



## Full wwPDB EM Validation Report ⓘ

Nov 11, 2023 – 11:27 pm GMT

PDB ID : 8PKH  
EMDB ID : EMD-17739  
Title : Borrelia bacteriophage BB1 procapsid, fivefold-symmetrized outer shell  
Authors : Rumnieks, J.; Fuzik, T.; Tars, K.  
Deposited on : 2023-06-26  
Resolution : 3.35 Å(reported)  
Based on initial model : .

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.dev70  
MolProbity : 4.02b-467  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
MapQ : 1.9.9  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.36

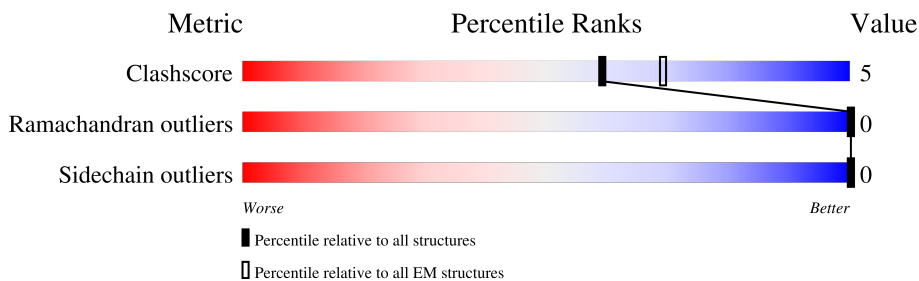
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 3.35 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 (#Entries) | EM structures (#Entries) |
|-----------------------|--------------------------|--------------------------|
| Clashscore            | 158937                   | 4297                     |
| Ramachandran outliers | 154571                   | 4023                     |
| Sidechain outliers    | 154315                   | 3826                     |

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   | AA    | 319    |                  |
| 1   | AB    | 319    |                  |
| 1   | AC    | 319    |                  |
| 1   | AD    | 319    |                  |
| 1   | AE    | 319    |                  |
| 1   | AF    | 319    |                  |
| 1   | AG    | 319    |                  |
| 1   | AH    | 319    |                  |


























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| Mol | Chain | Length | Quality of chain  |
|-----|-------|--------|---|
| 1   | AI    | 319    |  87% 12%      |
| 1   | AJ    | 319    |  82% 15%      |
| 1   | AK    | 319    |  83% 15%      |
| 1   | AL    | 319    |  84% 14%      |
| 1   | AM    | 319    |  83% 13%      |
| 1   | AN    | 319    |  83% 15%      |
| 1   | AO    | 319    |  83% 15%      |
| 1   | AP    | 319    |  81% 16%      |
| 1   | AQ    | 319    |  86% 12%      |
| 1   | AR    | 319    |  84% 14%      |
| 1   | AS    | 319    |  78% 20%      |
| 1   | AT    | 319    |  81% 17%     |
| 1   | AU    | 319    |  81% 18%    |
| 1   | AV    | 319    |  79% 19%    |
| 1   | AW    | 319    |  85% 13%    |
| 1   | AX    | 319    |  81% 18%    |
| 1   | AY    | 319    |  81% 17%    |
| 1   | AZ    | 319    |  82% 16%    |
| 1   | BA    | 319    |  79% 19%    |
| 1   | BB    | 319    |  85% 13%    |
| 1   | BC    | 319    |  83% 11% 6% |
| 1   | BD    | 319    |  85% 12%    |
| 1   | BE    | 319    |  87% 11%    |
| 1   | BF    | 319    |  87% 12%    |
| 1   | BG    | 319    |  84% 13%    |







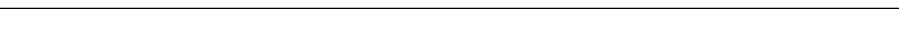
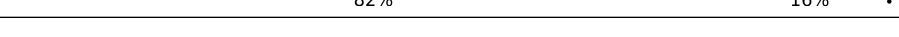
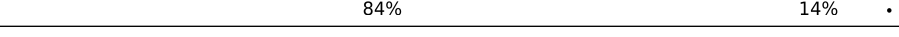












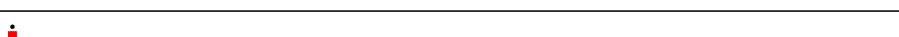

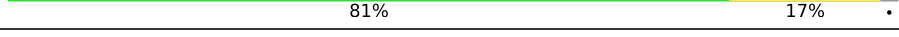

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| Mol | Chain | Length | Quality of chain  |
|-----|-------|--------|---|
| 1   | BH    | 319    |  85% 13%      |
| 1   | BI    | 319    |  86% 12%      |
| 1   | BJ    | 319    |  83% 14%      |
| 1   | BK    | 319    |  83% 15%      |
| 1   | BL    | 319    |  87% 11%      |
| 1   | BM    | 319    |  85% 13%      |
| 1   | BN    | 319    |  88% 10%      |
| 1   | BO    | 319    |  85% 13%      |
| 1   | BP    | 319    |  82% 15%      |
| 1   | BQ    | 319    |  86% 12%      |
| 1   | BR    | 319    |  84% 14%      |
| 1   | BS    | 319    |  82% 16%     |
| 1   | BT    | 319    |  81% 13% 7% |
| 1   | BU    | 319    |  82% 17%    |
| 1   | BV    | 319    |  83% 15%    |
| 1   | BW    | 319    |  87% 11%    |
| 1   | BX    | 319    |  82% 11% 7% |
| 1   | BY    | 319    |  78% 20%    |
| 1   | BZ    | 319    |  83% 15%    |
| 1   | CA    | 319    |  81% 18%    |
| 1   | CB    | 319    |  82% 16%    |
| 1   | CC    | 319    |  85% 13%    |
| 1   | CD    | 319    |  84% 14%    |
| 1   | CE    | 319    |  84% 14%    |
| 1   | CF    | 319    |  80% 18%    |

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| Mol | Chain | Length | Quality of chain   |
|-----|-------|--------|--|
| 1   | CG    | 319    |  82% 16%   |
| 1   | CH    | 319    |  82% 17%   |
| 1   | CI    | 319    |  87% 11%   |
| 1   | CJ    | 319    |  86% 12%   |
| 1   | CK    | 319    |  80% 18%   |
| 1   | CL    | 319    |  80% 18%   |
| 1   | CM    | 319    |  82% 16%   |
| 1   | CN    | 319    |  84% 14%   |
| 1   | CO    | 319    |  79% 19%   |
| 1   | CP    | 319    |  81% 17%   |
| 1   | CQ    | 319    |  84% 14%   |
| 1   | CR    | 319    |  85% 13%   |
| 1   | CS    | 319    |  83% 15%   |
| 1   | CT    | 319    |  83% 15% |
| 1   | CU    | 319    |  78% 20% |
| 1   | CV    | 319    |  81% 18% |
| 1   | CW    | 319    |  82% 17% |
| 1   | CX    | 319    |  86% 12% |
| 1   | CY    | 319    |  86% 12% |
| 1   | CZ    | 319    |  82% 16% |
| 1   | DA    | 319    |  81% 17% |
| 1   | DB    | 319    |  84% 14% |
| 1   | DC    | 319    |  83% 15% |
| 1   | DD    | 319    |  80% 18% |
| 1   | DE    | 319    |  82% 16% |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 2   | DF    | 185    | 78% 6% 16%       |
| 2   | DG    | 185    | 75% 8% 18%       |
| 2   | DH    | 185    | 75% 8% 17%       |
| 2   | DI    | 185    | 77% 5% 17%       |
| 2   | DJ    | 185    | 72% 11% 17%      |
| 2   | DK    | 185    | 72% 11% 17%      |
| 2   | DL    | 185    | 74% 9% 17%       |
| 2   | DM    | 185    | 73% 10% 17%      |
| 2   | DN    | 185    | 72% 11% 17%      |
| 2   | DO    | 185    | 74% 9% 17%       |
| 2   | DP    | 185    | 69% 14% 17%      |
| 2   | DQ    | 185    | 73% 9% 18%       |
| 2   | DR    | 185    | 75% 9% 17%       |
| 2   | DS    | 185    | 81% 10% 9%       |
| 2   | DT    | 185    | 65% 18% 17%      |
| 2   | DU    | 185    | 71% 11% 17%      |
| 2   | DV    | 185    | 70% 12% 17%      |
| 2   | DW    | 185    | 71% 11% 17%      |
| 2   | DX    | 185    | 75% 10% 15%      |
| 2   | DY    | 185    | 69% 13% 18%      |
| 2   | DZ    | 185    | 73% 10% 17%      |
| 2   | EA    | 185    | 57% 8% 35%       |
| 2   | EB    | 185    | 72% 13% 15%      |
| 2   | EC    | 185    | 73% 10% 17%      |
| 2   | ED    | 185    | 79% 7% 14%       |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 2   | EE    | 185    | 75% 10% 15%      |
| 2   | EF    | 185    | 72% 11% 17%      |
| 2   | EG    | 185    | 82% 13% 5%       |
| 2   | EH    | 185    | 72% 10% 17%      |
| 2   | EI    | 185    | 75% 10% 15%      |
| 2   | EJ    | 185    | 83% 7% 10%       |
| 2   | EK    | 185    | 78% 13% 9%       |
| 2   | EL    | 185    | 73% 9% 18%       |
| 2   | EM    | 185    | 68% 16% 17%      |
| 2   | EN    | 185    | 70% 13% 17%      |
| 2   | EO    | 185    | 82% 10% 8%       |
| 2   | EP    | 185    | 68% 15% 17%      |
| 2   | EQ    | 185    | 77% 8% 15%       |
| 2   | ER    | 185    | 68% 14% 18%      |
| 2   | ES    | 185    | 74% 10% 17%      |
| 2   | ET    | 185    | 69% 14% 17%      |
| 2   | EU    | 185    | 74% 12% 15%      |
| 2   | EV    | 185    | 69% 12% 18%      |
| 2   | EW    | 185    | 73% 10% 17%      |
| 2   | EX    | 185    | 72% 11% 17%      |
| 2   | EY    | 185    | 76% 10% 15%      |
| 2   | EZ    | 185    | 71% 10% 18%      |
| 2   | FA    | 185    | 74% 10% 17%      |
| 2   | FB    | 185    | 70% 12% 17%      |
| 2   | FC    | 185    | 76% 10% 15%      |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 2   | FD    | 185    | 68% 14% 18%      |
| 2   | FE    | 185    | 72% 11% 17%      |
| 2   | FF    | 185    | 72% 11% 17%      |
| 2   | FG    | 185    | 73% 12% 15%      |
| 2   | FH    | 185    | 69% 12% 18%      |
| 2   | FI    | 185    | 74% 9% 17%       |
| 3   | FJ    | 254    | 55% 9% 37%       |
| 4   | FK    | 190    | 71% 9% 20%       |
| 4   | FL    | 190    | 70% 10% 20%      |
| 4   | FM    | 190    | 72% 9% 19%       |
| 4   | FN    | 190    | 68% 12% 20%      |
| 4   | FO    | 190    | 71% 12% 18%      |
| 4   | FP    | 190    | 68% 12% 20%      |
| 4   | FQ    | 190    | 75% 15% 10%      |
| 4   | FR    | 190    | 5% 77% 13% 10%   |
| 4   | FS    | 190    | 74% 16% 10%      |
| 4   | FT    | 190    | 67% 8% 24%       |
| 4   | FU    | 190    | 69% 11% 21%      |
| 4   | FV    | 190    | 71% 10% 19%      |
| 4   | FW    | 190    | 66% 15% 19%      |
| 4   | FX    | 190    | 71% 9% 21%       |
| 4   | FY    | 190    | 68% 11% 21%      |
| 4   | FZ    | 190    | 66% 14% 20%      |
| 4   | GA    | 190    | 77% 13% 10%      |
| 4   | GB    | 190    | 77% 13% 10%      |

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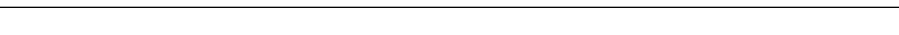
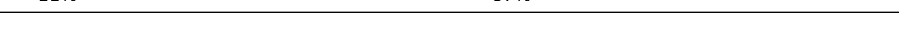
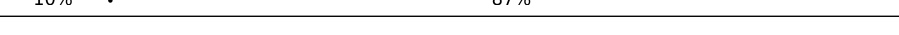
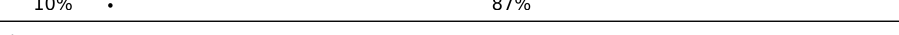
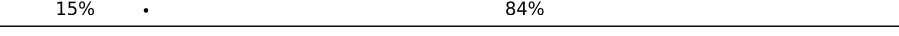















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| Mol | Chain | Length | Quality of chain   |
|-----|-------|--------|--|
| 4   | GC    | 190    |  75% 15% 10% |
| 4   | GD    | 190    |  74% 16% 10% |
| 4   | GE    | 190    |  76% 14% 10% |
| 4   | GF    | 190    |  77% 13% 10% |
| 4   | GG    | 190    |  74% 16% 10% |
| 4   | GH    | 190    |  74% 16% 10% |
| 4   | GI    | 190    |  75% 15% 10% |
| 4   | GJ    | 190    |  77% 13% 10% |
| 5   | GK    | 230    |  12% 87%     |
| 5   | GL    | 230    |  13% 84%     |
| 5   | GM    | 230    |  14% 84%     |
| 5   | GN    | 230    |  15% 84%    |
| 5   | GO    | 230    |  15% 84%   |
| 5   | GP    | 230    |  16% 84%   |
| 5   | GQ    | 230    |  13% 84%   |
| 5   | GR    | 230    |  16% 84%   |
| 5   | GS    | 230    |  14% 84%   |
| 5   | GT    | 230    |  16% 84%   |
| 5   | GU    | 230    |  14% 84%   |
| 5   | GV    | 230    |  15% 84%   |
| 5   | GW    | 230    |  12% 87%   |
| 5   | GX    | 230    |  13% 84%   |
| 5   | GY    | 230    |  13% 84%   |
| 5   | GZ    | 230    |  14% 84%   |
| 5   | HA    | 230    |  15% 84%   |


























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| Mol | Chain | Length | Quality of chain   |
|-----|-------|--------|--|
| 5   | HB    | 230    |  14% 84%   |
| 5   | HC    | 230    |  13% 84%   |
| 5   | HD    | 230    |  11% 87%   |
| 5   | HE    | 230    |  15% 84%   |
| 5   | HF    | 230    |  13% 84%   |
| 5   | HG    | 230    |  16% 84%   |
| 5   | HH    | 230    |  11% 87%   |
| 5   | HI    | 230    |  11% 87%   |
| 5   | HJ    | 230    |  10% 87%   |
| 5   | HK    | 230    |  10% 87%   |
| 5   | HL    | 230    |  15% 84%   |
| 5   | HM    | 230    |  12% 87%   |
| 5   | HN    | 230    |  15% 84%  |
| 5   | HO    | 230    |  16% 84% |
| 5   | HP    | 230    |  16% 84% |
| 5   | HQ    | 230    |  15% 84% |
| 5   | HR    | 230    |  15% 84% |
| 5   | HS    | 230    |  16% 84% |
| 5   | HT    | 230    |  16% 84% |
| 5   | HU    | 230    |  16% 84% |
| 5   | HV    | 230    |  14% 84% |
| 5   | HW    | 230    |  12% 88% |
| 5   | HX    | 230    |  16% 84% |
| 5   | HY    | 230    |  15% 84% |
| 5   | HZ    | 230    |  15% 84% |














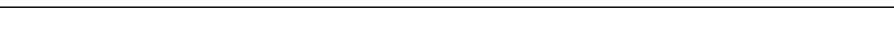
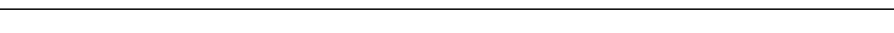
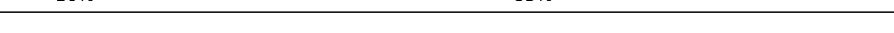
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| Mol | Chain | Length | Quality of chain   |     |
|-----|-------|--------|--|-----|
| 5   | IA    | 230    |    | 84% |
| 5   | IB    | 230    |    | 87% |
| 5   | IC    | 230    |    | 84% |
| 5   | ID    | 230    |    | 87% |
| 5   | IE    | 230    |    | 84% |
| 5   | IF    | 230    |    | 84% |
| 5   | IG    | 230    |    | 84% |
| 5   | IH    | 230    |    | 87% |
| 5   | II    | 230    |    | 87% |
| 5   | IJ    | 230    |    | 87% |
| 5   | IK    | 230    |    | 87% |
| 5   | IL    | 230    |   | 83% |
| 5   | IM    | 230    |  | 84% |
| 5   | IN    | 230    |  | 84% |
| 5   | IO    | 230    |  | 83% |
| 5   | IP    | 230    |  | 84% |
| 5   | IQ    | 230    |  | 84% |
| 5   | IR    | 230    |  | 83% |
| 5   | IS    | 230    |  | 84% |
| 5   | IT    | 230    |  | 84% |
| 5   | IU    | 230    |  | 83% |
| 5   | IV    | 230    |  | 84% |
| 5   | IW    | 230    |  | 84% |
| 5   | IX    | 230    |  | 84% |
| 5   | IY    | 230    |  | 83% |

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| Mol | Chain | Length | Quality of chain   |     |
|-----|-------|--------|--|-----|
| 5   | IZ    | 230    |    | 84% |
| 5   | JA    | 230    |    | 83% |
| 5   | JB    | 230    |    | 84% |
| 5   | JC    | 230    |    | 84% |
| 5   | JD    | 230    |    | 83% |
| 5   | JE    | 230    |    | 84% |
| 5   | JF    | 230    |    | 84% |
| 5   | JG    | 230    |    | 83% |
| 5   | JH    | 230    |    | 84% |
| 5   | JI    | 230    |    | 84% |
| 5   | JJ    | 230    |    | 83% |
| 5   | JK    | 230    |    | 84% |
| 5   | JL    | 230    |  | 84% |
| 5   | JM    | 230    |  | 84% |
| 5   | JN    | 230    |  | 83% |
| 5   | JO    | 230    |  | 84% |

## 2 Entry composition i

There are 5 unique types of molecules in this entry. The entry contains 333778 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 Major capsid protein.

| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
|     |       |          | Total | C    | N   | O   | S |         |       |
| 1   | AA    | 309      | 2488  | 1604 | 400 | 475 | 9 | 0       | 0     |
| 1   | AB    | 313      | 2510  | 1616 | 404 | 481 | 9 | 0       | 0     |
| 1   | AC    | 313      | 2510  | 1616 | 404 | 481 | 9 | 0       | 0     |
| 1   | AD    | 309      | 2488  | 1604 | 400 | 475 | 9 | 0       | 0     |
| 1   | AE    | 313      | 2510  | 1616 | 404 | 481 | 9 | 0       | 0     |
| 1   | AF    | 313      | 2510  | 1616 | 404 | 481 | 9 | 0       | 0     |
| 1   | AG    | 309      | 2488  | 1604 | 400 | 475 | 9 | 0       | 0     |
| 1   | AH    | 313      | 2510  | 1616 | 404 | 481 | 9 | 0       | 0     |
| 1   | AI    | 313      | 2510  | 1616 | 404 | 481 | 9 | 0       | 0     |
| 1   | AJ    | 309      | 2488  | 1604 | 400 | 475 | 9 | 0       | 0     |
| 1   | AK    | 313      | 2510  | 1616 | 404 | 481 | 9 | 0       | 0     |
| 1   | AL    | 313      | 2510  | 1616 | 404 | 481 | 9 | 0       | 0     |
| 1   | AM    | 309      | 2488  | 1604 | 400 | 475 | 9 | 0       | 0     |
| 1   | AN    | 313      | 2510  | 1616 | 404 | 481 | 9 | 0       | 0     |
| 1   | AO    | 313      | 2510  | 1616 | 404 | 481 | 9 | 0       | 0     |
| 1   | AP    | 309      | 2488  | 1604 | 400 | 475 | 9 | 0       | 0     |
| 1   | AQ    | 313      | 2510  | 1616 | 404 | 481 | 9 | 0       | 0     |

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| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 1   | AR    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | AS    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | AT    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | AU    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | AV    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | AW    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | AX    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | AY    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | AZ    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | BA    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | BB    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | BC    | 300      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2405  | 1549 | 390 | 457 | 9 |         |       |
| 1   | BD    | 309      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2488  | 1604 | 400 | 475 | 9 |         |       |
| 1   | BE    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | BF    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | BG    | 309      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2488  | 1604 | 400 | 475 | 9 |         |       |
| 1   | BH    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | BI    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | BJ    | 309      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2488  | 1604 | 400 | 475 | 9 |         |       |
| 1   | BK    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | BL    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |

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| Mol | Chain | Residues | Atoms |      |     |     |    | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| 1   | BM    | 311      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2505  | 1614 | 402 | 479 | 10 |         |       |
| 1   | BN    | 313      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9  |         |       |
| 1   | BO    | 313      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9  |         |       |
| 1   | BP    | 309      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2488  | 1604 | 400 | 475 | 9  |         |       |
| 1   | BQ    | 313      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9  |         |       |
| 1   | BR    | 311      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2505  | 1614 | 402 | 479 | 10 |         |       |
| 1   | BS    | 313      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9  |         |       |
| 1   | BT    | 297      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2383  | 1532 | 385 | 457 | 9  |         |       |
| 1   | BU    | 313      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9  |         |       |
| 1   | BV    | 313      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9  |         |       |
| 1   | BW    | 313      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9  |         |       |
| 1   | BX    | 297      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2383  | 1532 | 385 | 457 | 9  |         |       |
| 1   | BY    | 313      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9  |         |       |
| 1   | BZ    | 313      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9  |         |       |
| 1   | CA    | 313      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9  |         |       |
| 1   | CB    | 313      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9  |         |       |
| 1   | CC    | 313      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9  |         |       |
| 1   | CD    | 313      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9  |         |       |
| 1   | CE    | 313      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9  |         |       |
| 1   | CF    | 313      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9  |         |       |
| 1   | CG    | 313      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9  |         |       |

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| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 1   | CH    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | CI    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | CJ    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | CK    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | CL    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | CM    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | CN    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | CO    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | CP    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | CQ    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | CR    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | CS    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | CT    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | CU    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | CV    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | CW    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | CX    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | CY    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | CZ    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | DA    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | DB    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |

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| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 1   | DC    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | DD    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |
| 1   | DE    | 313      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2510  | 1616 | 404 | 481 | 9 |         |       |

- Molecule 2 is a protein called Decorator protein P03.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 2   | DF    | 155      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1178  | 742 | 197 | 235 | 4 |         |       |
| 2   | DG    | 152      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1160  | 730 | 194 | 232 | 4 |         |       |
| 2   | DH    | 154      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1173  | 739 | 196 | 234 | 4 |         |       |
| 2   | DI    | 153      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1165  | 733 | 195 | 233 | 4 |         |       |
| 2   | DJ    | 154      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1173  | 739 | 196 | 234 | 4 |         |       |
| 2   | DK    | 153      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1165  | 733 | 195 | 233 | 4 |         |       |
| 2   | DL    | 154      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1173  | 739 | 196 | 234 | 4 |         |       |
| 2   | DM    | 154      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1170  | 736 | 196 | 234 | 4 |         |       |
| 2   | DN    | 154      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1173  | 739 | 196 | 234 | 4 |         |       |
| 2   | DO    | 153      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1165  | 733 | 195 | 233 | 4 |         |       |
| 2   | DP    | 153      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1165  | 733 | 195 | 233 | 4 |         |       |
| 2   | DQ    | 152      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1160  | 730 | 194 | 232 | 4 |         |       |
| 2   | DR    | 154      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1173  | 739 | 196 | 234 | 4 |         |       |
| 2   | DS    | 168      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1288  | 813 | 215 | 256 | 4 |         |       |
| 2   | DT    | 154      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1173  | 739 | 196 | 234 | 4 |         |       |
| 2   | DU    | 153      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1161  | 730 | 194 | 233 | 4 |         |       |

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| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
|     |       |          | Total | C   | N   | O   | S |         |       |
| 2   | DV    | 153      | 1165  | 733 | 195 | 233 | 4 | 0       | 0     |
| 2   | DW    | 153      | 1161  | 730 | 194 | 233 | 4 | 0       | 0     |
| 2   | DX    | 158      | 1198  | 750 | 202 | 242 | 4 | 0       | 0     |
| 2   | DY    | 151      | 1148  | 721 | 192 | 231 | 4 | 0       | 0     |
| 2   | DZ    | 154      | 1173  | 739 | 196 | 234 | 4 | 0       | 0     |
| 2   | EA    | 120      | 917   | 584 | 151 | 180 | 2 | 0       | 0     |
| 2   | EB    | 158      | 1198  | 750 | 202 | 242 | 4 | 0       | 0     |
| 2   | EC    | 153      | 1164  | 733 | 194 | 233 | 4 | 0       | 0     |
| 2   | ED    | 160      | 1211  | 759 | 204 | 244 | 4 | 0       | 0     |
| 2   | EE    | 158      | 1194  | 747 | 201 | 242 | 4 | 0       | 0     |
| 2   | EF    | 154      | 1173  | 739 | 196 | 234 | 4 | 0       | 0     |
| 2   | EG    | 175      | 1337  | 840 | 225 | 268 | 4 | 0       | 0     |
| 2   | EH    | 153      | 1165  | 733 | 195 | 233 | 4 | 0       | 0     |
| 2   | EI    | 157      | 1189  | 744 | 200 | 241 | 4 | 0       | 0     |
| 2   | EJ    | 166      | 1275  | 804 | 213 | 254 | 4 | 0       | 0     |
| 2   | EK    | 168      | 1288  | 813 | 215 | 256 | 4 | 0       | 0     |
| 2   | EL    | 152      | 1160  | 730 | 194 | 232 | 4 | 0       | 0     |
| 2   | EM    | 154      | 1173  | 739 | 196 | 234 | 4 | 0       | 0     |
| 2   | EN    | 153      | 1165  | 733 | 195 | 233 | 4 | 0       | 0     |
| 2   | EO    | 170      | 1304  | 823 | 218 | 259 | 4 | 0       | 0     |
| 2   | EP    | 153      | 1161  | 730 | 194 | 233 | 4 | 0       | 0     |

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| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
|     |       |          | Total | C   | N   | O   | S |         |       |
| 2   | EQ    | 158      | 1198  | 750 | 202 | 242 | 4 | 0       | 0     |
| 2   | ER    | 151      | 1148  | 721 | 192 | 231 | 4 | 0       | 0     |
| 2   | ES    | 154      | 1173  | 739 | 196 | 234 | 4 | 0       | 0     |
| 2   | ET    | 153      | 1161  | 730 | 194 | 233 | 4 | 0       | 0     |
| 2   | EU    | 158      | 1198  | 750 | 202 | 242 | 4 | 0       | 0     |
| 2   | EV    | 151      | 1148  | 721 | 192 | 231 | 4 | 0       | 0     |
| 2   | EW    | 154      | 1173  | 739 | 196 | 234 | 4 | 0       | 0     |
| 2   | EX    | 153      | 1161  | 730 | 194 | 233 | 4 | 0       | 0     |
| 2   | EY    | 158      | 1198  | 750 | 202 | 242 | 4 | 0       | 0     |
| 2   | EZ    | 151      | 1148  | 721 | 192 | 231 | 4 | 0       | 0     |
| 2   | FA    | 154      | 1173  | 739 | 196 | 234 | 4 | 0       | 0     |
| 2   | FB    | 153      | 1161  | 730 | 194 | 233 | 4 | 0       | 0     |
| 2   | FC    | 158      | 1198  | 750 | 202 | 242 | 4 | 0       | 0     |
| 2   | FD    | 151      | 1148  | 721 | 192 | 231 | 4 | 0       | 0     |
| 2   | FE    | 154      | 1173  | 739 | 196 | 234 | 4 | 0       | 0     |
| 2   | FF    | 153      | 1161  | 730 | 194 | 233 | 4 | 0       | 0     |
| 2   | FG    | 158      | 1198  | 750 | 202 | 242 | 4 | 0       | 0     |
| 2   | FH    | 151      | 1148  | 721 | 192 | 231 | 4 | 0       | 0     |
| 2   | FI    | 154      | 1173  | 739 | 196 | 234 | 4 | 0       | 0     |

- Molecule 3 is a protein called Decorator protein P04.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
|     |       |          | Total | C   | N   | O   | S |         |       |
| 3   | FJ    | 161      | 1252  | 801 | 199 | 245 | 7 | 0       | 0     |

- Molecule 4 is a protein called Decorator protein P05.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
|     |       |          | Total | C   | N   | O   | S |         |       |
| 4   | FK    | 152      | 1195  | 761 | 203 | 229 | 2 | 0       | 0     |
| 4   | FL    | 152      | 1195  | 761 | 203 | 229 | 2 | 0       | 0     |
| 4   | FM    | 153      | 1203  | 767 | 203 | 231 | 2 | 0       | 0     |
| 4   | FN    | 152      | 1197  | 764 | 202 | 229 | 2 | 0       | 0     |
| 4   | FO    | 156      | 1222  | 776 | 208 | 235 | 3 | 0       | 0     |
| 4   | FP    | 152      | 1191  | 758 | 202 | 229 | 2 | 0       | 0     |
| 4   | FQ    | 171      | 1358  | 865 | 231 | 260 | 2 | 0       | 0     |
| 4   | FR    | 171      | 1358  | 865 | 231 | 260 | 2 | 0       | 0     |
| 4   | FS    | 171      | 1358  | 865 | 231 | 260 | 2 | 0       | 0     |
| 4   | FT    | 144      | 1137  | 726 | 191 | 218 | 2 | 0       | 0     |
| 4   | FU    | 151      | 1187  | 755 | 201 | 229 | 2 | 0       | 0     |
| 4   | FV    | 154      | 1208  | 769 | 205 | 231 | 3 | 0       | 0     |
| 4   | FW    | 154      | 1208  | 769 | 205 | 231 | 3 | 0       | 0     |
| 4   | FX    | 151      | 1186  | 755 | 201 | 228 | 2 | 0       | 0     |
| 4   | FY    | 151      | 1186  | 755 | 201 | 228 | 2 | 0       | 0     |
| 4   | FZ    | 152      | 1195  | 761 | 203 | 229 | 2 | 0       | 0     |
| 4   | GA    | 171      | 1358  | 865 | 231 | 260 | 2 | 0       | 0     |
| 4   | GB    | 171      | 1358  | 865 | 231 | 260 | 2 | 0       | 0     |
| 4   | GC    | 171      | 1358  | 865 | 231 | 260 | 2 | 0       | 0     |

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| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 4   | GD    | 171      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1358  | 865 | 231 | 260 | 2 |         |       |
| 4   | GE    | 171      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1358  | 865 | 231 | 260 | 2 |         |       |
| 4   | GF    | 171      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1358  | 865 | 231 | 260 | 2 |         |       |
| 4   | GG    | 171      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1358  | 865 | 231 | 260 | 2 |         |       |
| 4   | GH    | 171      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1358  | 865 | 231 | 260 | 2 |         |       |
| 4   | GI    | 171      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1358  | 865 | 231 | 260 | 2 |         |       |
| 4   | GJ    | 171      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1358  | 865 | 231 | 260 | 2 |         |       |

- Molecule 5 is a protein called Scaffold protein.

| Mol | Chain | Residues | Atoms |     |    |    | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---------|-------|
| 5   | GK    | 30       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 266   | 174 | 47 | 45 |         |       |
| 5   | GL    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | GM    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | GN    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | GO    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | GP    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | GQ    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | GR    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | GS    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | GT    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | GU    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | GV    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |

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| Mol | Chain | Residues | Atoms |     |    |    | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---------|-------|
| 5   | GW    | 30       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 266   | 174 | 47 | 45 |         |       |
| 5   | GX    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | GY    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | GZ    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | HA    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | HB    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | HC    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | HD    | 30       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 266   | 174 | 47 | 45 |         |       |
| 5   | HE    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | HF    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | HG    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | HH    | 30       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 266   | 174 | 47 | 45 |         |       |
| 5   | HI    | 30       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 266   | 174 | 47 | 45 |         |       |
| 5   | HJ    | 30       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 266   | 174 | 47 | 45 |         |       |
| 5   | HK    | 30       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 266   | 174 | 47 | 45 |         |       |
| 5   | HL    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | HM    | 29       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 255   | 165 | 46 | 44 |         |       |
| 5   | HN    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | HO    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | HP    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | HQ    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |

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| Mol | Chain | Residues | Atoms |     |    |    | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---------|-------|
| 5   | HR    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | HS    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | HT    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | HU    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | HV    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | HW    | 28       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 248   | 160 | 45 | 43 |         |       |
| 5   | HX    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | HY    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | HZ    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | IA    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | IB    | 29       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 255   | 165 | 46 | 44 |         |       |
| 5   | IC    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | ID    | 29       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 255   | 165 | 46 | 44 |         |       |
| 5   | IE    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | IF    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | IG    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | IH    | 29       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 255   | 165 | 46 | 44 |         |       |
| 5   | II    | 30       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 266   | 174 | 47 | 45 |         |       |
| 5   | IJ    | 30       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 266   | 174 | 47 | 45 |         |       |
| 5   | IK    | 30       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 266   | 174 | 47 | 45 |         |       |
| 5   | IL    | 40       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 345   | 221 | 64 | 60 |         |       |

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| Mol | Chain | Residues | Atoms        |          |         |         | AltConf | Trace |
|-----|-------|----------|--------------|----------|---------|---------|---------|-------|
| 5   | IM    | 37       | Total<br>315 | C<br>203 | N<br>55 | O<br>57 | 0       | 0     |
| 5   | IN    | 37       | Total<br>315 | C<br>203 | N<br>55 | O<br>57 | 0       | 0     |
| 5   | IO    | 40       | Total<br>345 | C<br>221 | N<br>64 | O<br>60 | 0       | 0     |
| 5   | IP    | 37       | Total<br>315 | C<br>203 | N<br>55 | O<br>57 | 0       | 0     |
| 5   | IQ    | 37       | Total<br>315 | C<br>203 | N<br>55 | O<br>57 | 0       | 0     |
| 5   | IR    | 40       | Total<br>345 | C<br>221 | N<br>64 | O<br>60 | 0       | 0     |
| 5   | IS    | 37       | Total<br>315 | C<br>203 | N<br>55 | O<br>57 | 0       | 0     |
| 5   | IT    | 37       | Total<br>315 | C<br>203 | N<br>55 | O<br>57 | 0       | 0     |
| 5   | IU    | 40       | Total<br>345 | C<br>221 | N<br>64 | O<br>60 | 0       | 0     |
| 5   | IV    | 37       | Total<br>315 | C<br>203 | N<br>55 | O<br>57 | 0       | 0     |
| 5   | IW    | 37       | Total<br>315 | C<br>203 | N<br>55 | O<br>57 | 0       | 0     |
| 5   | IX    | 37       | Total<br>315 | C<br>203 | N<br>55 | O<br>57 | 0       | 0     |
| 5   | IY    | 40       | Total<br>345 | C<br>221 | N<br>64 | O<br>60 | 0       | 0     |
| 5   | IZ    | 37       | Total<br>315 | C<br>203 | N<br>55 | O<br>57 | 0       | 0     |
| 5   | JA    | 40       | Total<br>345 | C<br>221 | N<br>64 | O<br>60 | 0       | 0     |
| 5   | JB    | 37       | Total<br>315 | C<br>203 | N<br>55 | O<br>57 | 0       | 0     |
| 5   | JC    | 37       | Total<br>315 | C<br>203 | N<br>55 | O<br>57 | 0       | 0     |
| 5   | JD    | 40       | Total<br>345 | C<br>221 | N<br>64 | O<br>60 | 0       | 0     |
| 5   | JE    | 37       | Total<br>315 | C<br>203 | N<br>55 | O<br>57 | 0       | 0     |
| 5   | JF    | 37       | Total<br>315 | C<br>203 | N<br>55 | O<br>57 | 0       | 0     |
| 5   | JG    | 40       | Total<br>345 | C<br>221 | N<br>64 | O<br>60 | 0       | 0     |

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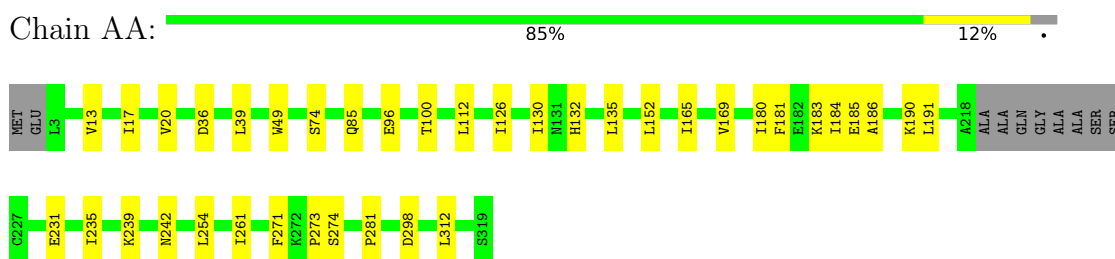
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| Mol | Chain | Residues | Atoms |     |    |    | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---------|-------|
| 5   | JH    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | JI    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | JJ    | 40       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 345   | 221 | 64 | 60 |         |       |
| 5   | JK    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | JL    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | JM    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |
| 5   | JN    | 40       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 345   | 221 | 64 | 60 |         |       |
| 5   | JO    | 37       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 315   | 203 | 55 | 57 |         |       |

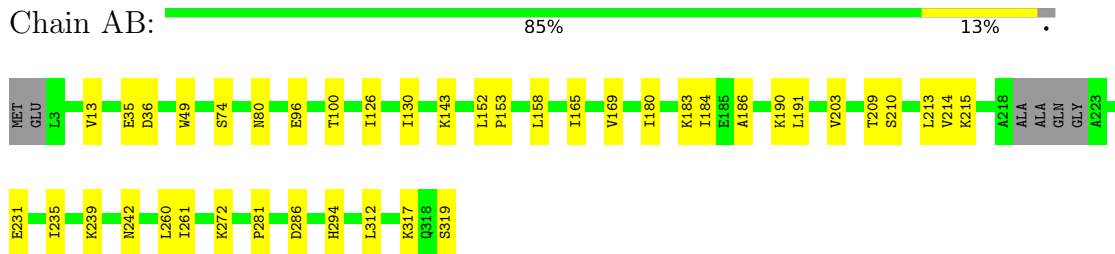
### 3 Residue-property plots

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.

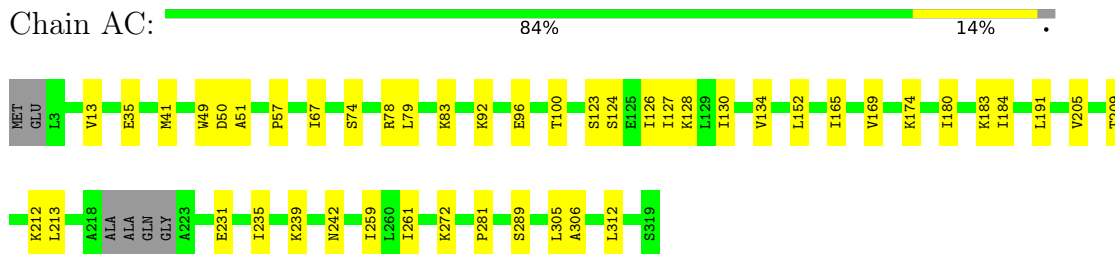
- Molecule 1: Major capsid protein



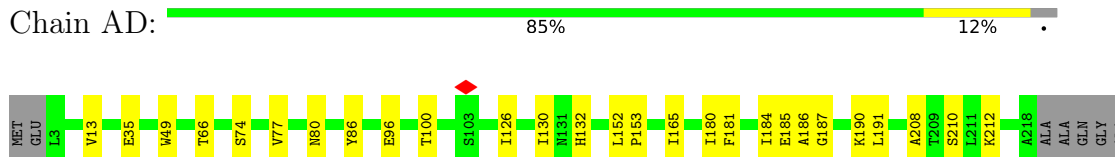
- Molecule 1: Major capsid protein



- Molecule 1: Major capsid protein

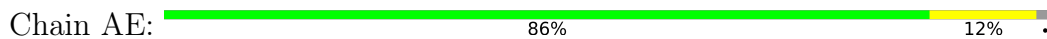


- Molecule 1: Major capsid protein

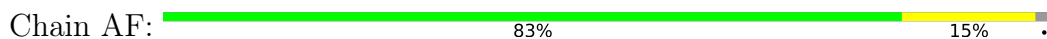




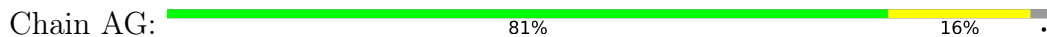
- Molecule 1: Major capsid protein



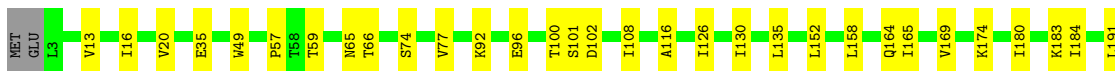
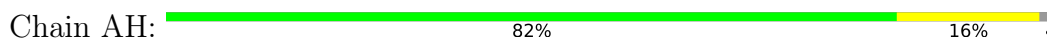
- Molecule 1: Major capsid protein



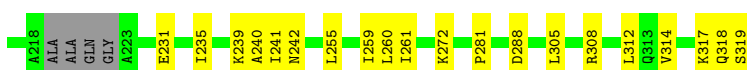
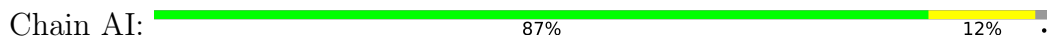
- Molecule 1: Major capsid protein

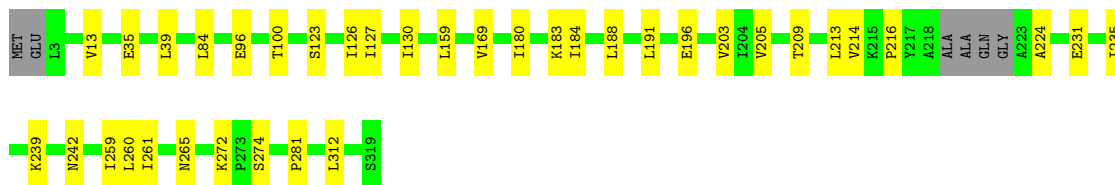


- Molecule 1: Major capsid protein

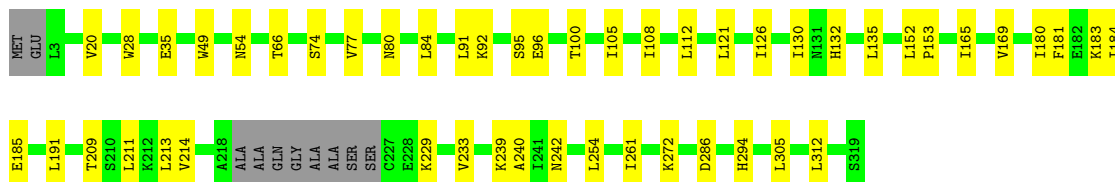
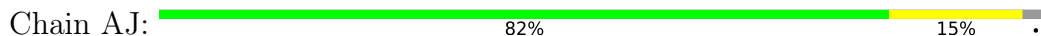


- Molecule 1: Major capsid protein

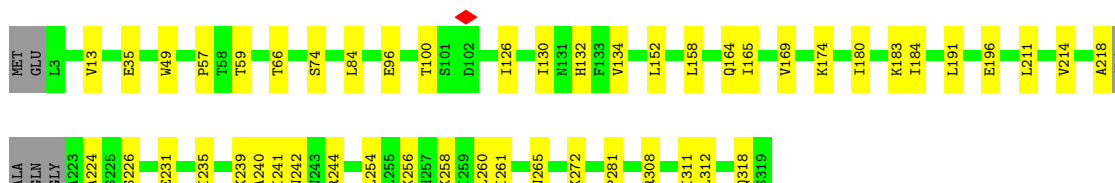
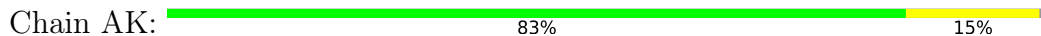




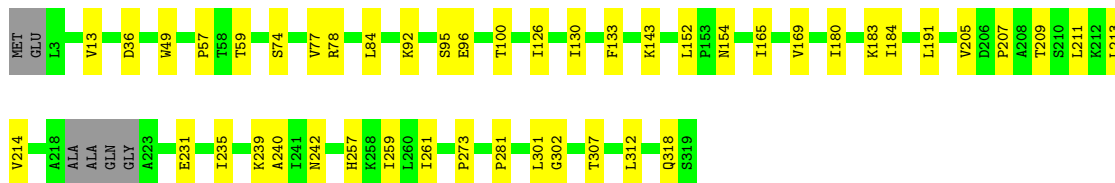
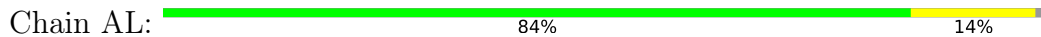
• Molecule 1: Major capsid protein



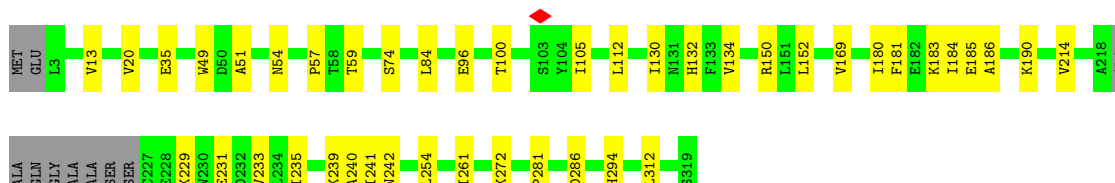
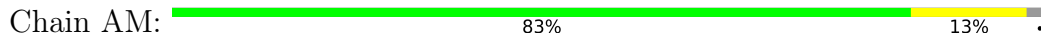
• Molecule 1: Major capsid protein




• Molecule 1: Major capsid protein

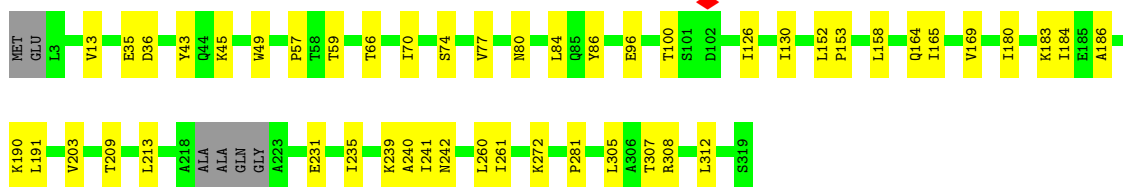


• Molecule 1: Major capsid protein




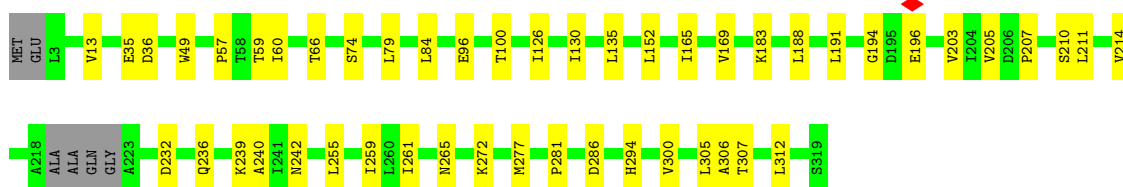
• Molecule 1: Major capsid protein

Chain AN:  83% 15%




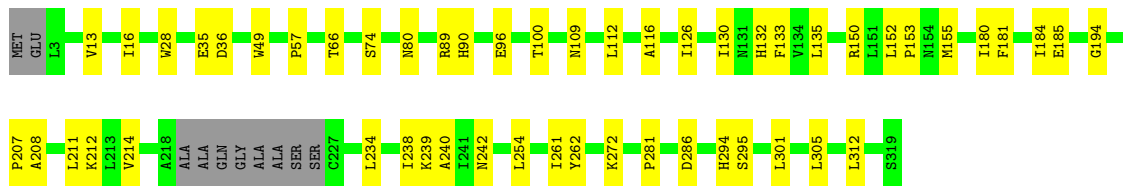
• Molecule 1: Major capsid protein

Chain AO:  83% 15%




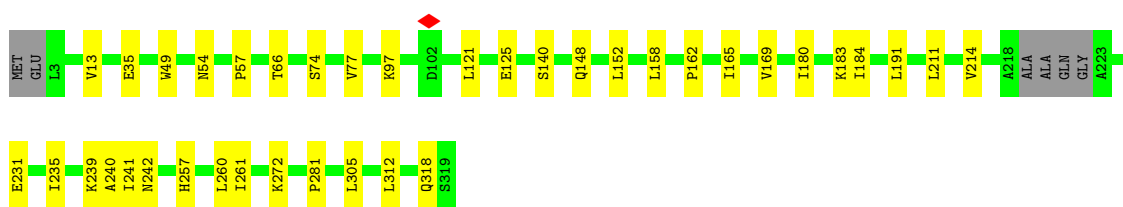
• Molecule 1: Major capsid protein

Chain AP:  81% 16%




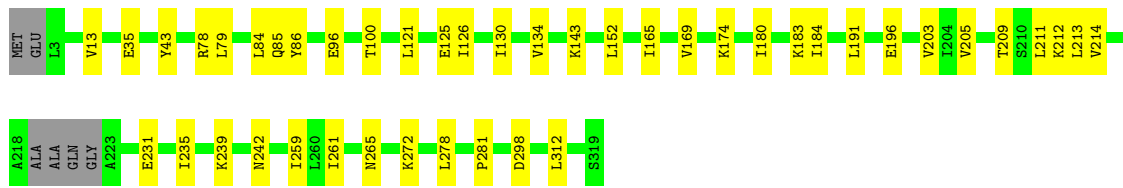
• Molecule 1: Major capsid protein

Chain AQ:  86% 12%




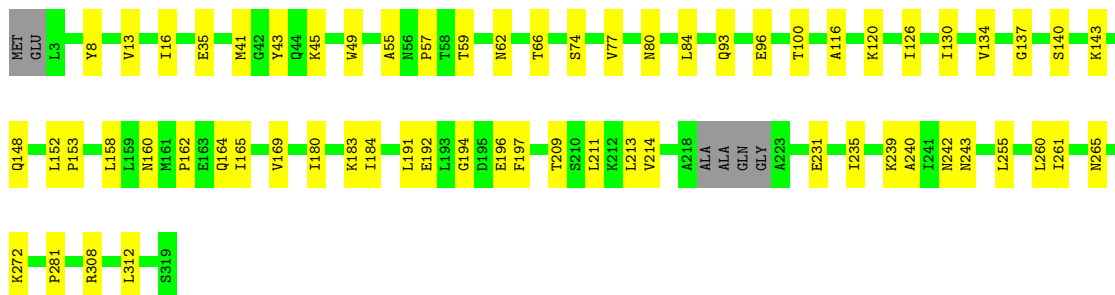
• Molecule 1: Major capsid protein

Chain AR:  84% 14%




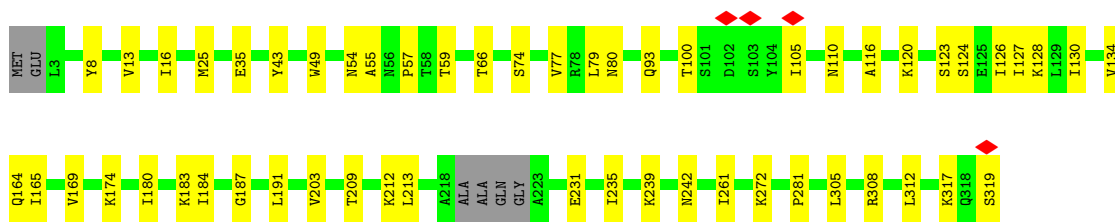
• Molecule 1: Major capsid protein

Chain AS:  78% 20%




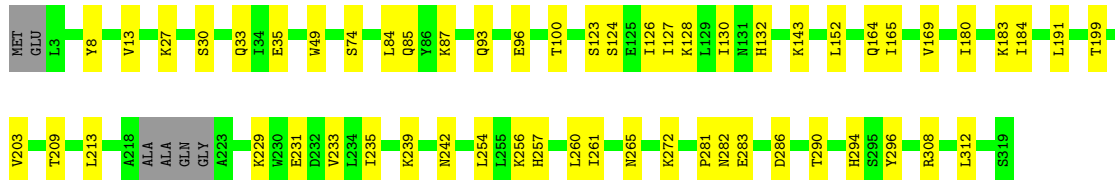
• Molecule 1: Major capsid protein

Chain AT:  81% 17%




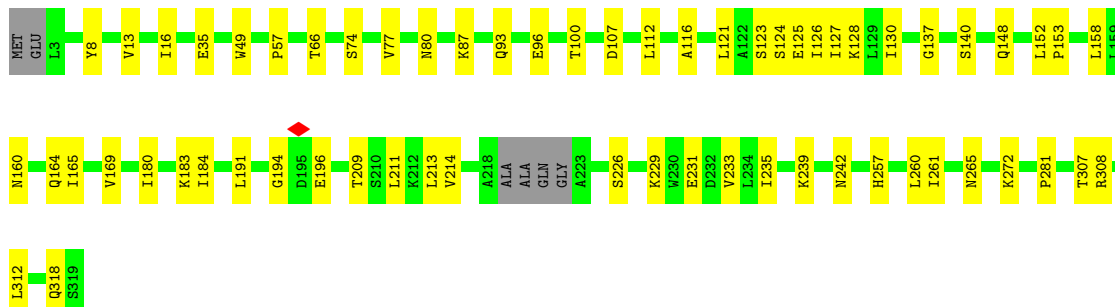
• Molecule 1: Major capsid protein

Chain AU:  81% 18%




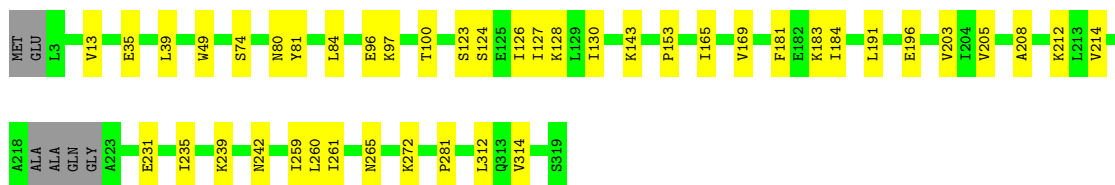
• Molecule 1: Major capsid protein

Chain AV:  79% 19%




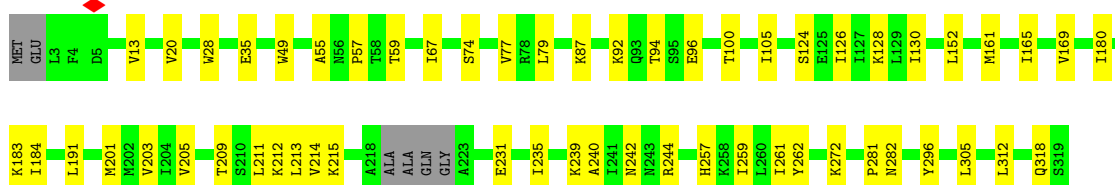
• Molecule 1: Major capsid protein

Chain AW:  85% 13%




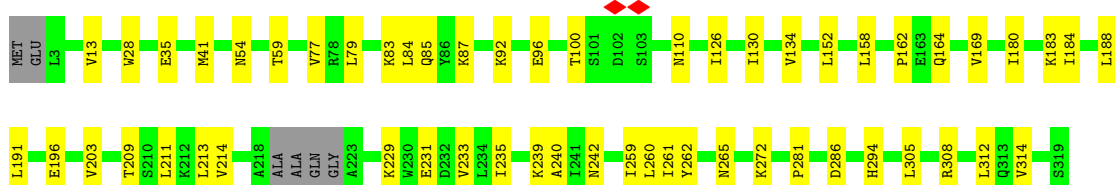
• Molecule 1: Major capsid protein

Chain AX:  81% 18%




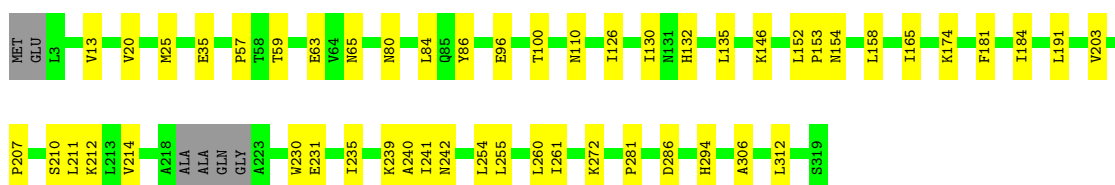
• Molecule 1: Major capsid protein

Chain AY:  81% 17%




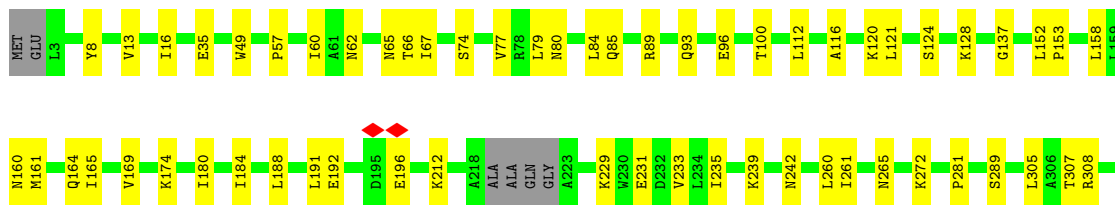
• Molecule 1: Major capsid protein

Chain AZ:  82% 16%



• Molecule 1: Major capsid protein

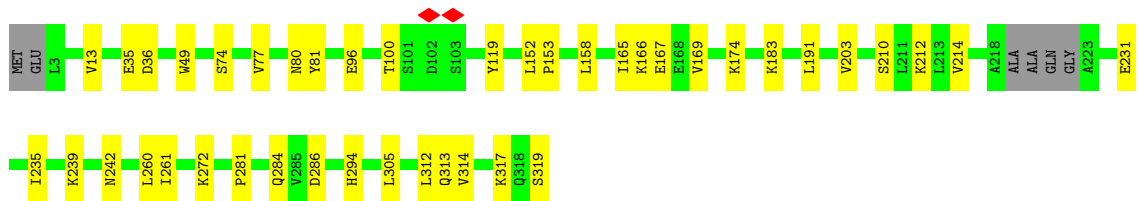
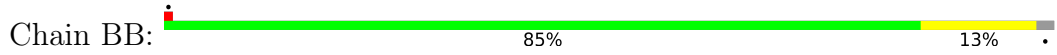
Chain BA:  79% 19%



