA:373:PRO:HA   | 2.50                     | 0.47              |
| 1:R:462:PHE:O     | 1:X:552:VAL:HG22  | 2.15                     | 0.47              |
| 1:T:552:VAL:HG22  | 1:V:462:PHE:O     | 2.14                     | 0.47              |
| 1:T:608:VAL:HG21  | 1:T:636:PHE:CE2   | 2.49                     | 0.47              |
| 1:Z:552:VAL:HG22  | 1:UA:462:PHE:O    | 2.14                     | 0.47              |
| 1:AA:552:VAL:HG22 | 1:NA:462:PHE:O    | 2.14                     | 0.47              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BA:552:VAL:HG22 | 1:VA:462:PHE:O    | 2.14                     | 0.47              |
| 1:EA:669:PHE:CD1  | 1:QA:373:PRO:HA   | 2.50                     | 0.47              |
| 1:HA:696:LYS:HA   | 1:HA:696:LYS:HD3  | 1.73                     | 0.47              |
| 1:IA:230:CYS:HB3  | 1:KA:396:GLU:O    | 2.15                     | 0.47              |
| 1:MA:462:PHE:O    | 1:RA:552:VAL:HG22 | 2.15                     | 0.47              |
| 1:PA:552:VAL:HG22 | 1:CB:462:PHE:O    | 2.15                     | 0.47              |
| 1:SA:462:PHE:O    | 1:ZA:552:VAL:HG22 | 2.14                     | 0.47              |
| 1:SA:608:VAL:HG21 | 1:SA:636:PHE:CE2  | 2.49                     | 0.47              |
| 1:UA:242:THR:HG23 | 1:UA:689:GLU:HB2  | 1.96                     | 0.47              |
| 1:UA:552:VAL:HG22 | 1:HB:462:PHE:O    | 2.15                     | 0.47              |
| 1:CB:608:VAL:HG21 | 1:CB:636:PHE:CE2  | 2.49                     | 0.47              |
| 1:C:373:PRO:HA    | 1:IA:669:PHE:CD1  | 2.50                     | 0.47              |
| 1:H:462:PHE:O     | 1:MA:552:VAL:HG22 | 2.14                     | 0.47              |
| 1:J:552:VAL:HG22  | 1:KA:462:PHE:O    | 2.14                     | 0.47              |
| 1:Q:552:VAL:HG22  | 1:GA:462:PHE:O    | 2.14                     | 0.47              |
| 1:W:696:LYS:HD3   | 1:W:696:LYS:HA    | 1.73                     | 0.47              |
| 1:X:373:PRO:HA    | 1:CB:669:PHE:CD1  | 2.50                     | 0.47              |
| 1:EB:242:THR:HG23 | 1:EB:689:GLU:HB2  | 1.96                     | 0.47              |
| 1:B:552:VAL:HG22  | 1:LA:462:PHE:O    | 2.14                     | 0.47              |
| 1:H:373:PRO:HA    | 1:Y:669:PHE:CD1   | 2.50                     | 0.47              |
| 1:M:462:PHE:O     | 1:HA:552:VAL:HG22 | 2.14                     | 0.47              |
| 1:V:669:PHE:CD1   | 1:DA:373:PRO:HA   | 2.50                     | 0.47              |
| 1:Y:373:PRO:HA    | 1:AA:669:PHE:CD1  | 2.50                     | 0.47              |
| 1:Z:396:GLU:O     | 1:AB:230:CYS:HB3  | 2.15                     | 0.47              |
| 1:FA:396:GLU:O    | 1:NA:230:CYS:HB3  | 2.15                     | 0.47              |
| 1:UA:696:LYS:HA   | 1:UA:696:LYS:HD3  | 1.73                     | 0.47              |
| 1:FB:696:LYS:HD3  | 1:FB:696:LYS:HA   | 1.73                     | 0.47              |
| 1:G:230:CYS:HB3   | 1:DB:396:GLU:O    | 2.15                     | 0.47              |
| 1:H:230:CYS:HB3   | 1:Y:396:GLU:O     | 2.15                     | 0.47              |
| 1:H:242:THR:HG23  | 1:H:689:GLU:HB2   | 1.96                     | 0.47              |
| 1:J:230:CYS:HB3   | 1:HA:396:GLU:O    | 2.16                     | 0.47              |
| 1:M:230:CYS:HB3   | 1:DA:396:GLU:O    | 2.15                     | 0.47              |
| 1:O:242:THR:HG23  | 1:O:689:GLU:HB2   | 1.96                     | 0.47              |
| 1:O:552:VAL:HG22  | 1:FA:462:PHE:O    | 2.14                     | 0.47              |
| 1:R:373:PRO:HA    | 1:NA:669:PHE:CD1  | 2.50                     | 0.47              |
| 1:Y:230:CYS:HB3   | 1:AA:396:GLU:O    | 2.15                     | 0.47              |
| 1:CA:373:PRO:HA   | 1:SA:669:PHE:CD1  | 2.50                     | 0.47              |
| 1:EA:396:GLU:O    | 1:QA:230:CYS:HB3  | 2.15                     | 0.47              |
| 1:LA:552:VAL:HG22 | 1:AB:462:PHE:O    | 2.14                     | 0.47              |
| 1:E:242:THR:HG23  | 1:E:689:GLU:HB2   | 1.96                     | 0.46              |
| 1:I:633:ASP:N     | 1:YA:615:GLN:NE2  | 2.62                     | 0.46              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:J:242:THR:HG23  | 1:J:689:GLU:HB2   | 1.96                     | 0.46              |
| 1:L:230:CYS:HB3   | 1:TA:396:GLU:O    | 2.15                     | 0.46              |
| 1:L:552:VAL:HG22  | 1:W:462:PHE:O     | 2.14                     | 0.46              |
| 1:M:373:PRO:HA    | 1:DA:669:PHE:CD1  | 2.50                     | 0.46              |
| 1:O:230:CYS:HB3   | 1:MA:396:GLU:O    | 2.16                     | 0.46              |
| 1:T:585:ARG:HG2   | 1:T:586:GLY:O     | 2.16                     | 0.46              |
| 1:V:396:GLU:O     | 1:DA:230:CYS:HB3  | 2.15                     | 0.46              |
| 1:X:242:THR:HG23  | 1:X:689:GLU:HB2   | 1.96                     | 0.46              |
| 1:GA:552:VAL:HG22 | 1:QA:462:PHE:O    | 2.14                     | 0.46              |
| 1:HA:585:ARG:HG2  | 1:HA:586:GLY:O    | 2.16                     | 0.46              |
| 1:JA:585:ARG:HG2  | 1:JA:586:GLY:O    | 2.16                     | 0.46              |
| 1:JA:615:GLN:NE2  | 1:SA:633:ASP:N    | 2.63                     | 0.46              |
| 1:MA:585:ARG:HG2  | 1:MA:586:GLY:O    | 2.16                     | 0.46              |
| 1:OA:585:ARG:HG2  | 1:OA:586:GLY:O    | 2.16                     | 0.46              |
| 1:E:585:ARG:HG2   | 1:E:586:GLY:O     | 2.16                     | 0.46              |
| 1:F:230:CYS:HB3   | 1:FB:396:GLU:O    | 2.16                     | 0.46              |
| 1:G:552:VAL:HG22  | 1:BA:462:PHE:O    | 2.14                     | 0.46              |
| 1:I:585:ARG:HG2   | 1:I:586:GLY:O     | 2.16                     | 0.46              |
| 1:M:242:THR:HG23  | 1:M:689:GLU:HB2   | 1.96                     | 0.46              |
| 1:N:585:ARG:HG2   | 1:N:586:GLY:O     | 2.16                     | 0.46              |
| 1:T:242:THR:HG23  | 1:T:689:GLU:HB2   | 1.96                     | 0.46              |
| 1:Z:373:PRO:HA    | 1:RA:669:PHE:CD1  | 2.50                     | 0.46              |
| 1:JA:396:GLU:O    | 1:VA:230:CYS:HB3  | 2.15                     | 0.46              |
| 1:JA:462:PHE:O    | 1:SA:552:VAL:HG22 | 2.14                     | 0.46              |
| 1:OA:615:GLN:NE2  | 1:CB:633:ASP:N    | 2.63                     | 0.46              |
| 1:PA:669:PHE:CD1  | 1:XA:373:PRO:HA   | 2.50                     | 0.46              |
| 1:A:585:ARG:HG2   | 1:A:586:GLY:O     | 2.16                     | 0.46              |
| 1:B:230:CYS:HB3   | 1:YA:396:GLU:O    | 2.15                     | 0.46              |
| 1:C:396:GLU:O     | 1:TA:230:CYS:HB3  | 2.16                     | 0.46              |
| 1:G:373:PRO:HA    | 1:DB:669:PHE:CD1  | 2.50                     | 0.46              |
| 1:G:585:ARG:HG2   | 1:G:586:GLY:O     | 2.16                     | 0.46              |
| 1:J:462:PHE:O     | 1:DA:552:VAL:HG22 | 2.14                     | 0.46              |
| 1:K:230:CYS:HB3   | 1:VA:396:GLU:O    | 2.16                     | 0.46              |
| 1:K:242:THR:HG23  | 1:K:689:GLU:HB2   | 1.96                     | 0.46              |
| 1:L:373:PRO:HA    | 1:TA:669:PHE:CD1  | 2.50                     | 0.46              |
| 1:L:585:ARG:HG2   | 1:L:586:GLY:O     | 2.16                     | 0.46              |
| 1:N:633:ASP:N     | 1:IB:615:GLN:NE2  | 2.63                     | 0.46              |
| 1:N:669:PHE:CD1   | 1:RA:373:PRO:HA   | 2.50                     | 0.46              |
| 1:P:585:ARG:HG2   | 1:P:586:GLY:O     | 2.16                     | 0.46              |
| 1:Q:230:CYS:HB3   | 1:IB:396:GLU:O    | 2.15                     | 0.46              |
| 1:V:585:ARG:HG2   | 1:V:586:GLY:O     | 2.16                     | 0.46              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:W:396:GLU:O     | 1:PA:230:CYS:HB3  | 2.16                     | 0.46              |
| 1:Z:230:CYS:HB3   | 1:RA:396:GLU:O    | 2.16                     | 0.46              |
| 1:AA:585:ARG:HG2  | 1:AA:586:GLY:O    | 2.16                     | 0.46              |
| 1:BA:396:GLU:O    | 1:ZA:230:CYS:HB3  | 2.16                     | 0.46              |
| 1:BA:696:LYS:HD3  | 1:BA:696:LYS:HA   | 1.73                     | 0.46              |
| 1:CA:242:THR:HG23 | 1:CA:689:GLU:HB2  | 1.96                     | 0.46              |
| 1:EA:230:CYS:HB3  | 1:BB:396:GLU:O    | 2.16                     | 0.46              |
| 1:HA:230:CYS:HB3  | 1:XA:396:GLU:O    | 2.15                     | 0.46              |
| 1:LA:396:GLU:O    | 1:UA:230:CYS:HB3  | 2.16                     | 0.46              |
| 1:MA:696:LYS:HA   | 1:MA:696:LYS:HD3  | 1.73                     | 0.46              |
| 1:OA:396:GLU:O    | 1:FB:230:CYS:HB3  | 2.15                     | 0.46              |
| 1:OA:462:PHE:O    | 1:CB:552:VAL:HG22 | 2.14                     | 0.46              |
| 1:OA:669:PHE:CD1  | 1:FB:373:PRO:HA   | 2.50                     | 0.46              |
| 1:PA:396:GLU:O    | 1:XA:230:CYS:HB3  | 2.15                     | 0.46              |
| 1:PA:585:ARG:HG2  | 1:PA:586:GLY:O    | 2.16                     | 0.46              |
| 1:QA:696:LYS:HD3  | 1:QA:696:LYS:HA   | 1.73                     | 0.46              |
| 1:TA:585:ARG:HG2  | 1:TA:586:GLY:O    | 2.16                     | 0.46              |
| 1:VA:585:ARG:HG2  | 1:VA:586:GLY:O    | 2.16                     | 0.46              |
| 1:ZA:396:GLU:O    | 1:HB:230:CYS:HB3  | 2.15                     | 0.46              |
| 1:ZA:669:PHE:CD1  | 1:HB:373:PRO:HA   | 2.50                     | 0.46              |
| 1:DB:585:ARG:HG2  | 1:DB:586:GLY:O    | 2.16                     | 0.46              |
| 1:D:669:PHE:CD1   | 1:WA:373:PRO:HA   | 2.50                     | 0.46              |
| 1:E:396:GLU:O     | 1:GA:230:CYS:HB3  | 2.15                     | 0.46              |
| 1:F:373:PRO:HA    | 1:FB:669:PHE:CD1  | 2.50                     | 0.46              |
| 1:I:669:PHE:CD1   | 1:BB:373:PRO:HA   | 2.50                     | 0.46              |
| 1:J:373:PRO:HA    | 1:HA:669:PHE:CD1  | 2.50                     | 0.46              |
| 1:O:373:PRO:HA    | 1:MA:669:PHE:CD1  | 2.50                     | 0.46              |
| 1:O:462:PHE:O     | 1:Y:552:VAL:HG22  | 2.14                     | 0.46              |
| 1:Q:373:PRO:HA    | 1:IB:669:PHE:CD1  | 2.50                     | 0.46              |
| 1:R:396:GLU:O     | 1:DB:230:CYS:HB3  | 2.16                     | 0.46              |
| 1:S:669:PHE:CD1   | 1:GB:373:PRO:HA   | 2.50                     | 0.46              |
| 1:T:396:GLU:O     | 1:LA:230:CYS:HB3  | 2.15                     | 0.46              |
| 1:GA:396:GLU:O    | 1:EB:230:CYS:HB3  | 2.16                     | 0.46              |
| 1:IA:373:PRO:HA   | 1:KA:669:PHE:CD1  | 2.50                     | 0.46              |
| 1:IA:585:ARG:HG2  | 1:IA:586:GLY:O    | 2.16                     | 0.46              |
| 1:MA:230:CYS:HB3  | 1:HB:396:GLU:O    | 2.15                     | 0.46              |
| 1:MA:373:PRO:HA   | 1:HB:669:PHE:CD1  | 2.50                     | 0.46              |
| 1:SA:373:PRO:HA   | 1:UA:669:PHE:CD1  | 2.50                     | 0.46              |
| 1:ZA:585:ARG:HG2  | 1:ZA:586:GLY:O    | 2.16                     | 0.46              |
| 1:BB:585:ARG:HG2  | 1:BB:586:GLY:O    | 2.16                     | 0.46              |
| 1:FB:585:ARG:HG2  | 1:FB:586:GLY:O    | 2.16                     | 0.46              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:669:PHE:CD1  | 1:I:373:PRO:HA   | 2.50                     | 0.46              |
| 1:A:696:LYS:HD3  | 1:A:696:LYS:HA   | 1.73                     | 0.46              |
| 1:B:373:PRO:HA   | 1:YA:669:PHE:CD1 | 2.50                     | 0.46              |
| 1:B:633:ASP:N    | 1:LA:615:GLN:NE2 | 2.63                     | 0.46              |
| 1:C:230:CYS:HB3  | 1:IA:396:GLU:O   | 2.15                     | 0.46              |
| 1:F:242:THR:HG23 | 1:F:689:GLU:HB2  | 1.96                     | 0.46              |
| 1:G:669:PHE:CD1  | 1:FA:373:PRO:HA  | 2.50                     | 0.46              |
| 1:L:669:PHE:CD1  | 1:KA:373:PRO:HA  | 2.50                     | 0.46              |
| 1:N:373:PRO:HA   | 1:P:669:PHE:CD1  | 2.50                     | 0.46              |
| 1:P:696:LYS:HD3  | 1:P:696:LYS:HA   | 1.73                     | 0.46              |
| 1:R:230:CYS:HB3  | 1:NA:396:GLU:O   | 2.15                     | 0.46              |
| 1:T:669:PHE:CD1  | 1:LA:373:PRO:HA  | 2.50                     | 0.46              |
| 1:W:633:ASP:N    | 1:FB:615:GLN:NE2 | 2.63                     | 0.46              |
| 1:X:585:ARG:HG2  | 1:X:586:GLY:O    | 2.16                     | 0.46              |
| 1:CA:585:ARG:HG2 | 1:CA:586:GLY:O   | 2.16                     | 0.46              |
| 1:EA:373:PRO:HA  | 1:BB:669:PHE:CD1 | 2.50                     | 0.46              |
| 1:FA:669:PHE:CD1 | 1:NA:373:PRO:HA  | 2.50                     | 0.46              |
| 1:JA:669:PHE:CD1 | 1:VA:373:PRO:HA  | 2.50                     | 0.46              |
| 1:NA:585:ARG:HG2 | 1:NA:586:GLY:O   | 2.16                     | 0.46              |
| 1:D:373:PRO:HA   | 1:F:669:PHE:CD1  | 2.50                     | 0.46              |
| 1:H:669:PHE:CD1  | 1:IB:373:PRO:HA  | 2.50                     | 0.46              |
| 1:H:726:GLY:HA3  | 1:Y:257:TYR:O    | 2.16                     | 0.46              |
| 1:K:373:PRO:HA   | 1:VA:669:PHE:CD1 | 2.50                     | 0.46              |
| 1:M:669:PHE:CD1  | 1:YA:373:PRO:HA  | 2.50                     | 0.46              |
| 1:M:726:GLY:HA3  | 1:DA:257:TYR:O   | 2.16                     | 0.46              |
| 1:N:257:TYR:O    | 1:RA:726:GLY:HA3 | 2.16                     | 0.46              |
| 1:O:585:ARG:HG2  | 1:O:586:GLY:O    | 2.16                     | 0.46              |
| 1:P:615:GLN:NE2  | 1:YA:633:ASP:N   | 2.63                     | 0.46              |
| 1:HA:373:PRO:HA  | 1:XA:669:PHE:CD1 | 2.50                     | 0.46              |
| 1:RA:585:ARG:HG2 | 1:RA:586:GLY:O   | 2.16                     | 0.46              |
| 1:XA:585:ARG:HG2 | 1:XA:586:GLY:O   | 2.16                     | 0.46              |
| 1:AB:585:ARG:HG2 | 1:AB:586:GLY:O   | 2.16                     | 0.46              |
| 1:CB:373:PRO:HA  | 1:EB:669:PHE:CD1 | 2.50                     | 0.46              |
| 1:A:615:GLN:NE2  | 1:IB:633:ASP:N   | 2.63                     | 0.46              |
| 1:C:585:ARG:HG2  | 1:C:586:GLY:O    | 2.16                     | 0.46              |
| 1:D:230:CYS:HB3  | 1:F:396:GLU:O    | 2.15                     | 0.46              |
| 1:E:669:PHE:CD1  | 1:GA:373:PRO:HA  | 2.50                     | 0.46              |
| 1:F:378:LEU:CD2  | 1:S:436:PRO:HG3  | 2.46                     | 0.46              |
| 1:G:396:GLU:O    | 1:FA:230:CYS:HB3 | 2.16                     | 0.46              |
| 1:G:436:PRO:HG3  | 1:VA:378:LEU:CD2 | 2.46                     | 0.46              |
| 1:I:257:TYR:O    | 1:BB:726:GLY:HA3 | 2.16                     | 0.46              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:I:436:PRO:HG3  | 1:P:378:LEU:CD2  | 2.46                     | 0.46              |
| 1:J:585:ARG:HG2  | 1:J:586:GLY:O    | 2.16                     | 0.46              |
| 1:L:396:GLU:O    | 1:KA:230:CYS:HB3 | 2.16                     | 0.46              |
| 1:L:436:PRO:HG3  | 1:FB:378:LEU:CD2 | 2.46                     | 0.46              |
| 1:P:230:CYS:HB3  | 1:AB:396:GLU:O   | 2.16                     | 0.46              |
| 1:P:373:PRO:HA   | 1:AB:669:PHE:CD1 | 2.50                     | 0.46              |
| 1:Q:436:PRO:HG3  | 1:QA:378:LEU:CD2 | 2.46                     | 0.46              |
| 1:Q:633:ASP:N    | 1:GA:615:GLN:NE2 | 2.63                     | 0.46              |
| 1:Q:696:LYS:HD3  | 1:Q:696:LYS:HA   | 1.73                     | 0.46              |
| 1:R:585:ARG:HG2  | 1:R:586:GLY:O    | 2.16                     | 0.46              |
| 1:V:378:LEU:CD2  | 1:IA:436:PRO:HG3 | 2.46                     | 0.46              |
| 1:X:726:GLY:HA3  | 1:CB:257:TYR:O   | 2.16                     | 0.46              |
| 1:Z:726:GLY:HA3  | 1:RA:257:TYR:O   | 2.16                     | 0.46              |
| 1:BA:633:ASP:N   | 1:VA:615:GLN:NE2 | 2.63                     | 0.46              |
| 1:CA:726:GLY:HA3 | 1:SA:257:TYR:O   | 2.16                     | 0.46              |
| 1:MA:615:GLN:NE2 | 1:RA:633:ASP:N   | 2.63                     | 0.46              |
| 1:OA:436:PRO:HG3 | 1:CB:378:LEU:CD2 | 2.46                     | 0.46              |
| 1:QA:585:ARG:HG2 | 1:QA:586:GLY:O   | 2.16                     | 0.46              |
| 1:A:378:LEU:CD2  | 1:N:436:PRO:HG3  | 2.46                     | 0.46              |
| 1:B:436:PRO:HG3  | 1:AB:378:LEU:CD2 | 2.46                     | 0.46              |
| 1:C:669:PHE:CD1  | 1:TA:373:PRO:HA  | 2.50                     | 0.46              |
| 1:D:436:PRO:HG3  | 1:K:378:LEU:CD2  | 2.46                     | 0.46              |
| 1:E:436:PRO:HG3  | 1:NA:378:LEU:CD2 | 2.46                     | 0.46              |
| 1:F:436:PRO:HG3  | 1:TA:378:LEU:CD2 | 2.46                     | 0.46              |
| 1:H:378:LEU:CD2  | 1:RA:436:PRO:HG3 | 2.46                     | 0.46              |
| 1:I:378:LEU:CD2  | 1:YA:436:PRO:HG3 | 2.46                     | 0.46              |
| 1:K:396:GLU:O    | 1:S:230:CYS:HB3  | 2.15                     | 0.46              |
| 1:K:669:PHE:CD1  | 1:S:373:PRO:HA   | 2.50                     | 0.46              |
| 1:N:378:LEU:CD2  | 1:IB:436:PRO:HG3 | 2.46                     | 0.46              |
| 1:O:396:GLU:O    | 1:BA:230:CYS:HB3 | 2.15                     | 0.46              |
| 1:R:669:PHE:CD1  | 1:DB:373:PRO:HA  | 2.50                     | 0.46              |
| 1:S:585:ARG:HG2  | 1:S:586:GLY:O    | 2.16                     | 0.46              |
| 1:X:230:CYS:HB3  | 1:CB:396:GLU:O   | 2.15                     | 0.46              |
| 1:Y:696:LYS:HA   | 1:Y:696:LYS:HD3  | 1.73                     | 0.46              |
| 1:Z:378:LEU:CD2  | 1:UA:436:PRO:HG3 | 2.46                     | 0.46              |
| 1:AA:378:LEU:CD2 | 1:NA:436:PRO:HG3 | 2.46                     | 0.46              |
| 1:BA:585:ARG:HG2 | 1:BA:586:GLY:O   | 2.16                     | 0.46              |
| 1:CA:230:CYS:HB3 | 1:SA:396:GLU:O   | 2.15                     | 0.46              |
| 1:DA:696:LYS:HA  | 1:DA:696:LYS:HD3 | 1.73                     | 0.46              |
| 1:EA:585:ARG:HG2 | 1:EA:586:GLY:O   | 2.16                     | 0.46              |
| 1:EA:726:GLY:HA3 | 1:BB:257:TYR:O   | 2.16                     | 0.46              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:JA:373:PRO:HA  | 1:GB:669:PHE:CD1 | 2.50                     | 0.46              |
| 1:JA:436:PRO:HG3 | 1:SA:378:LEU:CD2 | 2.46                     | 0.46              |
| 1:SA:585:ARG:HG2 | 1:SA:586:GLY:O   | 2.16                     | 0.46              |
| 1:WA:585:ARG:HG2 | 1:WA:586:GLY:O   | 2.16                     | 0.46              |
| 1:GB:585:ARG:HG2 | 1:GB:586:GLY:O   | 2.16                     | 0.46              |
| 1:HB:585:ARG:HG2 | 1:HB:586:GLY:O   | 2.16                     | 0.46              |
| 1:A:230:CYS:HB3  | 1:QA:396:GLU:O   | 2.16                     | 0.46              |
| 1:A:373:PRO:HA   | 1:QA:669:PHE:CD1 | 2.50                     | 0.46              |
| 1:B:669:PHE:CD1  | 1:V:373:PRO:HA   | 2.50                     | 0.46              |
| 1:H:633:ASP:N    | 1:RA:615:GLN:NE2 | 2.63                     | 0.46              |
| 1:J:396:GLU:O    | 1:W:230:CYS:HB3  | 2.15                     | 0.46              |
| 1:J:436:PRO:HG3  | 1:DA:378:LEU:CD2 | 2.46                     | 0.46              |
| 1:K:436:PRO:HG3  | 1:DB:378:LEU:CD2 | 2.46                     | 0.46              |
| 1:M:378:LEU:CD2  | 1:BB:436:PRO:HG3 | 2.46                     | 0.46              |
| 1:M:633:ASP:N    | 1:BB:615:GLN:NE2 | 2.63                     | 0.46              |
| 1:Q:669:PHE:CD1  | 1:AA:373:PRO:HA  | 2.51                     | 0.46              |
| 1:T:436:PRO:HG3  | 1:IA:378:LEU:CD2 | 2.46                     | 0.46              |
| 1:W:585:ARG:HG2  | 1:W:586:GLY:O    | 2.16                     | 0.46              |
| 1:Z:585:ARG:HG2  | 1:Z:586:GLY:O    | 2.16                     | 0.46              |
| 1:EA:378:LEU:CD2 | 1:EB:436:PRO:HG3 | 2.46                     | 0.46              |
| 1:FA:585:ARG:HG2 | 1:FA:586:GLY:O   | 2.16                     | 0.46              |
| 1:GA:669:PHE:CD1 | 1:EB:373:PRO:HA  | 2.50                     | 0.46              |
| 1:HA:615:GLN:NE2 | 1:BB:633:ASP:N   | 2.63                     | 0.46              |
| 1:LA:669:PHE:CD1 | 1:UA:373:PRO:HA  | 2.50                     | 0.46              |
| 1:OA:373:PRO:HA  | 1:WA:669:PHE:CD1 | 2.50                     | 0.46              |
| 1:WA:696:LYS:HD3 | 1:WA:696:LYS:HA  | 1.73                     | 0.46              |
| 1:XA:696:LYS:HD3 | 1:XA:696:LYS:HA  | 1.73                     | 0.46              |
| 1:AB:696:LYS:HA  | 1:AB:696:LYS:HD3 | 1.73                     | 0.46              |
| 1:CB:585:ARG:HG2 | 1:CB:586:GLY:O   | 2.16                     | 0.46              |
| 1:C:257:TYR:O    | 1:TA:726:GLY:HA3 | 2.16                     | 0.46              |
| 1:D:398:PHE:CZ   | 1:DB:700:LYS:HG2 | 2.51                     | 0.46              |
| 1:D:585:ARG:HG2  | 1:D:586:GLY:O    | 2.16                     | 0.46              |
| 1:J:615:GLN:NE2  | 1:DA:633:ASP:N   | 2.62                     | 0.46              |
| 1:K:585:ARG:HG2  | 1:K:586:GLY:O    | 2.16                     | 0.46              |
| 1:L:615:GLN:NE2  | 1:FB:633:ASP:N   | 2.63                     | 0.46              |
| 1:M:615:GLN:NE2  | 1:HA:633:ASP:N   | 2.63                     | 0.46              |
| 1:O:436:PRO:HG3  | 1:Y:378:LEU:CD2  | 2.46                     | 0.46              |
| 1:R:257:TYR:O    | 1:DB:726:GLY:HA3 | 2.16                     | 0.46              |
| 1:T:615:GLN:NE2  | 1:IA:633:ASP:N   | 2.62                     | 0.46              |
| 1:JA:230:CYS:HB3 | 1:GB:396:GLU:O   | 2.15                     | 0.46              |
| 1:KA:585:ARG:HG2 | 1:KA:586:GLY:O   | 2.16                     | 0.46              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:OA:230:CYS:HB3  | 1:WA:396:GLU:O    | 2.16                     | 0.46              |
| 1:SA:436:PRO:HG3  | 1:ZA:378:LEU:CD2  | 2.46                     | 0.46              |
| 1:D:396:GLU:O     | 1:WA:230:CYS:HB3  | 2.15                     | 0.45              |
| 1:E:230:CYS:HB3   | 1:X:396:GLU:O     | 2.16                     | 0.45              |
| 1:E:373:PRO:HA    | 1:X:669:PHE:CD1   | 2.50                     | 0.45              |
| 1:F:585:ARG:HG2   | 1:F:586:GLY:O     | 2.16                     | 0.45              |
| 1:F:633:ASP:N     | 1:S:615:GLN:NE2   | 2.63                     | 0.45              |
| 1:G:615:GLN:NE2   | 1:VA:633:ASP:N    | 2.63                     | 0.45              |
| 1:M:436:PRO:HG3   | 1:HA:378:LEU:CD2  | 2.46                     | 0.45              |
| 1:O:700:LYS:HG2   | 1:Y:398:PHE:CZ    | 2.51                     | 0.45              |
| 1:S:396:GLU:O     | 1:GB:230:CYS:HB3  | 2.15                     | 0.45              |
| 1:S:398:PHE:CZ    | 1:TA:700:LYS:HG2  | 2.52                     | 0.45              |
| 1:T:230:CYS:HB3   | 1:CA:396:GLU:O    | 2.15                     | 0.45              |
| 1:T:700:LYS:HG2   | 1:IA:398:PHE:CZ   | 2.51                     | 0.45              |
| 1:X:436:PRO:HG3   | 1:WA:378:LEU:CD2  | 2.46                     | 0.45              |
| 1:X:479:PRO:CG    | 1:WA:508:TYR:CD1  | 3.00                     | 0.45              |
| 1:CA:436:PRO:HG3  | 1:GB:378:LEU:CD2  | 2.46                     | 0.45              |
| 1:EA:436:PRO:HG3  | 1:XA:378:LEU:CD2  | 2.46                     | 0.45              |
| 1:PA:378:LEU:CD2  | 1:CB:436:PRO:HG3  | 2.46                     | 0.45              |
| 1:A:396:GLU:O     | 1:I:230:CYS:HB3   | 2.15                     | 0.45              |
| 1:A:436:PRO:HG3   | 1:IB:378:LEU:CD2  | 2.46                     | 0.45              |
| 1:B:585:ARG:HG2   | 1:B:586:GLY:O     | 2.16                     | 0.45              |
| 1:B:696:LYS:HD3   | 1:B:696:LYS:HA    | 1.73                     | 0.45              |
| 1:C:436:PRO:HG3   | 1:CA:378:LEU:CD2  | 2.46                     | 0.45              |
| 1:E:700:LYS:HG2   | 1:NA:398:PHE:CZ   | 2.52                     | 0.45              |
| 1:G:339:THR:HG22  | 1:G:404:ARG:HG3   | 1.99                     | 0.45              |
| 1:G:403:LEU:HD11  | 1:G:409:PHE:HB2   | 1.99                     | 0.45              |
| 1:H:436:PRO:HG3   | 1:MA:378:LEU:CD2  | 2.46                     | 0.45              |
| 1:H:615:GLN:NE2   | 1:MA:633:ASP:N    | 2.63                     | 0.45              |
| 1:J:403:LEU:HD11  | 1:J:409:PHE:HB2   | 1.99                     | 0.45              |
| 1:L:403:LEU:HD11  | 1:L:409:PHE:HB2   | 1.99                     | 0.45              |
| 1:O:615:GLN:NE2   | 1:Y:633:ASP:N     | 2.63                     | 0.45              |
| 1:P:436:PRO:HG3   | 1:YA:378:LEU:CD2  | 2.46                     | 0.45              |
| 1:T:373:PRO:HA    | 1:CA:669:PHE:CD1  | 2.50                     | 0.45              |
| 1:T:460:LEU:HD11  | 1:IA:488:VAL:HG12 | 1.98                     | 0.45              |
| 1:V:257:TYR:O     | 1:DA:726:GLY:HA3  | 2.16                     | 0.45              |
| 1:Y:726:GLY:HA3   | 1:AA:257:TYR:O    | 2.16                     | 0.45              |
| 1:BA:669:PHE:CD1  | 1:ZA:373:PRO:HA   | 2.50                     | 0.45              |
| 1:GA:585:ARG:HG2  | 1:GA:586:GLY:O    | 2.16                     | 0.45              |
| 1:JA:460:LEU:HD11 | 1:SA:488:VAL:HG12 | 1.99                     | 0.45              |
| 1:LA:257:TYR:O    | 1:UA:726:GLY:HA3  | 2.16                     | 0.45              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:LA:585:ARG:HG2  | 1:LA:586:GLY:O    | 2.16                     | 0.45              |
| 1:SA:403:LEU:HD11 | 1:SA:409:PHE:HB2  | 1.99                     | 0.45              |
| 1:WA:294:ARG:NE   | 1:DB:705:GLU:HG3  | 2.32                     | 0.45              |
| 1:WA:339:THR:HG22 | 1:WA:404:ARG:HG3  | 1.99                     | 0.45              |
| 1:CB:403:LEU:HD11 | 1:CB:409:PHE:HB2  | 1.99                     | 0.45              |
| 1:EB:585:ARG:HG2  | 1:EB:586:GLY:O    | 2.16                     | 0.45              |
| 1:B:378:LEU:CD2   | 1:LA:436:PRO:HG3  | 2.46                     | 0.45              |
| 1:G:378:LEU:CD2   | 1:BA:436:PRO:HG3  | 2.46                     | 0.45              |
| 1:J:479:PRO:CG    | 1:DA:508:TYR:CD1  | 3.00                     | 0.45              |
| 1:J:700:LYS:HG2   | 1:DA:398:PHE:CZ   | 2.52                     | 0.45              |
| 1:K:726:GLY:HA3   | 1:VA:257:TYR:O    | 2.16                     | 0.45              |
| 1:L:339:THR:HG22  | 1:L:404:ARG:HG3   | 1.99                     | 0.45              |
| 1:L:378:LEU:CD2   | 1:W:436:PRO:HG3   | 2.46                     | 0.45              |
| 1:N:396:GLU:O     | 1:RA:230:CYS:HB3  | 2.15                     | 0.45              |
| 1:O:403:LEU:HD11  | 1:O:409:PHE:HB2   | 1.99                     | 0.45              |
| 1:O:479:PRO:CG    | 1:Y:508:TYR:CD1   | 3.00                     | 0.45              |
| 1:Q:700:LYS:HG2   | 1:QA:398:PHE:CZ   | 2.52                     | 0.45              |
| 1:R:436:PRO:HG3   | 1:X:378:LEU:CD2   | 2.46                     | 0.45              |
| 1:R:508:TYR:CD1   | 1:WA:479:PRO:CG   | 3.00                     | 0.45              |
| 1:S:378:LEU:CD2   | 1:TA:436:PRO:HG3  | 2.46                     | 0.45              |
| 1:W:669:PHE:CD1   | 1:PA:373:PRO:HA   | 2.50                     | 0.45              |
| 1:Y:436:PRO:HG3   | 1:FA:378:LEU:CD2  | 2.46                     | 0.45              |
| 1:Z:436:PRO:HG3   | 1:HB:378:LEU:CD2  | 2.46                     | 0.45              |
| 1:CA:479:PRO:CG   | 1:GB:508:TYR:CD1  | 3.00                     | 0.45              |
| 1:CA:700:LYS:HG2  | 1:GB:398:PHE:CZ   | 2.52                     | 0.45              |
| 1:EA:508:TYR:CD1  | 1:EB:479:PRO:CG   | 3.00                     | 0.45              |
| 1:GA:257:TYR:O    | 1:EB:726:GLY:HA3  | 2.16                     | 0.45              |
| 1:GA:508:TYR:CD1  | 1:QA:479:PRO:CG   | 3.00                     | 0.45              |
| 1:JA:398:PHE:CZ   | 1:ZA:700:LYS:HG2  | 2.52                     | 0.45              |
| 1:LA:508:TYR:CD1  | 1:AB:479:PRO:CG   | 3.00                     | 0.45              |
| 1:OA:460:LEU:HD11 | 1:CB:488:VAL:HG12 | 1.99                     | 0.45              |
| 1:PA:508:TYR:CD1  | 1:CB:479:PRO:CG   | 3.00                     | 0.45              |
| 1:SA:230:CYS:HB3  | 1:UA:396:GLU:O    | 2.15                     | 0.45              |
| 1:SA:479:PRO:CG   | 1:ZA:508:TYR:CD1  | 3.00                     | 0.45              |
| 1:UA:398:PHE:CZ   | 1:HB:700:LYS:HG2  | 2.52                     | 0.45              |
| 1:XA:700:LYS:HG2  | 1:EB:398:PHE:CZ   | 2.52                     | 0.45              |
| 1:ZA:339:THR:HG22 | 1:ZA:404:ARG:HG3  | 1.99                     | 0.45              |
| 1:B:700:LYS:HG2   | 1:AB:398:PHE:CZ   | 2.52                     | 0.45              |
| 1:C:488:VAL:HG12  | 1:GB:460:LEU:HD11 | 1.99                     | 0.45              |
| 1:D:615:GLN:NE2   | 1:K:633:ASP:N     | 2.63                     | 0.45              |
| 1:E:460:LEU:HD11  | 1:NA:488:VAL:HG12 | 1.99                     | 0.45              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:E:615:GLN:NE2   | 1:NA:633:ASP:N    | 2.63                     | 0.45              |
| 1:G:700:LYS:HG2   | 1:VA:398:PHE:CZ   | 2.52                     | 0.45              |
| 1:I:396:GLU:O     | 1:BB:230:CYS:HB3  | 2.15                     | 0.45              |
| 1:N:230:CYS:HB3   | 1:P:396:GLU:O     | 2.15                     | 0.45              |
| 1:Q:378:LEU:CD2   | 1:GA:436:PRO:HG3  | 2.46                     | 0.45              |
| 1:Q:585:ARG:HG2   | 1:Q:586:GLY:O     | 2.16                     | 0.45              |
| 1:R:488:VAL:HG12  | 1:WA:460:LEU:HD11 | 1.99                     | 0.45              |
| 1:V:508:TYR:CD1   | 1:IA:479:PRO:CG   | 3.00                     | 0.45              |
| 1:Z:508:TYR:CD1   | 1:UA:479:PRO:CG   | 3.00                     | 0.45              |
| 1:AA:508:TYR:CD1  | 1:NA:479:PRO:CG   | 3.00                     | 0.45              |
| 1:AA:705:GLU:HG3  | 1:GA:294:ARG:NE   | 2.32                     | 0.45              |
| 1:DA:436:PRO:HG3  | 1:KA:378:LEU:CD2  | 2.46                     | 0.45              |
| 1:JA:339:THR:HG22 | 1:JA:404:ARG:HG3  | 1.99                     | 0.45              |
| 1:JA:633:ASP:N    | 1:ZA:615:GLN:NE2  | 2.62                     | 0.45              |
| 1:MA:726:GLY:HA3  | 1:HB:257:TYR:O    | 2.16                     | 0.45              |
| 1:OA:339:THR:HG22 | 1:OA:404:ARG:HG3  | 1.99                     | 0.45              |
| 1:OA:398:PHE:CZ   | 1:PA:700:LYS:HG2  | 2.52                     | 0.45              |
| 1:PA:339:THR:HG22 | 1:PA:404:ARG:HG3  | 1.99                     | 0.45              |
| 1:TA:705:GLU:HG3  | 1:GB:294:ARG:NE   | 2.32                     | 0.45              |
| 1:UA:378:LEU:HD21 | 1:HB:436:PRO:HG3  | 1.99                     | 0.45              |
| 1:UA:585:ARG:HG2  | 1:UA:586:GLY:O    | 2.16                     | 0.45              |
| 1:YA:403:LEU:HD11 | 1:YA:409:PHE:HB2  | 1.99                     | 0.45              |
| 1:GB:339:THR:HG22 | 1:GB:404:ARG:HG3  | 1.99                     | 0.45              |
| 1:A:398:PHE:CZ    | 1:N:700:LYS:HG2   | 2.52                     | 0.45              |
| 1:C:508:TYR:CD1   | 1:GB:479:PRO:CG   | 3.00                     | 0.45              |
| 1:D:378:LEU:CD2   | 1:DB:436:PRO:HG3  | 2.46                     | 0.45              |
| 1:D:508:TYR:CD1   | 1:DB:479:PRO:CG   | 3.00                     | 0.45              |
| 1:F:339:THR:HG22  | 1:F:404:ARG:HG3   | 1.99                     | 0.45              |
| 1:F:403:LEU:HD11  | 1:F:409:PHE:HB2   | 1.99                     | 0.45              |
| 1:F:460:LEU:HD11  | 1:TA:488:VAL:HG12 | 1.99                     | 0.45              |
| 1:F:726:GLY:HA3   | 1:FB:257:TYR:O    | 2.16                     | 0.45              |
| 1:G:436:PRO:HG3   | 1:VA:378:LEU:HD21 | 1.99                     | 0.45              |
| 1:H:339:THR:HG22  | 1:H:404:ARG:HG3   | 1.99                     | 0.45              |
| 1:I:700:LYS:HG2   | 1:P:398:PHE:CZ    | 2.52                     | 0.45              |
| 1:J:257:TYR:O     | 1:W:726:GLY:HA3   | 2.16                     | 0.45              |
| 1:J:378:LEU:CD2   | 1:KA:436:PRO:HG3  | 2.46                     | 0.45              |
| 1:K:339:THR:HG22  | 1:K:404:ARG:HG3   | 1.99                     | 0.45              |
| 1:K:615:GLN:NE2   | 1:DB:633:ASP:N    | 2.63                     | 0.45              |
| 1:L:508:TYR:CD1   | 1:W:479:PRO:CG    | 3.00                     | 0.45              |
| 1:M:339:THR:HG22  | 1:M:404:ARG:HG3   | 1.99                     | 0.45              |
| 1:M:403:LEU:HD11  | 1:M:409:PHE:HB2   | 1.99                     | 0.45              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:O:257:TYR:O     | 1:BA:726:GLY:HA3  | 2.16                     | 0.45              |
| 1:O:378:LEU:CD2   | 1:FA:436:PRO:HG3  | 2.46                     | 0.45              |
| 1:P:339:THR:HG22  | 1:P:404:ARG:HG3   | 1.99                     | 0.45              |
| 1:Q:398:PHE:CZ    | 1:GA:700:LYS:HG2  | 2.52                     | 0.45              |
| 1:S:508:TYR:CD1   | 1:TA:479:PRO:CG   | 3.00                     | 0.45              |
| 1:T:339:THR:HG22  | 1:T:404:ARG:HG3   | 1.99                     | 0.45              |
| 1:T:403:LEU:HD11  | 1:T:409:PHE:HB2   | 1.99                     | 0.45              |
| 1:V:705:GLU:HG3   | 1:LA:294:ARG:NE   | 2.32                     | 0.45              |
| 1:X:403:LEU:HD11  | 1:X:409:PHE:HB2   | 1.99                     | 0.45              |
| 1:X:700:LYS:HG2   | 1:WA:398:PHE:CZ   | 2.52                     | 0.45              |