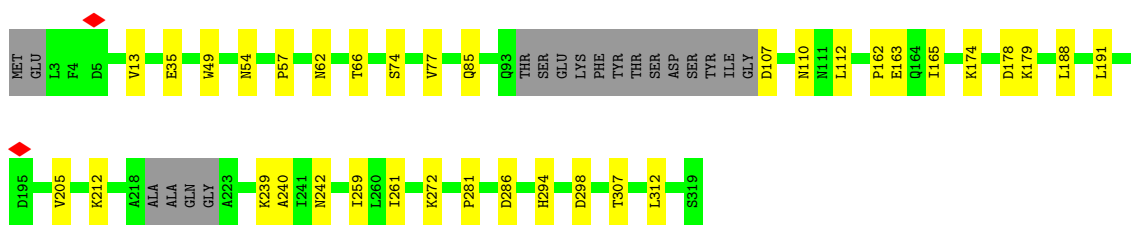
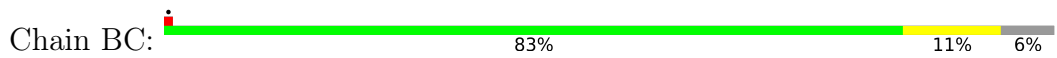
• Molecule 1: Major capsid protein



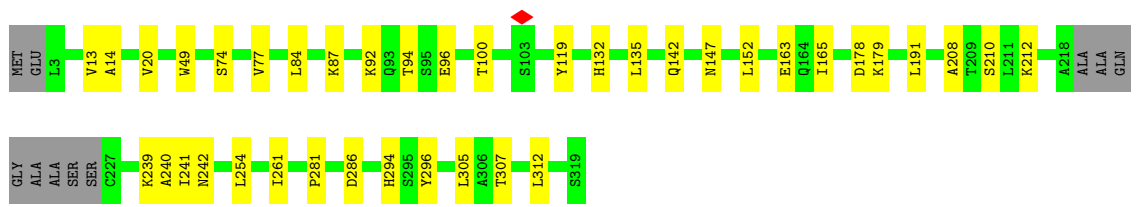
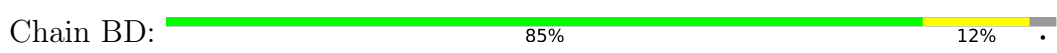
• Molecule 1: Major capsid protein



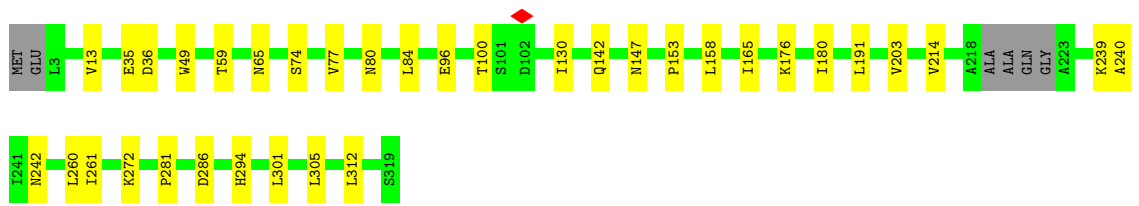
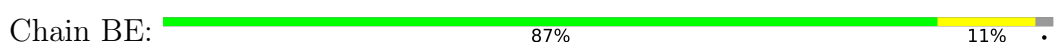
• Molecule 1: Major capsid protein



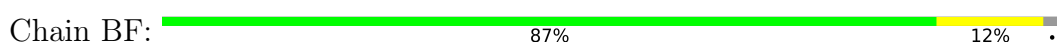
• Molecule 1: Major capsid protein



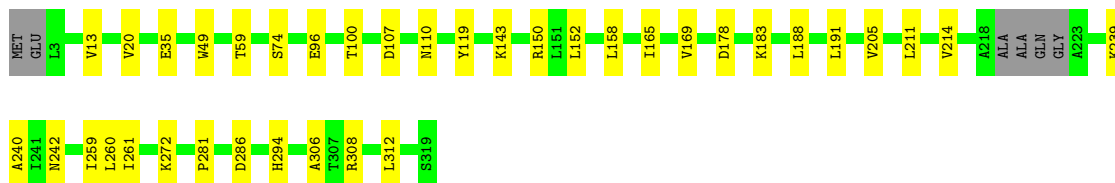
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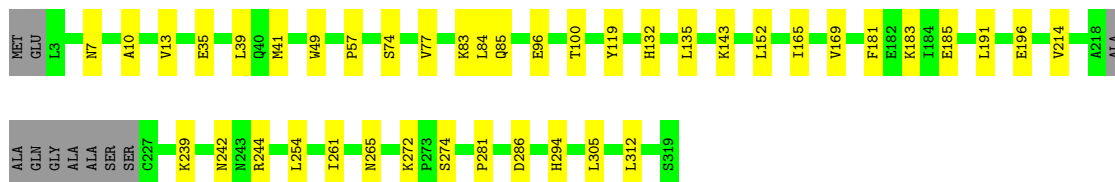
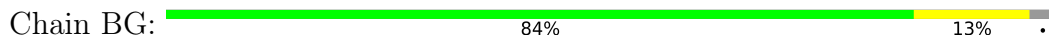
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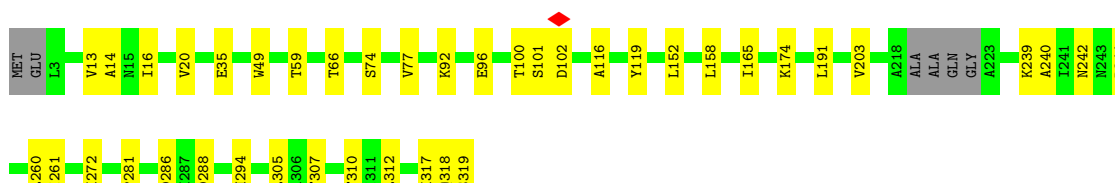
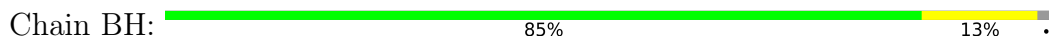




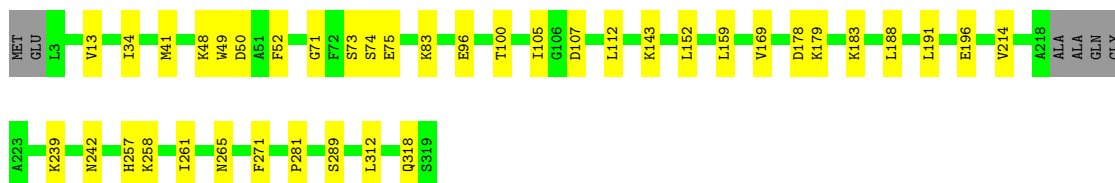
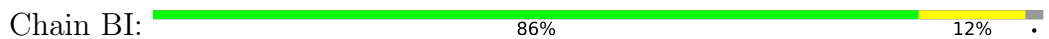
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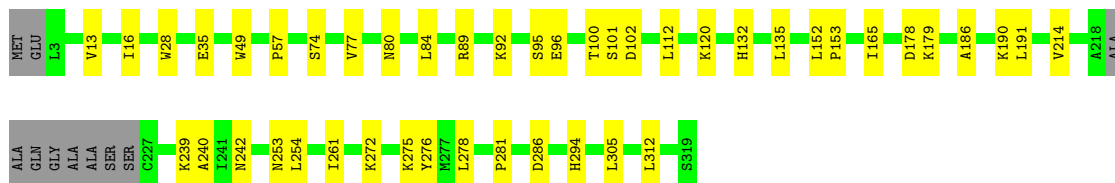
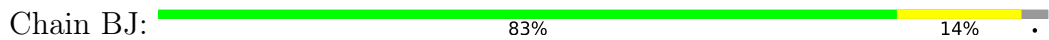
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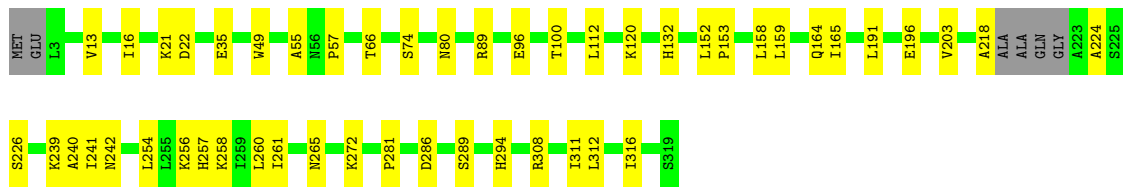
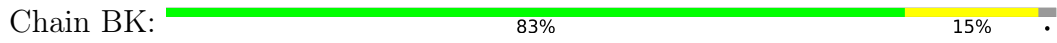
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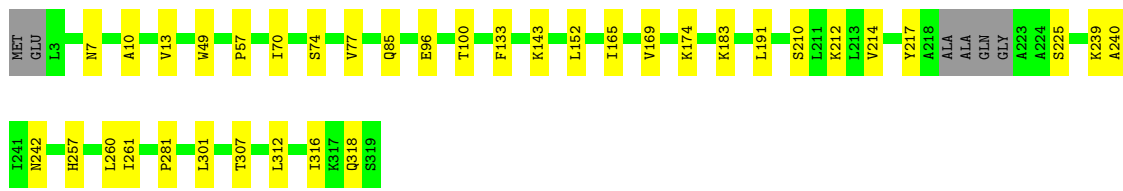
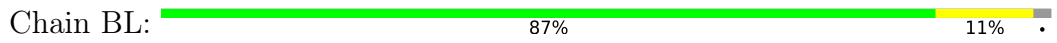
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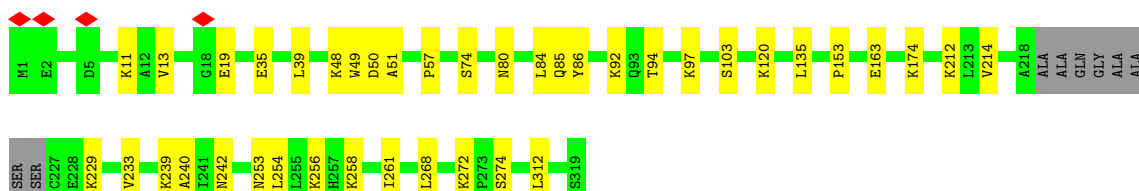
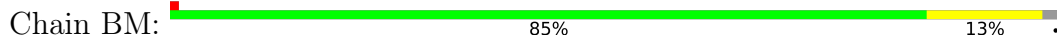
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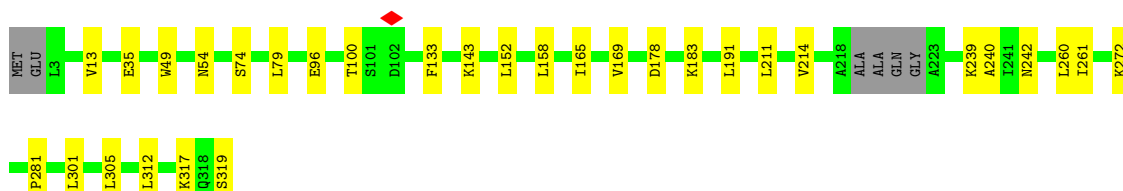
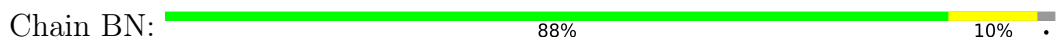
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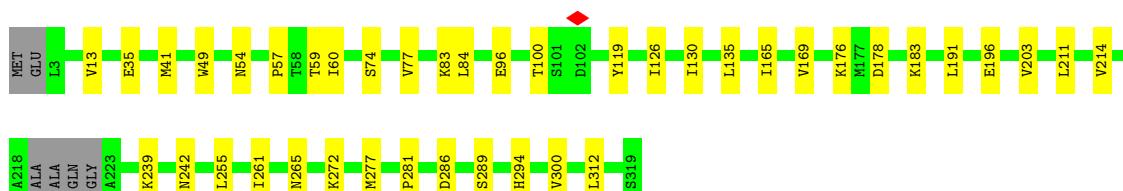
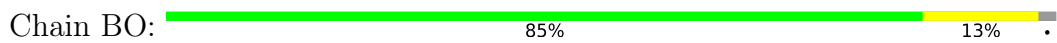
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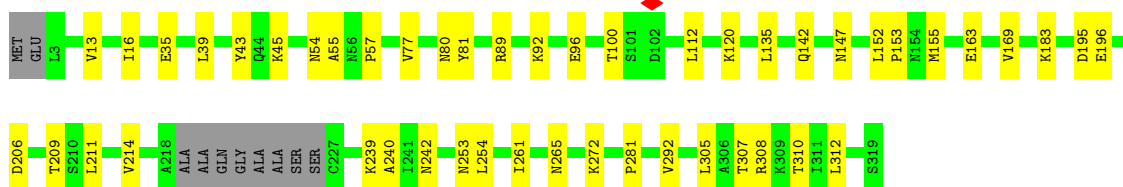
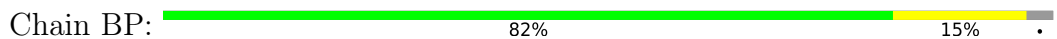
• Molecule 1: Major capsid protein



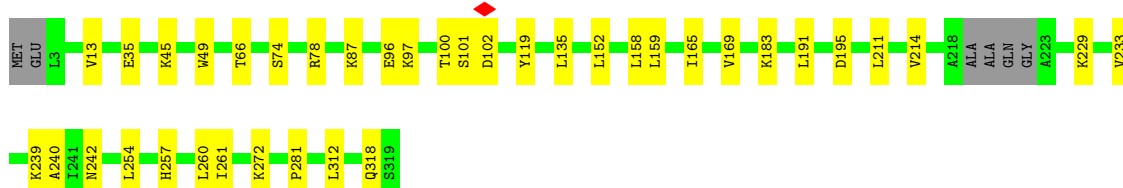
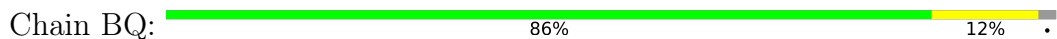
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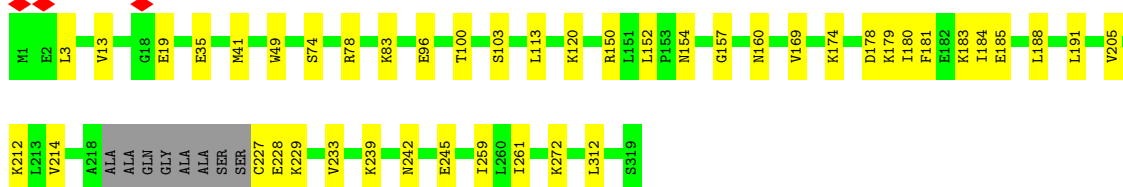
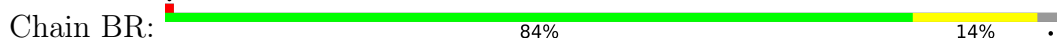
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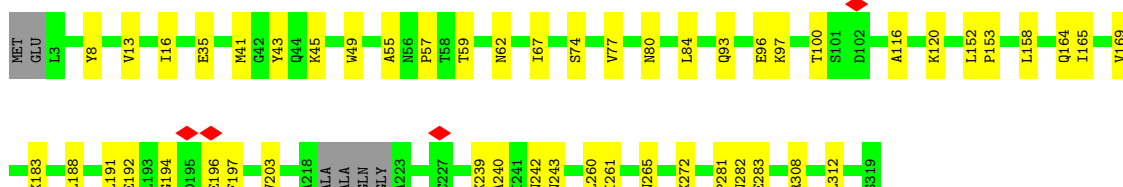
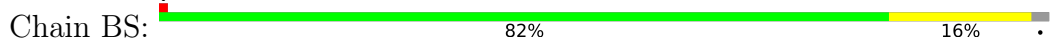
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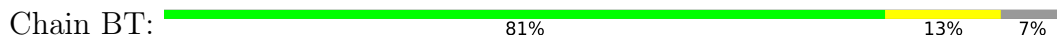
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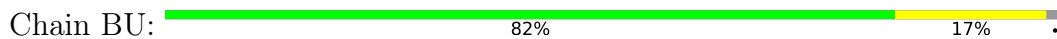


• Molecule 1: Major capsid protein

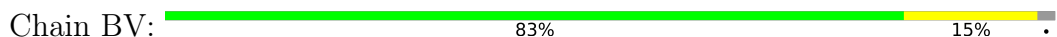




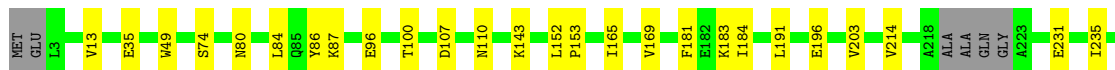
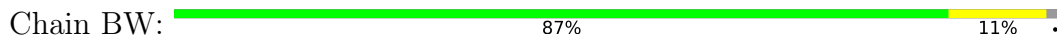
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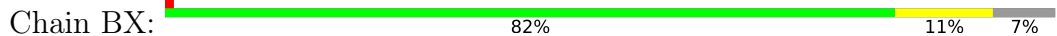
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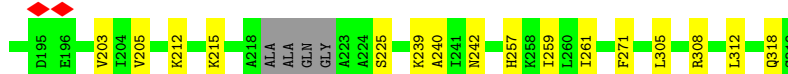
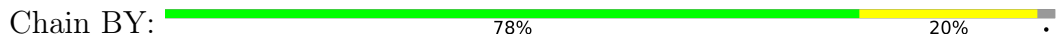
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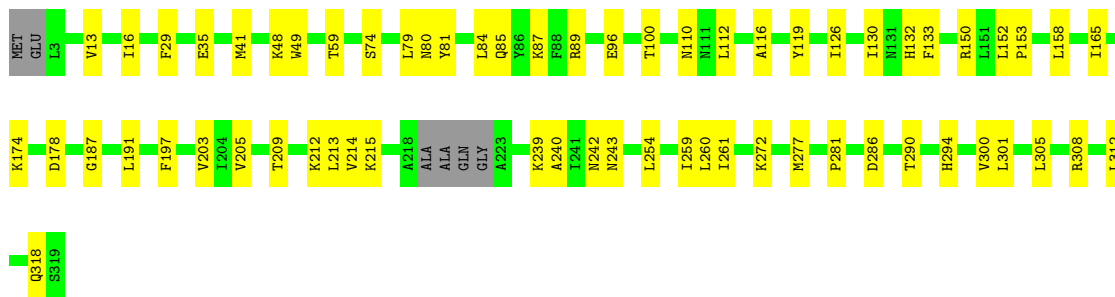


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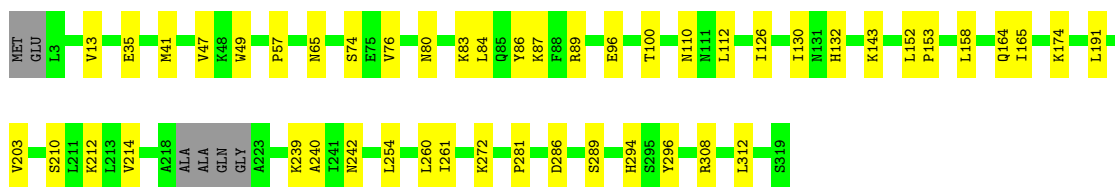
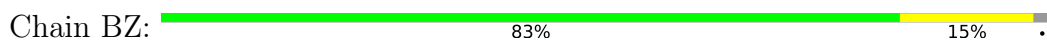


• Molecule 1: Major capsid protein

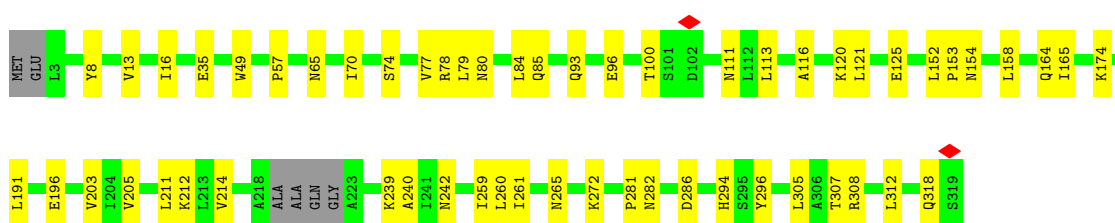
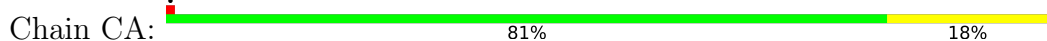




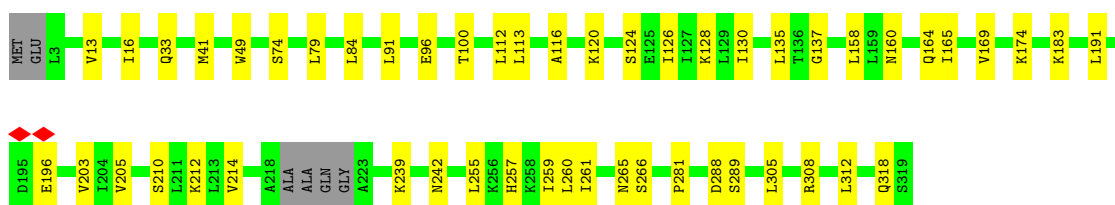
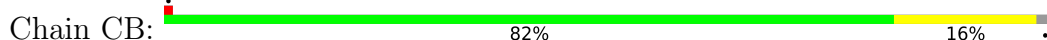
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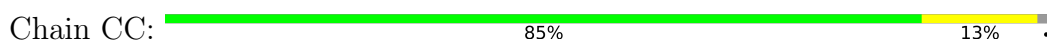
• Molecule 1: Major capsid protein



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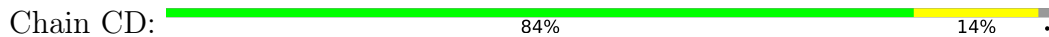


• Molecule 1: Major capsid protein

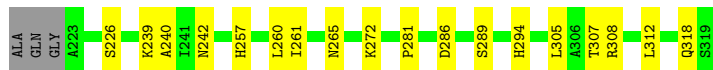
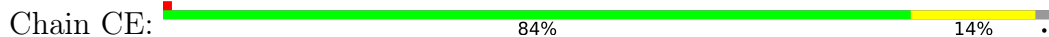




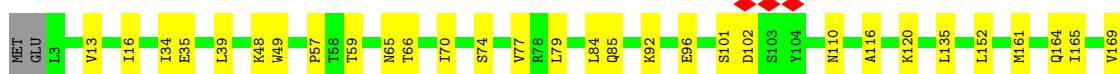
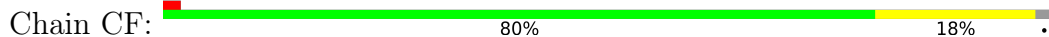
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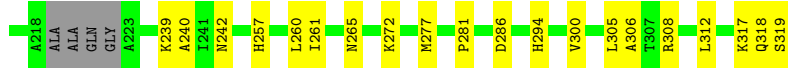
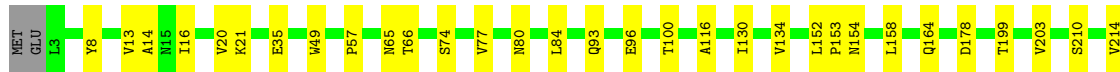
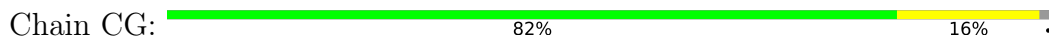
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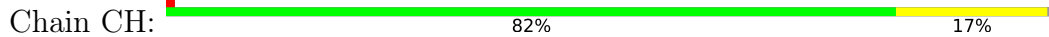
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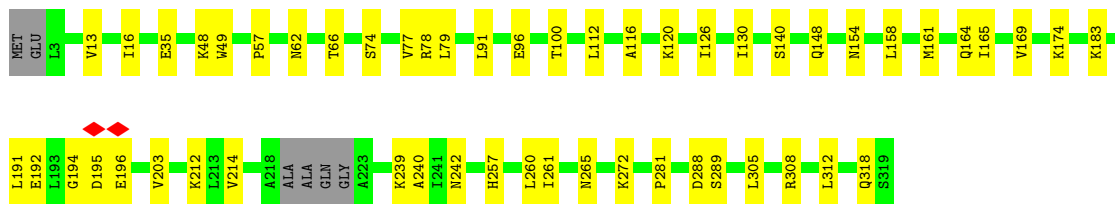


• Molecule 1: Major capsid protein

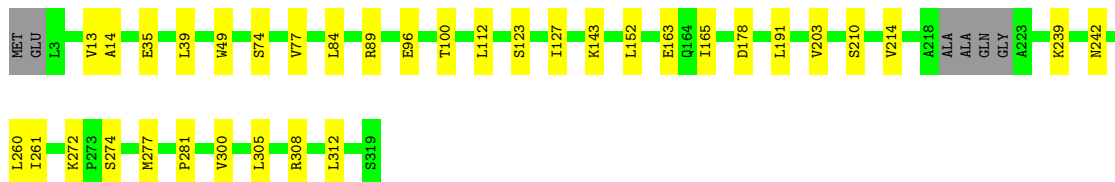
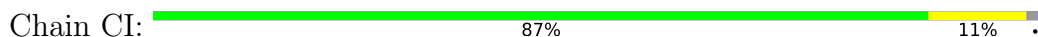


• Molecule 1: Major capsid protein

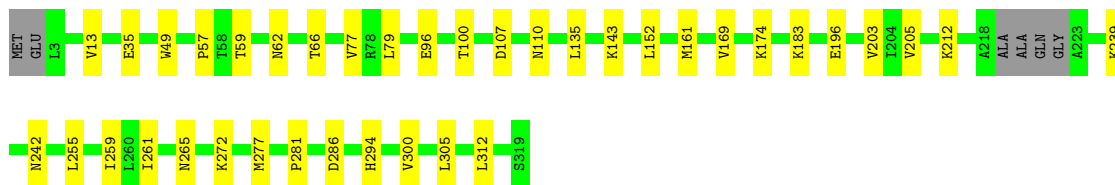
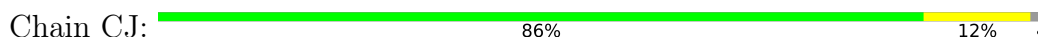




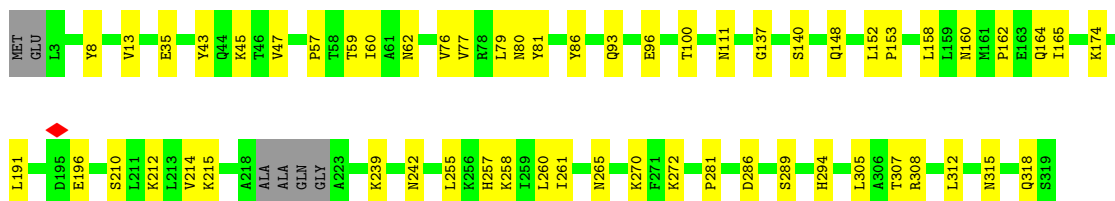
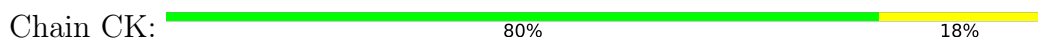
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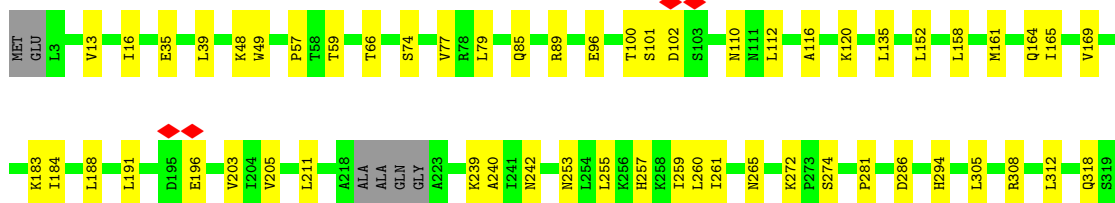
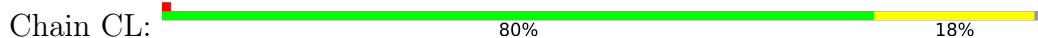
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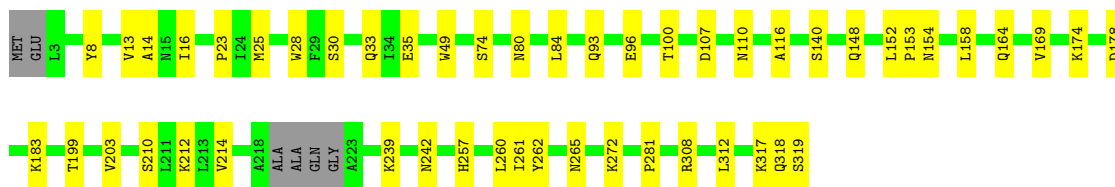
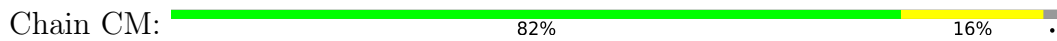
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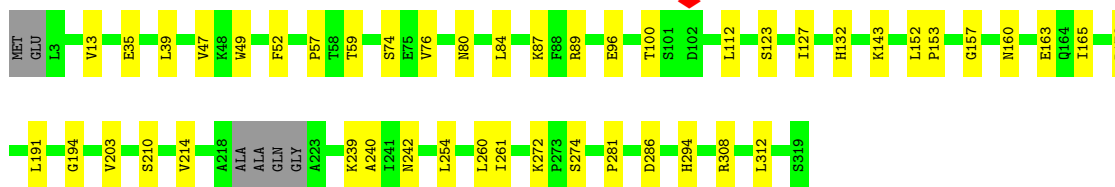
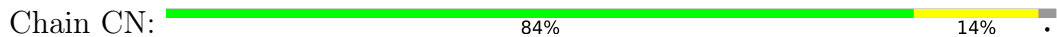
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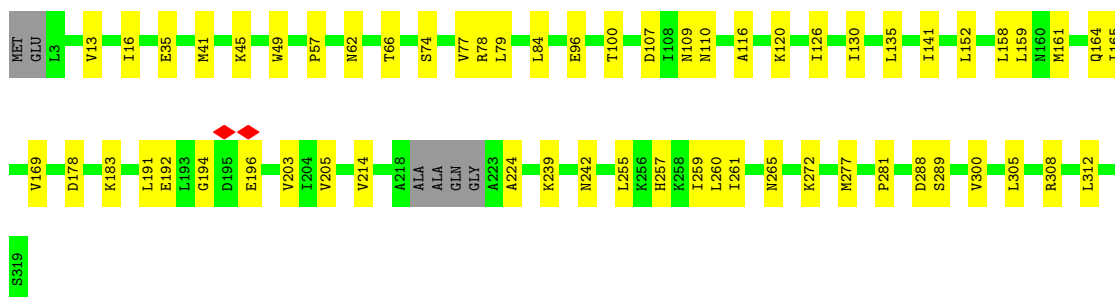
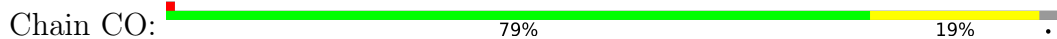
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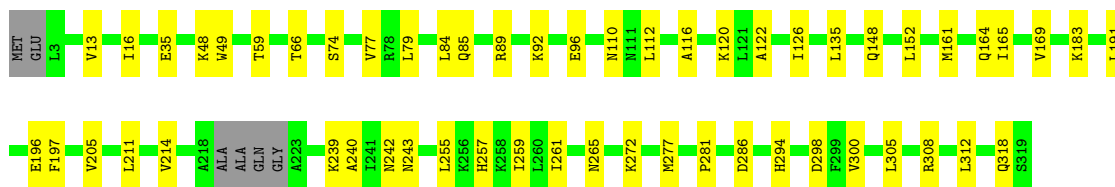
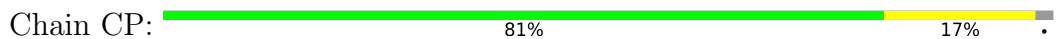
● Molecule 1: Major capsid protein



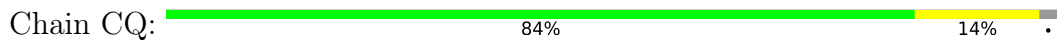
● Molecule 1: Major capsid protein



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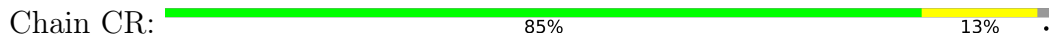
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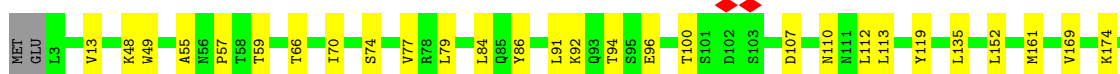
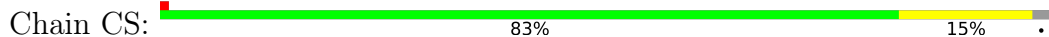




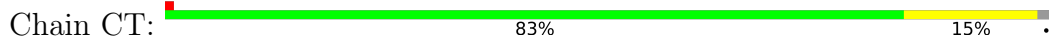
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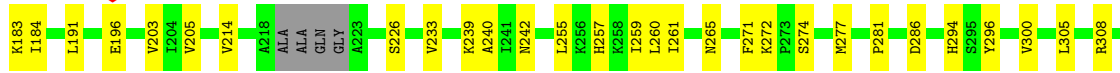
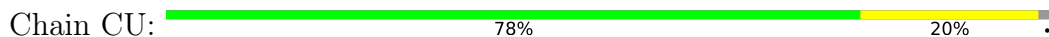
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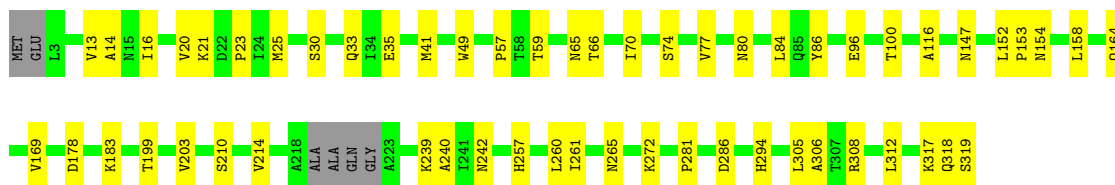


• Molecule 1: Major capsid protein




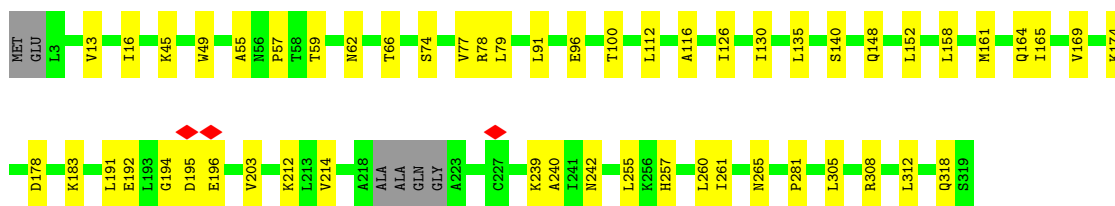
• Molecule 1: Major capsid protein

Chain CV:  81% 18%




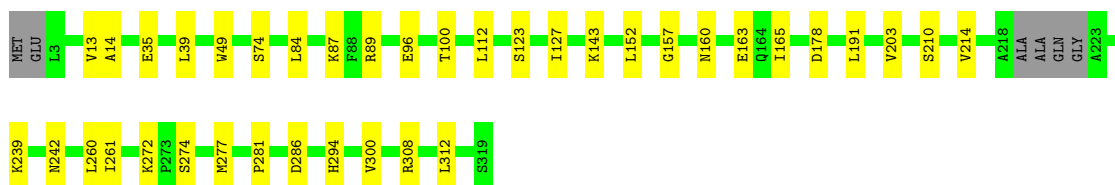
• Molecule 1: Major capsid protein

Chain CW:  82% 17%




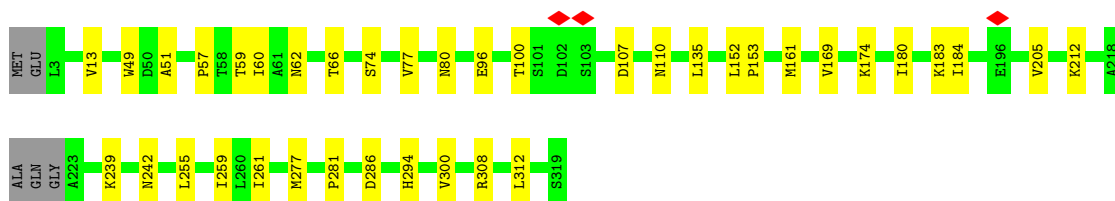
• Molecule 1: Major capsid protein

Chain CX:  86% 12%




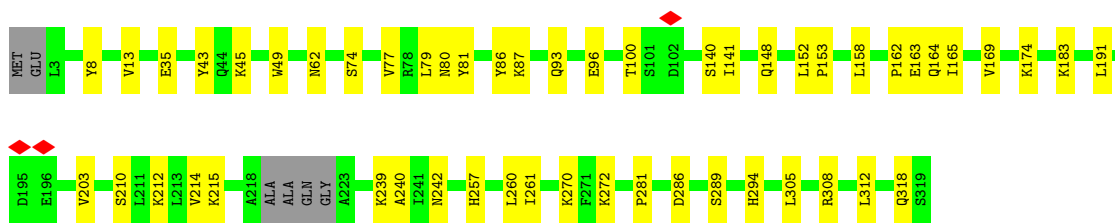
• Molecule 1: Major capsid protein

Chain CY:  86% 12%

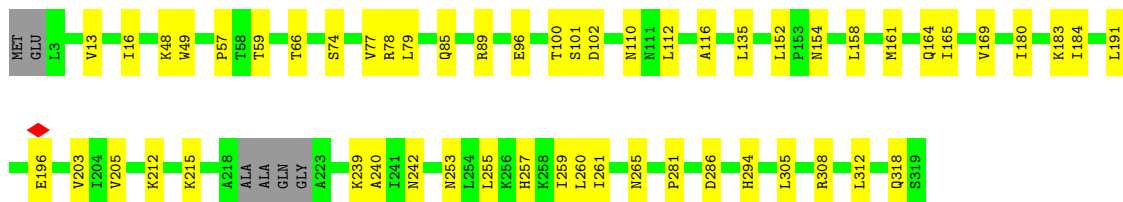
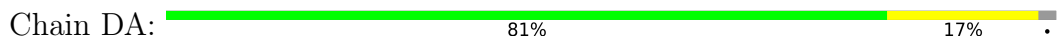


• Molecule 1: Major capsid protein

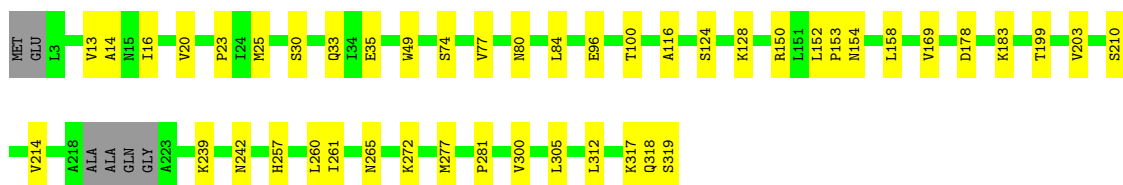
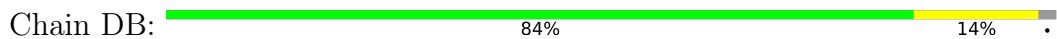
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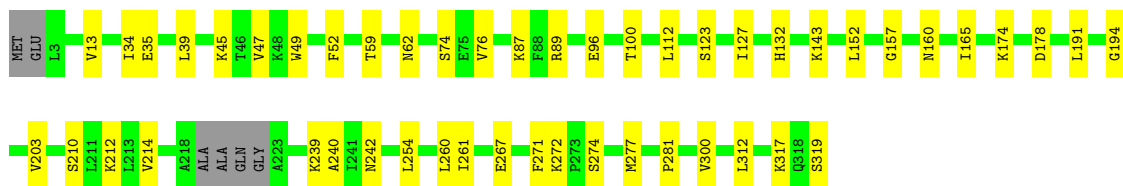
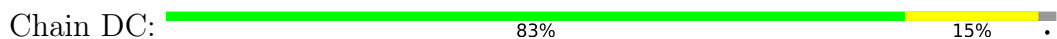
• Molecule 1: Major capsid protein



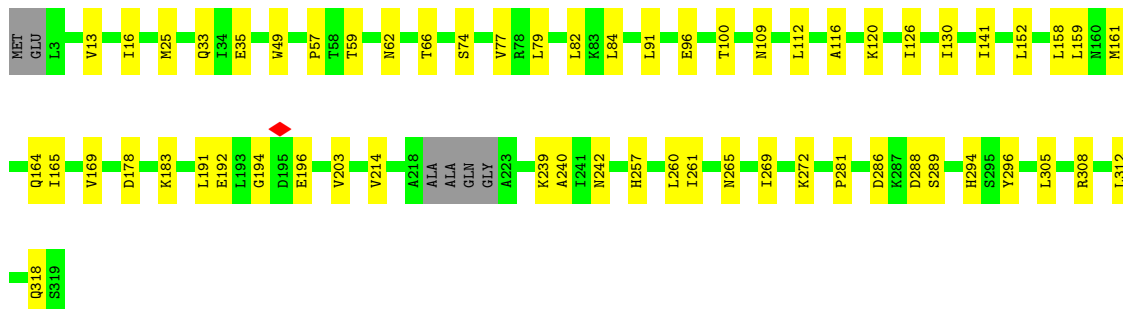
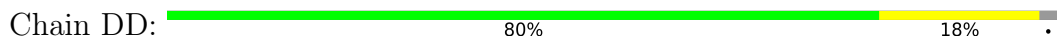
• Molecule 1: Major capsid protein



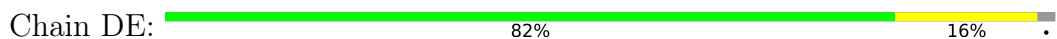
• Molecule 1: Major capsid protein

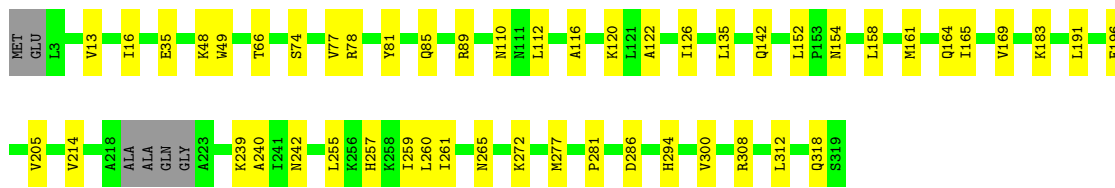


• Molecule 1: Major capsid protein

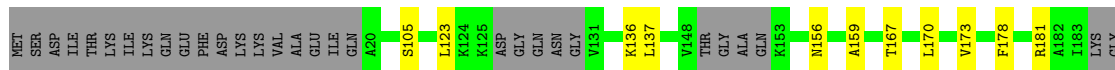
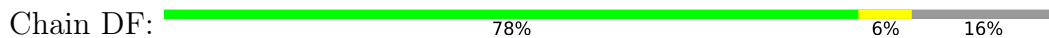


• Molecule 1: Major capsid protein

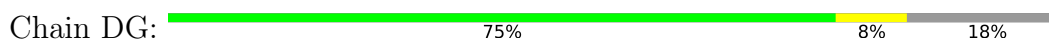




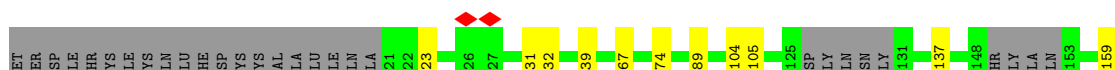
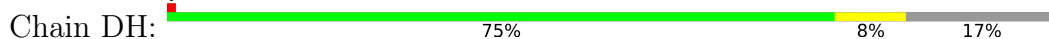
• Molecule 2: Decorator protein P03



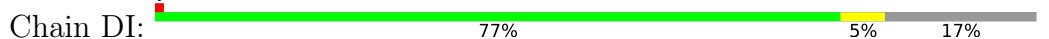
• Molecule 2: Decorator protein P03



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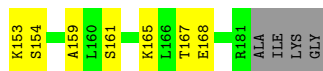
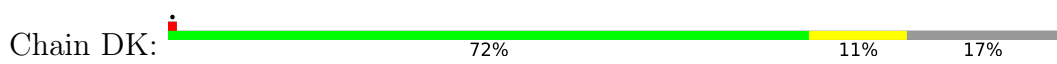


• Molecule 2: Decorator protein P03

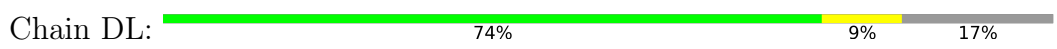




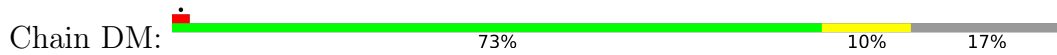
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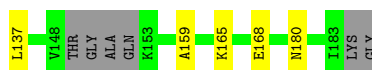
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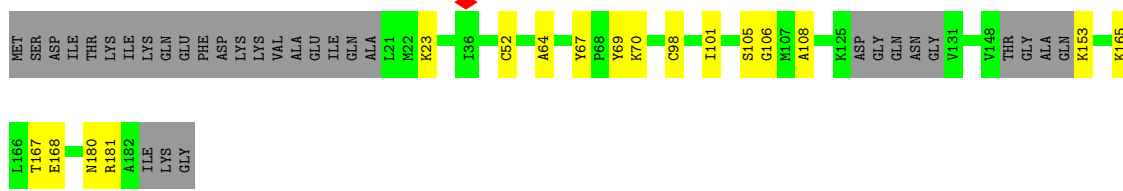
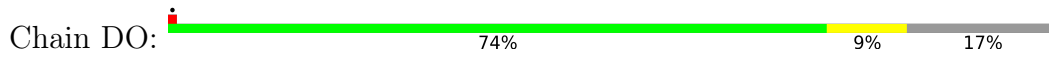
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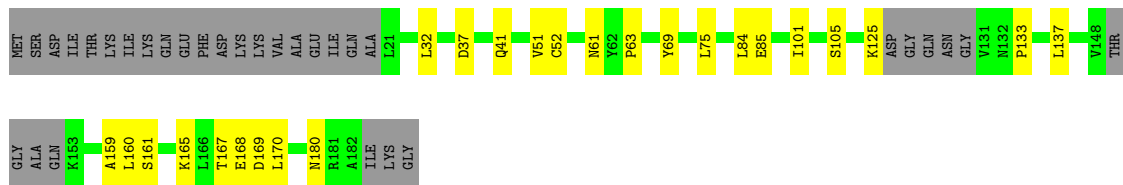
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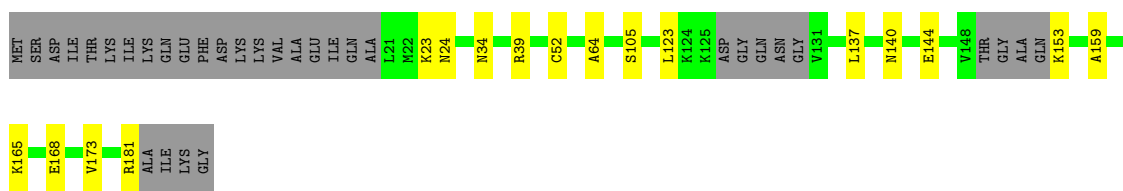
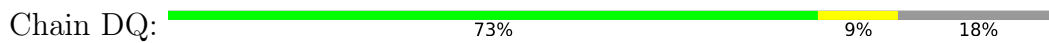
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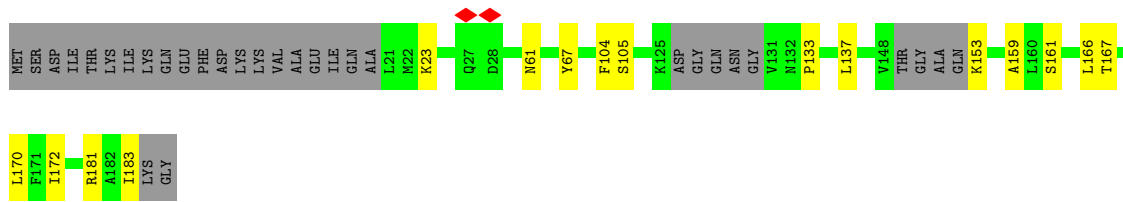
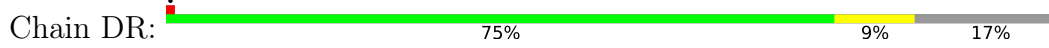
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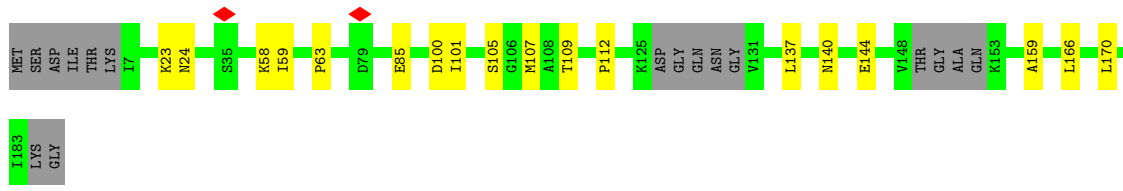
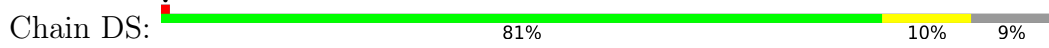
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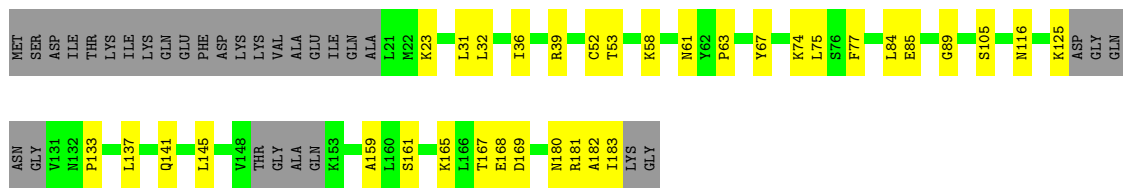
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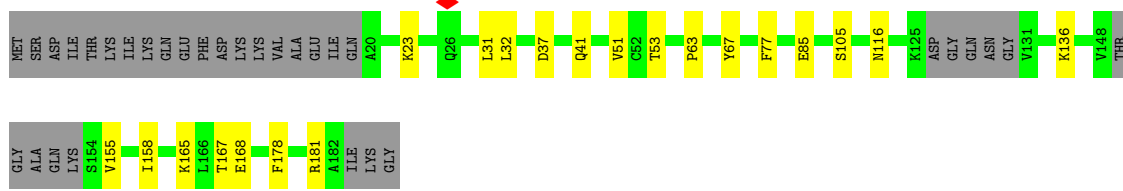
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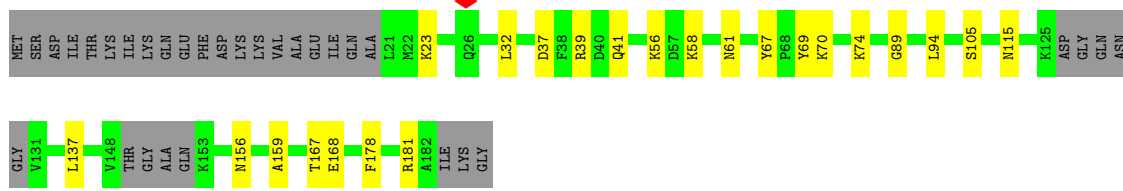
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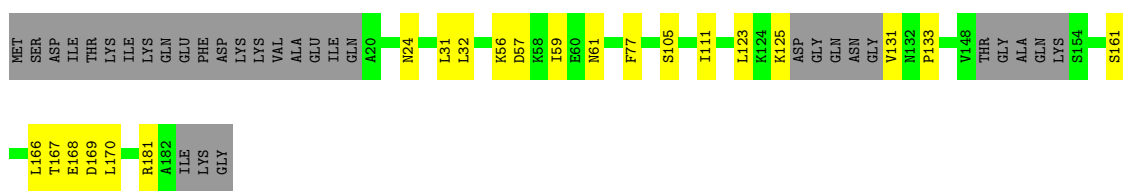
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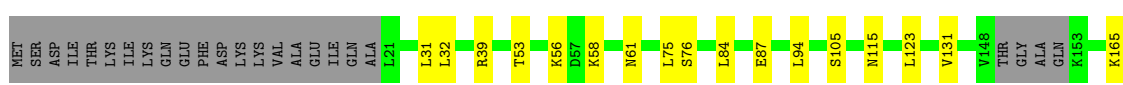
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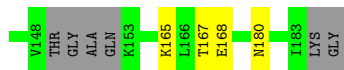




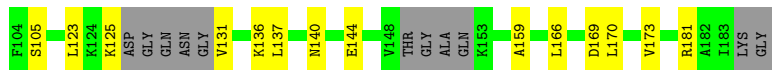
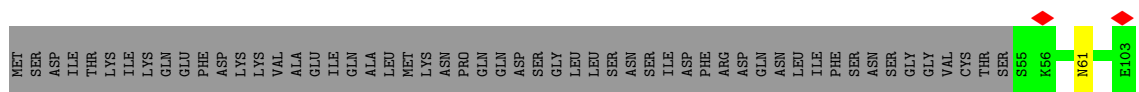
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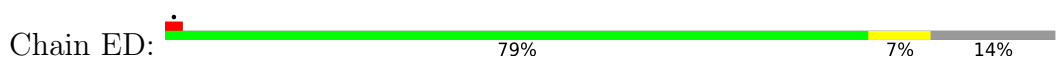
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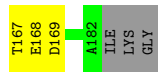
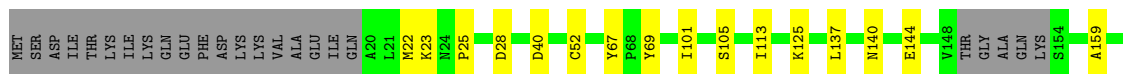
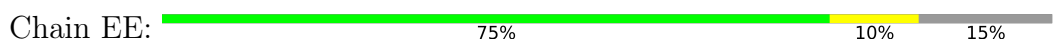




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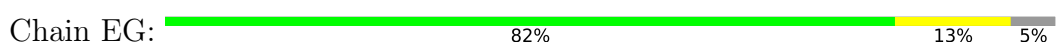
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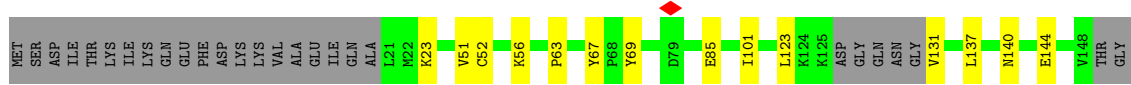
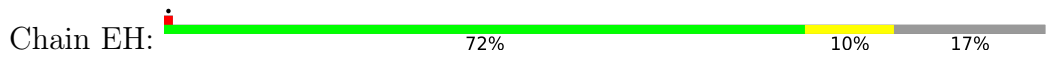
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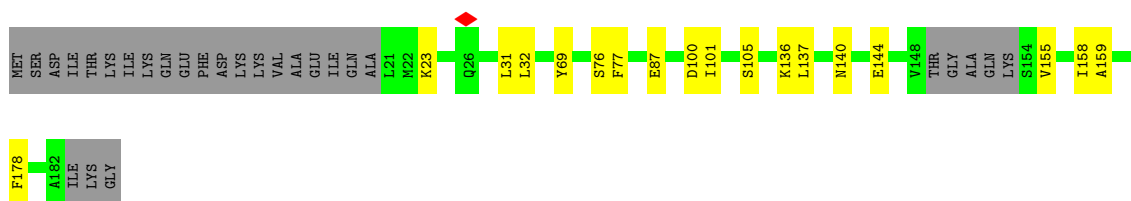
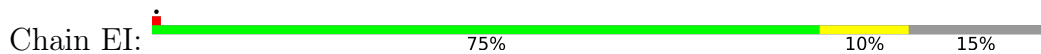


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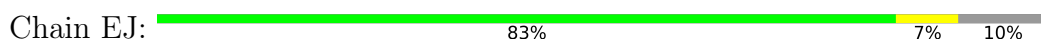




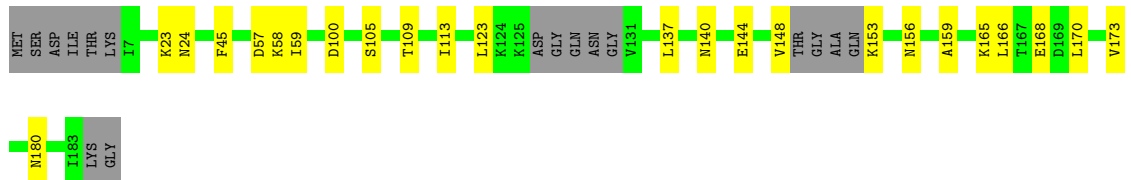
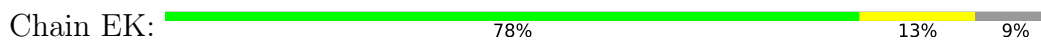
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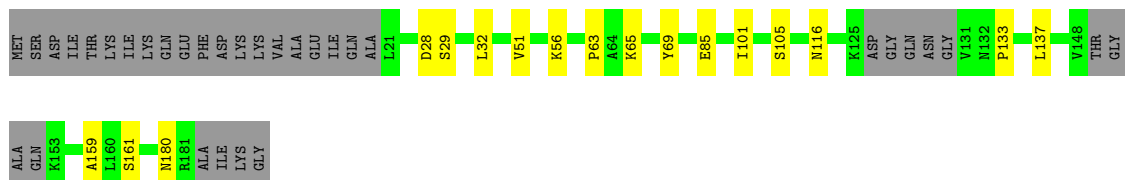
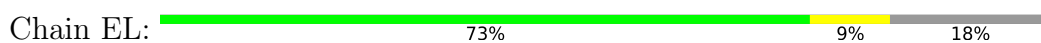
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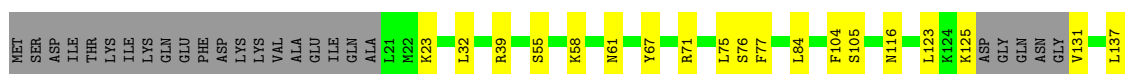
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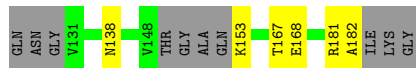
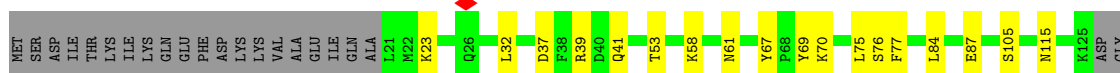


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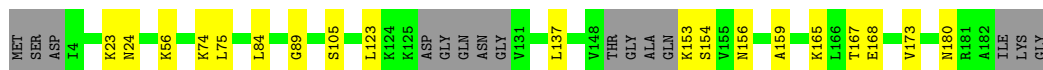
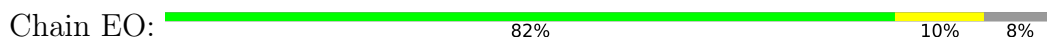




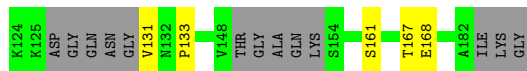
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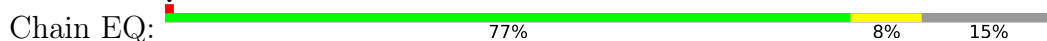
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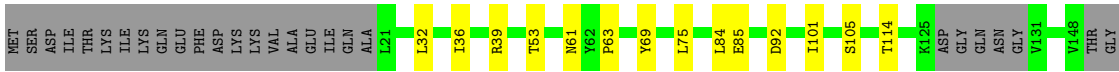


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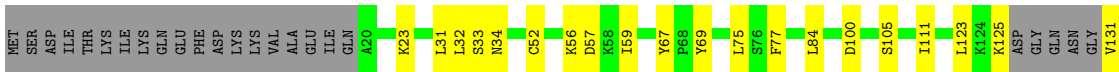




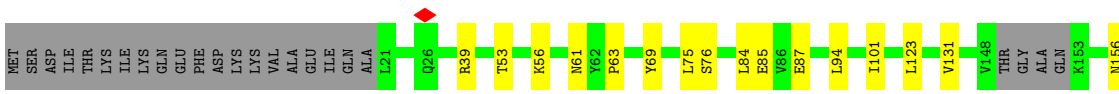
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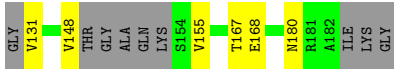
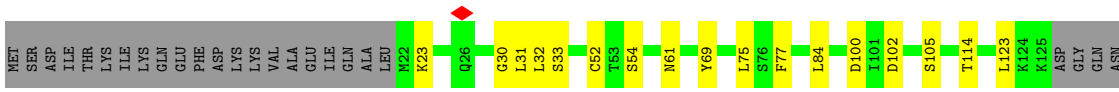
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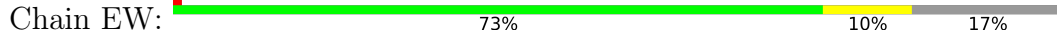
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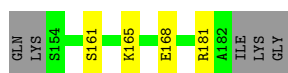


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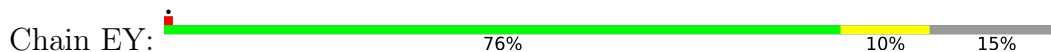




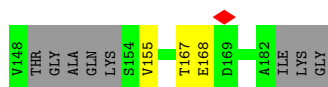
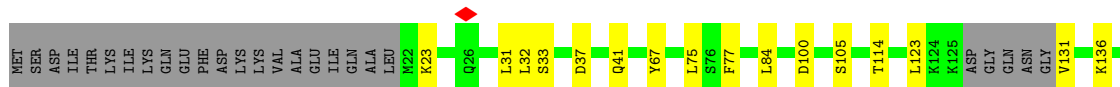
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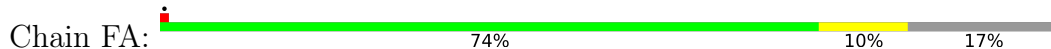
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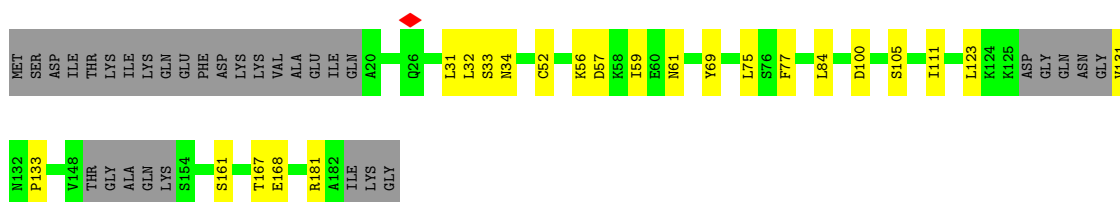
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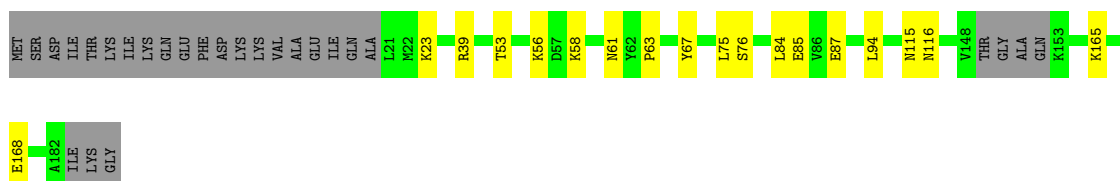
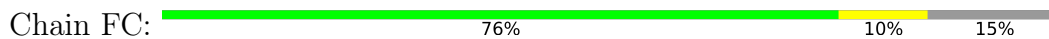
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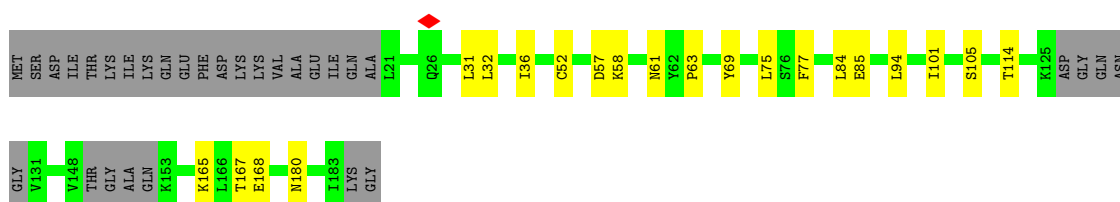
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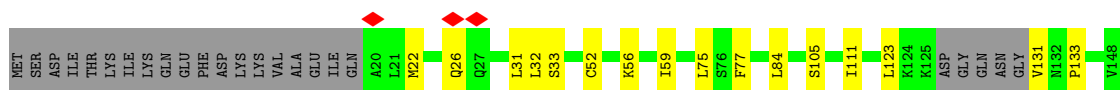
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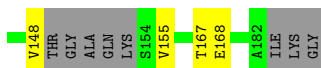
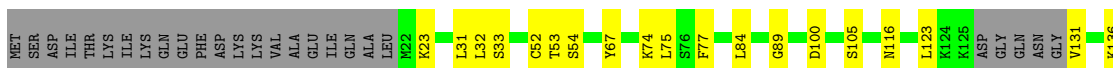




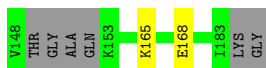
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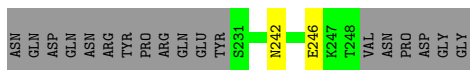
• Molecule 2: Decorator protein P03



• Molecule 2: Decorator protein P03



• Molecule 3: Decorator protein P04

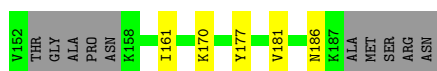


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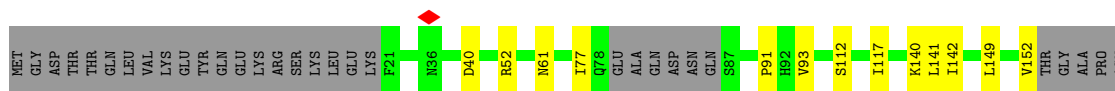




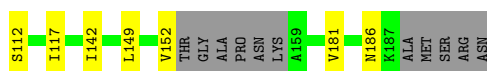
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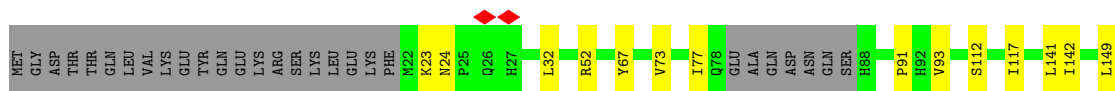
• Molecule 4: Decorator protein P05



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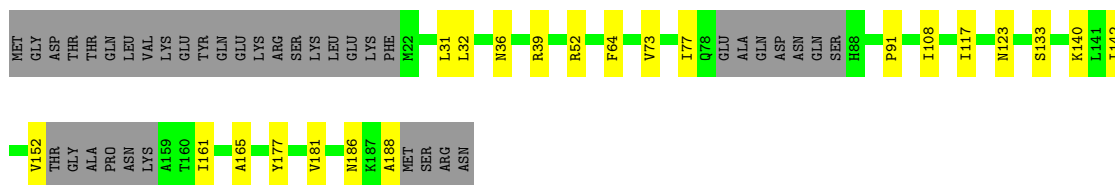


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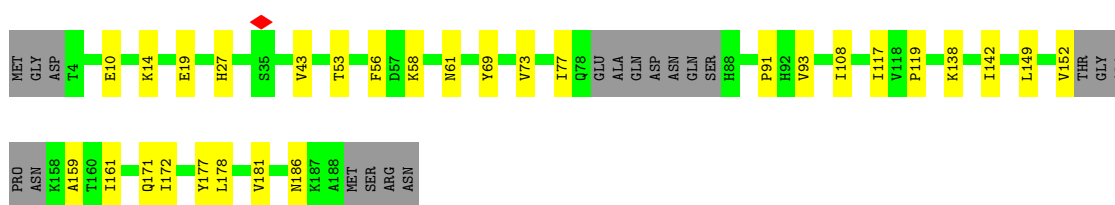
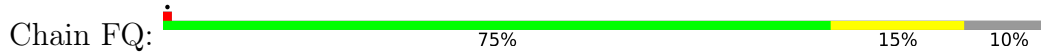


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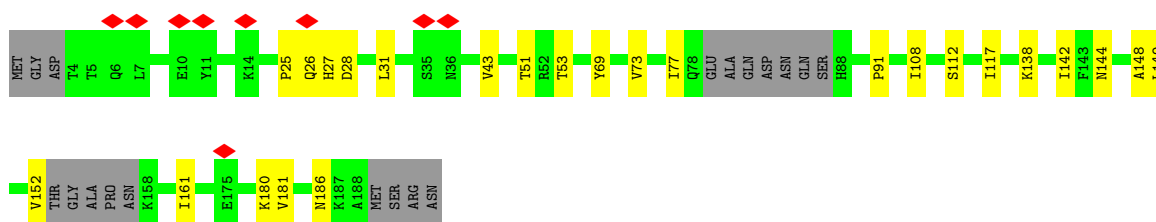
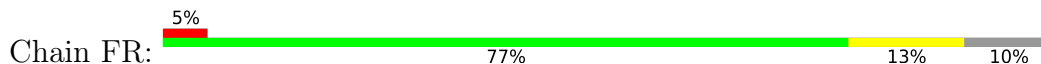




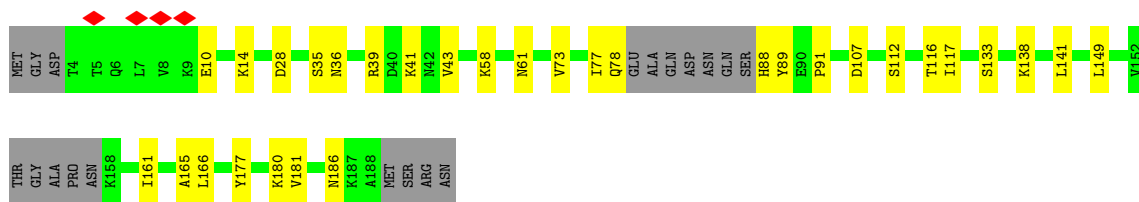
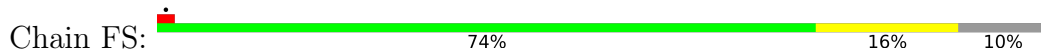
• Molecule 4: Decorator protein P05



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• Molecule 4: Decorator protein P05

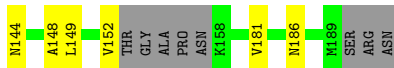




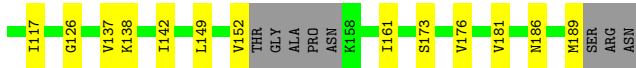
• Molecule 4: Decorator protein P05



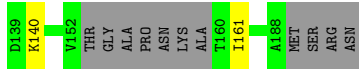
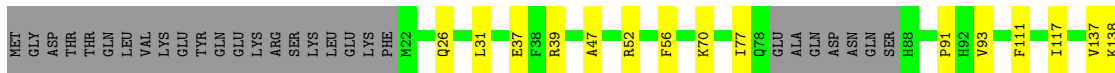
• Molecule 4: Decorator protein P05



• Molecule 4: Decorator protein P05

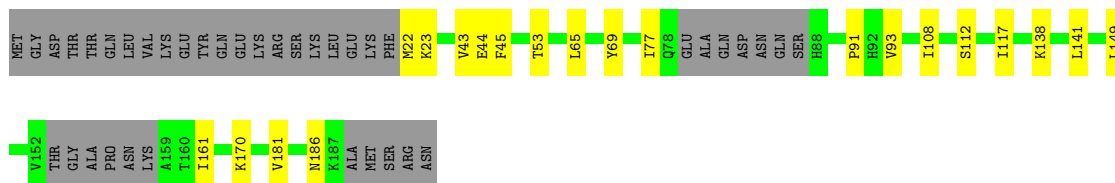


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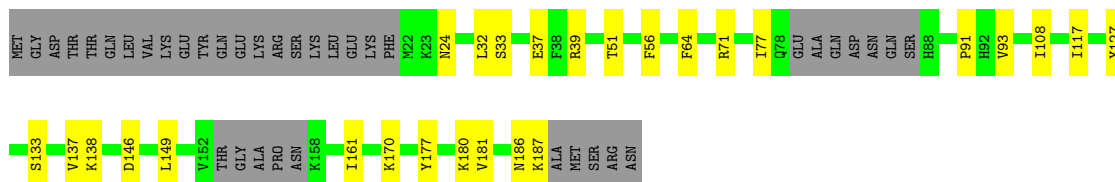


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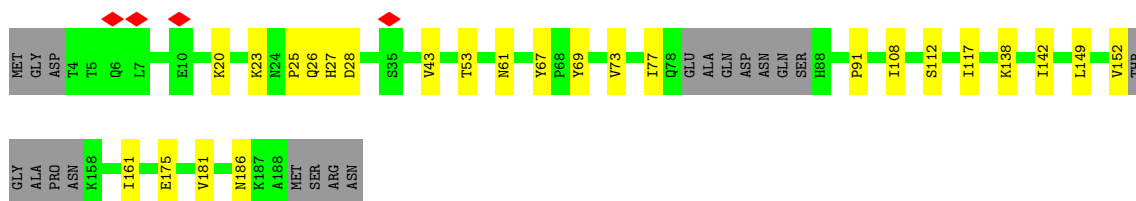
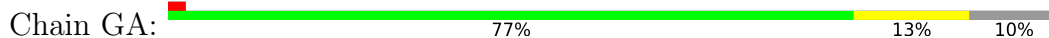




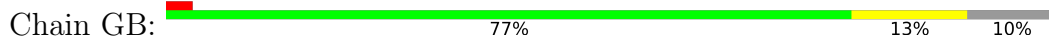
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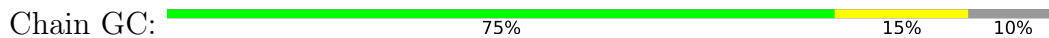
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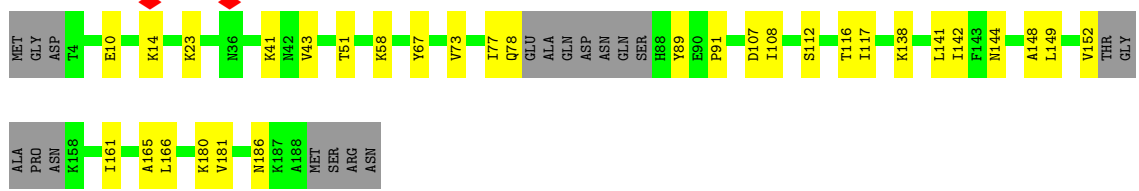
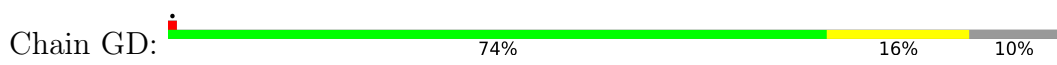
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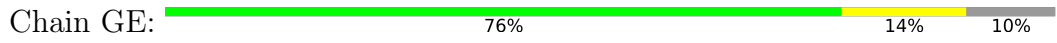
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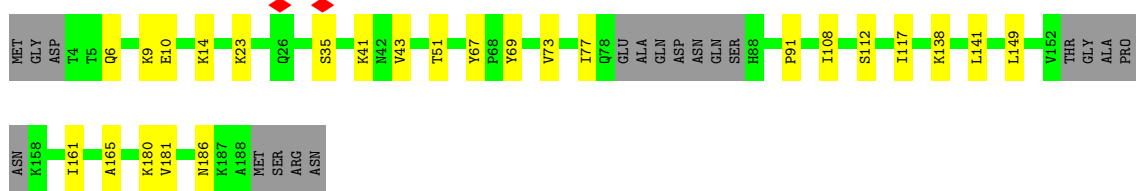
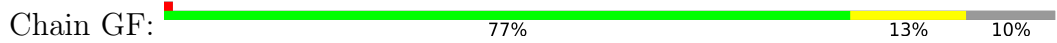
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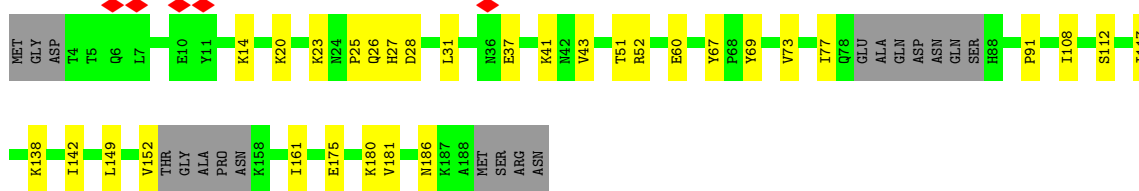
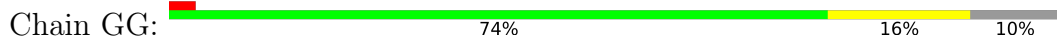
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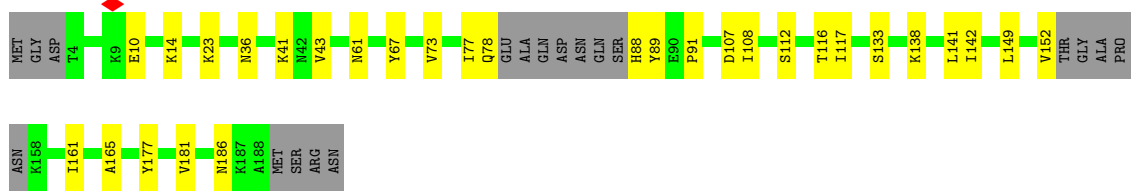
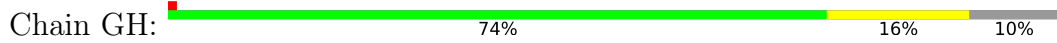
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• Molecule 4: Decorator protein P05



• Molecule 4: Decorator protein P05













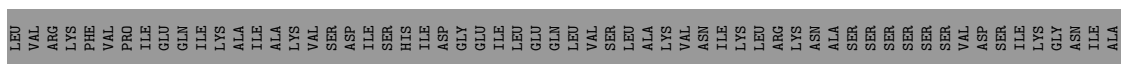
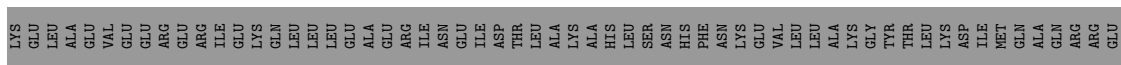
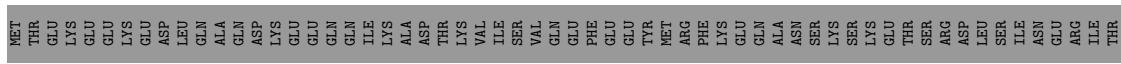




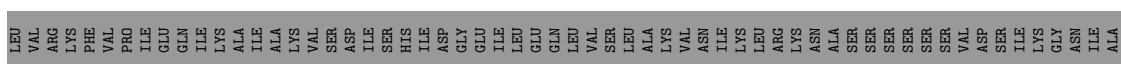
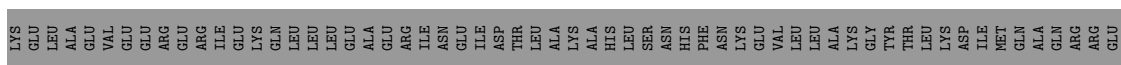
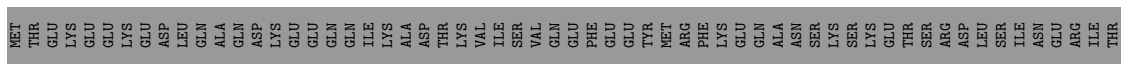




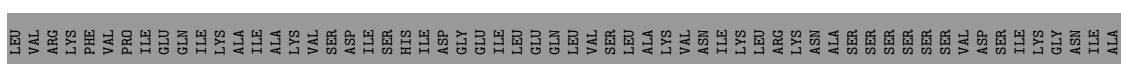
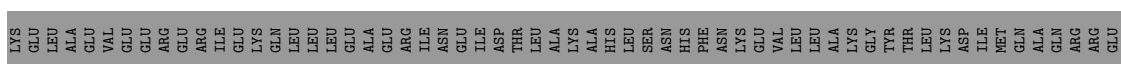
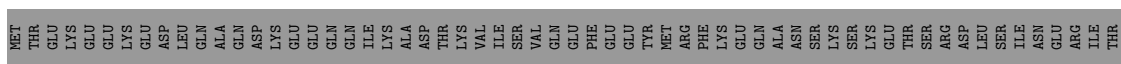
● Molecule 5: Scaffold protein



● Molecule 5: Scaffold protein



● Molecule 5: Scaffold protein



● Molecule 5: Scaffold protein







|     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MET | THR | GLU | SER | LYS | GLU | VAL  | GLU  | GLY  | LYS  | ASP | GLU | ARG | GLN | GLN | ALA | GLN | ASP | LYS | GLN | GLY | GLU | GLU | THR |
| LYS | GLU | LEU | ALA | GLU | VAL | GLU  | GLU  | VAL  | GLU  | ARG | GLU | ARG | GLN | ILE | ILE | LYS | LYS | GLN | LEU | LEU | LEU | GLY | THR |
| LEU | VAL | ARG | LYS | PHE | GLU | PRO  | ILE  | GLU  | GLN  | GLU | GLN | ILE | ILE | LYS | ALA | ILE | ILE | ALA | VAL | VAL | SER | GLY | THR |
| ILE | LYS | SER | GLU | GLU | ARG | A187 | F202 | R213 | R223 | HIS | LYS | ARG | THR | THR | ILE | ILE | ALA | SER | GLY | GLY | GLU | THR |     |

- Molecule 5: Scaffold protein

Chain HS:  16% 84%

|     |     |     |     |     |     |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MET | THR | GLU | SER | LYS | GLU | VAL  | GLU  | GLY  | LYS  | ASP  | GLU | ARG | GLN | GLN | ALA | GLN | ASP | LYS | GLN | GLY | GLU | GLU | THR |
| LYS | GLU | LEU | ALA | GLU | VAL | GLU  | GLU  | VAL  | GLU  | ARG  | GLU | ARG | GLN | ILE | ILE | LYS | LYS | GLN | LEU | LEU | LEU | GLY | THR |
| LEU | VAL | ARG | LYS | PHE | GLU | PRO  | ILE  | GLU  | GLN  | GLU  | GLN | ILE | ILE | LYS | ALA | ILE | ILE | ALA | VAL | VAL | SER | GLY | THR |
| ILE | LYS | SER | GLU | GLU | ARG | A187 | D191 | S192 | M193 | R223 | HIS | LYS | ARG | THR | THR | ILE | ILE | ALA | SER | GLY | GLY | GLU | THR |

- Molecule 5: Scaffold protein

Chain HT:  16% 84%

|     |     |     |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MET | THR | GLU | SER | LYS | GLU | VAL  | GLU  | GLY | LYS | ASP | GLU | ARG | GLN | GLN | ALA | GLN | ASP | LYS | GLN | GLY | GLU | GLU | THR |
| LYS | GLU | LEU | ALA | GLU | VAL | GLU  | GLU  | VAL | GLU | ARG | GLU | ARG | GLN | ILE | ILE | LYS | LYS | GLN | LEU | LEU | LEU | GLY | THR |
| LEU | VAL | ARG | LYS | PHE | GLU | PRO  | ILE  | GLU | GLN | GLU | GLN | ILE | ILE | LYS | ALA | ILE | ILE | ALA | VAL | VAL | SER | GLY | THR |
| ILE | LYS | SER | GLU | GLU | ARG | A187 | R223 | HIS | LYS | ARG | THR | THR | ILE | ILE | ALA | SER | GLY | GLY | GLY | GLU | THR | THR | THR |

- Molecule 5: Scaffold protein

Chain HU:  16% 84%

|     |     |     |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MET | THR | GLU | SER | LYS | GLU | VAL  | GLU  | GLY | LYS | ASP | GLU | ARG | GLN | GLN | ALA | GLN | ASP | LYS | GLN | GLY | GLU | GLU | THR |
| LYS | GLU | LEU | ALA | GLU | VAL | GLU  | GLU  | VAL | GLU | ARG | GLU | ARG | GLN | ILE | ILE | LYS | LYS | GLN | LEU | LEU | LEU | GLY | THR |
| LEU | VAL | ARG | LYS | PHE | GLU | PRO  | ILE  | GLU | GLN | GLU | GLN | ILE | ILE | LYS | ALA | ILE | ILE | ALA | VAL | VAL | SER | GLY | THR |
| ILE | LYS | SER | GLU | GLU | ARG | A187 | R223 | HIS | LYS | ARG | THR | THR | ILE | ILE | ALA | SER | GLY | GLY | GLY | GLU | THR | THR | THR |













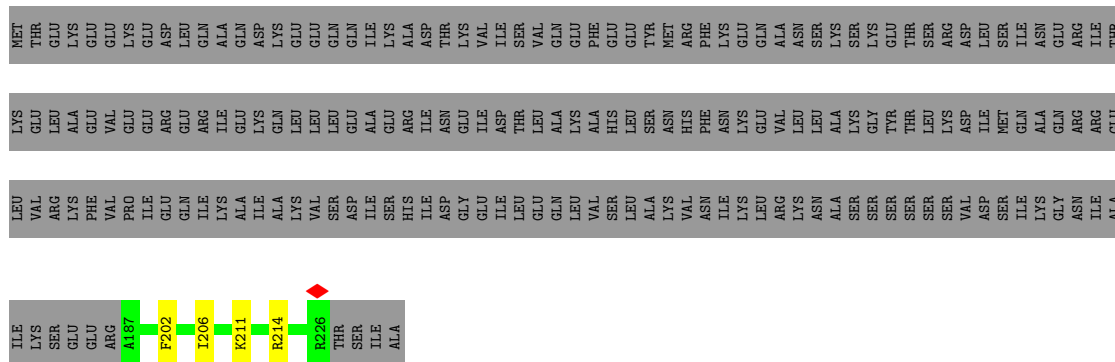






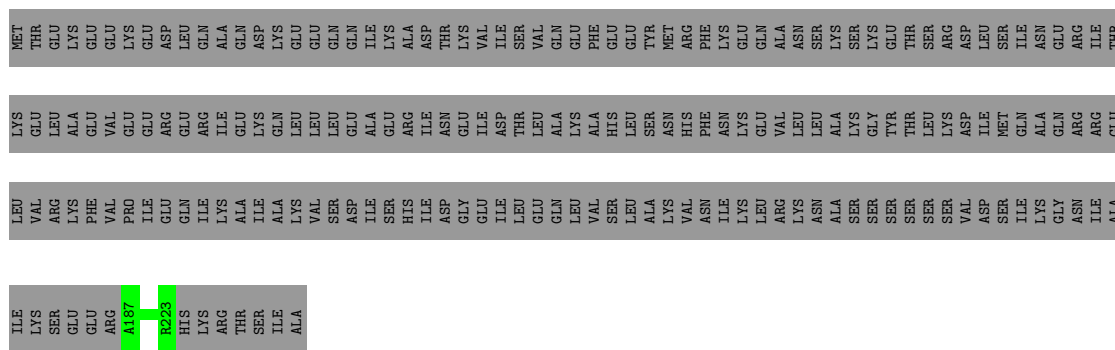






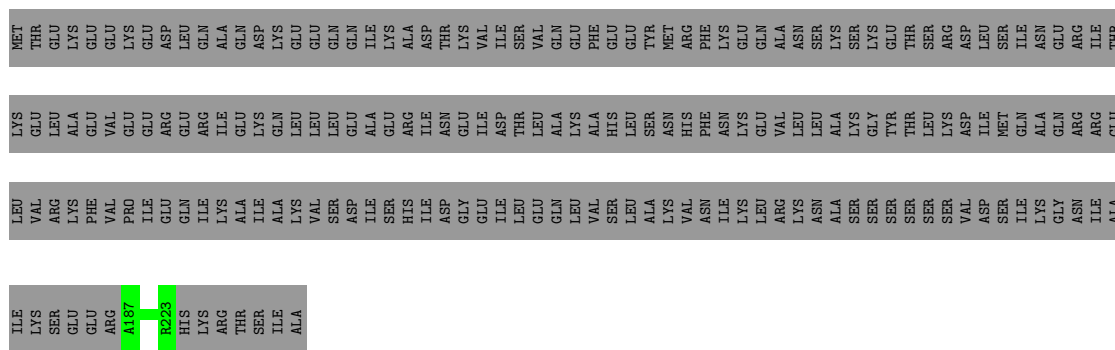
• Molecule 5: Scaffold protein

Chain JB: 16% 84%



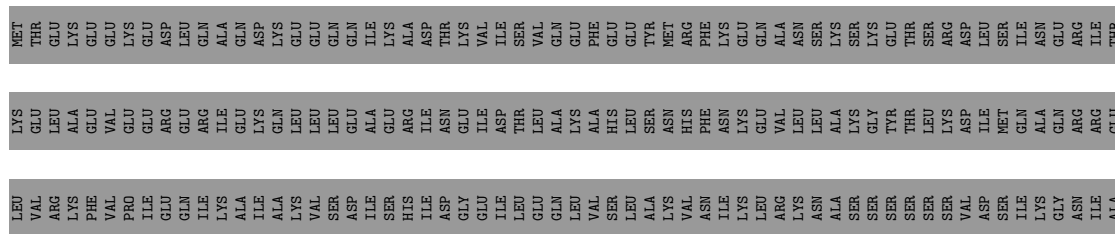
• Molecule 5: Scaffold protein

Chain JC: 16% 84%



• Molecule 5: Scaffold protein

Chain JD: 17% 83%





• Molecule 5: Scaffold protein



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MET | THR | GLU | LYS | GLU | VAL | ARG | ASP | GLU | LEU | GLN | ALA | GLN | ASP | THR | VAL | ILE | SER | VAL | GLN | GLN | GLU | PHE | GLU | GLU | GLU | MET | ARG | PHE | LYS | GLU | GLN | ALA | ASN | SER | LYS | SER | LYS | THR | THR | SER | ARG | ASP | LEU | SER | ILE | ILE | ASN | GLU | ARG | ILE | ALA | GLU | THR |     |     |     |     |     |     |     |     |     |     |     |
| LYS | GLU | LEU | ALA | GLU | VAL | GLU | ARG | GLU | ARG | GLN | ARG | ILE | ILE | GLU | GLN | GLY | ILE | ASP | LEU | VAL | ALA | LYS | ALA | HIS | VAL | GLU | GLU | ALA | SER | ASN | HIS | ASN | ASN | LYS | GLU | VAL | VAL | LEU | LEU | ALA | LYS | SER | GLY | TYR | THR | THR | LEU | LYS | VAL | ASP | ILE | ILE | MET | ASP | GLN | ILE | ASN | GLY | ASN | ARG | ALA | GLU |     |     |
| LEU | VAL | ARG | LYS | PHE | GLU | VAL | PRO | ILE | GLU | GLN | ILE | LYS | ALA | ASP | GLY | ILE | ILE | SER | LEU | GLN | ALA | LYS | ALA | HIS | VAL | SER | LEU | ALA | LYS | ASN | VAL | ASN | ILE | LYS | ARG | VAL | ARG | ASN | ASN | ALA | SER | SER | GLY | TYR | SER | SER | SER | SER | VAL | VAL | ASP | ILE | ILE | ASP | SER | ASP | ILE | ILE | ASN | GLY | ASN | ARG | ALA | GLU |



• Molecule 5: Scaffold protein



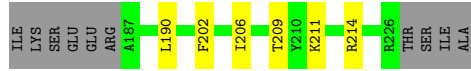
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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MET | THR | GLU | LYS | GLU | VAL | ARG | ASP | GLU | LEU | GLN | ALA | GLN | ASP | THR | VAL | ILE | SER | VAL | GLN | GLN | GLU | PHE | GLU | GLU | GLU | MET | ARG | PHE | LYS | GLU | GLN | ALA | ASN | SER | LYS | SER | LYS | THR | THR | SER | ARG | ASP | LEU | SER | ILE | ILE | ASN | GLU | ARG | ILE | ALA | GLU | THR |     |     |     |     |     |     |     |     |     |     |     |
| LYS | GLU | LEU | ALA | GLU | VAL | GLU | ARG | GLU | ARG | GLN | ARG | ILE | ILE | GLU | GLN | GLY | ILE | ASP | LEU | VAL | ALA | LYS | ALA | HIS | VAL | SER | LEU | ALA | LYS | ASN | HIS | ASN | ASN | LYS | GLU | VAL | VAL | LEU | LEU | ALA | LYS | SER | GLY | TYR | THR | THR | LEU | LYS | VAL | ASP | ILE | ILE | MET | ASP | GLN | ILE | ASN | GLY | ASN | ARG | ALA | GLU |     |     |
| LEU | VAL | ARG | LYS | PHE | GLU | VAL | PRO | ILE | GLU | GLN | ILE | LYS | ALA | ASP | GLY | ILE | ILE | SER | LEU | GLN | ALA | LYS | ALA | HIS | VAL | SER | LEU | ALA | LYS | ASN | VAL | ASN | ILE | LYS | ARG | VAL | ARG | ASN | ASN | ALA | SER | SER | GLY | TYR | SER | SER | SER | SER | VAL | VAL | ASP | ILE | ILE | ASP | SER | ASP | ILE | ILE | ASN | GLY | ASN | ARG | ALA | GLU |



• Molecule 5: Scaffold protein



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MET | THR | GLU | LYS | GLU | VAL | ARG | ASP | GLU | LEU | GLN | ALA | GLN | ASP | THR | VAL | ILE | SER | VAL | GLN | GLN | GLU | PHE | GLU | GLU | GLU | MET | ARG | PHE | LYS | GLU | GLN | ALA | ASN | SER | LYS | SER | LYS | THR | THR | SER | ARG | ASP | LEU | SER | ILE | ILE | ASN | GLU | ARG | ILE | ALA | GLU | THR |     |     |     |     |     |     |     |     |     |     |     |
| LYS | GLU | LEU | ALA | GLU | VAL | GLU | ARG | GLU | ARG | GLN | ARG | ILE | ILE | GLU | GLN | GLY | ILE | ASP | LEU | VAL | ALA | LYS | ALA | HIS | VAL | SER | LEU | ALA | LYS | ASN | HIS | ASN | ASN | LYS | GLU | VAL | VAL | LEU | LEU | ALA | LYS | SER | GLY | TYR | THR | THR | LEU | LYS | VAL | ASP | ILE | ILE | MET | ASP | GLN | ILE | ASN | GLY | ASN | ARG | ALA | GLU |     |     |
| LEU | VAL | ARG | LYS | PHE | GLU | VAL | PRO | ILE | GLU | GLN | ILE | LYS | ALA | ASP | GLY | ILE | ILE | SER | LEU | GLN | ALA | LYS | ALA | HIS | VAL | SER | LEU | ALA | LYS | ASN | VAL | ASN | ILE | LYS | ARG | VAL | ARG | ASN | ASN | ALA | SER | SER | GLY | TYR | SER | SER | SER | SER | VAL | VAL | ASP | ILE | ILE | ASP | SER | ASP | ILE | ILE | ASN | GLY | ASN | ARG | ALA | GLU |



• Molecule 5: Scaffold protein









## 4 Experimental information

| Property                             | Value                                   | Source    |
|--------------------------------------|---|-----------|
| EM reconstruction method             | SINGLE PARTICLE                         | Depositor |
| Imposed symmetry                     | POINT, C5                               | Depositor |
| Number of particles used             | 25958                                   | Depositor |
| Resolution determination method      | FSC 0.143 CUT-OFF                       | Depositor |
| CTF correction method                | PHASE FLIPPING AND AMPLITUDE CORRECTION | Depositor |
| Microscope                           | FEI TITAN KRIOS                         | Depositor |
| Voltage (kV)                         | 300                                     | Depositor |
| Electron dose ( $e^-/\text{\AA}^2$ ) | 44                                      | Depositor |
| Minimum defocus (nm)                 | 500                                     | Depositor |
| Maximum defocus (nm)                 | 1800                                    | Depositor |
| Magnification                        | 16500                                   | Depositor |
| Image detector                       | GATAN K3 (6k x 4k)                      | Depositor |
| Maximum map value                    | 0.098                                   | Depositor |
| Minimum map value                    | -0.053                                  | Depositor |
| Average map value                    | 0.000                                   | Depositor |
| Map value standard deviation         | 0.003                                   | Depositor |
| Recommended contour level            | 0.01                                    | Depositor |
| Map size (Å)                         | 1200.384, 1200.384, 1200.384            | wwPDB     |
| Map dimensions                       | 720, 720, 720                           | wwPDB     |
| Map angles (°)                       | 90.0, 90.0, 90.0                        | wwPDB     |
| Pixel spacing (Å)                    | 1.6672001, 1.6672001, 1.6672001         | Depositor |

## 5 Model quality [i](#)

### 5.1 Standard geometry [i](#)

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   | AA    | 0.25         | 0/2536  | 0.43        | 0/3428  |
| 1   | AB    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | AC    | 0.25         | 0/2558  | 0.43        | 0/3458  |
| 1   | AD    | 0.24         | 0/2536  | 0.43        | 0/3428  |
| 1   | AE    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | AF    | 0.25         | 0/2558  | 0.43        | 0/3458  |
| 1   | AG    | 0.25         | 0/2536  | 0.43        | 0/3428  |
| 1   | AH    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | AI    | 0.25         | 0/2558  | 0.43        | 0/3458  |
| 1   | AJ    | 0.24         | 0/2536  | 0.43        | 0/3428  |
| 1   | AK    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | AL    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | AM    | 0.24         | 0/2536  | 0.43        | 0/3428  |
| 1   | AN    | 0.24         | 0/2558  | 0.44        | 0/3458  |
| 1   | AO    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | AP    | 0.25         | 0/2536  | 0.43        | 0/3428  |
| 1   | AQ    | 0.24         | 0/2558  | 0.44        | 0/3458  |
| 1   | AR    | 0.25         | 0/2558  | 0.43        | 0/3458  |
| 1   | AS    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | AT    | 0.25         | 0/2558  | 0.44        | 0/3458  |
| 1   | AU    | 0.24         | 0/2558  | 0.44        | 0/3458  |
| 1   | AV    | 0.24         | 0/2558  | 0.44        | 0/3458  |
| 1   | AW    | 0.24         | 0/2558  | 0.44        | 0/3458  |
| 1   | AX    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | AY    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | AZ    | 0.24         | 0/2558  | 0.44        | 0/3458  |
| 1   | BA    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | BB    | 0.24         | 0/2558  | 0.42        | 0/3458  |
| 1   | BC    | 0.24         | 0/2449  | 0.42        | 0/3309  |
| 1   | BD    | 0.24         | 0/2536  | 0.42        | 0/3428  |
| 1   | BE    | 0.24         | 0/2558  | 0.42        | 0/3458  |
| 1   | BF    | 0.24         | 0/2558  | 0.42        | 0/3458  |
| 1   | BG    | 0.24         | 0/2536  | 0.42        | 0/3428  |
| 1   | BH    | 0.24         | 0/2558  | 0.43        | 0/3458  |

| Mol | Chain | Bond lengths |         | Bond angles |         |
|-----|-------|--------------|---------|-------------|---------|
|     |       | RMSZ         | # Z  >5 | RMSZ        | # Z  >5 |
| 1   | BI    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | BJ    | 0.24         | 0/2536  | 0.43        | 0/3428  |
| 1   | BK    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | BL    | 0.24         | 0/2558  | 0.42        | 0/3458  |
| 1   | BM    | 0.24         | 0/2553  | 0.43        | 0/3450  |
| 1   | BN    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | BO    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | BP    | 0.24         | 0/2536  | 0.42        | 0/3428  |
| 1   | BQ    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | BR    | 0.25         | 0/2553  | 0.44        | 0/3450  |
| 1   | BS    | 0.24         | 0/2558  | 0.42        | 0/3458  |
| 1   | BT    | 0.24         | 0/2428  | 0.43        | 0/3281  |
| 1   | BU    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | BV    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | BW    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | BX    | 0.24         | 0/2428  | 0.43        | 0/3281  |
| 1   | BY    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | BZ    | 0.24         | 0/2558  | 0.42        | 0/3458  |
| 1   | CA    | 0.24         | 0/2558  | 0.42        | 0/3458  |
| 1   | CB    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | CC    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | CD    | 0.24         | 0/2558  | 0.42        | 0/3458  |
| 1   | CE    | 0.24         | 0/2558  | 0.42        | 0/3458  |
| 1   | CF    | 0.24         | 0/2558  | 0.42        | 0/3458  |
| 1   | CG    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | CH    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | CI    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | CJ    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | CK    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | CL    | 0.24         | 0/2558  | 0.42        | 0/3458  |
| 1   | CM    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | CN    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | CO    | 0.24         | 0/2558  | 0.42        | 0/3458  |
| 1   | CP    | 0.24         | 0/2558  | 0.42        | 0/3458  |
| 1   | CQ    | 0.24         | 0/2558  | 0.42        | 0/3458  |
| 1   | CR    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | CS    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | CT    | 0.24         | 0/2558  | 0.42        | 0/3458  |
| 1   | CU    | 0.24         | 0/2558  | 0.42        | 0/3458  |
| 1   | CV    | 0.24         | 0/2558  | 0.42        | 0/3458  |
| 1   | CW    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | CX    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | CY    | 0.24         | 0/2558  | 0.42        | 0/3458  |



| Mol | Chain | Bond lengths |         | Bond angles |         |
|-----|-------|--------------|---------|-------------|---------|
|     |       | RMSZ         | # Z  >5 | RMSZ        | # Z  >5 |
| 1   | CZ    | 0.24         | 0/2558  | 0.42        | 0/3458  |
| 1   | DA    | 0.24         | 0/2558  | 0.42        | 0/3458  |
| 1   | DB    | 0.24         | 0/2558  | 0.42        | 0/3458  |
| 1   | DC    | 0.24         | 0/2558  | 0.43        | 0/3458  |
| 1   | DD    | 0.24         | 0/2558  | 0.42        | 0/3458  |
| 1   | DE    | 0.24         | 0/2558  | 0.42        | 0/3458  |
| 2   | DF    | 0.25         | 0/1195  | 0.46        | 0/1608  |
| 2   | DG    | 0.25         | 0/1177  | 0.44        | 0/1583  |
| 2   | DH    | 0.24         | 0/1190  | 0.44        | 0/1601  |
| 2   | DI    | 0.25         | 0/1182  | 0.46        | 0/1590  |
| 2   | DJ    | 0.25         | 0/1190  | 0.45        | 0/1601  |
| 2   | DK    | 0.24         | 0/1182  | 0.45        | 0/1590  |
| 2   | DL    | 0.25         | 0/1190  | 0.46        | 0/1601  |
| 2   | DM    | 0.25         | 0/1187  | 0.45        | 0/1597  |
| 2   | DN    | 0.25         | 0/1190  | 0.45        | 0/1601  |
| 2   | DO    | 0.25         | 0/1182  | 0.46        | 0/1590  |
| 2   | DP    | 0.24         | 0/1182  | 0.44        | 0/1590  |
| 2   | DQ    | 0.25         | 0/1177  | 0.45        | 0/1583  |
| 2   | DR    | 0.24         | 0/1190  | 0.45        | 0/1601  |
| 2   | DS    | 0.26         | 0/1306  | 0.46        | 0/1755  |
| 2   | DT    | 0.25         | 0/1190  | 0.45        | 0/1601  |
| 2   | DU    | 0.25         | 0/1178  | 0.44        | 0/1586  |
| 2   | DV    | 0.24         | 0/1182  | 0.43        | 0/1590  |
| 2   | DW    | 0.24         | 0/1178  | 0.44        | 0/1586  |
| 2   | DX    | 0.25         | 0/1216  | 0.44        | 0/1637  |
| 2   | DY    | 0.24         | 0/1165  | 0.43        | 0/1568  |
| 2   | DZ    | 0.25         | 0/1190  | 0.45        | 0/1601  |
| 2   | EA    | 0.24         | 0/931   | 0.44        | 0/1252  |
| 2   | EB    | 0.25         | 0/1216  | 0.45        | 0/1637  |
| 2   | EC    | 0.25         | 0/1181  | 0.44        | 0/1590  |
| 2   | ED    | 0.25         | 0/1229  | 0.46        | 0/1655  |
| 2   | EE    | 0.25         | 0/1212  | 0.45        | 0/1633  |
| 2   | EF    | 0.24         | 0/1190  | 0.44        | 0/1601  |
| 2   | EG    | 0.25         | 0/1356  | 0.44        | 0/1823  |
| 2   | EH    | 0.25         | 0/1182  | 0.45        | 0/1590  |
| 2   | EI    | 0.24         | 0/1207  | 0.44        | 0/1626  |
| 2   | EJ    | 0.24         | 0/1293  | 0.44        | 0/1737  |
| 2   | EK    | 0.24         | 0/1306  | 0.44        | 0/1755  |
| 2   | EL    | 0.25         | 0/1177  | 0.44        | 0/1583  |
| 2   | EM    | 0.24         | 0/1190  | 0.45        | 0/1601  |
| 2   | EN    | 0.25         | 0/1182  | 0.44        | 0/1590  |
| 2   | EO    | 0.24         | 0/1322  | 0.44        | 0/1776  |
| 2   | EP    | 0.24         | 0/1178  | 0.44        | 0/1586  |

| Mol | Chain | Bond lengths |         | Bond angles |         |
|-----|-------|--------------|---------|-------------|---------|
|     |       | RMSZ         | # Z  >5 | RMSZ        | # Z  >5 |
| 2   | EQ    | 0.24         | 0/1216  | 0.44        | 0/1637  |
| 2   | ER    | 0.25         | 0/1165  | 0.43        | 0/1568  |
| 2   | ES    | 0.25         | 0/1190  | 0.44        | 0/1601  |
| 2   | ET    | 0.24         | 0/1178  | 0.44        | 0/1586  |
| 2   | EU    | 0.24         | 0/1216  | 0.44        | 0/1637  |
| 2   | EV    | 0.25         | 0/1165  | 0.43        | 0/1568  |
| 2   | EW    | 0.24         | 0/1190  | 0.45        | 0/1601  |
| 2   | EX    | 0.24         | 0/1178  | 0.45        | 0/1586  |
| 2   | EY    | 0.24         | 0/1216  | 0.44        | 0/1637  |
| 2   | EZ    | 0.25         | 0/1165  | 0.44        | 0/1568  |
| 2   | FA    | 0.24         | 0/1190  | 0.44        | 0/1601  |
| 2   | FB    | 0.25         | 0/1178  | 0.45        | 0/1586  |
| 2   | FC    | 0.25         | 0/1216  | 0.44        | 0/1637  |
| 2   | FD    | 0.24         | 0/1165  | 0.43        | 0/1568  |
| 2   | FE    | 0.24         | 0/1190  | 0.45        | 0/1601  |
| 2   | FF    | 0.25         | 0/1178  | 0.45        | 0/1586  |
| 2   | FG    | 0.24         | 0/1216  | 0.44        | 0/1637  |
| 2   | FH    | 0.25         | 0/1165  | 0.44        | 0/1568  |
| 2   | FI    | 0.25         | 0/1190  | 0.45        | 0/1601  |
| 3   | FJ    | 0.26         | 0/1274  | 0.46        | 0/1721  |
| 4   | FK    | 0.25         | 0/1216  | 0.46        | 0/1636  |
| 4   | FL    | 0.25         | 0/1216  | 0.46        | 0/1636  |
| 4   | FM    | 0.25         | 0/1225  | 0.46        | 0/1649  |
| 4   | FN    | 0.25         | 0/1219  | 0.46        | 0/1641  |
| 4   | FO    | 0.25         | 0/1243  | 0.47        | 0/1672  |
| 4   | FP    | 0.24         | 0/1212  | 0.46        | 0/1632  |
| 4   | FQ    | 0.24         | 0/1381  | 0.45        | 0/1855  |
| 4   | FR    | 0.24         | 0/1381  | 0.45        | 0/1855  |
| 4   | FS    | 0.24         | 0/1381  | 0.45        | 0/1855  |
| 4   | FT    | 0.24         | 0/1158  | 0.44        | 0/1559  |
| 4   | FU    | 0.25         | 0/1208  | 0.45        | 0/1626  |
| 4   | FV    | 0.24         | 0/1229  | 0.45        | 0/1653  |
| 4   | FW    | 0.25         | 0/1229  | 0.46        | 0/1653  |
| 4   | FX    | 0.25         | 0/1207  | 0.45        | 0/1625  |
| 4   | FY    | 0.24         | 0/1207  | 0.45        | 0/1625  |
| 4   | FZ    | 0.24         | 0/1216  | 0.45        | 0/1636  |
| 4   | GA    | 0.24         | 0/1381  | 0.45        | 0/1855  |
| 4   | GB    | 0.24         | 0/1381  | 0.44        | 0/1855  |
| 4   | GC    | 0.24         | 0/1381  | 0.44        | 0/1855  |
| 4   | GD    | 0.24         | 0/1381  | 0.44        | 0/1855  |
| 4   | GE    | 0.24         | 0/1381  | 0.44        | 0/1855  |
| 4   | GF    | 0.24         | 0/1381  | 0.44        | 0/1855  |
| 4   | GG    | 0.24         | 0/1381  | 0.44        | 0/1855  |