| 1:Y:294:ARG:NE    | 1:NA:705:GLU:HG3  | 2.32                     | 0.45              |
| 1:Y:700:LYS:HG2   | 1:FA:398:PHE:CZ   | 2.52                     | 0.45              |
| 1:AA:398:PHE:CZ   | 1:NA:700:LYS:HG2  | 2.52                     | 0.45              |
| 1:BA:398:PHE:CZ   | 1:VA:700:LYS:HG2  | 2.52                     | 0.45              |
| 1:DA:700:LYS:HG2  | 1:KA:398:PHE:CZ   | 2.52                     | 0.45              |
| 1:HA:726:GLY:HA3  | 1:XA:257:TYR:O    | 2.16                     | 0.45              |
| 1:XA:436:PRO:HG3  | 1:EB:378:LEU:HD21 | 1.99                     | 0.45              |
| 1:GB:696:LYS:HD3  | 1:GB:696:LYS:HA   | 1.73                     | 0.45              |
| 1:IB:403:LEU:HD11 | 1:IB:409:PHE:HB2  | 1.99                     | 0.45              |
| 1:A:339:THR:HG22  | 1:A:404:ARG:HG3   | 1.99                     | 0.45              |
| 1:B:378:LEU:HD21  | 1:LA:436:PRO:HG3  | 1.99                     | 0.45              |
| 1:B:398:PHE:CZ    | 1:LA:700:LYS:HG2  | 2.52                     | 0.45              |
| 1:D:339:THR:HG22  | 1:D:404:ARG:HG3   | 1.99                     | 0.45              |
| 1:H:396:GLU:O     | 1:IB:230:CYS:HB3  | 2.16                     | 0.45              |
| 1:H:398:PHE:CZ    | 1:RA:700:LYS:HG2  | 2.52                     | 0.45              |
| 1:H:403:LEU:HD11  | 1:H:409:PHE:HB2   | 1.99                     | 0.45              |
| 1:I:403:LEU:HD11  | 1:I:409:PHE:HB2   | 1.99                     | 0.45              |
| 1:K:403:LEU:HD11  | 1:K:409:PHE:HB2   | 1.99                     | 0.45              |
| 1:L:700:LYS:HG2   | 1:FB:398:PHE:CZ   | 2.52                     | 0.45              |
| 1:L:726:GLY:HA3   | 1:TA:257:TYR:O    | 2.16                     | 0.45              |
| 1:M:398:PHE:CZ    | 1:BB:700:LYS:HG2  | 2.52                     | 0.45              |
| 1:M:436:PRO:HG3   | 1:HA:378:LEU:HD21 | 1.99                     | 0.45              |
| 1:M:508:TYR:CD1   | 1:BB:479:PRO:CG   | 3.00                     | 0.45              |
| 1:M:585:ARG:HG2   | 1:M:586:GLY:O     | 2.16                     | 0.45              |
| 1:N:403:LEU:HD11  | 1:N:409:PHE:HB2   | 1.99                     | 0.45              |
| 1:N:508:TYR:CD1   | 1:IB:479:PRO:CG   | 3.00                     | 0.45              |
| 1:P:700:LYS:HG2   | 1:YA:398:PHE:CZ   | 2.51                     | 0.45              |
| 1:V:398:PHE:CZ    | 1:IA:700:LYS:HG2  | 2.52                     | 0.45              |
| 1:Y:705:GLU:HG3   | 1:NA:294:ARG:NE   | 2.32                     | 0.45              |
| 1:Z:339:THR:HG22  | 1:Z:404:ARG:HG3   | 1.99                     | 0.45              |
| 1:CA:403:LEU:HD11 | 1:CA:409:PHE:HB2  | 1.99                     | 0.45              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:DA:294:ARG:NE   | 1:IA:705:GLU:HG3  | 2.32                     | 0.45              |
| 1:DA:339:THR:HG22 | 1:DA:404:ARG:HG3  | 1.99                     | 0.45              |
| 1:JA:700:LYS:HG2  | 1:SA:398:PHE:CZ   | 2.51                     | 0.45              |
| 1:MA:700:LYS:HG2  | 1:RA:398:PHE:CZ   | 2.52                     | 0.45              |
| 1:OA:508:TYR:CD1  | 1:PA:479:PRO:CG   | 3.00                     | 0.45              |
| 1:CB:230:CYS:HB3  | 1:EB:396:GLU:O    | 2.15                     | 0.45              |
| 1:A:700:LYS:HG2   | 1:IB:398:PHE:CZ   | 2.52                     | 0.45              |
| 1:B:396:GLU:O     | 1:V:230:CYS:HB3   | 2.16                     | 0.45              |
| 1:C:339:THR:HG22  | 1:C:404:ARG:HG3   | 1.99                     | 0.45              |
| 1:C:378:LEU:HD21  | 1:GB:436:PRO:HG3  | 1.99                     | 0.45              |
| 1:D:700:LYS:HG2   | 1:K:398:PHE:CZ    | 2.52                     | 0.45              |
| 1:E:436:PRO:HG3   | 1:NA:378:LEU:HD21 | 1.99                     | 0.45              |
| 1:E:488:VAL:HG12  | 1:AA:460:LEU:HD11 | 1.99                     | 0.45              |
| 1:F:615:GLN:NE2   | 1:TA:633:ASP:N    | 2.63                     | 0.45              |
| 1:G:294:ARG:NE    | 1:K:705:GLU:HG3   | 2.32                     | 0.45              |
| 1:G:508:TYR:CD1   | 1:BA:479:PRO:CG   | 3.00                     | 0.45              |
| 1:G:726:GLY:HA3   | 1:DB:257:TYR:O    | 2.16                     | 0.45              |
| 1:H:294:ARG:NE    | 1:O:705:GLU:HG3   | 2.32                     | 0.45              |
| 1:H:436:PRO:HG3   | 1:MA:378:LEU:HD21 | 1.99                     | 0.45              |
| 1:I:508:TYR:CD1   | 1:YA:479:PRO:CG   | 3.00                     | 0.45              |
| 1:I:615:GLN:NE2   | 1:P:633:ASP:N     | 2.63                     | 0.45              |
| 1:J:705:GLU:HG3   | 1:M:294:ARG:NE    | 2.32                     | 0.45              |
| 1:K:460:LEU:HD11  | 1:DB:488:VAL:HG12 | 1.99                     | 0.45              |
| 1:L:398:PHE:CZ    | 1:W:700:LYS:HG2   | 2.52                     | 0.45              |
| 1:L:436:PRO:HG3   | 1:FB:378:LEU:HD21 | 1.99                     | 0.45              |
| 1:M:396:GLU:O     | 1:YA:230:CYS:HB3  | 2.16                     | 0.45              |
| 1:Q:396:GLU:O     | 1:AA:230:CYS:HB3  | 2.16                     | 0.45              |
| 1:S:339:THR:HG22  | 1:S:404:ARG:HG3   | 1.99                     | 0.45              |
| 1:W:398:PHE:CZ    | 1:FB:700:LYS:HG2  | 2.52                     | 0.45              |
| 1:X:294:ARG:NE    | 1:OA:705:GLU:HG3  | 2.32                     | 0.45              |
| 1:Y:339:THR:HG22  | 1:Y:404:ARG:HG3   | 1.99                     | 0.45              |
| 1:CA:705:GLU:HG3  | 1:JA:294:ARG:NE   | 2.32                     | 0.45              |
| 1:DA:403:LEU:HD11 | 1:DA:409:PHE:HB2  | 1.98                     | 0.45              |
| 1:DA:705:GLU:HG3  | 1:IA:294:ARG:NE   | 2.32                     | 0.45              |
| 1:EA:339:THR:HG22 | 1:EA:404:ARG:HG3  | 1.99                     | 0.45              |
| 1:GA:398:PHE:CZ   | 1:QA:700:LYS:HG2  | 2.52                     | 0.45              |
| 1:IA:339:THR:HG22 | 1:IA:404:ARG:HG3  | 1.99                     | 0.45              |
| 1:JA:508:TYR:CD1  | 1:ZA:479:PRO:CG   | 3.00                     | 0.45              |
| 1:OA:633:ASP:N    | 1:PA:615:GLN:NE2  | 2.63                     | 0.45              |
| 1:SA:700:LYS:HG2  | 1:ZA:398:PHE:CZ   | 2.52                     | 0.45              |
| 1:XA:705:GLU:HG3  | 1:CB:294:ARG:NE   | 2.32                     | 0.45              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:YA:585:ARG:HG2  | 1:YA:586:GLY:O    | 2.16                     | 0.45              |
| 1:CB:696:LYS:HD3  | 1:CB:696:LYS:HA   | 1.73                     | 0.45              |
| 1:HB:696:LYS:HD3  | 1:HB:696:LYS:HA   | 1.73                     | 0.45              |
| 1:A:508:TYR:CD1   | 1:N:479:PRO:CG    | 3.00                     | 0.45              |
| 1:A:633:ASP:N     | 1:N:615:GLN:NE2   | 2.63                     | 0.45              |
| 1:E:339:THR:HG22  | 1:E:404:ARG:HG3   | 1.99                     | 0.45              |
| 1:E:403:LEU:HD11  | 1:E:409:PHE:HB2   | 1.99                     | 0.45              |
| 1:F:398:PHE:CZ    | 1:S:700:LYS:HG2   | 2.52                     | 0.45              |
| 1:F:705:GLU:HG3   | 1:L:294:ARG:NE    | 2.32                     | 0.45              |
| 1:G:398:PHE:CZ    | 1:BA:700:LYS:HG2  | 2.52                     | 0.45              |
| 1:H:508:TYR:CD1   | 1:RA:479:PRO:CG   | 3.00                     | 0.45              |
| 1:H:585:ARG:HG2   | 1:H:586:GLY:O     | 2.16                     | 0.45              |
| 1:H:700:LYS:HG2   | 1:MA:398:PHE:CZ   | 2.52                     | 0.45              |
| 1:I:294:ARG:NE    | 1:N:705:GLU:HG3   | 2.32                     | 0.45              |
| 1:I:479:PRO:CG    | 1:P:508:TYR:CD1   | 3.00                     | 0.45              |
| 1:J:398:PHE:CZ    | 1:KA:700:LYS:HG2  | 2.51                     | 0.45              |
| 1:J:436:PRO:HG3   | 1:DA:378:LEU:HD21 | 1.99                     | 0.45              |
| 1:O:436:PRO:HG3   | 1:Y:378:LEU:HD21  | 1.99                     | 0.45              |
| 1:P:726:GLY:HA3   | 1:AB:257:TYR:O    | 2.16                     | 0.45              |
| 1:Q:378:LEU:HD21  | 1:GA:436:PRO:HG3  | 1.99                     | 0.45              |
| 1:R:339:THR:HG22  | 1:R:404:ARG:HG3   | 1.99                     | 0.45              |
| 1:R:378:LEU:HD21  | 1:WA:436:PRO:HG3  | 1.99                     | 0.45              |
| 1:R:398:PHE:CZ    | 1:WA:700:LYS:HG2  | 2.52                     | 0.45              |
| 1:T:436:PRO:HG3   | 1:IA:378:LEU:HD21 | 1.99                     | 0.45              |
| 1:T:488:VAL:HG12  | 1:V:460:LEU:HD11  | 1.99                     | 0.45              |
| 1:X:705:GLU:HG3   | 1:OA:294:ARG:NE   | 2.32                     | 0.45              |
| 1:DA:436:PRO:HG3  | 1:KA:378:LEU:HD21 | 1.99                     | 0.45              |
| 1:EA:398:PHE:CZ   | 1:EB:700:LYS:HG2  | 2.51                     | 0.45              |
| 1:EA:700:LYS:HG2  | 1:XA:398:PHE:CZ   | 2.52                     | 0.45              |
| 1:JA:257:TYR:O    | 1:VA:726:GLY:HA3  | 2.16                     | 0.45              |
| 1:JA:436:PRO:HG3  | 1:SA:378:LEU:HD21 | 1.99                     | 0.45              |
| 1:LA:398:PHE:CZ   | 1:AB:700:LYS:HG2  | 2.52                     | 0.45              |
| 1:NA:339:THR:HG22 | 1:NA:404:ARG:HG3  | 1.99                     | 0.45              |
| 1:PA:398:PHE:CZ   | 1:CB:700:LYS:HG2  | 2.52                     | 0.45              |
| 1:QA:339:THR:HG22 | 1:QA:404:ARG:HG3  | 1.99                     | 0.45              |
| 1:SA:294:ARG:NE   | 1:HB:705:GLU:HG3  | 2.32                     | 0.45              |
| 1:AB:339:THR:HG22 | 1:AB:404:ARG:HG3  | 1.99                     | 0.45              |
| 1:A:726:GLY:HA3   | 1:QA:257:TYR:O    | 2.16                     | 0.45              |
| 1:B:403:LEU:HD11  | 1:B:409:PHE:HB2   | 1.99                     | 0.45              |
| 1:C:479:PRO:CG    | 1:CA:508:TYR:CD1  | 3.00                     | 0.45              |
| 1:C:633:ASP:N     | 1:GB:615:GLN:NE2  | 2.63                     | 0.45              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:D:294:ARG:NE    | 1:S:705:GLU:HG3   | 2.32                     | 0.45              |
| 1:I:705:GLU:HG3   | 1:N:294:ARG:NE    | 2.32                     | 0.45              |
| 1:M:700:LYS:HG2   | 1:HA:398:PHE:CZ   | 2.52                     | 0.45              |
| 1:N:398:PHE:CZ    | 1:IB:700:LYS:HG2  | 2.52                     | 0.45              |
| 1:Q:403:LEU:HD11  | 1:Q:409:PHE:HB2   | 1.99                     | 0.45              |
| 1:R:479:PRO:CG    | 1:X:508:TYR:CD1   | 3.00                     | 0.45              |
| 1:W:378:LEU:CD2   | 1:FB:436:PRO:HG3  | 2.46                     | 0.45              |
| 1:Y:403:LEU:HD11  | 1:Y:409:PHE:HB2   | 1.99                     | 0.45              |
| 1:Y:436:PRO:HG3   | 1:FA:378:LEU:HD21 | 1.99                     | 0.45              |
| 1:Z:398:PHE:CZ    | 1:UA:700:LYS:HG2  | 2.51                     | 0.45              |
| 1:Z:700:LYS:HG2   | 1:HB:398:PHE:CZ   | 2.52                     | 0.45              |
| 1:Z:705:GLU:HG3   | 1:MA:294:ARG:NE   | 2.32                     | 0.45              |
| 1:BA:339:THR:HG22 | 1:BA:404:ARG:HG3  | 1.99                     | 0.45              |
| 1:EA:633:ASP:N    | 1:EB:615:GLN:NE2  | 2.63                     | 0.45              |
| 1:HA:700:LYS:HG2  | 1:BB:398:PHE:CZ   | 2.52                     | 0.45              |
| 1:OA:257:TYR:O    | 1:FB:726:GLY:HA3  | 2.16                     | 0.45              |
| 1:OA:378:LEU:CD2  | 1:PA:436:PRO:HG3  | 2.46                     | 0.45              |
| 1:OA:700:LYS:HG2  | 1:CB:398:PHE:CZ   | 2.52                     | 0.45              |
| 1:SA:339:THR:HG22 | 1:SA:404:ARG:HG3  | 1.99                     | 0.45              |
| 1:TA:696:LYS:HD3  | 1:TA:696:LYS:HA   | 1.73                     | 0.45              |
| 1:VA:339:THR:HG22 | 1:VA:404:ARG:HG3  | 1.99                     | 0.45              |
| 1:XA:436:PRO:HG3  | 1:EB:378:LEU:CD2  | 2.46                     | 0.45              |
| 1:CB:339:THR:HG22 | 1:CB:404:ARG:HG3  | 1.99                     | 0.45              |
| 1:FB:339:THR:HG22 | 1:FB:404:ARG:HG3  | 1.99                     | 0.45              |
| 1:FB:403:LEU:HD11 | 1:FB:409:PHE:HB2  | 1.99                     | 0.45              |
| 1:IB:339:THR:HG22 | 1:IB:404:ARG:HG3  | 1.99                     | 0.45              |
| 1:IB:585:ARG:HG2  | 1:IB:586:GLY:O    | 2.16                     | 0.45              |
| 1:A:705:GLU:HG3   | 1:Q:294:ARG:NE    | 2.32                     | 0.45              |
| 1:B:294:ARG:NE    | 1:P:705:GLU:HG3   | 2.32                     | 0.45              |
| 1:C:378:LEU:CD2   | 1:GB:436:PRO:HG3  | 2.46                     | 0.45              |
| 1:C:398:PHE:CZ    | 1:GB:700:LYS:HG2  | 2.52                     | 0.45              |
| 1:E:294:ARG:NE    | 1:R:705:GLU:HG3   | 2.32                     | 0.45              |
| 1:G:480:GLY:HA3   | 1:G:614:TRP:HB3   | 1.99                     | 0.45              |
| 1:H:378:LEU:HD21  | 1:RA:436:PRO:HG3  | 1.99                     | 0.45              |
| 1:I:398:PHE:CZ    | 1:YA:700:LYS:HG2  | 2.52                     | 0.45              |
| 1:L:480:GLY:HA3   | 1:L:614:TRP:HB3   | 1.99                     | 0.45              |
| 1:M:378:LEU:HD21  | 1:BB:436:PRO:HG3  | 1.99                     | 0.45              |
| 1:N:726:GLY:HA3   | 1:P:257:TYR:O     | 2.16                     | 0.45              |
| 1:O:398:PHE:CZ    | 1:FA:700:LYS:HG2  | 2.52                     | 0.45              |
| 1:T:378:LEU:CD2   | 1:V:436:PRO:HG3   | 2.46                     | 0.45              |
| 1:W:294:ARG:NE    | 1:KA:705:GLU:HG3  | 2.31                     | 0.45              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:Y:460:LEU:HD11  | 1:FA:488:VAL:HG12 | 1.99                     | 0.45              |
| 1:Z:633:ASP:N     | 1:UA:615:GLN:NE2  | 2.63                     | 0.45              |
| 1:BA:378:LEU:CD2  | 1:VA:436:PRO:HG3  | 2.46                     | 0.45              |
| 1:CA:294:ARG:NE   | 1:JA:705:GLU:HG3  | 2.32                     | 0.45              |
| 1:DA:460:LEU:HD11 | 1:KA:488:VAL:HG12 | 1.99                     | 0.45              |
| 1:DA:585:ARG:HG2  | 1:DA:586:GLY:O    | 2.16                     | 0.45              |
| 1:EA:615:GLN:NE2  | 1:XA:633:ASP:N    | 2.62                     | 0.45              |
| 1:EA:705:GLU:HG3  | 1:HA:294:ARG:NE   | 2.32                     | 0.45              |
| 1:GA:339:THR:HG22 | 1:GA:404:ARG:HG3  | 1.99                     | 0.45              |
| 1:GA:403:LEU:HD11 | 1:GA:409:PHE:HB2  | 1.98                     | 0.45              |
| 1:HA:480:GLY:HA3  | 1:HA:614:TRP:HB3  | 1.99                     | 0.45              |
| 1:JA:378:LEU:CD2  | 1:ZA:436:PRO:HG3  | 2.46                     | 0.45              |
| 1:LA:339:THR:HG22 | 1:LA:404:ARG:HG3  | 1.99                     | 0.45              |
| 1:MA:436:PRO:HG3  | 1:RA:378:LEU:CD2  | 2.46                     | 0.45              |
| 1:OA:436:PRO:HG3  | 1:CB:378:LEU:HD21 | 1.99                     | 0.45              |
| 1:PA:294:ARG:NE   | 1:FB:705:GLU:HG3  | 2.32                     | 0.45              |
| 1:PA:705:GLU:HG3  | 1:FB:294:ARG:NE   | 2.32                     | 0.45              |
| 1:RA:480:GLY:HA3  | 1:RA:614:TRP:HB3  | 1.99                     | 0.45              |
| 1:UA:378:LEU:CD2  | 1:HB:436:PRO:HG3  | 2.46                     | 0.45              |
| 1:VA:294:ARG:NE   | 1:ZA:705:GLU:HG3  | 2.32                     | 0.45              |
| 1:VA:403:LEU:HD11 | 1:VA:409:PHE:HB2  | 1.99                     | 0.45              |
| 1:VA:705:GLU:HG3  | 1:ZA:294:ARG:NE   | 2.32                     | 0.45              |
| 1:WA:403:LEU:HD11 | 1:WA:409:PHE:HB2  | 1.98                     | 0.45              |
| 1:XA:480:GLY:HA3  | 1:XA:614:TRP:HB3  | 1.99                     | 0.45              |
| 1:YA:705:GLU:HG3  | 1:BB:294:ARG:NE   | 2.32                     | 0.45              |
| 1:BB:480:GLY:HA3  | 1:BB:614:TRP:HB3  | 1.99                     | 0.45              |
| 1:HB:480:GLY:HA3  | 1:HB:614:TRP:HB3  | 1.99                     | 0.45              |
| 1:A:257:TYR:O     | 1:I:726:GLY:HA3   | 2.16                     | 0.44              |
| 1:C:294:ARG:NE    | 1:T:705:GLU:HG3   | 2.32                     | 0.44              |
| 1:C:700:LYS:HG2   | 1:CA:398:PHE:CZ   | 2.52                     | 0.44              |
| 1:C:705:GLU:HG3   | 1:T:294:ARG:NE    | 2.32                     | 0.44              |
| 1:E:378:LEU:CD2   | 1:AA:436:PRO:HG3  | 2.46                     | 0.44              |
| 1:F:294:ARG:NE    | 1:L:705:GLU:HG3   | 2.32                     | 0.44              |
| 1:F:480:GLY:HA3   | 1:F:614:TRP:HB3   | 1.99                     | 0.44              |
| 1:G:378:LEU:HD21  | 1:BA:436:PRO:HG3  | 1.99                     | 0.44              |
| 1:G:705:GLU:HG3   | 1:K:294:ARG:NE    | 2.32                     | 0.44              |
| 1:L:378:LEU:HD21  | 1:W:436:PRO:HG3   | 1.99                     | 0.44              |
| 1:N:378:LEU:HD21  | 1:IB:436:PRO:HG3  | 1.99                     | 0.44              |
| 1:N:696:LYS:HA    | 1:N:696:LYS:HD3   | 1.73                     | 0.44              |
| 1:O:508:TYR:CD1   | 1:FA:479:PRO:CG   | 3.00                     | 0.44              |
| 1:Q:339:THR:HG22  | 1:Q:404:ARG:HG3   | 1.99                     | 0.44              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:Q:436:PRO:HG3   | 1:QA:378:LEU:HD21 | 1.99                     | 0.44              |
| 1:R:378:LEU:CD2   | 1:WA:436:PRO:HG3  | 2.46                     | 0.44              |
| 1:R:633:ASP:N     | 1:WA:615:GLN:NE2  | 2.63                     | 0.44              |
| 1:T:508:TYR:CD1   | 1:V:479:PRO:CG    | 3.00                     | 0.44              |
| 1:W:339:THR:HG22  | 1:W:404:ARG:HG3   | 1.99                     | 0.44              |
| 1:W:402:MET:HE3   | 1:PA:228:TRP:HE3  | 1.83                     | 0.44              |
| 1:Z:402:MET:HE3   | 1:AB:228:TRP:HE3  | 1.82                     | 0.44              |
| 1:Z:480:GLY:HA3   | 1:Z:614:TRP:HB3   | 1.99                     | 0.44              |
| 1:AA:403:LEU:HD11 | 1:AA:409:PHE:HB2  | 1.99                     | 0.44              |
| 1:BA:402:MET:HE3  | 1:ZA:228:TRP:HE3  | 1.82                     | 0.44              |
| 1:CA:228:TRP:HE3  | 1:SA:402:MET:HE3  | 1.82                     | 0.44              |
| 1:EA:402:MET:HE3  | 1:QA:228:TRP:HE3  | 1.82                     | 0.44              |
| 1:EA:480:GLY:HA3  | 1:EA:614:TRP:HB3  | 1.99                     | 0.44              |
| 1:GA:378:LEU:HD21 | 1:QA:436:PRO:HG3  | 1.99                     | 0.44              |
| 1:HA:436:PRO:HG3  | 1:BB:378:LEU:CD2  | 2.46                     | 0.44              |
| 1:HA:436:PRO:HG3  | 1:BB:378:LEU:HD21 | 1.99                     | 0.44              |
| 1:KA:403:LEU:HD11 | 1:KA:409:PHE:HB2  | 1.99                     | 0.44              |
| 1:LA:378:LEU:CD2  | 1:AB:436:PRO:HG3  | 2.46                     | 0.44              |
| 1:LA:378:LEU:HD21 | 1:AB:436:PRO:HG3  | 1.99                     | 0.44              |
| 1:LA:403:LEU:HD11 | 1:LA:409:PHE:HB2  | 1.99                     | 0.44              |
| 1:MA:436:PRO:HG3  | 1:RA:378:LEU:HD21 | 1.99                     | 0.44              |
| 1:PA:378:LEU:HD21 | 1:CB:436:PRO:HG3  | 1.99                     | 0.44              |
| 1:QA:705:GLU:HG3  | 1:EB:294:ARG:NE   | 2.32                     | 0.44              |
| 1:SA:436:PRO:HG3  | 1:ZA:378:LEU:HD21 | 1.99                     | 0.44              |
| 1:UA:403:LEU:HD11 | 1:UA:409:PHE:HB2  | 1.99                     | 0.44              |
| 1:XA:615:GLN:NE2  | 1:EB:633:ASP:N    | 2.63                     | 0.44              |
| 1:YA:480:GLY:HA3  | 1:YA:614:TRP:HB3  | 1.99                     | 0.44              |
| 1:DB:480:GLY:HA3  | 1:DB:614:TRP:HB3  | 1.99                     | 0.44              |
| 1:EB:403:LEU:HD11 | 1:EB:409:PHE:HB2  | 1.99                     | 0.44              |
| 1:HB:339:THR:HG22 | 1:HB:404:ARG:HG3  | 1.99                     | 0.44              |
| 1:IB:480:GLY:HA3  | 1:IB:614:TRP:HB3  | 1.99                     | 0.44              |
| 1:B:339:THR:HG22  | 1:B:404:ARG:HG3   | 1.99                     | 0.44              |
| 1:B:436:PRO:HG3   | 1:AB:378:LEU:HD21 | 1.99                     | 0.44              |
| 1:D:403:LEU:HD11  | 1:D:409:PHE:HB2   | 1.99                     | 0.44              |
| 1:D:705:GLU:HG3   | 1:S:294:ARG:NE    | 2.32                     | 0.44              |
| 1:E:508:TYR:CD1   | 1:AA:479:PRO:CG   | 3.00                     | 0.44              |
| 1:E:705:GLU:HG3   | 1:R:294:ARG:NE    | 2.32                     | 0.44              |
| 1:I:378:LEU:HD21  | 1:YA:436:PRO:HG3  | 1.99                     | 0.44              |
| 1:J:339:THR:HG22  | 1:J:404:ARG:HG3   | 1.99                     | 0.44              |
| 1:K:480:GLY:HA3   | 1:K:614:TRP:HB3   | 1.99                     | 0.44              |
| 1:K:700:LYS:HG2   | 1:DB:398:PHE:CZ   | 2.52                     | 0.44              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:L:228:TRP:HE3   | 1:TA:402:MET:HE3  | 1.82                     | 0.44              |
| 1:R:700:LYS:HG2   | 1:X:398:PHE:CZ    | 2.52                     | 0.44              |
| 1:T:398:PHE:CZ    | 1:V:700:LYS:HG2   | 2.51                     | 0.44              |
| 1:V:403:LEU:HD11  | 1:V:409:PHE:HB2   | 1.99                     | 0.44              |
| 1:W:378:LEU:HD21  | 1:FB:436:PRO:HG3  | 1.99                     | 0.44              |
| 1:X:480:GLY:HA3   | 1:X:614:TRP:HB3   | 1.99                     | 0.44              |
| 1:Y:585:ARG:HG2   | 1:Y:586:GLY:O     | 2.16                     | 0.44              |
| 1:Z:615:GLN:NE2   | 1:HB:633:ASP:N    | 2.62                     | 0.44              |
| 1:BA:294:ARG:NE   | 1:FA:705:GLU:HG3  | 2.32                     | 0.44              |
| 1:FA:403:LEU:HD11 | 1:FA:409:PHE:HB2  | 1.99                     | 0.44              |
| 1:IA:480:GLY:HA3  | 1:IA:614:TRP:HB3  | 1.99                     | 0.44              |
| 1:JA:402:MET:HE3  | 1:VA:228:TRP:HE3  | 1.82                     | 0.44              |
| 1:JA:479:PRO:CG   | 1:SA:508:TYR:CD1  | 3.00                     | 0.44              |
| 1:MA:228:TRP:HE3  | 1:HB:402:MET:HE3  | 1.83                     | 0.44              |
| 1:MA:339:THR:HG22 | 1:MA:404:ARG:HG3  | 1.99                     | 0.44              |
| 1:MA:479:PRO:CG   | 1:RA:508:TYR:CD1  | 3.00                     | 0.44              |
| 1:MA:480:GLY:HA3  | 1:MA:614:TRP:HB3  | 1.99                     | 0.44              |
| 1:NA:480:GLY:HA3  | 1:NA:614:TRP:HB3  | 1.99                     | 0.44              |
| 1:OA:402:MET:HE3  | 1:FB:228:TRP:HE3  | 1.82                     | 0.44              |
| 1:OA:696:LYS:HD3  | 1:OA:696:LYS:HA   | 1.73                     | 0.44              |
| 1:PA:696:LYS:HD3  | 1:PA:696:LYS:HA   | 1.73                     | 0.44              |
| 1:RA:294:ARG:NE   | 1:IB:705:GLU:HG3  | 2.32                     | 0.44              |
| 1:SA:705:GLU:HG3  | 1:HB:294:ARG:NE   | 2.32                     | 0.44              |
| 1:TA:339:THR:HG22 | 1:TA:404:ARG:HG3  | 1.99                     | 0.44              |
| 1:TA:480:GLY:HA3  | 1:TA:614:TRP:HB3  | 1.99                     | 0.44              |
| 1:UA:294:ARG:NE   | 1:AB:705:GLU:HG3  | 2.32                     | 0.44              |
| 1:UA:508:TYR:CD1  | 1:HB:479:PRO:CG   | 3.00                     | 0.44              |
| 1:UA:633:ASP:N    | 1:HB:615:GLN:NE2  | 2.63                     | 0.44              |
| 1:YA:339:THR:HG22 | 1:YA:404:ARG:HG3  | 1.99                     | 0.44              |
| 1:YA:701:ARG:HH21 | 1:YA:703:ASN:ND2  | 2.16                     | 0.44              |
| 1:BB:339:THR:HG22 | 1:BB:404:ARG:HG3  | 1.99                     | 0.44              |
| 1:DB:465:ALA:HB1  | 1:DB:473:GLN:HG2  | 2.00                     | 0.44              |
| 1:GB:403:LEU:HD11 | 1:GB:409:PHE:HB2  | 1.99                     | 0.44              |
| 1:A:402:MET:HE3   | 1:I:228:TRP:HE3   | 1.82                     | 0.44              |
| 1:A:480:GLY:HA3   | 1:A:614:TRP:HB3   | 1.99                     | 0.44              |
| 1:F:465:ALA:HB1   | 1:F:473:GLN:HG2   | 2.00                     | 0.44              |
| 1:F:700:LYS:HG2   | 1:TA:398:PHE:CZ   | 2.51                     | 0.44              |
| 1:G:257:TYR:O     | 1:FA:726:GLY:HA3  | 2.16                     | 0.44              |
| 1:G:402:MET:HE3   | 1:FA:228:TRP:HE3  | 1.83                     | 0.44              |
| 1:G:488:VAL:HG12  | 1:BA:460:LEU:HD11 | 1.99                     | 0.44              |
| 1:I:488:VAL:HG12  | 1:YA:460:LEU:HD11 | 1.98                     | 0.44              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:J:460:LEU:HD11  | 1:DA:488:VAL:HG12 | 1.98                     | 0.44              |
| 1:J:508:TYR:CD1   | 1:KA:479:PRO:CG   | 3.00                     | 0.44              |
| 1:K:402:MET:HE3   | 1:S:228:TRP:HE3   | 1.82                     | 0.44              |
| 1:K:436:PRO:HG3   | 1:DB:378:LEU:HD21 | 1.99                     | 0.44              |
| 1:L:488:VAL:HG12  | 1:W:460:LEU:HD11  | 1.99                     | 0.44              |
| 1:N:228:TRP:HE3   | 1:P:402:MET:HE3   | 1.82                     | 0.44              |
| 1:N:339:THR:HG22  | 1:N:404:ARG:HG3   | 1.99                     | 0.44              |
| 1:O:480:GLY:HA3   | 1:O:614:TRP:HB3   | 1.99                     | 0.44              |
| 1:T:257:TYR:O     | 1:LA:726:GLY:HA3  | 2.16                     | 0.44              |
| 1:T:479:PRO:CG    | 1:IA:508:TYR:CD1  | 3.00                     | 0.44              |
| 1:X:228:TRP:HE3   | 1:CB:402:MET:HE3  | 1.83                     | 0.44              |
| 1:BA:378:LEU:HD21 | 1:VA:436:PRO:HG3  | 1.99                     | 0.44              |
| 1:BA:705:GLU:HG3  | 1:FA:294:ARG:NE   | 2.32                     | 0.44              |
| 1:CA:480:GLY:HA3  | 1:CA:614:TRP:HB3  | 1.99                     | 0.44              |
| 1:EA:436:PRO:HG3  | 1:XA:378:LEU:HD21 | 1.99                     | 0.44              |
| 1:GA:378:LEU:CD2  | 1:QA:436:PRO:HG3  | 2.46                     | 0.44              |
| 1:HA:228:TRP:HE3  | 1:XA:402:MET:HE3  | 1.83                     | 0.44              |
| 1:HA:465:ALA:HB1  | 1:HA:473:GLN:HG2  | 2.00                     | 0.44              |
| 1:OA:403:LEU:HD11 | 1:OA:409:PHE:HB2  | 1.99                     | 0.44              |
| 1:OA:479:PRO:CG   | 1:CB:508:TYR:CD1  | 3.00                     | 0.44              |
| 1:SA:480:GLY:HA3  | 1:SA:614:TRP:HB3  | 2.00                     | 0.44              |
| 1:SA:696:LYS:HD3  | 1:SA:696:LYS:HA   | 1.73                     | 0.44              |
| 1:TA:465:ALA:HB1  | 1:TA:473:GLN:HG2  | 2.00                     | 0.44              |
| 1:UA:339:THR:HG22 | 1:UA:404:ARG:HG3  | 1.99                     | 0.44              |
| 1:XA:479:PRO:CG   | 1:EB:508:TYR:CD1  | 3.00                     | 0.44              |
| 1:CB:465:ALA:HB1  | 1:CB:473:GLN:HG2  | 2.00                     | 0.44              |
| 1:CB:480:GLY:HA3  | 1:CB:614:TRP:HB3  | 1.99                     | 0.44              |
| 1:DB:339:THR:HG22 | 1:DB:404:ARG:HG3  | 1.99                     | 0.44              |
| 1:EB:339:THR:HG22 | 1:EB:404:ARG:HG3  | 1.99                     | 0.44              |
| 1:IB:701:ARG:HH21 | 1:IB:703:ASN:ND2  | 2.16                     | 0.44              |
| 1:A:403:LEU:HD11  | 1:A:409:PHE:HB2   | 1.99                     | 0.44              |
| 1:B:465:ALA:HB1   | 1:B:473:GLN:HG2   | 2.00                     | 0.44              |
| 1:C:436:PRO:HG3   | 1:CA:378:LEU:HD21 | 1.99                     | 0.44              |
| 1:C:696:LYS:HD3   | 1:C:696:LYS:HA    | 1.73                     | 0.44              |
| 1:D:228:TRP:HE3   | 1:F:402:MET:HE3   | 1.83                     | 0.44              |
| 1:E:257:TYR:O     | 1:GA:726:GLY:HA3  | 2.16                     | 0.44              |
| 1:E:398:PHE:CZ    | 1:AA:700:LYS:HG2  | 2.51                     | 0.44              |
| 1:E:479:PRO:CG    | 1:NA:508:TYR:CD1  | 3.00                     | 0.44              |
| 1:F:378:LEU:HD21  | 1:S:436:PRO:HG3   | 1.99                     | 0.44              |
| 1:F:436:PRO:HG3   | 1:TA:378:LEU:HD21 | 1.99                     | 0.44              |
| 1:F:701:ARG:HH21  | 1:F:703:ASN:ND2   | 2.16                     | 0.44              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:G:228:TRP:HE3   | 1:DB:402:MET:HE3  | 1.83                     | 0.44              |
| 1:H:402:MET:HE3   | 1:IB:228:TRP:HE3  | 1.82                     | 0.44              |
| 1:I:460:LEU:HD11  | 1:P:488:VAL:HG12  | 1.99                     | 0.44              |
| 1:I:480:GLY:HA3   | 1:I:614:TRP:HB3   | 1.99                     | 0.44              |
| 1:J:488:VAL:HG12  | 1:KA:460:LEU:HD11 | 1.99                     | 0.44              |
| 1:K:465:ALA:HB1   | 1:K:473:GLN:HG2   | 2.00                     | 0.44              |
| 1:K:701:ARG:HH21  | 1:K:703:ASN:ND2   | 2.16                     | 0.44              |
| 1:L:257:TYR:O     | 1:KA:726:GLY:HA3  | 2.16                     | 0.44              |
| 1:L:402:MET:HE3   | 1:KA:228:TRP:HE3  | 1.82                     | 0.44              |
| 1:M:402:MET:HE3   | 1:YA:228:TRP:HE3  | 1.82                     | 0.44              |
| 1:N:480:GLY:HA3   | 1:N:614:TRP:HB3   | 1.99                     | 0.44              |
| 1:O:339:THR:HG22  | 1:O:404:ARG:HG3   | 1.99                     | 0.44              |
| 1:O:488:VAL:HG12  | 1:FA:460:LEU:HD11 | 1.99                     | 0.44              |
| 1:P:403:LEU:HD11  | 1:P:409:PHE:HB2   | 1.99                     | 0.44              |
| 1:P:480:GLY:HA3   | 1:P:614:TRP:HB3   | 1.99                     | 0.44              |
| 1:R:696:LYS:HD3   | 1:R:696:LYS:HA    | 1.73                     | 0.44              |
| 1:R:701:ARG:HH21  | 1:R:703:ASN:ND2   | 2.16                     | 0.44              |
| 1:S:403:LEU:HD11  | 1:S:409:PHE:HB2   | 1.99                     | 0.44              |
| 1:V:339:THR:HG22  | 1:V:404:ARG:HG3   | 1.99                     | 0.44              |
| 1:X:436:PRO:HG3   | 1:WA:378:LEU:HD21 | 1.99                     | 0.44              |
| 1:Y:228:TRP:HE3   | 1:AA:402:MET:HE3  | 1.82                     | 0.44              |
| 1:Y:701:ARG:HH21  | 1:Y:703:ASN:ND2   | 2.16                     | 0.44              |
| 1:Z:294:ARG:NE    | 1:MA:705:GLU:HG3  | 2.32                     | 0.44              |
| 1:Z:436:PRO:HG3   | 1:HB:378:LEU:HD21 | 1.99                     | 0.44              |
| 1:AA:389:ARG:HD3  | 1:NA:425:ALA:HB3  | 2.00                     | 0.44              |
| 1:BA:389:ARG:HD3  | 1:VA:425:ALA:HB3  | 2.00                     | 0.44              |
| 1:CA:436:PRO:HG3  | 1:GB:378:LEU:HD21 | 1.99                     | 0.44              |
| 1:DA:479:PRO:CG   | 1:KA:508:TYR:CD1  | 3.00                     | 0.44              |
| 1:DA:701:ARG:HH21 | 1:DA:703:ASN:ND2  | 2.16                     | 0.44              |
| 1:EA:294:ARG:NE   | 1:HA:705:GLU:HG3  | 2.32                     | 0.44              |
| 1:FA:402:MET:HE3  | 1:NA:228:TRP:HE3  | 1.83                     | 0.44              |
| 1:FA:465:ALA:HB1  | 1:FA:473:GLN:HG2  | 2.00                     | 0.44              |
| 1:GA:701:ARG:HH21 | 1:GA:703:ASN:ND2  | 2.16                     | 0.44              |
| 1:HA:339:THR:HG22 | 1:HA:404:ARG:HG3  | 1.99                     | 0.44              |
| 1:HA:460:LEU:HD11 | 1:BB:488:VAL:HG12 | 1.99                     | 0.44              |
| 1:HA:479:PRO:CG   | 1:BB:508:TYR:CD1  | 3.00                     | 0.44              |
| 1:IA:228:TRP:HE3  | 1:KA:402:MET:HE3  | 1.82                     | 0.44              |
| 1:JA:403:LEU:HD11 | 1:JA:409:PHE:HB2  | 1.99                     | 0.44              |
| 1:JA:701:ARG:HH21 | 1:JA:703:ASN:ND2  | 2.16                     | 0.44              |
| 1:LA:701:ARG:HH21 | 1:LA:703:ASN:ND2  | 2.16                     | 0.44              |
| 1:MA:460:LEU:HD11 | 1:RA:488:VAL:HG12 | 1.99                     | 0.44              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:QA:294:ARG:NE   | 1:EB:705:GLU:HG3  | 2.32                     | 0.44              |
| 1:RA:339:THR:HG22 | 1:RA:404:ARG:HG3  | 1.99                     | 0.44              |
| 1:SA:465:ALA:HB1  | 1:SA:473:GLN:HG2  | 2.00                     | 0.44              |
| 1:UA:488:VAL:HG12 | 1:HB:460:LEU:HD11 | 1.99                     | 0.44              |
| 1:XA:339:THR:HG22 | 1:XA:404:ARG:HG3  | 1.99                     | 0.44              |
| 1:XA:460:LEU:HD11 | 1:EB:488:VAL:HG12 | 1.99                     | 0.44              |
| 1:XA:701:ARG:HH21 | 1:XA:703:ASN:ND2  | 2.16                     | 0.44              |
| 1:DB:403:LEU:HD11 | 1:DB:409:PHE:HB2  | 1.99                     | 0.44              |
| 1:HB:403:LEU:HD11 | 1:HB:409:PHE:HB2  | 1.99                     | 0.44              |
| 1:HB:701:ARG:HH21 | 1:HB:703:ASN:ND2  | 2.16                     | 0.44              |
| 1:B:228:TRP:HE3   | 1:YA:402:MET:HE3  | 1.82                     | 0.44              |
| 1:C:425:ALA:HB3   | 1:CA:389:ARG:HD3  | 2.00                     | 0.44              |
| 1:C:701:ARG:HH21  | 1:C:703:ASN:ND2   | 2.16                     | 0.44              |
| 1:D:436:PRO:HG3   | 1:K:378:LEU:HD21  | 1.99                     | 0.44              |
| 1:F:228:TRP:HE3   | 1:FB:402:MET:HE3  | 1.82                     | 0.44              |
| 1:I:339:THR:HG22  | 1:I:404:ARG:HG3   | 1.99                     | 0.44              |
| 1:I:436:PRO:HG3   | 1:P:378:LEU:HD21  | 1.99                     | 0.44              |
| 1:I:696:LYS:HA    | 1:I:696:LYS:HD3   | 1.73                     | 0.44              |
| 1:J:402:MET:HE3   | 1:W:228:TRP:HE3   | 1.82                     | 0.44              |
| 1:J:480:GLY:HA3   | 1:J:614:TRP:HB3   | 2.00                     | 0.44              |
| 1:L:425:ALA:HB3   | 1:FB:389:ARG:HD3  | 2.00                     | 0.44              |
| 1:O:460:LEU:HD11  | 1:Y:488:VAL:HG12  | 1.99                     | 0.44              |
| 1:Q:465:ALA:HB1   | 1:Q:473:GLN:HG2   | 2.00                     | 0.44              |
| 1:V:402:MET:HE3   | 1:DA:228:TRP:HE3  | 1.82                     | 0.44              |
| 1:W:705:GLU:HG3   | 1:KA:294:ARG:NE   | 2.32                     | 0.44              |
| 1:AA:339:THR:HG22 | 1:AA:404:ARG:HG3  | 1.99                     | 0.44              |
| 1:BA:403:LEU:HD11 | 1:BA:409:PHE:HB2  | 1.99                     | 0.44              |
| 1:DA:615:GLN:NE2  | 1:KA:633:ASP:N    | 2.63                     | 0.44              |
| 1:IA:701:ARG:HH21 | 1:IA:703:ASN:ND2  | 2.16                     | 0.44              |
| 1:KA:465:ALA:HB1  | 1:KA:473:GLN:HG2  | 2.00                     | 0.44              |
| 1:MA:465:ALA:HB1  | 1:MA:473:GLN:HG2  | 2.00                     | 0.44              |
| 1:NA:403:LEU:HD11 | 1:NA:409:PHE:HB2  | 1.99                     | 0.44              |
| 1:NA:701:ARG:HH21 | 1:NA:703:ASN:ND2  | 2.16                     | 0.44              |
| 1:OA:378:LEU:HD21 | 1:PA:436:PRO:HG3  | 1.99                     | 0.44              |
| 1:PA:488:VAL:HG12 | 1:CB:460:LEU:HD11 | 1.99                     | 0.44              |
| 1:SA:460:LEU:HD11 | 1:ZA:488:VAL:HG12 | 1.99                     | 0.44              |
| 1:UA:705:GLU:HG3  | 1:AB:294:ARG:NE   | 2.32                     | 0.44              |
| 1:XA:294:ARG:NE   | 1:CB:705:GLU:HG3  | 2.32                     | 0.44              |
| 1:YA:465:ALA:HB1  | 1:YA:473:GLN:HG2  | 2.00                     | 0.44              |
| 1:EB:480:GLY:HA3  | 1:EB:614:TRP:HB3  | 1.99                     | 0.44              |
| 1:FB:465:ALA:HB1  | 1:FB:473:GLN:HG2  | 2.00                     | 0.44              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:IB:465:ALA:HB1  | 1:IB:473:GLN:HG2  | 2.00                     | 0.44              |
| 1:A:378:LEU:HD21  | 1:N:436:PRO:HG3   | 1.99                     | 0.44              |
| 1:B:402:MET:HE3   | 1:V:228:TRP:HE3   | 1.83                     | 0.44              |
| 1:B:705:GLU:HG3   | 1:P:294:ARG:NE    | 2.32                     | 0.44              |
| 1:D:460:LEU:HD11  | 1:K:488:VAL:HG12  | 1.99                     | 0.44              |
| 1:D:633:ASP:N     | 1:DB:615:GLN:NE2  | 2.63                     | 0.44              |
| 1:F:488:VAL:HG12  | 1:S:460:LEU:HD11  | 1.99                     | 0.44              |
| 1:J:294:ARG:NE    | 1:M:705:GLU:HG3   | 2.32                     | 0.44              |
| 1:K:228:TRP:HE3   | 1:VA:402:MET:HE3  | 1.83                     | 0.44              |
| 1:L:701:ARG:HH21  | 1:L:703:ASN:ND2   | 2.16                     | 0.44              |
| 1:O:402:MET:HE3   | 1:BA:228:TRP:HE3  | 1.82                     | 0.44              |
| 1:P:479:PRO:CG    | 1:YA:508:TYR:CD1  | 3.00                     | 0.44              |
| 1:Q:228:TRP:HE3   | 1:IB:402:MET:HE3  | 1.82                     | 0.44              |
| 1:Q:402:MET:HE3   | 1:AA:228:TRP:HE3  | 1.83                     | 0.44              |
| 1:R:436:PRO:HG3   | 1:X:378:LEU:HD21  | 1.99                     | 0.44              |
| 1:T:701:ARG:HH21  | 1:T:703:ASN:ND2   | 2.16                     | 0.44              |
| 1:V:389:ARG:HD3   | 1:IA:425:ALA:HB3  | 2.00                     | 0.44              |
| 1:W:389:ARG:HD3   | 1:FB:425:ALA:HB3  | 2.00                     | 0.44              |
| 1:Y:465:ALA:HB1   | 1:Y:473:GLN:HG2   | 2.00                     | 0.44              |
| 1:Y:479:PRO:CG    | 1:FA:508:TYR:CD1  | 3.00                     | 0.44              |
| 1:AA:378:LEU:HD21 | 1:NA:436:PRO:HG3  | 1.99                     | 0.44              |
| 1:CA:339:THR:HG22 | 1:CA:404:ARG:HG3  | 1.99                     | 0.44              |
| 1:DA:465:ALA:HB1  | 1:DA:473:GLN:HG2  | 2.00                     | 0.44              |
| 1:EA:228:TRP:HE3  | 1:BB:402:MET:HE3  | 1.82                     | 0.44              |
| 1:FA:339:THR:HG22 | 1:FA:404:ARG:HG3  | 1.99                     | 0.44              |
| 1:HA:425:ALA:HB3  | 1:BB:389:ARG:HD3  | 2.00                     | 0.44              |
| 1:IA:403:LEU:HD11 | 1:IA:409:PHE:HB2  | 1.99                     | 0.44              |
| 1:JA:378:LEU:HD21 | 1:ZA:436:PRO:HG3  | 1.99                     | 0.44              |
| 1:JA:488:VAL:HG12 | 1:ZA:460:LEU:HD11 | 1.99                     | 0.44              |
| 1:JA:696:LYS:HA   | 1:JA:696:LYS:HD3  | 1.73                     | 0.44              |
| 1:JA:726:GLY:HA3  | 1:GB:257:TYR:O    | 2.16                     | 0.44              |
| 1:LA:488:VAL:HG12 | 1:AB:460:LEU:HD11 | 1.99                     | 0.44              |
| 1:MA:425:ALA:HB3  | 1:RA:389:ARG:HD3  | 2.00                     | 0.44              |
| 1:MA:701:ARG:HH21 | 1:MA:703:ASN:ND2  | 2.16                     | 0.44              |
| 1:OA:488:VAL:HG12 | 1:PA:460:LEU:HD11 | 1.99                     | 0.44              |
| 1:OA:701:ARG:HH21 | 1:OA:703:ASN:ND2  | 2.16                     | 0.44              |
| 1:OA:726:GLY:HA3  | 1:WA:257:TYR:O    | 2.16                     | 0.44              |
| 1:PA:701:ARG:HH21 | 1:PA:703:ASN:ND2  | 2.16                     | 0.44              |
| 1:TA:403:LEU:HD11 | 1:TA:409:PHE:HB2  | 1.99                     | 0.44              |
| 1:UA:480:GLY:HA3  | 1:UA:614:TRP:HB3  | 1.99                     | 0.44              |
| 1:VA:465:ALA:HB1  | 1:VA:473:GLN:HG2  | 2.00                     | 0.44              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:XA:403:LEU:HD11 | 1:XA:409:PHE:HB2  | 1.99                     | 0.44              |
| 1:ZA:696:LYS:HD3  | 1:ZA:696:LYS:HA   | 1.73                     | 0.44              |
| 1:ZA:701:ARG:HH21 | 1:ZA:703:ASN:ND2  | 2.16                     | 0.44              |
| 1:CB:701:ARG:HH21 | 1:CB:703:ASN:ND2  | 2.16                     | 0.44              |
| 1:DB:696:LYS:HD3  | 1:DB:696:LYS:HA   | 1.73                     | 0.44              |
| 1:A:488:VAL:HG12  | 1:N:460:LEU:HD11  | 1.99                     | 0.44              |
| 1:C:480:GLY:HA3   | 1:C:614:TRP:HB3   | 1.99                     | 0.44              |
| 1:D:257:TYR:O     | 1:WA:726:GLY:HA3  | 2.16                     | 0.44              |
| 1:D:479:PRO:CG    | 1:K:508:TYR:CD1   | 3.00                     | 0.44              |
| 1:E:701:ARG:HH21  | 1:E:703:ASN:ND2   | 2.16                     | 0.44              |
| 1:G:425:ALA:HB3   | 1:VA:389:ARG:HD3  | 2.00                     | 0.44              |
| 1:G:701:ARG:HH21  | 1:G:703:ASN:ND2   | 2.16                     | 0.44              |
| 1:H:425:ALA:HB3   | 1:MA:389:ARG:HD3  | 2.00                     | 0.44              |
| 1:L:460:LEU:HD11  | 1:FB:488:VAL:HG12 | 1.99                     | 0.44              |
| 1:L:465:ALA:HB1   | 1:L:473:GLN:HG2   | 2.00                     | 0.44              |
| 1:L:701:ARG:HH21  | 1:L:703:ASN:HD21  | 1.66                     | 0.44              |
| 1:M:389:ARG:HD3   | 1:BB:425:ALA:HB3  | 2.00                     | 0.44              |
| 1:M:425:ALA:HB3   | 1:HA:389:ARG:HD3  | 2.00                     | 0.44              |
| 1:M:701:ARG:HH21  | 1:M:703:ASN:ND2   | 2.16                     | 0.44              |
| 1:N:488:VAL:HG12  | 1:IB:460:LEU:HD11 | 1.99                     | 0.44              |
| 1:R:402:MET:HE3   | 1:DB:228:TRP:HE3  | 1.82                     | 0.44              |
| 1:R:425:ALA:HB3   | 1:X:389:ARG:HD3   | 2.00                     | 0.44              |
| 1:R:480:GLY:HA3   | 1:R:614:TRP:HB3   | 1.99                     | 0.44              |
| 1:S:402:MET:HE3   | 1:GB:228:TRP:HE3  | 1.83                     | 0.44              |
| 1:W:403:LEU:HD11  | 1:W:409:PHE:HB2   | 1.99                     | 0.44              |
| 1:W:480:GLY:HA3   | 1:W:614:TRP:HB3   | 1.99                     | 0.44              |
| 1:W:488:VAL:HG12  | 1:FB:460:LEU:HD11 | 1.99                     | 0.44              |
| 1:W:701:ARG:HH21  | 1:W:703:ASN:ND2   | 2.16                     | 0.44              |
| 1:X:339:THR:HG22  | 1:X:404:ARG:HG3   | 1.99                     | 0.44              |
| 1:X:465:ALA:HB1   | 1:X:473:GLN:HG2   | 2.00                     | 0.44              |
| 1:X:696:LYS:HD3   | 1:X:696:LYS:HA    | 1.73                     | 0.44              |
| 1:Y:615:GLN:NE2   | 1:FA:633:ASP:N    | 2.63                     | 0.44              |
| 1:Z:228:TRP:HE3   | 1:RA:402:MET:HE3  | 1.82                     | 0.44              |
| 1:BA:480:GLY:HA3  | 1:BA:614:TRP:HB3  | 1.99                     | 0.44              |
| 1:BA:701:ARG:HH21 | 1:BA:703:ASN:ND2  | 2.16                     | 0.44              |
| 1:CA:465:ALA:HB1  | 1:CA:473:GLN:HG2  | 2.00                     | 0.44              |
| 1:GA:488:VAL:HG12 | 1:QA:460:LEU:HD11 | 1.99                     | 0.44              |
| 1:HA:701:ARG:HH21 | 1:HA:703:ASN:ND2  | 2.16                     | 0.44              |
| 1:JA:228:TRP:HE3  | 1:GB:402:MET:HE3  | 1.82                     | 0.44              |
| 1:NA:465:ALA:HB1  | 1:NA:473:GLN:HG2  | 2.00                     | 0.44              |
| 1:OA:228:TRP:HE3  | 1:WA:402:MET:HE3  | 1.82                     | 0.44              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:QA:403:LEU:HD11 | 1:QA:409:PHE:HB2  | 1.99                     | 0.44              |
| 1:RA:403:LEU:HD11 | 1:RA:409:PHE:HB2  | 1.99                     | 0.44              |
| 1:SA:701:ARG:HH21 | 1:SA:703:ASN:ND2  | 2.16                     | 0.44              |
| 1:TA:294:ARG:NE   | 1:GB:705:GLU:HG3  | 2.32                     | 0.44              |
| 1:UA:701:ARG:HH21 | 1:UA:703:ASN:HD21 | 1.66                     | 0.44              |
| 1:VA:480:GLY:HA3  | 1:VA:614:TRP:HB3  | 1.99                     | 0.44              |
| 1:WA:705:GLU:HG3  | 1:DB:294:ARG:NE   | 2.32                     | 0.44              |
| 1:AB:403:LEU:HD11 | 1:AB:409:PHE:HB2  | 1.99                     | 0.44              |
| 1:BB:403:LEU:HD11 | 1:BB:409:PHE:HB2  | 1.98                     | 0.44              |
| 1:EB:701:ARG:HH21 | 1:EB:703:ASN:HD21 | 1.66                     | 0.44              |
| 1:FB:480:GLY:HA3  | 1:FB:614:TRP:HB3  | 1.99                     | 0.44              |
| 1:A:294:ARG:NE    | 1:Q:705:GLU:HG3   | 2.32                     | 0.44              |
| 1:A:479:PRO:CG    | 1:IB:508:TYR:CD1  | 3.00                     | 0.44              |
| 1:B:480:GLY:HA3   | 1:B:614:TRP:HB3   | 1.99                     | 0.44              |
| 1:B:701:ARG:HH21  | 1:B:703:ASN:HD21  | 1.66                     | 0.44              |
| 1:D:701:ARG:HH21  | 1:D:703:ASN:ND2   | 2.16                     | 0.44              |
| 1:F:425:ALA:HB3   | 1:TA:389:ARG:HD3  | 2.00                     | 0.44              |
| 1:G:460:LEU:HD11  | 1:VA:488:VAL:HG12 | 1.99                     | 0.44              |
| 1:G:465:ALA:HB1   | 1:G:473:GLN:HG2   | 2.00                     | 0.44              |
| 1:G:633:ASP:N     | 1:BA:615:GLN:NE2  | 2.63                     | 0.44              |
| 1:G:701:ARG:HH21  | 1:G:703:ASN:HD21  | 1.66                     | 0.44              |
| 1:H:705:GLU:HG3   | 1:O:294:ARG:NE    | 2.32                     | 0.44              |
| 1:L:479:PRO:CG    | 1:FB:508:TYR:CD1  | 3.00                     | 0.44              |
| 1:Q:480:GLY:HA3   | 1:Q:614:TRP:HB3   | 1.99                     | 0.44              |
| 1:Q:615:GLN:NE2   | 1:QA:633:ASP:N    | 2.63                     | 0.44              |
| 1:Q:701:ARG:HH21  | 1:Q:703:ASN:HD21  | 1.66                     | 0.44              |
| 1:S:701:ARG:HH21  | 1:S:703:ASN:ND2   | 2.16                     | 0.44              |
| 1:T:480:GLY:HA3   | 1:T:614:TRP:HB3   | 1.99                     | 0.44              |
| 1:V:378:LEU:HD21  | 1:IA:436:PRO:HG3  | 1.99                     | 0.44              |
| 1:V:633:ASP:N     | 1:IA:615:GLN:NE2  | 2.63                     | 0.44              |
| 1:X:425:ALA:HB3   | 1:WA:389:ARG:HD3  | 2.00                     | 0.44              |
| 1:Z:701:ARG:HH21  | 1:Z:703:ASN:ND2   | 2.16                     | 0.44              |
| 1:AA:633:ASP:N    | 1:NA:615:GLN:NE2  | 2.63                     | 0.44              |
| 1:BA:257:TYR:O    | 1:ZA:726:GLY:HA3  | 2.16                     | 0.44              |
| 1:BA:488:VAL:HG12 | 1:VA:460:LEU:HD11 | 1.99                     | 0.44              |
| 1:CA:460:LEU:HD11 | 1:GB:488:VAL:HG12 | 1.99                     | 0.44              |
| 1:EA:701:ARG:HH21 | 1:EA:703:ASN:ND2  | 2.16                     | 0.44              |
| 1:IA:465:ALA:HB1  | 1:IA:473:GLN:HG2  | 2.00                     | 0.44              |
| 1:IA:696:LYS:HA   | 1:IA:696:LYS:HD3  | 1.73                     | 0.44              |
| 1:KA:339:THR:HG22 | 1:KA:404:ARG:HG3  | 1.99                     | 0.44              |
| 1:LA:402:MET:HE3  | 1:UA:228:TRP:HE3  | 1.83                     | 0.44              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:MA:403:LEU:HD11 | 1:MA:409:PHE:HB2  | 1.99                     | 0.44              |
| 1:PA:633:ASP:N    | 1:CB:615:GLN:NE2  | 2.63                     | 0.44              |
| 1:BB:701:ARG:HH21 | 1:BB:703:ASN:ND2  | 2.16                     | 0.44              |
| 1:GB:701:ARG:HH21 | 1:GB:703:ASN:ND2  | 2.16                     | 0.44              |
| 1:B:615:GLN:NE2   | 1:AB:633:ASP:N    | 2.63                     | 0.44              |
| 1:C:402:MET:HE3   | 1:TA:228:TRP:HE3  | 1.82                     | 0.44              |
| 1:D:402:MET:HE3   | 1:WA:228:TRP:HE3  | 1.83                     | 0.44              |
| 1:E:480:GLY:HA3   | 1:E:614:TRP:HB3   | 1.99                     | 0.44              |
| 1:F:479:PRO:CG    | 1:TA:508:TYR:CD1  | 3.00                     | 0.44              |
| 1:H:389:ARG:HD3   | 1:RA:425:ALA:HB3  | 2.00                     | 0.44              |
| 1:H:696:LYS:HD3   | 1:H:696:LYS:HA    | 1.73                     | 0.44              |
| 1:H:701:ARG:HH21  | 1:H:703:ASN:ND2   | 2.16                     | 0.44              |
| 1:K:425:ALA:HB3   | 1:DB:389:ARG:HD3  | 2.00                     | 0.44              |
| 1:K:479:PRO:CG    | 1:DB:508:TYR:CD1  | 3.00                     | 0.44              |
| 1:M:228:TRP:HE3   | 1:DA:402:MET:HE3  | 1.83                     | 0.44              |
| 1:O:465:ALA:HB1   | 1:O:473:GLN:HG2   | 2.00                     | 0.44              |
| 1:O:726:GLY:HA3   | 1:MA:257:TYR:O    | 2.16                     | 0.44              |
| 1:Q:508:TYR:CD1   | 1:GA:479:PRO:CG   | 3.00                     | 0.44              |
| 1:S:257:TYR:O     | 1:GB:726:GLY:HA3  | 2.16                     | 0.44              |
| 1:S:633:ASP:N     | 1:TA:615:GLN:NE2  | 2.63                     | 0.44              |
| 1:V:488:VAL:HG12  | 1:IA:460:LEU:HD11 | 1.99                     | 0.44              |
| 1:X:460:LEU:HD11  | 1:WA:488:VAL:HG12 | 1.99                     | 0.44              |
| 1:Z:257:TYR:O     | 1:AB:726:GLY:HA3  | 2.16                     | 0.44              |
| 1:Z:488:VAL:HG12  | 1:UA:460:LEU:HD11 | 1.99                     | 0.44              |
| 1:CA:696:LYS:HD3  | 1:CA:696:LYS:HA   | 1.73                     | 0.44              |
| 1:EA:257:TYR:O    | 1:QA:726:GLY:HA3  | 2.16                     | 0.44              |
| 1:HA:403:LEU:HD11 | 1:HA:409:PHE:HB2  | 1.99                     | 0.44              |
| 1:JA:701:ARG:HH21 | 1:JA:703:ASN:HD21 | 1.66                     | 0.44              |
| 1:LA:389:ARG:HD3  | 1:AB:425:ALA:HB3  | 2.00                     | 0.44              |
| 1:NA:696:LYS:HA   | 1:NA:696:LYS:HD3  | 1.73                     | 0.44              |
| 1:OA:701:ARG:HH21 | 1:OA:703:ASN:HD21 | 1.66                     | 0.44              |
| 1:PA:390:SER:O    | 1:CB:701:ARG:NH2  | 2.51                     | 0.44              |
| 1:RA:465:ALA:HB1  | 1:RA:473:GLN:HG2  | 2.00                     | 0.44              |
| 1:SA:701:ARG:NH2  | 1:ZA:390:SER:O    | 2.51                     | 0.44              |
| 1:TA:701:ARG:HH21 | 1:TA:703:ASN:HD21 | 1.66                     | 0.44              |
| 1:XA:425:ALA:HB3  | 1:EB:389:ARG:HD3  | 2.00                     | 0.44              |
| 1:ZA:257:TYR:O    | 1:HB:726:GLY:HA3  | 2.16                     | 0.44              |
| 1:ZA:465:ALA:HB1  | 1:ZA:473:GLN:HG2  | 2.00                     | 0.44              |
| 1:CB:228:TRP:HE3  | 1:EB:402:MET:HE3  | 1.82                     | 0.44              |
| 1:DB:701:ARG:HH21 | 1:DB:703:ASN:HD21 | 1.66                     | 0.44              |
| 1:A:465:ALA:HB1   | 1:A:473:GLN:HG2   | 2.00                     | 0.43              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:B:508:TYR:CD1   | 1:LA:479:PRO:CG   | 3.00                     | 0.43              |
| 1:C:228:TRP:HE3   | 1:IA:402:MET:HE3  | 1.83                     | 0.43              |
| 1:D:701:ARG:HH21  | 1:D:703:ASN:HD21  | 1.66                     | 0.43              |
| 1:F:508:TYR:CD1   | 1:S:479:PRO:CG    | 3.00                     | 0.43              |
| 1:G:479:PRO:CG    | 1:VA:508:TYR:CD1  | 3.00                     | 0.43              |
| 1:H:257:TYR:O     | 1:IB:726:GLY:HA3  | 2.16                     | 0.43              |
| 1:I:701:ARG:HH21  | 1:I:703:ASN:ND2   | 2.16                     | 0.43              |
| 1:L:696:LYS:HD3   | 1:L:696:LYS:HA    | 1.73                     | 0.43              |
| 1:N:701:ARG:HH21  | 1:N:703:ASN:ND2   | 2.16                     | 0.43              |
| 1:O:378:LEU:HD21  | 1:FA:436:PRO:HG3  | 1.99                     | 0.43              |
| 1:O:701:ARG:NH2   | 1:Y:390:SER:O     | 2.51                     | 0.43              |
| 1:P:436:PRO:HG3   | 1:YA:378:LEU:HD21 | 1.99                     | 0.43              |
| 1:P:465:ALA:HB1   | 1:P:473:GLN:HG2   | 2.00                     | 0.43              |
| 1:P:701:ARG:NH2   | 1:YA:390:SER:O    | 2.51                     | 0.43              |
| 1:Q:390:SER:O     | 1:GA:701:ARG:NH2  | 2.51                     | 0.43              |
| 1:S:389:ARG:HD3   | 1:TA:425:ALA:HB3  | 2.00                     | 0.43              |
| 1:V:294:ARG:NE    | 1:LA:705:GLU:HG3  | 2.32                     | 0.43              |
| 1:V:390:SER:O     | 1:IA:701:ARG:NH2  | 2.51                     | 0.43              |
| 1:W:257:TYR:O     | 1:PA:726:GLY:HA3  | 2.16                     | 0.43              |
| 1:AA:390:SER:O    | 1:NA:701:ARG:NH2  | 2.51                     | 0.43              |
| 1:CA:425:ALA:HB3  | 1:GB:389:ARG:HD3  | 2.00                     | 0.43              |
| 1:EA:403:LEU:HD11 | 1:EA:409:PHE:HB2  | 1.99                     | 0.43              |
| 1:GA:389:ARG:HD3  | 1:QA:425:ALA:HB3  | 2.00                     | 0.43              |
| 1:GA:402:MET:HE3  | 1:EB:228:TRP:HE3  | 1.83                     | 0.43              |
| 1:MA:701:ARG:NH2  | 1:RA:390:SER:O    | 2.51                     | 0.43              |
| 1:PA:465:ALA:HB1  | 1:PA:473:GLN:HG2  | 2.00                     | 0.43              |
| 1:RA:701:ARG:HH21 | 1:RA:703:ASN:ND2  | 2.16                     | 0.43              |
| 1:SA:228:TRP:HE3  | 1:UA:402:MET:HE3  | 1.82                     | 0.43              |
| 1:SA:615:GLN:NE2  | 1:ZA:633:ASP:N    | 2.63                     | 0.43              |
| 1:WA:701:ARG:HH21 | 1:WA:703:ASN:ND2  | 2.16                     | 0.43              |
| 1:YA:701:ARG:HH21 | 1:YA:703:ASN:HD21 | 1.66                     | 0.43              |
| 1:A:701:ARG:HH21  | 1:A:703:ASN:ND2   | 2.16                     | 0.43              |
| 1:A:701:ARG:NH2   | 1:IB:390:SER:O    | 2.52                     | 0.43              |
| 1:B:390:SER:O     | 1:LA:701:ARG:NH2  | 2.52                     | 0.43              |
| 1:B:488:VAL:HG12  | 1:LA:460:LEU:HD11 | 1.99                     | 0.43              |
| 1:C:403:LEU:HD11  | 1:C:409:PHE:HB2   | 1.99                     | 0.43              |
| 1:C:460:LEU:HD11  | 1:CA:488:VAL:HG12 | 1.99                     | 0.43              |
| 1:D:378:LEU:HD21  | 1:DB:436:PRO:HG3  | 1.99                     | 0.43              |
| 1:D:389:ARG:HD3   | 1:DB:425:ALA:HB3  | 2.00                     | 0.43              |
| 1:E:425:ALA:HB3   | 1:NA:389:ARG:HD3  | 2.00                     | 0.43              |
| 1:G:390:SER:O     | 1:BA:701:ARG:NH2  | 2.51                     | 0.43              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:J:701:ARG:NH2   | 1:DA:390:SER:O    | 2.51                     | 0.43              |
| 1:L:390:SER:O     | 1:W:701:ARG:NH2   | 2.51                     | 0.43              |
| 1:L:633:ASP:N     | 1:W:615:GLN:NE2   | 2.63                     | 0.43              |
| 1:Q:425:ALA:HB3   | 1:QA:389:ARG:HD3  | 2.00                     | 0.43              |
| 1:R:615:GLN:NE2   | 1:X:633:ASP:N     | 2.63                     | 0.43              |
| 1:S:378:LEU:HD21  | 1:TA:436:PRO:HG3  | 1.99                     | 0.43              |
| 1:T:228:TRP:HE3   | 1:CA:402:MET:HE3  | 1.83                     | 0.43              |
| 1:V:696:LYS:HD3   | 1:V:696:LYS:HA    | 1.73                     | 0.43              |
| 1:Z:403:LEU:HD11  | 1:Z:409:PHE:HB2   | 1.99                     | 0.43              |
| 1:AA:294:ARG:NE   | 1:GA:705:GLU:HG3  | 2.32                     | 0.43              |
| 1:AA:488:VAL:HG12 | 1:NA:460:LEU:HD11 | 1.99                     | 0.43              |
| 1:EA:479:PRO:CG   | 1:XA:508:TYR:CD1  | 3.00                     | 0.43              |
| 1:GA:465:ALA:HB1  | 1:GA:473:GLN:HG2  | 2.00                     | 0.43              |
| 1:HA:701:ARG:NH2  | 1:BB:390:SER:O    | 2.51                     | 0.43              |
| 1:LA:465:ALA:HB1  | 1:LA:473:GLN:HG2  | 2.00                     | 0.43              |
| 1:PA:257:TYR:O    | 1:XA:726:GLY:HA3  | 2.16                     | 0.43              |
| 1:QA:480:GLY:HA3  | 1:QA:614:TRP:HB3  | 1.99                     | 0.43              |
| 1:QA:701:ARG:HH21 | 1:QA:703:ASN:ND2  | 2.16                     | 0.43              |
| 1:UA:389:ARG:HD3  | 1:HB:425:ALA:HB3  | 2.00                     | 0.43              |
| 1:VA:701:ARG:HH21 | 1:VA:703:ASN:HD21 | 1.66                     | 0.43              |
| 1:AB:701:ARG:HH21 | 1:AB:703:ASN:ND2  | 2.16                     | 0.43              |
| 1:FB:701:ARG:HH21 | 1:FB:703:ASN:HD21 | 1.66                     | 0.43              |
| 1:GB:465:ALA:HB1  | 1:GB:473:GLN:HG2  | 2.00                     | 0.43              |
| 1:IB:701:ARG:HH21 | 1:IB:703:ASN:HD21 | 1.66                     | 0.43              |
| 1:A:425:ALA:HB3   | 1:IB:389:ARG:HD3  | 2.00                     | 0.43              |
| 1:B:389:ARG:HD3   | 1:LA:425:ALA:HB3  | 2.00                     | 0.43              |
| 1:B:425:ALA:HB3   | 1:AB:389:ARG:HD3  | 2.00                     | 0.43              |
| 1:C:615:GLN:NE2   | 1:CA:633:ASP:N    | 2.63                     | 0.43              |
| 1:H:228:TRP:HE3   | 1:Y:402:MET:HE3   | 1.83                     | 0.43              |
| 1:I:701:ARG:HH21  | 1:I:703:ASN:HD21  | 1.66                     | 0.43              |
| 1:M:257:TYR:O     | 1:YA:726:GLY:HA3  | 2.16                     | 0.43              |
| 1:M:390:SER:O     | 1:BB:701:ARG:NH2  | 2.51                     | 0.43              |
| 1:O:228:TRP:HE3   | 1:MA:402:MET:HE3  | 1.83                     | 0.43              |
| 1:O:390:SER:O     | 1:FA:701:ARG:NH2  | 2.51                     | 0.43              |
| 1:P:460:LEU:HD11  | 1:YA:488:VAL:HG12 | 1.99                     | 0.43              |
| 1:P:701:ARG:HH21  | 1:P:703:ASN:ND2   | 2.16                     | 0.43              |
| 1:Q:479:PRO:CG    | 1:QA:508:TYR:CD1  | 3.00                     | 0.43              |
| 1:Q:488:VAL:HG12  | 1:GA:460:LEU:HD11 | 1.99                     | 0.43              |
| 1:R:228:TRP:HE3   | 1:NA:402:MET:HE3  | 1.83                     | 0.43              |
| 1:R:403:LEU:HD11  | 1:R:409:PHE:HB2   | 1.99                     | 0.43              |
| 1:R:460:LEU:HD11  | 1:X:488:VAL:HG12  | 1.99                     | 0.43              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:R:701:ARG:HH21  | 1:R:703:ASN:HD21  | 1.66                     | 0.43              |
| 1:S:701:ARG:HH21  | 1:S:703:ASN:HD21  | 1.66                     | 0.43              |
| 1:T:425:ALA:HB3   | 1:IA:389:ARG:HD3  | 2.00                     | 0.43              |
| 1:V:465:ALA:HB1   | 1:V:473:GLN:HG2   | 2.00                     | 0.43              |
| 1:Z:701:ARG:HH21  | 1:Z:703:ASN:HD21  | 1.66                     | 0.43              |
| 1:AA:465:ALA:HB1  | 1:AA:473:GLN:HG2  | 2.00                     | 0.43              |
| 1:EA:460:LEU:HD11 | 1:XA:488:VAL:HG12 | 1.99                     | 0.43              |
| 1:FA:701:ARG:HH21 | 1:FA:703:ASN:ND2  | 2.16                     | 0.43              |
| 1:KA:701:ARG:HH21 | 1:KA:703:ASN:ND2  | 2.16                     | 0.43              |
| 1:PA:389:ARG:HD3  | 1:CB:425:ALA:HB3  | 2.00                     | 0.43              |
| 1:PA:701:ARG:HH21 | 1:PA:703:ASN:HD21 | 1.66                     | 0.43              |
| 1:RA:268:ASN:HA   | 1:RA:271:HIS:CD2  | 2.54                     | 0.43              |
| 1:WA:465:ALA:HB1  | 1:WA:473:GLN:HG2  | 2.00                     | 0.43              |
| 1:ZA:403:LEU:HD11 | 1:ZA:409:PHE:HB2  | 1.99                     | 0.43              |
| 1:AB:480:GLY:HA3  | 1:AB:614:TRP:HB3  | 1.99                     | 0.43              |
| 1:BB:268:ASN:HA   | 1:BB:271:HIS:CD2  | 2.54                     | 0.43              |
| 1:BB:465:ALA:HB1  | 1:BB:473:GLN:HG2  | 2.00                     | 0.43              |
| 1:A:436:PRO:HG3   | 1:IB:378:LEU:HD21 | 1.99                     | 0.43              |
| 1:A:460:LEU:HD11  | 1:IB:488:VAL:HG12 | 1.99                     | 0.43              |
| 1:C:390:SER:O     | 1:GB:701:ARG:NH2  | 2.51                     | 0.43              |
| 1:E:228:TRP:HE3   | 1:X:402:MET:HE3   | 1.83                     | 0.43              |
| 1:F:701:ARG:NH2   | 1:TA:390:SER:O    | 2.51                     | 0.43              |
| 1:G:696:LYS:HD3   | 1:G:696:LYS:HA    | 1.73                     | 0.43              |
| 1:H:701:ARG:HH21  | 1:H:703:ASN:HD21  | 1.66                     | 0.43              |
| 1:J:228:TRP:HE3   | 1:HA:402:MET:HE3  | 1.83                     | 0.43              |
| 1:J:465:ALA:HB1   | 1:J:473:GLN:HG2   | 2.00                     | 0.43              |
| 1:K:701:ARG:NH2   | 1:DB:390:SER:O    | 2.51                     | 0.43              |
| 1:M:701:ARG:HH21  | 1:M:703:ASN:HD21  | 1.66                     | 0.43              |
| 1:Q:389:ARG:HD3   | 1:GA:425:ALA:HB3  | 2.00                     | 0.43              |
| 1:R:390:SER:O     | 1:WA:701:ARG:NH2  | 2.51                     | 0.43              |
| 1:T:378:LEU:HD21  | 1:V:436:PRO:HG3   | 1.99                     | 0.43              |
| 1:V:480:GLY:HA3   | 1:V:614:TRP:HB3   | 1.99                     | 0.43              |
| 1:W:390:SER:O     | 1:FB:701:ARG:NH2  | 2.51                     | 0.43              |
| 1:W:701:ARG:HH21  | 1:W:703:ASN:HD21  | 1.66                     | 0.43              |
| 1:X:302:ASN:OD1   | 1:OA:302:ASN:OD1  | 2.37                     | 0.43              |
| 1:Z:465:ALA:HB1   | 1:Z:473:GLN:HG2   | 2.00                     | 0.43              |
| 1:BA:390:SER:O    | 1:VA:701:ARG:NH2  | 2.51                     | 0.43              |
| 1:BA:508:TYR:CD1  | 1:VA:479:PRO:CG   | 3.00                     | 0.43              |
| 1:BA:701:ARG:HH21 | 1:BA:703:ASN:HD21 | 1.66                     | 0.43              |
| 1:EA:701:ARG:HH21 | 1:EA:703:ASN:HD21 | 1.66                     | 0.43              |
| 1:PA:402:MET:HE3  | 1:XA:228:TRP:HE3  | 1.82                     | 0.43              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:WA:268:ASN:HA   | 1:WA:271:HIS:CD2  | 2.54                     | 0.43              |
| 1:XA:268:ASN:HA   | 1:XA:271:HIS:CD2  | 2.54                     | 0.43              |
| 1:ZA:701:ARG:HH21 | 1:ZA:703:ASN:HD21 | 1.66                     | 0.43              |
| 1:HB:268:ASN:HA   | 1:HB:271:HIS:CD2  | 2.54                     | 0.43              |
| 1:B:479:PRO:CG    | 1:AB:508:TYR:CD1  | 3.00                     | 0.43              |
| 1:C:701:ARG:HH21  | 1:C:703:ASN:HD21  | 1.66                     | 0.43              |
| 1:E:268:ASN:HA    | 1:E:271:HIS:CD2   | 2.54                     | 0.43              |
| 1:F:268:ASN:HA    | 1:F:271:HIS:CD2   | 2.54                     | 0.43              |
| 1:H:390:SER:O     | 1:RA:701:ARG:NH2  | 2.51                     | 0.43              |
| 1:H:479:PRO:CG    | 1:MA:508:TYR:CD1  | 3.00                     | 0.43              |
| 1:J:378:LEU:HD21  | 1:KA:436:PRO:HG3  | 1.99                     | 0.43              |
| 1:J:390:SER:O     | 1:KA:701:ARG:NH2  | 2.52                     | 0.43              |
| 1:J:726:GLY:HA3   | 1:HA:257:TYR:O    | 2.16                     | 0.43              |
| 1:K:268:ASN:HA    | 1:K:271:HIS:CD2   | 2.54                     | 0.43              |
| 1:M:696:LYS:HD3   | 1:M:696:LYS:HA    | 1.73                     | 0.43              |
| 1:N:465:ALA:HB1   | 1:N:473:GLN:HG2   | 2.00                     | 0.43              |
| 1:P:425:ALA:HB3   | 1:YA:389:ARG:HD3  | 2.00                     | 0.43              |
| 1:S:488:VAL:HG12  | 1:TA:460:LEU:HD11 | 1.99                     | 0.43              |
| 1:Z:268:ASN:HA    | 1:Z:271:HIS:CD2   | 2.54                     | 0.43              |
| 1:Z:425:ALA:HB3   | 1:HB:389:ARG:HD3  | 2.00                     | 0.43              |
| 1:Z:460:LEU:HD11  | 1:HB:488:VAL:HG12 | 1.98                     | 0.43              |
| 1:CA:302:ASN:OD1  | 1:JA:302:ASN:OD1  | 2.37                     | 0.43              |
| 1:EA:268:ASN:HA   | 1:EA:271:HIS:CD2  | 2.54                     | 0.43              |
| 1:FA:268:ASN:HA   | 1:FA:271:HIS:CD2  | 2.54                     | 0.43              |
| 1:GA:390:SER:O    | 1:QA:701:ARG:NH2  | 2.51                     | 0.43              |
| 1:GA:480:GLY:HA3  | 1:GA:614:TRP:HB3  | 1.99                     | 0.43              |
| 1:JA:465:ALA:HB1  | 1:JA:473:GLN:HG2  | 2.00                     | 0.43              |
| 1:KA:268:ASN:HA   | 1:KA:271:HIS:CD2  | 2.54                     | 0.43              |
| 1:LA:390:SER:O    | 1:AB:701:ARG:NH2  | 2.51                     | 0.43              |
| 1:MA:701:ARG:HH21 | 1:MA:703:ASN:HD21 | 1.66                     | 0.43              |
| 1:OA:390:SER:O    | 1:PA:701:ARG:NH2  | 2.51                     | 0.43              |
| 1:OA:465:ALA:HB1  | 1:OA:473:GLN:HG2  | 2.00                     | 0.43              |
| 1:PA:403:LEU:HD11 | 1:PA:409:PHE:HB2  | 1.99                     | 0.43              |
| 1:PA:480:GLY:HA3  | 1:PA:614:TRP:HB3  | 1.99                     | 0.43              |
| 1:QA:465:ALA:HB1  | 1:QA:473:GLN:HG2  | 2.00                     | 0.43              |
| 1:SA:425:ALA:HB3  | 1:ZA:389:ARG:HD3  | 2.00                     | 0.43              |
| 1:ZA:402:MET:HE3  | 1:HB:228:TRP:HE3  | 1.82                     | 0.43              |
| 1:ZA:480:GLY:HA3  | 1:ZA:614:TRP:HB3  | 1.99                     | 0.43              |
| 1:CB:701:ARG:HH21 | 1:CB:703:ASN:HD21 | 1.66                     | 0.43              |
| 1:GB:268:ASN:HA   | 1:GB:271:HIS:CD2  | 2.54                     | 0.43              |
| 1:D:488:VAL:HG12  | 1:DB:460:LEU:HD11 | 1.98                     | 0.43              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:E:701:ARG:NH2   | 1:NA:390:SER:O    | 2.52                     | 0.43              |
| 1:H:302:ASN:OD1   | 1:O:302:ASN:OD1   | 2.37                     | 0.43              |
| 1:I:302:ASN:OD1   | 1:N:302:ASN:OD1   | 2.37                     | 0.43              |
| 1:I:465:ALA:HB1   | 1:I:473:GLN:HG2   | 2.00                     | 0.43              |
| 1:J:302:ASN:OD1   | 1:M:302:ASN:OD1   | 2.37                     | 0.43              |
| 1:M:479:PRO:CG    | 1:HA:508:TYR:CD1  | 3.00                     | 0.43              |
| 1:N:701:ARG:HH21  | 1:N:703:ASN:HD21  | 1.66                     | 0.43              |
| 1:T:402:MET:HE3   | 1:LA:228:TRP:HE3  | 1.82                     | 0.43              |
| 1:T:701:ARG:NH2   | 1:IA:390:SER:O    | 2.52                     | 0.43              |
| 1:V:701:ARG:HH21  | 1:V:703:ASN:ND2   | 2.16                     | 0.43              |
| 1:W:508:TYR:CD1   | 1:FB:479:PRO:CG   | 3.00                     | 0.43              |
| 1:X:701:ARG:HH21  | 1:X:703:ASN:HD21  | 1.66                     | 0.43              |
| 1:X:701:ARG:NH2   | 1:WA:390:SER:O    | 2.52                     | 0.43              |
| 1:Z:479:PRO:CG    | 1:HB:508:TYR:CD1  | 3.00                     | 0.43              |
| 1:AA:480:GLY:HA3  | 1:AA:614:TRP:HB3  | 1.99                     | 0.43              |
| 1:CA:701:ARG:HH21 | 1:CA:703:ASN:HD21 | 1.66                     | 0.43              |
| 1:CA:701:ARG:NH2  | 1:GB:390:SER:O    | 2.51                     | 0.43              |
| 1:DA:425:ALA:HB3  | 1:KA:389:ARG:HD3  | 2.00                     | 0.43              |
| 1:EA:425:ALA:HB3  | 1:XA:389:ARG:HD3  | 2.00                     | 0.43              |
| 1:EA:465:ALA:HB1  | 1:EA:473:GLN:HG2  | 2.00                     | 0.43              |
| 1:FA:480:GLY:HA3  | 1:FA:614:TRP:HB3  | 1.99                     | 0.43              |
| 1:HA:701:ARG:HH21 | 1:HA:703:ASN:HD21 | 1.66                     | 0.43              |
| 1:JA:390:SER:O    | 1:ZA:701:ARG:NH2  | 2.52                     | 0.43              |
| 1:LA:480:GLY:HA3  | 1:LA:614:TRP:HB3  | 1.99                     | 0.43              |
| 1:PA:302:ASN:OD1  | 1:FB:302:ASN:OD1  | 2.37                     | 0.43              |
| 1:SA:701:ARG:HH21 | 1:SA:703:ASN:HD21 | 1.66                     | 0.43              |
| 1:TA:302:ASN:OD1  | 1:GB:302:ASN:OD1  | 2.37                     | 0.43              |
| 1:UA:390:SER:O    | 1:HB:701:ARG:NH2  | 2.51                     | 0.43              |
| 1:VA:701:ARG:HH21 | 1:VA:703:ASN:ND2  | 2.16                     | 0.43              |
| 1:WA:302:ASN:OD1  | 1:DB:302:ASN:OD1  | 2.37                     | 0.43              |
| 1:AB:465:ALA:HB1  | 1:AB:473:GLN:HG2  | 2.00                     | 0.43              |
| 1:FB:701:ARG:HH21 | 1:FB:703:ASN:ND2  | 2.16                     | 0.43              |
| 1:D:268:ASN:HA    | 1:D:271:HIS:CD2   | 2.54                     | 0.43              |
| 1:D:465:ALA:HB1   | 1:D:473:GLN:HG2   | 2.00                     | 0.43              |
| 1:E:378:LEU:HD21  | 1:AA:436:PRO:HG3  | 1.99                     | 0.43              |
| 1:F:302:ASN:OD1   | 1:L:302:ASN:OD1   | 2.37                     | 0.43              |