| Mol | Chain | Bond lengths |         | Bond angles |         |
|-----|-------|--------------|---------|-------------|---------|
|     |       | RMSZ         | # Z  >5 | RMSZ        | # Z  >5 |
| 4   | GH    | 0.24         | 0/1381  | 0.45        | 0/1855  |
| 4   | GI    | 0.24         | 0/1381  | 0.45        | 0/1855  |
| 4   | GJ    | 0.24         | 0/1381  | 0.45        | 0/1855  |
| 5   | GK    | 0.26         | 0/272   | 0.46        | 0/365   |
| 5   | GL    | 0.26         | 0/321   | 0.45        | 0/432   |
| 5   | GM    | 0.26         | 0/321   | 0.45        | 0/432   |
| 5   | GN    | 0.26         | 0/321   | 0.44        | 0/432   |
| 5   | GO    | 0.26         | 0/321   | 0.44        | 0/432   |
| 5   | GP    | 0.26         | 0/321   | 0.44        | 0/432   |
| 5   | GQ    | 0.25         | 0/321   | 0.44        | 0/432   |
| 5   | GR    | 0.26         | 0/321   | 0.45        | 0/432   |
| 5   | GS    | 0.26         | 0/321   | 0.44        | 0/432   |
| 5   | GT    | 0.26         | 0/321   | 0.45        | 0/432   |
| 5   | GU    | 0.26         | 0/321   | 0.45        | 0/432   |
| 5   | GV    | 0.26         | 0/321   | 0.44        | 0/432   |
| 5   | GW    | 0.26         | 0/272   | 0.46        | 0/365   |
| 5   | GX    | 0.26         | 0/321   | 0.46        | 0/432   |
| 5   | GY    | 0.26         | 0/321   | 0.46        | 0/432   |
| 5   | GZ    | 0.26         | 0/321   | 0.45        | 0/432   |
| 5   | HA    | 0.26         | 0/321   | 0.45        | 0/432   |
| 5   | HB    | 0.25         | 0/321   | 0.45        | 0/432   |
| 5   | HC    | 0.26         | 0/321   | 0.44        | 0/432   |
| 5   | HD    | 0.27         | 0/272   | 0.47        | 0/365   |
| 5   | HE    | 0.25         | 0/321   | 0.44        | 0/432   |
| 5   | HF    | 0.25         | 0/321   | 0.45        | 0/432   |
| 5   | HG    | 0.26         | 0/321   | 0.45        | 0/432   |
| 5   | HH    | 0.26         | 0/272   | 0.47        | 0/365   |
| 5   | HI    | 0.26         | 0/272   | 0.47        | 0/365   |
| 5   | HJ    | 0.26         | 0/272   | 0.49        | 0/365   |
| 5   | HK    | 0.26         | 0/272   | 0.46        | 0/365   |
| 5   | HL    | 0.25         | 0/321   | 0.43        | 0/432   |
| 5   | HM    | 0.25         | 0/260   | 0.45        | 0/349   |
| 5   | HN    | 0.25         | 0/321   | 0.43        | 0/432   |
| 5   | HO    | 0.25         | 0/321   | 0.43        | 0/432   |
| 5   | HP    | 0.25         | 0/321   | 0.43        | 0/432   |
| 5   | HQ    | 0.25         | 0/321   | 0.43        | 0/432   |
| 5   | HR    | 0.25         | 0/321   | 0.43        | 0/432   |
| 5   | HS    | 0.25         | 0/321   | 0.43        | 0/432   |
| 5   | HT    | 0.25         | 0/321   | 0.44        | 0/432   |
| 5   | HU    | 0.26         | 0/321   | 0.44        | 0/432   |
| 5   | HV    | 0.25         | 0/321   | 0.43        | 0/432   |
| 5   | HW    | 0.25         | 0/253   | 0.45        | 0/338   |
| 5   | HX    | 0.25         | 0/321   | 0.44        | 0/432   |

| Mol | Chain | Bond lengths |         | Bond angles |         |
|-----|-------|--------------|---------|-------------|---------|
|     |       | RMSZ         | # Z  >5 | RMSZ        | # Z  >5 |
| 5   | HY    | 0.25         | 0/321   | 0.44        | 0/432   |
| 5   | HZ    | 0.25         | 0/321   | 0.43        | 0/432   |
| 5   | IA    | 0.25         | 0/321   | 0.43        | 0/432   |
| 5   | IB    | 0.25         | 0/260   | 0.45        | 0/349   |
| 5   | IC    | 0.26         | 0/321   | 0.43        | 0/432   |
| 5   | ID    | 0.25         | 0/260   | 0.45        | 0/349   |
| 5   | IE    | 0.25         | 0/321   | 0.43        | 0/432   |
| 5   | IF    | 0.25         | 0/321   | 0.44        | 0/432   |
| 5   | IG    | 0.25         | 0/321   | 0.43        | 0/432   |
| 5   | IH    | 0.26         | 0/260   | 0.46        | 0/349   |
| 5   | II    | 0.26         | 0/272   | 0.45        | 0/365   |
| 5   | IJ    | 0.26         | 0/272   | 0.47        | 0/365   |
| 5   | IK    | 0.25         | 0/272   | 0.45        | 0/365   |
| 5   | IL    | 0.25         | 0/352   | 0.46        | 0/472   |
| 5   | IM    | 0.26         | 0/321   | 0.43        | 0/432   |
| 5   | IN    | 0.25         | 0/321   | 0.43        | 0/432   |
| 5   | IO    | 0.25         | 0/352   | 0.45        | 0/472   |
| 5   | IP    | 0.25         | 0/321   | 0.43        | 0/432   |
| 5   | IQ    | 0.26         | 0/321   | 0.44        | 0/432   |
| 5   | IR    | 0.25         | 0/352   | 0.46        | 0/472   |
| 5   | IS    | 0.26         | 0/321   | 0.43        | 0/432   |
| 5   | IT    | 0.25         | 0/321   | 0.43        | 0/432   |
| 5   | IU    | 0.25         | 0/352   | 0.46        | 0/472   |
| 5   | IV    | 0.25         | 0/321   | 0.43        | 0/432   |
| 5   | IW    | 0.25         | 0/321   | 0.43        | 0/432   |
| 5   | IX    | 0.25         | 0/321   | 0.43        | 0/432   |
| 5   | IY    | 0.25         | 0/352   | 0.47        | 0/472   |
| 5   | IZ    | 0.25         | 0/321   | 0.43        | 0/432   |
| 5   | JA    | 0.25         | 0/352   | 0.46        | 0/472   |
| 5   | JB    | 0.25         | 0/321   | 0.43        | 0/432   |
| 5   | JC    | 0.25         | 0/321   | 0.42        | 0/432   |
| 5   | JD    | 0.25         | 0/352   | 0.45        | 0/472   |
| 5   | JE    | 0.25         | 0/321   | 0.43        | 0/432   |
| 5   | JF    | 0.25         | 0/321   | 0.43        | 0/432   |
| 5   | JG    | 0.25         | 0/352   | 0.47        | 0/472   |
| 5   | JH    | 0.26         | 0/321   | 0.43        | 0/432   |
| 5   | JI    | 0.25         | 0/321   | 0.43        | 0/432   |
| 5   | JJ    | 0.25         | 0/352   | 0.46        | 0/472   |
| 5   | JK    | 0.25         | 0/321   | 0.43        | 0/432   |
| 5   | JL    | 0.25         | 0/321   | 0.44        | 0/432   |
| 5   | JM    | 0.26         | 0/321   | 0.43        | 0/432   |
| 5   | JN    | 0.25         | 0/352   | 0.46        | 0/472   |
| 5   | JO    | 0.25         | 0/321   | 0.43        | 0/432   |

| Mol | Chain | Bond lengths |          | Bond angles |          |
|-----|-------|--------------|----------|-------------|----------|
|     |       | RMSZ         | # Z  >5  | RMSZ        | # Z  >5  |
| All | All   | 0.24         | 0/339816 | 0.43        | 0/458503 |

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 [i](#)

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   | AA    | 2488  | 0        | 2527     | 23      | 0            |
| 1   | AB    | 2510  | 0        | 2547     | 23      | 0            |
| 1   | AC    | 2510  | 0        | 2547     | 27      | 0            |
| 1   | AD    | 2488  | 0        | 2527     | 24      | 0            |
| 1   | AE    | 2510  | 0        | 2547     | 25      | 0            |
| 1   | AF    | 2510  | 0        | 2547     | 31      | 0            |
| 1   | AG    | 2488  | 0        | 2527     | 32      | 0            |
| 1   | AH    | 2510  | 0        | 2547     | 30      | 0            |
| 1   | AI    | 2510  | 0        | 2547     | 20      | 0            |
| 1   | AJ    | 2488  | 0        | 2527     | 30      | 0            |
| 1   | AK    | 2510  | 0        | 2547     | 31      | 0            |
| 1   | AL    | 2510  | 0        | 2547     | 29      | 0            |
| 1   | AM    | 2488  | 0        | 2527     | 29      | 0            |
| 1   | AN    | 2510  | 0        | 2547     | 32      | 0            |
| 1   | AO    | 2510  | 0        | 2547     | 37      | 0            |
| 1   | AP    | 2488  | 0        | 2527     | 33      | 0            |
| 1   | AQ    | 2510  | 0        | 2547     | 24      | 0            |
| 1   | AR    | 2510  | 0        | 2547     | 30      | 0            |
| 1   | AS    | 2510  | 0        | 2547     | 43      | 0            |
| 1   | AT    | 2510  | 0        | 2547     | 33      | 0            |
| 1   | AU    | 2510  | 0        | 2547     | 35      | 0            |
| 1   | AV    | 2510  | 0        | 2547     | 37      | 0            |
| 1   | AW    | 2510  | 0        | 2547     | 26      | 0            |
| 1   | AX    | 2510  | 0        | 2547     | 37      | 0            |
| 1   | AY    | 2510  | 0        | 2547     | 35      | 0            |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 1   | AZ    | 2510  | 0        | 2547     | 38      | 0            |
| 1   | BA    | 2510  | 0        | 2547     | 39      | 0            |
| 1   | BB    | 2510  | 0        | 2547     | 25      | 0            |
| 1   | BC    | 2405  | 0        | 2453     | 23      | 0            |
| 1   | BD    | 2488  | 0        | 2527     | 26      | 0            |
| 1   | BE    | 2510  | 0        | 2547     | 22      | 0            |
| 1   | BF    | 2510  | 0        | 2547     | 25      | 0            |
| 1   | BG    | 2488  | 0        | 2527     | 27      | 0            |
| 1   | BH    | 2510  | 0        | 2547     | 26      | 0            |
| 1   | BI    | 2510  | 0        | 2547     | 23      | 0            |
| 1   | BJ    | 2488  | 0        | 2527     | 31      | 0            |
| 1   | BK    | 2510  | 0        | 2547     | 35      | 0            |
| 1   | BL    | 2510  | 0        | 2547     | 25      | 0            |
| 1   | BM    | 2505  | 0        | 2545     | 27      | 0            |
| 1   | BN    | 2510  | 0        | 2547     | 22      | 0            |
| 1   | BO    | 2510  | 0        | 2547     | 32      | 0            |
| 1   | BP    | 2488  | 0        | 2527     | 33      | 0            |
| 1   | BQ    | 2510  | 0        | 2547     | 24      | 0            |
| 1   | BR    | 2505  | 0        | 2545     | 26      | 0            |
| 1   | BS    | 2510  | 0        | 2547     | 34      | 0            |
| 1   | BT    | 2383  | 0        | 2425     | 24      | 0            |
| 1   | BU    | 2510  | 0        | 2547     | 34      | 0            |
| 1   | BV    | 2510  | 0        | 2547     | 32      | 0            |
| 1   | BW    | 2510  | 0        | 2547     | 24      | 0            |
| 1   | BX    | 2383  | 0        | 2425     | 26      | 0            |
| 1   | BY    | 2510  | 0        | 2547     | 42      | 0            |
| 1   | BZ    | 2510  | 0        | 2547     | 32      | 0            |
| 1   | CA    | 2510  | 0        | 2547     | 38      | 0            |
| 1   | CB    | 2510  | 0        | 2547     | 29      | 0            |
| 1   | CC    | 2510  | 0        | 2547     | 28      | 0            |
| 1   | CD    | 2510  | 0        | 2547     | 29      | 0            |
| 1   | CE    | 2510  | 0        | 2547     | 30      | 0            |
| 1   | CF    | 2510  | 0        | 2547     | 39      | 0            |
| 1   | CG    | 2510  | 0        | 2547     | 33      | 0            |
| 1   | CH    | 2510  | 0        | 2547     | 35      | 0            |
| 1   | CI    | 2510  | 0        | 2547     | 22      | 0            |
| 1   | CJ    | 2510  | 0        | 2547     | 25      | 0            |
| 1   | CK    | 2510  | 0        | 2547     | 38      | 0            |
| 1   | CL    | 2510  | 0        | 2547     | 39      | 0            |
| 1   | CM    | 2510  | 0        | 2547     | 29      | 0            |
| 1   | CN    | 2510  | 0        | 2547     | 28      | 0            |
| 1   | CO    | 2510  | 0        | 2547     | 42      | 0            |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 1   | CP    | 2510  | 0        | 2547     | 35      | 0            |
| 1   | CQ    | 2510  | 0        | 2547     | 25      | 0            |
| 1   | CR    | 2510  | 0        | 2547     | 29      | 0            |
| 1   | CS    | 2510  | 0        | 2547     | 35      | 0            |
| 1   | CT    | 2510  | 0        | 2547     | 35      | 0            |
| 1   | CU    | 2510  | 0        | 2547     | 41      | 0            |
| 1   | CV    | 2510  | 0        | 2547     | 40      | 0            |
| 1   | CW    | 2510  | 0        | 2547     | 37      | 0            |
| 1   | CX    | 2510  | 0        | 2547     | 24      | 0            |
| 1   | CY    | 2510  | 0        | 2547     | 24      | 0            |
| 1   | CZ    | 2510  | 0        | 2547     | 36      | 0            |
| 1   | DA    | 2510  | 0        | 2547     | 36      | 0            |
| 1   | DB    | 2510  | 0        | 2547     | 28      | 0            |
| 1   | DC    | 2510  | 0        | 2547     | 34      | 0            |
| 1   | DD    | 2510  | 0        | 2547     | 43      | 0            |
| 1   | DE    | 2510  | 0        | 2547     | 31      | 0            |
| 2   | DF    | 1178  | 0        | 1163     | 6       | 0            |
| 2   | DG    | 1160  | 0        | 1142     | 9       | 0            |
| 2   | DH    | 1173  | 0        | 1158     | 10      | 0            |
| 2   | DI    | 1165  | 0        | 1147     | 9       | 0            |
| 2   | DJ    | 1173  | 0        | 1158     | 13      | 0            |
| 2   | DK    | 1165  | 0        | 1147     | 12      | 0            |
| 2   | DL    | 1173  | 0        | 1158     | 10      | 0            |
| 2   | DM    | 1170  | 0        | 1152     | 12      | 0            |
| 2   | DN    | 1173  | 0        | 1158     | 16      | 0            |
| 2   | DO    | 1165  | 0        | 1147     | 12      | 0            |
| 2   | DP    | 1165  | 0        | 1147     | 17      | 0            |
| 2   | DQ    | 1160  | 0        | 1142     | 12      | 0            |
| 2   | DR    | 1173  | 0        | 1158     | 10      | 0            |
| 2   | DS    | 1288  | 0        | 1279     | 13      | 0            |
| 2   | DT    | 1173  | 0        | 1158     | 31      | 0            |
| 2   | DU    | 1161  | 0        | 1139     | 15      | 0            |
| 2   | DV    | 1165  | 0        | 1147     | 17      | 0            |
| 2   | DW    | 1161  | 0        | 1139     | 17      | 0            |
| 2   | DX    | 1198  | 0        | 1172     | 17      | 0            |
| 2   | DY    | 1148  | 0        | 1123     | 19      | 0            |
| 2   | DZ    | 1173  | 0        | 1158     | 15      | 0            |
| 2   | EA    | 917   | 0        | 912      | 9       | 0            |
| 2   | EB    | 1198  | 0        | 1172     | 18      | 0            |
| 2   | EC    | 1164  | 0        | 1145     | 10      | 0            |
| 2   | ED    | 1211  | 0        | 1188     | 9       | 0            |
| 2   | EE    | 1194  | 0        | 1164     | 12      | 0            |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 2   | EF    | 1173  | 0        | 1158     | 15      | 0            |
| 2   | EG    | 1337  | 0        | 1324     | 15      | 0            |
| 2   | EH    | 1165  | 0        | 1147     | 11      | 0            |
| 2   | EI    | 1189  | 0        | 1159     | 11      | 0            |
| 2   | EJ    | 1275  | 0        | 1263     | 9       | 0            |
| 2   | EK    | 1288  | 0        | 1279     | 17      | 0            |
| 2   | EL    | 1160  | 0        | 1142     | 14      | 0            |
| 2   | EM    | 1173  | 0        | 1158     | 22      | 0            |
| 2   | EN    | 1165  | 0        | 1147     | 17      | 0            |
| 2   | EO    | 1304  | 0        | 1299     | 12      | 0            |
| 2   | EP    | 1161  | 0        | 1139     | 21      | 0            |
| 2   | EQ    | 1198  | 0        | 1172     | 13      | 0            |
| 2   | ER    | 1148  | 0        | 1123     | 18      | 0            |
| 2   | ES    | 1173  | 0        | 1158     | 16      | 0            |
| 2   | ET    | 1161  | 0        | 1139     | 18      | 0            |
| 2   | EU    | 1198  | 0        | 1172     | 14      | 0            |
| 2   | EV    | 1148  | 0        | 1123     | 18      | 0            |
| 2   | EW    | 1173  | 0        | 1158     | 18      | 0            |
| 2   | EX    | 1161  | 0        | 1139     | 15      | 0            |
| 2   | EY    | 1198  | 0        | 1172     | 14      | 0            |
| 2   | EZ    | 1148  | 0        | 1123     | 13      | 0            |
| 2   | FA    | 1173  | 0        | 1158     | 13      | 0            |
| 2   | FB    | 1161  | 0        | 1139     | 19      | 0            |
| 2   | FC    | 1198  | 0        | 1172     | 12      | 0            |
| 2   | FD    | 1148  | 0        | 1123     | 19      | 0            |
| 2   | FE    | 1173  | 0        | 1158     | 19      | 0            |
| 2   | FF    | 1161  | 0        | 1139     | 15      | 0            |
| 2   | FG    | 1198  | 0        | 1172     | 18      | 0            |
| 2   | FH    | 1148  | 0        | 1123     | 17      | 0            |
| 2   | FI    | 1173  | 0        | 1158     | 15      | 0            |
| 3   | FJ    | 1252  | 0        | 1235     | 17      | 0            |
| 4   | FK    | 1195  | 0        | 1189     | 12      | 0            |
| 4   | FL    | 1195  | 0        | 1189     | 12      | 0            |
| 4   | FM    | 1203  | 0        | 1190     | 11      | 0            |
| 4   | FN    | 1197  | 0        | 1185     | 15      | 0            |
| 4   | FO    | 1222  | 0        | 1214     | 14      | 0            |
| 4   | FP    | 1191  | 0        | 1181     | 17      | 0            |
| 4   | FQ    | 1358  | 0        | 1361     | 19      | 0            |
| 4   | FR    | 1358  | 0        | 1361     | 16      | 0            |
| 4   | FS    | 1358  | 0        | 1361     | 21      | 0            |
| 4   | FT    | 1137  | 0        | 1125     | 10      | 0            |
| 4   | FU    | 1187  | 0        | 1176     | 15      | 0            |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 4   | FV    | 1208  | 0        | 1203     | 12      | 0            |
| 4   | FW    | 1208  | 0        | 1203     | 20      | 0            |
| 4   | FX    | 1186  | 0        | 1176     | 12      | 0            |
| 4   | FY    | 1186  | 0        | 1176     | 15      | 0            |
| 4   | FZ    | 1195  | 0        | 1189     | 18      | 0            |
| 4   | GA    | 1358  | 0        | 1361     | 15      | 0            |
| 4   | GB    | 1358  | 0        | 1361     | 15      | 0            |
| 4   | GC    | 1358  | 0        | 1361     | 19      | 0            |
| 4   | GD    | 1358  | 0        | 1361     | 23      | 0            |
| 4   | GE    | 1358  | 0        | 1361     | 18      | 0            |
| 4   | GF    | 1358  | 0        | 1361     | 14      | 0            |
| 4   | GG    | 1358  | 0        | 1361     | 20      | 0            |
| 4   | GH    | 1358  | 0        | 1361     | 20      | 0            |
| 4   | GI    | 1358  | 0        | 1361     | 18      | 0            |
| 4   | GJ    | 1358  | 0        | 1361     | 15      | 0            |
| 5   | GK    | 266   | 0        | 265      | 3       | 0            |
| 5   | GL    | 315   | 0        | 312      | 5       | 0            |
| 5   | GM    | 315   | 0        | 312      | 2       | 0            |
| 5   | GN    | 315   | 0        | 312      | 1       | 0            |
| 5   | GO    | 315   | 0        | 312      | 1       | 0            |
| 5   | GP    | 315   | 0        | 312      | 0       | 0            |
| 5   | GQ    | 315   | 0        | 312      | 5       | 0            |
| 5   | GR    | 315   | 0        | 312      | 1       | 0            |
| 5   | GS    | 315   | 0        | 312      | 2       | 0            |
| 5   | GT    | 315   | 0        | 312      | 1       | 0            |
| 5   | GU    | 315   | 0        | 312      | 3       | 0            |
| 5   | GV    | 315   | 0        | 312      | 2       | 0            |
| 5   | GW    | 266   | 0        | 265      | 2       | 0            |
| 5   | GX    | 315   | 0        | 312      | 4       | 0            |
| 5   | GY    | 315   | 0        | 312      | 4       | 0            |
| 5   | GZ    | 315   | 0        | 312      | 4       | 0            |
| 5   | HA    | 315   | 0        | 312      | 1       | 0            |
| 5   | HB    | 315   | 0        | 312      | 4       | 0            |
| 5   | HC    | 315   | 0        | 312      | 5       | 0            |
| 5   | HD    | 266   | 0        | 265      | 2       | 0            |
| 5   | HE    | 315   | 0        | 312      | 2       | 0            |
| 5   | HF    | 315   | 0        | 312      | 3       | 0            |
| 5   | HG    | 315   | 0        | 312      | 0       | 0            |
| 5   | HH    | 266   | 0        | 265      | 3       | 0            |
| 5   | HI    | 266   | 0        | 265      | 2       | 0            |
| 5   | HJ    | 266   | 0        | 265      | 4       | 0            |
| 5   | HK    | 266   | 0        | 265      | 4       | 0            |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 5   | HL    | 315   | 0        | 312      | 2       | 0            |
| 5   | HM    | 255   | 0        | 256      | 1       | 0            |
| 5   | HN    | 315   | 0        | 312      | 2       | 0            |
| 5   | HO    | 315   | 0        | 312      | 1       | 0            |
| 5   | HP    | 315   | 0        | 312      | 1       | 0            |
| 5   | HQ    | 315   | 0        | 312      | 1       | 0            |
| 5   | HR    | 315   | 0        | 312      | 2       | 0            |
| 5   | HS    | 315   | 0        | 312      | 0       | 0            |
| 5   | HT    | 315   | 0        | 312      | 0       | 0            |
| 5   | HU    | 315   | 0        | 312      | 1       | 0            |
| 5   | HV    | 315   | 0        | 312      | 2       | 0            |
| 5   | HW    | 248   | 0        | 248      | 0       | 0            |
| 5   | HX    | 315   | 0        | 312      | 0       | 0            |
| 5   | HY    | 315   | 0        | 312      | 1       | 0            |
| 5   | HZ    | 315   | 0        | 312      | 1       | 0            |
| 5   | IA    | 315   | 0        | 312      | 1       | 0            |
| 5   | IB    | 255   | 0        | 256      | 2       | 0            |
| 5   | IC    | 315   | 0        | 312      | 2       | 0            |
| 5   | ID    | 255   | 0        | 256      | 0       | 0            |
| 5   | IE    | 315   | 0        | 312      | 2       | 0            |
| 5   | IF    | 315   | 0        | 312      | 2       | 0            |
| 5   | IG    | 315   | 0        | 312      | 0       | 0            |
| 5   | IH    | 255   | 0        | 256      | 3       | 0            |
| 5   | II    | 266   | 0        | 265      | 2       | 0            |
| 5   | IJ    | 266   | 0        | 265      | 1       | 0            |
| 5   | IK    | 266   | 0        | 265      | 1       | 0            |
| 5   | IL    | 345   | 0        | 345      | 2       | 0            |
| 5   | IM    | 315   | 0        | 312      | 0       | 0            |
| 5   | IN    | 315   | 0        | 312      | 1       | 0            |
| 5   | IO    | 345   | 0        | 345      | 1       | 0            |
| 5   | IP    | 315   | 0        | 312      | 1       | 0            |
| 5   | IQ    | 315   | 0        | 312      | 2       | 0            |
| 5   | IR    | 345   | 0        | 345      | 2       | 0            |
| 5   | IS    | 315   | 0        | 312      | 2       | 0            |
| 5   | IT    | 315   | 0        | 312      | 0       | 0            |
| 5   | IU    | 345   | 0        | 345      | 1       | 0            |
| 5   | IV    | 315   | 0        | 312      | 1       | 0            |
| 5   | IW    | 315   | 0        | 312      | 1       | 0            |
| 5   | IX    | 315   | 0        | 312      | 0       | 0            |
| 5   | IY    | 345   | 0        | 345      | 1       | 0            |
| 5   | IZ    | 315   | 0        | 312      | 2       | 0            |
| 5   | JA    | 345   | 0        | 345      | 2       | 0            |

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| Mol | Chain | Non-H  | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|--------|----------|----------|---------|--------------|
| 5   | JB    | 315    | 0        | 312      | 0       | 0            |
| 5   | JC    | 315    | 0        | 312      | 0       | 0            |
| 5   | JD    | 345    | 0        | 345      | 1       | 0            |
| 5   | JE    | 315    | 0        | 312      | 1       | 0            |
| 5   | JF    | 315    | 0        | 312      | 2       | 0            |
| 5   | JG    | 345    | 0        | 345      | 3       | 0            |
| 5   | JH    | 315    | 0        | 312      | 2       | 0            |
| 5   | JI    | 315    | 0        | 312      | 1       | 0            |
| 5   | JJ    | 345    | 0        | 345      | 1       | 0            |
| 5   | JK    | 315    | 0        | 312      | 2       | 0            |
| 5   | JL    | 315    | 0        | 312      | 2       | 0            |
| 5   | JM    | 315    | 0        | 312      | 1       | 0            |
| 5   | JN    | 345    | 0        | 345      | 2       | 0            |
| 5   | JO    | 315    | 0        | 312      | 2       | 0            |
| All | All   | 333778 | 0        | 335560   | 3234    | 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 5.