| 1:G:302:ASN:OD1   | 1:K:302:ASN:OD1   | 2.37                     | 0.43              |
| 1:G:701:ARG:NH2   | 1:VA:390:SER:O    | 2.51                     | 0.43              |
| 1:O:389:ARG:HD3   | 1:FA:425:ALA:HB3  | 2.00                     | 0.43              |
| 1:P:228:TRP:HE3   | 1:AB:402:MET:HE3  | 1.82                     | 0.43              |
| 1:S:268:ASN:HA    | 1:S:271:HIS:CD2   | 2.54                     | 0.43              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:T:268:ASN:HA    | 1:T:271:HIS:CD2   | 2.54                     | 0.43              |
| 1:T:726:GLY:HA3   | 1:CA:257:TYR:O    | 2.16                     | 0.43              |
| 1:Y:701:ARG:NH2   | 1:FA:390:SER:O    | 2.51                     | 0.43              |
| 1:AA:701:ARG:HH21 | 1:AA:703:ASN:ND2  | 2.16                     | 0.43              |
| 1:CA:701:ARG:HH21 | 1:CA:703:ASN:ND2  | 2.16                     | 0.43              |
| 1:DA:480:GLY:HA3  | 1:DA:614:TRP:HB3  | 1.99                     | 0.43              |
| 1:DA:701:ARG:NH2  | 1:KA:390:SER:O    | 2.51                     | 0.43              |
| 1:KA:480:GLY:HA3  | 1:KA:614:TRP:HB3  | 1.99                     | 0.43              |
| 1:RA:705:GLU:HG3  | 1:IB:294:ARG:NE   | 2.32                     | 0.43              |
| 1:VA:302:ASN:OD1  | 1:ZA:302:ASN:OD1  | 2.37                     | 0.43              |
| 1:XA:701:ARG:NH2  | 1:EB:390:SER:O    | 2.51                     | 0.43              |
| 1:YA:268:ASN:HA   | 1:YA:271:HIS:CD2  | 2.54                     | 0.43              |
| 1:IB:268:ASN:HA   | 1:IB:271:HIS:CD2  | 2.54                     | 0.43              |
| 1:J:389:ARG:HD3   | 1:KA:425:ALA:HB3  | 2.00                     | 0.43              |
| 1:L:701:ARG:NH2   | 1:FB:390:SER:O    | 2.52                     | 0.43              |
| 1:M:488:VAL:HG12  | 1:BB:460:LEU:HD11 | 1.99                     | 0.43              |
| 1:M:701:ARG:NH2   | 1:HA:390:SER:O    | 2.51                     | 0.43              |
| 1:N:389:ARG:HD3   | 1:IB:425:ALA:HB3  | 2.00                     | 0.43              |
| 1:Q:701:ARG:NH2   | 1:QA:390:SER:O    | 2.51                     | 0.43              |
| 1:R:701:ARG:NH2   | 1:X:390:SER:O     | 2.51                     | 0.43              |
| 1:S:465:ALA:HB1   | 1:S:473:GLN:HG2   | 2.00                     | 0.43              |
| 1:T:465:ALA:HB1   | 1:T:473:GLN:HG2   | 2.00                     | 0.43              |
| 1:X:701:ARG:HH21  | 1:X:703:ASN:ND2   | 2.16                     | 0.43              |
| 1:Y:480:GLY:HA3   | 1:Y:614:TRP:HB3   | 1.99                     | 0.43              |
| 1:AA:268:ASN:HA   | 1:AA:271:HIS:CD2  | 2.54                     | 0.43              |
| 1:BA:465:ALA:HB1  | 1:BA:473:GLN:HG2  | 2.00                     | 0.43              |
| 1:EA:302:ASN:OD1  | 1:HA:302:ASN:OD1  | 2.37                     | 0.43              |
| 1:JA:480:GLY:HA3  | 1:JA:614:TRP:HB3  | 1.99                     | 0.43              |
| 1:OA:480:GLY:HA3  | 1:OA:614:TRP:HB3  | 1.99                     | 0.43              |
| 1:WA:480:GLY:HA3  | 1:WA:614:TRP:HB3  | 1.99                     | 0.43              |
| 1:XA:465:ALA:HB1  | 1:XA:473:GLN:HG2  | 2.00                     | 0.43              |
| 1:YA:294:ARG:NE   | 1:BB:705:GLU:HG3  | 2.32                     | 0.43              |
| 1:AB:268:ASN:HA   | 1:AB:271:HIS:CD2  | 2.54                     | 0.43              |
| 1:CB:268:ASN:HA   | 1:CB:271:HIS:CD2  | 2.54                     | 0.43              |
| 1:DB:701:ARG:HH21 | 1:DB:703:ASN:ND2  | 2.16                     | 0.43              |
| 1:EB:701:ARG:HH21 | 1:EB:703:ASN:ND2  | 2.16                     | 0.43              |
| 1:HB:465:ALA:HB1  | 1:HB:473:GLN:HG2  | 2.00                     | 0.43              |
| 1:A:389:ARG:HD3   | 1:N:425:ALA:HB3   | 2.00                     | 0.43              |
| 1:B:701:ARG:NH2   | 1:AB:390:SER:O    | 2.51                     | 0.43              |
| 1:C:701:ARG:NH2   | 1:CA:390:SER:O    | 2.51                     | 0.43              |
| 1:E:402:MET:HE3   | 1:GA:228:TRP:HE3  | 1.83                     | 0.43              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:H:701:ARG:NH2   | 1:MA:390:SER:O    | 2.51                     | 0.43              |
| 1:I:425:ALA:HB3   | 1:P:389:ARG:HD3   | 2.00                     | 0.43              |
| 1:P:448:THR:OG1   | 1:YA:498:SER:O    | 2.35                     | 0.43              |
| 1:Q:701:ARG:HH21  | 1:Q:703:ASN:ND2   | 2.16                     | 0.43              |
| 1:S:480:GLY:HA3   | 1:S:614:TRP:HB3   | 1.99                     | 0.43              |
| 1:V:268:ASN:HA    | 1:V:271:HIS:CD2   | 2.54                     | 0.43              |
| 1:V:302:ASN:OD1   | 1:LA:302:ASN:OD1  | 2.37                     | 0.43              |
| 1:W:465:ALA:HB1   | 1:W:473:GLN:HG2   | 2.00                     | 0.43              |
| 1:Y:425:ALA:HB3   | 1:FA:389:ARG:HD3  | 2.00                     | 0.43              |
| 1:Z:302:ASN:OD1   | 1:MA:302:ASN:OD1  | 2.37                     | 0.43              |
| 1:AA:696:LYS:HD3  | 1:AA:696:LYS:HA   | 1.73                     | 0.43              |
| 1:DA:268:ASN:HA   | 1:DA:271:HIS:CD2  | 2.54                     | 0.43              |
| 1:JA:389:ARG:HD3  | 1:ZA:425:ALA:HB3  | 2.00                     | 0.43              |
| 1:OA:389:ARG:HD3  | 1:PA:425:ALA:HB3  | 2.00                     | 0.43              |
| 1:QA:268:ASN:HA   | 1:QA:271:HIS:CD2  | 2.54                     | 0.43              |
| 1:SA:268:ASN:HA   | 1:SA:271:HIS:CD2  | 2.54                     | 0.43              |
| 1:UA:498:SER:O    | 1:HB:448:THR:OG1  | 2.35                     | 0.43              |
| 1:UA:701:ARG:HH21 | 1:UA:703:ASN:ND2  | 2.16                     | 0.43              |
| 1:GB:480:GLY:HA3  | 1:GB:614:TRP:HB3  | 1.99                     | 0.43              |
| 1:A:228:TRP:HE3   | 1:QA:402:MET:HE3  | 1.82                     | 0.43              |
| 1:A:390:SER:O     | 1:N:701:ARG:NH2   | 2.51                     | 0.43              |
| 1:B:701:ARG:HH21  | 1:B:703:ASN:ND2   | 2.16                     | 0.43              |
| 1:C:268:ASN:HA    | 1:C:271:HIS:CD2   | 2.54                     | 0.43              |
| 1:D:302:ASN:OD1   | 1:S:302:ASN:OD1   | 2.37                     | 0.43              |
| 1:D:480:GLY:HA3   | 1:D:614:TRP:HB3   | 1.99                     | 0.43              |
| 1:E:389:ARG:HD3   | 1:AA:425:ALA:HB3  | 2.00                     | 0.43              |
| 1:E:465:ALA:HB1   | 1:E:473:GLN:HG2   | 2.00                     | 0.43              |
| 1:E:726:GLY:HA3   | 1:X:257:TYR:O     | 2.16                     | 0.43              |
| 1:I:268:ASN:HA    | 1:I:271:HIS:CD2   | 2.54                     | 0.43              |
| 1:X:219:ASP:O     | 1:X:220:GLY:C     | 2.62                     | 0.43              |
| 1:Y:268:ASN:HA    | 1:Y:271:HIS:CD2   | 2.54                     | 0.43              |
| 1:AA:302:ASN:OD1  | 1:GA:302:ASN:OD1  | 2.37                     | 0.43              |
| 1:CA:219:ASP:O    | 1:CA:220:GLY:C    | 2.62                     | 0.43              |
| 1:CA:615:GLN:NE2  | 1:GB:633:ASP:N    | 2.63                     | 0.43              |
| 1:EA:389:ARG:HD3  | 1:EB:425:ALA:HB3  | 2.00                     | 0.43              |
| 1:JA:268:ASN:HA   | 1:JA:271:HIS:CD2  | 2.54                     | 0.43              |
| 1:B:268:ASN:HA    | 1:B:271:HIS:CD2   | 2.54                     | 0.42              |
| 1:D:701:ARG:NH2   | 1:K:390:SER:O     | 2.51                     | 0.42              |
| 1:H:488:VAL:HG12  | 1:RA:460:LEU:HD11 | 1.99                     | 0.42              |
| 1:I:389:ARG:HD3   | 1:YA:425:ALA:HB3  | 2.00                     | 0.42              |
| 1:M:480:GLY:HA3   | 1:M:614:TRP:HB3   | 1.99                     | 0.42              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:N:390:SER:O     | 1:IB:701:ARG:NH2  | 2.51                     | 0.42              |
| 1:P:714:LYS:HA    | 1:AB:387:VAL:HA   | 2.01                     | 0.42              |
| 1:Q:726:GLY:HA3   | 1:IB:257:TYR:O    | 2.16                     | 0.42              |
| 1:R:268:ASN:HA    | 1:R:271:HIS:CD2   | 2.54                     | 0.42              |
| 1:R:389:ARG:HD3   | 1:WA:425:ALA:HB3  | 2.00                     | 0.42              |
| 1:T:389:ARG:HD3   | 1:V:425:ALA:HB3   | 2.00                     | 0.42              |
| 1:V:701:ARG:HH21  | 1:V:703:ASN:HD21  | 1.66                     | 0.42              |
| 1:AA:701:ARG:HH21 | 1:AA:703:ASN:HD21 | 1.66                     | 0.42              |
| 1:BA:302:ASN:OD1  | 1:FA:302:ASN:OD1  | 2.37                     | 0.42              |
| 1:GA:701:ARG:HH21 | 1:GA:703:ASN:HD21 | 1.66                     | 0.42              |
| 1:JA:425:ALA:HB3  | 1:SA:389:ARG:HD3  | 2.00                     | 0.42              |
| 1:OA:268:ASN:HA   | 1:OA:271:HIS:CD2  | 2.54                     | 0.42              |
| 1:BB:701:ARG:HH21 | 1:BB:703:ASN:HD21 | 1.66                     | 0.42              |
| 1:A:714:LYS:HA    | 1:QA:387:VAL:HA   | 2.01                     | 0.42              |
| 1:C:387:VAL:HA    | 1:TA:714:LYS:HA   | 2.02                     | 0.42              |
| 1:C:465:ALA:HB1   | 1:C:473:GLN:HG2   | 2.00                     | 0.42              |
| 1:H:465:ALA:HB1   | 1:H:473:GLN:HG2   | 2.00                     | 0.42              |
| 1:I:390:SER:O     | 1:YA:701:ARG:NH2  | 2.52                     | 0.42              |
| 1:I:701:ARG:NH2   | 1:P:390:SER:O     | 2.51                     | 0.42              |
| 1:L:714:LYS:HA    | 1:TA:387:VAL:HA   | 2.02                     | 0.42              |
| 1:M:465:ALA:HB1   | 1:M:473:GLN:HG2   | 2.00                     | 0.42              |
| 1:P:701:ARG:HH21  | 1:P:703:ASN:HD21  | 1.66                     | 0.42              |
| 1:R:387:VAL:HA    | 1:DB:714:LYS:HA   | 2.01                     | 0.42              |
| 1:T:390:SER:O     | 1:V:701:ARG:NH2   | 2.51                     | 0.42              |
| 1:W:302:ASN:OD1   | 1:KA:302:ASN:OD1  | 2.37                     | 0.42              |
| 1:Z:378:LEU:HD21  | 1:UA:436:PRO:HG3  | 1.99                     | 0.42              |
| 1:Z:389:ARG:HD3   | 1:UA:425:ALA:HB3  | 2.00                     | 0.42              |
| 1:Z:390:SER:O     | 1:UA:701:ARG:NH2  | 2.51                     | 0.42              |
| 1:AA:498:SER:O    | 1:NA:448:THR:OG1  | 2.35                     | 0.42              |
| 1:DA:302:ASN:OD1  | 1:IA:302:ASN:OD1  | 2.37                     | 0.42              |
| 1:DA:701:ARG:HH21 | 1:DA:703:ASN:HD21 | 1.66                     | 0.42              |
| 1:EA:378:LEU:HD21 | 1:EB:436:PRO:HG3  | 1.99                     | 0.42              |
| 1:EA:701:ARG:NH2  | 1:XA:390:SER:O    | 2.51                     | 0.42              |
| 1:GA:219:ASP:O    | 1:GA:220:GLY:C    | 2.62                     | 0.42              |
| 1:JA:701:ARG:NH2  | 1:SA:390:SER:O    | 2.51                     | 0.42              |
| 1:LA:219:ASP:O    | 1:LA:220:GLY:C    | 2.62                     | 0.42              |
| 1:LA:701:ARG:HH21 | 1:LA:703:ASN:HD21 | 1.66                     | 0.42              |
| 1:MA:268:ASN:HA   | 1:MA:271:HIS:CD2  | 2.54                     | 0.42              |
| 1:TA:268:ASN:HA   | 1:TA:271:HIS:CD2  | 2.54                     | 0.42              |
| 1:TA:701:ARG:HH21 | 1:TA:703:ASN:ND2  | 2.16                     | 0.42              |
| 1:UA:268:ASN:HA   | 1:UA:271:HIS:CD2  | 2.54                     | 0.42              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:XA:448:THR:OG1  | 1:EB:498:SER:O    | 2.35                     | 0.42              |
| 1:DB:268:ASN:HA   | 1:DB:271:HIS:CD2  | 2.54                     | 0.42              |
| 1:A:448:THR:OG1   | 1:IB:498:SER:O    | 2.35                     | 0.42              |
| 1:G:387:VAL:HA    | 1:FA:714:LYS:HA   | 2.01                     | 0.42              |
| 1:H:460:LEU:HD11  | 1:MA:488:VAL:HG12 | 1.99                     | 0.42              |
| 1:H:480:GLY:HA3   | 1:H:614:TRP:HB3   | 2.00                     | 0.42              |
| 1:I:387:VAL:HA    | 1:BB:714:LYS:HA   | 2.02                     | 0.42              |
| 1:K:714:LYS:HA    | 1:VA:387:VAL:HA   | 2.01                     | 0.42              |
| 1:N:268:ASN:HA    | 1:N:271:HIS:CD2   | 2.54                     | 0.42              |
| 1:N:402:MET:HE3   | 1:RA:228:TRP:HE3  | 1.82                     | 0.42              |
| 1:O:701:ARG:HH21  | 1:O:703:ASN:ND2   | 2.16                     | 0.42              |
| 1:Q:268:ASN:HA    | 1:Q:271:HIS:CD2   | 2.54                     | 0.42              |
| 1:R:714:LYS:HA    | 1:NA:387:VAL:HA   | 2.02                     | 0.42              |
| 1:W:219:ASP:O     | 1:W:220:GLY:C     | 2.62                     | 0.42              |
| 1:X:615:GLN:NE2   | 1:WA:633:ASP:N    | 2.63                     | 0.42              |
| 1:Y:302:ASN:OD1   | 1:NA:302:ASN:OD1  | 2.36                     | 0.42              |
| 1:Z:701:ARG:NH2   | 1:HB:390:SER:O    | 2.51                     | 0.42              |
| 1:BA:219:ASP:O    | 1:BA:220:GLY:C    | 2.62                     | 0.42              |
| 1:EA:488:VAL:HG12 | 1:EB:460:LEU:HD11 | 1.99                     | 0.42              |
| 1:FA:701:ARG:HH21 | 1:FA:703:ASN:HD21 | 1.66                     | 0.42              |
| 1:OA:425:ALA:HB3  | 1:CB:389:ARG:HD3  | 2.00                     | 0.42              |
| 1:EB:268:ASN:HA   | 1:EB:271:HIS:CD2  | 2.54                     | 0.42              |
| 1:EB:465:ALA:HB1  | 1:EB:473:GLN:HG2  | 2.00                     | 0.42              |
| 1:EB:701:ARG:HD3  | 1:EB:705:GLU:CG   | 2.49                     | 0.42              |
| 1:A:268:ASN:HA    | 1:A:271:HIS:CD2   | 2.54                     | 0.42              |
| 1:A:701:ARG:HH21  | 1:A:703:ASN:HD21  | 1.66                     | 0.42              |
| 1:B:257:TYR:O     | 1:V:726:GLY:HA3   | 2.16                     | 0.42              |
| 1:B:726:GLY:HA3   | 1:YA:257:TYR:O    | 2.16                     | 0.42              |
| 1:C:219:ASP:O     | 1:C:220:GLY:C     | 2.62                     | 0.42              |
| 1:C:389:ARG:HD3   | 1:GB:425:ALA:HB3  | 2.00                     | 0.42              |
| 1:C:714:LYS:HA    | 1:IA:387:VAL:HA   | 2.02                     | 0.42              |
| 1:E:390:SER:O     | 1:AA:701:ARG:NH2  | 2.51                     | 0.42              |
| 1:E:701:ARG:HD3   | 1:E:705:GLU:CG    | 2.49                     | 0.42              |
| 1:F:390:SER:O     | 1:S:701:ARG:NH2   | 2.51                     | 0.42              |
| 1:H:268:ASN:HA    | 1:H:271:HIS:CD2   | 2.54                     | 0.42              |
| 1:H:615:GLN:HE21  | 1:MA:633:ASP:H    | 1.67                     | 0.42              |
| 1:I:701:ARG:HD3   | 1:I:705:GLU:CG    | 2.49                     | 0.42              |
| 1:J:425:ALA:HB3   | 1:DA:389:ARG:HD3  | 2.00                     | 0.42              |
| 1:L:387:VAL:HA    | 1:KA:714:LYS:HA   | 2.01                     | 0.42              |
| 1:M:268:ASN:HA    | 1:M:271:HIS:CD2   | 2.54                     | 0.42              |
| 1:M:344:THR:HG22  | 1:M:654:ILE:HG12  | 2.02                     | 0.42              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:M:460:LEU:HD11  | 1:HA:488:VAL:HG12 | 1.99                     | 0.42              |
| 1:N:387:VAL:HA    | 1:RA:714:LYS:HA   | 2.02                     | 0.42              |
| 1:O:425:ALA:HB3   | 1:Y:389:ARG:HD3   | 2.00                     | 0.42              |
| 1:O:714:LYS:HA    | 1:MA:387:VAL:HA   | 2.01                     | 0.42              |
| 1:P:268:ASN:HA    | 1:P:271:HIS:CD2   | 2.54                     | 0.42              |
| 1:Q:460:LEU:HD11  | 1:QA:488:VAL:HG12 | 1.99                     | 0.42              |
| 1:R:465:ALA:HB1   | 1:R:473:GLN:HG2   | 2.00                     | 0.42              |
| 1:T:387:VAL:HA    | 1:LA:714:LYS:HA   | 2.02                     | 0.42              |
| 1:Y:701:ARG:HH21  | 1:Y:703:ASN:HD21  | 1.66                     | 0.42              |
| 1:EA:390:SER:O    | 1:EB:701:ARG:NH2  | 2.51                     | 0.42              |
| 1:FA:344:THR:HG22 | 1:FA:654:ILE:HG12 | 2.02                     | 0.42              |
| 1:GA:633:ASP:N    | 1:QA:615:GLN:NE2  | 2.63                     | 0.42              |
| 1:HA:268:ASN:HA   | 1:HA:271:HIS:CD2  | 2.54                     | 0.42              |
| 1:HA:701:ARG:HD3  | 1:HA:705:GLU:CG   | 2.49                     | 0.42              |
| 1:KA:344:THR:HG22 | 1:KA:654:ILE:HG12 | 2.02                     | 0.42              |
| 1:KA:696:LYS:HD3  | 1:KA:696:LYS:HA   | 1.73                     | 0.42              |
| 1:LA:268:ASN:HA   | 1:LA:271:HIS:CD2  | 2.54                     | 0.42              |
| 1:QA:302:ASN:OD1  | 1:EB:302:ASN:OD1  | 2.37                     | 0.42              |
| 1:RA:302:ASN:OD1  | 1:IB:302:ASN:OD1  | 2.37                     | 0.42              |
| 1:RA:701:ARG:HH21 | 1:RA:703:ASN:HD21 | 1.66                     | 0.42              |
| 1:UA:302:ASN:OD1  | 1:AB:302:ASN:OD1  | 2.37                     | 0.42              |
| 1:UA:701:ARG:HD3  | 1:UA:705:GLU:CG   | 2.49                     | 0.42              |
| 1:E:344:THR:HG22  | 1:E:654:ILE:HG12  | 2.02                     | 0.42              |
| 1:E:387:VAL:HA    | 1:GA:714:LYS:HA   | 2.02                     | 0.42              |
| 1:F:389:ARG:HD3   | 1:S:425:ALA:HB3   | 2.00                     | 0.42              |
| 1:F:714:LYS:HA    | 1:FB:387:VAL:HA   | 2.02                     | 0.42              |
| 1:G:268:ASN:HA    | 1:G:271:HIS:CD2   | 2.54                     | 0.42              |
| 1:G:714:LYS:HA    | 1:DB:387:VAL:HA   | 2.02                     | 0.42              |
| 1:H:344:THR:HG22  | 1:H:654:ILE:HG12  | 2.02                     | 0.42              |
| 1:I:402:MET:HE3   | 1:BB:228:TRP:HE3  | 1.83                     | 0.42              |
| 1:J:714:LYS:HA    | 1:HA:387:VAL:HA   | 2.01                     | 0.42              |
| 1:M:387:VAL:HA    | 1:YA:714:LYS:HA   | 2.01                     | 0.42              |
| 1:M:615:GLN:HE21  | 1:HA:633:ASP:H    | 1.67                     | 0.42              |
| 1:N:701:ARG:HD3   | 1:N:705:GLU:CG    | 2.49                     | 0.42              |
| 1:O:268:ASN:HA    | 1:O:271:HIS:CD2   | 2.54                     | 0.42              |
| 1:O:344:THR:HG22  | 1:O:654:ILE:HG12  | 2.02                     | 0.42              |
| 1:P:344:THR:HG22  | 1:P:654:ILE:HG12  | 2.02                     | 0.42              |
| 1:Q:257:TYR:O     | 1:AA:726:GLY:HA3  | 2.16                     | 0.42              |
| 1:T:701:ARG:HD3   | 1:T:705:GLU:CG    | 2.49                     | 0.42              |
| 1:V:498:SER:O     | 1:IA:448:THR:OG1  | 2.35                     | 0.42              |
| 1:W:268:ASN:HA    | 1:W:271:HIS:CD2   | 2.54                     | 0.42              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:FA:219:ASP:O    | 1:FA:220:GLY:C    | 2.62                     | 0.42              |
| 1:GA:268:ASN:HA   | 1:GA:271:HIS:CD2  | 2.54                     | 0.42              |
| 1:HA:344:THR:HG22 | 1:HA:654:ILE:HG12 | 2.02                     | 0.42              |
| 1:KA:219:ASP:O    | 1:KA:220:GLY:C    | 2.62                     | 0.42              |
| 1:KA:701:ARG:HH21 | 1:KA:703:ASN:HD21 | 1.66                     | 0.42              |
| 1:MA:344:THR:HG22 | 1:MA:654:ILE:HG12 | 2.02                     | 0.42              |
| 1:MA:701:ARG:HD3  | 1:MA:705:GLU:CG   | 2.49                     | 0.42              |
| 1:NA:219:ASP:O    | 1:NA:220:GLY:C    | 2.62                     | 0.42              |
| 1:OA:701:ARG:NH2  | 1:CB:390:SER:O    | 2.52                     | 0.42              |
| 1:UA:465:ALA:HB1  | 1:UA:473:GLN:HG2  | 2.00                     | 0.42              |
| 1:XA:665:PRO:HB3  | 1:XA:674:PHE:CZ   | 2.55                     | 0.42              |
| 1:YA:302:ASN:OD1  | 1:BB:302:ASN:OD1  | 2.37                     | 0.42              |
| 1:HB:665:PRO:HB3  | 1:HB:674:PHE:CZ   | 2.55                     | 0.42              |
| 1:A:344:THR:HG22  | 1:A:654:ILE:HG12  | 2.02                     | 0.42              |
| 1:B:302:ASN:OD1   | 1:P:302:ASN:OD1   | 2.37                     | 0.42              |
| 1:D:344:THR:HG22  | 1:D:654:ILE:HG12  | 2.02                     | 0.42              |
| 1:D:425:ALA:HB3   | 1:K:389:ARG:HD3   | 2.00                     | 0.42              |
| 1:H:387:VAL:HA    | 1:IB:714:LYS:HA   | 2.02                     | 0.42              |
| 1:J:268:ASN:HA    | 1:J:271:HIS:CD2   | 2.54                     | 0.42              |
| 1:J:344:THR:HG22  | 1:J:654:ILE:HG12  | 2.02                     | 0.42              |
| 1:J:701:ARG:HH21  | 1:J:703:ASN:ND2   | 2.16                     | 0.42              |
| 1:L:268:ASN:HA    | 1:L:271:HIS:CD2   | 2.54                     | 0.42              |
| 1:L:389:ARG:HD3   | 1:W:425:ALA:HB3   | 2.00                     | 0.42              |
| 1:L:701:ARG:HD3   | 1:L:705:GLU:CG    | 2.49                     | 0.42              |
| 1:M:498:SER:O     | 1:BB:448:THR:OG1  | 2.35                     | 0.42              |
| 1:R:219:ASP:O     | 1:R:220:GLY:C     | 2.62                     | 0.42              |
| 1:S:344:THR:HG22  | 1:S:654:ILE:HG12  | 2.02                     | 0.42              |
| 1:T:344:THR:HG22  | 1:T:654:ILE:HG12  | 2.02                     | 0.42              |
| 1:BA:498:SER:O    | 1:VA:448:THR:OG1  | 2.35                     | 0.42              |
| 1:BA:633:ASP:H    | 1:VA:615:GLN:HE21 | 1.67                     | 0.42              |
| 1:CA:268:ASN:HA   | 1:CA:271:HIS:CD2  | 2.54                     | 0.42              |
| 1:GA:344:THR:HG22 | 1:GA:654:ILE:HG12 | 2.02                     | 0.42              |
| 1:JA:665:PRO:HB3  | 1:JA:674:PHE:CZ   | 2.55                     | 0.42              |
| 1:LA:344:THR:HG22 | 1:LA:654:ILE:HG12 | 2.02                     | 0.42              |
| 1:OA:219:ASP:O    | 1:OA:220:GLY:C    | 2.62                     | 0.42              |
| 1:PA:498:SER:O    | 1:CB:448:THR:OG1  | 2.35                     | 0.42              |
| 1:FB:268:ASN:HA   | 1:FB:271:HIS:CD2  | 2.54                     | 0.42              |
| 1:A:302:ASN:OD1   | 1:Q:302:ASN:OD1   | 2.37                     | 0.42              |
| 1:B:460:LEU:HD11  | 1:AB:488:VAL:HG12 | 1.99                     | 0.42              |
| 1:G:389:ARG:HD3   | 1:BA:425:ALA:HB3  | 2.00                     | 0.42              |
| 1:I:344:THR:HG22  | 1:I:654:ILE:HG12  | 2.02                     | 0.42              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:I:665:PRO:HB3   | 1:I:674:PHE:CZ    | 2.55                     | 0.42              |
| 1:J:701:ARG:HH21  | 1:J:703:ASN:HD21  | 1.66                     | 0.42              |
| 1:N:665:PRO:HB3   | 1:N:674:PHE:CZ    | 2.55                     | 0.42              |
| 1:X:268:ASN:HA    | 1:X:271:HIS:CD2   | 2.54                     | 0.42              |
| 1:BA:268:ASN:HA   | 1:BA:271:HIS:CD2  | 2.54                     | 0.42              |
| 1:EA:665:PRO:HB3  | 1:EA:674:PHE:CZ   | 2.55                     | 0.42              |
| 1:LA:633:ASP:N    | 1:AB:615:GLN:NE2  | 2.63                     | 0.42              |
| 1:NA:701:ARG:HD3  | 1:NA:705:GLU:CG   | 2.49                     | 0.42              |
| 1:OA:665:PRO:HB3  | 1:OA:674:PHE:CZ   | 2.55                     | 0.42              |
| 1:SA:714:LYS:HA   | 1:UA:387:VAL:HA   | 2.02                     | 0.42              |
| 1:TA:344:THR:HG22 | 1:TA:654:ILE:HG12 | 2.02                     | 0.42              |
| 1:VA:268:ASN:HA   | 1:VA:271:HIS:CD2  | 2.54                     | 0.42              |
| 1:ZA:387:VAL:HA   | 1:HB:714:LYS:HA   | 2.02                     | 0.42              |
| 1:CB:714:LYS:HA   | 1:EB:387:VAL:HA   | 2.02                     | 0.42              |
| 1:B:219:ASP:O     | 1:B:220:GLY:C     | 2.62                     | 0.42              |
| 1:C:726:GLY:HA3   | 1:IA:257:TYR:O    | 2.16                     | 0.42              |
| 1:D:219:ASP:O     | 1:D:220:GLY:C     | 2.62                     | 0.42              |
| 1:J:633:ASP:N     | 1:KA:615:GLN:NE2  | 2.63                     | 0.42              |
| 1:L:344:THR:HG22  | 1:L:654:ILE:HG12  | 2.02                     | 0.42              |
| 1:N:344:THR:HG22  | 1:N:654:ILE:HG12  | 2.02                     | 0.42              |
| 1:O:701:ARG:HH21  | 1:O:703:ASN:HD21  | 1.66                     | 0.42              |
| 1:S:219:ASP:O     | 1:S:220:GLY:C     | 2.62                     | 0.42              |
| 1:W:633:ASP:H     | 1:FB:615:GLN:HE21 | 1.67                     | 0.42              |
| 1:Y:219:ASP:O     | 1:Y:220:GLY:C     | 2.62                     | 0.42              |
| 1:Z:344:THR:HG22  | 1:Z:654:ILE:HG12  | 2.02                     | 0.42              |
| 1:Z:665:PRO:HB3   | 1:Z:674:PHE:CZ    | 2.55                     | 0.42              |
| 1:DA:344:THR:HG22 | 1:DA:654:ILE:HG12 | 2.02                     | 0.42              |
| 1:IA:701:ARG:HD3  | 1:IA:705:GLU:CG   | 2.49                     | 0.42              |
| 1:JA:714:LYS:HA   | 1:GB:387:VAL:HA   | 2.01                     | 0.42              |
| 1:NA:268:ASN:HA   | 1:NA:271:HIS:CD2  | 2.54                     | 0.42              |
| 1:PA:387:VAL:HA   | 1:XA:714:LYS:HA   | 2.02                     | 0.42              |
| 1:QA:344:THR:HG22 | 1:QA:654:ILE:HG12 | 2.02                     | 0.42              |
| 1:QA:701:ARG:HH21 | 1:QA:703:ASN:HD21 | 1.66                     | 0.42              |
| 1:XA:302:ASN:OD1  | 1:CB:302:ASN:OD1  | 2.37                     | 0.42              |
| 1:AB:344:THR:HG22 | 1:AB:654:ILE:HG12 | 2.02                     | 0.42              |
| 1:AB:701:ARG:HH21 | 1:AB:703:ASN:HD21 | 1.66                     | 0.42              |
| 1:A:665:PRO:HB3   | 1:A:674:PHE:CZ    | 2.55                     | 0.42              |
| 1:C:302:ASN:OD1   | 1:T:302:ASN:OD1   | 2.37                     | 0.42              |
| 1:C:498:SER:O     | 1:GB:448:THR:OG1  | 2.35                     | 0.42              |
| 1:G:344:THR:HG22  | 1:G:654:ILE:HG12  | 2.02                     | 0.42              |
| 1:G:701:ARG:HD3   | 1:G:705:GLU:CG    | 2.50                     | 0.42              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:P:665:PRO:HB3   | 1:P:674:PHE:CZ    | 2.55                     | 0.42              |
| 1:R:498:SER:O     | 1:WA:448:THR:OG1  | 2.35                     | 0.42              |
| 1:R:726:GLY:HA3   | 1:NA:257:TYR:O    | 2.16                     | 0.42              |
| 1:S:390:SER:O     | 1:TA:701:ARG:NH2  | 2.51                     | 0.42              |
| 1:X:344:THR:HG22  | 1:X:654:ILE:HG12  | 2.02                     | 0.42              |
| 1:Y:344:THR:HG22  | 1:Y:654:ILE:HG12  | 2.02                     | 0.42              |
| 1:AA:344:THR:HG22 | 1:AA:654:ILE:HG12 | 2.02                     | 0.42              |
| 1:DA:219:ASP:O    | 1:DA:220:GLY:C    | 2.62                     | 0.42              |
| 1:EA:344:THR:HG22 | 1:EA:654:ILE:HG12 | 2.02                     | 0.42              |
| 1:IA:268:ASN:HA   | 1:IA:271:HIS:CD2  | 2.54                     | 0.42              |
| 1:OA:633:ASP:H    | 1:PA:615:GLN:HE21 | 1.67                     | 0.42              |
| 1:RA:219:ASP:O    | 1:RA:220:GLY:C    | 2.62                     | 0.42              |
| 1:SA:302:ASN:OD1  | 1:HB:302:ASN:OD1  | 2.36                     | 0.42              |
| 1:UA:633:ASP:H    | 1:HB:615:GLN:HE21 | 1.67                     | 0.42              |
| 1:WA:701:ARG:HH21 | 1:WA:703:ASN:HD21 | 1.66                     | 0.42              |
| 1:DB:344:THR:HG22 | 1:DB:654:ILE:HG12 | 2.02                     | 0.42              |
| 1:EB:219:ASP:O    | 1:EB:220:GLY:C    | 2.62                     | 0.42              |
| 1:GB:219:ASP:O    | 1:GB:220:GLY:C    | 2.62                     | 0.42              |
| 1:GB:701:ARG:HH21 | 1:GB:703:ASN:HD21 | 1.66                     | 0.42              |
| 1:A:674:PHE:CZ    | 1:I:248:ALA:HB3   | 2.55                     | 0.42              |
| 1:B:344:THR:HG22  | 1:B:654:ILE:HG12  | 2.02                     | 0.42              |
| 1:E:302:ASN:OD1   | 1:R:302:ASN:OD1   | 2.37                     | 0.42              |
| 1:E:665:PRO:HB3   | 1:E:674:PHE:CZ    | 2.55                     | 0.42              |
| 1:F:219:ASP:O     | 1:F:220:GLY:C     | 2.62                     | 0.42              |
| 1:Q:219:ASP:O     | 1:Q:220:GLY:C     | 2.62                     | 0.42              |
| 1:Q:344:THR:HG22  | 1:Q:654:ILE:HG12  | 2.02                     | 0.42              |
| 1:V:344:THR:HG22  | 1:V:654:ILE:HG12  | 2.02                     | 0.42              |
| 1:CA:344:THR:HG22 | 1:CA:654:ILE:HG12 | 2.02                     | 0.42              |
| 1:HA:615:GLN:HE21 | 1:BB:633:ASP:H    | 1.67                     | 0.42              |
| 1:MA:615:GLN:HE21 | 1:RA:633:ASP:H    | 1.68                     | 0.42              |
| 1:OA:714:LYS:HA   | 1:WA:387:VAL:HA   | 2.02                     | 0.42              |
| 1:PA:268:ASN:HA   | 1:PA:271:HIS:CD2  | 2.54                     | 0.42              |
| 1:XA:701:ARG:HH21 | 1:XA:703:ASN:HD21 | 1.66                     | 0.42              |
| 1:AB:725:ASN:HB2  | 1:AB:727:VAL:HG23 | 2.02                     | 0.42              |
| 1:BB:219:ASP:O    | 1:BB:220:GLY:C    | 2.62                     | 0.42              |
| 1:HB:219:ASP:O    | 1:HB:220:GLY:C    | 2.62                     | 0.42              |
| 1:B:714:LYS:HA    | 1:YA:387:VAL:HA   | 2.02                     | 0.41              |
| 1:D:390:SER:O     | 1:DB:701:ARG:NH2  | 2.51                     | 0.41              |
| 1:F:701:ARG:HH21  | 1:F:703:ASN:HD21  | 1.66                     | 0.41              |
| 1:H:498:SER:O     | 1:RA:448:THR:OG1  | 2.35                     | 0.41              |
| 1:K:219:ASP:O     | 1:K:220:GLY:C     | 2.62                     | 0.41              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:O:633:ASP:N     | 1:FA:615:GLN:NE2  | 2.63                     | 0.41              |
| 1:P:725:ASN:HB2   | 1:P:727:VAL:HG23  | 2.02                     | 0.41              |
| 1:S:725:ASN:HB2   | 1:S:727:VAL:HG23  | 2.02                     | 0.41              |
| 1:T:665:PRO:HB3   | 1:T:674:PHE:CZ    | 2.55                     | 0.41              |
| 1:V:387:VAL:HA    | 1:DA:714:LYS:HA   | 2.02                     | 0.41              |
| 1:Y:714:LYS:HA    | 1:AA:387:VAL:HA   | 2.02                     | 0.41              |
| 1:AA:219:ASP:O    | 1:AA:220:GLY:C    | 2.62                     | 0.41              |
| 1:DA:701:ARG:HD3  | 1:DA:705:GLU:CG   | 2.49                     | 0.41              |
| 1:FA:725:ASN:HB2  | 1:FA:727:VAL:HG23 | 2.02                     | 0.41              |
| 1:HA:714:LYS:HA   | 1:XA:387:VAL:HA   | 2.02                     | 0.41              |
| 1:KA:725:ASN:HB2  | 1:KA:727:VAL:HG23 | 2.02                     | 0.41              |
| 1:QA:725:ASN:HB2  | 1:QA:727:VAL:HG23 | 2.02                     | 0.41              |
| 1:SA:344:THR:HG22 | 1:SA:654:ILE:HG12 | 2.02                     | 0.41              |
| 1:WA:219:ASP:O    | 1:WA:220:GLY:C    | 2.62                     | 0.41              |
| 1:WA:665:PRO:HB3  | 1:WA:674:PHE:CZ   | 2.55                     | 0.41              |
| 1:XA:615:GLN:HE21 | 1:EB:633:ASP:H    | 1.67                     | 0.41              |
| 1:ZA:268:ASN:HA   | 1:ZA:271:HIS:CD2  | 2.54                     | 0.41              |
| 1:CB:344:THR:HG22 | 1:CB:654:ILE:HG12 | 2.02                     | 0.41              |
| 1:CB:726:GLY:HA3  | 1:EB:257:TYR:O    | 2.17                     | 0.41              |
| 1:HB:701:ARG:HH21 | 1:HB:703:ASN:HD21 | 1.66                     | 0.41              |
| 1:A:725:ASN:HB2   | 1:A:727:VAL:HG23  | 2.02                     | 0.41              |
| 1:D:725:ASN:HB2   | 1:D:727:VAL:HG23  | 2.02                     | 0.41              |
| 1:G:248:ALA:HB3   | 1:DB:674:PHE:CZ   | 2.55                     | 0.41              |
| 1:I:674:PHE:CZ    | 1:BB:248:ALA:HB3  | 2.56                     | 0.41              |
| 1:K:701:ARG:HH21  | 1:K:703:ASN:HD21  | 1.66                     | 0.41              |
| 1:O:674:PHE:CZ    | 1:BA:248:ALA:HB3  | 2.55                     | 0.41              |
| 1:T:701:ARG:HH21  | 1:T:703:ASN:HD21  | 1.66                     | 0.41              |
| 1:Y:701:ARG:HD3   | 1:Y:705:GLU:CG    | 2.49                     | 0.41              |
| 1:FA:696:LYS:HA   | 1:FA:696:LYS:HD3  | 1.73                     | 0.41              |
| 1:GA:387:VAL:HA   | 1:EB:714:LYS:HA   | 2.01                     | 0.41              |
| 1:KA:701:ARG:HD3  | 1:KA:705:GLU:CG   | 2.49                     | 0.41              |
| 1:LA:387:VAL:HA   | 1:UA:714:LYS:HA   | 2.01                     | 0.41              |
| 1:MA:714:LYS:HA   | 1:HB:387:VAL:HA   | 2.02                     | 0.41              |
| 1:PA:674:PHE:CZ   | 1:XA:248:ALA:HB3  | 2.55                     | 0.41              |
| 1:SA:726:GLY:HA3  | 1:UA:257:TYR:O    | 2.16                     | 0.41              |
| 1:TA:665:PRO:HB3  | 1:TA:674:PHE:CZ   | 2.55                     | 0.41              |
| 1:XA:219:ASP:O    | 1:XA:220:GLY:C    | 2.62                     | 0.41              |
| 1:YA:219:ASP:O    | 1:YA:220:GLY:C    | 2.62                     | 0.41              |
| 1:ZA:674:PHE:CZ   | 1:HB:248:ALA:HB3  | 2.55                     | 0.41              |
| 1:GB:665:PRO:HB3  | 1:GB:674:PHE:CZ   | 2.55                     | 0.41              |
| 1:D:387:VAL:HA    | 1:WA:714:LYS:HA   | 2.02                     | 0.41              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:D:674:PHE:CZ   | 1:WA:248:ALA:HB3  | 2.56                     | 0.41              |
| 1:E:633:ASP:H    | 1:AA:615:GLN:HE21 | 1.67                     | 0.41              |
| 1:E:674:PHE:CZ   | 1:GA:248:ALA:HB3  | 2.55                     | 0.41              |
| 1:G:219:ASP:O    | 1:G:220:GLY:C     | 2.62                     | 0.41              |
| 1:L:248:ALA:HB3  | 1:TA:674:PHE:CZ   | 2.55                     | 0.41              |
| 1:N:248:ALA:HB3  | 1:P:674:PHE:CZ    | 2.55                     | 0.41              |
| 1:Q:714:LYS:HA   | 1:IB:387:VAL:HA   | 2.02                     | 0.41              |
| 1:S:387:VAL:HA   | 1:GB:714:LYS:HA   | 2.02                     | 0.41              |
| 1:S:674:PHE:CZ   | 1:GB:248:ALA:HB3  | 2.56                     | 0.41              |
| 1:T:674:PHE:CZ   | 1:LA:248:ALA:HB3  | 2.55                     | 0.41              |
| 1:V:219:ASP:O    | 1:V:220:GLY:C     | 2.62                     | 0.41              |
| 1:V:725:ASN:HB2  | 1:V:727:VAL:HG23  | 2.02                     | 0.41              |
| 1:Z:219:ASP:O    | 1:Z:220:GLY:C     | 2.62                     | 0.41              |
| 1:DA:725:ASN:HB2 | 1:DA:727:VAL:HG23 | 2.03                     | 0.41              |
| 1:EA:387:VAL:HA  | 1:QA:714:LYS:HA   | 2.02                     | 0.41              |
| 1:FA:257:TYR:O   | 1:NA:726:GLY:HA3  | 2.16                     | 0.41              |
| 1:FA:387:VAL:HA  | 1:NA:714:LYS:HA   | 2.02                     | 0.41              |
| 1:FA:701:ARG:HD3 | 1:FA:705:GLU:CG   | 2.49                     | 0.41              |
| 1:HA:219:ASP:O   | 1:HA:220:GLY:C    | 2.62                     | 0.41              |
| 1:MA:219:ASP:O   | 1:MA:220:GLY:C    | 2.62                     | 0.41              |
| 1:VA:219:ASP:O   | 1:VA:220:GLY:C    | 2.62                     | 0.41              |
| 1:DB:665:PRO:HB3 | 1:DB:674:PHE:CZ   | 2.55                     | 0.41              |
| 1:FB:219:ASP:O   | 1:FB:220:GLY:C    | 2.62                     | 0.41              |
| 1:IB:219:ASP:O   | 1:IB:220:GLY:C    | 2.62                     | 0.41              |
| 1:IB:725:ASN:HB2 | 1:IB:727:VAL:HG23 | 2.02                     | 0.41              |
| 1:A:219:ASP:O    | 1:A:220:GLY:C     | 2.62                     | 0.41              |
| 1:E:701:ARG:HH21 | 1:E:703:ASN:HD21  | 1.66                     | 0.41              |
| 1:J:674:PHE:CZ   | 1:W:248:ALA:HB3   | 2.55                     | 0.41              |
| 1:K:696:LYS:HD3  | 1:K:696:LYS:HA    | 1.73                     | 0.41              |
| 1:L:219:ASP:O    | 1:L:220:GLY:C     | 2.62                     | 0.41              |
| 1:N:674:PHE:CZ   | 1:RA:248:ALA:HB3  | 2.56                     | 0.41              |
| 1:R:674:PHE:CZ   | 1:DB:248:ALA:HB3  | 2.56                     | 0.41              |
| 1:T:633:ASP:H    | 1:V:615:GLN:HE21  | 1.67                     | 0.41              |
| 1:V:674:PHE:CZ   | 1:DA:248:ALA:HB3  | 2.55                     | 0.41              |
| 1:Y:248:ALA:HB3  | 1:AA:674:PHE:CZ   | 2.55                     | 0.41              |
| 1:Y:725:ASN:HB2  | 1:Y:727:VAL:HG23  | 2.03                     | 0.41              |
| 1:Z:387:VAL:HA   | 1:AB:714:LYS:HA   | 2.02                     | 0.41              |
| 1:AA:725:ASN:HB2 | 1:AA:727:VAL:HG23 | 2.02                     | 0.41              |
| 1:BA:387:VAL:HA  | 1:ZA:714:LYS:HA   | 2.01                     | 0.41              |
| 1:CA:248:ALA:HB3 | 1:SA:674:PHE:CZ   | 2.56                     | 0.41              |
| 1:EA:219:ASP:O   | 1:EA:220:GLY:C    | 2.62                     | 0.41              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:IA:714:LYS:HA   | 1:KA:387:VAL:HA   | 2.02                     | 0.41              |
| 1:XA:701:ARG:HD3  | 1:XA:705:GLU:CG   | 2.50                     | 0.41              |
| 1:YA:725:ASN:HB2  | 1:YA:727:VAL:HG23 | 2.02                     | 0.41              |
| 1:AB:665:PRO:HB3  | 1:AB:674:PHE:CZ   | 2.55                     | 0.41              |
| 1:CB:219:ASP:O    | 1:CB:220:GLY:C    | 2.62                     | 0.41              |
| 1:C:674:PHE:CZ    | 1:TA:248:ALA:HB3  | 2.56                     | 0.41              |
| 1:E:248:ALA:HB3   | 1:X:674:PHE:CZ    | 2.56                     | 0.41              |
| 1:H:674:PHE:CZ    | 1:IB:248:ALA:HB3  | 2.56                     | 0.41              |
| 1:P:219:ASP:O     | 1:P:220:GLY:C     | 2.62                     | 0.41              |
| 1:P:248:ALA:HB3   | 1:AB:674:PHE:CZ   | 2.56                     | 0.41              |
| 1:T:219:ASP:O     | 1:T:220:GLY:C     | 2.62                     | 0.41              |
| 1:T:248:ALA:HB3   | 1:CA:674:PHE:CZ   | 2.56                     | 0.41              |
| 1:W:387:VAL:HA    | 1:PA:714:LYS:HA   | 2.01                     | 0.41              |
| 1:X:248:ALA:HB3   | 1:CB:674:PHE:CZ   | 2.56                     | 0.41              |
| 1:X:701:ARG:HD3   | 1:X:705:GLU:CG    | 2.49                     | 0.41              |
| 1:Z:248:ALA:HB3   | 1:RA:674:PHE:CZ   | 2.56                     | 0.41              |
| 1:CA:714:LYS:HA   | 1:SA:387:VAL:HA   | 2.02                     | 0.41              |
| 1:EA:248:ALA:HB3  | 1:BB:674:PHE:CZ   | 2.56                     | 0.41              |
| 1:EA:714:LYS:HA   | 1:BB:387:VAL:HA   | 2.01                     | 0.41              |
| 1:GA:725:ASN:HB2  | 1:GA:727:VAL:HG23 | 2.02                     | 0.41              |
| 1:IA:248:ALA:HB3  | 1:KA:674:PHE:CZ   | 2.55                     | 0.41              |
| 1:IA:701:ARG:HH21 | 1:IA:703:ASN:HD21 | 1.66                     | 0.41              |
| 1:JA:219:ASP:O    | 1:JA:220:GLY:C    | 2.62                     | 0.41              |
| 1:JA:701:ARG:HD3  | 1:JA:705:GLU:CG   | 2.49                     | 0.41              |
| 1:LA:725:ASN:HB2  | 1:LA:727:VAL:HG23 | 2.02                     | 0.41              |
| 1:NA:701:ARG:HH21 | 1:NA:703:ASN:HD21 | 1.66                     | 0.41              |
| 1:OA:701:ARG:HD3  | 1:OA:705:GLU:CG   | 2.50                     | 0.41              |
| 1:QA:665:PRO:HB3  | 1:QA:674:PHE:CZ   | 2.55                     | 0.41              |
| 1:QA:701:ARG:HD3  | 1:QA:705:GLU:CG   | 2.50                     | 0.41              |
| 1:RA:344:THR:HG22 | 1:RA:654:ILE:HG12 | 2.02                     | 0.41              |
| 1:SA:219:ASP:O    | 1:SA:220:GLY:C    | 2.62                     | 0.41              |
| 1:SA:248:ALA:HB3  | 1:UA:674:PHE:CZ   | 2.55                     | 0.41              |
| 1:BB:344:THR:HG22 | 1:BB:654:ILE:HG12 | 2.02                     | 0.41              |
| 1:A:248:ALA:HB3   | 1:QA:674:PHE:CZ   | 2.56                     | 0.41              |
| 1:E:219:ASP:O     | 1:E:220:GLY:C     | 2.62                     | 0.41              |
| 1:E:714:LYS:HA    | 1:X:387:VAL:HA    | 2.02                     | 0.41              |
| 1:F:344:THR:HG22  | 1:F:654:ILE:HG12  | 2.02                     | 0.41              |
| 1:F:725:ASN:HB2   | 1:F:727:VAL:HG23  | 2.02                     | 0.41              |
| 1:H:725:ASN:HB2   | 1:H:727:VAL:HG23  | 2.03                     | 0.41              |
| 1:I:219:ASP:O     | 1:I:220:GLY:C     | 2.62                     | 0.41              |
| 1:J:696:LYS:HA    | 1:J:696:LYS:HD3   | 1.73                     | 0.41              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:K:344:THR:HG22  | 1:K:654:ILE:HG12  | 2.02                     | 0.41              |
| 1:K:725:ASN:HB2   | 1:K:727:VAL:HG23  | 2.02                     | 0.41              |
| 1:M:674:PHE:CZ    | 1:YA:248:ALA:HB3  | 2.56                     | 0.41              |
| 1:O:219:ASP:O     | 1:O:220:GLY:C     | 2.62                     | 0.41              |
| 1:O:725:ASN:HB2   | 1:O:727:VAL:HG23  | 2.02                     | 0.41              |
| 1:Z:633:ASP:H     | 1:UA:615:GLN:HE21 | 1.67                     | 0.41              |
| 1:FA:674:PHE:CZ   | 1:NA:248:ALA:HB3  | 2.56                     | 0.41              |
| 1:HA:317:ASN:ND2  | 1:XA:402:MET:SD   | 2.94                     | 0.41              |
| 1:JA:725:ASN:HB2  | 1:JA:727:VAL:HG23 | 2.02                     | 0.41              |
| 1:OA:725:ASN:HB2  | 1:OA:727:VAL:HG23 | 2.02                     | 0.41              |
| 1:WA:725:ASN:HB2  | 1:WA:727:VAL:HG23 | 2.02                     | 0.41              |
| 1:XA:344:THR:HG22 | 1:XA:654:ILE:HG12 | 2.02                     | 0.41              |
| 1:AB:701:ARG:HD3  | 1:AB:705:GLU:CG   | 2.49                     | 0.41              |
| 1:CB:248:ALA:HB3  | 1:EB:674:PHE:CZ   | 2.55                     | 0.41              |
| 1:HB:701:ARG:HD3  | 1:HB:705:GLU:CG   | 2.49                     | 0.41              |
| 1:HB:725:ASN:HB2  | 1:HB:727:VAL:HG23 | 2.02                     | 0.41              |
| 1:C:344:THR:HG22  | 1:C:654:ILE:HG12  | 2.02                     | 0.41              |
| 1:D:402:MET:SD    | 1:WA:317:ASN:ND2  | 2.94                     | 0.41              |
| 1:D:714:LYS:HA    | 1:F:387:VAL:HA    | 2.02                     | 0.41              |
| 1:E:725:ASN:HB2   | 1:E:727:VAL:HG23  | 2.02                     | 0.41              |
| 1:F:696:LYS:HD3   | 1:F:696:LYS:HA    | 1.73                     | 0.41              |
| 1:G:633:ASP:H     | 1:BA:615:GLN:HE21 | 1.67                     | 0.41              |
| 1:G:674:PHE:CZ    | 1:FA:248:ALA:HB3  | 2.56                     | 0.41              |
| 1:J:219:ASP:O     | 1:J:220:GLY:C     | 2.62                     | 0.41              |
| 1:J:402:MET:SD    | 1:W:317:ASN:ND2   | 2.94                     | 0.41              |
| 1:K:387:VAL:HA    | 1:S:714:LYS:HA    | 2.02                     | 0.41              |
| 1:L:317:ASN:ND2   | 1:TA:402:MET:SD   | 2.94                     | 0.41              |
| 1:M:725:ASN:HB2   | 1:M:727:VAL:HG23  | 2.03                     | 0.41              |
| 1:O:402:MET:SD    | 1:BA:317:ASN:ND2  | 2.94                     | 0.41              |
| 1:R:344:THR:HG22  | 1:R:654:ILE:HG12  | 2.02                     | 0.41              |
| 1:S:402:MET:SD    | 1:GB:317:ASN:ND2  | 2.94                     | 0.41              |
| 1:T:714:LYS:HA    | 1:CA:387:VAL:HA   | 2.02                     | 0.41              |
| 1:Z:714:LYS:HA    | 1:RA:387:VAL:HA   | 2.01                     | 0.41              |
| 1:EA:633:ASP:H    | 1:EB:615:GLN:HE21 | 1.67                     | 0.41              |
| 1:IA:344:THR:HG22 | 1:IA:654:ILE:HG12 | 2.02                     | 0.41              |
| 1:JA:387:VAL:HA   | 1:VA:714:LYS:HA   | 2.02                     | 0.41              |
| 1:JA:674:PHE:CZ   | 1:VA:248:ALA:HB3  | 2.55                     | 0.41              |
| 1:MA:317:ASN:ND2  | 1:HB:402:MET:SD   | 2.94                     | 0.41              |
| 1:PA:344:THR:HG22 | 1:PA:654:ILE:HG12 | 2.02                     | 0.41              |
| 1:SA:317:ASN:ND2  | 1:UA:402:MET:SD   | 2.94                     | 0.41              |
| 1:SA:701:ARG:HD3  | 1:SA:705:GLU:CG   | 2.49                     | 0.41              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:TA:219:ASP:O    | 1:TA:220:GLY:C    | 2.62                     | 0.41              |
| 1:XA:725:ASN:HB2  | 1:XA:727:VAL:HG23 | 2.02                     | 0.41              |
| 1:YA:344:THR:HG22 | 1:YA:654:ILE:HG12 | 2.02                     | 0.41              |
| 1:GB:725:ASN:HB2  | 1:GB:727:VAL:HG23 | 2.02                     | 0.41              |
| 1:IB:344:THR:HG22 | 1:IB:654:ILE:HG12 | 2.02                     | 0.41              |
| 1:C:665:PRO:HB3   | 1:C:674:PHE:CZ    | 2.55                     | 0.41              |
| 1:G:317:ASN:ND2   | 1:DB:402:MET:SD   | 2.94                     | 0.41              |
| 1:H:219:ASP:O     | 1:H:220:GLY:C     | 2.62                     | 0.41              |
| 1:J:248:ALA:HB3   | 1:HA:674:PHE:CZ   | 2.56                     | 0.41              |
| 1:J:387:VAL:HA    | 1:W:714:LYS:HA    | 2.02                     | 0.41              |
| 1:J:725:ASN:HB2   | 1:J:727:VAL:HG23  | 2.03                     | 0.41              |
| 1:L:674:PHE:CZ    | 1:KA:248:ALA:HB3  | 2.56                     | 0.41              |
| 1:N:219:ASP:O     | 1:N:220:GLY:C     | 2.62                     | 0.41              |
| 1:N:725:ASN:HB2   | 1:N:727:VAL:HG23  | 2.03                     | 0.41              |
| 1:T:725:ASN:HB2   | 1:T:727:VAL:HG23  | 2.03                     | 0.41              |
| 1:W:674:PHE:CZ    | 1:PA:248:ALA:HB3  | 2.56                     | 0.41              |
| 1:W:701:ARG:HD3   | 1:W:705:GLU:CG    | 2.50                     | 0.41              |
| 1:X:714:LYS:HA    | 1:CB:387:VAL:HA   | 2.02                     | 0.41              |
| 1:Y:518:ASN:HA    | 1:Y:519:PRO:HA    | 1.96                     | 0.41              |
| 1:Z:674:PHE:CZ    | 1:AB:248:ALA:HB3  | 2.55                     | 0.41              |
| 1:AA:701:ARG:HD3  | 1:AA:705:GLU:CG   | 2.49                     | 0.41              |
| 1:BA:674:PHE:CZ   | 1:ZA:248:ALA:HB3  | 2.56                     | 0.41              |
| 1:CA:701:ARG:HD3  | 1:CA:705:GLU:CG   | 2.49                     | 0.41              |
| 1:DA:443:TYR:OH   | 1:KA:548:GLU:O    | 2.32                     | 0.41              |
| 1:GA:402:MET:SD   | 1:EB:317:ASN:ND2  | 2.94                     | 0.41              |
| 1:GA:665:PRO:HB3  | 1:GA:674:PHE:CZ   | 2.55                     | 0.41              |
| 1:NA:344:THR:HG22 | 1:NA:654:ILE:HG12 | 2.02                     | 0.41              |
| 1:OA:387:VAL:HA   | 1:FB:714:LYS:HA   | 2.02                     | 0.41              |
| 1:OA:674:PHE:CZ   | 1:FB:248:ALA:HB3  | 2.55                     | 0.41              |
| 1:QA:219:ASP:O    | 1:QA:220:GLY:C    | 2.62                     | 0.41              |
| 1:TA:701:ARG:HD3  | 1:TA:705:GLU:CG   | 2.49                     | 0.41              |
| 1:UA:219:ASP:O    | 1:UA:220:GLY:C    | 2.62                     | 0.41              |
| 1:CB:317:ASN:ND2  | 1:EB:402:MET:SD   | 2.94                     | 0.41              |
| 1:CB:701:ARG:HD3  | 1:CB:705:GLU:CG   | 2.49                     | 0.41              |
| 1:DB:219:ASP:O    | 1:DB:220:GLY:C    | 2.62                     | 0.41              |
| 1:FB:344:THR:HG22 | 1:FB:654:ILE:HG12 | 2.02                     | 0.41              |
| 1:HB:344:THR:HG22 | 1:HB:654:ILE:HG12 | 2.02                     | 0.41              |
| 1:A:389:ARG:HG2   | 1:N:740:THR:CG2   | 2.51                     | 0.41              |
| 1:B:248:ALA:HB3   | 1:YA:674:PHE:CZ   | 2.55                     | 0.41              |
| 1:B:387:VAL:HA    | 1:V:714:LYS:HA    | 2.01                     | 0.41              |
| 1:B:389:ARG:HG2   | 1:LA:740:THR:CG2  | 2.51                     | 0.41              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:C:389:ARG:HG2   | 1:GB:740:THR:CG2  | 2.51                     | 0.41              |
| 1:D:665:PRO:HB3   | 1:D:674:PHE:CZ    | 2.55                     | 0.41              |
| 1:D:726:GLY:HA3   | 1:F:257:TYR:O     | 2.16                     | 0.41              |
| 1:D:740:THR:CG2   | 1:K:389:ARG:HG2   | 2.51                     | 0.41              |
| 1:G:402:MET:SD    | 1:FA:317:ASN:ND2  | 2.94                     | 0.41              |
| 1:G:725:ASN:HB2   | 1:G:727:VAL:HG23  | 2.02                     | 0.41              |
| 1:H:248:ALA:HB3   | 1:Y:674:PHE:CZ    | 2.56                     | 0.41              |
| 1:H:317:ASN:ND2   | 1:Y:402:MET:SD    | 2.94                     | 0.41              |
| 1:I:725:ASN:HB2   | 1:I:727:VAL:HG23  | 2.03                     | 0.41              |
| 1:J:740:THR:CG2   | 1:DA:389:ARG:HG2  | 2.51                     | 0.41              |
| 1:K:674:PHE:CZ    | 1:S:248:ALA:HB3   | 2.55                     | 0.41              |
| 1:L:725:ASN:HB2   | 1:L:727:VAL:HG23  | 2.02                     | 0.41              |
| 1:M:248:ALA:HB3   | 1:DA:674:PHE:CZ   | 2.56                     | 0.41              |
| 1:M:665:PRO:HB3   | 1:M:674:PHE:CZ    | 2.55                     | 0.41              |
| 1:N:714:LYS:HA    | 1:P:387:VAL:HA    | 2.02                     | 0.41              |
| 1:O:248:ALA:HB3   | 1:MA:674:PHE:CZ   | 2.56                     | 0.41              |
| 1:O:387:VAL:HA    | 1:BA:714:LYS:HA   | 2.02                     | 0.41              |
| 1:O:696:LYS:HA    | 1:O:696:LYS:HD3   | 1.73                     | 0.41              |
| 1:O:740:THR:CG2   | 1:Y:389:ARG:HG2   | 2.51                     | 0.41              |
| 1:Q:248:ALA:HB3   | 1:IB:674:PHE:CZ   | 2.55                     | 0.41              |
| 1:Q:387:VAL:HA    | 1:AA:714:LYS:HA   | 2.01                     | 0.41              |
| 1:R:389:ARG:HG2   | 1:WA:740:THR:CG2  | 2.51                     | 0.41              |
| 1:V:701:ARG:HD3   | 1:V:705:GLU:CG    | 2.49                     | 0.41              |
| 1:W:344:THR:HG22  | 1:W:654:ILE:HG12  | 2.02                     | 0.41              |
| 1:Z:317:ASN:ND2   | 1:RA:402:MET:SD   | 2.94                     | 0.41              |
| 1:Z:389:ARG:HG2   | 1:UA:740:THR:CG2  | 2.51                     | 0.41              |
| 1:Z:402:MET:SD    | 1:AB:317:ASN:ND2  | 2.94                     | 0.41              |
| 1:Z:740:THR:CG2   | 1:HB:389:ARG:HG2  | 2.51                     | 0.41              |
| 1:BA:344:THR:HG22 | 1:BA:654:ILE:HG12 | 2.02                     | 0.41              |
| 1:BA:701:ARG:HD3  | 1:BA:705:GLU:CG   | 2.50                     | 0.41              |
| 1:EA:317:ASN:ND2  | 1:BB:402:MET:SD   | 2.94                     | 0.41              |
| 1:EA:402:MET:SD   | 1:QA:317:ASN:ND2  | 2.94                     | 0.41              |
| 1:EA:674:PHE:CZ   | 1:QA:248:ALA:HB3  | 2.55                     | 0.41              |
| 1:EA:740:THR:CG2  | 1:XA:389:ARG:HG2  | 2.51                     | 0.41              |
| 1:IA:219:ASP:O    | 1:IA:220:GLY:C    | 2.62                     | 0.41              |
| 1:IA:726:GLY:HA3  | 1:KA:257:TYR:O    | 2.17                     | 0.41              |
| 1:JA:402:MET:SD   | 1:VA:317:ASN:ND2  | 2.94                     | 0.41              |
| 1:LA:402:MET:SD   | 1:UA:317:ASN:ND2  | 2.94                     | 0.41              |
| 1:LA:665:PRO:HB3  | 1:LA:674:PHE:CZ   | 2.55                     | 0.41              |
| 1:MA:248:ALA:HB3  | 1:HB:674:PHE:CZ   | 2.56                     | 0.41              |
| 1:OA:402:MET:SD   | 1:FB:317:ASN:ND2  | 2.94                     | 0.41              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:PA:219:ASP:O    | 1:PA:220:GLY:C    | 2.62                     | 0.41              |
| 1:PA:665:PRO:HB3  | 1:PA:674:PHE:CZ   | 2.55                     | 0.41              |
| 1:VA:344:THR:HG22 | 1:VA:654:ILE:HG12 | 2.02                     | 0.41              |
| 1:VA:725:ASN:HB2  | 1:VA:727:VAL:HG23 | 2.02                     | 0.41              |
| 1:WA:344:THR:HG22 | 1:WA:654:ILE:HG12 | 2.02                     | 0.41              |
| 1:ZA:344:THR:HG22 | 1:ZA:654:ILE:HG12 | 2.02                     | 0.41              |
| 1:AB:219:ASP:O    | 1:AB:220:GLY:C    | 2.62                     | 0.41              |
| 1:BB:725:ASN:HB2  | 1:BB:727:VAL:HG23 | 2.02                     | 0.41              |
| 1:DB:701:ARG:HD3  | 1:DB:705:GLU:CG   | 2.49                     | 0.41              |
| 1:FB:725:ASN:HB2  | 1:FB:727:VAL:HG23 | 2.02                     | 0.41              |
| 1:GB:344:THR:HG22 | 1:GB:654:ILE:HG12 | 2.02                     | 0.41              |
| 1:IB:696:LYS:HD3  | 1:IB:696:LYS:HA   | 1.73                     | 0.41              |
| 1:C:725:ASN:HB2   | 1:C:727:VAL:HG23  | 2.02                     | 0.41              |
| 1:D:248:ALA:HB3   | 1:F:674:PHE:CZ    | 2.55                     | 0.41              |
| 1:E:402:MET:SD    | 1:GA:317:ASN:ND2  | 2.94                     | 0.41              |
| 1:H:665:PRO:HB3   | 1:H:674:PHE:CZ    | 2.55                     | 0.41              |
| 1:I:740:THR:CG2   | 1:P:389:ARG:HG2   | 2.51                     | 0.41              |
| 1:K:701:ARG:HD3   | 1:K:705:GLU:CG    | 2.49                     | 0.41              |
| 1:L:402:MET:SD    | 1:KA:317:ASN:ND2  | 2.94                     | 0.41              |
| 1:L:633:ASP:H     | 1:W:615:GLN:HE21  | 1.68                     | 0.41              |
| 1:M:219:ASP:O     | 1:M:220:GLY:C     | 2.62                     | 0.41              |
| 1:M:317:ASN:ND2   | 1:DA:402:MET:SD   | 2.94                     | 0.41              |
| 1:M:714:LYS:HA    | 1:DA:387:VAL:HA   | 2.02                     | 0.41              |
| 1:Q:317:ASN:ND2   | 1:IB:402:MET:SD   | 2.94                     | 0.41              |
| 1:Q:389:ARG:HG2   | 1:GA:740:THR:CG2  | 2.51                     | 0.41              |
| 1:Q:665:PRO:HB3   | 1:Q:674:PHE:CZ    | 2.55                     | 0.41              |
| 1:R:665:PRO:HB3   | 1:R:674:PHE:CZ    | 2.55                     | 0.41              |
| 1:BA:389:ARG:HG2  | 1:VA:740:THR:CG2  | 2.51                     | 0.41              |
| 1:DA:518:ASN:HA   | 1:DA:519:PRO:HA   | 1.96                     | 0.41              |
| 1:EA:389:ARG:HG2  | 1:EB:740:THR:CG2  | 2.51                     | 0.41              |
| 1:HA:248:ALA:HB3  | 1:XA:674:PHE:CZ   | 2.56                     | 0.41              |
| 1:A:387:VAL:HA    | 1:I:714:LYS:HA    | 2.02                     | 0.40              |
| 1:A:402:MET:SD    | 1:I:317:ASN:ND2   | 2.94                     | 0.40              |
| 1:C:740:THR:CG2   | 1:CA:389:ARG:HG2  | 2.51                     | 0.40              |
| 1:F:317:ASN:ND2   | 1:FB:402:MET:SD   | 2.94                     | 0.40              |
| 1:F:389:ARG:HG2   | 1:S:740:THR:CG2   | 2.51                     | 0.40              |
| 1:F:701:ARG:HD3   | 1:F:705:GLU:CG    | 2.49                     | 0.40              |
| 1:H:714:LYS:HA    | 1:Y:387:VAL:HA    | 2.02                     | 0.40              |
| 1:I:402:MET:SD    | 1:BB:317:ASN:ND2  | 2.94                     | 0.40              |
| 1:K:317:ASN:ND2   | 1:VA:402:MET:SD   | 2.94                     | 0.40              |
| 1:M:740:THR:CG2   | 1:HA:389:ARG:HG2  | 2.51                     | 0.40              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:O:665:PRO:HB3   | 1:O:674:PHE:CZ    | 2.55                     | 0.40              |
| 1:R:317:ASN:ND2   | 1:NA:402:MET:SD   | 2.94                     | 0.40              |
| 1:R:725:ASN:HB2   | 1:R:727:VAL:HG23  | 2.03                     | 0.40              |
| 1:R:740:THR:CG2   | 1:X:389:ARG:HG2   | 2.51                     | 0.40              |
| 1:S:665:PRO:HB3   | 1:S:674:PHE:CZ    | 2.55                     | 0.40              |
| 1:Z:725:ASN:HB2   | 1:Z:727:VAL:HG23  | 2.02                     | 0.40              |
| 1:AA:389:ARG:HG2  | 1:NA:740:THR:CG2  | 2.51                     | 0.40              |
| 1:DA:487:ARG:HB2  | 1:DA:573:THR:HB   | 2.03                     | 0.40              |
| 1:EA:725:ASN:HB2  | 1:EA:727:VAL:HG23 | 2.02                     | 0.40              |
| 1:GA:674:PHE:CZ   | 1:EB:248:ALA:HB3  | 2.56                     | 0.40              |
| 1:HA:725:ASN:HB2  | 1:HA:727:VAL:HG23 | 2.02                     | 0.40              |
| 1:JA:248:ALA:HB3  | 1:GB:674:PHE:CZ   | 2.56                     | 0.40              |
| 1:LA:674:PHE:CZ   | 1:UA:248:ALA:HB3  | 2.56                     | 0.40              |
| 1:PA:389:ARG:HG2  | 1:CB:740:THR:CG2  | 2.51                     | 0.40              |
| 1:SA:487:ARG:HB2  | 1:SA:573:THR:HB   | 2.04                     | 0.40              |
| 1:UA:389:ARG:HG2  | 1:HB:740:THR:HG21 | 2.04                     | 0.40              |
| 1:WA:701:ARG:HD3  | 1:WA:705:GLU:CG   | 2.49                     | 0.40              |
| 1:YA:696:LYS:HD3  | 1:YA:696:LYS:HA   | 1.73                     | 0.40              |
| 1:ZA:665:PRO:HB3  | 1:ZA:674:PHE:CZ   | 2.55                     | 0.40              |
| 1:CB:487:ARG:HB2  | 1:CB:573:THR:HB   | 2.04                     | 0.40              |
| 1:IB:665:PRO:HB3  | 1:IB:674:PHE:CZ   | 2.55                     | 0.40              |
| 1:B:317:ASN:ND2   | 1:YA:402:MET:SD   | 2.94                     | 0.40              |
| 1:B:665:PRO:HB3   | 1:B:674:PHE:CZ    | 2.55                     | 0.40              |
| 1:D:633:ASP:H     | 1:DB:615:GLN:HE21 | 1.67                     | 0.40              |
| 1:E:740:THR:CG2   | 1:NA:389:ARG:HG2  | 2.51                     | 0.40              |
| 1:H:740:THR:CG2   | 1:MA:389:ARG:HG2  | 2.51                     | 0.40              |
| 1:K:257:TYR:O     | 1:S:726:GLY:HA3   | 2.17                     | 0.40              |
| 1:N:317:ASN:ND2   | 1:P:402:MET:SD    | 2.94                     | 0.40              |
| 1:S:389:ARG:HG2   | 1:TA:740:THR:HG21 | 2.04                     | 0.40              |
| 1:T:402:MET:SD    | 1:LA:317:ASN:ND2  | 2.94                     | 0.40              |
| 1:AA:389:ARG:HG2  | 1:NA:740:THR:HG21 | 2.04                     | 0.40              |
| 1:BA:725:ASN:HB2  | 1:BA:727:VAL:HG23 | 2.02                     | 0.40              |
| 1:DA:665:PRO:HB3  | 1:DA:674:PHE:CZ   | 2.55                     | 0.40              |
| 1:HA:477:TRP:CE2  | 1:BB:630:PRO:HD3  | 2.57                     | 0.40              |
| 1:MA:740:THR:HG21 | 1:RA:389:ARG:HG2  | 2.04                     | 0.40              |
| 1:RA:725:ASN:HB2  | 1:RA:727:VAL:HG23 | 2.02                     | 0.40              |
| 1:SA:740:THR:CG2  | 1:ZA:389:ARG:HG2  | 2.51                     | 0.40              |
| 1:EB:344:THR:HG22 | 1:EB:654:ILE:HG12 | 2.02                     | 0.40              |
| 1:A:498:SER:O     | 1:N:448:THR:OG1   | 2.35                     | 0.40              |
| 1:B:402:MET:SD    | 1:V:317:ASN:ND2   | 2.94                     | 0.40              |
| 1:C:317:ASN:ND2   | 1:IA:402:MET:SD   | 2.94                     | 0.40              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:D:389:ARG:HG2   | 1:DB:740:THR:HG21 | 2.04                     | 0.40              |
| 1:D:477:TRP:CE2   | 1:K:630:PRO:HD3   | 2.57                     | 0.40              |
| 1:D:630:PRO:HD3   | 1:DB:477:TRP:CE2  | 2.57                     | 0.40              |
| 1:F:630:PRO:HD3   | 1:S:477:TRP:CE2   | 2.57                     | 0.40              |
| 1:G:630:PRO:HD3   | 1:BA:477:TRP:CE2  | 2.57                     | 0.40              |
| 1:H:402:MET:SD    | 1:IB:317:ASN:ND2  | 2.94                     | 0.40              |
| 1:J:665:PRO:HB3   | 1:J:674:PHE:CZ    | 2.55                     | 0.40              |
| 1:J:740:THR:HG21  | 1:DA:389:ARG:HG2  | 2.04                     | 0.40              |
| 1:L:630:PRO:HD3   | 1:W:477:TRP:CE2   | 2.57                     | 0.40              |
| 1:M:477:TRP:CE2   | 1:HA:630:PRO:HD3  | 2.57                     | 0.40              |
| 1:N:402:MET:SD    | 1:RA:317:ASN:ND2  | 2.94                     | 0.40              |
| 1:O:389:ARG:HG2   | 1:FA:740:THR:HG21 | 2.04                     | 0.40              |
| 1:R:487:ARG:HB2   | 1:R:573:THR:HB    | 2.03                     | 0.40              |
| 1:R:701:ARG:HD3   | 1:R:705:GLU:CG    | 2.49                     | 0.40              |
| 1:T:740:THR:CG2   | 1:IA:389:ARG:HG2  | 2.51                     | 0.40              |
| 1:V:389:ARG:HG2   | 1:IA:740:THR:HG21 | 2.04                     | 0.40              |
| 1:V:389:ARG:HG2   | 1:IA:740:THR:CG2  | 2.51                     | 0.40              |
| 1:W:389:ARG:HG2   | 1:FB:740:THR:CG2  | 2.51                     | 0.40              |
| 1:W:725:ASN:HB2   | 1:W:727:VAL:HG23  | 2.03                     | 0.40              |
| 1:Y:317:ASN:ND2   | 1:AA:402:MET:SD   | 2.94                     | 0.40              |
| 1:Y:487:ARG:HB2   | 1:Y:573:THR:HB    | 2.04                     | 0.40              |
| 1:FA:402:MET:SD   | 1:NA:317:ASN:ND2  | 2.94                     | 0.40              |
| 1:MA:477:TRP:CE2  | 1:RA:630:PRO:HD3  | 2.57                     | 0.40              |
| 1:XA:740:THR:HG21 | 1:EB:389:ARG:HG2  | 2.04                     | 0.40              |
| 1:YA:665:PRO:HB3  | 1:YA:674:PHE:CZ   | 2.55                     | 0.40              |
| 1:ZA:219:ASP:O    | 1:ZA:220:GLY:C    | 2.62                     | 0.40              |
| 1:GB:701:ARG:HD3  | 1:GB:705:GLU:CG   | 2.49                     | 0.40              |
| 1:B:674:PHE:CZ    | 1:V:248:ALA:HB3   | 2.56                     | 0.40              |
| 1:C:248:ALA:HB3   | 1:IA:674:PHE:CZ   | 2.56                     | 0.40              |
| 1:C:402:MET:SD    | 1:TA:317:ASN:ND2  | 2.94                     | 0.40              |
| 1:C:487:ARG:HB2   | 1:C:573:THR:HB    | 2.04                     | 0.40              |
| 1:C:701:ARG:HD3   | 1:C:705:GLU:CG    | 2.49                     | 0.40              |
| 1:D:487:ARG:HB2   | 1:D:573:THR:HB    | 2.03                     | 0.40              |
| 1:E:630:PRO:HD3   | 1:AA:477:TRP:CE2  | 2.57                     | 0.40              |
| 1:F:477:TRP:CE2   | 1:TA:630:PRO:HD3  | 2.57                     | 0.40              |
| 1:H:477:TRP:CE2   | 1:MA:630:PRO:HD3  | 2.57                     | 0.40              |
| 1:K:248:ALA:HB3   | 1:VA:674:PHE:CZ   | 2.56                     | 0.40              |
| 1:K:477:TRP:CE2   | 1:DB:630:PRO:HD3  | 2.57                     | 0.40              |
| 1:K:665:PRO:HB3   | 1:K:674:PHE:CZ    | 2.55                     | 0.40              |
| 1:O:317:ASN:ND2   | 1:MA:402:MET:SD   | 2.94                     | 0.40              |
| 1:O:389:ARG:HG2   | 1:FA:740:THR:CG2  | 2.51                     | 0.40              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:O:448:THR:OG1   | 1:Y:498:SER:O     | 2.35                     | 0.40              |
| 1:O:740:THR:HG21  | 1:Y:389:ARG:HG2   | 2.04                     | 0.40              |
| 1:P:740:THR:CG2   | 1:YA:389:ARG:HG2  | 2.51                     | 0.40              |
| 1:Q:402:MET:SD    | 1:AA:317:ASN:ND2  | 2.94                     | 0.40              |
| 1:Q:725:ASN:HB2   | 1:Q:727:VAL:HG23  | 2.02                     | 0.40              |
| 1:R:248:ALA:HB3   | 1:NA:674:PHE:CZ   | 2.56                     | 0.40              |
| 1:T:389:ARG:HG2   | 1:V:740:THR:CG2   | 2.51                     | 0.40              |
| 1:Y:665:PRO:HB3   | 1:Y:674:PHE:CZ    | 2.55                     | 0.40              |
| 1:CA:725:ASN:HB2  | 1:CA:727:VAL:HG23 | 2.02                     | 0.40              |
| 1:HA:740:THR:HG21 | 1:BB:389:ARG:HG2  | 2.04                     | 0.40              |
| 1:IA:317:ASN:ND2  | 1:KA:402:MET:SD   | 2.94                     | 0.40              |
| 1:IA:725:ASN:HB2  | 1:IA:727:VAL:HG23 | 2.02                     | 0.40              |
| 1:JA:344:THR:HG22 | 1:JA:654:ILE:HG12 | 2.02                     | 0.40              |
| 1:LA:389:ARG:HG2  | 1:AB:740:THR:HG21 | 2.04                     | 0.40              |
| 1:MA:725:ASN:HB2  | 1:MA:727:VAL:HG23 | 2.03                     | 0.40              |
| 1:NA:725:ASN:HB2  | 1:NA:727:VAL:HG23 | 2.03                     | 0.40              |
| 1:OA:248:ALA:HB3  | 1:WA:674:PHE:CZ   | 2.56                     | 0.40              |
| 1:SA:740:THR:HG21 | 1:ZA:389:ARG:HG2  | 2.04                     | 0.40              |
| 1:UA:344:THR:HG22 | 1:UA:654:ILE:HG12 | 2.02                     | 0.40              |
| 1:A:615:GLN:HE21  | 1:IB:633:ASP:H    | 1.67                     | 0.40              |
| 1:A:740:THR:CG2   | 1:IB:389:ARG:HG2  | 2.52                     | 0.40              |
| 1:B:725:ASN:HB2   | 1:B:727:VAL:HG23  | 2.03                     | 0.40              |
| 1:C:389:ARG:HG2   | 1:GB:740:THR:HG21 | 2.04                     | 0.40              |
| 1:C:518:ASN:HA    | 1:C:519:PRO:HA    | 1.97                     | 0.40              |
| 1:D:317:ASN:ND2   | 1:F:402:MET:SD    | 2.94                     | 0.40              |
| 1:E:389:ARG:HG2   | 1:AA:740:THR:CG2  | 2.51                     | 0.40              |
| 1:F:248:ALA:HB3   | 1:FB:674:PHE:CZ   | 2.56                     | 0.40              |
| 1:I:630:PRO:HD3   | 1:YA:477:TRP:CE2  | 2.57                     | 0.40              |
| 1:J:317:ASN:ND2   | 1:HA:402:MET:SD   | 2.94                     | 0.40              |
| 1:J:389:ARG:HG2   | 1:KA:740:THR:HG21 | 2.04                     | 0.40              |
| 1:J:701:ARG:HD3   | 1:J:705:GLU:CG    | 2.49                     | 0.40              |
| 1:K:397:TYR:C     | 1:S:230:CYS:O     | 2.65                     | 0.40              |
| 1:K:448:THR:OG1   | 1:DB:498:SER:O    | 2.35                     | 0.40              |
| 1:M:389:ARG:HG2   | 1:BB:740:THR:HG21 | 2.04                     | 0.40              |
| 1:M:402:MET:SD    | 1:YA:317:ASN:ND2  | 2.94                     | 0.40              |
| 1:N:389:ARG:HG2   | 1:IB:740:THR:HG21 | 2.04                     | 0.40              |
| 1:N:397:TYR:C     | 1:RA:230:CYS:O    | 2.65                     | 0.40              |
| 1:N:630:PRO:HD3   | 1:IB:477:TRP:CE2  | 2.57                     | 0.40              |
| 1:Q:740:THR:HG21  | 1:QA:389:ARG:HG2  | 2.04                     | 0.40              |
| 1:R:402:MET:SD    | 1:DB:317:ASN:ND2  | 2.94                     | 0.40              |
| 1:S:487:ARG:HB2   | 1:S:573:THR:HB    | 2.04                     | 0.40              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:S:630:PRO:HD3   | 1:TA:477:TRP:CE2  | 2.57                     | 0.40              |
| 1:T:630:PRO:HD3   | 1:V:477:TRP:CE2   | 2.57                     | 0.40              |
| 1:V:402:MET:SD    | 1:DA:317:ASN:ND2  | 2.94                     | 0.40              |
| 1:W:402:MET:SD    | 1:PA:317:ASN:ND2  | 2.94                     | 0.40              |
| 1:W:518:ASN:HA    | 1:W:519:PRO:HA    | 1.96                     | 0.40              |
| 1:X:665:PRO:HB3   | 1:X:674:PHE:CZ    | 2.55                     | 0.40              |
| 1:X:725:ASN:HB2   | 1:X:727:VAL:HG23  | 2.02                     | 0.40              |
| 1:X:740:THR:CG2   | 1:WA:389:ARG:HG2  | 2.51                     | 0.40              |
| 1:Y:477:TRP:CE2   | 1:FA:630:PRO:HD3  | 2.57                     | 0.40              |
| 1:AA:487:ARG:HB2  | 1:AA:573:THR:HB   | 2.04                     | 0.40              |
| 1:CA:317:ASN:ND2  | 1:SA:402:MET:SD   | 2.94                     | 0.40              |
| 1:CA:665:PRO:HB3  | 1:CA:674:PHE:CZ   | 2.55                     | 0.40              |
| 1:DA:477:TRP:CE2  | 1:KA:630:PRO:HD3  | 2.57                     | 0.40              |
| 1:EA:397:TYR:C    | 1:QA:230:CYS:O    | 2.65                     | 0.40              |
| 1:MA:487:ARG:HB2  | 1:MA:573:THR:HB   | 2.03                     | 0.40              |
| 1:OA:344:THR:HG22 | 1:OA:654:ILE:HG12 | 2.02                     | 0.40              |
| 1:OA:389:ARG:HG2  | 1:PA:740:THR:CG2  | 2.51                     | 0.40              |
| 1:PA:389:ARG:HG2  | 1:CB:740:THR:HG21 | 2.04                     | 0.40              |
| 1:PA:487:ARG:HB2  | 1:PA:573:THR:HB   | 2.04                     | 0.40              |
| 1:PA:630:PRO:HD3  | 1:CB:477:TRP:CE2  | 2.57                     | 0.40              |
| 1:YA:487:ARG:HB2  | 1:YA:573:THR:HB   | 2.04                     | 0.40              |
| 1:ZA:725:ASN:HB2  | 1:ZA:727:VAL:HG23 | 2.02                     | 0.40              |