All (3234) 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:BY:165:ILE:HD13 | 1:BY:191:LEU:HD23 | 1.62                     | 0.79              |
| 1:CF:165:ILE:HD13 | 1:CF:191:LEU:HD23 | 1.64                     | 0.79              |
| 4:FX:77:ILE:HG13  | 4:FX:91:PRO:HB3   | 1.66                     | 0.77              |
| 1:CU:165:ILE:HD13 | 1:CU:191:LEU:HD23 | 1.64                     | 0.77              |
| 1:CP:165:ILE:HD13 | 1:CP:191:LEU:HD23 | 1.67                     | 0.76              |
| 1:DE:165:ILE:HD13 | 1:DE:191:LEU:HD23 | 1.64                     | 0.76              |
| 4:FQ:77:ILE:HG13  | 4:FQ:91:PRO:HB3   | 1.68                     | 0.75              |
| 4:FT:77:ILE:HG13  | 4:FT:91:PRO:HB3   | 1.68                     | 0.75              |
| 1:AJ:261:ILE:HD12 | 1:AJ:312:LEU:HD23 | 1.67                     | 0.75              |
| 1:DD:165:ILE:HD13 | 1:DD:191:LEU:HD23 | 1.69                     | 0.75              |
| 4:FM:77:ILE:HG13  | 4:FM:91:PRO:HB3   | 1.69                     | 0.74              |
| 4:GD:73:VAL:HG21  | 4:GD:117:ILE:HD13 | 1.70                     | 0.74              |
| 1:CB:165:ILE:HD13 | 1:CB:191:LEU:HD23 | 1.70                     | 0.74              |
| 1:BY:150:ARG:NH1  | 2:EP:85:GLU:OE1   | 2.21                     | 0.73              |
| 1:CL:165:ILE:HD13 | 1:CL:191:LEU:HD23 | 1.69                     | 0.73              |
| 1:AW:165:ILE:HD13 | 1:AW:191:LEU:HD23 | 1.70                     | 0.73              |
| 1:DA:165:ILE:HD13 | 1:DA:191:LEU:HD23 | 1.68                     | 0.73              |
| 4:GB:73:VAL:HG21  | 4:GB:117:ILE:HD13 | 1.71                     | 0.73              |
| 1:AH:165:ILE:HD13 | 1:AH:191:LEU:HD23 | 1.69                     | 0.73              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AY:261:ILE:HD12 | 1:AY:312:LEU:HD23 | 1.70                     | 0.73              |
| 1:CO:165:ILE:HD13 | 1:CO:191:LEU:HD23 | 1.68                     | 0.73              |
| 1:AD:210:SER:HB3  | 1:AG:244:ARG:HH12 | 1.53                     | 0.72              |
| 1:AX:261:ILE:HD12 | 1:AX:312:LEU:HD23 | 1.70                     | 0.72              |
| 1:AZ:165:ILE:HD13 | 1:AZ:191:LEU:HD23 | 1.71                     | 0.72              |
| 1:BK:152:LEU:HD21 | 4:FW:112:SER:HA   | 1.70                     | 0.72              |
| 1:CQ:165:ILE:HD13 | 1:CQ:191:LEU:HD23 | 1.70                     | 0.72              |
| 1:CA:165:ILE:HD13 | 1:CA:191:LEU:HD23 | 1.70                     | 0.72              |
| 1:BN:79:LEU:HD11  | 1:BN:305:LEU:HB2  | 1.72                     | 0.72              |
| 4:GH:73:VAL:HG21  | 4:GH:117:ILE:HD13 | 1.71                     | 0.72              |
| 1:AU:261:ILE:HD12 | 1:AU:312:LEU:HD23 | 1.72                     | 0.72              |
| 4:FS:73:VAL:HG21  | 4:FS:117:ILE:HD13 | 1.70                     | 0.72              |
| 1:AB:215:LYS:HE2  | 1:AF:181:PHE:HE2  | 1.55                     | 0.71              |
| 1:CL:261:ILE:HD12 | 1:CL:312:LEU:HD23 | 1.72                     | 0.71              |
| 1:CN:261:ILE:HD12 | 1:CN:312:LEU:HD23 | 1.72                     | 0.71              |
| 4:GI:77:ILE:HG13  | 4:GI:91:PRO:HB3   | 1.71                     | 0.71              |
| 1:CE:261:ILE:HD12 | 1:CE:312:LEU:HD23 | 1.73                     | 0.71              |
| 1:AH:261:ILE:HD12 | 1:AH:312:LEU:HD23 | 1.71                     | 0.71              |
| 1:CU:261:ILE:HD12 | 1:CU:312:LEU:HD23 | 1.71                     | 0.71              |
| 1:CW:165:ILE:HD13 | 1:CW:191:LEU:HD23 | 1.71                     | 0.71              |
| 1:AE:261:ILE:HD12 | 1:AE:312:LEU:HD23 | 1.72                     | 0.71              |
| 1:AR:261:ILE:HD12 | 1:AR:312:LEU:HD23 | 1.72                     | 0.71              |
| 1:DC:261:ILE:HD12 | 1:DC:312:LEU:HD23 | 1.71                     | 0.71              |
| 4:FR:73:VAL:HG21  | 4:FR:117:ILE:HG12 | 1.73                     | 0.71              |
| 1:BW:165:ILE:HD13 | 1:BW:191:LEU:HD23 | 1.72                     | 0.71              |
| 1:CT:261:ILE:HD12 | 1:CT:312:LEU:HD23 | 1.72                     | 0.70              |
| 1:BS:261:ILE:HD12 | 1:BS:312:LEU:HD23 | 1.74                     | 0.70              |
| 1:CB:261:ILE:HD12 | 1:CB:312:LEU:HD23 | 1.73                     | 0.70              |
| 1:AS:192:GLU:HB3  | 2:DZ:36:ILE:HD11  | 1.72                     | 0.70              |
| 1:AA:261:ILE:HD12 | 1:AA:312:LEU:HD23 | 1.73                     | 0.70              |
| 1:AC:165:ILE:HD13 | 1:AC:191:LEU:HD23 | 1.73                     | 0.70              |
| 1:BW:261:ILE:HD12 | 1:BW:312:LEU:HD23 | 1.74                     | 0.70              |
| 1:CK:261:ILE:HD12 | 1:CK:312:LEU:HD23 | 1.74                     | 0.70              |
| 1:CF:261:ILE:HD12 | 1:CF:312:LEU:HD23 | 1.72                     | 0.70              |
| 1:CH:165:ILE:HD13 | 1:CH:191:LEU:HD23 | 1.73                     | 0.69              |
| 1:CH:192:GLU:HB3  | 2:EW:36:ILE:HD11  | 1.74                     | 0.69              |
| 1:CL:48:LYS:NZ    | 2:ET:33:SER:O     | 2.25                     | 0.69              |
| 1:BE:261:ILE:HD12 | 1:BE:312:LEU:HD23 | 1.75                     | 0.69              |
| 1:BH:92:LYS:NZ    | 1:BH:288:ASP:O    | 2.25                     | 0.69              |
| 1:BY:261:ILE:HD12 | 1:BY:312:LEU:HD23 | 1.74                     | 0.69              |
| 1:BA:261:ILE:HD12 | 1:BA:312:LEU:HD23 | 1.74                     | 0.69              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:DE:77:VAL:HG21  | 2:FF:32:LEU:HD23  | 1.74                     | 0.69              |
| 1:AD:165:ILE:HD13 | 1:AD:191:LEU:HD23 | 1.74                     | 0.69              |
| 1:BJ:261:ILE:HD12 | 1:BJ:312:LEU:HD23 | 1.74                     | 0.69              |
| 1:CE:165:ILE:HD13 | 1:CE:191:LEU:HD23 | 1.73                     | 0.69              |
| 1:CM:199:THR:HG21 | 1:CM:265:ASN:HB2  | 1.75                     | 0.69              |
| 1:CW:261:ILE:HD12 | 1:CW:312:LEU:HD23 | 1.75                     | 0.69              |
| 1:AB:165:ILE:HD13 | 1:AB:191:LEU:HD23 | 1.75                     | 0.69              |
| 1:BE:165:ILE:HD13 | 1:BE:191:LEU:HD23 | 1.75                     | 0.69              |
| 1:CH:261:ILE:HD12 | 1:CH:312:LEU:HD23 | 1.75                     | 0.69              |
| 1:DD:192:GLU:HB3  | 2:FI:36:ILE:HD11  | 1.75                     | 0.69              |
| 1:DE:261:ILE:HD12 | 1:DE:312:LEU:HD23 | 1.73                     | 0.69              |
| 2:DW:123:LEU:HD21 | 2:DW:131:VAL:HG21 | 1.74                     | 0.69              |
| 2:EC:63:PRO:HB2   | 2:EC:85:GLU:HG2   | 1.72                     | 0.69              |
| 4:FN:77:ILE:HG13  | 4:FN:91:PRO:HB3   | 1.75                     | 0.69              |
| 1:BS:152:LEU:HD21 | 2:EM:105:SER:HA   | 1.75                     | 0.69              |
| 1:DA:48:LYS:NZ    | 2:FB:33:SER:O     | 2.26                     | 0.69              |
| 2:DO:180:ASN:O    | 2:DP:180:ASN:ND2  | 2.25                     | 0.69              |
| 1:BU:261:ILE:HD12 | 1:BU:312:LEU:HD23 | 1.73                     | 0.68              |
| 1:AG:261:ILE:HD12 | 1:AG:312:LEU:HD23 | 1.73                     | 0.68              |
| 1:BZ:165:ILE:HD13 | 1:BZ:191:LEU:HD23 | 1.75                     | 0.68              |
| 1:BS:164:GLN:HE22 | 1:BS:308:ARG:HA   | 1.58                     | 0.68              |
| 1:BT:261:ILE:HD12 | 1:BT:312:LEU:HD23 | 1.73                     | 0.68              |
| 1:BV:261:ILE:HD12 | 1:BV:312:LEU:HD23 | 1.75                     | 0.68              |
| 1:CV:199:THR:HG21 | 1:CV:265:ASN:HB2  | 1.75                     | 0.68              |
| 1:CZ:165:ILE:HD13 | 1:CZ:191:LEU:HD23 | 1.74                     | 0.68              |
| 1:AU:165:ILE:HD13 | 1:AU:191:LEU:HD23 | 1.76                     | 0.68              |
| 1:BL:261:ILE:HD12 | 1:BL:312:LEU:HD23 | 1.75                     | 0.68              |
| 1:DE:48:LYS:NZ    | 2:FF:33:SER:O     | 2.26                     | 0.68              |
| 4:GA:73:VAL:HG21  | 4:GA:117:ILE:HG12 | 1.74                     | 0.68              |
| 1:AV:165:ILE:HD13 | 1:AV:191:LEU:HD23 | 1.74                     | 0.68              |
| 1:AZ:261:ILE:HD12 | 1:AZ:312:LEU:HD23 | 1.76                     | 0.68              |
| 2:FA:57:ASP:OD1   | 2:FA:115:ASN:ND2  | 2.26                     | 0.68              |
| 1:AO:261:ILE:HD12 | 1:AO:312:LEU:HD23 | 1.76                     | 0.68              |
| 1:BU:199:THR:HG21 | 1:BU:265:ASN:HB2  | 1.75                     | 0.68              |
| 1:CP:48:LYS:NZ    | 2:EX:33:SER:O     | 2.26                     | 0.68              |
| 1:DD:261:ILE:HD12 | 1:DD:312:LEU:HD23 | 1.74                     | 0.68              |
| 1:CO:261:ILE:HD12 | 1:CO:312:LEU:HD23 | 1.76                     | 0.68              |
| 1:CP:261:ILE:HD12 | 1:CP:312:LEU:HD23 | 1.73                     | 0.68              |
| 1:CQ:261:ILE:HD12 | 1:CQ:312:LEU:HD23 | 1.75                     | 0.68              |
| 1:CP:77:VAL:HG21  | 2:EX:32:LEU:HD23  | 1.74                     | 0.68              |
| 1:AP:152:LEU:HD21 | 2:DQ:105:SER:HA   | 1.76                     | 0.68              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CZ:261:ILE:HD12 | 1:CZ:312:LEU:HD23 | 1.74                     | 0.68              |
| 2:EI:140:ASN:HD21 | 2:EI:144:GLU:HB2  | 1.57                     | 0.68              |
| 4:FY:161:ILE:HA   | 4:FY:186:ASN:HA   | 1.76                     | 0.68              |
| 1:AL:261:ILE:HD12 | 1:AL:312:LEU:HD23 | 1.76                     | 0.67              |
| 1:AW:39:LEU:HD11  | 1:AW:81:TYR:HD2   | 1.59                     | 0.67              |
| 1:CN:152:LEU:HD21 | 4:GA:112:SER:HA   | 1.76                     | 0.67              |
| 4:GE:73:VAL:HG21  | 4:GE:117:ILE:HG12 | 1.76                     | 0.67              |
| 1:CG:199:THR:HG21 | 1:CG:265:ASN:HB2  | 1.76                     | 0.67              |
| 1:CW:192:GLU:HB3  | 2:FE:36:ILE:HD11  | 1.74                     | 0.67              |
| 1:BV:164:GLN:HE22 | 1:BV:308:ARG:HA   | 1.57                     | 0.67              |
| 1:BY:89:ARG:HH21  | 1:BY:112:LEU:HD21 | 1.60                     | 0.67              |
| 1:BB:317:LYS:NZ   | 1:BB:319:SER:OXT  | 2.27                     | 0.67              |
| 4:FU:77:ILE:HG12  | 4:FU:91:PRO:HB3   | 1.76                     | 0.67              |
| 1:AN:165:ILE:HD13 | 1:AN:191:LEU:HD23 | 1.75                     | 0.67              |
| 1:CX:261:ILE:HD12 | 1:CX:312:LEU:HD23 | 1.76                     | 0.67              |
| 1:AB:261:ILE:HD12 | 1:AB:312:LEU:HD23 | 1.77                     | 0.67              |
| 1:AW:261:ILE:HD12 | 1:AW:312:LEU:HD23 | 1.76                     | 0.67              |
| 4:GG:73:VAL:HG21  | 4:GG:117:ILE:HG12 | 1.77                     | 0.67              |
| 1:CJ:143:LYS:HA   | 4:GE:39:ARG:HE    | 1.60                     | 0.67              |
| 1:CN:59:THR:O     | 2:ER:61:ASN:ND2   | 2.28                     | 0.67              |
| 4:GC:73:VAL:HG21  | 4:GC:117:ILE:HG12 | 1.77                     | 0.67              |
| 4:GE:77:ILE:HG13  | 4:GE:91:PRO:HB3   | 1.77                     | 0.67              |
| 1:AS:165:ILE:HD13 | 1:AS:191:LEU:HD23 | 1.77                     | 0.67              |
| 1:AV:261:ILE:HD12 | 1:AV:312:LEU:HD23 | 1.76                     | 0.67              |
| 1:CT:77:VAL:HG21  | 2:FG:32:LEU:HD23  | 1.76                     | 0.67              |
| 2:FB:123:LEU:HD21 | 2:FB:131:VAL:HG21 | 1.77                     | 0.67              |
| 4:FR:77:ILE:HG13  | 4:FR:91:PRO:HB3   | 1.75                     | 0.67              |
| 1:DC:152:LEU:HD21 | 4:FR:112:SER:HA   | 1.76                     | 0.67              |
| 1:CJ:261:ILE:HD12 | 1:CJ:312:LEU:HD23 | 1.77                     | 0.66              |
| 1:CR:152:LEU:HD21 | 4:GG:112:SER:HA   | 1.76                     | 0.66              |
| 1:CU:48:LYS:NZ    | 2:EV:33:SER:O     | 2.27                     | 0.66              |
| 1:AR:165:ILE:HD13 | 1:AR:191:LEU:HD23 | 1.76                     | 0.66              |
| 1:AT:110:ASN:OD1  | 1:BA:62:ASN:ND2   | 2.28                     | 0.66              |
| 1:BH:261:ILE:HD12 | 1:BH:312:LEU:HD23 | 1.78                     | 0.66              |
| 1:BZ:261:ILE:HD12 | 1:BZ:312:LEU:HD23 | 1.77                     | 0.66              |
| 1:DA:261:ILE:HD12 | 1:DA:312:LEU:HD23 | 1.77                     | 0.66              |
| 1:DB:199:THR:HG21 | 1:DB:265:ASN:HB2  | 1.76                     | 0.66              |
| 1:AB:317:LYS:NZ   | 1:AB:319:SER:OXT  | 2.28                     | 0.66              |
| 1:AT:261:ILE:HD12 | 1:AT:312:LEU:HD23 | 1.75                     | 0.66              |
| 1:BT:152:LEU:HD21 | 2:EL:105:SER:HA   | 1.77                     | 0.66              |
| 1:CF:48:LYS:NZ    | 2:FD:33:SER:O     | 2.28                     | 0.66              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CT:165:ILE:HD13 | 1:CT:191:LEU:HD23 | 1.77                     | 0.66              |
| 1:CV:261:ILE:HD12 | 1:CV:312:LEU:HD23 | 1.78                     | 0.66              |
| 1:CW:59:THR:O     | 4:GH:61:ASN:ND2   | 2.28                     | 0.66              |
| 1:CX:152:LEU:HD21 | 4:GI:112:SER:HA   | 1.77                     | 0.66              |
| 2:FF:77:PHE:HB2   | 4:GI:138:LYS:HE2  | 1.77                     | 0.66              |
| 1:DC:59:THR:O     | 2:DY:61:ASN:ND2   | 2.29                     | 0.66              |
| 1:AP:261:ILE:HD12 | 1:AP:312:LEU:HD23 | 1.77                     | 0.66              |
| 1:AS:240:ALA:HB2  | 1:AZ:214:VAL:HG11 | 1.78                     | 0.66              |
| 1:BA:165:ILE:HD13 | 1:BA:191:LEU:HD23 | 1.76                     | 0.66              |
| 1:BD:92:LYS:NZ    | 1:BD:94:THR:OG1   | 2.28                     | 0.66              |
| 4:FQ:142:ILE:HG12 | 4:FQ:159:ALA:HB2  | 1.78                     | 0.66              |
| 1:BH:165:ILE:HD13 | 1:BH:191:LEU:HD23 | 1.76                     | 0.66              |
| 1:CD:261:ILE:HD12 | 1:CD:312:LEU:HD23 | 1.78                     | 0.65              |
| 1:CG:261:ILE:HD12 | 1:CG:312:LEU:HD23 | 1.78                     | 0.65              |
| 1:CO:192:GLU:HB3  | 2:FA:36:ILE:HD11  | 1.78                     | 0.65              |
| 2:ES:63:PRO:HB2   | 2:ES:85:GLU:HG2   | 1.78                     | 0.65              |
| 1:AD:261:ILE:HD12 | 1:AD:312:LEU:HD23 | 1.77                     | 0.65              |
| 1:CI:261:ILE:HD12 | 1:CI:312:LEU:HD23 | 1.77                     | 0.65              |
| 2:ER:123:LEU:HD21 | 2:ER:131:VAL:HG21 | 1.78                     | 0.65              |
| 1:BS:192:GLU:HB3  | 2:ES:36:ILE:HD11  | 1.79                     | 0.65              |
| 1:CC:152:LEU:HD21 | 4:GC:112:SER:HA   | 1.78                     | 0.65              |
| 1:CC:261:ILE:HD12 | 1:CC:312:LEU:HD23 | 1.78                     | 0.65              |
| 1:CK:212:LYS:HA   | 1:CK:215:LYS:HE3  | 1.77                     | 0.65              |
| 1:CY:261:ILE:HD12 | 1:CY:312:LEU:HD23 | 1.77                     | 0.65              |
| 2:DH:165:LYS:HE3  | 2:DH:168:GLU:HA   | 1.78                     | 0.65              |
| 1:AI:261:ILE:HD12 | 1:AI:312:LEU:HD23 | 1.79                     | 0.65              |
| 1:CO:164:GLN:HE22 | 1:CO:308:ARG:HA   | 1.60                     | 0.65              |
| 1:CR:261:ILE:HD12 | 1:CR:312:LEU:HD23 | 1.77                     | 0.65              |
| 1:AH:174:LYS:HE2  | 1:AH:318:GLN:HE21 | 1.61                     | 0.65              |
| 1:AY:41:MET:HE2   | 1:AY:83:LYS:H     | 1.61                     | 0.65              |
| 1:AC:261:ILE:HD12 | 1:AC:312:LEU:HD23 | 1.79                     | 0.65              |
| 1:CZ:212:LYS:HA   | 1:CZ:215:LYS:HE3  | 1.80                     | 0.64              |
| 4:GG:77:ILE:HG13  | 4:GG:91:PRO:HB3   | 1.79                     | 0.64              |
| 4:GJ:161:ILE:HA   | 4:GJ:186:ASN:HA   | 1.79                     | 0.64              |
| 4:FP:77:ILE:HG12  | 4:FP:91:PRO:HB3   | 1.79                     | 0.64              |
| 1:CF:66:THR:OG1   | 2:FE:58:LYS:NZ    | 2.30                     | 0.64              |
| 2:FF:123:LEU:HD21 | 2:FF:131:VAL:HG21 | 1.79                     | 0.64              |
| 1:BH:317:LYS:NZ   | 1:BH:319:SER:OXT  | 2.31                     | 0.64              |
| 1:CH:77:VAL:HG21  | 2:EW:32:LEU:HD23  | 1.80                     | 0.64              |
| 2:DF:136:LYS:HD3  | 2:DF:181:ARG:HH12 | 1.62                     | 0.64              |
| 1:BP:305:LEU:HD11 | 2:EG:32:LEU:HG    | 1.80                     | 0.64              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BR:227:CYS:SG   | 1:BR:228:GLU:N    | 2.69                     | 0.64              |
| 1:CF:77:VAL:HG21  | 2:FD:32:LEU:HD23  | 1.79                     | 0.64              |
| 1:CQ:164:GLN:HE22 | 1:CQ:308:ARG:HA   | 1.62                     | 0.64              |
| 1:AM:20:VAL:O     | 5:GW:213:ARG:NH2  | 2.28                     | 0.64              |
| 1:BW:143:LYS:HA   | 2:EN:39:ARG:HE    | 1.62                     | 0.64              |
| 1:CC:59:THR:O     | 2:EV:61:ASN:ND2   | 2.31                     | 0.64              |
| 4:FW:161:ILE:HA   | 4:FW:186:ASN:HA   | 1.79                     | 0.64              |
| 1:BM:163:GLU:HB2  | 4:FW:31:LEU:HD22  | 1.80                     | 0.64              |
| 1:BC:261:ILE:HD12 | 1:BC:312:LEU:HD23 | 1.79                     | 0.64              |
| 1:CK:165:ILE:HD13 | 1:CK:191:LEU:HD23 | 1.79                     | 0.64              |
| 1:CN:13:VAL:HG11  | 1:CN:281:PRO:HG3  | 1.80                     | 0.64              |
| 4:FO:73:VAL:HG21  | 4:FO:117:ILE:HD13 | 1.79                     | 0.64              |
| 1:AE:59:THR:O     | 4:FL:61:ASN:ND2   | 2.31                     | 0.63              |
| 1:AT:100:THR:HG22 | 1:AT:105:ILE:HG23 | 1.78                     | 0.63              |
| 2:FB:77:PHE:HB2   | 4:GG:138:LYS:HE2  | 1.79                     | 0.63              |
| 4:FK:161:ILE:HA   | 4:FK:186:ASN:HA   | 1.79                     | 0.63              |
| 1:AH:92:LYS:NZ    | 1:AH:288:ASP:O    | 2.31                     | 0.63              |
| 1:BV:308:ARG:HH21 | 2:EF:31:LEU:HB2   | 1.62                     | 0.63              |
| 1:CA:261:ILE:HD12 | 1:CA:312:LEU:HD23 | 1.79                     | 0.63              |
| 4:FZ:161:ILE:HA   | 4:FZ:186:ASN:HA   | 1.81                     | 0.63              |
| 1:AM:261:ILE:HD12 | 1:AM:312:LEU:HD23 | 1.81                     | 0.63              |
| 1:CR:143:LYS:HA   | 2:FC:39:ARG:HE    | 1.62                     | 0.63              |
| 4:FY:69:TYR:HB2   | 4:FY:108:ILE:HD12 | 1.81                     | 0.63              |
| 1:AQ:261:ILE:HD12 | 1:AQ:312:LEU:HD23 | 1.80                     | 0.63              |
| 1:BB:166:LYS:HG2  | 1:BB:313:GLN:HE21 | 1.63                     | 0.63              |
| 1:BI:261:ILE:HD12 | 1:BI:312:LEU:HD23 | 1.81                     | 0.63              |
| 1:CL:286:ASP:HB2  | 1:CL:294:HIS:HB2  | 1.80                     | 0.63              |
| 1:BF:165:ILE:HD13 | 1:BF:191:LEU:HD23 | 1.81                     | 0.63              |
| 2:DN:63:PRO:HB2   | 2:DN:85:GLU:HG2   | 1.80                     | 0.63              |
| 2:EB:125:LYS:HD2  | 2:EB:169:ASP:HA   | 1.80                     | 0.63              |
| 4:FO:161:ILE:HA   | 4:FO:186:ASN:HA   | 1.79                     | 0.63              |
| 1:BQ:152:LEU:HD21 | 2:EI:105:SER:HA   | 1.80                     | 0.63              |
| 1:DC:13:VAL:HG11  | 1:DC:281:PRO:HG3  | 1.80                     | 0.63              |
| 1:CA:152:LEU:HD21 | 2:ES:105:SER:HA   | 1.80                     | 0.63              |
| 1:CE:77:VAL:HG21  | 2:EY:32:LEU:HD23  | 1.79                     | 0.63              |
| 1:CX:13:VAL:HG11  | 1:CX:281:PRO:HG3  | 1.80                     | 0.63              |
| 2:EJ:180:ASN:O    | 4:FY:186:ASN:ND2  | 2.32                     | 0.63              |
| 1:CM:13:VAL:HG11  | 1:CM:281:PRO:HG3  | 1.80                     | 0.62              |
| 1:CV:65:ASN:ND2   | 2:FB:57:ASP:O     | 2.32                     | 0.62              |
| 1:DB:261:ILE:HD12 | 1:DB:312:LEU:HD23 | 1.81                     | 0.62              |
| 4:FQ:73:VAL:HG21  | 4:FQ:117:ILE:HD13 | 1.81                     | 0.62              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CS:48:LYS:NZ    | 2:FH:33:SER:O     | 2.32                     | 0.62              |
| 1:CD:143:LYS:HA   | 4:GC:39:ARG:HE    | 1.64                     | 0.62              |
| 1:DC:165:ILE:HD13 | 1:DC:191:LEU:HD23 | 1.81                     | 0.62              |
| 4:GI:73:VAL:HG21  | 4:GI:117:ILE:HG12 | 1.81                     | 0.62              |
| 1:BZ:110:ASN:ND2  | 1:CJ:62:ASN:OD1   | 2.32                     | 0.62              |
| 1:AU:199:THR:HG21 | 1:AU:265:ASN:HB2  | 1.80                     | 0.62              |
| 1:CM:261:ILE:HD12 | 1:CM:312:LEU:HD23 | 1.82                     | 0.62              |
| 4:FY:43:VAL:HG11  | 4:FY:170:LYS:HD3  | 1.82                     | 0.62              |
| 1:AT:164:GLN:HE22 | 1:AT:308:ARG:HA   | 1.65                     | 0.62              |
| 1:DD:77:VAL:HG21  | 2:FI:32:LEU:HD23  | 1.81                     | 0.62              |
| 1:AL:77:VAL:HG21  | 2:DV:32:LEU:HD23  | 1.81                     | 0.62              |
| 1:AN:261:ILE:HD12 | 1:AN:312:LEU:HD23 | 1.82                     | 0.62              |
| 1:BX:261:ILE:HD12 | 1:BX:312:LEU:HD23 | 1.81                     | 0.62              |
| 1:CS:107:ASP:OD2  | 1:CS:110:ASN:ND2  | 2.31                     | 0.62              |
| 2:ET:123:LEU:HD21 | 2:ET:131:VAL:HG21 | 1.82                     | 0.62              |
| 4:GA:77:ILE:HG13  | 4:GA:91:PRO:HB3   | 1.82                     | 0.62              |
| 1:BZ:87:LYS:NZ    | 2:ES:53:THR:O     | 2.28                     | 0.62              |
| 1:AE:165:ILE:HD13 | 1:AE:191:LEU:HD23 | 1.80                     | 0.61              |
| 1:BO:261:ILE:HD12 | 1:BO:312:LEU:HD23 | 1.82                     | 0.61              |
| 2:EK:100:ASP:HB3  | 2:EK:109:THR:HB   | 1.82                     | 0.61              |
| 2:ER:167:THR:HG22 | 2:ER:168:GLU:H    | 1.65                     | 0.61              |
| 4:FZ:77:ILE:HG13  | 4:FZ:91:PRO:HB3   | 1.82                     | 0.61              |
| 1:BK:286:ASP:HB2  | 1:BK:294:HIS:HB2  | 1.83                     | 0.61              |
| 1:BT:75:GLU:HG2   | 4:FX:26:GLN:HB3   | 1.82                     | 0.61              |
| 1:BT:100:THR:HG22 | 1:BT:105:ILE:HG23 | 1.82                     | 0.61              |
| 2:DP:63:PRO:HB2   | 2:DP:85:GLU:HG2   | 1.83                     | 0.61              |
| 1:CR:13:VAL:HG11  | 1:CR:281:PRO:HG3  | 1.82                     | 0.61              |
| 1:BY:110:ASN:ND2  | 1:CK:62:ASN:OD1   | 2.34                     | 0.61              |
| 2:FH:54:SER:HB2   | 2:FI:58:LYS:HZ3   | 1.64                     | 0.61              |
| 4:GA:26:GLN:NE2   | 4:GA:28:ASP:OD1   | 2.33                     | 0.61              |
| 1:AX:165:ILE:HD13 | 1:AX:191:LEU:HD12 | 1.83                     | 0.61              |
| 1:CS:261:ILE:HD12 | 1:CS:312:LEU:HD23 | 1.82                     | 0.61              |
| 3:FJ:197:PRO:HB2  | 3:FJ:246:GLU:HB3  | 1.83                     | 0.61              |
| 1:BC:286:ASP:HB2  | 1:BC:294:HIS:HB2  | 1.83                     | 0.61              |
| 1:AH:317:LYS:NZ   | 1:AH:319:SER:OXT  | 2.34                     | 0.61              |
| 1:BU:89:ARG:HH21  | 1:BU:112:LEU:HD21 | 1.66                     | 0.61              |
| 1:CS:214:VAL:HG11 | 1:CV:240:ALA:HB2  | 1.83                     | 0.61              |
| 2:EA:137:LEU:HD11 | 2:EA:159:ALA:HB2  | 1.83                     | 0.61              |
| 2:EU:165:LYS:HE3  | 2:EU:168:GLU:HA   | 1.83                     | 0.61              |
| 2:EV:167:THR:HG22 | 2:EV:168:GLU:H    | 1.66                     | 0.61              |
| 4:FW:69:TYR:HB2   | 4:FW:108:ILE:HD12 | 1.83                     | 0.61              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:FZ:93:VAL:HG21  | 4:FZ:117:ILE:HD11 | 1.82                     | 0.61              |
| 1:CC:55:ALA:HB2   | 4:GD:51:THR:HB    | 1.82                     | 0.61              |
| 1:CH:16:ILE:HD12  | 1:CH:116:ALA:HB1  | 1.82                     | 0.61              |
| 1:CI:143:LYS:HA   | 2:EY:39:ARG:HE    | 1.66                     | 0.61              |
| 4:FR:69:TYR:HB2   | 4:FR:108:ILE:HD12 | 1.83                     | 0.61              |
| 4:FS:77:ILE:HG13  | 4:FS:91:PRO:HB3   | 1.81                     | 0.61              |
| 1:AS:77:VAL:HG21  | 2:DZ:32:LEU:HD23  | 1.82                     | 0.61              |
| 1:CC:13:VAL:HG11  | 1:CC:281:PRO:HG3  | 1.83                     | 0.61              |
| 1:AK:13:VAL:HG11  | 1:AK:281:PRO:HG2  | 1.82                     | 0.60              |
| 1:AS:261:ILE:HD12 | 1:AS:312:LEU:HD23 | 1.82                     | 0.60              |
| 1:AT:165:ILE:HD13 | 1:AT:191:LEU:HD23 | 1.83                     | 0.60              |
| 2:DY:167:THR:HG22 | 2:DY:168:GLU:H    | 1.65                     | 0.60              |
| 2:EN:37:ASP:O     | 2:EN:41:GLN:NE2   | 2.34                     | 0.60              |
| 1:AV:308:ARG:HH21 | 2:DN:31:LEU:HB2   | 1.65                     | 0.60              |
| 1:BG:261:ILE:HD12 | 1:BG:312:LEU:HD23 | 1.83                     | 0.60              |
| 1:CI:13:VAL:HG11  | 1:CI:281:PRO:HG3  | 1.83                     | 0.60              |
| 1:DC:87:LYS:NZ    | 2:DX:53:THR:O     | 2.31                     | 0.60              |
| 1:AH:152:LEU:HD21 | 2:DK:105:SER:HA   | 1.83                     | 0.60              |
| 1:CI:152:LEU:HD21 | 4:GE:112:SER:HA   | 1.81                     | 0.60              |
| 1:CU:135:LEU:HD21 | 1:CU:255:LEU:HG   | 1.83                     | 0.60              |
| 2:DW:77:PHE:HB2   | 4:FR:138:LYS:HE2  | 1.84                     | 0.60              |
| 1:CT:164:GLN:HE22 | 1:CT:308:ARG:HA   | 1.66                     | 0.60              |
| 4:GJ:73:VAL:HG21  | 4:GJ:117:ILE:HD13 | 1.82                     | 0.60              |
| 1:AW:143:LYS:HA   | 2:DV:39:ARG:HE    | 1.65                     | 0.60              |
| 1:BX:77:VAL:HG21  | 2:EP:32:LEU:HD23  | 1.83                     | 0.60              |
| 1:CB:164:GLN:HE22 | 1:CB:308:ARG:HA   | 1.66                     | 0.60              |
| 1:CW:16:ILE:HD12  | 1:CW:116:ALA:HB1  | 1.84                     | 0.60              |
| 1:CZ:162:PRO:HG2  | 2:DX:31:LEU:HD11  | 1.82                     | 0.60              |
| 2:DU:77:PHE:HB2   | 4:FQ:138:LYS:HE2  | 1.83                     | 0.60              |
| 4:GE:26:GLN:NE2   | 4:GE:28:ASP:OD1   | 2.34                     | 0.60              |
| 1:CF:286:ASP:HB2  | 1:CF:294:HIS:HB2  | 1.82                     | 0.60              |
| 1:DC:143:LYS:HA   | 2:DX:39:ARG:HE    | 1.66                     | 0.60              |
| 2:EM:75:LEU:HB3   | 2:EM:84:LEU:HD11  | 1.82                     | 0.60              |
| 2:FH:167:THR:HG22 | 2:FH:168:GLU:H    | 1.67                     | 0.60              |
| 1:AM:59:THR:O     | 4:FM:61:ASN:ND2   | 2.34                     | 0.60              |
| 1:AS:62:ASN:OD1   | 1:DE:110:ASN:ND2  | 2.34                     | 0.60              |
| 1:BH:59:THR:O     | 2:EF:61:ASN:ND2   | 2.35                     | 0.60              |
| 1:CL:77:VAL:HG21  | 2:ET:32:LEU:HD23  | 1.83                     | 0.60              |
| 2:EF:137:LEU:HD11 | 2:EF:159:ALA:HB2  | 1.83                     | 0.60              |
| 2:FD:167:THR:HG22 | 2:FD:168:GLU:H    | 1.66                     | 0.60              |
| 1:BD:261:ILE:HD12 | 1:BD:312:LEU:HD23 | 1.83                     | 0.60              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BH:13:VAL:HG11  | 1:BH:281:PRO:HG2  | 1.84                     | 0.60              |
| 1:CD:214:VAL:HG11 | 1:CG:240:ALA:HB2  | 1.82                     | 0.60              |
| 1:CW:77:VAL:HG21  | 2:FE:32:LEU:HD23  | 1.83                     | 0.60              |
| 4:GD:77:ILE:HG13  | 4:GD:91:PRO:HB3   | 1.83                     | 0.60              |
| 1:AS:13:VAL:HG11  | 1:AS:281:PRO:HG2  | 1.83                     | 0.60              |
| 1:CK:77:VAL:HG21  | 2:EQ:32:LEU:HD23  | 1.83                     | 0.60              |
| 1:DD:164:GLN:HE22 | 1:DD:308:ARG:HA   | 1.66                     | 0.60              |
| 4:FZ:161:ILE:O    | 4:FZ:187:LYS:NZ   | 2.35                     | 0.60              |
| 1:BK:21:LYS:NZ    | 1:BV:195:ASP:OD2  | 2.35                     | 0.60              |
| 4:GC:77:ILE:HG13  | 4:GC:91:PRO:HB3   | 1.84                     | 0.60              |
| 1:AO:165:ILE:HD13 | 1:AO:191:LEU:HD23 | 1.84                     | 0.59              |
| 1:BX:225:SER:HB2  | 1:CO:224:ALA:HB3  | 1.82                     | 0.59              |
| 1:CA:164:GLN:HE22 | 1:CA:308:ARG:HA   | 1.65                     | 0.59              |
| 1:AY:110:ASN:ND2  | 1:CZ:62:ASN:OD1   | 2.35                     | 0.59              |
| 1:BK:261:ILE:HD12 | 1:BK:312:LEU:HD23 | 1.84                     | 0.59              |
| 1:CX:143:LYS:HA   | 2:FG:39:ARG:HE    | 1.67                     | 0.59              |
| 2:DZ:63:PRO:HB2   | 2:DZ:85:GLU:HG2   | 1.83                     | 0.59              |
| 1:DD:59:THR:O     | 4:GJ:61:ASN:ND2   | 2.35                     | 0.59              |
| 2:EM:23:LYS:N     | 2:EM:67:TYR:OH    | 2.35                     | 0.59              |
| 1:BK:289:SER:HB2  | 1:BL:85:GLN:HE22  | 1.67                     | 0.59              |
| 1:BM:174:LYS:O    | 1:BM:212:LYS:NZ   | 2.36                     | 0.59              |
| 2:DV:37:ASP:O     | 2:DV:41:GLN:NE2   | 2.34                     | 0.59              |
| 2:FF:181:ARG:HH12 | 2:FG:94:LEU:HB3   | 1.67                     | 0.59              |
| 1:AX:77:VAL:HG21  | 2:DW:32:LEU:HD23  | 1.85                     | 0.59              |
| 1:BK:89:ARG:HH21  | 1:BK:112:LEU:HD21 | 1.67                     | 0.59              |
| 1:BX:205:VAL:HG12 | 1:BX:259:ILE:HG23 | 1.83                     | 0.59              |
| 1:CR:165:ILE:HD13 | 1:CR:191:LEU:HD23 | 1.85                     | 0.59              |
| 1:DA:89:ARG:HH21  | 1:DA:112:LEU:HD21 | 1.67                     | 0.59              |
| 1:BV:109:ASN:O    | 4:FZ:24:ASN:ND2   | 2.36                     | 0.59              |
| 1:CO:77:VAL:HG21  | 2:FA:32:LEU:HD23  | 1.85                     | 0.59              |
| 4:GF:77:ILE:HG13  | 4:GF:91:PRO:HB3   | 1.84                     | 0.59              |
| 1:AT:77:VAL:HG21  | 2:DP:32:LEU:HD23  | 1.84                     | 0.59              |
| 1:AX:92:LYS:NZ    | 1:AX:94:THR:OG1   | 2.31                     | 0.59              |
| 2:EC:165:LYS:HE3  | 2:EC:168:GLU:HA   | 1.84                     | 0.59              |
| 1:AM:96:GLU:O     | 1:AM:100:THR:HG23 | 2.03                     | 0.59              |
| 1:AQ:239:LYS:HA   | 1:AQ:242:ASN:OD1  | 2.03                     | 0.59              |
| 1:BA:77:VAL:HG21  | 2:DT:32:LEU:HD23  | 1.85                     | 0.59              |
| 1:BL:13:VAL:HG11  | 1:BL:281:PRO:HG2  | 1.85                     | 0.59              |
| 1:BP:152:LEU:HD21 | 2:EJ:105:SER:HA   | 1.85                     | 0.59              |
| 1:BR:13:VAL:HG11  | 1:BR:103:SER:HA   | 1.83                     | 0.59              |
| 1:CP:135:LEU:HD21 | 1:CP:255:LEU:HG   | 1.85                     | 0.59              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AE:65:ASN:ND2   | 4:FL:57:ASP:O     | 2.35                     | 0.59              |
| 1:AG:165:ILE:HD13 | 1:AG:191:LEU:HD23 | 1.83                     | 0.59              |
| 1:AU:286:ASP:HB2  | 1:AU:294:HIS:HB2  | 1.84                     | 0.59              |
| 1:BC:77:VAL:HG21  | 2:EB:32:LEU:HD23  | 1.85                     | 0.59              |
| 1:BP:261:ILE:HD12 | 1:BP:312:LEU:HD23 | 1.85                     | 0.59              |
| 1:CJ:205:VAL:HG12 | 1:CJ:259:ILE:HG23 | 1.84                     | 0.59              |
| 2:DT:75:LEU:HB3   | 2:DT:84:LEU:HD11  | 1.85                     | 0.59              |
| 2:EX:123:LEU:HD21 | 2:EX:131:VAL:HG21 | 1.85                     | 0.59              |
| 1:AN:241:ILE:HG22 | 1:AR:211:LEU:HD21 | 1.85                     | 0.59              |
| 1:BN:261:ILE:HD12 | 1:BN:312:LEU:HD23 | 1.85                     | 0.59              |
| 1:BZ:286:ASP:HB2  | 1:BZ:294:HIS:HB2  | 1.84                     | 0.58              |
| 1:CW:164:GLN:HE22 | 1:CW:308:ARG:HA   | 1.66                     | 0.58              |
| 2:DM:69:TYR:HB2   | 2:DM:101:ILE:HD12 | 1.85                     | 0.58              |
| 2:EF:69:TYR:HB2   | 2:EF:101:ILE:HD12 | 1.85                     | 0.58              |
| 2:EQ:165:LYS:HE3  | 2:EQ:168:GLU:HA   | 1.85                     | 0.58              |
| 4:FK:149:LEU:HD13 | 4:FK:181:VAL:HG21 | 1.86                     | 0.58              |
| 4:FV:77:ILE:HG13  | 4:FV:91:PRO:HB3   | 1.84                     | 0.58              |
| 1:AL:13:VAL:HG11  | 1:AL:281:PRO:HG2  | 1.85                     | 0.58              |
| 1:BC:162:PRO:HG2  | 2:EB:31:LEU:HD11  | 1.85                     | 0.58              |
| 1:BL:77:VAL:HG21  | 2:EN:32:LEU:HD23  | 1.84                     | 0.58              |
| 1:BS:62:ASN:OD1   | 1:CP:110:ASN:ND2  | 2.36                     | 0.58              |
| 2:EL:65:LYS:HB2   | 2:EL:85:GLU:HG3   | 1.86                     | 0.58              |
| 4:GC:26:GLN:NE2   | 4:GC:28:ASP:OD1   | 2.36                     | 0.58              |
| 1:AS:164:GLN:HE22 | 1:AS:308:ARG:HA   | 1.68                     | 0.58              |
| 1:BO:54:ASN:HB3   | 2:EL:51:VAL:HG12  | 1.85                     | 0.58              |
| 1:CY:205:VAL:HG12 | 1:CY:259:ILE:HG23 | 1.85                     | 0.58              |
| 2:EL:116:ASN:HD21 | 2:EM:58:LYS:HE2   | 1.67                     | 0.58              |
| 1:BM:92:LYS:NZ    | 1:BM:94:THR:OG1   | 2.37                     | 0.58              |
| 1:CS:205:VAL:HG12 | 1:CS:259:ILE:HG23 | 1.84                     | 0.58              |
| 1:DA:110:ASN:OD1  | 1:DD:62:ASN:ND2   | 2.35                     | 0.58              |
| 1:DD:16:ILE:HD12  | 1:DD:116:ALA:HB1  | 1.85                     | 0.58              |
| 2:DS:100:ASP:HB3  | 2:DS:109:THR:HB   | 1.86                     | 0.58              |
| 2:FA:63:PRO:HB2   | 2:FA:85:GLU:HG2   | 1.86                     | 0.58              |
| 1:CB:16:ILE:HD12  | 1:CB:116:ALA:HB1  | 1.86                     | 0.58              |
| 1:CL:79:LEU:HD11  | 1:CL:305:LEU:HB2  | 1.86                     | 0.58              |
| 1:AS:66:THR:OG1   | 4:FS:58:LYS:NZ    | 2.37                     | 0.58              |
| 1:AY:87:LYS:NZ    | 4:FR:53:THR:O     | 2.34                     | 0.58              |
| 1:BK:22:ASP:OD1   | 5:HU:213:ARG:NE   | 2.37                     | 0.58              |
| 1:BV:77:VAL:HG21  | 2:EF:32:LEU:HD23  | 1.84                     | 0.58              |
| 1:CD:205:VAL:HG12 | 1:CD:259:ILE:HG23 | 1.86                     | 0.58              |
| 1:CH:164:GLN:HE22 | 1:CH:308:ARG:HA   | 1.67                     | 0.58              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:DX:165:LYS:HE3  | 2:DX:168:GLU:HA   | 1.85                     | 0.58              |
| 2:FH:23:LYS:NZ    | 2:FH:100:ASP:OD1  | 2.35                     | 0.58              |
| 1:AW:239:LYS:HA   | 1:AW:242:ASN:OD1  | 2.04                     | 0.58              |
| 1:DA:79:LEU:HD11  | 1:DA:305:LEU:HB2  | 1.85                     | 0.58              |
| 1:AK:261:ILE:HD12 | 1:AK:312:LEU:HD23 | 1.86                     | 0.58              |
| 1:BH:286:ASP:HB2  | 1:BH:294:HIS:HB2  | 1.86                     | 0.58              |
| 2:EZ:123:LEU:HD21 | 2:EZ:131:VAL:HG21 | 1.86                     | 0.58              |
| 4:GB:77:ILE:HG13  | 4:GB:91:PRO:HB3   | 1.86                     | 0.58              |
| 4:GE:69:TYR:HB2   | 4:GE:108:ILE:HD12 | 1.85                     | 0.58              |
| 1:AF:165:ILE:HD13 | 1:AF:191:LEU:HD23 | 1.84                     | 0.58              |
| 1:CA:84:LEU:HB3   | 1:CJ:57:PRO:HB2   | 1.85                     | 0.58              |
| 2:EZ:167:THR:HG22 | 2:EZ:168:GLU:H    | 1.69                     | 0.58              |
| 1:AK:240:ALA:HB2  | 1:AO:214:VAL:HG11 | 1.86                     | 0.57              |
| 1:CR:59:THR:O     | 2:FD:61:ASN:ND2   | 2.36                     | 0.57              |
| 1:CU:110:ASN:OD1  | 1:CW:62:ASN:ND2   | 2.33                     | 0.57              |
| 4:GC:142:ILE:HD11 | 4:GC:152:VAL:HG23 | 1.86                     | 0.57              |
| 1:AA:20:VAL:O     | 5:GK:213:ARG:NH2  | 2.36                     | 0.57              |
| 1:AS:152:LEU:HD21 | 2:DT:105:SER:HA   | 1.85                     | 0.57              |
| 1:AU:87:LYS:NZ    | 2:DT:53:THR:O     | 2.31                     | 0.57              |
| 1:AV:77:VAL:HG21  | 2:DN:32:LEU:HD23  | 1.85                     | 0.57              |
| 1:BX:212:LYS:HA   | 1:BX:215:LYS:HE3  | 1.85                     | 0.57              |
| 1:CO:16:ILE:HD12  | 1:CO:116:ALA:HB1  | 1.86                     | 0.57              |
| 2:FH:148:VAL:HG21 | 2:FH:155:VAL:HG12 | 1.86                     | 0.57              |
| 4:FM:149:LEU:HD13 | 4:FM:181:VAL:HG21 | 1.85                     | 0.57              |
| 1:CN:165:ILE:HD13 | 1:CN:191:LEU:HD23 | 1.85                     | 0.57              |
| 2:DM:137:LEU:HD11 | 2:DM:159:ALA:HB2  | 1.86                     | 0.57              |
| 2:DV:56:LYS:HD2   | 4:FQ:56:PHE:HD1   | 1.69                     | 0.57              |
| 1:AX:239:LYS:HB3  | 1:AX:244:ARG:HG2  | 1.85                     | 0.57              |
| 1:BF:150:ARG:HE   | 2:EB:63:PRO:HB3   | 1.68                     | 0.57              |
| 1:BY:85:GLN:HE22  | 1:CO:289:SER:HB2  | 1.70                     | 0.57              |
| 1:DA:77:VAL:HG21  | 2:FB:32:LEU:HD23  | 1.86                     | 0.57              |
| 2:EK:148:VAL:HG11 | 2:EK:153:LYS:HD3  | 1.86                     | 0.57              |
| 2:ER:75:LEU:HD22  | 2:ER:84:LEU:HD13  | 1.87                     | 0.57              |
| 1:AB:239:LYS:HA   | 1:AB:242:ASN:OD1  | 2.04                     | 0.57              |
| 1:AF:261:ILE:HD12 | 1:AF:312:LEU:HD23 | 1.86                     | 0.57              |
| 1:BN:152:LEU:HD21 | 2:EG:105:SER:HA   | 1.86                     | 0.57              |
| 1:DB:13:VAL:HG11  | 1:DB:281:PRO:HG3  | 1.86                     | 0.57              |
| 2:EM:137:LEU:HD11 | 2:EM:159:ALA:HB2  | 1.85                     | 0.57              |
| 4:GJ:77:ILE:HG13  | 4:GJ:91:PRO:HB3   | 1.85                     | 0.57              |
| 1:BV:317:LYS:NZ   | 1:BV:319:SER:OXT  | 2.36                     | 0.57              |
| 1:CE:164:GLN:HE22 | 1:CE:308:ARG:HA   | 1.68                     | 0.57              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CW:13:VAL:HG11  | 1:CW:281:PRO:HG2  | 1.87                     | 0.57              |
| 2:EZ:77:PHE:HB2   | 4:GF:138:LYS:HE2  | 1.86                     | 0.57              |
| 1:BB:80:ASN:ND2   | 1:BB:153:PRO:O    | 2.38                     | 0.57              |
| 1:CA:77:VAL:HG21  | 2:EM:32:LEU:HD23  | 1.85                     | 0.57              |
| 2:DL:137:LEU:HD11 | 2:DL:159:ALA:HB2  | 1.85                     | 0.57              |
| 2:DT:63:PRO:HB2   | 2:DT:85:GLU:HG2   | 1.86                     | 0.57              |
| 4:GH:107:ASP:HB3  | 4:GH:116:THR:HB   | 1.85                     | 0.57              |
| 1:AF:13:VAL:HG11  | 1:AF:281:PRO:HG2  | 1.87                     | 0.57              |
| 1:AK:244:ARG:NH1  | 1:AO:210:SER:OG   | 2.35                     | 0.57              |
| 1:AZ:80:ASN:ND2   | 1:AZ:153:PRO:O    | 2.36                     | 0.57              |
| 1:BE:158:LEU:HB3  | 1:BE:260:LEU:HD21 | 1.86                     | 0.57              |
| 1:CP:286:ASP:HB2  | 1:CP:294:HIS:HB2  | 1.85                     | 0.57              |
| 1:CU:77:VAL:HG21  | 2:EV:32:LEU:HD23  | 1.86                     | 0.57              |
| 1:DA:286:ASP:HB2  | 1:DA:294:HIS:HB2  | 1.86                     | 0.57              |
| 2:EB:165:LYS:HE3  | 2:EB:168:GLU:HA   | 1.87                     | 0.57              |
| 2:EX:77:PHE:HB2   | 4:GE:138:LYS:HE2  | 1.87                     | 0.57              |
| 1:AW:196:GLU:OE1  | 1:AW:265:ASN:ND2  | 2.36                     | 0.57              |
| 1:BJ:77:VAL:HG11  | 1:BJ:305:LEU:HD13 | 1.87                     | 0.57              |
| 1:CE:59:THR:O     | 4:GE:61:ASN:ND2   | 2.38                     | 0.57              |
| 2:DX:76:SER:HB3   | 2:DX:87:GLU:HG2   | 1.87                     | 0.57              |
| 1:CG:65:ASN:ND2   | 2:ET:57:ASP:O     | 2.38                     | 0.56              |
| 2:DK:165:LYS:HE3  | 2:DK:168:GLU:HA   | 1.87                     | 0.56              |
| 2:DV:23:LYS:N     | 2:DV:67:TYR:OH    | 2.37                     | 0.56              |
| 2:DY:123:LEU:HD21 | 2:DY:131:VAL:HG21 | 1.87                     | 0.56              |
| 2:EV:75:LEU:HD22  | 2:EV:84:LEU:HD13  | 1.87                     | 0.56              |
| 2:EY:165:LYS:HE3  | 2:EY:168:GLU:HA   | 1.86                     | 0.56              |
| 2:FG:76:SER:HB3   | 2:FG:87:GLU:HG2   | 1.86                     | 0.56              |
| 2:FI:165:LYS:HE3  | 2:FI:168:GLU:HA   | 1.87                     | 0.56              |
| 1:AL:143:LYS:HE3  | 4:FM:40:ASP:HB2   | 1.87                     | 0.56              |
| 1:BL:152:LEU:HD21 | 2:EF:105:SER:HA   | 1.88                     | 0.56              |
| 1:CY:174:LYS:O    | 1:CY:212:LYS:NZ   | 2.38                     | 0.56              |
| 4:FN:149:LEU:HD13 | 4:FN:181:VAL:HG21 | 1.87                     | 0.56              |
| 4:GA:69:TYR:HB2   | 4:GA:108:ILE:HD12 | 1.87                     | 0.56              |
| 1:AH:59:THR:O     | 2:DN:61:ASN:ND2   | 2.37                     | 0.56              |
| 1:AY:286:ASP:HB2  | 1:AY:294:HIS:HB2  | 1.86                     | 0.56              |
| 1:AZ:110:ASN:ND2  | 1:CY:62:ASN:OD1   | 2.38                     | 0.56              |
| 1:BR:261:ILE:HD12 | 1:BR:312:LEU:HD23 | 1.87                     | 0.56              |
| 1:CG:152:LEU:HD21 | 4:GD:112:SER:HA   | 1.87                     | 0.56              |
| 1:CK:13:VAL:HG11  | 1:CK:281:PRO:HG2  | 1.88                     | 0.56              |
| 1:CM:152:LEU:HD21 | 4:GF:112:SER:HA   | 1.87                     | 0.56              |
| 1:DD:91:LEU:HD21  | 1:DD:112:LEU:HD13 | 1.87                     | 0.56              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:DS:166:LEU:HB2  | 2:DS:170:LEU:HD23 | 1.86                     | 0.56              |
| 2:ED:137:LEU:HD11 | 2:ED:159:ALA:HB2  | 1.86                     | 0.56              |
| 2:EW:63:PRO:HB2   | 2:EW:85:GLU:HG2   | 1.87                     | 0.56              |
| 3:FJ:94:TYR:CE2   | 3:FJ:96:PHE:HB2   | 2.41                     | 0.56              |
| 4:FL:161:ILE:HA   | 4:FL:186:ASN:HA   | 1.87                     | 0.56              |
| 4:FZ:149:LEU:HD13 | 4:FZ:181:VAL:HG21 | 1.87                     | 0.56              |
| 4:GG:69:TYR:HB2   | 4:GG:108:ILE:HD12 | 1.87                     | 0.56              |
| 4:GI:69:TYR:HB2   | 4:GI:108:ILE:HD12 | 1.87                     | 0.56              |
| 1:BA:152:LEU:HD21 | 2:DZ:105:SER:HA   | 1.87                     | 0.56              |
| 1:CJ:152:LEU:HD21 | 2:EX:105:SER:HA   | 1.87                     | 0.56              |
| 1:CQ:16:ILE:HD12  | 1:CQ:116:ALA:HB1  | 1.88                     | 0.56              |
| 1:DB:210:SER:O    | 1:DB:214:VAL:HG13 | 2.05                     | 0.56              |
| 2:DN:165:LYS:HE3  | 2:DN:168:GLU:HA   | 1.87                     | 0.56              |
| 2:DS:58:LYS:HE2   | 2:DT:116:ASN:HD21 | 1.70                     | 0.56              |
| 2:EF:165:LYS:HE3  | 2:EF:168:GLU:HA   | 1.87                     | 0.56              |
| 2:ER:180:ASN:O    | 2:ES:180:ASN:ND2  | 2.36                     | 0.56              |
| 2:FC:165:LYS:HE3  | 2:FC:168:GLU:HA   | 1.86                     | 0.56              |
| 1:BK:158:LEU:HB3  | 1:BK:260:LEU:HD21 | 1.86                     | 0.56              |
| 1:CB:79:LEU:HD11  | 1:CB:305:LEU:HB2  | 1.88                     | 0.56              |
| 2:EO:156:ASN:ND2  | 2:EO:180:ASN:O    | 2.39                     | 0.56              |
| 4:GB:107:ASP:HB3  | 4:GB:116:THR:HB   | 1.86                     | 0.56              |
| 1:AB:152:LEU:HD21 | 2:DF:105:SER:HA   | 1.88                     | 0.56              |
| 1:AK:158:LEU:HB3  | 1:AK:260:LEU:HD21 | 1.86                     | 0.56              |
| 1:AL:92:LYS:NZ    | 1:AL:95:SER:OG    | 2.38                     | 0.56              |
| 1:AN:13:VAL:HG11  | 1:AN:281:PRO:HG2  | 1.88                     | 0.56              |
| 1:BO:59:THR:O     | 2:EM:61:ASN:ND2   | 2.39                     | 0.56              |
| 1:BP:43:TYR:HE1   | 1:BP:45:LYS:HG3   | 1.71                     | 0.56              |
| 1:BQ:13:VAL:HG11  | 1:BQ:281:PRO:HG2  | 1.87                     | 0.56              |
| 2:EB:69:TYR:HB2   | 2:EB:101:ILE:HD12 | 1.87                     | 0.56              |
| 2:EL:69:TYR:HB2   | 2:EL:101:ILE:HD12 | 1.86                     | 0.56              |
| 1:AX:205:VAL:HG12 | 1:AX:259:ILE:HG23 | 1.87                     | 0.56              |
| 1:BS:240:ALA:HB2  | 1:BZ:214:VAL:HG11 | 1.87                     | 0.56              |
| 1:BZ:65:ASN:ND2   | 2:EP:57:ASP:O     | 2.38                     | 0.56              |
| 1:CD:152:LEU:HD21 | 2:ET:105:SER:HA   | 1.87                     | 0.56              |
| 1:CM:80:ASN:ND2   | 1:CM:153:PRO:O    | 2.34                     | 0.56              |
| 1:CZ:13:VAL:HG11  | 1:CZ:281:PRO:HG2  | 1.87                     | 0.56              |
| 2:DW:56:LYS:HD2   | 2:DX:56:LYS:HA    | 1.87                     | 0.56              |
| 1:AH:13:VAL:HG11  | 1:AH:281:PRO:HG2  | 1.86                     | 0.56              |
| 1:AS:59:THR:O     | 4:FS:61:ASN:ND2   | 2.38                     | 0.56              |
| 1:AZ:132:HIS:HA   | 1:AZ:254:LEU:HD13 | 1.88                     | 0.56              |
| 3:FJ:181:LEU:HD11 | 3:FJ:204:ALA:HB2  | 1.87                     | 0.56              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AE:13:VAL:HG11  | 1:AE:281:PRO:HG2  | 1.86                     | 0.56              |
| 1:BD:178:ASP:OD1  | 1:BD:179:LYS:N    | 2.38                     | 0.56              |
| 1:BO:13:VAL:HG11  | 1:BO:281:PRO:HG2  | 1.87                     | 0.56              |
| 1:BV:107:ASP:OD2  | 1:BV:110:ASN:ND2  | 2.35                     | 0.56              |
| 1:BX:57:PRO:HG2   | 1:CO:84:LEU:HD13  | 1.88                     | 0.56              |
| 1:CV:13:VAL:HG11  | 1:CV:281:PRO:HG3  | 1.88                     | 0.56              |
| 2:EM:181:ARG:NH1  | 2:EM:182:ALA:O    | 2.39                     | 0.56              |
| 1:AS:196:GLU:HB3  | 1:AS:265:ASN:HD22 | 1.69                     | 0.56              |
| 1:AS:239:LYS:HA   | 1:AS:242:ASN:OD1  | 2.06                     | 0.56              |
| 1:DB:152:LEU:HD21 | 4:GJ:112:SER:HA   | 1.88                     | 0.56              |
| 2:DM:180:ASN:ND2  | 2:DN:180:ASN:O    | 2.39                     | 0.56              |
| 2:DT:180:ASN:ND2  | 4:FP:186:ASN:O    | 2.39                     | 0.56              |
| 2:EG:9:GLN:O      | 2:EG:13:LYS:HG2   | 2.06                     | 0.56              |
| 1:AR:13:VAL:HG11  | 1:AR:281:PRO:HG2  | 1.87                     | 0.55              |
| 1:AX:239:LYS:HA   | 1:AX:242:ASN:OD1  | 2.07                     | 0.55              |
| 1:BJ:178:ASP:OD1  | 1:BJ:179:LYS:N    | 2.39                     | 0.55              |
| 1:BY:87:LYS:NZ    | 4:GA:53:THR:O     | 2.35                     | 0.55              |
| 1:CL:89:ARG:HH21  | 1:CL:112:LEU:HD21 | 1.70                     | 0.55              |
| 2:EH:137:LEU:HD11 | 2:EH:159:ALA:HB2  | 1.86                     | 0.55              |
| 2:EV:77:PHE:HB2   | 4:GD:138:LYS:HE2  | 1.87                     | 0.55              |
| 4:FO:77:ILE:HG12  | 4:FO:91:PRO:HB3   | 1.87                     | 0.55              |
| 4:GD:141:LEU:HD11 | 4:GD:165:ALA:HB2  | 1.87                     | 0.55              |
| 2:EV:123:LEU:HD21 | 2:EV:131:VAL:HG21 | 1.87                     | 0.55              |
| 2:FE:63:PRO:HB2   | 2:FE:85:GLU:HG2   | 1.87                     | 0.55              |
| 1:AB:203:VAL:HG22 | 1:AB:261:ILE:HG23 | 1.87                     | 0.55              |
| 1:AF:89:ARG:HH21  | 1:AF:112:LEU:HD21 | 1.71                     | 0.55              |
| 1:AH:240:ALA:HB2  | 1:AL:214:VAL:HG11 | 1.88                     | 0.55              |
| 1:AK:57:PRO:HB2   | 1:AO:84:LEU:HD13  | 1.88                     | 0.55              |
| 1:CO:13:VAL:HG11  | 1:CO:281:PRO:HG2  | 1.88                     | 0.55              |