There are no symmetry-related clashes.

## 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 PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

| Mol | Chain | Analysed      | Favoured  | Allowed | Outliers | Percentiles |     |
|-----|-------|---------------|-----------|---------|----------|-------------|-----|
| 1   | A     | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | AA    | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | AB    | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |

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| Mol | Chain | Analysed      | Favoured  | Allowed | Outliers | Percentiles |     |
|-----|-------|---------------|-----------|---------|----------|-------------|-----|
| 1   | B     | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | BA    | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | BB    | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | C     | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | CA    | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | CB    | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | D     | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | DA    | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | DB    | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | E     | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | EA    | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | EB    | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | F     | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | FA    | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | FB    | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | G     | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | GA    | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | GB    | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | H     | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | HA    | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | HB    | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | I     | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | IA    | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | IB    | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | J     | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | JA    | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | K     | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | KA    | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | L     | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | LA    | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |
| 1   | M     | 516/743 (69%) | 507 (98%) | 9 (2%)  | 0        | 100         | 100 |

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| Mol | Chain | Analysed          | Favoured    | Allowed  | Outliers | Percentiles |     |
|-----|-------|-------------------|-------------|----------|----------|-------------|-----|
| 1   | MA    | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| 1   | N     | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| 1   | NA    | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| 1   | O     | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| 1   | OA    | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| 1   | P     | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| 1   | PA    | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| 1   | Q     | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| 1   | QA    | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| 1   | R     | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| 1   | RA    | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| 1   | S     | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| 1   | SA    | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| 1   | T     | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| 1   | TA    | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| 1   | UA    | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| 1   | V     | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| 1   | VA    | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| 1   | W     | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| 1   | WA    | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| 1   | X     | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| 1   | XA    | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| 1   | Y     | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| 1   | YA    | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| 1   | Z     | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| 1   | ZA    | 516/743 (69%)     | 507 (98%)   | 9 (2%)   | 0        | 100         | 100 |
| All | All   | 30960/44580 (69%) | 30420 (98%) | 540 (2%) | 0        | 100         | 100 |

There are no Ramachandran outliers to report.