| 2:EX:22:MET:HG3   | 2:EX:26:GLN:HE22  | 1.70                     | 0.55              |
| 2:FI:69:TYR:HB2   | 2:FI:101:ILE:HD12 | 1.89                     | 0.55              |
| 1:AN:80:ASN:ND2   | 1:AN:153:PRO:O    | 2.36                     | 0.55              |
| 1:AX:13:VAL:HG11  | 1:AX:281:PRO:HG2  | 1.86                     | 0.55              |
| 1:BC:239:LYS:HA   | 1:BC:242:ASN:OD1  | 2.06                     | 0.55              |
| 1:CG:286:ASP:HB2  | 1:CG:294:HIS:HB2  | 1.89                     | 0.55              |
| 1:CK:47:VAL:HG22  | 1:CK:76:VAL:HG22  | 1.87                     | 0.55              |
| 1:CM:210:SER:O    | 1:CM:214:VAL:HG13 | 2.06                     | 0.55              |
| 2:DU:23:LYS:N     | 2:DU:67:TYR:OH    | 2.40                     | 0.55              |
| 2:EA:136:LYS:HD3  | 2:EA:181:ARG:HH12 | 1.72                     | 0.55              |
| 2:EB:153:LYS:HG3  | 2:EB:154:SER:H    | 1.71                     | 0.55              |
| 4:FQ:161:ILE:HA   | 4:FQ:186:ASN:HA   | 1.87                     | 0.55              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AE:152:LEU:HD21 | 2:DI:105:SER:HA   | 1.88                     | 0.55              |
| 1:AO:188:LEU:HA   | 1:AO:191:LEU:HD12 | 1.88                     | 0.55              |
| 1:CB:214:VAL:HG11 | 1:CL:240:ALA:HB2  | 1.88                     | 0.55              |
| 4:FS:107:ASP:HB3  | 4:FS:116:THR:HB   | 1.87                     | 0.55              |
| 1:BG:152:LEU:HD21 | 2:EC:105:SER:HA   | 1.88                     | 0.55              |
| 1:BS:158:LEU:HB3  | 1:BS:260:LEU:HD21 | 1.89                     | 0.55              |
| 1:CG:21:LYS:NZ    | 1:CH:195:ASP:OD2  | 2.37                     | 0.55              |
| 1:CI:165:ILE:HD13 | 1:CI:191:LEU:HD23 | 1.87                     | 0.55              |
| 1:CL:16:ILE:HD12  | 1:CL:116:ALA:HB1  | 1.88                     | 0.55              |
| 1:AX:152:LEU:HD21 | 2:DU:105:SER:HA   | 1.88                     | 0.55              |
| 1:AY:188:LEU:HA   | 1:AY:191:LEU:HD12 | 1.88                     | 0.55              |
| 1:BK:240:ALA:HB2  | 1:BO:214:VAL:HG11 | 1.88                     | 0.55              |
| 1:BU:164:GLN:HE22 | 1:BU:308:ARG:HA   | 1.71                     | 0.55              |
| 1:CK:140:SER:HB2  | 1:CK:148:GLN:HG2  | 1.88                     | 0.55              |
| 1:CP:16:ILE:HD12  | 1:CP:116:ALA:HB1  | 1.88                     | 0.55              |
| 1:DA:135:LEU:HD21 | 1:DA:255:LEU:HG   | 1.89                     | 0.55              |
| 2:FG:165:LYS:HE3  | 2:FG:168:GLU:HA   | 1.89                     | 0.55              |
| 1:AC:239:LYS:HA   | 1:AC:242:ASN:OD1  | 2.06                     | 0.55              |
| 1:AY:162:PRO:HG2  | 2:DU:31:LEU:HD11  | 1.89                     | 0.55              |
| 1:CQ:13:VAL:HG11  | 1:CQ:281:PRO:HG2  | 1.89                     | 0.55              |
| 1:CQ:239:LYS:HA   | 1:CQ:242:ASN:OD1  | 2.07                     | 0.55              |
| 1:CS:240:ALA:HB2  | 1:CZ:214:VAL:HG11 | 1.89                     | 0.55              |
| 1:DB:239:LYS:HA   | 1:DB:242:ASN:OD1  | 2.07                     | 0.55              |
| 2:EN:23:LYS:N     | 2:EN:67:TYR:OH    | 2.40                     | 0.55              |
| 2:ES:165:LYS:HE3  | 2:ES:168:GLU:HA   | 1.89                     | 0.55              |
| 2:FA:165:LYS:HE3  | 2:FA:168:GLU:HA   | 1.89                     | 0.55              |
| 4:FL:77:ILE:HG12  | 4:FL:91:PRO:HB3   | 1.88                     | 0.55              |
| 4:GB:161:ILE:HA   | 4:GB:186:ASN:HA   | 1.88                     | 0.55              |
| 1:AO:152:LEU:HD21 | 2:DP:105:SER:HA   | 1.89                     | 0.55              |
| 1:AQ:152:LEU:HD21 | 4:FO:112:SER:HA   | 1.89                     | 0.55              |
| 1:AT:239:LYS:HA   | 1:AT:242:ASN:OD1  | 2.07                     | 0.55              |
| 1:AX:201:MET:HG2  | 1:AX:242:ASN:HD22 | 1.72                     | 0.55              |
| 1:AZ:286:ASP:HB2  | 1:AZ:294:HIS:HB2  | 1.88                     | 0.55              |
| 1:BB:284:GLN:NE2  | 1:BB:286:ASP:OD1  | 2.38                     | 0.55              |
| 1:BH:152:LEU:HD21 | 4:FV:112:SER:HA   | 1.89                     | 0.55              |
| 1:BR:239:LYS:NZ   | 1:BR:245:GLU:O    | 2.40                     | 0.55              |
| 1:BY:286:ASP:HB2  | 1:BY:294:HIS:HB2  | 1.90                     | 0.55              |
| 1:CL:135:LEU:HD21 | 1:CL:255:LEU:HG   | 1.89                     | 0.55              |
| 2:EG:124:LYS:HE2  | 2:EG:126:ASP:HB2  | 1.88                     | 0.55              |
| 1:AH:77:VAL:HG11  | 1:AH:305:LEU:HD13 | 1.89                     | 0.54              |
| 1:AT:169:VAL:HG22 | 1:AT:183:LYS:HG3  | 1.89                     | 0.54              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CK:152:LEU:HD21 | 2:FA:105:SER:HA   | 1.89                     | 0.54              |
| 2:DY:148:VAL:HG21 | 2:DY:155:VAL:HG12 | 1.88                     | 0.54              |
| 2:FI:63:PRO:HB2   | 2:FI:85:GLU:HG2   | 1.89                     | 0.54              |
| 1:AA:152:LEU:HD21 | 2:DG:105:SER:HA   | 1.89                     | 0.54              |
| 1:AV:239:LYS:HA   | 1:AV:242:ASN:OD1  | 2.07                     | 0.54              |
| 1:BB:13:VAL:HG11  | 1:BB:281:PRO:HG2  | 1.88                     | 0.54              |
| 1:CG:13:VAL:HG11  | 1:CG:281:PRO:HG3  | 1.89                     | 0.54              |
| 1:DA:308:ARG:O    | 2:FB:34:ASN:ND2   | 2.36                     | 0.54              |
| 1:DD:239:LYS:HA   | 1:DD:242:ASN:OD1  | 2.07                     | 0.54              |
| 2:EO:137:LEU:HD11 | 2:EO:159:ALA:HB2  | 1.89                     | 0.54              |
| 2:EP:123:LEU:HD21 | 2:EP:131:VAL:HG21 | 1.89                     | 0.54              |
| 4:FY:77:ILE:HG13  | 4:FY:91:PRO:HB3   | 1.88                     | 0.54              |
| 1:AL:49:TRP:CZ3   | 1:AL:74:SER:HB3   | 2.43                     | 0.54              |
| 1:AW:13:VAL:HG11  | 1:AW:281:PRO:HG2  | 1.88                     | 0.54              |
| 1:CB:13:VAL:HG11  | 1:CB:281:PRO:HG2  | 1.89                     | 0.54              |
| 1:CC:143:LYS:HA   | 2:EU:39:ARG:HE    | 1.73                     | 0.54              |
| 1:CD:48:LYS:NZ    | 2:EZ:33:SER:O     | 2.40                     | 0.54              |
| 1:CH:13:VAL:HG11  | 1:CH:281:PRO:HG2  | 1.90                     | 0.54              |
| 1:CJ:174:LYS:O    | 1:CJ:212:LYS:NZ   | 2.39                     | 0.54              |
| 1:CT:80:ASN:ND2   | 1:CT:153:PRO:O    | 2.41                     | 0.54              |
| 2:EG:167:THR:HB   | 2:EG:170:LEU:HB3  | 1.89                     | 0.54              |
| 2:FD:23:LYS:NZ    | 2:FD:100:ASP:OD1  | 2.39                     | 0.54              |
| 4:FQ:69:TYR:HB2   | 4:FQ:108:ILE:HD12 | 1.89                     | 0.54              |
| 4:FT:165:ALA:HA   | 4:FT:181:VAL:HG22 | 1.88                     | 0.54              |
| 4:FW:93:VAL:HG21  | 4:FW:117:ILE:HD11 | 1.89                     | 0.54              |
| 1:AK:152:LEU:HD21 | 2:DM:105:SER:HA   | 1.89                     | 0.54              |
| 1:AQ:13:VAL:HG11  | 1:AQ:281:PRO:HG2  | 1.89                     | 0.54              |
| 1:BT:174:LYS:O    | 1:BT:212:LYS:NZ   | 2.39                     | 0.54              |
| 1:BU:165:ILE:HD13 | 1:BU:191:LEU:HD23 | 1.89                     | 0.54              |
| 1:DE:152:LEU:HD21 | 2:DY:105:SER:HA   | 1.90                     | 0.54              |
| 2:DH:23:LYS:N     | 2:DH:67:TYR:OH    | 2.40                     | 0.54              |
| 2:EC:69:TYR:HB2   | 2:EC:101:ILE:HD12 | 1.88                     | 0.54              |
| 2:EZ:75:LEU:HD22  | 2:EZ:84:LEU:HD13  | 1.89                     | 0.54              |
| 4:FO:23:LYS:N     | 4:FO:67:TYR:OH    | 2.39                     | 0.54              |
| 4:GF:69:TYR:HB2   | 4:GF:108:ILE:HD12 | 1.90                     | 0.54              |
| 1:CL:110:ASN:OD1  | 1:CO:62:ASN:ND2   | 2.39                     | 0.54              |
| 4:GC:69:TYR:HB2   | 4:GC:108:ILE:HD12 | 1.89                     | 0.54              |
| 1:AJ:239:LYS:HA   | 1:AJ:242:ASN:OD1  | 2.08                     | 0.54              |
| 1:AR:239:LYS:HA   | 1:AR:242:ASN:OD1  | 2.07                     | 0.54              |
| 1:BM:239:LYS:HA   | 1:BM:242:ASN:OD1  | 2.08                     | 0.54              |
| 1:CJ:161:MET:SD   | 2:ER:31:LEU:HD21  | 2.48                     | 0.54              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CU:286:ASP:HB2  | 1:CU:294:HIS:HB2  | 1.88                     | 0.54              |
| 1:CX:165:ILE:HD13 | 1:CX:191:LEU:HD23 | 1.89                     | 0.54              |
| 1:DA:16:ILE:HD12  | 1:DA:116:ALA:HB1  | 1.89                     | 0.54              |
| 2:DS:137:LEU:HD11 | 2:DS:159:ALA:HB2  | 1.90                     | 0.54              |
| 2:FF:22:MET:HG3   | 2:FF:26:GLN:HE22  | 1.72                     | 0.54              |
| 1:AA:239:LYS:HA   | 1:AA:242:ASN:OD1  | 2.08                     | 0.54              |
| 1:BC:85:GLN:NE2   | 1:BC:298:ASP:OD1  | 2.40                     | 0.54              |
| 1:BG:286:ASP:HB2  | 1:BG:294:HIS:HB2  | 1.89                     | 0.54              |
| 1:BR:96:GLU:O     | 1:BR:100:THR:HB   | 2.08                     | 0.54              |
| 1:CB:239:LYS:HA   | 1:CB:242:ASN:OD1  | 2.08                     | 0.54              |
| 1:CP:308:ARG:O    | 2:EX:34:ASN:ND2   | 2.36                     | 0.54              |
| 2:FA:69:TYR:HB2   | 2:FA:101:ILE:HD12 | 1.88                     | 0.54              |
| 1:AZ:203:VAL:HG22 | 1:AZ:261:ILE:HG23 | 1.90                     | 0.54              |
| 1:BP:239:LYS:HA   | 1:BP:242:ASN:OD1  | 2.07                     | 0.54              |
| 1:BX:240:ALA:HB2  | 1:CO:214:VAL:HG11 | 1.90                     | 0.54              |
| 2:EV:148:VAL:HG21 | 2:EV:155:VAL:HG12 | 1.89                     | 0.54              |
| 1:BI:13:VAL:HG11  | 1:BI:281:PRO:HG2  | 1.90                     | 0.54              |
| 1:CF:164:GLN:HE22 | 1:CF:308:ARG:HA   | 1.73                     | 0.54              |
| 1:CV:239:LYS:HA   | 1:CV:242:ASN:OD1  | 2.08                     | 0.54              |
| 1:DB:317:LYS:NZ   | 1:DB:319:SER:OXT  | 2.41                     | 0.54              |
| 2:DZ:69:TYR:HB2   | 2:DZ:101:ILE:HD12 | 1.88                     | 0.54              |
| 1:AB:13:VAL:HG11  | 1:AB:281:PRO:HG2  | 1.89                     | 0.54              |
| 1:CK:308:ARG:HH21 | 2:EQ:31:LEU:HB2   | 1.73                     | 0.54              |
| 1:CZ:270:LYS:HG2  | 1:CZ:272:LYS:HE3  | 1.90                     | 0.54              |
| 1:DD:13:VAL:HG11  | 1:DD:281:PRO:HG2  | 1.90                     | 0.54              |
| 2:EA:123:LEU:HD21 | 2:EA:131:VAL:HG21 | 1.89                     | 0.54              |
| 1:AU:143:LYS:HA   | 2:DT:39:ARG:HE    | 1.73                     | 0.53              |
| 1:BS:239:LYS:HA   | 1:BS:242:ASN:OD1  | 2.08                     | 0.53              |
| 1:BT:165:ILE:HD13 | 1:BT:191:LEU:HD23 | 1.90                     | 0.53              |
| 1:DE:16:ILE:HD12  | 1:DE:116:ALA:HB1  | 1.90                     | 0.53              |
| 2:EW:69:TYR:HB2   | 2:EW:101:ILE:HD12 | 1.90                     | 0.53              |
| 2:FD:180:ASN:O    | 2:FE:180:ASN:ND2  | 2.37                     | 0.53              |
| 1:AE:239:LYS:HA   | 1:AE:242:ASN:OD1  | 2.08                     | 0.53              |
| 1:BU:8:TYR:CD2    | 1:BU:93:GLN:HG3   | 2.43                     | 0.53              |
| 1:CG:210:SER:O    | 1:CG:214:VAL:HG13 | 2.08                     | 0.53              |
| 1:CT:140:SER:HB2  | 1:CT:148:GLN:HG2  | 1.90                     | 0.53              |
| 1:CW:194:GLY:HA3  | 2:FE:36:ILE:HG21  | 1.90                     | 0.53              |
| 2:FB:181:ARG:HH12 | 2:FC:94:LEU:HB3   | 1.72                     | 0.53              |
| 4:GD:23:LYS:N     | 4:GD:67:TYR:OH    | 2.41                     | 0.53              |
| 1:AG:80:ASN:ND2   | 1:AG:153:PRO:O    | 2.41                     | 0.53              |
| 1:AG:239:LYS:HA   | 1:AG:242:ASN:OD1  | 2.08                     | 0.53              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AI:239:LYS:HA   | 1:AI:242:ASN:OD1  | 2.08                     | 0.53              |
| 1:AX:20:VAL:O     | 5:HH:213:ARG:NH2  | 2.41                     | 0.53              |
| 1:BM:49:TRP:CZ3   | 1:BM:74:SER:HB3   | 2.44                     | 0.53              |
| 1:BW:152:LEU:HD21 | 2:EO:105:SER:HA   | 1.90                     | 0.53              |
| 1:CM:239:LYS:HA   | 1:CM:242:ASN:OD1  | 2.08                     | 0.53              |
| 1:CM:317:LYS:NZ   | 1:CM:319:SER:OXT  | 2.42                     | 0.53              |
| 1:CO:239:LYS:HA   | 1:CO:242:ASN:OD1  | 2.08                     | 0.53              |
| 4:GH:161:ILE:HA   | 4:GH:186:ASN:HA   | 1.90                     | 0.53              |
| 1:AI:13:VAL:HG11  | 1:AI:281:PRO:HG2  | 1.91                     | 0.53              |
| 1:AI:159:LEU:HD12 | 1:AI:260:LEU:HD21 | 1.89                     | 0.53              |
| 1:AK:239:LYS:HA   | 1:AK:242:ASN:OD1  | 2.09                     | 0.53              |
| 1:AO:13:VAL:HG11  | 1:AO:281:PRO:HG2  | 1.90                     | 0.53              |
| 1:AZ:181:PHE:HD1  | 1:AZ:184:ILE:HD12 | 1.74                     | 0.53              |
| 1:BL:307:THR:HG22 | 2:EN:32:LEU:HB2   | 1.90                     | 0.53              |
| 1:CE:13:VAL:HG11  | 1:CE:281:PRO:HG2  | 1.90                     | 0.53              |
| 1:CF:110:ASN:OD1  | 1:CH:62:ASN:ND2   | 2.40                     | 0.53              |
| 1:CU:152:LEU:HD21 | 2:FD:105:SER:HA   | 1.91                     | 0.53              |
| 4:GB:141:LEU:HD11 | 4:GB:165:ALA:HB2  | 1.90                     | 0.53              |
| 4:GH:77:ILE:HG13  | 4:GH:91:PRO:HB3   | 1.89                     | 0.53              |
| 5:HF:200:THR:O    | 5:HF:204:GLN:HG2  | 2.08                     | 0.53              |
| 1:AL:239:LYS:HA   | 1:AL:242:ASN:OD1  | 2.08                     | 0.53              |
| 1:BE:80:ASN:ND2   | 1:BE:153:PRO:O    | 2.42                     | 0.53              |
| 1:BS:13:VAL:HG11  | 1:BS:281:PRO:HG2  | 1.91                     | 0.53              |
| 1:CG:80:ASN:ND2   | 1:CG:153:PRO:O    | 2.35                     | 0.53              |
| 1:CI:89:ARG:HH21  | 1:CI:112:LEU:HD21 | 1.74                     | 0.53              |
| 1:CL:196:GLU:HB3  | 1:CL:265:ASN:HD22 | 1.72                     | 0.53              |
| 2:FE:69:TYR:HB2   | 2:FE:101:ILE:HD12 | 1.89                     | 0.53              |
| 4:FS:161:ILE:HA   | 4:FS:186:ASN:HA   | 1.89                     | 0.53              |
| 1:AB:143:LYS:HA   | 2:DH:39:ARG:HE    | 1.74                     | 0.53              |
| 1:AQ:257:HIS:CE1  | 1:AQ:318:GLN:HG3  | 2.44                     | 0.53              |
| 1:BD:286:ASP:HB2  | 1:BD:294:HIS:HB2  | 1.90                     | 0.53              |
| 1:BF:13:VAL:HG11  | 1:BF:281:PRO:HG2  | 1.91                     | 0.53              |
| 1:CE:140:SER:HB2  | 1:CE:148:GLN:HG2  | 1.91                     | 0.53              |
| 1:CN:210:SER:O    | 1:CN:214:VAL:HG13 | 2.09                     | 0.53              |
| 2:DH:137:LEU:HD11 | 2:DH:159:ALA:HB2  | 1.91                     | 0.53              |
| 2:ES:75:LEU:HD22  | 2:ES:84:LEU:HD13  | 1.91                     | 0.53              |
| 2:FC:76:SER:HB3   | 2:FC:87:GLU:HG2   | 1.91                     | 0.53              |
| 4:FO:93:VAL:HG21  | 4:FO:117:ILE:HD11 | 1.89                     | 0.53              |
| 1:AF:77:VAL:HG21  | 2:DH:32:LEU:HD23  | 1.91                     | 0.53              |
| 1:AI:169:VAL:HG22 | 1:AI:183:LYS:HG3  | 1.91                     | 0.53              |
| 1:AY:169:VAL:HG22 | 1:AY:183:LYS:HG3  | 1.90                     | 0.53              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BA:164:GLN:HE22 | 1:BA:308:ARG:HA   | 1.73                     | 0.53              |
| 1:BN:239:LYS:HA   | 1:BN:242:ASN:OD1  | 2.08                     | 0.53              |
| 1:BR:239:LYS:HA   | 1:BR:242:ASN:OD1  | 2.09                     | 0.53              |
| 1:BU:143:LYS:HA   | 2:EM:39:ARG:HE    | 1.73                     | 0.53              |
| 1:BU:152:LEU:HD21 | 2:EK:105:SER:HA   | 1.91                     | 0.53              |
| 1:CK:158:LEU:HB3  | 1:CK:260:LEU:HD21 | 1.91                     | 0.53              |
| 1:CV:210:SER:O    | 1:CV:214:VAL:HG13 | 2.07                     | 0.53              |
| 2:ES:69:TYR:HB2   | 2:ES:101:ILE:HD12 | 1.90                     | 0.53              |
| 2:FD:123:LEU:HD21 | 2:FD:131:VAL:HG21 | 1.90                     | 0.53              |
| 1:AU:13:VAL:HG11  | 1:AU:281:PRO:HG2  | 1.90                     | 0.53              |
| 1:BF:214:VAL:HG11 | 1:BQ:240:ALA:HB2  | 1.91                     | 0.53              |
| 1:BI:143:LYS:HA   | 2:EC:39:ARG:HE    | 1.74                     | 0.53              |
| 1:CE:307:THR:HG22 | 2:EY:32:LEU:HB2   | 1.91                     | 0.53              |
| 1:CH:239:LYS:HA   | 1:CH:242:ASN:OD1  | 2.08                     | 0.53              |
| 1:CS:239:LYS:HA   | 1:CS:242:ASN:OD1  | 2.09                     | 0.53              |
| 2:EL:56:LYS:NZ    | 2:EM:55:SER:O     | 2.41                     | 0.53              |
| 1:AN:43:TYR:HE2   | 1:AN:45:LYS:HE3   | 1.73                     | 0.53              |
| 1:AX:57:PRO:HB2   | 1:DD:84:LEU:HB3   | 1.91                     | 0.53              |
| 1:AX:57:PRO:HG2   | 1:DD:84:LEU:HD13  | 1.90                     | 0.53              |
| 1:BV:13:VAL:HG11  | 1:BV:281:PRO:HG2  | 1.90                     | 0.53              |
| 1:BY:13:VAL:HG11  | 1:BY:281:PRO:HG2  | 1.91                     | 0.53              |
| 1:CD:174:LYS:O    | 1:CD:212:LYS:NZ   | 2.41                     | 0.53              |
| 2:DH:74:LYS:HE2   | 2:DH:89:GLY:HA3   | 1.91                     | 0.53              |
| 2:DW:77:PHE:HD2   | 4:FR:138:LYS:HG3  | 1.74                     | 0.53              |
| 2:DW:181:ARG:HH12 | 2:DX:94:LEU:HB3   | 1.74                     | 0.53              |
| 1:AD:49:TRP:CZ3   | 1:AD:74:SER:HB3   | 2.44                     | 0.53              |
| 1:BK:13:VAL:HG11  | 1:BK:281:PRO:HG2  | 1.91                     | 0.53              |
| 1:BT:66:THR:HG22  | 4:FX:52:ARG:HB3   | 1.90                     | 0.53              |
| 1:CN:39:LEU:O     | 1:CN:274:SER:OG   | 2.20                     | 0.53              |
| 1:DC:210:SER:O    | 1:DC:214:VAL:HG13 | 2.09                     | 0.53              |
| 2:FD:148:VAL:HG21 | 2:FD:155:VAL:HG12 | 1.91                     | 0.53              |
| 5:JO:189:LEU:HD11 | 5:JO:206:ILE:HG12 | 1.91                     | 0.53              |
| 1:AE:240:ALA:HB2  | 1:AI:214:VAL:HG11 | 1.91                     | 0.52              |
| 1:AO:239:LYS:HA   | 1:AO:242:ASN:OD1  | 2.08                     | 0.52              |
| 1:BM:80:ASN:ND2   | 1:BM:153:PRO:O    | 2.42                     | 0.52              |
| 1:BQ:257:HIS:CE1  | 1:BQ:318:GLN:HG3  | 2.44                     | 0.52              |
| 1:CG:14:ALA:HB2   | 5:IQ:202:PHE:HE1  | 1.75                     | 0.52              |
| 1:CG:239:LYS:HA   | 1:CG:242:ASN:OD1  | 2.09                     | 0.52              |
| 1:DA:196:GLU:HB3  | 1:DA:265:ASN:HD22 | 1.74                     | 0.52              |
| 1:DD:152:LEU:HD21 | 2:DX:105:SER:HA   | 1.91                     | 0.52              |
| 1:DE:89:ARG:HH21  | 1:DE:112:LEU:HD21 | 1.74                     | 0.52              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:DO:153:LYS:HA   | 2:DO:181:ARG:HH21 | 1.75                     | 0.52              |
| 2:DT:181:ARG:NH1  | 2:DT:182:ALA:O    | 2.42                     | 0.52              |
| 1:AH:239:LYS:HA   | 1:AH:242:ASN:OD1  | 2.08                     | 0.52              |
| 1:BF:107:ASP:OD2  | 1:BF:110:ASN:ND2  | 2.37                     | 0.52              |
| 1:BR:174:LYS:O    | 1:BR:212:LYS:NZ   | 2.40                     | 0.52              |
| 1:CA:158:LEU:HB3  | 1:CA:260:LEU:HD21 | 1.90                     | 0.52              |
| 1:CS:77:VAL:HG21  | 2:FH:32:LEU:HD23  | 1.92                     | 0.52              |
| 1:CW:79:LEU:HD11  | 1:CW:305:LEU:HB2  | 1.90                     | 0.52              |
| 1:DE:257:HIS:CE1  | 1:DE:318:GLN:HG3  | 2.45                     | 0.52              |
| 1:AX:87:LYS:NZ    | 4:FQ:53:THR:O     | 2.37                     | 0.52              |
| 1:AX:92:LYS:HZ2   | 1:AX:94:THR:HG1   | 1.51                     | 0.52              |
| 1:BK:55:ALA:HB2   | 2:EH:51:VAL:HB    | 1.91                     | 0.52              |
| 1:BP:77:VAL:HG11  | 1:BP:305:LEU:HD13 | 1.91                     | 0.52              |
| 1:BQ:261:ILE:HD12 | 1:BQ:312:LEU:HD23 | 1.91                     | 0.52              |
| 1:BV:158:LEU:HB3  | 1:BV:260:LEU:HD21 | 1.91                     | 0.52              |
| 1:CK:257:HIS:CE1  | 1:CK:318:GLN:HG3  | 2.44                     | 0.52              |
| 1:CQ:214:VAL:HG11 | 1:DA:240:ALA:HB2  | 1.91                     | 0.52              |
| 1:CR:239:LYS:HA   | 1:CR:242:ASN:OD1  | 2.09                     | 0.52              |
| 1:CT:196:GLU:OE1  | 1:CT:265:ASN:ND2  | 2.42                     | 0.52              |
| 1:CT:257:HIS:CE1  | 1:CT:318:GLN:HG3  | 2.44                     | 0.52              |
| 1:CT:308:ARG:HH21 | 2:FG:31:LEU:HB2   | 1.73                     | 0.52              |
| 1:CX:210:SER:O    | 1:CX:214:VAL:HG13 | 2.09                     | 0.52              |
| 2:DL:63:PRO:HB2   | 2:DL:85:GLU:HG2   | 1.92                     | 0.52              |
| 4:GJ:69:TYR:HB2   | 4:GJ:108:ILE:HD12 | 1.89                     | 0.52              |
| 1:AN:239:LYS:HA   | 1:AN:242:ASN:OD1  | 2.09                     | 0.52              |
| 1:AY:13:VAL:HG11  | 1:AY:281:PRO:HG2  | 1.91                     | 0.52              |
| 1:AZ:59:THR:O     | 2:DW:61:ASN:ND2   | 2.43                     | 0.52              |
| 1:BA:16:ILE:HD11  | 1:BA:120:LYS:HE3  | 1.92                     | 0.52              |
| 1:BF:49:TRP:CZ3   | 1:BF:74:SER:HB3   | 2.44                     | 0.52              |
| 1:BK:16:ILE:HD11  | 1:BK:120:LYS:HE3  | 1.92                     | 0.52              |
| 1:BL:49:TRP:CZ3   | 1:BL:74:SER:HB3   | 2.44                     | 0.52              |
| 1:CF:16:ILE:HD12  | 1:CF:116:ALA:HB1  | 1.92                     | 0.52              |
| 1:CL:49:TRP:CZ3   | 1:CL:74:SER:HB3   | 2.45                     | 0.52              |
| 1:CQ:79:LEU:HD11  | 1:CQ:305:LEU:HB2  | 1.92                     | 0.52              |
| 1:CR:210:SER:O    | 1:CR:214:VAL:HG13 | 2.09                     | 0.52              |
| 1:CT:239:LYS:HA   | 1:CT:242:ASN:OD1  | 2.10                     | 0.52              |
| 1:CY:308:ARG:O    | 2:DY:34:ASN:ND2   | 2.40                     | 0.52              |
| 2:DP:165:LYS:HE3  | 2:DP:168:GLU:HA   | 1.90                     | 0.52              |
| 2:DV:137:LEU:HD11 | 2:DV:159:ALA:HB2  | 1.92                     | 0.52              |
| 4:GH:141:LEU:HD11 | 4:GH:165:ALA:HB2  | 1.91                     | 0.52              |
| 5:HA:200:THR:O    | 5:HA:204:GLN:HG2  | 2.10                     | 0.52              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AP:239:LYS:HA   | 1:AP:242:ASN:OD1  | 2.10                     | 0.52              |
| 1:BB:286:ASP:HB2  | 1:BB:294:HIS:HB2  | 1.90                     | 0.52              |
| 1:BE:13:VAL:HG11  | 1:BE:281:PRO:HG2  | 1.92                     | 0.52              |
| 1:BH:239:LYS:HA   | 1:BH:242:ASN:OD1  | 2.09                     | 0.52              |
| 1:BL:165:ILE:HG13 | 1:BL:191:LEU:HD23 | 1.92                     | 0.52              |
| 1:BM:13:VAL:HG21  | 1:BM:103:SER:HB2  | 1.91                     | 0.52              |
| 1:BN:165:ILE:HD13 | 1:BN:191:LEU:HD23 | 1.91                     | 0.52              |
| 1:CC:210:SER:O    | 1:CC:214:VAL:HG13 | 2.10                     | 0.52              |
| 1:CI:210:SER:O    | 1:CI:214:VAL:HG13 | 2.09                     | 0.52              |
| 1:CL:59:THR:O     | 2:EU:61:ASN:ND2   | 2.43                     | 0.52              |
| 1:CL:169:VAL:HG22 | 1:CL:183:LYS:HG3  | 1.91                     | 0.52              |
| 1:CP:49:TRP:CZ3   | 1:CP:74:SER:HB3   | 2.44                     | 0.52              |
| 1:CU:257:HIS:CE1  | 1:CU:318:GLN:HG3  | 2.45                     | 0.52              |
| 1:CZ:239:LYS:HA   | 1:CZ:242:ASN:OD1  | 2.09                     | 0.52              |
| 2:EF:180:ASN:O    | 4:FW:186:ASN:ND2  | 2.42                     | 0.52              |
| 2:EK:123:LEU:HD13 | 2:EK:173:VAL:HG11 | 1.92                     | 0.52              |
| 4:FX:137:VAL:HG12 | 4:FX:138:LYS:HG3  | 1.91                     | 0.52              |
| 4:GF:73:VAL:HG21  | 4:GF:117:ILE:HD13 | 1.92                     | 0.52              |
| 1:AF:35:GLU:O     | 1:AF:272:LYS:HA   | 2.10                     | 0.52              |
| 1:AH:158:LEU:HB3  | 1:AH:260:LEU:HD21 | 1.92                     | 0.52              |
| 1:AL:307:THR:HG22 | 2:DV:32:LEU:HB2   | 1.91                     | 0.52              |
| 1:AS:140:SER:HB2  | 1:AS:148:GLN:HG2  | 1.91                     | 0.52              |
| 1:AX:161:MET:SD   | 2:DW:31:LEU:HD21  | 2.49                     | 0.52              |
| 1:AY:84:LEU:HD13  | 1:AZ:57:PRO:HB2   | 1.90                     | 0.52              |
| 1:BC:54:ASN:HA    | 2:EB:42:ASN:HD22  | 1.75                     | 0.52              |
| 1:BE:286:ASP:HB2  | 1:BE:294:HIS:HB2  | 1.92                     | 0.52              |
| 1:BM:11:LYS:HB2   | 1:BP:39:LEU:HD13  | 1.92                     | 0.52              |
| 1:BO:49:TRP:CZ3   | 1:BO:74:SER:HB3   | 2.45                     | 0.52              |
| 1:CK:164:GLN:HE22 | 1:CK:308:ARG:HA   | 1.75                     | 0.52              |
| 1:CV:59:THR:O     | 2:FB:61:ASN:ND2   | 2.42                     | 0.52              |
| 1:DB:14:ALA:HB2   | 5:JL:202:PHE:HE1  | 1.75                     | 0.52              |
| 2:EK:140:ASN:OD1  | 2:EK:144:GLU:N    | 2.39                     | 0.52              |
| 2:EX:181:ARG:HH12 | 2:EY:94:LEU:HB3   | 1.74                     | 0.52              |
| 2:FE:165:LYS:HE3  | 2:FE:168:GLU:HA   | 1.91                     | 0.52              |
| 4:FK:77:ILE:HG13  | 4:FK:91:PRO:HB3   | 1.91                     | 0.52              |
| 4:FW:149:LEU:HD13 | 4:FW:181:VAL:HG21 | 1.91                     | 0.52              |
| 4:GF:141:LEU:HD11 | 4:GF:165:ALA:HB2  | 1.90                     | 0.52              |
| 1:AC:13:VAL:HG11  | 1:AC:281:PRO:HG2  | 1.91                     | 0.52              |
| 1:AL:169:VAL:HG22 | 1:AL:183:LYS:HG3  | 1.89                     | 0.52              |
| 1:BF:261:ILE:HD12 | 1:BF:312:LEU:HD23 | 1.91                     | 0.52              |
| 1:BO:169:VAL:HG22 | 1:BO:183:LYS:HG3  | 1.92                     | 0.52              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BX:22:ASP:OD1   | 5:IH:213:ARG:NE   | 2.32                     | 0.52              |
| 1:CN:239:LYS:HA   | 1:CN:242:ASN:OD1  | 2.09                     | 0.52              |
| 1:CQ:91:LEU:HD21  | 1:CQ:112:LEU:HD13 | 1.90                     | 0.52              |
| 1:CZ:257:HIS:CE1  | 1:CZ:318:GLN:HG3  | 2.45                     | 0.52              |
| 1:DB:158:LEU:HB3  | 1:DB:260:LEU:HD21 | 1.90                     | 0.52              |
| 4:FO:149:LEU:HD13 | 4:FO:181:VAL:HG21 | 1.92                     | 0.52              |
| 4:FT:69:TYR:HB2   | 4:FT:108:ILE:HD12 | 1.92                     | 0.52              |
| 1:AU:143:LYS:HG3  | 2:DT:39:ARG:HH21  | 1.74                     | 0.52              |
| 1:AZ:25:MET:HE1   | 1:AZ:130:ILE:HG22 | 1.92                     | 0.52              |
| 1:BE:65:ASN:ND2   | 2:ED:57:ASP:O     | 2.43                     | 0.52              |
| 1:BG:239:LYS:HA   | 1:BG:242:ASN:OD1  | 2.09                     | 0.52              |
| 1:BJ:49:TRP:CZ3   | 1:BJ:74:SER:HB3   | 2.45                     | 0.52              |
| 1:BL:239:LYS:HA   | 1:BL:242:ASN:OD1  | 2.09                     | 0.52              |
| 1:BW:184:ILE:HG12 | 1:BW:314:VAL:HG21 | 1.92                     | 0.52              |
| 1:CD:239:LYS:HA   | 1:CD:242:ASN:OD1  | 2.10                     | 0.52              |
| 2:DK:69:TYR:HB2   | 2:DK:101:ILE:HD12 | 1.92                     | 0.52              |
| 2:EE:167:THR:HG22 | 2:EE:168:GLU:H    | 1.75                     | 0.52              |
| 2:EJ:137:LEU:HD11 | 2:EJ:159:ALA:HB2  | 1.90                     | 0.52              |
| 2:FH:136:LYS:HD3  | 2:FH:155:VAL:HG11 | 1.92                     | 0.52              |
| 4:FM:93:VAL:HG21  | 4:FM:117:ILE:HD11 | 1.91                     | 0.52              |
| 1:AA:165:ILE:HG13 | 1:AA:191:LEU:HD23 | 1.92                     | 0.52              |
| 1:AP:109:ASN:O    | 4:FO:24:ASN:ND2   | 2.43                     | 0.52              |
| 1:BM:48:LYS:HD2   | 4:FW:32:LEU:HD23  | 1.91                     | 0.52              |
| 1:CT:13:VAL:HG11  | 1:CT:281:PRO:HG2  | 1.91                     | 0.52              |
| 1:CY:77:VAL:HG21  | 2:DY:32:LEU:HD23  | 1.92                     | 0.52              |
| 1:CY:152:LEU:HD21 | 2:FF:105:SER:HA   | 1.90                     | 0.52              |
| 4:GD:161:ILE:HA   | 4:GD:186:ASN:HA   | 1.91                     | 0.52              |
| 1:AD:13:VAL:HG11  | 1:AD:281:PRO:HG2  | 1.93                     | 0.52              |
| 1:AQ:231:GLU:O    | 1:AQ:235:ILE:HG13 | 2.10                     | 0.52              |
| 1:AV:164:GLN:HE22 | 1:AV:308:ARG:HA   | 1.75                     | 0.52              |
| 1:AX:240:ALA:HB2  | 1:DD:214:VAL:HG11 | 1.92                     | 0.52              |
| 1:AZ:152:LEU:HD21 | 4:FS:112:SER:HA   | 1.92                     | 0.52              |
| 1:BK:256:LYS:HG2  | 1:BK:257:HIS:CD2  | 2.44                     | 0.52              |
| 1:BX:57:PRO:HB2   | 1:CO:84:LEU:HB3   | 1.92                     | 0.52              |
| 1:CE:239:LYS:HA   | 1:CE:242:ASN:OD1  | 2.10                     | 0.52              |
| 1:CU:196:GLU:HB3  | 1:CU:265:ASN:HD22 | 1.75                     | 0.52              |
| 1:CV:317:LYS:HZ3  | 1:CV:319:SER:HB2  | 1.75                     | 0.52              |
| 2:DS:23:LYS:HG3   | 2:DS:24:ASN:H     | 1.75                     | 0.52              |
| 2:EH:56:LYS:HD2   | 4:FX:56:PHE:HA    | 1.92                     | 0.52              |
| 4:FT:149:LEU:HD13 | 4:FT:181:VAL:HG21 | 1.91                     | 0.52              |
| 4:GD:10:GLU:O     | 4:GD:14:LYS:HG2   | 2.10                     | 0.52              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AF:84:LEU:HD13  | 1:AQ:57:PRO:HB2   | 1.92                     | 0.51              |
| 1:AK:165:ILE:HD12 | 1:AK:191:LEU:HD23 | 1.91                     | 0.51              |
| 1:AT:54:ASN:HB3   | 2:DP:51:VAL:HG12  | 1.93                     | 0.51              |
| 1:BD:239:LYS:HA   | 1:BD:242:ASN:OD1  | 2.09                     | 0.51              |
| 1:BV:239:LYS:HA   | 1:BV:242:ASN:OD1  | 2.10                     | 0.51              |
| 1:BX:100:THR:HG22 | 1:BX:105:ILE:HG23 | 1.92                     | 0.51              |
| 1:CH:158:LEU:HB3  | 1:CH:260:LEU:HD21 | 1.92                     | 0.51              |
| 1:CJ:169:VAL:HG22 | 1:CJ:183:LYS:HG3  | 1.92                     | 0.51              |
| 1:CL:239:LYS:HA   | 1:CL:242:ASN:OD1  | 2.09                     | 0.51              |
| 1:CN:47:VAL:HG22  | 1:CN:76:VAL:HG22  | 1.92                     | 0.51              |
| 4:FY:149:LEU:HD13 | 4:FY:181:VAL:HG21 | 1.91                     | 0.51              |
| 4:GH:78:GLN:HE22  | 4:GH:89:TYR:HB2   | 1.75                     | 0.51              |
| 1:AD:208:ALA:O    | 1:AD:212:LYS:HG3  | 2.11                     | 0.51              |
| 1:AN:240:ALA:HB2  | 1:AR:214:VAL:HG11 | 1.92                     | 0.51              |
| 1:AU:239:LYS:HA   | 1:AU:242:ASN:OD1  | 2.10                     | 0.51              |
| 1:BE:59:THR:O     | 2:ED:61:ASN:ND2   | 2.43                     | 0.51              |
| 1:BE:239:LYS:HA   | 1:BE:242:ASN:OD1  | 2.10                     | 0.51              |
| 1:BL:143:LYS:HE3  | 2:EE:40:ASP:HB2   | 1.90                     | 0.51              |
| 1:CD:161:MET:SD   | 2:EZ:31:LEU:HD21  | 2.51                     | 0.51              |
| 1:CN:240:ALA:HB2  | 1:CP:214:VAL:HG11 | 1.91                     | 0.51              |
| 1:CZ:81:TYR:OH    | 1:CZ:272:LYS:O    | 2.22                     | 0.51              |
| 2:FI:75:LEU:HD22  | 2:FI:84:LEU:HD13  | 1.93                     | 0.51              |
| 1:AA:39:LEU:O     | 1:AA:274:SER:OG   | 2.25                     | 0.51              |
| 1:AB:231:GLU:O    | 1:AB:235:ILE:HG13 | 2.11                     | 0.51              |
| 1:AR:96:GLU:O     | 1:AR:100:THR:HG23 | 2.10                     | 0.51              |
| 1:BC:107:ASP:OD2  | 1:BC:110:ASN:ND2  | 2.36                     | 0.51              |
| 1:BD:13:VAL:HG11  | 1:BD:281:PRO:HG2  | 1.92                     | 0.51              |
| 1:BS:80:ASN:ND2   | 1:BS:153:PRO:O    | 2.42                     | 0.51              |
| 1:BT:286:ASP:HB2  | 1:BT:294:HIS:HB2  | 1.91                     | 0.51              |
| 1:CU:66:THR:OG1   | 2:EW:58:LYS:NZ    | 2.44                     | 0.51              |
| 1:CV:80:ASN:ND2   | 1:CV:153:PRO:O    | 2.35                     | 0.51              |
| 2:DG:69:TYR:HB2   | 2:DG:101:ILE:HD12 | 1.91                     | 0.51              |
| 2:DQ:153:LYS:O    | 2:DQ:181:ARG:NE   | 2.39                     | 0.51              |
| 4:GJ:10:GLU:O     | 4:GJ:14:LYS:HG2   | 2.10                     | 0.51              |
| 1:AQ:169:VAL:HG22 | 1:AQ:183:LYS:HG3  | 1.93                     | 0.51              |
| 1:AV:126:ILE:O    | 1:AV:130:ILE:HG13 | 2.11                     | 0.51              |
| 1:BG:132:HIS:HA   | 1:BG:254:LEU:HD13 | 1.93                     | 0.51              |
| 1:BW:239:LYS:HA   | 1:BW:242:ASN:OD1  | 2.11                     | 0.51              |
| 1:CE:257:HIS:CE1  | 1:CE:318:GLN:HG3  | 2.46                     | 0.51              |
| 1:CI:239:LYS:HA   | 1:CI:242:ASN:OD1  | 2.09                     | 0.51              |
| 1:DC:239:LYS:HA   | 1:DC:242:ASN:OD1  | 2.11                     | 0.51              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:DU:165:LYS:HE3  | 2:DU:168:GLU:HA   | 1.92                     | 0.51              |
| 4:FK:137:VAL:HG12 | 4:FK:138:LYS:HG3  | 1.91                     | 0.51              |
| 4:FR:142:ILE:HD11 | 4:FR:152:VAL:HG23 | 1.92                     | 0.51              |
| 4:FS:10:GLU:O     | 4:FS:14:LYS:HG2   | 2.10                     | 0.51              |
| 5:HC:202:PHE:O    | 5:HC:206:ILE:HG13 | 2.11                     | 0.51              |
| 1:AM:239:LYS:HA   | 1:AM:242:ASN:OD1  | 2.09                     | 0.51              |
| 1:AS:8:TYR:CD2    | 1:AS:93:GLN:HG3   | 2.45                     | 0.51              |
| 1:AS:16:ILE:HD12  | 1:AS:116:ALA:HB1  | 1.93                     | 0.51              |
| 1:AS:194:GLY:HA3  | 2:DZ:36:ILE:HG21  | 1.92                     | 0.51              |
| 1:AV:152:LEU:HD21 | 2:DV:105:SER:HA   | 1.91                     | 0.51              |
| 1:AY:239:LYS:HA   | 1:AY:242:ASN:OD1  | 2.11                     | 0.51              |
| 1:AZ:239:LYS:HA   | 1:AZ:242:ASN:OD1  | 2.10                     | 0.51              |
| 1:BB:167:GLU:HB2  | 1:BB:314:VAL:HG22 | 1.91                     | 0.51              |
| 1:BQ:165:ILE:HG13 | 1:BQ:191:LEU:HD23 | 1.91                     | 0.51              |
| 1:CC:239:LYS:HA   | 1:CC:242:ASN:OD1  | 2.10                     | 0.51              |
| 1:CG:49:TRP:CZ3   | 1:CG:74:SER:HB3   | 2.45                     | 0.51              |
| 1:CK:239:LYS:HA   | 1:CK:242:ASN:OD1  | 2.10                     | 0.51              |
| 1:CO:203:VAL:HG22 | 1:CO:261:ILE:HG23 | 1.92                     | 0.51              |
| 2:DP:69:TYR:HB2   | 2:DP:101:ILE:HD12 | 1.92                     | 0.51              |
| 2:EB:137:LEU:HD11 | 2:EB:159:ALA:HB2  | 1.93                     | 0.51              |
| 2:EI:158:ILE:HG13 | 2:EI:178:PHE:HE2  | 1.74                     | 0.51              |
| 4:GA:161:ILE:HA   | 4:GA:186:ASN:HA   | 1.92                     | 0.51              |
| 4:GF:23:LYS:N     | 4:GF:67:TYR:OH    | 2.42                     | 0.51              |
| 4:GI:141:LEU:HD11 | 4:GI:165:ALA:HB2  | 1.91                     | 0.51              |
| 1:AJ:152:LEU:HD21 | 4:FM:112:SER:HA   | 1.92                     | 0.51              |
| 1:AM:152:LEU:HD11 | 2:DO:105:SER:HA   | 1.92                     | 0.51              |
| 1:AP:132:HIS:HA   | 1:AP:254:LEU:HD13 | 1.92                     | 0.51              |
| 1:AU:8:TYR:CD2    | 1:AU:93:GLN:HG3   | 2.45                     | 0.51              |
| 1:AV:13:VAL:HG11  | 1:AV:281:PRO:HG2  | 1.92                     | 0.51              |
| 1:BF:169:VAL:HG22 | 1:BF:183:LYS:HG3  | 1.93                     | 0.51              |
| 1:BJ:239:LYS:HA   | 1:BJ:242:ASN:OD1  | 2.10                     | 0.51              |
| 1:BQ:158:LEU:HB3  | 1:BQ:260:LEU:HD21 | 1.93                     | 0.51              |
| 1:CT:286:ASP:HB2  | 1:CT:294:HIS:HB2  | 1.92                     | 0.51              |
| 1:CW:214:VAL:HG11 | 1:DE:240:ALA:HB2  | 1.93                     | 0.51              |
| 1:CX:239:LYS:HA   | 1:CX:242:ASN:OD1  | 2.10                     | 0.51              |
| 1:CZ:174:LYS:O    | 1:CZ:212:LYS:NZ   | 2.42                     | 0.51              |
| 1:DA:239:LYS:HA   | 1:DA:242:ASN:OD1  | 2.09                     | 0.51              |
| 1:DD:158:LEU:HB3  | 1:DD:260:LEU:HD21 | 1.93                     | 0.51              |
| 2:DT:181:ARG:HG2  | 2:DT:182:ALA:H    | 1.76                     | 0.51              |
| 2:EN:181:ARG:NH1  | 2:EN:182:ALA:O    | 2.44                     | 0.51              |
| 3:FJ:102:THR:HG21 | 4:FU:56:PHE:HA    | 1.93                     | 0.51              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:FW:73:VAL:HG21  | 4:FW:117:ILE:HD13 | 1.91                     | 0.51              |
| 1:AM:49:TRP:CZ3   | 1:AM:74:SER:HB3   | 2.46                     | 0.51              |
| 1:BC:13:VAL:HG11  | 1:BC:281:PRO:HG2  | 1.91                     | 0.51              |
| 1:BD:240:ALA:HB2  | 1:BP:214:VAL:HG11 | 1.93                     | 0.51              |
| 1:BF:286:ASP:HB2  | 1:BF:294:HIS:HB2  | 1.93                     | 0.51              |
| 1:BJ:152:LEU:HD21 | 2:EE:105:SER:HA   | 1.91                     | 0.51              |
| 1:BX:20:VAL:O     | 5:IH:213:ARG:NH2  | 2.44                     | 0.51              |
| 1:CP:164:GLN:HE22 | 1:CP:308:ARG:HA   | 1.76                     | 0.51              |
| 1:CS:135:LEU:HD21 | 1:CS:255:LEU:HG   | 1.93                     | 0.51              |
| 1:DA:158:LEU:HB3  | 1:DA:260:LEU:HD21 | 1.93                     | 0.51              |
| 2:EE:22:MET:HB2   | 2:EE:25:PRO:HG3   | 1.93                     | 0.51              |
| 2:ET:59:ILE:HG22  | 2:ET:111:ILE:HG12 | 1.92                     | 0.51              |
| 2:EU:76:SER:HB3   | 2:EU:87:GLU:HG2   | 1.92                     | 0.51              |
| 2:EW:75:LEU:HD22  | 2:EW:84:LEU:HD13  | 1.92                     | 0.51              |
| 2:FE:75:LEU:HD22  | 2:FE:84:LEU:HD13  | 1.93                     | 0.51              |
| 4:GA:142:ILE:HD11 | 4:GA:152:VAL:HG23 | 1.93                     | 0.51              |
| 1:AC:41:MET:HE2   | 1:AC:83:LYS:H     | 1.74                     | 0.51              |
| 1:AH:66:THR:HG22  | 4:FM:52:ARG:HB3   | 1.92                     | 0.51              |
| 1:AJ:214:VAL:HG11 | 1:AM:240:ALA:HB2  | 1.92                     | 0.51              |
| 1:AO:49:TRP:CZ3   | 1:AO:74:SER:HB3   | 2.46                     | 0.51              |
| 1:BA:8:TYR:CD2    | 1:BA:93:GLN:HG3   | 2.46                     | 0.51              |
| 1:BI:48:LYS:HE2   | 1:BI:75:GLU:HB2   | 1.93                     | 0.51              |
| 1:BV:66:THR:HG22  | 2:EF:52:CYS:HB3   | 1.92                     | 0.51              |
| 1:BW:181:PHE:HD1  | 1:BW:184:ILE:HD12 | 1.74                     | 0.51              |
| 1:CE:196:GLU:OE1  | 1:CE:265:ASN:ND2  | 2.43                     | 0.51              |
| 1:CF:257:HIS:CE1  | 1:CF:318:GLN:HG3  | 2.45                     | 0.51              |
| 1:CM:158:LEU:HB3  | 1:CM:260:LEU:HD21 | 1.92                     | 0.51              |
| 1:CP:239:LYS:HA   | 1:CP:242:ASN:OD1  | 2.09                     | 0.51              |
| 1:CV:49:TRP:CZ3   | 1:CV:74:SER:HB3   | 2.46                     | 0.51              |
| 2:DJ:137:LEU:HD11 | 2:DJ:159:ALA:HB2  | 1.92                     | 0.51              |
| 4:FL:149:LEU:HD13 | 4:FL:181:VAL:HG21 | 1.92                     | 0.51              |
| 5:HC:200:THR:O    | 5:HC:204:GLN:HG2  | 2.11                     | 0.51              |
| 1:AE:158:LEU:HB3  | 1:AE:260:LEU:HD21 | 1.93                     | 0.51              |
| 1:AF:239:LYS:NZ   | 1:AF:245:GLU:O    | 2.42                     | 0.51              |
| 1:AR:196:GLU:HB3  | 1:AR:265:ASN:HD22 | 1.76                     | 0.51              |
| 1:BY:29:PHE:O     | 5:II:223:ARG:NH2  | 2.43                     | 0.51              |
| 1:CN:143:LYS:HA   | 2:EQ:39:ARG:HE    | 1.76                     | 0.51              |
| 1:CQ:196:GLU:HB3  | 1:CQ:265:ASN:HD22 | 1.76                     | 0.51              |
| 1:CW:239:LYS:HA   | 1:CW:242:ASN:OD1  | 2.11                     | 0.51              |
| 2:EB:180:ASN:O    | 3:FJ:242:ASN:ND2  | 2.44                     | 0.51              |
| 4:GB:10:GLU:O     | 4:GB:14:LYS:HG2   | 2.11                     | 0.51              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:GD:149:LEU:HD13 | 4:GD:181:VAL:HG21 | 1.93                     | 0.51              |
| 4:GG:161:ILE:HA   | 4:GG:186:ASN:HA   | 1.93                     | 0.51              |
| 1:AF:239:LYS:HA   | 1:AF:242:ASN:OD1  | 2.10                     | 0.51              |
| 1:AP:16:ILE:HD12  | 1:AP:116:ALA:HB1  | 1.92                     | 0.51              |
| 1:BF:205:VAL:HG12 | 1:BF:259:ILE:HG23 | 1.93                     | 0.51              |
| 1:BF:239:LYS:HA   | 1:BF:242:ASN:OD1  | 2.10                     | 0.51              |
| 1:BL:169:VAL:HG22 | 1:BL:183:LYS:HG3  | 1.92                     | 0.51              |
| 1:BS:203:VAL:HG22 | 1:BS:261:ILE:HG23 | 1.92                     | 0.51              |
| 1:CH:214:VAL:HG11 | 1:CP:240:ALA:HB2  | 1.92                     | 0.51              |
| 1:DC:194:GLY:HA3  | 4:FS:36:ASN:OD1   | 2.10                     | 0.51              |
| 1:DE:135:LEU:HD21 | 1:DE:255:LEU:HG   | 1.91                     | 0.51              |
| 2:DX:75:LEU:HD22  | 2:DX:84:LEU:HD13  | 1.93                     | 0.51              |
| 2:EH:69:TYR:HB2   | 2:EH:101:ILE:HD12 | 1.92                     | 0.51              |
| 4:FS:141:LEU:HD11 | 4:FS:165:ALA:HB2  | 1.93                     | 0.51              |
| 1:AU:203:VAL:HG22 | 1:AU:261:ILE:HG23 | 1.93                     | 0.50              |
| 1:AY:152:LEU:HD21 | 2:DW:105:SER:HA   | 1.93                     | 0.50              |
| 1:BB:81:TYR:OH    | 1:BB:272:LYS:O    | 2.22                     | 0.50              |
| 1:BD:163:GLU:HB2  | 2:EI:31:LEU:HD22  | 1.92                     | 0.50              |
| 1:BG:214:VAL:HG11 | 1:BJ:240:ALA:HB2  | 1.94                     | 0.50              |
| 1:BI:152:LEU:HD21 | 2:ED:105:SER:HA   | 1.93                     | 0.50              |
| 1:BJ:84:LEU:HB3   | 1:BM:57:PRO:HB2   | 1.93                     | 0.50              |
| 1:CA:286:ASP:HB2  | 1:CA:294:HIS:HB2  | 1.93                     | 0.50              |
| 1:CH:196:GLU:HB3  | 1:CH:265:ASN:HD22 | 1.76                     | 0.50              |
| 1:CY:169:VAL:HG22 | 1:CY:183:LYS:HG3  | 1.92                     | 0.50              |
| 2:EI:69:TYR:HB2   | 2:EI:101:ILE:HD12 | 1.92                     | 0.50              |
| 2:EO:75:LEU:HD22  | 2:EO:84:LEU:HD13  | 1.92                     | 0.50              |
| 4:FX:140:LYS:HD3  | 4:FX:161:ILE:HD13 | 1.93                     | 0.50              |
| 1:AC:50:ASP:OD1   | 1:AC:51:ALA:N     | 2.44                     | 0.50              |
| 1:AI:180:ILE:O    | 1:AI:184:ILE:HG13 | 2.11                     | 0.50              |
| 1:AJ:80:ASN:ND2   | 1:AJ:153:PRO:O    | 2.44                     | 0.50              |
| 1:AL:133:PHE:CD2  | 1:AL:301:LEU:HD22 | 2.47                     | 0.50              |
| 1:AM:286:ASP:HB2  | 1:AM:294:HIS:HB2  | 1.92                     | 0.50              |
| 1:AO:135:LEU:HD21 | 1:AO:255:LEU:HG   | 1.93                     | 0.50              |
| 1:CC:52:PHE:HB3   | 4:GD:41:LYS:HE2   | 1.94                     | 0.50              |
| 1:CG:16:ILE:HD12  | 1:CG:116:ALA:HB1  | 1.93                     | 0.50              |
| 1:CG:84:LEU:HD13  | 1:CH:57:PRO:HB2   | 1.93                     | 0.50              |
| 1:DE:239:LYS:HA   | 1:DE:242:ASN:OD1  | 2.10                     | 0.50              |
| 2:DM:167:THR:HG22 | 2:DM:168:GLU:H    | 1.76                     | 0.50              |
| 2:EP:23:LYS:N     | 2:EP:67:TYR:OH    | 2.44                     | 0.50              |
| 4:FQ:43:VAL:HG22  | 4:FQ:172:ILE:HD11 | 1.93                     | 0.50              |
| 1:AO:194:GLY:HA3  | 4:FP:36:ASN:ND2   | 2.26                     | 0.50              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AV:87:LYS:NZ    | 2:DU:53:THR:O     | 2.38                     | 0.50              |
| 1:AW:181:PHE:HD1  | 1:AW:184:ILE:HD12 | 1.75                     | 0.50              |
| 1:BA:239:LYS:HA   | 1:BA:242:ASN:OD1  | 2.11                     | 0.50              |
| 1:BC:49:TRP:CZ3   | 1:BC:74:SER:HB3   | 2.46                     | 0.50              |
| 1:BI:239:LYS:HA   | 1:BI:242:ASN:OD1  | 2.10                     | 0.50              |
| 1:BM:85:GLN:HE22  | 1:BO:289:SER:HB2  | 1.76                     | 0.50              |
| 1:BR:152:LEU:HD11 | 4:FY:112:SER:HA   | 1.93                     | 0.50              |
| 1:BS:196:GLU:HB3  | 1:BS:265:ASN:HD22 | 1.76                     | 0.50              |
| 1:BV:205:VAL:HG12 | 1:BV:259:ILE:HG23 | 1.91                     | 0.50              |
| 1:BY:79:LEU:HD11  | 1:BY:305:LEU:HB2  | 1.92                     | 0.50              |
| 1:BZ:80:ASN:ND2   | 1:BZ:153:PRO:O    | 2.33                     | 0.50              |
| 1:CA:239:LYS:HA   | 1:CA:242:ASN:OD1  | 2.11                     | 0.50              |
| 1:CD:240:ALA:HB2  | 1:CK:214:VAL:HG11 | 1.93                     | 0.50              |
| 1:CO:79:LEU:HD11  | 1:CO:305:LEU:HB2  | 1.93                     | 0.50              |
| 1:CO:194:GLY:HA3  | 2:FA:36:ILE:HG21  | 1.92                     | 0.50              |
| 1:CR:52:PHE:HB3   | 4:GH:41:LYS:HE2   | 1.93                     | 0.50              |
| 1:CS:92:LYS:NZ    | 1:CS:94:THR:OG1   | 2.36                     | 0.50              |
| 1:CU:164:GLN:HE22 | 1:CU:308:ARG:HA   | 1.77                     | 0.50              |
| 1:CW:158:LEU:HB3  | 1:CW:260:LEU:HD21 | 1.91                     | 0.50              |
| 1:CX:286:ASP:HB2  | 1:CX:294:HIS:HB2  | 1.93                     | 0.50              |
| 1:CZ:286:ASP:HB2  | 1:CZ:294:HIS:HB2  | 1.94                     | 0.50              |
| 2:DG:165:LYS:HE3  | 2:DG:168:GLU:HA   | 1.92                     | 0.50              |
| 2:DT:75:LEU:HD22  | 2:DT:84:LEU:HD21  | 1.93                     | 0.50              |
| 4:FP:165:ALA:HA   | 4:FP:181:VAL:HG12 | 1.94                     | 0.50              |
| 1:AP:305:LEU:HD11 | 4:FN:32:LEU:HG    | 1.92                     | 0.50              |
| 1:BX:169:VAL:HG22 | 1:BX:183:LYS:HG3  | 1.94                     | 0.50              |
| 1:BZ:13:VAL:HG11  | 1:BZ:281:PRO:HG2  | 1.93                     | 0.50              |
| 1:CA:174:LYS:O    | 1:CA:212:LYS:NZ   | 2.45                     | 0.50              |
| 1:CO:161:MET:SD   | 2:FA:31:LEU:HD21  | 2.51                     | 0.50              |
| 1:CU:161:MET:SD   | 2:EV:31:LEU:HD21  | 2.51                     | 0.50              |
| 1:AD:240:ALA:HB2  | 1:AP:214:VAL:HG11 | 1.93                     | 0.50              |
| 1:AM:54:ASN:HA    | 2:DM:42:ASN:HD22  | 1.75                     | 0.50              |
| 1:AZ:210:SER:O    | 1:AZ:214:VAL:HG13 | 2.11                     | 0.50              |
| 1:BQ:239:LYS:HA   | 1:BQ:242:ASN:OD1  | 2.11                     | 0.50              |
| 1:BS:165:ILE:HD13 | 1:BS:191:LEU:HD23 | 1.94                     | 0.50              |
| 1:BZ:174:LYS:O    | 1:BZ:212:LYS:NZ   | 2.45                     | 0.50              |