### 5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

| Mol | Chain | Analysed      | Rotameric  | Outliers | Percentiles |    |
|-----|-------|---------------|------------|----------|-------------|----|
| 1   | A     | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | AA    | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | AB    | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | B     | 461/637 (72%) | 458 (99%)  | 3 (1%)   | 81          | 92 |
| 1   | BA    | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | BB    | 461/637 (72%) | 458 (99%)  | 3 (1%)   | 81          | 92 |
| 1   | C     | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | CA    | 461/637 (72%) | 460 (100%) | 1 (0%)   | 92          | 98 |
| 1   | CB    | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | D     | 461/637 (72%) | 460 (100%) | 1 (0%)   | 92          | 98 |
| 1   | DA    | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | DB    | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | E     | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | EA    | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | EB    | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | F     | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | FA    | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | FB    | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | G     | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | GA    | 461/637 (72%) | 460 (100%) | 1 (0%)   | 92          | 98 |
| 1   | GB    | 461/637 (72%) | 458 (99%)  | 3 (1%)   | 81          | 92 |
| 1   | H     | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | HA    | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | HB    | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | I     | 461/637 (72%) | 458 (99%)  | 3 (1%)   | 81          | 92 |
| 1   | IA    | 461/637 (72%) | 460 (100%) | 1 (0%)   | 92          | 98 |

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| Mol | Chain | Analysed      | Rotameric  | Outliers | Percentiles |    |
|-----|-------|---------------|------------|----------|-------------|----|
| 1   | IB    | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | J     | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | JA    | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | K     | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | KA    | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | L     | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | LA    | 461/637 (72%) | 460 (100%) | 1 (0%)   | 92          | 98 |
| 1   | M     | 461/637 (72%) | 460 (100%) | 1 (0%)   | 92          | 98 |
| 1   | MA    | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | N     | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | NA    | 461/637 (72%) | 460 (100%) | 1 (0%)   | 92          | 98 |
| 1   | O     | 461/637 (72%) | 460 (100%) | 1 (0%)   | 92          | 98 |
| 1   | OA    | 461/637 (72%) | 458 (99%)  | 3 (1%)   | 81          | 92 |
| 1   | P     | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | PA    | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | Q     | 461/637 (72%) | 460 (100%) | 1 (0%)   | 92          | 98 |
| 1   | QA    | 461/637 (72%) | 460 (100%) | 1 (0%)   | 92          | 98 |
| 1   | R     | 461/637 (72%) | 460 (100%) | 1 (0%)   | 92          | 98 |
| 1   | RA    | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | S     | 461/637 (72%) | 458 (99%)  | 3 (1%)   | 81          | 92 |
| 1   | SA    | 461/637 (72%) | 460 (100%) | 1 (0%)   | 92          | 98 |
| 1   | T     | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | TA    | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | UA    | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | V     | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | VA    | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | W     | 461/637 (72%) | 458 (99%)  | 3 (1%)   | 81          | 92 |
| 1   | WA    | 461/637 (72%) | 460 (100%) | 1 (0%)   | 92          | 98 |
| 1   | X     | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | XA    | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |
| 1   | Y     | 461/637 (72%) | 459 (100%) | 2 (0%)   | 89          | 96 |

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| Mol | Chain | Analysed          | Rotameric    | Outliers | Percentiles |    |
|-----|-------|-------------------|--------------|----------|-------------|----|
| 1   | YA    | 461/637 (72%)     | 459 (100%)   | 2 (0%)   | 89          | 96 |
| 1   | Z     | 461/637 (72%)     | 458 (99%)    | 3 (1%)   | 81          | 92 |
| 1   | ZA    | 461/637 (72%)     | 459 (100%)   | 2 (0%)   | 89          | 96 |
| All | All   | 27660/38220 (72%) | 27545 (100%) | 115 (0%) | 88          | 96 |

All (115) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | A     | 322 | GLU  |
| 1   | A     | 741 | ARG  |
| 1   | B     | 298 | ARG  |
| 1   | B     | 322 | GLU  |
| 1   | B     | 741 | ARG  |
| 1   | C     | 322 | GLU  |
| 1   | C     | 741 | ARG  |
| 1   | D     | 322 | GLU  |
| 1   | E     | 322 | GLU  |
| 1   | E     | 741 | ARG  |
| 1   | F     | 322 | GLU  |
| 1   | F     | 741 | ARG  |
| 1   | G     | 298 | ARG  |
| 1   | G     | 741 | ARG  |
| 1   | H     | 322 | GLU  |
| 1   | H     | 741 | ARG  |
| 1   | I     | 298 | ARG  |
| 1   | I     | 322 | GLU  |
| 1   | I     | 741 | ARG  |
| 1   | J     | 298 | ARG  |
| 1   | J     | 322 | GLU  |
| 1   | K     | 322 | GLU  |
| 1   | K     | 741 | ARG  |
| 1   | L     | 322 | GLU  |
| 1   | L     | 741 | ARG  |
| 1   | M     | 322 | GLU  |
| 1   | N     | 322 | GLU  |
| 1   | N     | 741 | ARG  |
| 1   | O     | 322 | GLU  |
| 1   | P     | 322 | GLU  |
| 1   | P     | 741 | ARG  |
| 1   | Q     | 322 | GLU  |
| 1   | R     | 322 | GLU  |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | S     | 298 | ARG  |
| 1   | S     | 322 | GLU  |
| 1   | S     | 741 | ARG  |
| 1   | T     | 298 | ARG  |
| 1   | T     | 322 | GLU  |
| 1   | V     | 322 | GLU  |
| 1   | V     | 741 | ARG  |
| 1   | W     | 298 | ARG  |
| 1   | W     | 322 | GLU  |
| 1   | W     | 741 | ARG  |
| 1   | X     | 322 | GLU  |
| 1   | X     | 741 | ARG  |
| 1   | Y     | 322 | GLU  |
| 1   | Y     | 741 | ARG  |
| 1   | Z     | 298 | ARG  |
| 1   | Z     | 322 | GLU  |
| 1   | Z     | 741 | ARG  |
| 1   | AA    | 322 | GLU  |
| 1   | AA    | 741 | ARG  |
| 1   | BA    | 322 | GLU  |
| 1   | BA    | 741 | ARG  |
| 1   | CA    | 741 | ARG  |
| 1   | DA    | 322 | GLU  |
| 1   | DA    | 741 | ARG  |
| 1   | EA    | 298 | ARG  |
| 1   | EA    | 322 | GLU  |
| 1   | FA    | 322 | GLU  |
| 1   | FA    | 741 | ARG  |
| 1   | GA    | 322 | GLU  |
| 1   | HA    | 322 | GLU  |
| 1   | HA    | 741 | ARG  |
| 1   | IA    | 322 | GLU  |
| 1   | JA    | 322 | GLU  |
| 1   | JA    | 741 | ARG  |
| 1   | KA    | 322 | GLU  |
| 1   | KA    | 741 | ARG  |
| 1   | LA    | 322 | GLU  |
| 1   | MA    | 298 | ARG  |
| 1   | MA    | 322 | GLU  |
| 1   | NA    | 322 | GLU  |
| 1   | OA    | 298 | ARG  |
| 1   | OA    | 322 | GLU  |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | OA    | 741 | ARG  |
| 1   | PA    | 322 | GLU  |
| 1   | PA    | 741 | ARG  |
| 1   | QA    | 298 | ARG  |
| 1   | RA    | 322 | GLU  |
| 1   | RA    | 741 | ARG  |
| 1   | SA    | 322 | GLU  |
| 1   | TA    | 322 | GLU  |
| 1   | TA    | 741 | ARG  |
| 1   | UA    | 322 | GLU  |
| 1   | UA    | 741 | ARG  |
| 1   | VA    | 322 | GLU  |
| 1   | VA    | 741 | ARG  |
| 1   | WA    | 741 | ARG  |
| 1   | XA    | 322 | GLU  |
| 1   | XA    | 741 | ARG  |
| 1   | YA    | 322 | GLU  |
| 1   | YA    | 741 | ARG  |
| 1   | ZA    | 322 | GLU  |
| 1   | ZA    | 741 | ARG  |
| 1   | AB    | 322 | GLU  |
| 1   | AB    | 741 | ARG  |
| 1   | BB    | 298 | ARG  |
| 1   | BB    | 322 | GLU  |
| 1   | BB    | 741 | ARG  |
| 1   | CB    | 298 | ARG  |
| 1   | CB    | 741 | ARG  |
| 1   | DB    | 322 | GLU  |
| 1   | DB    | 741 | ARG  |
| 1   | EB    | 322 | GLU  |
| 1   | EB    | 741 | ARG  |
| 1   | FB    | 322 | GLU  |
| 1   | FB    | 741 | ARG  |
| 1   | GB    | 298 | ARG  |
| 1   | GB    | 322 | GLU  |
| 1   | GB    | 741 | ARG  |
| 1   | HB    | 322 | GLU  |
| 1   | HB    | 741 | ARG  |
| 1   | IB    | 322 | GLU  |
| 1   | IB    | 741 | ARG  |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (486) such sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | A     | 229 | HIS  |
| 1   | A     | 259 | GLN  |
| 1   | A     | 312 | ASN  |
| 1   | A     | 428 | GLN  |
| 1   | A     | 461 | GLN  |
| 1   | A     | 464 | GLN  |
| 1   | A     | 497 | ASN  |
| 1   | A     | 615 | GLN  |
| 1   | A     | 717 | ASN  |
| 1   | B     | 259 | GLN  |
| 1   | B     | 312 | ASN  |
| 1   | B     | 385 | GLN  |
| 1   | B     | 428 | GLN  |
| 1   | B     | 464 | GLN  |
| 1   | B     | 497 | ASN  |
| 1   | B     | 615 | GLN  |
| 1   | B     | 717 | ASN  |
| 1   | C     | 229 | HIS  |
| 1   | C     | 259 | GLN  |
| 1   | C     | 312 | ASN  |
| 1   | C     | 428 | GLN  |
| 1   | C     | 464 | GLN  |
| 1   | C     | 497 | ASN  |
| 1   | C     | 615 | GLN  |
| 1   | C     | 717 | ASN  |
| 1   | D     | 259 | GLN  |
| 1   | D     | 312 | ASN  |
| 1   | D     | 385 | GLN  |
| 1   | D     | 428 | GLN  |
| 1   | D     | 461 | GLN  |
| 1   | D     | 464 | GLN  |
| 1   | D     | 497 | ASN  |
| 1   | D     | 615 | GLN  |
| 1   | D     | 717 | ASN  |
| 1   | E     | 259 | GLN  |
| 1   | E     | 312 | ASN  |
| 1   | E     | 385 | GLN  |
| 1   | E     | 428 | GLN  |
| 1   | E     | 461 | GLN  |
| 1   | E     | 464 | GLN  |
| 1   | E     | 497 | ASN  |
| 1   | E     | 615 | GLN  |
| 1   | E     | 717 | ASN  |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | F     | 229 | HIS  |
| 1   | F     | 259 | GLN  |
| 1   | F     | 312 | ASN  |
| 1   | F     | 428 | GLN  |
| 1   | F     | 461 | GLN  |
| 1   | F     | 464 | GLN  |
| 1   | F     | 497 | ASN  |
| 1   | F     | 615 | GLN  |
| 1   | F     | 717 | ASN  |
| 1   | G     | 312 | ASN  |
| 1   | G     | 428 | GLN  |
| 1   | G     | 461 | GLN  |
| 1   | G     | 464 | GLN  |
| 1   | G     | 497 | ASN  |
| 1   | G     | 615 | GLN  |
| 1   | H     | 259 | GLN  |
| 1   | H     | 312 | ASN  |
| 1   | H     | 385 | GLN  |
| 1   | H     | 428 | GLN  |
| 1   | H     | 461 | GLN  |
| 1   | H     | 464 | GLN  |
| 1   | H     | 497 | ASN  |
| 1   | H     | 615 | GLN  |
| 1   | I     | 312 | ASN  |
| 1   | I     | 428 | GLN  |
| 1   | I     | 461 | GLN  |
| 1   | I     | 464 | GLN  |
| 1   | I     | 497 | ASN  |
| 1   | I     | 615 | GLN  |
| 1   | I     | 717 | ASN  |
| 1   | J     | 229 | HIS  |
| 1   | J     | 259 | GLN  |
| 1   | J     | 312 | ASN  |
| 1   | J     | 428 | GLN  |
| 1   | J     | 461 | GLN  |
| 1   | J     | 464 | GLN  |
| 1   | J     | 497 | ASN  |
| 1   | J     | 615 | GLN  |
| 1   | K     | 229 | HIS  |
| 1   | K     | 259 | GLN  |
| 1   | K     | 312 | ASN  |
| 1   | K     | 428 | GLN  |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | K     | 461 | GLN  |
| 1   | K     | 464 | GLN  |
| 1   | K     | 497 | ASN  |
| 1   | K     | 615 | GLN  |
| 1   | K     | 717 | ASN  |
| 1   | L     | 312 | ASN  |
| 1   | L     | 428 | GLN  |
| 1   | L     | 461 | GLN  |
| 1   | L     | 464 | GLN  |
| 1   | L     | 497 | ASN  |
| 1   | L     | 615 | GLN  |
| 1   | M     | 229 | HIS  |
| 1   | M     | 259 | GLN  |
| 1   | M     | 312 | ASN  |
| 1   | M     | 428 | GLN  |
| 1   | M     | 461 | GLN  |
| 1   | M     | 464 | GLN  |
| 1   | M     | 497 | ASN  |
| 1   | M     | 615 | GLN  |
| 1   | N     | 312 | ASN  |
| 1   | N     | 385 | GLN  |
| 1   | N     | 428 | GLN  |
| 1   | N     | 461 | GLN  |
| 1   | N     | 464 | GLN  |
| 1   | N     | 497 | ASN  |
| 1   | N     | 615 | GLN  |
| 1   | O     | 229 | HIS  |
| 1   | O     | 259 | GLN  |
| 1   | O     | 312 | ASN  |
| 1   | O     | 385 | GLN  |
| 1   | O     | 428 | GLN  |
| 1   | O     | 461 | GLN  |
| 1   | O     | 464 | GLN  |
| 1   | O     | 497 | ASN  |
| 1   | O     | 615 | GLN  |
| 1   | P     | 229 | HIS  |
| 1   | P     | 312 | ASN  |
| 1   | P     | 428 | GLN  |
| 1   | P     | 464 | GLN  |
| 1   | P     | 497 | ASN  |
| 1   | P     | 615 | GLN  |
| 1   | P     | 717 | ASN  |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | Q     | 259 | GLN  |
| 1   | Q     | 312 | ASN  |
| 1   | Q     | 385 | GLN  |
| 1   | Q     | 428 | GLN  |
| 1   | Q     | 464 | GLN  |
| 1   | Q     | 497 | ASN  |
| 1   | Q     | 615 | GLN  |
| 1   | Q     | 717 | ASN  |
| 1   | R     | 229 | HIS  |
| 1   | R     | 259 | GLN  |
| 1   | R     | 312 | ASN  |
| 1   | R     | 428 | GLN  |
| 1   | R     | 464 | GLN  |
| 1   | R     | 497 | ASN  |
| 1   | R     | 615 | GLN  |
| 1   | R     | 717 | ASN  |
| 1   | S     | 259 | GLN  |
| 1   | S     | 312 | ASN  |
| 1   | S     | 385 | GLN  |
| 1   | S     | 428 | GLN  |
| 1   | S     | 461 | GLN  |
| 1   | S     | 464 | GLN  |
| 1   | S     | 497 | ASN  |
| 1   | S     | 615 | GLN  |
| 1   | S     | 717 | ASN  |
| 1   | T     | 259 | GLN  |
| 1   | T     | 312 | ASN  |
| 1   | T     | 385 | GLN  |
| 1   | T     | 428 | GLN  |
| 1   | T     | 461 | GLN  |
| 1   | T     | 464 | GLN  |
| 1   | T     | 497 | ASN  |
| 1   | T     | 615 | GLN  |
| 1   | T     | 717 | ASN  |
| 1   | V     | 229 | HIS  |
| 1   | V     | 259 | GLN  |
| 1   | V     | 312 | ASN  |
| 1   | V     | 385 | GLN  |
| 1   | V     | 428 | GLN  |
| 1   | V     | 461 | GLN  |
| 1   | V     | 464 | GLN  |
| 1   | V     | 497 | ASN  |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | V     | 615 | GLN  |
| 1   | V     | 717 | ASN  |
| 1   | W     | 312 | ASN  |
| 1   | W     | 428 | GLN  |
| 1   | W     | 461 | GLN  |
| 1   | W     | 464 | GLN  |
| 1   | W     | 497 | ASN  |
| 1   | W     | 615 | GLN  |
| 1   | W     | 717 | ASN  |
| 1   | X     | 259 | GLN  |
| 1   | X     | 312 | ASN  |
| 1   | X     | 385 | GLN  |
| 1   | X     | 428 | GLN  |
| 1   | X     | 464 | GLN  |
| 1   | X     | 497 | ASN  |
| 1   | X     | 615 | GLN  |
| 1   | X     | 717 | ASN  |
| 1   | Y     | 312 | ASN  |
| 1   | Y     | 428 | GLN  |
| 1   | Y     | 461 | GLN  |
| 1   | Y     | 464 | GLN  |
| 1   | Y     | 497 | ASN  |
| 1   | Y     | 615 | GLN  |
| 1   | Y     | 717 | ASN  |
| 1   | Z     | 229 | HIS  |
| 1   | Z     | 259 | GLN  |
| 1   | Z     | 312 | ASN  |
| 1   | Z     | 385 | GLN  |
| 1   | Z     | 428 | GLN  |
| 1   | Z     | 461 | GLN  |
| 1   | Z     | 464 | GLN  |
| 1   | Z     | 497 | ASN  |
| 1   | Z     | 615 | GLN  |
| 1   | Z     | 717 | ASN  |
| 1   | AA    | 259 | GLN  |
| 1   | AA    | 312 | ASN  |
| 1   | AA    | 385 | GLN  |
| 1   | AA    | 428 | GLN  |
| 1   | AA    | 461 | GLN  |
| 1   | AA    | 464 | GLN  |
| 1   | AA    | 497 | ASN  |
| 1   | AA    | 615 | GLN  |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | AA    | 717 | ASN  |
| 1   | BA    | 312 | ASN  |
| 1   | BA    | 428 | GLN  |
| 1   | BA    | 461 | GLN  |
| 1   | BA    | 464 | GLN  |
| 1   | BA    | 497 | ASN  |
| 1   | BA    | 615 | GLN  |
| 1   | BA    | 717 | ASN  |
| 1   | CA    | 259 | GLN  |
| 1   | CA    | 312 | ASN  |
| 1   | CA    | 385 | GLN  |
| 1   | CA    | 428 | GLN  |
| 1   | CA    | 461 | GLN  |
| 1   | CA    | 464 | GLN  |
| 1   | CA    | 497 | ASN  |
| 1   | CA    | 615 | GLN  |
| 1   | CA    | 717 | ASN  |
| 1   | DA    | 312 | ASN  |
| 1   | DA    | 428 | GLN  |
| 1   | DA    | 461 | GLN  |
| 1   | DA    | 464 | GLN  |
| 1   | DA    | 497 | ASN  |
| 1   | DA    | 615 | GLN  |
| 1   | DA    | 717 | ASN  |
| 1   | EA    | 229 | HIS  |
| 1   | EA    | 259 | GLN  |
| 1   | EA    | 312 | ASN  |
| 1   | EA    | 385 | GLN  |
| 1   | EA    | 428 | GLN  |
| 1   | EA    | 461 | GLN  |
| 1   | EA    | 464 | GLN  |
| 1   | EA    | 497 | ASN  |
| 1   | EA    | 615 | GLN  |
| 1   | EA    | 717 | ASN  |
| 1   | FA    | 229 | HIS  |
| 1   | FA    | 312 | ASN  |
| 1   | FA    | 385 | GLN  |
| 1   | FA    | 428 | GLN  |
| 1   | FA    | 461 | GLN  |
| 1   | FA    | 464 | GLN  |
| 1   | FA    | 497 | ASN  |
| 1   | FA    | 615 | GLN  |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | GA    | 229 | HIS  |
| 1   | GA    | 259 | GLN  |
| 1   | GA    | 312 | ASN  |
| 1   | GA    | 428 | GLN  |
| 1   | GA    | 461 | GLN  |
| 1   | GA    | 464 | GLN  |
| 1   | GA    | 497 | ASN  |
| 1   | GA    | 615 | GLN  |
| 1   | GA    | 717 | ASN  |
| 1   | HA    | 229 | HIS  |
| 1   | HA    | 312 | ASN  |
| 1   | HA    | 428 | GLN  |
| 1   | HA    | 464 | GLN  |
| 1   | HA    | 497 | ASN  |
| 1   | HA    | 615 | GLN  |
| 1   | HA    | 717 | ASN  |
| 1   | IA    | 229 | HIS  |
| 1   | IA    | 259 | GLN  |
| 1   | IA    | 312 | ASN  |
| 1   | IA    | 385 | GLN  |
| 1   | IA    | 428 | GLN  |
| 1   | IA    | 464 | GLN  |
| 1   | IA    | 497 | ASN  |
| 1   | IA    | 615 | GLN  |
| 1   | JA    | 259 | GLN  |
| 1   | JA    | 312 | ASN  |
| 1   | JA    | 428 | GLN  |
| 1   | JA    | 461 | GLN  |
| 1   | JA    | 464 | GLN  |
| 1   | JA    | 497 | ASN  |
| 1   | JA    | 615 | GLN  |
| 1   | JA    | 717 | ASN  |
| 1   | KA    | 229 | HIS  |
| 1   | KA    | 312 | ASN  |
| 1   | KA    | 428 | GLN  |
| 1   | KA    | 461 | GLN  |
| 1   | KA    | 464 | GLN  |
| 1   | KA    | 497 | ASN  |
| 1   | KA    | 615 | GLN  |
| 1   | LA    | 259 | GLN  |
| 1   | LA    | 312 | ASN  |
| 1   | LA    | 428 | GLN  |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | LA    | 461 | GLN  |
| 1   | LA    | 464 | GLN  |
| 1   | LA    | 497 | ASN  |
| 1   | LA    | 615 | GLN  |
| 1   | LA    | 717 | ASN  |
| 1   | MA    | 312 | ASN  |
| 1   | MA    | 428 | GLN  |
| 1   | MA    | 464 | GLN  |
| 1   | MA    | 497 | ASN  |
| 1   | MA    | 615 | GLN  |
| 1   | MA    | 717 | ASN  |
| 1   | MA    | 725 | ASN  |
| 1   | NA    | 259 | GLN  |
| 1   | NA    | 312 | ASN  |
| 1   | NA    | 385 | GLN  |
| 1   | NA    | 428 | GLN  |
| 1   | NA    | 464 | GLN  |
| 1   | NA    | 497 | ASN  |
| 1   | NA    | 615 | GLN  |
| 1   | OA    | 229 | HIS  |
| 1   | OA    | 259 | GLN  |
| 1   | OA    | 312 | ASN  |
| 1   | OA    | 428 | GLN  |
| 1   | OA    | 461 | GLN  |
| 1   | OA    | 464 | GLN  |
| 1   | OA    | 497 | ASN  |
| 1   | OA    | 615 | GLN  |
| 1   | OA    | 717 | ASN  |
| 1   | PA    | 312 | ASN  |
| 1   | PA    | 385 | GLN  |
| 1   | PA    | 428 | GLN  |
| 1   | PA    | 461 | GLN  |
| 1   | PA    | 464 | GLN  |
| 1   | PA    | 497 | ASN  |
| 1   | PA    | 615 | GLN  |
| 1   | QA    | 229 | HIS  |
| 1   | QA    | 259 | GLN  |
| 1   | QA    | 312 | ASN  |
| 1   | QA    | 428 | GLN  |
| 1   | QA    | 461 | GLN  |
| 1   | QA    | 464 | GLN  |
| 1   | QA    | 497 | ASN  |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | QA    | 615 | GLN  |
| 1   | QA    | 717 | ASN  |
| 1   | RA    | 259 | GLN  |
| 1   | RA    | 312 | ASN  |
| 1   | RA    | 385 | GLN  |
| 1   | RA    | 428 | GLN  |
| 1   | RA    | 461 | GLN  |
| 1   | RA    | 464 | GLN  |
| 1   | RA    | 497 | ASN  |
| 1   | RA    | 615 | GLN  |
| 1   | SA    | 259 | GLN  |
| 1   | SA    | 312 | ASN  |
| 1   | SA    | 385 | GLN  |
| 1   | SA    | 428 | GLN  |
| 1   | SA    | 461 | GLN  |
| 1   | SA    | 464 | GLN  |
| 1   | SA    | 497 | ASN  |
| 1   | SA    | 615 | GLN  |
| 1   | SA    | 717 | ASN  |
| 1   | TA    | 312 | ASN  |
| 1   | TA    | 428 | GLN  |
| 1   | TA    | 464 | GLN  |
| 1   | TA    | 497 | ASN  |
| 1   | TA    | 615 | GLN  |
| 1   | TA    | 717 | ASN  |
| 1   | UA    | 229 | HIS  |
| 1   | UA    | 259 | GLN  |
| 1   | UA    | 312 | ASN  |
| 1   | UA    | 428 | GLN  |
| 1   | UA    | 464 | GLN  |
| 1   | UA    | 497 | ASN  |
| 1   | UA    | 615 | GLN  |
| 1   | UA    | 717 | ASN  |
| 1   | VA    | 259 | GLN  |
| 1   | VA    | 312 | ASN  |
| 1   | VA    | 428 | GLN  |
| 1   | VA    | 461 | GLN  |
| 1   | VA    | 464 | GLN  |
| 1   | VA    | 497 | ASN  |
| 1   | VA    | 615 | GLN  |
| 1   | VA    | 717 | ASN  |
| 1   | WA    | 259 | GLN  |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | WA    | 312 | ASN  |
| 1   | WA    | 428 | GLN  |
| 1   | WA    | 461 | GLN  |
| 1   | WA    | 464 | GLN  |
| 1   | WA    | 497 | ASN  |
| 1   | WA    | 615 | GLN  |
| 1   | WA    | 717 | ASN  |
| 1   | XA    | 259 | GLN  |
| 1   | XA    | 312 | ASN  |
| 1   | XA    | 385 | GLN  |
| 1   | XA    | 428 | GLN  |
| 1   | XA    | 461 | GLN  |
| 1   | XA    | 464 | GLN  |
| 1   | XA    | 497 | ASN  |
| 1   | XA    | 615 | GLN  |
| 1   | YA    | 259 | GLN  |
| 1   | YA    | 312 | ASN  |
| 1   | YA    | 385 | GLN  |
| 1   | YA    | 428 | GLN  |
| 1   | YA    | 461 | GLN  |
| 1   | YA    | 464 | GLN  |
| 1   | YA    | 497 | ASN  |
| 1   | YA    | 615 | GLN  |
| 1   | YA    | 717 | ASN  |
| 1   | ZA    | 312 | ASN  |
| 1   | ZA    | 385 | GLN  |
| 1   | ZA    | 428 | GLN  |
| 1   | ZA    | 461 | GLN  |
| 1   | ZA    | 464 | GLN  |
| 1   | ZA    | 497 | ASN  |
| 1   | ZA    | 615 | GLN  |
| 1   | AB    | 229 | HIS  |
| 1   | AB    | 259 | GLN  |
| 1   | AB    | 312 | ASN  |
| 1   | AB    | 428 | GLN  |
| 1   | AB    | 461 | GLN  |
| 1   | AB    | 464 | GLN  |
| 1   | AB    | 497 | ASN  |
| 1   | AB    | 615 | GLN  |
| 1   | AB    | 717 | ASN  |
| 1   | BB    | 259 | GLN  |
| 1   | BB    | 312 | ASN  |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | BB    | 385 | GLN  |
| 1   | BB    | 428 | GLN  |
| 1   | BB    | 461 | GLN  |
| 1   | BB    | 464 | GLN  |
| 1   | BB    | 497 | ASN  |
| 1   | BB    | 615 | GLN  |
| 1   | CB    | 229 | HIS  |
| 1   | CB    | 259 | GLN  |
| 1   | CB    | 312 | ASN  |
| 1   | CB    | 385 | GLN  |
| 1   | CB    | 428 | GLN  |
| 1   | CB    | 461 | GLN  |
| 1   | CB    | 464 | GLN  |
| 1   | CB    | 497 | ASN  |
| 1   | CB    | 615 | GLN  |
| 1   | CB    | 717 | ASN  |
| 1   | DB    | 312 | ASN  |
| 1   | DB    | 428 | GLN  |
| 1   | DB    | 461 | GLN  |
| 1   | DB    | 464 | GLN  |
| 1   | DB    | 497 | ASN  |
| 1   | DB    | 615 | GLN  |
| 1   | DB    | 717 | ASN  |
| 1   | EB    | 229 | HIS  |
| 1   | EB    | 259 | GLN  |
| 1   | EB    | 312 | ASN  |
| 1   | EB    | 428 | GLN  |
| 1   | EB    | 464 | GLN  |
| 1   | EB    | 497 | ASN  |
| 1   | EB    | 615 | GLN  |
| 1   | EB    | 717 | ASN  |
| 1   | FB    | 259 | GLN  |
| 1   | FB    | 312 | ASN  |
| 1   | FB    | 428 | GLN  |
| 1   | FB    | 461 | GLN  |
| 1   | FB    | 464 | GLN  |
| 1   | FB    | 497 | ASN  |
| 1   | FB    | 615 | GLN  |
| 1   | FB    | 717 | ASN  |
| 1   | GB    | 229 | HIS  |
| 1   | GB    | 259 | GLN  |
| 1   | GB    | 312 | ASN  |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | GB    | 428 | GLN  |
| 1   | GB    | 461 | GLN  |
| 1   | GB    | 464 | GLN  |
| 1   | GB    | 497 | ASN  |
| 1   | GB    | 615 | GLN  |
| 1   | GB    | 717 | ASN  |
| 1   | HB    | 259 | GLN  |
| 1   | HB    | 312 | ASN  |
| 1   | HB    | 385 | GLN  |
| 1   | HB    | 428 | GLN  |
| 1   | HB    | 464 | GLN  |
| 1   | HB    | 496 | ASN  |
| 1   | HB    | 497 | ASN  |
| 1   | HB    | 615 | GLN  |
| 1   | IB    | 259 | GLN  |
| 1   | IB    | 312 | ASN  |
| 1   | IB    | 385 | GLN  |
| 1   | IB    | 428 | GLN  |
| 1   | IB    | 461 | GLN  |
| 1   | IB    | 464 | GLN  |
| 1   | IB    | 497 | ASN  |
| 1   | IB    | 615 | GLN  |
| 1   | IB    | 717 | ASN  |

### 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](#)

There are no ligands in this entry.

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

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

There are no chain breaks in this entry.

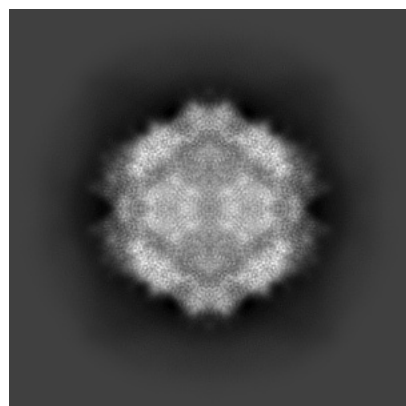
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-63067. These allow visual inspection of the internal detail of the map and identification of artifacts.

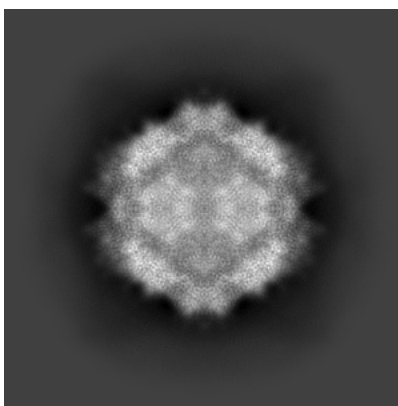
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

### 6.1 Orthogonal projections [i](#)

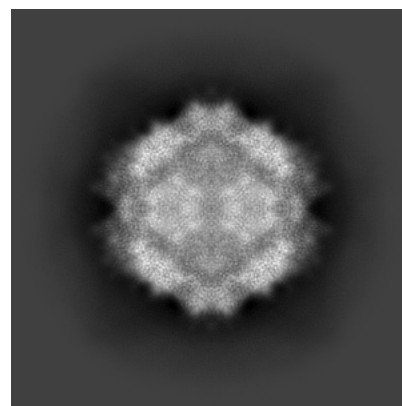
#### 6.1.1 Primary map



X

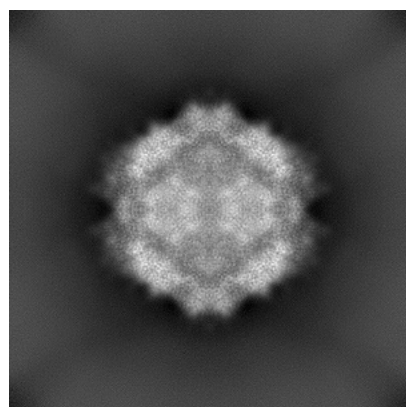


Y

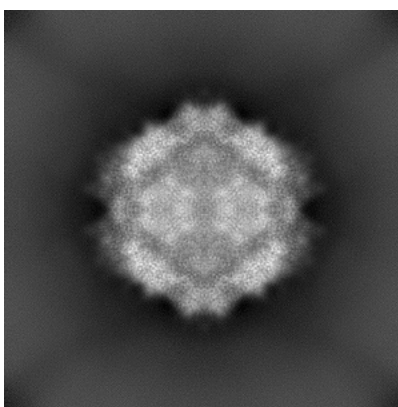


Z

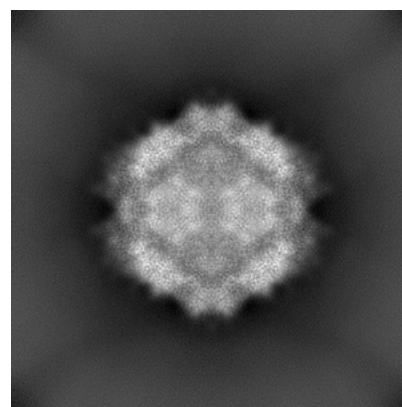
#### 6.1.2 Raw map



X



Y

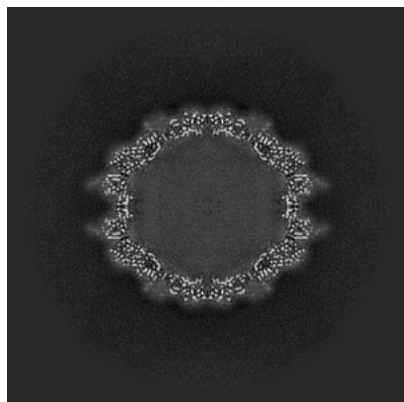


Z

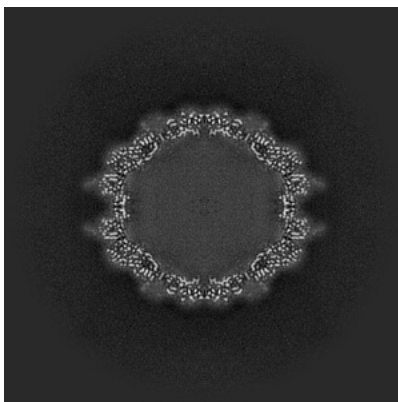
The images above show the map projected in three orthogonal directions.

## 6.2 Central slices [i](#)

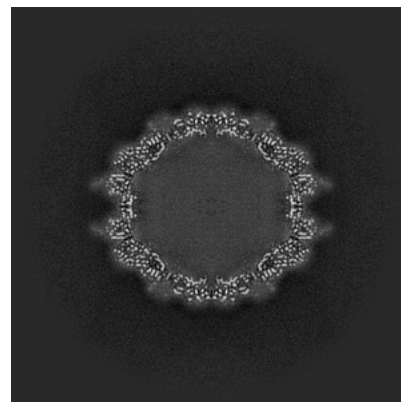
### 6.2.1 Primary map



X Index: 256

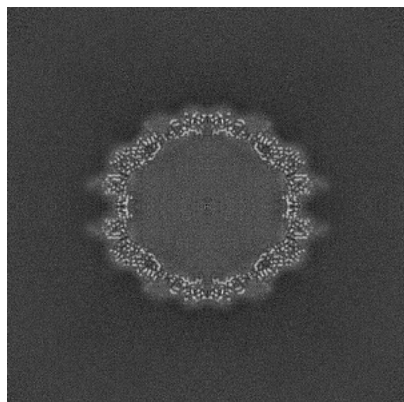


Y Index: 256

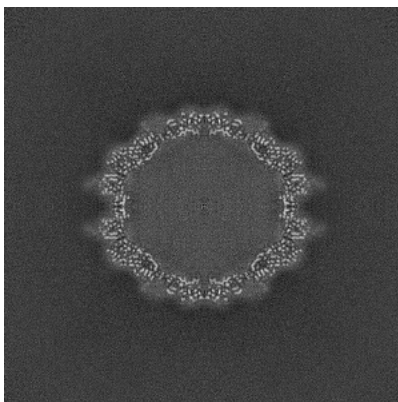


Z Index: 256

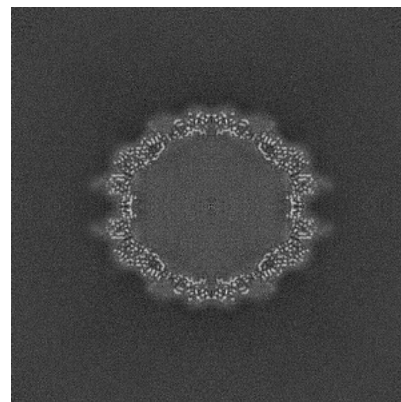
### 6.2.2 Raw map



X Index: 256



Y Index: 256

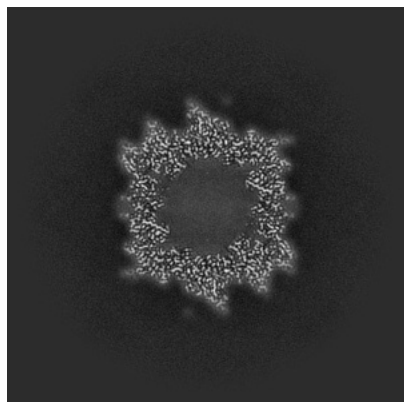


Z Index: 256

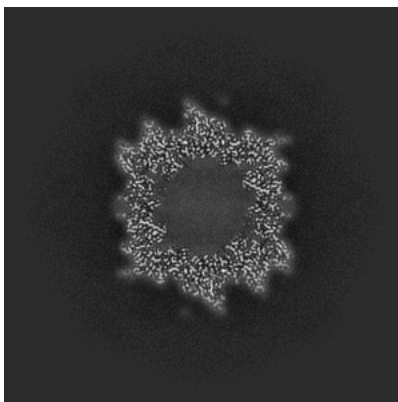
The images above show central slices of the map in three orthogonal directions.

## 6.3 Largest variance slices [i](#)

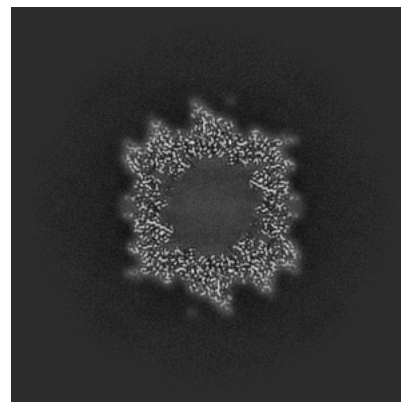
### 6.3.1 Primary map



X Index: 186

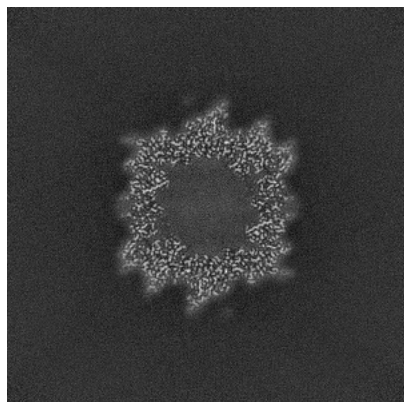


Y Index: 186

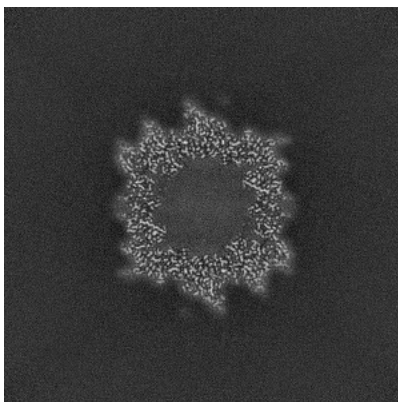


Z Index: 186

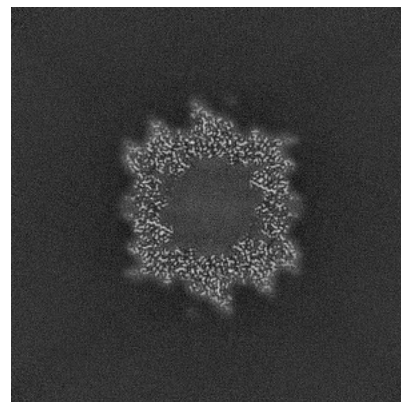
### 6.3.2 Raw map



X Index: 326



Y Index: 186

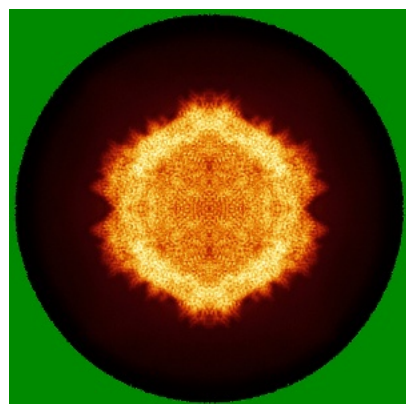


Z Index: 186

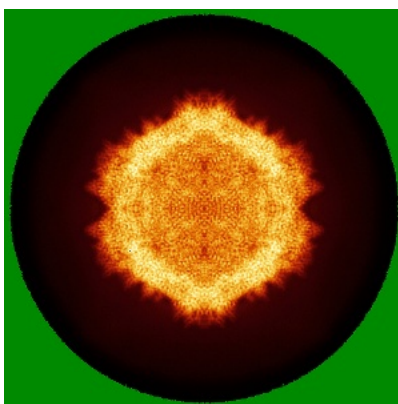
The images above show the largest variance slices of the map in three orthogonal directions.

## 6.4 Orthogonal standard-deviation projections (False-color) [i](#)

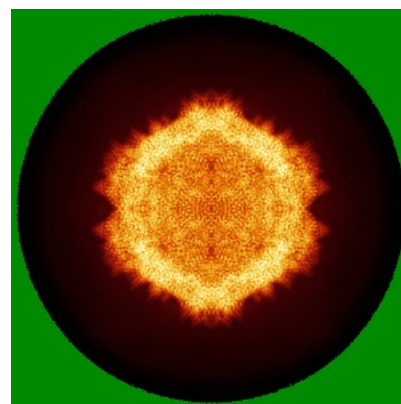
### 6.4.1 Primary map



X

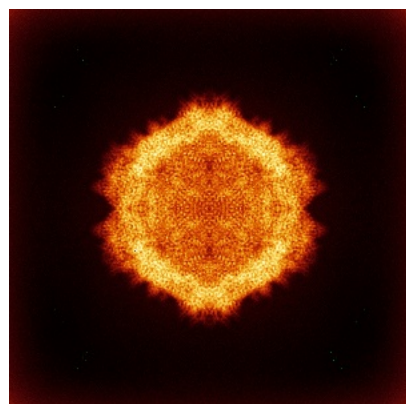


Y

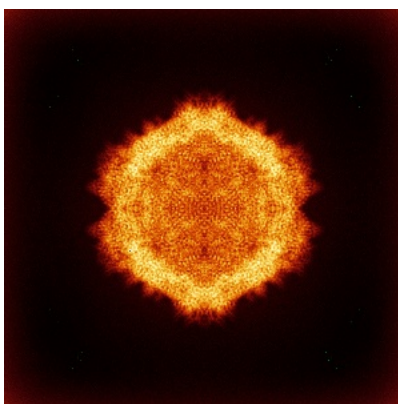


Z

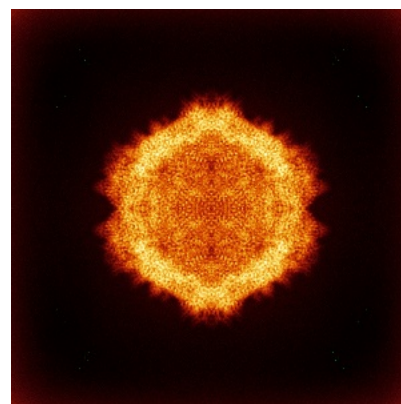
### 6.4.2 Raw map



X



Y

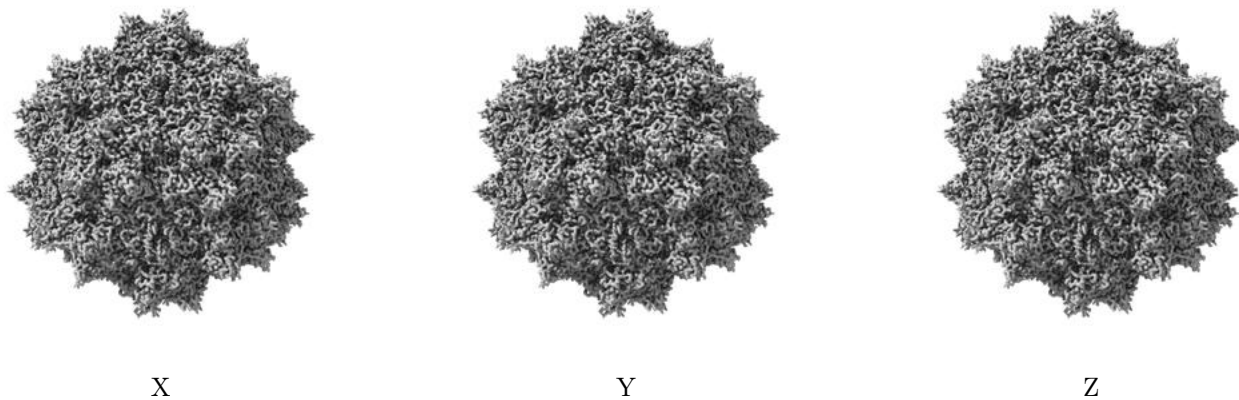


Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

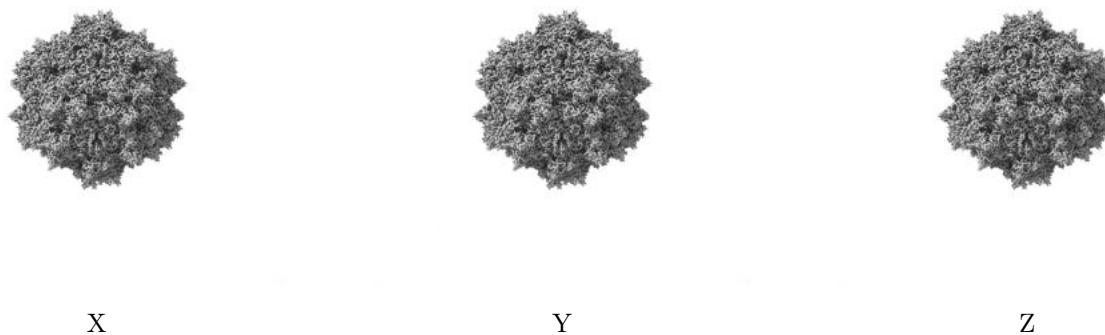
## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.1. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

### 6.5.2 Raw map



These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

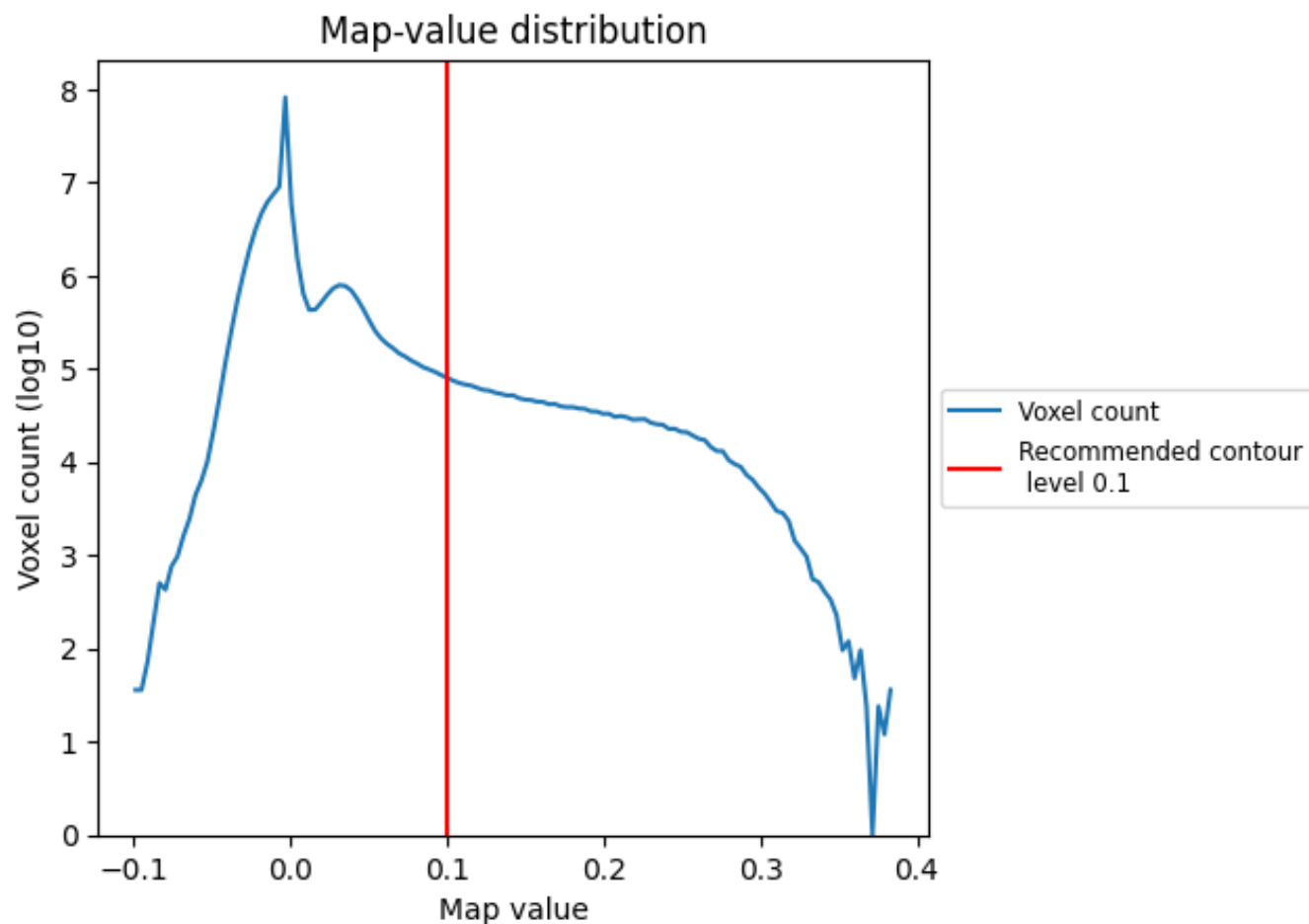
## 6.6 Mask visualisation [i](#)

This section was not generated. No masks/segmentation were deposited.

## 7 Map analysis [i](#)

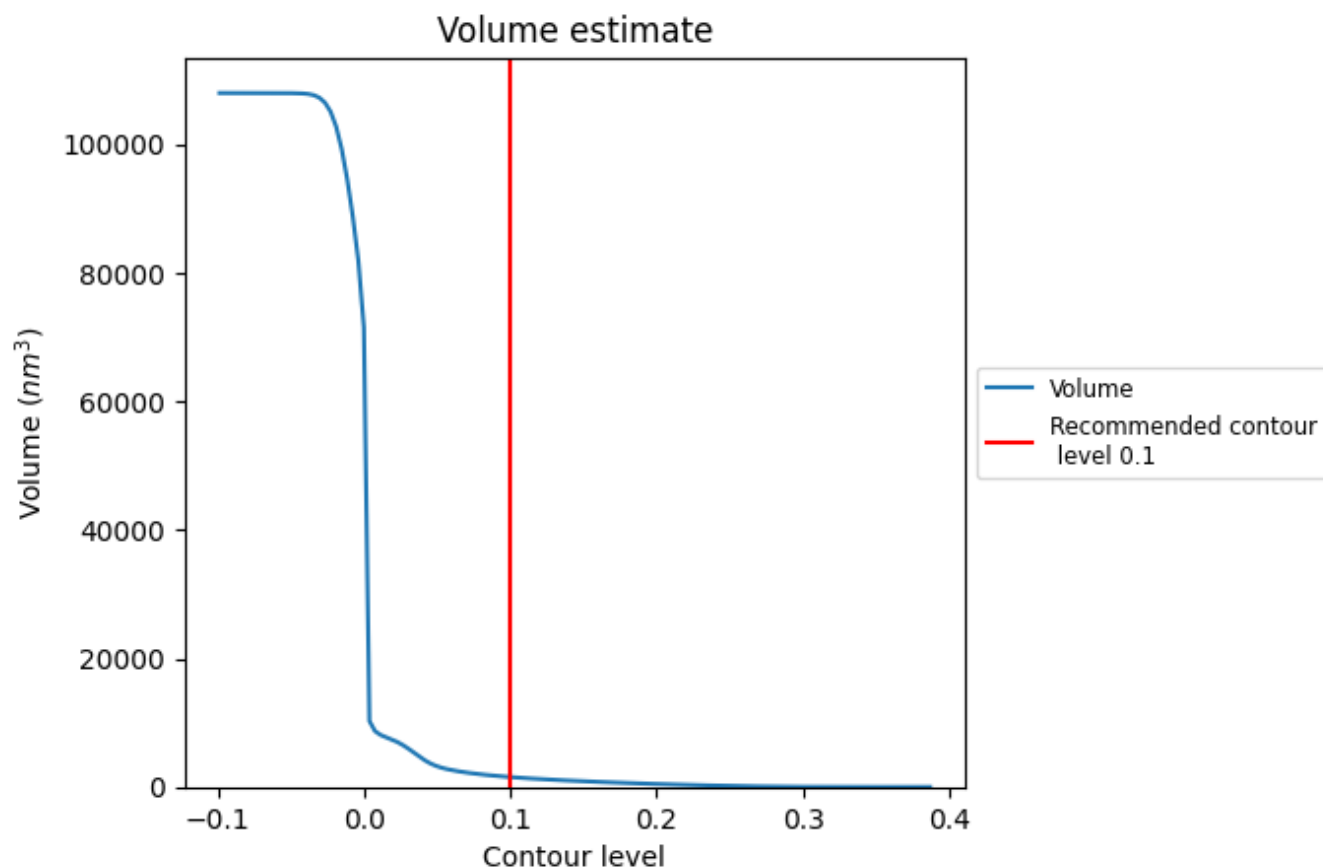
This section contains the results of statistical analysis of the map.

### 7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

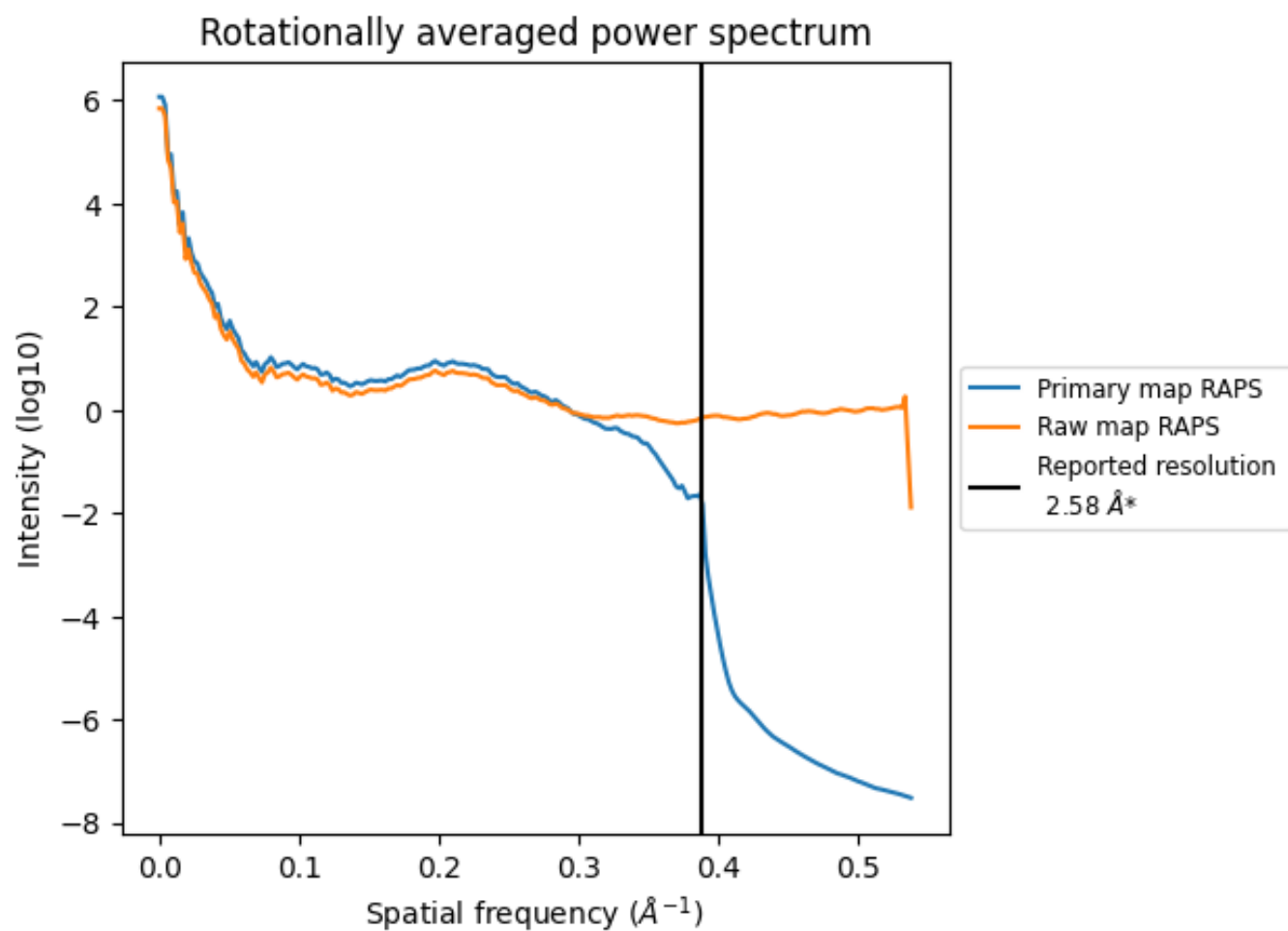
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1532  $\text{nm}^3$ ; this corresponds to an approximate mass of 1384 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

### 7.3 Rotationally averaged power spectrum ⓘ

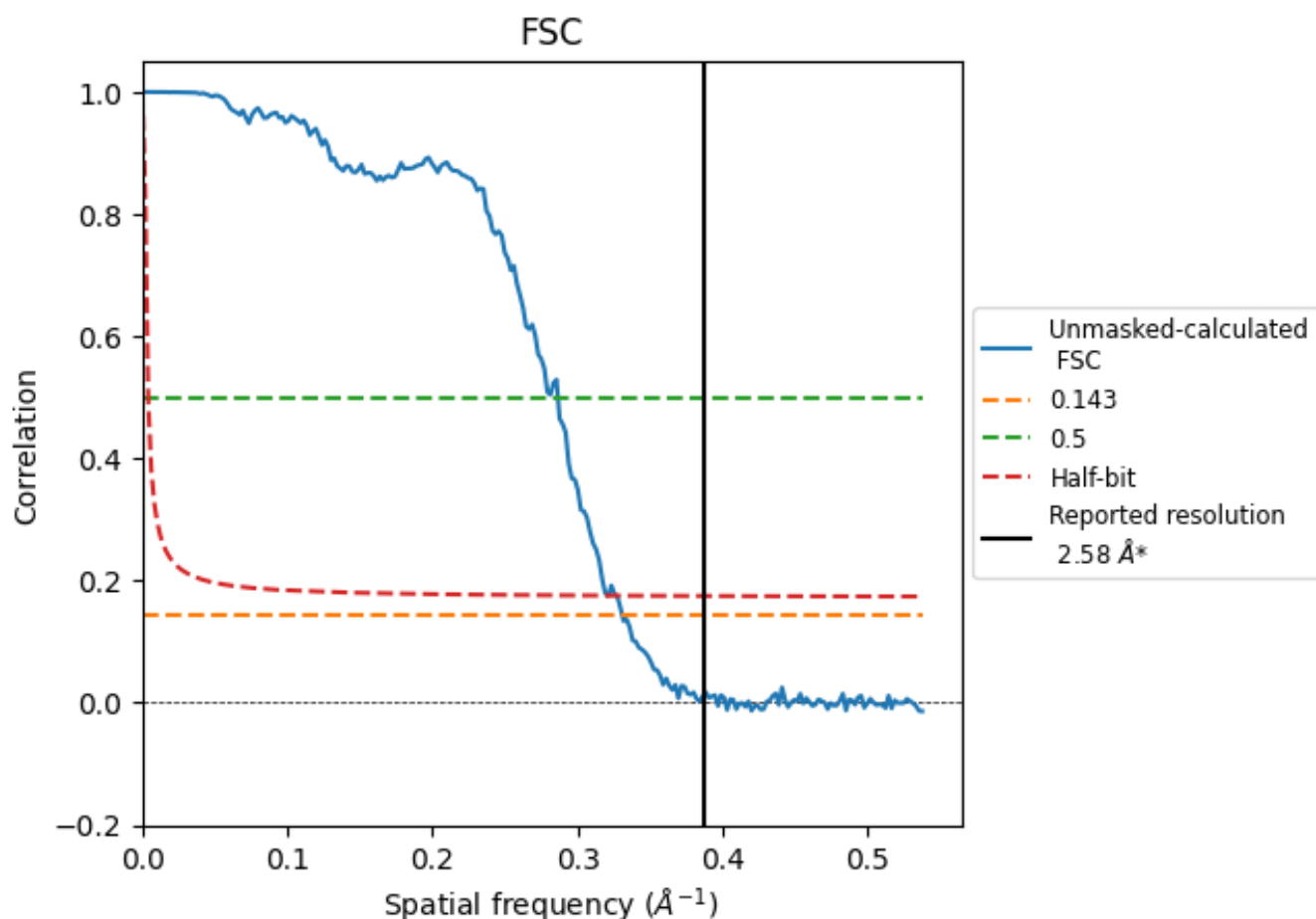


\*Reported resolution corresponds to spatial frequency of 0.388 Å<sup>-1</sup>

## 8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

### 8.1 FSC [i](#)



\*Reported resolution corresponds to spatial frequency of 0.388  $\text{\AA}^{-1}$

## 8.2 Resolution estimates [i](#)

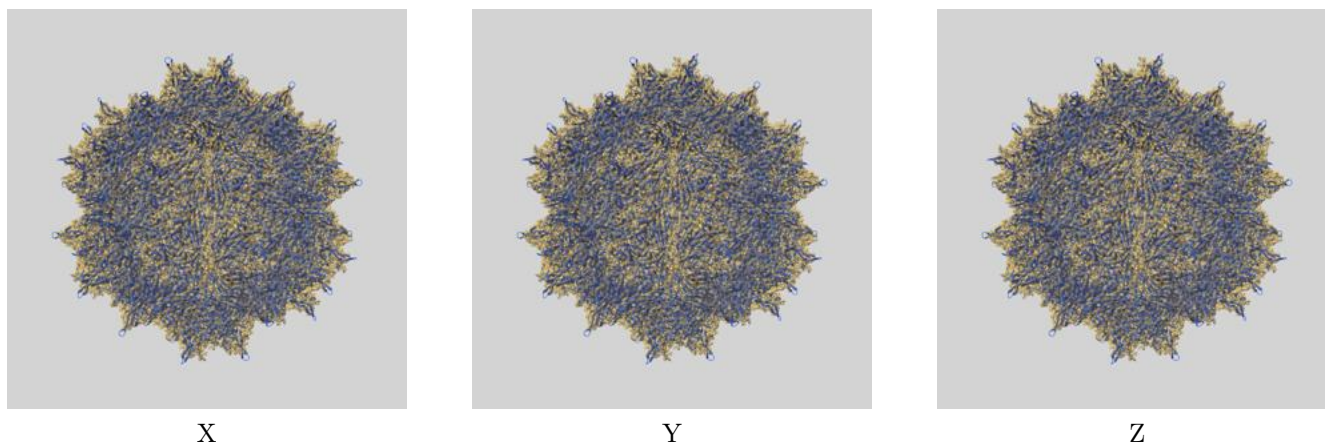
| Resolution estimate (Å)   | Estimation criterion (FSC cut-off) |      |          |
|---------------------------|------------------------------------|------|----------|
|                           | 0.143                              | 0.5  | Half-bit |
| Reported by author        | 2.58                               | -    | -        |
| Author-provided FSC curve | -                                  | -    | -        |
| Unmasked-calculated*      | 3.02                               | 3.49 | 3.11     |

\*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.02 differs from the reported value 2.58 by more than 10 %

## 9 Map-model fit [i](#)

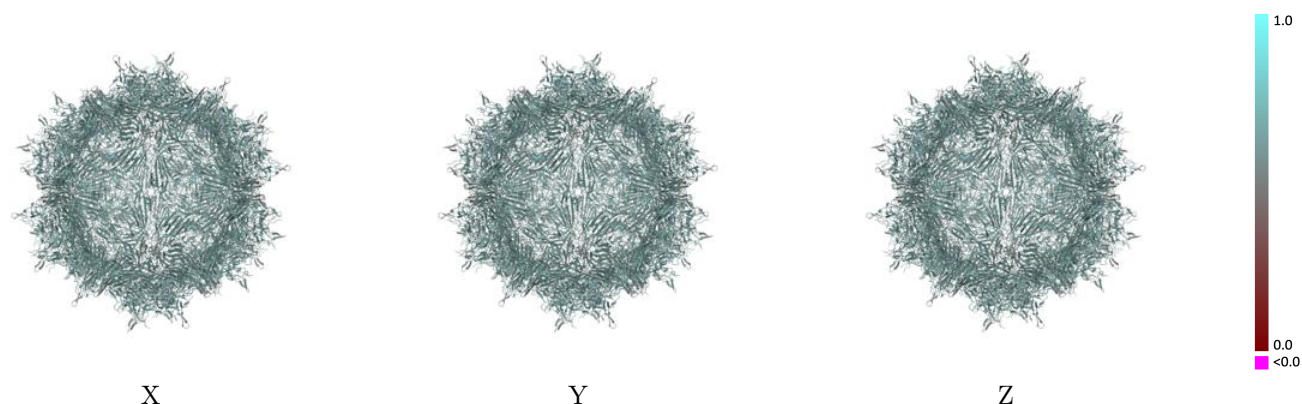
This section contains information regarding the fit between EMDB map EMD-63067 and PDB model 9LGJ. Per-residue inclusion information can be found in section [3](#) on page [24](#).

### 9.1 Map-model overlay [i](#)



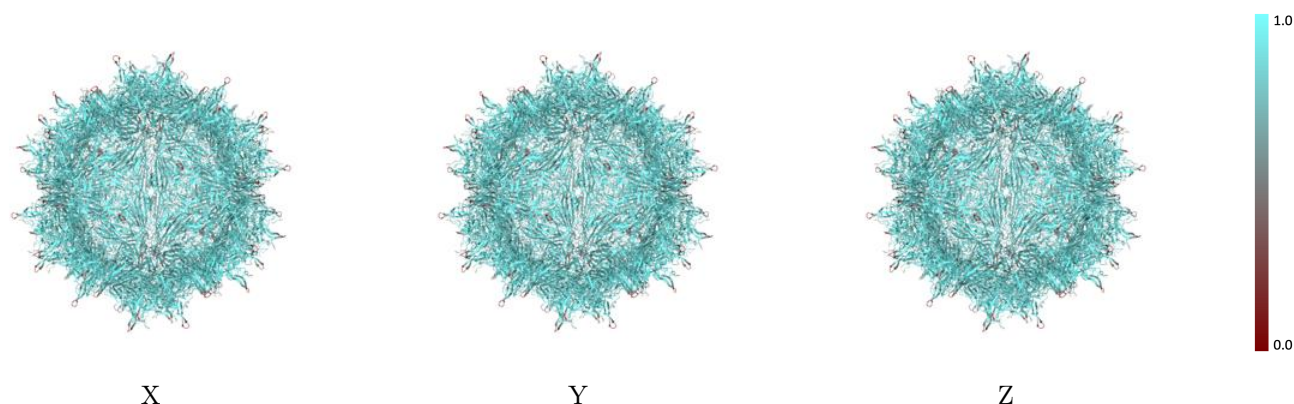
The images above show the 3D surface view of the map at the recommended contour level 0.1 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

## 9.2 Q-score mapped to coordinate model [i](#)



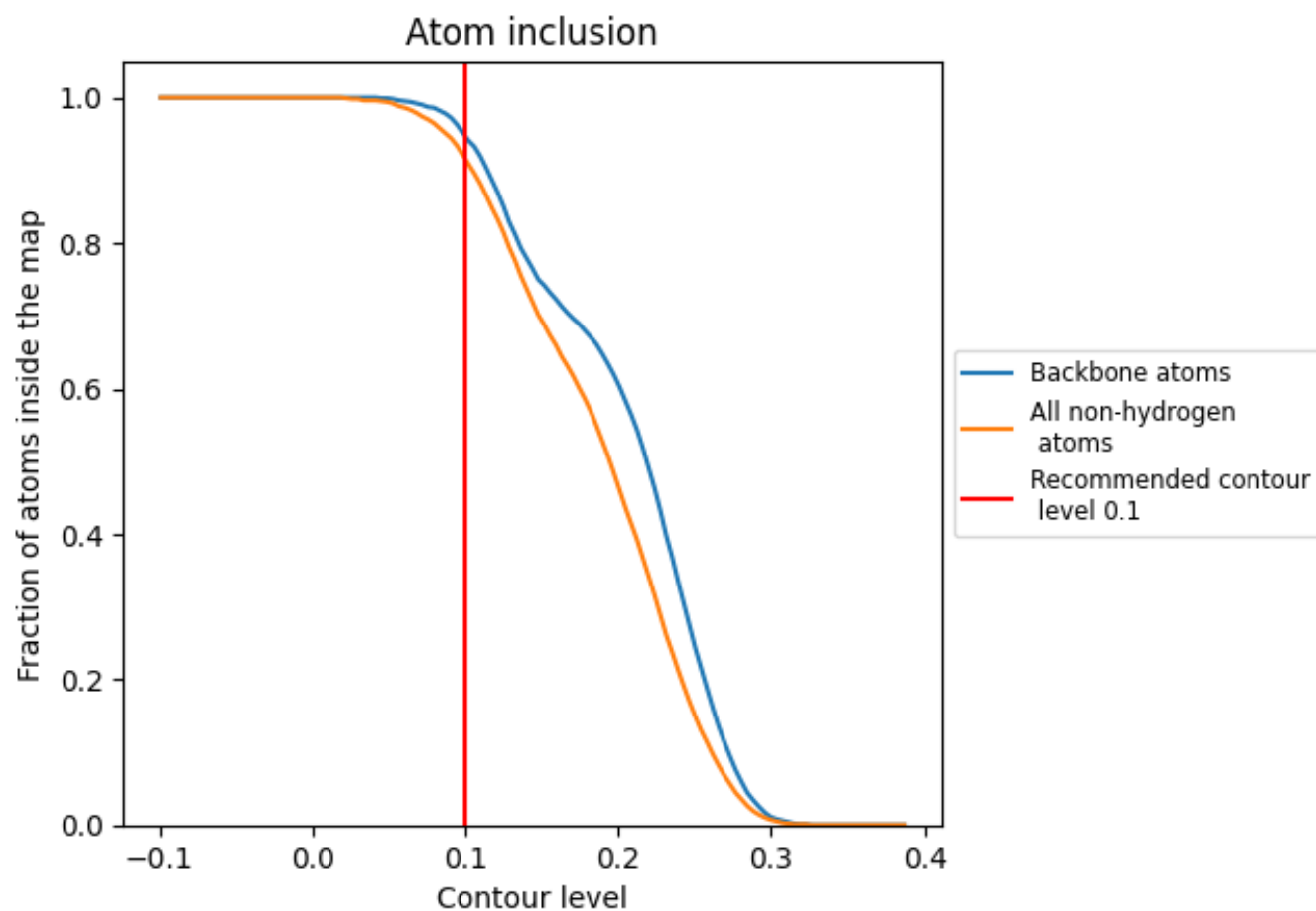
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

## 9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.1).

## 9.4 Atom inclusion [i](#)



At the recommended contour level, 95% of all backbone atoms, 92% of all non-hydrogen atoms, are inside the map.

## 9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.1) and Q-score for the entire model and for each chain.

| Chain | Atom inclusion                                                                             | Q-score                                                                                    |
|-------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| All   |  0.9160   |  0.6100   |
| A     |  0.9170   |  0.6120   |
| AA    |  0.9170   |  0.6110   |
| AB    |  0.9150   |  0.6090   |
| B     |  0.9150   |  0.6100   |
| BA    |  0.9150   |  0.6090   |
| BB    |  0.9170   |  0.6100   |
| C     |  0.9170   |  0.6100   |
| CA    |  0.9170   |  0.6110   |
| CB    |  0.9160   |  0.6090   |
| D     |  0.9150   |  0.6100   |
| DA    |  0.9160   |  0.6100   |
| DB    |  0.9160   |  0.6100   |
| E     |  0.9160   |  0.6100   |
| EA    |  0.9160  |  0.6100  |
| EB    |  0.9180 |  0.6110 |
| F     |  0.9170 |  0.6120 |
| FA    |  0.9170 |  0.6110 |
| FB    |  0.9150 |  0.6090 |
| G     |  0.9150 |  0.6090 |
| GA    |  0.9150 |  0.6080 |
| GB    |  0.9170 |  0.6090 |
| H     |  0.9170 |  0.6090 |
| HA    |  0.9170 |  0.6100 |
| HB    |  0.9160 |  0.6100 |
| I     |  0.9160 |  0.6110 |
| IA    |  0.9160 |  0.6110 |
| IB    |  0.9160 |  0.6110 |
| J     |  0.9160 |  0.6090 |
| JA    |  0.9160 |  0.6100 |
| K     |  0.9170 |  0.6120 |
| KA    |  0.9170 |  0.6110 |
| L     |  0.9150 |  0.6090 |
| LA    |  0.9150 |  0.6090 |
| M     |  0.9170 |  0.6090 |



*Continued on next page...*

*Continued from previous page...*

| Chain | Atom inclusion                                                                             | Q-score                                                                                    |
|-------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| MA    |  0.9170   |  0.6100   |
| N     |  0.9160   |  0.6100   |
| NA    |  0.9160   |  0.6110   |
| O     |  0.9160   |  0.6100   |
| OA    |  0.9160   |  0.6090   |
| P     |  0.9170   |  0.6120   |
| PA    |  0.9170   |  0.6110   |
| Q     |  0.9150   |  0.6090   |
| QA    |  0.9150   |  0.6080   |
| R     |  0.9170   |  0.6100   |
| RA    |  0.9170   |  0.6100   |
| S     |  0.9150   |  0.6100   |
| SA    |  0.9150   |  0.6100   |
| T     |  0.9160   |  0.6090   |
| TA    |  0.9160   |  0.6110   |
| UA    |  0.9170   |  0.6110   |
| V     |  0.9170   |  0.6120   |
| VA    |  0.9150  |  0.6100  |
| W     |  0.9150 |  0.6090 |
| WA    |  0.9170 |  0.6090 |
| X     |  0.9170 |  0.6090 |
| XA    |  0.9160 |  0.6100 |
| Y     |  0.9160 |  0.6110 |
| YA    |  0.9160 |  0.6100 |
| Z     |  0.9160 |  0.6090 |
| ZA    |  0.9170 |  0.6120 |