| 1:CE:152:LEU:HD21 | 2:EW:105:SER:HA   | 1.94                     | 0.50              |
| 1:CP:257:HIS:CE1  | 1:CP:318:GLN:HG3  | 2.46                     | 0.50              |
| 1:CT:66:THR:HG22  | 2:FG:52:CYS:HB3   | 1.92                     | 0.50              |
| 1:CT:174:LYS:O    | 1:CT:212:LYS:NZ   | 2.44                     | 0.50              |
| 1:CU:239:LYS:HA   | 1:CU:242:ASN:OD1  | 2.11                     | 0.50              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CY:135:LEU:HD21 | 1:CY:255:LEU:HG   | 1.93                     | 0.50              |
| 2:EY:76:SER:HB3   | 2:EY:87:GLU:HG2   | 1.94                     | 0.50              |
| 2:FB:56:LYS:HD2   | 2:FC:56:LYS:HA    | 1.93                     | 0.50              |
| 1:AO:66:THR:HG22  | 4:FP:52:ARG:HD2   | 1.93                     | 0.50              |
| 1:BB:165:ILE:HD13 | 1:BB:191:LEU:HD23 | 1.94                     | 0.50              |
| 1:BE:240:ALA:HB2  | 1:BI:214:VAL:HG11 | 1.91                     | 0.50              |
| 1:CJ:13:VAL:HG11  | 1:CJ:281:PRO:HG2  | 1.94                     | 0.50              |
| 1:CV:14:ALA:HB2   | 5:JF:202:PHE:HE1  | 1.76                     | 0.50              |
| 2:EM:167:THR:HG22 | 2:EM:168:GLU:H    | 1.76                     | 0.50              |
| 2:EN:76:SER:HB3   | 2:EN:87:GLU:HG2   | 1.92                     | 0.50              |
| 4:GI:25:PRO:HB2   | 4:GI:27:HIS:CD2   | 2.46                     | 0.50              |
| 1:AG:66:THR:HG22  | 2:DI:52:CYS:SG    | 2.51                     | 0.50              |
| 1:AJ:286:ASP:HB2  | 1:AJ:294:HIS:HB2  | 1.94                     | 0.50              |
| 1:AO:35:GLU:O     | 1:AO:272:LYS:HA   | 2.12                     | 0.50              |
| 1:BS:77:VAL:HG21  | 2:ES:32:LEU:HD23  | 1.94                     | 0.50              |
| 1:BU:16:ILE:HD11  | 1:BU:120:LYS:HE3  | 1.93                     | 0.50              |
| 1:BU:86:TYR:HE1   | 1:CA:57:PRO:HA    | 1.76                     | 0.50              |
| 1:BU:96:GLU:O     | 1:BU:100:THR:HG23 | 2.12                     | 0.50              |
| 1:CA:49:TRP:CZ3   | 1:CA:74:SER:HB3   | 2.47                     | 0.50              |
| 1:CJ:135:LEU:HD21 | 1:CJ:255:LEU:HG   | 1.94                     | 0.50              |
| 1:CK:307:THR:HG22 | 2:EQ:32:LEU:HB2   | 1.93                     | 0.50              |
| 2:DN:75:LEU:HD22  | 2:DN:84:LEU:HD13  | 1.94                     | 0.50              |
| 2:DZ:165:LYS:HE3  | 2:DZ:168:GLU:HA   | 1.93                     | 0.50              |
| 2:EP:59:ILE:HG22  | 2:EP:111:ILE:HG12 | 1.93                     | 0.50              |
| 2:FH:75:LEU:HD22  | 2:FH:84:LEU:HD13  | 1.93                     | 0.50              |
| 4:FR:161:ILE:HA   | 4:FR:186:ASN:HA   | 1.93                     | 0.50              |
| 5:GM:200:THR:O    | 5:GM:204:GLN:HG2  | 2.11                     | 0.50              |
| 1:AD:181:PHE:O    | 1:AD:185:GLU:HG3  | 2.11                     | 0.50              |
| 1:AF:150:ARG:HH12 | 4:FK:92:HIS:CD2   | 2.29                     | 0.50              |
| 1:AF:211:LEU:HD21 | 1:AQ:241:ILE:HG22 | 1.94                     | 0.50              |
| 1:AX:100:THR:HG22 | 1:AX:105:ILE:HG23 | 1.93                     | 0.50              |
| 1:CB:196:GLU:HB3  | 1:CB:265:ASN:HD22 | 1.77                     | 0.50              |
| 1:CC:80:ASN:ND2   | 1:CC:153:PRO:O    | 2.45                     | 0.50              |
| 1:CC:165:ILE:HD13 | 1:CC:191:LEU:HD23 | 1.94                     | 0.50              |
| 1:CD:317:LYS:HE2  | 1:CD:319:SER:HB2  | 1.94                     | 0.50              |
| 1:CF:49:TRP:CZ3   | 1:CF:74:SER:HB3   | 2.46                     | 0.50              |
| 1:CF:135:LEU:HD21 | 1:CF:255:LEU:HG   | 1.93                     | 0.50              |
| 1:CJ:239:LYS:HA   | 1:CJ:242:ASN:OD1  | 2.12                     | 0.50              |
| 1:CZ:164:GLN:HE22 | 1:CZ:308:ARG:HA   | 1.76                     | 0.50              |
| 1:DA:161:MET:SD   | 2:FB:31:LEU:HD21  | 2.52                     | 0.50              |
| 1:DA:169:VAL:HG22 | 1:DA:183:LYS:HG3  | 1.94                     | 0.50              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:DE:49:TRP:CZ3   | 1:DE:74:SER:HB3   | 2.47                     | 0.50              |
| 2:DP:180:ASN:O    | 4:FN:186:ASN:ND2  | 2.36                     | 0.50              |
| 4:FR:51:THR:HG21  | 4:FR:180:LYS:HE3  | 1.93                     | 0.50              |
| 5:GV:200:THR:O    | 5:GV:204:GLN:HG2  | 2.12                     | 0.50              |
| 5:HH:211:LYS:O    | 5:HH:215:ILE:HG13 | 2.12                     | 0.50              |
| 1:AK:226:SER:OG   | 1:AV:226:SER:O    | 2.27                     | 0.50              |
| 1:AQ:180:ILE:O    | 1:AQ:184:ILE:HG13 | 2.11                     | 0.50              |
| 1:AR:169:VAL:HG22 | 1:AR:183:LYS:HG3  | 1.94                     | 0.50              |
| 1:AV:257:HIS:CE1  | 1:AV:318:GLN:HG3  | 2.47                     | 0.50              |
| 1:BB:239:LYS:HA   | 1:BB:242:ASN:OD1  | 2.12                     | 0.50              |
| 1:BC:174:LYS:O    | 1:BC:212:LYS:NZ   | 2.44                     | 0.50              |
| 1:BF:35:GLU:O     | 1:BF:272:LYS:HA   | 2.12                     | 0.50              |
| 1:BK:218:ALA:HA   | 1:BK:224:ALA:HA   | 1.92                     | 0.50              |
| 1:BT:135:LEU:HD21 | 1:BT:255:LEU:HG   | 1.94                     | 0.50              |
| 1:BV:257:HIS:CE1  | 1:BV:318:GLN:HG3  | 2.47                     | 0.50              |
| 1:CF:196:GLU:HB3  | 1:CF:265:ASN:HD22 | 1.76                     | 0.50              |
| 1:CH:79:LEU:HD11  | 1:CH:305:LEU:HB2  | 1.94                     | 0.50              |
| 1:CO:107:ASP:OD2  | 1:CO:110:ASN:ND2  | 2.36                     | 0.50              |
| 1:CS:152:LEU:HD21 | 2:FB:105:SER:HA   | 1.94                     | 0.50              |
| 1:CU:89:ARG:HH21  | 1:CU:112:LEU:HD21 | 1.76                     | 0.50              |
| 1:CV:152:LEU:HD21 | 4:GH:112:SER:HA   | 1.94                     | 0.50              |
| 1:DD:196:GLU:HB3  | 1:DD:265:ASN:HD22 | 1.77                     | 0.50              |
| 2:DO:165:LYS:HE3  | 2:DO:168:GLU:HA   | 1.93                     | 0.50              |
| 2:EK:166:LEU:HB2  | 2:EK:170:LEU:HD23 | 1.94                     | 0.50              |
| 2:FB:77:PHE:HD2   | 4:GG:138:LYS:HG3  | 1.77                     | 0.50              |
| 2:FF:56:LYS:HD2   | 2:FG:56:LYS:HA    | 1.93                     | 0.50              |
| 4:FU:166:LEU:HD12 | 4:FU:180:LYS:HG2  | 1.93                     | 0.50              |
| 1:AM:214:VAL:HG11 | 1:AP:240:ALA:HB2  | 1.94                     | 0.49              |
| 1:AS:197:PHE:HD2  | 1:AS:243:ASN:HB2  | 1.76                     | 0.49              |
| 1:BW:169:VAL:HG22 | 1:BW:183:LYS:HG3  | 1.94                     | 0.49              |
| 1:BX:239:LYS:HA   | 1:BX:242:ASN:OD1  | 2.11                     | 0.49              |
| 1:CF:205:VAL:HG12 | 1:CF:259:ILE:HG23 | 1.94                     | 0.49              |
| 1:CF:240:ALA:HB2  | 1:CT:214:VAL:HG11 | 1.94                     | 0.49              |
| 1:CI:163:GLU:HB3  | 1:CI:308:ARG:HG3  | 1.93                     | 0.49              |
| 1:CK:196:GLU:HB3  | 1:CK:265:ASN:HD22 | 1.76                     | 0.49              |
| 1:CO:158:LEU:HB3  | 1:CO:260:LEU:HD21 | 1.93                     | 0.49              |
| 1:CV:286:ASP:HB2  | 1:CV:294:HIS:HB2  | 1.93                     | 0.49              |
| 1:CW:140:SER:HB2  | 1:CW:148:GLN:HG2  | 1.94                     | 0.49              |
| 1:DA:49:TRP:CZ3   | 1:DA:74:SER:HB3   | 2.47                     | 0.49              |
| 2:DW:59:ILE:HG22  | 2:DW:111:ILE:HG12 | 1.93                     | 0.49              |
| 3:FJ:102:THR:HG22 | 4:FU:56:PHE:HD1   | 1.76                     | 0.49              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AO:36:ASP:OD1   | 5:GY:214:ARG:NH1  | 2.42                     | 0.49              |
| 1:AQ:66:THR:HG22  | 2:DJ:52:CYS:SG    | 2.53                     | 0.49              |
| 1:BB:174:LYS:O    | 1:BB:212:LYS:NZ   | 2.45                     | 0.49              |
| 1:BE:36:ASP:OD1   | 5:HO:214:ARG:NH2  | 2.37                     | 0.49              |
| 1:BH:20:VAL:O     | 5:HR:213:ARG:NH2  | 2.29                     | 0.49              |
| 1:BP:96:GLU:O     | 1:BP:100:THR:HG23 | 2.12                     | 0.49              |
| 1:BS:8:TYR:CD2    | 1:BS:93:GLN:HG3   | 2.47                     | 0.49              |
| 1:BV:152:LEU:HD21 | 2:EN:105:SER:HA   | 1.93                     | 0.49              |
| 1:BW:13:VAL:HG11  | 1:BW:281:PRO:HG2  | 1.94                     | 0.49              |
| 1:CK:59:THR:O     | 4:GA:61:ASN:ND2   | 2.44                     | 0.49              |
| 1:CU:13:VAL:HG11  | 1:CU:281:PRO:HG2  | 1.94                     | 0.49              |
| 1:DB:84:LEU:HD13  | 1:DD:57:PRO:HB2   | 1.95                     | 0.49              |
| 1:DC:62:ASN:ND2   | 2:DY:102:ASP:HB2  | 2.27                     | 0.49              |
| 1:DD:161:MET:SD   | 2:FI:31:LEU:HD21  | 2.52                     | 0.49              |
| 3:FJ:101:TYR:CD2  | 3:FJ:102:THR:HG23 | 2.47                     | 0.49              |
| 4:GH:149:LEU:HD13 | 4:GH:181:VAL:HG21 | 1.93                     | 0.49              |
| 1:AT:13:VAL:HG11  | 1:AT:281:PRO:HG2  | 1.94                     | 0.49              |
| 1:AY:126:ILE:O    | 1:AY:130:ILE:HG13 | 2.12                     | 0.49              |
| 1:BD:84:LEU:HB3   | 1:BG:57:PRO:HB2   | 1.94                     | 0.49              |
| 1:CT:158:LEU:HB3  | 1:CT:260:LEU:HD21 | 1.94                     | 0.49              |
| 1:CW:196:GLU:HB3  | 1:CW:265:ASN:HD22 | 1.76                     | 0.49              |
| 1:DE:161:MET:SD   | 2:FF:31:LEU:HD21  | 2.52                     | 0.49              |
| 2:EH:165:LYS:HE3  | 2:EH:168:GLU:HA   | 1.94                     | 0.49              |
| 2:EO:56:LYS:HD2   | 4:FZ:56:PHE:HD1   | 1.77                     | 0.49              |
| 2:EY:23:LYS:N     | 2:EY:67:TYR:OH    | 2.44                     | 0.49              |
| 1:AD:239:LYS:HA   | 1:AD:242:ASN:OD1  | 2.11                     | 0.49              |
| 1:AH:126:ILE:O    | 1:AH:130:ILE:HG13 | 2.12                     | 0.49              |
| 1:AJ:92:LYS:NZ    | 1:AJ:95:SER:OG    | 2.31                     | 0.49              |
| 1:AP:150:ARG:HH22 | 2:DQ:64:ALA:H     | 1.60                     | 0.49              |
| 1:BK:57:PRO:HB2   | 1:BO:84:LEU:HB3   | 1.95                     | 0.49              |
| 1:BM:261:ILE:HD12 | 1:BM:312:LEU:HD23 | 1.94                     | 0.49              |
| 1:BZ:126:ILE:O    | 1:BZ:130:ILE:HG13 | 2.12                     | 0.49              |
| 1:CE:289:SER:HB2  | 1:CF:85:GLN:HE22  | 1.76                     | 0.49              |
| 1:CG:203:VAL:HA   | 1:CG:260:LEU:O    | 2.13                     | 0.49              |
| 1:CN:194:GLY:HA3  | 4:GB:36:ASN:OD1   | 2.11                     | 0.49              |
| 1:CQ:203:VAL:HG22 | 1:CQ:261:ILE:HG23 | 1.94                     | 0.49              |
| 2:ER:65:LYS:HD3   | 2:ER:87:GLU:HB3   | 1.94                     | 0.49              |
| 2:FA:75:LEU:HD22  | 2:FA:84:LEU:HD13  | 1.94                     | 0.49              |
| 4:FR:26:GLN:NE2   | 4:FR:28:ASP:OD1   | 2.45                     | 0.49              |
| 4:FY:44:GLU:CD    | 4:FY:45:PHE:H     | 2.16                     | 0.49              |
| 4:GF:10:GLU:O     | 4:GF:14:LYS:HG2   | 2.12                     | 0.49              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AK:59:THR:O     | 2:DP:61:ASN:ND2   | 2.46                     | 0.49              |
| 1:AM:150:ARG:NH2  | 2:DO:106:GLY:O    | 2.45                     | 0.49              |
| 1:AZ:13:VAL:HG11  | 1:AZ:281:PRO:HG2  | 1.94                     | 0.49              |
| 1:BA:192:GLU:HB3  | 2:DT:36:ILE:HD11  | 1.93                     | 0.49              |
| 1:BC:307:THR:HG22 | 2:EB:32:LEU:HB2   | 1.94                     | 0.49              |
| 1:CK:162:PRO:HG2  | 2:EQ:31:LEU:HD11  | 1.94                     | 0.49              |
| 1:CP:66:THR:HG22  | 2:EX:52:CYS:HB3   | 1.94                     | 0.49              |
| 1:CS:13:VAL:HG11  | 1:CS:281:PRO:HG2  | 1.93                     | 0.49              |
| 1:CU:49:TRP:CZ3   | 1:CU:74:SER:HB3   | 2.47                     | 0.49              |
| 2:FD:65:LYS:HD3   | 2:FD:87:GLU:HB3   | 1.94                     | 0.49              |
| 4:FV:93:VAL:HG21  | 4:FV:117:ILE:HD11 | 1.95                     | 0.49              |
| 4:GG:142:ILE:HD11 | 4:GG:152:VAL:HG23 | 1.94                     | 0.49              |
| 1:AF:203:VAL:HG22 | 1:AF:261:ILE:HG23 | 1.95                     | 0.49              |
| 1:AJ:180:ILE:O    | 1:AJ:184:ILE:HG13 | 2.13                     | 0.49              |
| 1:AQ:165:ILE:HG13 | 1:AQ:191:LEU:HD23 | 1.94                     | 0.49              |
| 1:AT:49:TRP:CZ3   | 1:AT:74:SER:HB3   | 2.48                     | 0.49              |
| 1:AW:126:ILE:O    | 1:AW:130:ILE:HG13 | 2.12                     | 0.49              |
| 1:AZ:203:VAL:HA   | 1:AZ:260:LEU:O    | 2.13                     | 0.49              |
| 1:BN:305:LEU:HD11 | 2:EJ:32:LEU:HG    | 1.94                     | 0.49              |
| 1:CO:126:ILE:O    | 1:CO:130:ILE:HG13 | 2.13                     | 0.49              |
| 1:CZ:96:GLU:O     | 1:CZ:100:THR:HG23 | 2.13                     | 0.49              |
| 2:FF:77:PHE:HD2   | 4:GI:138:LYS:HG3  | 1.76                     | 0.49              |
| 2:FG:63:PRO:HB2   | 2:FG:85:GLU:HG2   | 1.95                     | 0.49              |
| 4:FW:28:ASP:N     | 4:FW:28:ASP:OD1   | 2.45                     | 0.49              |
| 4:GH:10:GLU:O     | 4:GH:14:LYS:HG2   | 2.12                     | 0.49              |
| 1:AD:132:HIS:HA   | 1:AD:254:LEU:HD13 | 1.95                     | 0.49              |
| 1:AT:66:THR:HG22  | 2:DP:52:CYS:HB3   | 1.93                     | 0.49              |
| 1:BL:257:HIS:CE1  | 1:BL:318:GLN:HG3  | 2.48                     | 0.49              |
| 1:BY:214:VAL:HG11 | 1:BZ:240:ALA:HB2  | 1.94                     | 0.49              |
| 1:BY:239:LYS:HA   | 1:BY:242:ASN:OD1  | 2.12                     | 0.49              |
| 1:BZ:132:HIS:HA   | 1:BZ:254:LEU:HD13 | 1.94                     | 0.49              |
| 1:CE:79:LEU:HD11  | 1:CE:305:LEU:HB2  | 1.94                     | 0.49              |
| 1:CE:214:VAL:HG11 | 1:CU:240:ALA:HB2  | 1.95                     | 0.49              |
| 1:CH:66:THR:HG22  | 2:EW:52:CYS:HB3   | 1.94                     | 0.49              |
| 1:CL:66:THR:HG22  | 2:ET:52:CYS:HB3   | 1.95                     | 0.49              |
| 2:DM:23:LYS:N     | 2:DM:67:TYR:OH    | 2.45                     | 0.49              |
| 2:DR:167:THR:HB   | 2:DR:170:LEU:HB3  | 1.95                     | 0.49              |
| 4:FO:142:ILE:HG13 | 4:FO:152:VAL:HG22 | 1.95                     | 0.49              |
| 1:AA:132:HIS:HA   | 1:AA:254:LEU:HD13 | 1.95                     | 0.49              |
| 1:AD:152:LEU:HD11 | 2:DJ:105:SER:HA   | 1.94                     | 0.49              |
| 1:AS:137:GLY:HA3  | 1:AS:160:ASN:OD1  | 2.12                     | 0.49              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AT:16:ILE:HD12  | 1:AT:116:ALA:HB1  | 1.93                     | 0.49              |
| 1:BO:239:LYS:HA   | 1:BO:242:ASN:OD1  | 2.11                     | 0.49              |
| 1:BV:133:PHE:CD2  | 1:BV:301:LEU:HD22 | 2.48                     | 0.49              |
| 1:BX:92:LYS:NZ    | 1:BX:94:THR:OG1   | 2.41                     | 0.49              |
| 1:BY:152:LEU:HD21 | 2:EP:105:SER:HA   | 1.95                     | 0.49              |
| 1:CF:239:LYS:HA   | 1:CF:242:ASN:OD1  | 2.11                     | 0.49              |
| 2:EF:75:LEU:HD22  | 2:EF:84:LEU:HD13  | 1.95                     | 0.49              |
| 4:GF:149:LEU:HD13 | 4:GF:181:VAL:HG21 | 1.94                     | 0.49              |
| 1:AE:87:LYS:NZ    | 4:FK:53:THR:O     | 2.36                     | 0.49              |
| 1:AN:57:PRO:HA    | 1:AR:86:TYR:HE1   | 1.78                     | 0.49              |
| 1:BA:84:LEU:HB3   | 1:CY:57:PRO:HB2   | 1.94                     | 0.49              |
| 1:BA:188:LEU:HD23 | 1:BA:191:LEU:HD12 | 1.95                     | 0.49              |
| 1:BC:57:PRO:HB2   | 1:BE:84:LEU:HB3   | 1.93                     | 0.49              |
| 1:BH:307:THR:O    | 1:BH:310:THR:OG1  | 2.26                     | 0.49              |
| 1:BK:196:GLU:HB3  | 1:BK:265:ASN:HD22 | 1.77                     | 0.49              |
| 1:BZ:152:LEU:HD21 | 4:GB:112:SER:HA   | 1.93                     | 0.49              |
| 1:CB:158:LEU:HB3  | 1:CB:260:LEU:HD21 | 1.95                     | 0.49              |
| 1:CE:49:TRP:CZ3   | 1:CE:74:SER:HB3   | 2.48                     | 0.49              |
| 1:CF:66:THR:HG22  | 2:FD:52:CYS:HB3   | 1.94                     | 0.49              |
| 1:CH:194:GLY:HA3  | 2:EW:36:ILE:HG21  | 1.95                     | 0.49              |
| 1:CY:59:THR:O     | 2:DZ:61:ASN:ND2   | 2.46                     | 0.49              |
| 1:DD:16:ILE:HD11  | 1:DD:120:LYS:HE3  | 1.95                     | 0.49              |
| 2:DT:58:LYS:HE2   | 4:FP:123:ASN:OD1  | 2.13                     | 0.49              |
| 2:DW:125:LYS:HD2  | 2:DW:169:ASP:HA   | 1.94                     | 0.49              |
| 2:EG:76:SER:HB3   | 2:EG:87:GLU:HG2   | 1.95                     | 0.49              |
| 2:EH:140:ASN:OD1  | 2:EH:144:GLU:N    | 2.44                     | 0.49              |
| 2:EM:75:LEU:HD22  | 2:EM:84:LEU:HD21  | 1.93                     | 0.49              |
| 2:EP:167:THR:HG22 | 2:EP:168:GLU:H    | 1.78                     | 0.49              |
| 1:AM:132:HIS:HA   | 1:AM:254:LEU:HD13 | 1.95                     | 0.49              |
| 1:BJ:214:VAL:HG11 | 1:BM:240:ALA:HB2  | 1.94                     | 0.49              |
| 1:BK:239:LYS:HA   | 1:BK:242:ASN:OD1  | 2.12                     | 0.49              |
| 1:BX:59:THR:O     | 2:EQ:61:ASN:ND2   | 2.46                     | 0.49              |
| 1:CS:66:THR:OG1   | 2:FI:58:LYS:NZ    | 2.46                     | 0.49              |
| 1:CS:317:LYS:HE2  | 1:CS:319:SER:HB2  | 1.94                     | 0.49              |
| 1:CT:307:THR:HG22 | 2:FG:32:LEU:HB2   | 1.95                     | 0.49              |
| 1:CY:239:LYS:HA   | 1:CY:242:ASN:OD1  | 2.13                     | 0.49              |
| 1:DB:80:ASN:ND2   | 1:DB:153:PRO:O    | 2.36                     | 0.49              |
| 1:DD:126:ILE:O    | 1:DD:130:ILE:HG13 | 2.12                     | 0.49              |
| 2:DQ:137:LEU:HD11 | 2:DQ:159:ALA:HB2  | 1.95                     | 0.49              |
| 2:DY:23:LYS:NZ    | 2:DY:100:ASP:OD1  | 2.44                     | 0.49              |
| 2:FB:75:LEU:HD22  | 2:FB:84:LEU:HD13  | 1.95                     | 0.49              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:FL:69:TYR:HB2   | 4:FL:108:ILE:HD12 | 1.93                     | 0.49              |
| 4:FZ:51:THR:HG21  | 4:FZ:180:LYS:HE3  | 1.94                     | 0.49              |
| 4:GF:161:ILE:HA   | 4:GF:186:ASN:HA   | 1.94                     | 0.49              |
| 1:AH:241:ILE:HG22 | 1:AL:211:LEU:HD21 | 1.94                     | 0.48              |
| 1:BA:66:THR:HG22  | 2:DT:52:CYS:HB3   | 1.95                     | 0.48              |
| 1:BH:101:SER:OG   | 1:BH:102:ASP:N    | 2.46                     | 0.48              |
| 1:BS:16:ILE:HD12  | 1:BS:116:ALA:HB1  | 1.94                     | 0.48              |
| 1:BZ:210:SER:O    | 1:BZ:214:VAL:HG13 | 2.13                     | 0.48              |
| 1:CA:80:ASN:ND2   | 1:CA:153:PRO:O    | 2.33                     | 0.48              |
| 1:CA:96:GLU:O     | 1:CA:100:THR:HG23 | 2.13                     | 0.48              |
| 1:CD:107:ASP:OD2  | 1:CD:110:ASN:ND2  | 2.39                     | 0.48              |
| 1:CH:161:MET:SD   | 2:EW:31:LEU:HD21  | 2.53                     | 0.48              |
| 1:CK:96:GLU:O     | 1:CK:100:THR:HG23 | 2.13                     | 0.48              |
| 1:CK:286:ASP:HB2  | 1:CK:294:HIS:HB2  | 1.94                     | 0.48              |
| 1:CV:203:VAL:HA   | 1:CV:260:LEU:O    | 2.13                     | 0.48              |
| 1:CY:13:VAL:HG11  | 1:CY:281:PRO:HG2  | 1.95                     | 0.48              |
| 1:DD:79:LEU:HD11  | 1:DD:305:LEU:HB2  | 1.95                     | 0.48              |
| 4:FL:43:VAL:HG11  | 4:FL:170:LYS:HD3  | 1.95                     | 0.48              |
| 1:AL:257:HIS:CD2  | 1:AL:318:GLN:HG3  | 2.47                     | 0.48              |
| 1:AO:57:PRO:HG2   | 1:AS:84:LEU:HD13  | 1.95                     | 0.48              |
| 1:BF:96:GLU:O     | 1:BF:100:THR:HG23 | 2.12                     | 0.48              |
| 1:BJ:132:HIS:HA   | 1:BJ:254:LEU:HD13 | 1.95                     | 0.48              |
| 1:CF:13:VAL:HG11  | 1:CF:281:PRO:HG2  | 1.95                     | 0.48              |
| 1:CQ:169:VAL:HG22 | 1:CQ:183:LYS:HG3  | 1.95                     | 0.48              |
| 1:DA:205:VAL:HG12 | 1:DA:259:ILE:HG23 | 1.95                     | 0.48              |
| 2:DL:165:LYS:HE3  | 2:DL:168:GLU:HA   | 1.95                     | 0.48              |
| 2:DP:75:LEU:HD22  | 2:DP:84:LEU:HD13  | 1.95                     | 0.48              |
| 2:DQ:153:LYS:HB2  | 2:DQ:181:ARG:HH21 | 1.79                     | 0.48              |
| 2:EB:76:SER:HB3   | 2:EB:87:GLU:HG2   | 1.95                     | 0.48              |
| 2:EQ:75:LEU:HD22  | 2:EQ:84:LEU:HD13  | 1.94                     | 0.48              |
| 2:EV:23:LYS:NZ    | 2:EV:100:ASP:OD1  | 2.42                     | 0.48              |
| 1:AG:169:VAL:HG22 | 1:AG:183:LYS:HG3  | 1.96                     | 0.48              |
| 1:AL:152:LEU:HD21 | 2:DN:105:SER:HA   | 1.94                     | 0.48              |
| 1:AY:259:ILE:HB   | 1:AY:314:VAL:HB   | 1.96                     | 0.48              |
| 1:AZ:80:ASN:HD22  | 1:AZ:154:ASN:HB2  | 1.78                     | 0.48              |
| 1:BA:49:TRP:CZ3   | 1:BA:74:SER:HB3   | 2.48                     | 0.48              |
| 1:BF:158:LEU:HB3  | 1:BF:260:LEU:HD21 | 1.95                     | 0.48              |
| 1:BM:39:LEU:O     | 1:BM:274:SER:OG   | 2.19                     | 0.48              |
| 1:BO:57:PRO:HB2   | 1:BS:84:LEU:HB3   | 1.94                     | 0.48              |
| 1:CD:77:VAL:HG21  | 2:EZ:32:LEU:HD23  | 1.95                     | 0.48              |
| 1:CF:39:LEU:O     | 1:CF:274:SER:OG   | 2.22                     | 0.48              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CF:59:THR:O     | 2:FE:61:ASN:ND2   | 2.45                     | 0.48              |
| 1:CS:59:THR:O     | 2:FI:61:ASN:ND2   | 2.46                     | 0.48              |
| 1:CS:84:LEU:HD13  | 1:CV:57:PRO:HB2   | 1.95                     | 0.48              |
| 1:CU:79:LEU:HD11  | 1:CU:305:LEU:HB2  | 1.94                     | 0.48              |
| 1:DC:52:PHE:HB3   | 4:FS:41:LYS:HE2   | 1.95                     | 0.48              |
| 1:DC:240:ALA:HB2  | 1:DE:214:VAL:HG11 | 1.94                     | 0.48              |
| 2:DT:167:THR:HG22 | 2:DT:168:GLU:H    | 1.77                     | 0.48              |
| 2:EP:133:PRO:HG3  | 2:EP:161:SER:HA   | 1.95                     | 0.48              |
| 4:GE:149:LEU:HD13 | 4:GE:181:VAL:HG21 | 1.95                     | 0.48              |
| 1:AF:214:VAL:HG11 | 1:AQ:240:ALA:HB2  | 1.94                     | 0.48              |
| 1:AG:49:TRP:CZ3   | 1:AG:74:SER:HB3   | 2.48                     | 0.48              |
| 1:AN:77:VAL:HG11  | 1:AN:305:LEU:HD13 | 1.94                     | 0.48              |
| 1:AS:143:LYS:HA   | 4:FP:39:ARG:HE    | 1.78                     | 0.48              |
| 1:AW:49:TRP:CE3   | 1:AW:74:SER:HB3   | 2.48                     | 0.48              |
| 1:AW:80:ASN:ND2   | 1:AW:153:PRO:O    | 2.46                     | 0.48              |
| 1:BU:39:LEU:O     | 1:BU:274:SER:OG   | 2.22                     | 0.48              |
| 1:BV:214:VAL:HG11 | 1:BY:240:ALA:HB2  | 1.94                     | 0.48              |
| 1:CC:39:LEU:O     | 1:CC:274:SER:OG   | 2.21                     | 0.48              |
| 1:CH:257:HIS:CE1  | 1:CH:318:GLN:HG3  | 2.49                     | 0.48              |
| 1:CK:137:GLY:HA3  | 1:CK:160:ASN:OD1  | 2.13                     | 0.48              |
| 1:CV:16:ILE:HD12  | 1:CV:116:ALA:HB1  | 1.96                     | 0.48              |
| 1:CW:174:LYS:O    | 1:CW:212:LYS:NZ   | 2.46                     | 0.48              |
| 1:DB:30:SER:HB3   | 1:DB:33:GLN:HG3   | 1.95                     | 0.48              |
| 2:FF:59:ILE:HG22  | 2:FF:111:ILE:HG12 | 1.95                     | 0.48              |
| 4:GG:14:LYS:HG3   | 4:GH:14:LYS:HG3   | 1.94                     | 0.48              |
| 5:GQ:200:THR:O    | 5:GQ:204:GLN:HG2  | 2.14                     | 0.48              |
| 1:AB:96:GLU:O     | 1:AB:100:THR:HG23 | 2.13                     | 0.48              |
| 1:AG:174:LYS:O    | 1:AG:212:LYS:NZ   | 2.47                     | 0.48              |
| 1:AJ:49:TRP:CZ3   | 1:AJ:74:SER:HB3   | 2.49                     | 0.48              |
| 1:AR:85:GLN:NE2   | 1:AR:298:ASP:OD1  | 2.44                     | 0.48              |
| 1:AY:54:ASN:HB3   | 2:DU:51:VAL:HG12  | 1.96                     | 0.48              |
| 1:BC:240:ALA:HB2  | 1:BE:214:VAL:HG11 | 1.95                     | 0.48              |
| 1:BT:239:LYS:HA   | 1:BT:242:ASN:OD1  | 2.13                     | 0.48              |
| 1:CH:91:LEU:HD21  | 1:CH:112:LEU:HD13 | 1.94                     | 0.48              |
| 1:CH:203:VAL:HG22 | 1:CH:261:ILE:HG23 | 1.94                     | 0.48              |
| 1:CQ:158:LEU:HB3  | 1:CQ:260:LEU:HD21 | 1.96                     | 0.48              |
| 1:DC:62:ASN:HD21  | 2:DY:102:ASP:HB2  | 1.78                     | 0.48              |
| 5:GZ:200:THR:O    | 5:GZ:204:GLN:HG2  | 2.14                     | 0.48              |
| 5:IZ:189:LEU:HD11 | 5:IZ:206:ILE:HG12 | 1.95                     | 0.48              |
| 1:AA:36:ASP:OD1   | 5:GK:214:ARG:NH1  | 2.43                     | 0.48              |
| 1:AF:169:VAL:HG22 | 1:AF:183:LYS:HG3  | 1.94                     | 0.48              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AI:216:PRO:HB2  | 1:AI:224:ALA:HB1  | 1.96                     | 0.48              |
| 1:AV:121:LEU:O    | 1:AV:125:GLU:HG2  | 2.14                     | 0.48              |
| 1:BN:13:VAL:HG11  | 1:BN:281:PRO:HG2  | 1.94                     | 0.48              |
| 1:BZ:164:GLN:HE22 | 1:BZ:308:ARG:HA   | 1.79                     | 0.48              |
| 1:CC:87:LYS:NZ    | 2:EU:53:THR:O     | 2.39                     | 0.48              |
| 1:CM:84:LEU:HD13  | 1:CO:57:PRO:HB2   | 1.95                     | 0.48              |
| 1:CP:59:THR:O     | 2:EY:61:ASN:ND2   | 2.46                     | 0.48              |
| 1:CS:55:ALA:HA    | 1:CZ:141:ILE:HD13 | 1.96                     | 0.48              |
| 1:CU:16:ILE:HD12  | 1:CU:116:ALA:HB1  | 1.96                     | 0.48              |
| 1:DD:49:TRP:CZ3   | 1:DD:74:SER:HB3   | 2.48                     | 0.48              |
| 1:DD:203:VAL:HG22 | 1:DD:261:ILE:HG23 | 1.95                     | 0.48              |
| 2:DK:167:THR:HG22 | 2:DK:168:GLU:H    | 1.79                     | 0.48              |
| 4:GB:149:LEU:HD13 | 4:GB:181:VAL:HG21 | 1.96                     | 0.48              |
| 4:GG:51:THR:HG21  | 4:GG:180:LYS:HE3  | 1.95                     | 0.48              |
| 4:GI:142:ILE:HD11 | 4:GI:152:VAL:HG23 | 1.95                     | 0.48              |
| 5:HD:200:THR:O    | 5:HD:204:GLN:HG2  | 2.13                     | 0.48              |
| 1:AA:85:GLN:NE2   | 1:AA:298:ASP:OD1  | 2.41                     | 0.48              |
| 1:AG:96:GLU:O     | 1:AG:100:THR:HG23 | 2.14                     | 0.48              |
| 1:AJ:181:PHE:O    | 1:AJ:185:GLU:HG3  | 2.14                     | 0.48              |
| 1:AW:181:PHE:CD1  | 1:AW:184:ILE:HD12 | 2.49                     | 0.48              |
| 1:BB:261:ILE:HD12 | 1:BB:312:LEU:HD23 | 1.96                     | 0.48              |
| 1:BZ:239:LYS:HA   | 1:BZ:242:ASN:OD1  | 2.14                     | 0.48              |
| 1:CS:66:THR:HG22  | 2:FH:52:CYS:HB3   | 1.95                     | 0.48              |
| 1:CX:89:ARG:HH21  | 1:CX:112:LEU:HD21 | 1.79                     | 0.48              |
| 2:DT:137:LEU:HD11 | 2:DT:159:ALA:HB2  | 1.95                     | 0.48              |
| 2:EK:23:LYS:HG3   | 2:EK:24:ASN:H     | 1.78                     | 0.48              |
| 2:EX:133:PRO:HG3  | 2:EX:161:SER:HA   | 1.96                     | 0.48              |
| 2:FB:59:ILE:HG22  | 2:FB:111:ILE:HG12 | 1.94                     | 0.48              |
| 4:GC:14:LYS:HG3   | 4:GD:14:LYS:HG3   | 1.95                     | 0.48              |
| 5:GX:202:PHE:O    | 5:GX:206:ILE:HG13 | 2.13                     | 0.48              |
| 1:AG:181:PHE:O    | 1:AG:185:GLU:HG3  | 2.14                     | 0.48              |
| 1:BG:305:LEU:HD21 | 3:FJ:77:PHE:CE2   | 2.48                     | 0.48              |
| 1:BH:158:LEU:HB3  | 1:BH:260:LEU:HD21 | 1.95                     | 0.48              |
| 1:BU:80:ASN:ND2   | 1:BU:153:PRO:O    | 2.35                     | 0.48              |
| 1:BV:80:ASN:ND2   | 1:BV:153:PRO:O    | 2.35                     | 0.48              |
| 1:CC:240:ALA:HB2  | 1:CF:214:VAL:HG11 | 1.95                     | 0.48              |
| 1:CH:49:TRP:CZ3   | 1:CH:74:SER:HB3   | 2.49                     | 0.48              |
| 1:CU:39:LEU:O     | 1:CU:274:SER:OG   | 2.22                     | 0.48              |
| 1:CW:169:VAL:HG22 | 1:CW:183:LYS:HG3  | 1.96                     | 0.48              |
| 1:CZ:152:LEU:HD21 | 2:FI:105:SER:HA   | 1.96                     | 0.48              |
| 1:DA:212:LYS:HA   | 1:DA:215:LYS:HE3  | 1.96                     | 0.48              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:EE:140:ASN:OD1  | 2:EE:144:GLU:N    | 2.46                     | 0.48              |
| 1:AY:35:GLU:O     | 1:AY:272:LYS:HA   | 2.14                     | 0.48              |
| 1:AZ:158:LEU:HB3  | 1:AZ:260:LEU:HD21 | 1.96                     | 0.48              |
| 1:BM:50:ASP:OD1   | 1:BM:51:ALA:N     | 2.47                     | 0.48              |
| 1:BO:165:ILE:HD13 | 1:BO:191:LEU:HD23 | 1.94                     | 0.48              |
| 1:CA:196:GLU:HB3  | 1:CA:265:ASN:HD22 | 1.78                     | 0.48              |
| 1:CM:16:ILE:HD12  | 1:CM:116:ALA:HB1  | 1.95                     | 0.48              |
| 1:CW:203:VAL:HG22 | 1:CW:261:ILE:HG23 | 1.95                     | 0.48              |
| 1:DD:194:GLY:HA3  | 2:FI:36:ILE:HG21  | 1.96                     | 0.48              |
| 2:EQ:23:LYS:N     | 2:EQ:67:TYR:OH    | 2.46                     | 0.48              |
| 2:ET:69:TYR:HE1   | 2:ET:100:ASP:HA   | 1.79                     | 0.48              |
| 4:GE:141:LEU:HD11 | 4:GE:165:ALA:HB2  | 1.96                     | 0.48              |
| 5:JN:211:LYS:O    | 5:JN:214:ARG:HG2  | 2.14                     | 0.48              |
| 1:AB:186:ALA:O    | 1:AB:190:LYS:HG3  | 2.14                     | 0.48              |
| 1:AC:205:VAL:HG12 | 1:AC:259:ILE:HG23 | 1.96                     | 0.48              |
| 1:AO:59:THR:O     | 2:DT:61:ASN:ND2   | 2.47                     | 0.48              |
| 1:AO:203:VAL:HG13 | 1:AO:261:ILE:HG12 | 1.96                     | 0.48              |
| 1:AO:203:VAL:HG22 | 1:AO:261:ILE:HG23 | 1.96                     | 0.48              |
| 1:AV:123:SER:O    | 1:AV:127:ILE:HG13 | 2.14                     | 0.48              |
| 1:BK:256:LYS:O    | 1:BK:258:LYS:HG2  | 2.14                     | 0.48              |
| 1:BP:13:VAL:HG11  | 1:BP:281:PRO:HG2  | 1.96                     | 0.48              |
| 1:BT:49:TRP:CZ3   | 1:BT:74:SER:HB3   | 2.49                     | 0.48              |
| 1:BZ:35:GLU:O     | 1:BZ:272:LYS:HA   | 2.14                     | 0.48              |
| 1:CT:57:PRO:HB2   | 1:CX:84:LEU:HD13  | 1.96                     | 0.48              |
| 1:DB:16:ILE:HD12  | 1:DB:116:ALA:HB1  | 1.96                     | 0.48              |
| 2:DL:153:LYS:HG3  | 2:DL:154:SER:H    | 1.79                     | 0.48              |
| 2:EH:23:LYS:N     | 2:EH:67:TYR:OH    | 2.46                     | 0.48              |
| 2:EK:156:ASN:ND2  | 2:EK:180:ASN:O    | 2.47                     | 0.48              |
| 4:FQ:171:GLN:HB2  | 4:FQ:177:TYR:CE1  | 2.49                     | 0.48              |
| 1:AE:96:GLU:O     | 1:AE:100:THR:HG23 | 2.14                     | 0.47              |
| 1:AN:152:LEU:HD21 | 4:FN:112:SER:HA   | 1.95                     | 0.47              |
| 1:AR:180:ILE:O    | 1:AR:184:ILE:HG13 | 2.14                     | 0.47              |
| 1:BG:77:VAL:HG11  | 1:BG:305:LEU:HD13 | 1.96                     | 0.47              |
| 1:BH:77:VAL:HG11  | 1:BH:305:LEU:HD13 | 1.96                     | 0.47              |
| 1:BU:203:VAL:HA   | 1:BU:260:LEU:O    | 2.14                     | 0.47              |
| 1:BW:35:GLU:O     | 1:BW:272:LYS:HA   | 2.14                     | 0.47              |
| 1:BY:150:ARG:HE   | 2:EP:82:THR:HB    | 1.79                     | 0.47              |
| 1:CJ:196:GLU:HB3  | 1:CJ:265:ASN:HD22 | 1.79                     | 0.47              |
| 1:CM:30:SER:HB3   | 1:CM:33:GLN:HG3   | 1.95                     | 0.47              |
| 1:CS:174:LYS:O    | 1:CS:212:LYS:NZ   | 2.47                     | 0.47              |
| 1:CZ:158:LEU:HB3  | 1:CZ:260:LEU:HD21 | 1.95                     | 0.47              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:EF:183:ILE:H    | 4:FW:189:MET:HA   | 1.79                     | 0.47              |
| 2:EI:137:LEU:HD11 | 2:EI:159:ALA:HB2  | 1.96                     | 0.47              |
| 2:EL:137:LEU:HD11 | 2:EL:159:ALA:HB2  | 1.95                     | 0.47              |
| 4:GB:78:GLN:HE22  | 4:GB:89:TYR:HB2   | 1.78                     | 0.47              |
| 4:GG:149:LEU:HD13 | 4:GG:181:VAL:HG21 | 1.96                     | 0.47              |
| 1:AI:96:GLU:O     | 1:AI:100:THR:HG23 | 2.14                     | 0.47              |
| 1:AY:231:GLU:O    | 1:AY:235:ILE:HG13 | 2.14                     | 0.47              |
| 1:BK:66:THR:HG22  | 2:EH:52:CYS:HB3   | 1.96                     | 0.47              |
| 1:BL:57:PRO:HB2   | 1:BW:84:LEU:HB3   | 1.96                     | 0.47              |
| 1:BM:135:LEU:HD23 | 1:BM:254:LEU:HB2  | 1.96                     | 0.47              |
| 1:BO:277:MET:HA   | 1:BO:300:VAL:HB   | 1.96                     | 0.47              |
| 1:BU:13:VAL:HG11  | 1:BU:281:PRO:HG2  | 1.96                     | 0.47              |
| 1:BU:239:LYS:HA   | 1:BU:242:ASN:OD1  | 2.14                     | 0.47              |
| 1:CA:35:GLU:O     | 1:CA:272:LYS:HA   | 2.13                     | 0.47              |
| 1:CM:49:TRP:CZ3   | 1:CM:74:SER:HB3   | 2.49                     | 0.47              |
| 1:CU:66:THR:HG22  | 2:EV:52:CYS:HB3   | 1.96                     | 0.47              |
| 1:CV:214:VAL:HG11 | 1:CW:240:ALA:HB2  | 1.95                     | 0.47              |
| 1:DE:286:ASP:HB2  | 1:DE:294:HIS:HB2  | 1.95                     | 0.47              |
| 2:DF:137:LEU:HD11 | 2:DF:159:ALA:HB2  | 1.95                     | 0.47              |
| 2:DF:167:THR:HB   | 2:DF:170:LEU:HB3  | 1.96                     | 0.47              |
| 2:DR:137:LEU:HD11 | 2:DR:159:ALA:HB2  | 1.96                     | 0.47              |
| 2:DS:140:ASN:OD1  | 2:DS:144:GLU:N    | 2.46                     | 0.47              |
| 2:EE:69:TYR:HB2   | 2:EE:101:ILE:HD12 | 1.95                     | 0.47              |
| 2:EW:165:LYS:HE3  | 2:EW:168:GLU:HA   | 1.96                     | 0.47              |
| 2:FH:116:ASN:HB3  | 2:FI:114:THR:HG21 | 1.96                     | 0.47              |
| 4:GE:142:ILE:HD11 | 4:GE:152:VAL:HG23 | 1.97                     | 0.47              |
| 4:GG:26:GLN:NE2   | 4:GG:28:ASP:OD1   | 2.47                     | 0.47              |
| 1:AB:80:ASN:ND2   | 1:AB:153:PRO:O    | 2.47                     | 0.47              |
| 1:AG:214:VAL:HG11 | 1:AJ:240:ALA:HB2  | 1.97                     | 0.47              |
| 1:AJ:54:ASN:OD1   | 2:DK:47:ASN:ND2   | 2.35                     | 0.47              |
| 1:AL:205:VAL:HG12 | 1:AL:259:ILE:HG23 | 1.96                     | 0.47              |
| 1:AV:80:ASN:ND2   | 1:AV:153:PRO:O    | 2.42                     | 0.47              |
| 1:BG:135:LEU:HD23 | 1:BG:254:LEU:HB2  | 1.96                     | 0.47              |
| 1:BU:86:TYR:HD2   | 1:CA:70:ILE:HD11  | 1.79                     | 0.47              |
| 1:CA:78:ARG:O     | 1:CA:154:ASN:ND2  | 2.35                     | 0.47              |
| 1:CE:84:LEU:HD13  | 1:CU:57:PRO:HB2   | 1.96                     | 0.47              |
| 1:CL:158:LEU:HB3  | 1:CL:260:LEU:HD21 | 1.96                     | 0.47              |
| 1:CO:257:HIS:CE1  | 1:CO:318:GLN:HG3  | 2.50                     | 0.47              |
| 1:CP:196:GLU:HB3  | 1:CP:265:ASN:HD22 | 1.79                     | 0.47              |
| 1:CY:161:MET:SD   | 2:DY:31:LEU:HD21  | 2.54                     | 0.47              |
| 2:DL:167:THR:HG22 | 2:DL:168:GLU:H    | 1.79                     | 0.47              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:DM:74:LYS:HE2   | 2:DM:89:GLY:HA3   | 1.95                     | 0.47              |
| 2:FF:165:LYS:HE3  | 2:FF:168:GLU:HA   | 1.95                     | 0.47              |
| 1:AJ:132:HIS:HA   | 1:AJ:254:LEU:HD13 | 1.96                     | 0.47              |
| 1:AX:169:VAL:HG22 | 1:AX:183:LYS:HG3  | 1.95                     | 0.47              |
| 1:AY:92:LYS:O     | 1:AY:96:GLU:HG3   | 2.14                     | 0.47              |
| 1:BK:241:ILE:HG22 | 1:BO:211:LEU:HD21 | 1.96                     | 0.47              |
| 1:BL:240:ALA:HB2  | 1:BW:214:VAL:HG11 | 1.96                     | 0.47              |
| 1:BT:158:LEU:HB3  | 1:BT:260:LEU:HD21 | 1.96                     | 0.47              |
| 1:BV:89:ARG:HH21  | 1:BV:112:LEU:HD21 | 1.78                     | 0.47              |
| 1:CE:96:GLU:O     | 1:CE:100:THR:HG23 | 2.14                     | 0.47              |
| 1:CF:79:LEU:HD11  | 1:CF:305:LEU:HB2  | 1.96                     | 0.47              |
| 1:CV:86:TYR:OH    | 1:CW:55:ALA:O     | 2.29                     | 0.47              |
| 1:CZ:140:SER:HB2  | 1:CZ:148:GLN:HG2  | 1.94                     | 0.47              |
| 2:ED:165:LYS:HE3  | 2:ED:168:GLU:HA   | 1.97                     | 0.47              |
| 1:AB:126:ILE:O    | 1:AB:130:ILE:HG13 | 2.14                     | 0.47              |
| 1:AR:174:LYS:O    | 1:AR:212:LYS:NZ   | 2.47                     | 0.47              |
| 1:AY:214:VAL:HG11 | 1:AZ:240:ALA:HB2  | 1.96                     | 0.47              |
| 1:AZ:181:PHE:CE2  | 1:AZ:230:TRP:HE3  | 2.33                     | 0.47              |
| 1:BD:241:ILE:HG22 | 1:BP:211:LEU:HD21 | 1.95                     | 0.47              |
| 1:BP:80:ASN:ND2   | 1:BP:153:PRO:O    | 2.47                     | 0.47              |
| 1:BR:19:GLU:HA    | 1:BR:120:LYS:HD3  | 1.97                     | 0.47              |
| 1:BV:16:ILE:HD12  | 1:BV:116:ALA:HB1  | 1.97                     | 0.47              |
| 1:BY:96:GLU:O     | 1:BY:100:THR:HG23 | 2.14                     | 0.47              |
| 1:CG:214:VAL:HG11 | 1:CH:240:ALA:HB2  | 1.96                     | 0.47              |
| 1:CL:39:LEU:O     | 1:CL:274:SER:OG   | 2.22                     | 0.47              |
| 1:CU:35:GLU:O     | 1:CU:272:LYS:HA   | 2.15                     | 0.47              |
| 1:CV:147:ASN:H    | 4:GH:88:HIS:HD2   | 1.62                     | 0.47              |
| 1:CZ:169:VAL:HG22 | 1:CZ:183:LYS:HG3  | 1.96                     | 0.47              |
| 2:DY:180:ASN:O    | 2:DZ:180:ASN:ND2  | 2.42                     | 0.47              |
| 4:FN:93:VAL:HG21  | 4:FN:117:ILE:HD11 | 1.95                     | 0.47              |
| 1:AE:164:GLN:HE22 | 1:AE:308:ARG:HA   | 1.79                     | 0.47              |
| 1:AP:80:ASN:ND2   | 1:AP:153:PRO:O    | 2.47                     | 0.47              |
| 1:AW:184:ILE:HG12 | 1:AW:314:VAL:HG21 | 1.97                     | 0.47              |
| 1:AZ:174:LYS:O    | 1:AZ:212:LYS:NZ   | 2.47                     | 0.47              |
| 1:BD:49:TRP:CZ3   | 1:BD:74:SER:HB3   | 2.49                     | 0.47              |
| 1:BD:210:SER:HB3  | 1:BG:244:ARG:HH12 | 1.80                     | 0.47              |
| 1:BN:35:GLU:O     | 1:BN:272:LYS:HA   | 2.13                     | 0.47              |
| 1:BN:240:ALA:HB2  | 1:BR:214:VAL:HG11 | 1.97                     | 0.47              |
| 1:BR:169:VAL:HG22 | 1:BR:183:LYS:HG3  | 1.97                     | 0.47              |
| 1:BZ:96:GLU:O     | 1:BZ:100:THR:HG23 | 2.15                     | 0.47              |
| 1:CA:65:ASN:ND2   | 2:EK:57:ASP:O     | 2.47                     | 0.47              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CE:8:TYR:CD2    | 1:CE:93:GLN:HG3   | 2.48                     | 0.47              |
| 1:CH:126:ILE:O    | 1:CH:130:ILE:HG13 | 2.15                     | 0.47              |
| 1:CK:8:TYR:CD2    | 1:CK:93:GLN:HG3   | 2.49                     | 0.47              |
| 1:CK:174:LYS:O    | 1:CK:212:LYS:NZ   | 2.48                     | 0.47              |
| 1:CN:132:HIS:HA   | 1:CN:254:LEU:HD13 | 1.96                     | 0.47              |
| 1:CS:57:PRO:HA    | 1:CZ:86:TYR:HE1   | 1.80                     | 0.47              |
| 1:CS:92:LYS:HZ2   | 1:CS:94:THR:HG1   | 1.60                     | 0.47              |
| 1:CW:161:MET:SD   | 2:FE:31:LEU:HD21  | 2.54                     | 0.47              |
| 1:CY:66:THR:HG22  | 2:DY:52:CYS:HB3   | 1.97                     | 0.47              |
| 2:DK:137:LEU:HD11 | 2:DK:159:ALA:HB2  | 1.97                     | 0.47              |
| 2:DM:45:PHE:HD1   | 2:DM:172:ILE:HD11 | 1.79                     | 0.47              |
| 2:EF:63:PRO:HB2   | 2:EF:85:GLU:HG2   | 1.96                     | 0.47              |
| 2:EG:13:LYS:O     | 2:EG:17:GLU:HG3   | 2.14                     | 0.47              |
| 2:EJ:140:ASN:OD1  | 2:EJ:144:GLU:N    | 2.46                     | 0.47              |
| 2:ET:181:ARG:HH12 | 2:EU:94:LEU:HB3   | 1.80                     | 0.47              |
| 4:FQ:19:GLU:OE1   | 4:FQ:27:HIS:NE2   | 2.47                     | 0.47              |
| 5:HK:211:LYS:O    | 5:HK:215:ILE:HG13 | 2.14                     | 0.47              |
| 5:JK:189:LEU:HD11 | 5:JK:206:ILE:HG12 | 1.97                     | 0.47              |
| 1:AA:181:PHE:O    | 1:AA:185:GLU:HG3  | 2.14                     | 0.47              |
| 1:AC:96:GLU:O     | 1:AC:100:THR:HG23 | 2.15                     | 0.47              |
| 1:AC:231:GLU:O    | 1:AC:235:ILE:HG13 | 2.15                     | 0.47              |
| 1:AG:152:LEU:HD21 | 2:DL:105:SER:HA   | 1.96                     | 0.47              |
| 1:AN:180:ILE:O    | 1:AN:184:ILE:HG13 | 2.15                     | 0.47              |
| 1:AR:152:LEU:HD21 | 2:DR:105:SER:HA   | 1.96                     | 0.47              |
| 1:BA:65:ASN:HB2   | 2:DS:59:ILE:H     | 1.79                     | 0.47              |
| 1:BB:35:GLU:O     | 1:BB:272:LYS:HA   | 2.15                     | 0.47              |
| 1:BC:205:VAL:HG12 | 1:BC:259:ILE:HG23 | 1.96                     | 0.47              |
| 1:BD:165:ILE:HD13 | 1:BD:191:LEU:HD23 | 1.95                     | 0.47              |
| 1:BI:188:LEU:HD23 | 1:BI:191:LEU:HD12 | 1.96                     | 0.47              |
| 1:BJ:305:LEU:HD11 | 4:FV:32:LEU:HG    | 1.95                     | 0.47              |
| 1:BK:35:GLU:O     | 1:BK:272:LYS:HA   | 2.15                     | 0.47              |
| 1:BS:35:GLU:O     | 1:BS:272:LYS:HA   | 2.15                     | 0.47              |
| 1:BT:161:MET:HG3  | 4:FX:31:LEU:HD21  | 1.96                     | 0.47              |
| 1:BT:164:GLN:HE22 | 1:BT:308:ARG:HA   | 1.80                     | 0.47              |
| 1:BV:169:VAL:HG22 | 1:BV:183:LYS:HG3  | 1.97                     | 0.47              |
| 1:BW:196:GLU:OE1  | 1:BW:265:ASN:ND2  | 2.45                     | 0.47              |
| 1:CB:135:LEU:HD21 | 1:CB:255:LEU:HG   | 1.96                     | 0.47              |
| 1:CH:288:ASP:OD1  | 1:CH:289:SER:N    | 2.43                     | 0.47              |
| 1:CN:203:VAL:HA   | 1:CN:260:LEU:O    | 2.15                     | 0.47              |
| 1:CV:84:LEU:HD13  | 1:CW:57:PRO:HB2   | 1.97                     | 0.47              |
| 1:CX:203:VAL:HA   | 1:CX:260:LEU:O    | 2.15                     | 0.47              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:DA:164:GLN:HE22 | 1:DA:308:ARG:HA   | 1.79                     | 0.47              |
| 1:DB:77:VAL:HG11  | 1:DB:305:LEU:HD13 | 1.97                     | 0.47              |
| 1:DC:96:GLU:O     | 1:DC:100:THR:HG23 | 2.14                     | 0.47              |
| 1:DC:132:HIS:HA   | 1:DC:254:LEU:HD13 | 1.96                     | 0.47              |
| 2:DR:166:LEU:HD11 | 2:DR:172:ILE:HD13 | 1.97                     | 0.47              |
| 2:EK:165:LYS:HE3  | 2:EK:168:GLU:HA   | 1.97                     | 0.47              |
| 2:EM:123:LEU:HD21 | 2:EM:131:VAL:HG21 | 1.97                     | 0.47              |
| 2:EO:180:ASN:O    | 4:FZ:186:ASN:ND2  | 2.40                     | 0.47              |
| 2:FD:77:PHE:HD2   | 4:GH:138:LYS:HE2  | 1.80                     | 0.47              |
| 4:GD:107:ASP:HB3  | 4:GD:116:THR:HB   | 1.95                     | 0.47              |
| 1:AN:96:GLU:O     | 1:AN:100:THR:HG23 | 2.15                     | 0.47              |
| 1:AU:84:LEU:HD13  | 1:BA:57:PRO:HB2   | 1.96                     | 0.47              |
| 1:AU:123:SER:O    | 1:AU:127:ILE:HG13 | 2.14                     | 0.47              |
| 1:AY:85:GLN:HE22  | 1:DD:289:SER:HB2  | 1.80                     | 0.47              |
| 1:AY:180:ILE:O    | 1:AY:184:ILE:HG13 | 2.15                     | 0.47              |
| 1:BE:77:VAL:HG11  | 1:BE:305:LEU:HD13 | 1.97                     | 0.47              |
| 1:BP:307:THR:HB   | 1:BP:310:THR:HG21 | 1.96                     | 0.47              |
| 1:CD:135:LEU:HD21 | 1:CD:255:LEU:HG   | 1.96                     | 0.47              |
| 1:CP:161:MET:SD   | 2:EX:31:LEU:HD21  | 2.55                     | 0.47              |
| 1:CR:60:ILE:HG23  | 1:CT:290:THR:HG22 | 1.96                     | 0.47              |
| 1:CS:161:MET:SD   | 2:FH:31:LEU:HD21  | 2.55                     | 0.47              |
| 1:DA:257:HIS:ND1  | 1:DA:318:GLN:HG3  | 2.30                     | 0.47              |
| 1:DE:164:GLN:HE22 | 1:DE:308:ARG:HA   | 1.80                     | 0.47              |
| 2:DU:63:PRO:HB2   | 2:DU:85:GLU:HB3   | 1.97                     | 0.47              |
| 2:DV:156:ASN:OD1  | 2:DV:181:ARG:HB3  | 2.15                     | 0.47              |
| 4:FW:137:VAL:HG12 | 4:FW:138:LYS:HG3  | 1.96                     | 0.47              |
| 5:GU:202:PHE:O    | 5:GU:206:ILE:HG13 | 2.14                     | 0.47              |
| 1:AL:207:PRO:O    | 1:AL:211:LEU:HG   | 2.15                     | 0.47              |
| 1:AZ:306:ALA:O    | 4:FR:31:LEU:HB2   | 2.15                     | 0.47              |
| 1:BA:16:ILE:HD12  | 1:BA:116:ALA:HB1  | 1.97                     | 0.47              |
| 1:BA:289:SER:HB2  | 1:DE:85:GLN:HE22  | 1.79                     | 0.47              |
| 1:BC:107:ASP:HB3  | 1:BC:112:LEU:HB2  | 1.97                     | 0.47              |
| 1:BO:77:VAL:HG21  | 2:EL:32:LEU:HD23  | 1.97                     | 0.47              |
| 1:CA:8:TYR:CD2    | 1:CA:93:GLN:HG3   | 2.50                     | 0.47              |
| 1:CE:57:PRO:HB2   | 1:CI:84:LEU:HD13  | 1.97                     | 0.47              |
| 1:CN:80:ASN:ND2   | 1:CN:153:PRO:O    | 2.47                     | 0.47              |
| 2:DS:63:PRO:HB2   | 2:DS:85:GLU:HG2   | 1.97                     | 0.47              |
| 4:FU:93:VAL:HG21  | 4:FU:117:ILE:HD11 | 1.96                     | 0.47              |
| 4:GD:78:GLN:HE22  | 4:GD:89:TYR:HB2   | 1.79                     | 0.47              |
| 4:GF:6:GLN:HA     | 4:GF:9:LYS:HD2    | 1.97                     | 0.47              |
| 5:IA:200:THR:O    | 5:IA:204:GLN:HG2  | 2.15                     | 0.47              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AM:100:THR:HA   | 1:AM:105:ILE:HG23 | 1.96                     | 0.47              |
| 1:AU:164:GLN:HE22 | 1:AU:308:ARG:HA   | 1.80                     | 0.47              |
| 1:AZ:96:GLU:O     | 1:AZ:100:THR:HG23 | 2.15                     | 0.47              |
| 1:BH:66:THR:HG22  | 2:EE:52:CYS:SG    | 2.54                     | 0.47              |
| 1:BO:286:ASP:HB2  | 1:BO:294:HIS:HB2  | 1.97                     | 0.47              |
| 1:BP:163:GLU:HB3  | 1:BP:308:ARG:HG3  | 1.96                     | 0.47              |
| 1:BU:35:GLU:O     | 1:BU:272:LYS:HA   | 2.14                     | 0.47              |
| 1:BW:80:ASN:ND2   | 1:BW:153:PRO:O    | 2.48                     | 0.47              |
| 1:CI:96:GLU:O     | 1:CI:100:THR:HG23 | 2.14                     | 0.47              |
| 1:CL:13:VAL:HG11  | 1:CL:281:PRO:HG2  | 1.97                     | 0.47              |
| 1:CW:49:TRP:CZ3   | 1:CW:74:SER:HB3   | 2.49                     | 0.47              |
| 4:FL:93:VAL:HG21  | 4:FL:117:ILE:HD11 | 1.96                     | 0.47              |
| 4:FW:77:ILE:HG12  | 4:FW:91:PRO:HB3   | 1.97                     | 0.47              |
| 4:FY:44:GLU:OE1   | 4:FY:45:PHE:N     | 2.47                     | 0.47              |
| 5:IY:211:LYS:O    | 5:IY:214:ARG:HG2  | 2.15                     | 0.47              |
| 1:AA:271:PHE:CD2  | 1:AA:273:PRO:HD3  | 2.50                     | 0.46              |
| 1:AJ:66:THR:HG22  | 2:DK:52:CYS:SG    | 2.55                     | 0.46              |
| 1:AS:158:LEU:HB3  | 1:AS:260:LEU:HD21 | 1.97                     | 0.46              |
| 1:AU:209:THR:O    | 1:AU:213:LEU:HG   | 2.15                     | 0.46              |
| 1:AY:59:THR:O     | 2:DV:61:ASN:ND2   | 2.48                     | 0.46              |
| 1:BA:231:GLU:O    | 1:BA:235:ILE:HG13 | 2.15                     | 0.46              |
| 1:BD:132:HIS:HA   | 1:BD:254:LEU:HD13 | 1.97                     | 0.46              |
| 1:BT:35:GLU:O     | 1:BT:272:LYS:HA   | 2.14                     | 0.46              |
| 1:CT:270:LYS:HG2  | 1:CT:272:LYS:HE3  | 1.97                     | 0.46              |
| 1:CZ:308:ARG:HH21 | 2:DX:31:LEU:HB2   | 1.79                     | 0.46              |
| 2:EE:23:LYS:N     | 2:EE:67:TYR:OH    | 2.49                     | 0.46              |
| 2:EI:77:PHE:CD1   | 4:FY:138:LYS:HG2  | 2.50                     | 0.46              |
| 2:EZ:136:LYS:HD3  | 2:EZ:155:VAL:HG11 | 1.96                     | 0.46              |
| 4:FQ:149:LEU:HD13 | 4:FQ:181:VAL:HG21 | 1.96                     | 0.46              |
| 4:FS:149:LEU:HD13 | 4:FS:181:VAL:HG21 | 1.95                     | 0.46              |
| 4:FU:144:ASN:OD1  | 4:FU:148:ALA:N    | 2.46                     | 0.46              |
| 5:GX:200:THR:O    | 5:GX:204:GLN:HG2  | 2.15                     | 0.46              |
| 1:AB:286:ASP:HB2  | 1:AB:294:HIS:HB2  | 1.97                     | 0.46              |
| 1:AI:188:LEU:HD23 | 1:AI:191:LEU:HD12 | 1.97                     | 0.46              |
| 1:AJ:126:ILE:O    | 1:AJ:130:ILE:HG13 | 2.16                     | 0.46              |
| 1:AT:123:SER:O    | 1:AT:127:ILE:HG13 | 2.15                     | 0.46              |
| 1:AY:196:GLU:HB3  | 1:AY:265:ASN:HD22 | 1.81                     | 0.46              |
| 1:AZ:35:GLU:O     | 1:AZ:272:LYS:HA   | 2.15                     | 0.46              |
| 1:BK:165:ILE:HD12 | 1:BK:191:LEU:HD23 | 1.97                     | 0.46              |
| 1:BQ:66:THR:HG22  | 4:FU:52:ARG:HB3   | 1.96                     | 0.46              |
| 1:CP:85:GLN:NE2   | 1:CP:298:ASP:OD1  | 2.47                     | 0.46              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CQ:49:TRP:CZ3   | 1:CQ:74:SER:HB3   | 2.50                     | 0.46              |
| 1:CU:169:VAL:HG22 | 1:CU:183:LYS:HG3  | 1.96                     | 0.46              |
| 1:DE:35:GLU:O     | 1:DE:272:LYS:HA   | 2.15                     | 0.46              |
| 2:FF:75:LEU:HD22  | 2:FF:84:LEU:HD13  | 1.97                     | 0.46              |
| 5:GL:200:THR:O    | 5:GL:204:GLN:HG2  | 2.15                     | 0.46              |
| 1:AD:86:TYR:OH    | 1:AG:55:ALA:O     | 2.31                     | 0.46              |
| 1:AE:35:GLU:O     | 1:AE:272:LYS:HA   | 2.15                     | 0.46              |
| 1:AJ:169:VAL:HG22 | 1:AJ:183:LYS:HG3  | 1.97                     | 0.46              |
| 1:AS:126:ILE:O    | 1:AS:130:ILE:HG13 | 2.15                     | 0.46              |
| 1:BK:49:TRP:CE3   | 1:BK:74:SER:HB3   | 2.51                     | 0.46              |
| 1:BL:217:TYR:O    | 1:BL:225:SER:N    | 2.40                     | 0.46              |
| 1:BS:43:TYR:HE2   | 1:BS:45:LYS:HE2   | 1.80                     | 0.46              |
| 1:CM:257:HIS:CE1  | 1:CM:318:GLN:HG3  | 2.50                     | 0.46              |
| 1:DE:78:ARG:O     | 1:DE:154:ASN:ND2  | 2.38                     | 0.46              |
| 2:DG:23:LYS:HE2   | 2:DG:48:SER:HB3   | 1.97                     | 0.46              |
| 2:DW:167:THR:HG22 | 2:DW:168:GLU:H    | 1.80                     | 0.46              |
| 2:EC:137:LEU:HD11 | 2:EC:159:ALA:HB2  | 1.98                     | 0.46              |
| 4:FO:141:LEU:HD11 | 4:FO:165:ALA:HB2  | 1.97                     | 0.46              |
| 4:FR:25:PRO:HB2   | 4:FR:27:HIS:CD2   | 2.50                     | 0.46              |
| 4:FW:35:SER:HB2   | 4:FW:41:LYS:HE3   | 1.97                     | 0.46              |
| 4:FX:47:ALA:O     | 4:FX:70:LYS:NZ    | 2.33                     | 0.46              |
| 4:GI:161:ILE:HA   | 4:GI:186:ASN:HA   | 1.96                     | 0.46              |
| 1:AE:16:ILE:HD12  | 1:AE:116:ALA:HB1  | 1.97                     | 0.46              |
| 1:AF:126:ILE:O    | 1:AF:130:ILE:HG13 | 2.16                     | 0.46              |
| 1:AG:13:VAL:HG11  | 1:AG:281:PRO:HG2  | 1.97                     | 0.46              |
| 1:AQ:158:LEU:HB3  | 1:AQ:260:LEU:HD21 | 1.98                     | 0.46              |
| 1:AX:209:THR:O    | 1:AX:213:LEU:HG   | 2.16                     | 0.46              |
| 1:BE:96:GLU:O     | 1:BE:100:THR:HG23 | 2.15                     | 0.46              |
| 1:BF:308:ARG:HG3  | 4:FT:33:SER:HA    | 1.96                     | 0.46              |
| 1:BM:253:ASN:ND2  | 1:BP:195:ASP:OD1  | 2.39                     | 0.46              |
| 1:BP:169:VAL:HG22 | 1:BP:183:LYS:HG3  | 1.96                     | 0.46              |
| 1:BS:41:MET:HG2   | 2:EM:104:PHE:HE2  | 1.79                     | 0.46              |
| 1:BS:67:ILE:HG13  | 1:BZ:296:TYR:HE2  | 1.81                     | 0.46              |
| 1:CD:57:PRO:HA    | 1:CK:86:TYR:HE1   | 1.81                     | 0.46              |
| 1:CO:196:GLU:HB3  | 1:CO:265:ASN:HD22 | 1.81                     | 0.46              |
| 1:CT:49:TRP:CZ3   | 1:CT:74:SER:HB3   | 2.50                     | 0.46              |
| 1:CT:96:GLU:O     | 1:CT:100:THR:HG23 | 2.15                     | 0.46              |
| 1:DB:49:TRP:CZ3   | 1:DB:74:SER:HB3   | 2.50                     | 0.46              |
| 1:DB:169:VAL:HG22 | 1:DB:183:LYS:HG3  | 1.98                     | 0.46              |
| 1:DD:109:ASN:O    | 2:DW:24:ASN:ND2   | 2.48                     | 0.46              |
| 2:DU:167:THR:HG22 | 2:DU:168:GLU:H    | 1.80                     | 0.46              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:IL:211:LYS:O    | 5:IL:214:ARG:HG2  | 2.16                     | 0.46              |
| 1:AG:35:GLU:O     | 1:AG:272:LYS:HA   | 2.16                     | 0.46              |
| 1:AM:186:ALA:O    | 1:AM:190:LYS:HG3  | 2.15                     | 0.46              |
| 1:AN:209:THR:O    | 1:AN:213:LEU:HG   | 2.15                     | 0.46              |
| 1:AU:152:LEU:HD21 | 2:DS:105:SER:HA   | 1.96                     | 0.46              |
| 1:BG:169:VAL:HG22 | 1:BG:183:LYS:HG3  | 1.98                     | 0.46              |
| 1:BK:159:LEU:HD12 | 1:BK:260:LEU:HD13 | 1.97                     | 0.46              |
| 1:BT:150:ARG:HH21 | 2:EL:63:PRO:HB3   | 1.80                     | 0.46              |
| 1:BY:84:LEU:HD13  | 1:BZ:57:PRO:HB2   | 1.97                     | 0.46              |
| 1:CM:178:ASP:OD1  | 1:CM:178:ASP:N    | 2.48                     | 0.46              |
| 1:CN:96:GLU:O     | 1:CN:100:THR:HG23 | 2.15                     | 0.46              |
| 1:CV:77:VAL:HG11  | 1:CV:305:LEU:HD13 | 1.96                     | 0.46              |
| 1:CW:96:GLU:O     | 1:CW:100:THR:HG23 | 2.16                     | 0.46              |
| 1:CZ:49:TRP:CZ3   | 1:CZ:74:SER:HB3   | 2.51                     | 0.46              |
| 2:DU:37:ASP:O     | 2:DU:41:GLN:NE2   | 2.49                     | 0.46              |
| 2:DU:181:ARG:NH1  | 2:DV:94:LEU:O     | 2.43                     | 0.46              |
| 2:EJ:23:LYS:HA    | 2:EJ:45:PHE:HD2   | 1.79                     | 0.46              |
| 2:EN:75:LEU:HD22  | 2:EN:84:LEU:HD13  | 1.98                     | 0.46              |
| 3:FJ:171:ARG:HG2  | 3:FJ:190:ILE:HG22 | 1.96                     | 0.46              |
| 4:FV:69:TYR:HB2   | 4:FV:108:ILE:HD12 | 1.98                     | 0.46              |
| 1:AB:36:ASP:CG    | 5:GL:214:ARG:HH22 | 2.17                     | 0.46              |
| 1:AC:35:GLU:O     | 1:AC:272:LYS:HA   | 2.16                     | 0.46              |
| 1:AG:20:VAL:O     | 5:GQ:213:ARG:NH2  | 2.25                     | 0.46              |
| 1:AH:164:GLN:HE22 | 1:AH:308:ARG:HA   | 1.80                     | 0.46              |
| 1:AM:35:GLU:O     | 1:AM:272:LYS:HA   | 2.15                     | 0.46              |
| 1:AY:209:THR:O    | 1:AY:213:LEU:HG   | 2.15                     | 0.46              |
| 1:BR:41:MET:HE2   | 1:BR:83:LYS:H     | 1.80                     | 0.46              |
| 1:CK:81:TYR:OH    | 1:CK:272:LYS:O    | 2.26                     | 0.46              |
| 1:CO:288:ASP:OD1  | 1:CO:289:SER:N    | 2.43                     | 0.46              |
| 2:DR:183:ILE:N    | 4:FO:188:ALA:O    | 2.41                     | 0.46              |
| 2:DZ:75:LEU:HD22  | 2:DZ:84:LEU:HD13  | 1.98                     | 0.46              |
| 2:FB:167:THR:HG22 | 2:FB:168:GLU:H    | 1.80                     | 0.46              |
| 2:FD:75:LEU:HD22  | 2:FD:84:LEU:HD13  | 1.97                     | 0.46              |
| 1:AH:35:GLU:O     | 1:AH:272:LYS:HA   | 2.16                     | 0.46              |
| 1:AO:60:ILE:HG23  | 1:AU:290:THR:HG22 | 1.97                     | 0.46              |
| 1:AS:169:VAL:HG22 | 1:AS:183:LYS:HG3  | 1.98                     | 0.46              |
| 1:AV:169:VAL:HG22 | 1:AV:183:LYS:HG3  | 1.96                     | 0.46              |
| 1:BI:169:VAL:HG22 | 1:BI:183:LYS:HG3  | 1.98                     | 0.46              |
| 1:BJ:16:ILE:HD11  | 1:BJ:120:LYS:HE3  | 1.97                     | 0.46              |
| 1:BM:35:GLU:O     | 1:BM:272:LYS:HA   | 2.16                     | 0.46              |
| 1:BS:57:PRO:HB2   | 1:BZ:84:LEU:HD13  | 1.97                     | 0.46              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BX:203:VAL:HG13 | 1:BX:261:ILE:HG12 | 1.97                     | 0.46              |
| 1:BY:158:LEU:HB3  | 1:BY:260:LEU:HD21 | 1.96                     | 0.46              |
| 1:CD:13:VAL:HG11  | 1:CD:281:PRO:HG2  | 1.96                     | 0.46              |
| 1:CH:140:SER:HB2  | 1:CH:148:GLN:HG2  | 1.97                     | 0.46              |
| 1:CS:96:GLU:O     | 1:CS:100:THR:HG23 | 2.15                     | 0.46              |
| 1:CU:65:ASN:ND2   | 2:EW:57:ASP:O     | 2.49                     | 0.46              |
| 1:CZ:80:ASN:ND2   | 1:CZ:153:PRO:O    | 2.49                     | 0.46              |
| 1:DB:257:HIS:CE1  | 1:DB:318:GLN:HG3  | 2.51                     | 0.46              |
| 1:DC:174:LYS:O    | 1:DC:212:LYS:NZ   | 2.48                     | 0.46              |
| 2:DY:75:LEU:HD22  | 2:DY:84:LEU:HD13  | 1.97                     | 0.46              |
| 2:ET:56:LYS:HD2   | 2:EU:56:LYS:HA    | 1.98                     | 0.46              |
| 2:EW:134:GLY:HA2  | 4:GD:77:ILE:HD13  | 1.96                     | 0.46              |
| 5:GL:202:PHE:O    | 5:GL:206:ILE:HG13 | 2.15                     | 0.46              |
| 5:GY:211:LYS:O    | 5:GY:214:ARG:HG2  | 2.15                     | 0.46              |
| 5:HQ:200:THR:O    | 5:HQ:204:GLN:HG2  | 2.16                     | 0.46              |
| 1:AF:286:ASP:HB2  | 1:AF:294:HIS:HB2  | 1.98                     | 0.46              |
| 1:AN:35:GLU:O     | 1:AN:272:LYS:HA   | 2.16                     | 0.46              |
| 1:AT:79:LEU:HD11  | 1:AT:305:LEU:HB2  | 1.98                     | 0.46              |
| 1:AV:137:GLY:HA3  | 1:AV:160:ASN:OD1  | 2.16                     | 0.46              |
| 1:BA:96:GLU:O     | 1:BA:100:THR:HG23 | 2.16                     | 0.46              |
| 1:BC:188:LEU:HD23 | 1:BC:191:LEU:HD12 | 1.97                     | 0.46              |
| 1:BL:174:LYS:O    | 1:BL:212:LYS:NZ   | 2.49                     | 0.46              |
| 1:BW:181:PHE:CD1  | 1:BW:184:ILE:HD12 | 2.50                     | 0.46              |
| 1:BZ:158:LEU:HB3  | 1:BZ:260:LEU:HD21 | 1.98                     | 0.46              |
| 1:CL:205:VAL:HG12 | 1:CL:259:ILE:HG23 | 1.97                     | 0.46              |
| 1:CN:52:PHE:HB3   | 4:GB:41:LYS:HE2   | 1.98                     | 0.46              |
| 1:CR:240:ALA:HB2  | 1:CU:214:VAL:HG11 | 1.97                     | 0.46              |
| 1:CT:152:LEU:HD21 | 2:FE:105:SER:HA   | 1.98                     | 0.46              |
| 1:CV:80:ASN:ND2   | 1:CV:154:ASN:HB2  | 2.30                     | 0.46              |
| 2:DJ:140:ASN:OD1  | 2:DJ:144:GLU:N    | 2.47                     | 0.46              |
| 2:DM:166:LEU:HB2  | 2:DM:170:LEU:HD23 | 1.98                     | 0.46              |
| 2:ER:181:ARG:NH2  | 2:ES:92:ASP:O     | 2.49                     | 0.46              |
| 4:FK:73:VAL:HG21  | 4:FK:117:ILE:HD13 | 1.97                     | 0.46              |
| 4:FT:58:LYS:HD3   | 4:FT:119:PRO:HG2  | 1.98                     | 0.46              |
| 4:FT:73:VAL:HG21  | 4:FT:117:ILE:HD13 | 1.97                     | 0.46              |
| 5:HJ:211:LYS:O    | 5:HJ:215:ILE:HG13 | 2.16                     | 0.46              |
| 5:HK:200:THR:O    | 5:HK:204:GLN:HG2  | 2.16                     | 0.46              |
| 1:AO:306:ALA:O    | 4:FP:31:LEU:HB2   | 2.16                     | 0.46              |
| 1:AV:231:GLU:O    | 1:AV:235:ILE:HG13 | 2.16                     | 0.46              |
| 1:BA:180:ILE:O    | 1:BA:184:ILE:HG13 | 2.15                     | 0.46              |
| 1:BM:214:VAL:HG11 | 1:BP:240:ALA:HB2  | 1.98                     | 0.46              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CB:203:VAL:HG22 | 1:CB:261:ILE:HG23 | 1.97                     | 0.46              |
| 1:CD:91:LEU:HD21  | 1:CD:112:LEU:HD13 | 1.98                     | 0.46              |
| 1:CF:169:VAL:HG22 | 1:CF:183:LYS:HG3  | 1.97                     | 0.46              |
| 1:CI:203:VAL:HA   | 1:CI:260:LEU:O    | 2.16                     | 0.46              |
| 1:CO:49:TRP:CZ3   | 1:CO:74:SER:HB3   | 2.50                     | 0.46              |
| 1:CV:21:LYS:NZ    | 1:CW:195:ASP:OD2  | 2.45                     | 0.46              |
| 1:CX:87:LYS:NZ    | 2:FG:53:THR:O     | 2.40                     | 0.46              |
| 2:DJ:23:LYS:N     | 2:DJ:67:TYR:OH    | 2.49                     | 0.46              |
| 2:DL:69:TYR:HB2   | 2:DL:101:ILE:HD12 | 1.98                     | 0.46              |
| 2:ET:125:LYS:HD2  | 2:ET:169:ASP:HA   | 1.98                     | 0.46              |
| 2:EV:54:SER:HB2   | 2:EW:58:LYS:HZ3   | 1.80                     | 0.46              |
| 2:EX:75:LEU:HD22  | 2:EX:84:LEU:HD13  | 1.98                     | 0.46              |
| 5:IF:200:THR:O    | 5:IF:204:GLN:HG2  | 2.16                     | 0.46              |
| 1:AA:135:LEU:HD23 | 1:AA:254:LEU:HB2  | 1.98                     | 0.46              |
| 1:AE:77:VAL:HG11  | 1:AE:305:LEU:HD13 | 1.98                     | 0.46              |
| 1:AH:259:ILE:HB   | 1:AH:314:VAL:HB   | 1.98                     | 0.46              |
| 1:AL:165:ILE:HG13 | 1:AL:191:LEU:HD23 | 1.98                     | 0.46              |
| 1:AO:169:VAL:HG22 | 1:AO:183:LYS:HG3  | 1.97                     | 0.46              |
| 1:AS:80:ASN:ND2   | 1:AS:153:PRO:O    | 2.48                     | 0.46              |
| 1:AT:8:TYR:CD2    | 1:AT:93:GLN:HG3   | 2.50                     | 0.46              |
| 1:AT:59:THR:O     | 4:FN:61:ASN:ND2   | 2.48                     | 0.46              |
| 1:AU:203:VAL:HA   | 1:AU:260:LEU:O    | 2.16                     | 0.46              |
| 1:BE:203:VAL:HG22 | 1:BE:261:ILE:HG12 | 1.98                     | 0.46              |
| 1:BG:39:LEU:O     | 1:BG:274:SER:OG   | 2.25                     | 0.46              |
| 1:BS:197:PHE:HD2  | 1:BS:243:ASN:HB2  | 1.81                     | 0.46              |
| 1:BX:308:ARG:O    | 2:EP:34:ASN:ND2   | 2.44                     | 0.46              |
| 1:CC:96:GLU:O     | 1:CC:100:THR:HG23 | 2.15                     | 0.46              |
| 1:CJ:96:GLU:O     | 1:CJ:100:THR:HG23 | 2.16                     | 0.46              |
| 1:CM:140:SER:HB2  | 1:CM:148:GLN:HG2  | 1.98                     | 0.46              |
| 1:CY:277:MET:HA   | 1:CY:300:VAL:HB   | 1.98                     | 0.46              |
| 1:DB:203:VAL:HA   | 1:DB:260:LEU:O    | 2.16                     | 0.46              |
| 2:DO:23:LYS:N     | 2:DO:67:TYR:OH    | 2.46                     | 0.46              |
| 2:ED:123:LEU:HD21 | 2:ED:131:VAL:HG21 | 1.98                     | 0.46              |
| 2:EI:136:LYS:HD3  | 2:EI:155:VAL:HG21 | 1.98                     | 0.46              |
| 2:ET:167:THR:HG22 | 2:ET:168:GLU:H    | 1.81                     | 0.46              |
| 5:GZ:202:PHE:O    | 5:GZ:206:ILE:HG13 | 2.15                     | 0.46              |
| 1:AA:180:ILE:O    | 1:AA:184:ILE:HG13 | 2.16                     | 0.45              |
| 1:AC:49:TRP:CZ3   | 1:AC:74:SER:HB3   | 2.52                     | 0.45              |
| 1:AC:92:LYS:O     | 1:AC:96:GLU:HG3   | 2.16                     | 0.45              |
| 1:AU:180:ILE:O    | 1:AU:184:ILE:HG13 | 2.16                     | 0.45              |
| 1:BA:35:GLU:O     | 1:BA:272:LYS:HA   | 2.16                     | 0.45              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BB:77:VAL:HG11  | 1:BB:305:LEU:HD13 | 1.97                     | 0.45              |
| 1:BF:119:TYR:CE1  | 1:BF:281:PRO:HG3  | 2.51                     | 0.45              |
| 1:BG:41:MET:HE2   | 1:BG:83:LYS:H     | 1.81                     | 0.45              |
| 1:BK:80:ASN:ND2   | 1:BK:153:PRO:O    | 2.49                     | 0.45              |
| 1:BK:203:VAL:HG13 | 1:BK:261:ILE:HG12 | 1.99                     | 0.45              |
| 1:BV:289:SER:HB2  | 1:BX:85:GLN:HE22  | 1.81                     | 0.45              |
| 1:BX:96:GLU:O     | 1:BX:100:THR:HG23 | 2.16                     | 0.45              |
| 1:CG:96:GLU:O     | 1:CG:100:THR:HG23 | 2.16                     | 0.45              |
| 1:CI:14:ALA:HB2   | 5:IS:202:PHE:HE1  | 1.81                     | 0.45              |
| 1:DB:35:GLU:O     | 1:DB:272:LYS:HA   | 2.16                     | 0.45              |
| 1:DB:178:ASP:N    | 1:DB:178:ASP:OD1  | 2.48                     | 0.45              |
| 1:DC:203:VAL:HA   | 1:DC:260:LEU:O    | 2.16                     | 0.45              |
| 1:DD:169:VAL:HG22 | 1:DD:183:LYS:HG3  | 1.98                     | 0.45              |
| 2:DQ:165:LYS:HE3  | 2:DQ:168:GLU:HA   | 1.98                     | 0.45              |
| 2:DS:101:ILE:HD12 | 2:DS:107:MET:O    | 2.16                     | 0.45              |
| 2:ER:23:LYS:NZ    | 2:ER:100:ASP:OD1  | 2.45                     | 0.45              |
| 2:EY:56:LYS:HD2   | 4:GE:56:PHE:HD1   | 1.82                     | 0.45              |
| 2:FG:23:LYS:N     | 2:FG:67:TYR:OH    | 2.49                     | 0.45              |
| 2:FG:116:ASN:ND2  | 4:GI:60:GLU:OE2   | 2.49                     | 0.45              |
| 3:FJ:171:ARG:HB3  | 3:FJ:188:VAL:HG11 | 1.98                     | 0.45              |
| 4:FP:133:SER:HB3  | 4:FP:177:TYR:CE2  | 2.51                     | 0.45              |
| 4:FQ:172:ILE:HD12 | 4:FQ:178:LEU:HD12 | 1.98                     | 0.45              |
| 4:FV:35:SER:HB2   | 4:FV:41:LYS:HE3   | 1.97                     | 0.45              |
| 4:GI:149:LEU:HD13 | 4:GI:181:VAL:HG21 | 1.97                     | 0.45              |
| 5:HJ:200:THR:O    | 5:HJ:204:GLN:HG2  | 2.16                     | 0.45              |
| 5:IR:211:LYS:O    | 5:IR:214:ARG:HG2  | 2.17                     | 0.45              |
| 1:AF:231:GLU:O    | 1:AF:235:ILE:HG13 | 2.15                     | 0.45              |
| 1:AG:126:ILE:O    | 1:AG:130:ILE:HG13 | 2.16                     | 0.45              |
| 1:AH:20:VAL:O     | 5:GR:213:ARG:NH2  | 2.32                     | 0.45              |
| 1:AM:229:LYS:O    | 1:AM:233:VAL:HG23 | 2.16                     | 0.45              |
| 1:AN:231:GLU:O    | 1:AN:235:ILE:HG13 | 2.15                     | 0.45              |
| 1:AS:57:PRO:HB2   | 1:AZ:84:LEU:HD13  | 1.98                     | 0.45              |
| 1:AS:209:THR:O    | 1:AS:213:LEU:HG   | 2.17                     | 0.45              |
| 1:AT:231:GLU:O    | 1:AT:235:ILE:HG13 | 2.16                     | 0.45              |
| 1:BJ:80:ASN:ND2   | 1:BJ:153:PRO:O    | 2.49                     | 0.45              |
| 1:BK:257:HIS:HB2  | 1:BK:316:ILE:HB   | 1.97                     | 0.45              |
| 1:BL:70:ILE:HD11  | 1:BW:86:TYR:HD2   | 1.81                     | 0.45              |
| 1:BO:41:MET:HE2   | 1:BO:83:LYS:H     | 1.80                     | 0.45              |
| 1:BO:196:GLU:HB3  | 1:BO:265:ASN:ND2  | 2.32                     | 0.45              |
| 1:CF:57:PRO:HB2   | 1:CT:84:LEU:HD13  | 1.98                     | 0.45              |
| 2:DZ:167:THR:HG22 | 2:DZ:168:GLU:H    | 1.81                     | 0.45              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:EG:127:GLY:O    | 2:EG:131:VAL:HG23 | 2.16                     | 0.45              |
| 4:FS:78:GLN:HE22  | 4:FS:89:TYR:HB2   | 1.80                     | 0.45              |
| 1:AC:78:ARG:HH21  | 2:DH:104:PHE:HE1  | 1.63                     | 0.45              |
| 1:AC:123:SER:O    | 1:AC:127:ILE:HG13 | 2.16                     | 0.45              |
| 1:AK:35:GLU:O     | 1:AK:272:LYS:HA   | 2.17                     | 0.45              |
| 1:AP:36:ASP:CG    | 5:GZ:214:ARG:HH22 | 2.20                     | 0.45              |
| 1:AU:126:ILE:O    | 1:AU:130:ILE:HG13 | 2.16                     | 0.45              |
| 1:AZ:20:VAL:O     | 5:HJ:213:ARG:NH1  | 2.49                     | 0.45              |
| 1:BK:164:GLN:HE22 | 1:BK:308:ARG:HA   | 1.81                     | 0.45              |
| 1:BU:26:TYR:O     | 5:IE:218:TYR:OH   | 2.31                     | 0.45              |
| 1:CD:80:ASN:ND2   | 1:CD:153:PRO:O    | 2.49                     | 0.45              |
| 1:CP:13:VAL:HG11  | 1:CP:281:PRO:HG2  | 1.99                     | 0.45              |
| 1:CV:30:SER:HB3   | 1:CV:33:GLN:HG3   | 1.97                     | 0.45              |
| 1:DA:203:VAL:HG22 | 1:DA:261:ILE:HG23 | 1.99                     | 0.45              |
| 2:DS:23:LYS:HG3   | 2:DS:24:ASN:N     | 2.31                     | 0.45              |
| 2:DT:74:LYS:HE2   | 2:DT:89:GLY:HA3   | 1.98                     | 0.45              |
| 2:ED:180:ASN:HB2  | 4:FV:186:ASN:HD21 | 1.80                     | 0.45              |
| 4:FP:142:ILE:HD11 | 4:FP:152:VAL:HG22 | 1.98                     | 0.45              |
| 4:FV:144:ASN:OD1  | 4:FV:148:ALA:N    | 2.47                     | 0.45              |
| 4:GC:149:LEU:HD13 | 4:GC:181:VAL:HG21 | 1.98                     | 0.45              |
| 1:AM:13:VAL:HG11  | 1:AM:281:PRO:HG2  | 1.98                     | 0.45              |
| 1:AP:49:TRP:CZ3   | 1:AP:74:SER:HB3   | 2.51                     | 0.45              |
| 1:AP:66:THR:HG22  | 4:FN:52:ARG:HB3   | 1.98                     | 0.45              |
| 1:AX:28:TRP:HB3   | 1:AX:262:TYR:OH   | 2.16                     | 0.45              |
| 1:BJ:286:ASP:HB2  | 1:BJ:294:HIS:HB2  | 1.98                     | 0.45              |
| 1:BS:96:GLU:O     | 1:BS:100:THR:HG23 | 2.17                     | 0.45              |
| 1:CS:196:GLU:HB3  | 1:CS:265:ASN:HD22 | 1.81                     | 0.45              |
| 1:CZ:210:SER:O    | 1:CZ:214:VAL:HG13 | 2.17                     | 0.45              |
| 1:DD:257:HIS:CE1  | 1:DD:318:GLN:HG3  | 2.52                     | 0.45              |
| 1:DE:13:VAL:HG11  | 1:DE:281:PRO:HG2  | 1.98                     | 0.45              |
| 2:DK:23:LYS:NZ    | 2:DK:100:ASP:OD1  | 2.39                     | 0.45              |
| 2:DQ:23:LYS:HG3   | 2:DQ:24:ASN:N     | 2.32                     | 0.45              |
| 4:FP:73:VAL:HG21  | 4:FP:117:ILE:HD13 | 1.98                     | 0.45              |
| 4:GC:23:LYS:N     | 4:GC:67:TYR:OH    | 2.49                     | 0.45              |
| 1:AK:66:THR:HG22  | 2:DO:52:CYS:HB3   | 1.97                     | 0.45              |
| 1:AK:180:ILE:O    | 1:AK:184:ILE:HG13 | 2.17                     | 0.45              |
| 1:AK:256:LYS:O    | 1:AK:258:LYS:HG2  | 2.16                     | 0.45              |
| 1:AL:59:THR:O     | 4:FQ:61:ASN:ND2   | 2.50                     | 0.45              |
| 1:AT:126:ILE:O    | 1:AT:130:ILE:HG13 | 2.16                     | 0.45              |
| 1:AW:169:VAL:HG22 | 1:AW:183:LYS:HG3  | 1.99                     | 0.45              |
| 1:BV:188:LEU:HD23 | 1:BV:191:LEU:HD12 | 1.99                     | 0.45              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BW:203:VAL:HA   | 1:BW:260:LEU:O    | 2.17                     | 0.45              |
| 1:CC:163:GLU:HB3  | 1:CC:308:ARG:HG3  | 1.98                     | 0.45              |
| 1:CK:270:LYS:HG2  | 1:CK:272:LYS:HE3  | 1.99                     | 0.45              |
| 1:CP:35:GLU:O     | 1:CP:272:LYS:HA   | 2.17                     | 0.45              |
| 1:CV:317:LYS:NZ   | 1:CV:319:SER:OXT  | 2.49                     | 0.45              |
| 1:CW:126:ILE:O    | 1:CW:130:ILE:HG13 | 2.16                     | 0.45              |
| 1:CY:286:ASP:HB2  | 1:CY:294:HIS:HB2  | 1.98                     | 0.45              |
| 2:EP:69:TYR:HE1   | 2:EP:100:ASP:HA   | 1.81                     | 0.45              |
| 2:ET:75:LEU:HD22  | 2:ET:84:LEU:HD13  | 1.98                     | 0.45              |
| 3:FJ:104:LYS:H    | 3:FJ:162:ASN:ND2  | 2.15                     | 0.45              |
| 4:FQ:58:LYS:HD3   | 4:FQ:119:PRO:HG2  | 1.98                     | 0.45              |
| 4:GJ:78:GLN:HE22  | 4:GJ:89:TYR:HB2   | 1.81                     | 0.45              |
| 5:HK:202:PHE:O    | 5:HK:206:ILE:HG13 | 2.16                     | 0.45              |
| 1:AD:180:ILE:O    | 1:AD:184:ILE:HG13 | 2.17                     | 0.45              |
| 1:AK:218:ALA:HA   | 1:AK:224:ALA:HA   | 1.99                     | 0.45              |
| 1:AX:49:TRP:CZ3   | 1:AX:74:SER:HB3   | 2.51                     | 0.45              |
| 1:BG:85:GLN:HE22  | 1:BI:289:SER:HB2  | 1.82                     | 0.45              |
| 1:CM:14:ALA:HB2   | 5:IW:202:PHE:HE1  | 1.80                     | 0.45              |
| 1:CT:43:TYR:HE2   | 1:CT:45:LYS:HE2   | 1.81                     | 0.45              |
| 1:DA:78:ARG:O     | 1:DA:154:ASN:ND2  | 2.38                     | 0.45              |
| 2:DP:37:ASP:O     | 2:DP:41:GLN:NE2   | 2.50                     | 0.45              |
| 2:EU:123:LEU:HD21 | 2:EU:131:VAL:HG21 | 1.99                     | 0.45              |
| 5:HF:202:PHE:O    | 5:HF:206:ILE:HG13 | 2.17                     | 0.45              |
| 1:AB:169:VAL:HG22 | 1:AB:183:LYS:HG3  | 1.99                     | 0.45              |
| 1:AC:174:LYS:O    | 1:AC:212:LYS:NZ   | 2.50                     | 0.45              |
| 1:AD:66:THR:HG22  | 4:FO:52:ARG:HB3   | 1.97                     | 0.45              |
| 1:AJ:96:GLU:O     | 1:AJ:100:THR:HG23 | 2.17                     | 0.45              |
| 1:AJ:211:LEU:HD21 | 1:AM:241:ILE:HG22 | 1.97                     | 0.45              |
| 1:AN:36:ASP:OD1   | 5:GX:214:ARG:NH1  | 2.48                     | 0.45              |
| 1:BB:119:TYR:CE1  | 1:BB:281:PRO:HG3  | 2.50                     | 0.45              |
| 1:BG:305:LEU:HD21 | 3:FJ:77:PHE:HE2   | 1.81                     | 0.45              |
| 1:BN:178:ASP:OD1  | 1:BN:178:ASP:N    | 2.48                     | 0.45              |
| 1:CD:84:LEU:HD13  | 1:CG:57:PRO:HB2   | 1.99                     | 0.45              |
| 1:CF:35:GLU:O     | 1:CF:272:LYS:HA   | 2.16                     | 0.45              |
| 1:CM:35:GLU:O     | 1:CM:272:LYS:HA   | 2.16                     | 0.45              |
| 1:CR:67:ILE:HG13  | 1:CU:296:TYR:HE2  | 1.82                     | 0.45              |
| 1:CX:96:GLU:O     | 1:CX:100:THR:HG23 | 2.17                     | 0.45              |
| 1:CY:80:ASN:ND2   | 1:CY:153:PRO:O    | 2.49                     | 0.45              |
| 2:DU:136:LYS:HD3  | 2:DU:155:VAL:HG21 | 1.97                     | 0.45              |
| 2:DV:69:TYR:CZ    | 2:DV:70:LYS:HE2   | 2.51                     | 0.45              |
| 2:EE:137:LEU:HD11 | 2:EE:159:ALA:HB2  | 1.99                     | 0.45              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:EV:180:ASN:O    | 2:EW:180:ASN:ND2  | 2.45                     | 0.45              |
| 4:GF:51:THR:HG21  | 4:GF:180:LYS:HE3  | 1.98                     | 0.45              |
| 4:GJ:149:LEU:HD13 | 4:GJ:181:VAL:HG21 | 1.97                     | 0.45              |
| 1:AH:49:TRP:CE3   | 1:AH:74:SER:HB3   | 2.52                     | 0.45              |
| 1:AL:96:GLU:O     | 1:AL:100:THR:HG23 | 2.17                     | 0.45              |
| 1:AN:70:ILE:HD11  | 1:AR:86:TYR:HD2   | 1.80                     | 0.45              |
| 1:AP:35:GLU:O     | 1:AP:272:LYS:HA   | 2.16                     | 0.45              |
| 1:AZ:181:PHE:CD1  | 1:AZ:184:ILE:HD12 | 2.52                     | 0.45              |
| 1:BB:169:VAL:HG22 | 1:BB:183:LYS:HG3  | 1.99                     | 0.45              |
| 1:BD:20:VAL:O     | 5:HN:213:ARG:NH2  | 2.34                     | 0.45              |
| 1:BF:143:LYS:HE3  | 4:FU:40:ASP:HB2   | 1.99                     | 0.45              |
| 1:BL:133:PHE:CD2  | 1:BL:301:LEU:HD22 | 2.52                     | 0.45              |
| 1:BP:135:LEU:HD23 | 1:BP:254:LEU:HB2  | 1.98                     | 0.45              |
| 1:BS:16:ILE:HD11  | 1:BS:120:LYS:HE3  | 1.98                     | 0.45              |
| 1:BZ:49:TRP:CZ3   | 1:BZ:74:SER:HB3   | 2.51                     | 0.45              |
| 1:CG:77:VAL:HG11  | 1:CG:305:LEU:HD13 | 1.98                     | 0.45              |
| 1:CN:89:ARG:HH21  | 1:CN:112:LEU:HD21 | 1.81                     | 0.45              |
| 1:CP:152:LEU:HD21 | 2:ER:105:SER:HA   | 1.99                     | 0.45              |
| 1:CR:49:TRP:CE3   | 1:CR:74:SER:HB3   | 2.52                     | 0.45              |
| 2:DG:23:LYS:N     | 2:DG:67:TYR:OH    | 2.47                     | 0.45              |
| 2:DH:167:THR:HB   | 2:DH:170:LEU:HB3  | 1.99                     | 0.45              |
| 2:EX:77:PHE:HD2   | 4:GE:138:LYS:HG3  | 1.81                     | 0.45              |
| 4:FP:140:LYS:HD3  | 4:FP:161:ILE:HD13 | 1.99                     | 0.45              |
| 4:GD:51:THR:HG21  | 4:GD:180:LYS:HE3  | 1.97                     | 0.45              |
| 1:AF:49:TRP:CZ3   | 1:AF:74:SER:HB3   | 2.51                     | 0.45              |
| 1:AG:194:GLY:HA3  | 2:DI:36:ILE:HG23  | 1.97                     | 0.45              |
| 1:AK:231:GLU:O    | 1:AK:235:ILE:HG13 | 2.17                     | 0.45              |
| 1:AN:307:THR:HG21 | 2:DQ:34:ASN:HB2   | 1.98                     | 0.45              |
| 1:AW:35:GLU:O     | 1:AW:272:LYS:HA   | 2.17                     | 0.45              |
| 1:AY:79:LEU:HD11  | 1:AY:305:LEU:HB2  | 1.97                     | 0.45              |
| 1:BF:152:LEU:HD21 | 2:EB:105:SER:HA   | 1.98                     | 0.45              |
| 1:BJ:135:LEU:HD23 | 1:BJ:254:LEU:HB2  | 1.98                     | 0.45              |
| 1:BN:49:TRP:CE3   | 1:BN:74:SER:HB3   | 2.52                     | 0.45              |
| 1:BQ:96:GLU:O     | 1:BQ:100:THR:HG23 | 2.17                     | 0.45              |
| 1:BS:194:GLY:HA3  | 2:ES:36:ILE:HG21  | 1.98                     | 0.45              |
| 1:BY:133:PHE:CD2  | 1:BY:301:LEU:HD22 | 2.52                     | 0.45              |
| 1:CB:96:GLU:O     | 1:CB:100:THR:HG23 | 2.17                     | 0.45              |
| 1:CT:169:VAL:HG22 | 1:CT:183:LYS:HG3  | 1.98                     | 0.45              |
| 2:EP:56:LYS:HD2   | 2:EQ:56:LYS:HA    | 1.98                     | 0.45              |
| 2:EZ:23:LYS:NZ    | 2:EZ:100:ASP:OD1  | 2.46                     | 0.45              |
| 4:FW:51:THR:HG23  | 4:FW:126:GLY:HA2  | 1.98                     | 0.45              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:GC:161:ILE:HA   | 4:GC:186:ASN:HA   | 1.98                     | 0.45              |
| 5:IB:211:LYS:HG3  | 5:IB:214:ARG:HH21 | 1.82                     | 0.45              |
| 5:IF:190:LEU:HG   | 5:IF:209:THR:HG23 | 1.99                     | 0.45              |
| 1:AE:41:MET:HE2   | 1:AE:83:LYS:H     | 1.82                     | 0.45              |
| 1:AH:101:SER:OG   | 1:AH:102:ASP:N    | 2.50                     | 0.45              |
| 1:AH:231:GLU:O    | 1:AH:235:ILE:HG13 | 2.17                     | 0.45              |
| 1:AX:67:ILE:HG13  | 1:DD:296:TYR:HE2  | 1.82                     | 0.45              |
| 1:AX:126:ILE:O    | 1:AX:130:ILE:HG13 | 2.17                     | 0.45              |
| 1:AX:212:LYS:HA   | 1:AX:215:LYS:HE3  | 1.99                     | 0.45              |
| 1:BO:35:GLU:O     | 1:BO:272:LYS:HA   | 2.17                     | 0.45              |
| 1:CM:28:TRP:O     | 1:CM:262:TYR:OH   | 2.30                     | 0.45              |
| 1:CQ:257:HIS:CE1  | 1:CQ:318:GLN:HG3  | 2.52                     | 0.45              |
| 1:CR:96:GLU:O     | 1:CR:100:THR:HG23 | 2.16                     | 0.45              |
| 1:CV:96:GLU:O     | 1:CV:100:THR:HG23 | 2.17                     | 0.45              |
| 1:CY:107:ASP:OD2  | 1:CY:110:ASN:ND2  | 2.40                     | 0.45              |
| 2:DX:58:LYS:H     | 2:DX:115:ASN:ND2  | 2.15                     | 0.45              |
| 2:EP:75:LEU:HD22  | 2:EP:84:LEU:HD13  | 1.98                     | 0.45              |
| 2:FC:63:PRO:HB2   | 2:FC:85:GLU:HG2   | 1.99                     | 0.45              |
| 2:FG:134:GLY:HA2  | 4:GI:77:ILE:HD13  | 1.99                     | 0.45              |
| 4:FN:37:GLU:HG3   | 4:FN:38:PHE:H     | 1.82                     | 0.45              |
| 4:FV:149:LEU:HD13 | 4:FV:181:VAL:HG21 | 1.99                     | 0.45              |
| 4:GD:144:ASN:OD1  | 4:GD:148:ALA:N    | 2.42                     | 0.45              |
| 5:IU:200:THR:O    | 5:IU:204:GLN:HG2  | 2.17                     | 0.45              |
| 1:AC:180:ILE:O    | 1:AC:184:ILE:HG13 | 2.17                     | 0.44              |
| 1:AK:49:TRP:CZ3   | 1:AK:74:SER:HB3   | 2.52                     | 0.44              |
| 1:AN:70:ILE:HD11  | 1:AR:86:TYR:CD2   | 2.52                     | 0.44              |
| 1:AW:124:SER:O    | 1:AW:128:LYS:HG3  | 2.17                     | 0.44              |
| 1:AZ:207:PRO:O    | 1:AZ:211:LEU:HG   | 2.17                     | 0.44              |
| 1:BI:49:TRP:CZ3   | 1:BI:74:SER:HB3   | 2.52                     | 0.44              |
| 1:BJ:92:LYS:NZ    | 1:BJ:95:SER:OG    | 2.36                     | 0.44              |
| 1:CB:49:TRP:CZ3   | 1:CB:74:SER:HB3   | 2.52                     | 0.44              |
| 1:CC:47:VAL:HG22  | 1:CC:76:VAL:HG22  | 1.99                     | 0.44              |
| 1:CH:169:VAL:HG22 | 1:CH:183:LYS:HG3  | 1.99                     | 0.44              |
| 1:CS:169:VAL:HG22 | 1:CS:183:LYS:HG3  | 1.99                     | 0.44              |
| 1:DE:196:GLU:HB3  | 1:DE:265:ASN:HD22 | 1.82                     | 0.44              |
| 2:DT:133:PRO:HG3  | 2:DT:161:SER:HA   | 1.99                     | 0.44              |
| 2:DY:77:PHE:HD2   | 4:FS:138:LYS:HE2  | 1.83                     | 0.44              |
| 2:EN:138:ASN:HD22 | 2:EN:153:LYS:HG2  | 1.81                     | 0.44              |
| 2:EO:123:LEU:HD13 | 2:EO:173:VAL:HG11 | 1.98                     | 0.44              |
| 2:EY:75:LEU:HD22  | 2:EY:84:LEU:HD13  | 1.99                     | 0.44              |
| 2:FC:75:LEU:HD22  | 2:FC:84:LEU:HD13  | 1.99                     | 0.44              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:FF:133:PRO:HG3  | 2:FF:161:SER:HA   | 1.97                     | 0.44              |
| 2:FG:137:LEU:HD11 | 2:FG:159:ALA:HB2  | 1.99                     | 0.44              |
| 3:FJ:180:ILE:HG12 | 3:FJ:203:TYR:CE1  | 2.52                     | 0.44              |
| 4:GC:43:VAL:O     | 4:GC:43:VAL:HG13  | 2.17                     | 0.44              |
| 5:HV:200:THR:O    | 5:HV:204:GLN:HG2  | 2.17                     | 0.44              |
| 1:AA:49:TRP:CZ3   | 1:AA:74:SER:HB3   | 2.52                     | 0.44              |
| 1:AP:135:LEU:HD23 | 1:AP:254:LEU:HB2  | 2.00                     | 0.44              |
| 1:AP:181:PHE:O    | 1:AP:185:GLU:HG3  | 2.18                     | 0.44              |
| 1:AQ:211:LEU:O    | 1:AQ:214:VAL:HG22 | 2.18                     | 0.44              |
| 1:AS:35:GLU:O     | 1:AS:272:LYS:HA   | 2.17                     | 0.44              |
| 1:BA:137:GLY:HA3  | 1:BA:160:ASN:OD1  | 2.17                     | 0.44              |
| 1:BJ:89:ARG:HH21  | 1:BJ:112:LEU:HD21 | 1.81                     | 0.44              |
| 1:BP:89:ARG:HH21  | 1:BP:112:LEU:HD13 | 1.82                     | 0.44              |
| 1:BU:169:VAL:HG22 | 1:BU:183:LYS:HG3  | 1.99                     | 0.44              |
| 1:BV:49:TRP:CZ3   | 1:BV:74:SER:HB3   | 2.51                     | 0.44              |
| 1:BY:197:PHE:HD1  | 1:BY:243:ASN:HB2  | 1.82                     | 0.44              |
| 1:CB:210:SER:O    | 1:CB:214:VAL:HG13 | 2.17                     | 0.44              |
| 1:CC:49:TRP:CE3   | 1:CC:74:SER:HB3   | 2.52                     | 0.44              |
| 1:CH:49:TRP:CH2   | 1:CH:74:SER:HB3   | 2.52                     | 0.44              |
| 1:CM:23:PRO:HB2   | 1:CM:25:MET:HG2   | 1.98                     | 0.44              |
| 1:CN:87:LYS:NZ    | 2:EQ:53:THR:O     | 2.36                     | 0.44              |
| 1:CO:49:TRP:CH2   | 1:CO:74:SER:HB3   | 2.52                     | 0.44              |
| 1:CQ:96:GLU:O     | 1:CQ:100:THR:HG23 | 2.17                     | 0.44              |
| 1:CV:20:VAL:HG23  | 5:JF:213:ARG:HH22 | 1.83                     | 0.44              |
| 1:DD:288:ASP:OD1  | 1:DD:289:SER:N    | 2.42                     | 0.44              |
| 2:DT:125:LYS:NZ   | 2:DT:169:ASP:OD1  | 2.46                     | 0.44              |
| 2:ER:30:GLY:O     | 2:ER:31:LEU:HD23  | 2.18                     | 0.44              |
| 2:EZ:23:LYS:N     | 2:EZ:67:TYR:OH    | 2.51                     | 0.44              |
| 2:FH:77:PHE:HD2   | 4:GJ:138:LYS:HE2  | 1.83                     | 0.44              |
| 5:JA:211:LYS:O    | 5:JA:214:ARG:HG2  | 2.16                     | 0.44              |
| 1:AH:108:ILE:HG22 | 4:FL:27:HIS:HE1   | 1.83                     | 0.44              |
| 1:AK:96:GLU:O     | 1:AK:100:THR:HG23 | 2.17                     | 0.44              |
| 1:AM:181:PHE:O    | 1:AM:185:GLU:HG3  | 2.18                     | 0.44              |
| 1:AP:194:GLY:HA3  | 4:FN:36:ASN:HB2   | 1.99                     | 0.44              |
| 1:AV:196:GLU:HB3  | 1:AV:265:ASN:HD22 | 1.82                     | 0.44              |
| 1:BC:66:THR:HG22  | 2:EB:52:CYS:SG    | 2.57                     | 0.44              |
| 1:BM:84:LEU:HB3   | 1:BP:57:PRO:HB2   | 1.99                     | 0.44              |
| 1:BP:80:ASN:HB2   | 1:BP:155:MET:HG3  | 1.99                     | 0.44              |
| 1:BR:178:ASP:OD1  | 1:BR:179:LYS:N    | 2.50                     | 0.44              |
| 1:BS:169:VAL:HG22 | 1:BS:183:LYS:HG3  | 1.99                     | 0.44              |
| 1:CD:96:GLU:O     | 1:CD:100:THR:HG23 | 2.18                     | 0.44              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CG:80:ASN:ND2   | 1:CG:154:ASN:HB2  | 2.31                     | 0.44              |
| 1:CG:164:GLN:HE22 | 1:CG:308:ARG:HA   | 1.81                     | 0.44              |
| 1:CM:169:VAL:HG22 | 1:CM:183:LYS:HG3  | 1.99                     | 0.44              |
| 1:CQ:174:LYS:O    | 1:CQ:212:LYS:NZ   | 2.50                     | 0.44              |
| 1:DB:20:VAL:HG23  | 5:JL:213:ARG:HH22 | 1.82                     | 0.44              |
| 1:DD:25:MET:HE1   | 1:DD:130:ILE:HG22 | 1.98                     | 0.44              |
| 2:DN:69:TYR:HB2   | 2:DN:101:ILE:HD12 | 1.99                     | 0.44              |
| 4:GA:23:LYS:N     | 4:GA:67:TYR:OH    | 2.50                     | 0.44              |
| 5:HM:200:THR:O    | 5:HM:204:GLN:HG2  | 2.17                     | 0.44              |
| 5:JG:211:LYS:O    | 5:JG:214:ARG:HG2  | 2.16                     | 0.44              |
| 1:AC:169:VAL:HG22 | 1:AC:183:LYS:HG3  | 1.99                     | 0.44              |
| 1:AD:126:ILE:O    | 1:AD:130:ILE:HG13 | 2.17                     | 0.44              |
| 1:AD:187:GLY:HA3  | 1:AD:312:LEU:HD13 | 1.99                     | 0.44              |
| 1:AI:196:GLU:HB3  | 1:AI:265:ASN:HD22 | 1.82                     | 0.44              |
| 1:AP:286:ASP:HB2  | 1:AP:294:HIS:HB2  | 1.98                     | 0.44              |
| 1:AV:16:ILE:HD12  | 1:AV:116:ALA:HB1  | 1.99                     | 0.44              |
| 1:BC:165:ILE:HD13 | 1:BC:191:LEU:HD23 | 1.99                     | 0.44              |
| 1:BN:143:LYS:HE3  | 4:FX:37:GLU:HG2   | 2.00                     | 0.44              |
| 1:BO:96:GLU:O     | 1:BO:100:THR:HG23 | 2.18                     | 0.44              |
| 1:BS:188:LEU:HD23 | 1:BS:191:LEU:HD12 | 2.00                     | 0.44              |
| 1:BU:107:ASP:OD2  | 1:BU:110:ASN:ND2  | 2.36                     | 0.44              |
| 1:BY:205:VAL:HG12 | 1:BY:259:ILE:HG23 | 1.98                     | 0.44              |
| 1:CG:66:THR:HG22  | 4:GC:52:ARG:HB3   | 1.99                     | 0.44              |
| 1:CZ:8:TYR:CD2    | 1:CZ:93:GLN:HG3   | 2.52                     | 0.44              |
| 1:CZ:289:SER:HB2  | 1:DA:85:GLN:HE22  | 1.82                     | 0.44              |
| 1:DB:96:GLU:O     | 1:DB:100:THR:HG23 | 2.18                     | 0.44              |
| 2:DG:69:TYR:CZ    | 2:DG:70:LYS:HE2   | 2.52                     | 0.44              |
| 2:EJ:165:LYS:HE3  | 2:EJ:168:GLU:HA   | 2.00                     | 0.44              |
| 2:EO:74:LYS:HE2   | 2:EO:89:GLY:HA3   | 1.99                     | 0.44              |
| 2:EY:63:PRO:HB2   | 2:EY:85:GLU:HG2   | 1.99                     | 0.44              |
| 4:FY:22:MET:HB3   | 4:FY:23:LYS:H     | 1.55                     | 0.44              |
| 4:FZ:37:GLU:HG3   | 4:FZ:39:ARG:H     | 1.83                     | 0.44              |
| 5:GZ:202:PHE:CE2  | 5:GZ:206:ILE:HD11 | 2.53                     | 0.44              |
| 5:HB:200:THR:O    | 5:HB:204:GLN:HG2  | 2.18                     | 0.44              |
| 1:AI:231:GLU:O    | 1:AI:235:ILE:HG13 | 2.16                     | 0.44              |
| 1:AJ:121:LEU:HB3  | 1:AM:51:ALA:HB2   | 1.99                     | 0.44              |
| 1:AM:84:LEU:HB3   | 1:AP:57:PRO:HB2   | 1.99                     | 0.44              |
| 1:AT:317:LYS:HE2  | 1:AT:319:SER:HB2  | 1.98                     | 0.44              |
| 1:BA:79:LEU:HD11  | 1:BA:305:LEU:HB2  | 1.99                     | 0.44              |
| 1:BR:205:VAL:HG12 | 1:BR:259:ILE:HG23 | 2.00                     | 0.44              |
| 1:BU:256:LYS:HG2  | 1:BU:257:HIS:CD2  | 2.52                     | 0.44              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BY:119:TYR:CE1  | 1:BY:281:PRO:HG3  | 2.52                     | 0.44              |
| 1:CA:16:ILE:HD11  | 1:CA:120:LYS:HE3  | 2.00                     | 0.44              |
| 1:CI:39:LEU:O     | 1:CI:274:SER:OG   | 2.26                     | 0.44              |
| 1:CK:80:ASN:ND2   | 1:CK:153:PRO:O    | 2.51                     | 0.44              |
| 1:CM:203:VAL:HA   | 1:CM:260:LEU:O    | 2.18                     | 0.44              |
| 1:DC:277:MET:HA   | 1:DC:300:VAL:HB   | 1.98                     | 0.44              |
| 2:DF:156:ASN:HB2  | 2:DF:178:PHE:O    | 2.17                     | 0.44              |
| 2:DN:137:LEU:HD11 | 2:DN:159:ALA:HB2  | 1.99                     | 0.44              |
| 2:DX:123:LEU:HD21 | 2:DX:131:VAL:HG21 | 1.99                     | 0.44              |
| 2:FC:23:LYS:N     | 2:FC:67:TYR:OH    | 2.49                     | 0.44              |
| 4:GI:26:GLN:NE2   | 4:GI:28:ASP:OD1   | 2.50                     | 0.44              |
| 4:GJ:35:SER:O     | 4:GJ:41:LYS:HD2   | 2.18                     | 0.44              |
| 1:AD:289:SER:HB2  | 1:AE:85:GLN:HE22  | 1.82                     | 0.44              |
| 1:AI:123:SER:O    | 1:AI:127:ILE:HG13 | 2.17                     | 0.44              |
| 1:AL:78:ARG:HB3   | 1:AL:154:ASN:HD22 | 1.83                     | 0.44              |
| 1:AM:130:ILE:O    | 1:AM:134:VAL:HG23 | 2.18                     | 0.44              |
| 1:AO:57:PRO:HB2   | 1:AS:84:LEU:HB3   | 2.00                     | 0.44              |
| 1:AS:180:ILE:O    | 1:AS:184:ILE:HG13 | 2.17                     | 0.44              |
| 1:AT:180:ILE:O    | 1:AT:184:ILE:HG13 | 2.18                     | 0.44              |
| 1:AZ:63:GLU:HG2   | 2:DW:59:ILE:HD11  | 1.99                     | 0.44              |
| 1:BA:13:VAL:HG11  | 1:BA:281:PRO:HG2  | 1.99                     | 0.44              |
| 1:BC:62:ASN:HB2   | 3:FJ:156:TYR:CZ   | 2.52                     | 0.44              |
| 1:BD:152:LEU:HD11 | 4:FU:112:SER:HA   | 2.00                     | 0.44              |
| 1:BG:35:GLU:O     | 1:BG:272:LYS:HA   | 2.18                     | 0.44              |
| 1:BJ:96:GLU:O     | 1:BJ:100:THR:HG23 | 2.17                     | 0.44              |
| 1:BJ:165:ILE:HD13 | 1:BJ:191:LEU:HD23 | 1.99                     | 0.44              |
| 1:BN:317:LYS:NZ   | 1:BN:319:SER:OXT  | 2.36                     | 0.44              |
| 1:BO:203:VAL:HG13 | 1:BO:261:ILE:HG12 | 2.00                     | 0.44              |
| 1:BX:161:MET:SD   | 2:EP:31:LEU:HD21  | 2.58                     | 0.44              |
| 1:CC:203:VAL:HA   | 1:CC:260:LEU:O    | 2.18                     | 0.44              |
| 1:CE:35:GLU:O     | 1:CE:272:LYS:HA   | 2.18                     | 0.44              |
| 1:CE:240:ALA:HB2  | 1:CI:214:VAL:HG11 | 1.99                     | 0.44              |
| 1:CI:77:VAL:HG11  | 1:CI:305:LEU:HD13 | 1.99                     | 0.44              |
| 1:CJ:277:MET:HA   | 1:CJ:300:VAL:HB   | 2.00                     | 0.44              |
| 1:CM:96:GLU:O     | 1:CM:100:THR:HG23 | 2.17                     | 0.44              |
| 1:CN:157:GLY:N    | 1:CN:160:ASN:OD1  | 2.47                     | 0.44              |
| 1:CT:8:TYR:CD2    | 1:CT:93:GLN:HG3   | 2.53                     | 0.44              |
| 1:CU:205:VAL:HG12 | 1:CU:259:ILE:HG23 | 2.00                     | 0.44              |
| 1:CW:257:HIS:CE1  | 1:CW:318:GLN:HG3  | 2.51                     | 0.44              |
| 1:CX:277:MET:HA   | 1:CX:300:VAL:HB   | 1.99                     | 0.44              |
| 1:DA:13:VAL:HG11  | 1:DA:281:PRO:HG2  | 1.98                     | 0.44              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:DA:152:LEU:HD21 | 2:FH:105:SER:HA   | 1.99                     | 0.44              |
| 1:DE:66:THR:HG22  | 2:FF:52:CYS:HB3   | 2.00                     | 0.44              |
| 1:DE:205:VAL:HG12 | 1:DE:259:ILE:HG23 | 2.00                     | 0.44              |
| 2:DV:156:ASN:HB3  | 2:DV:178:PHE:HD2  | 1.82                     | 0.44              |
| 2:EI:23:LYS:NZ    | 2:EI:100:ASP:OD1  | 2.42                     | 0.44              |
| 2:EU:75:LEU:HD22  | 2:EU:84:LEU:HD13  | 2.00                     | 0.44              |
| 4:FZ:133:SER:HB3  | 4:FZ:177:TYR:CE1  | 2.53                     | 0.44              |
| 1:AB:35:GLU:O     | 1:AB:272:LYS:HA   | 2.18                     | 0.44              |
| 1:AH:16:ILE:HD12  | 1:AH:116:ALA:HB1  | 1.98                     | 0.44              |
| 1:AI:35:GLU:O     | 1:AI:272:LYS:HA   | 2.18                     | 0.44              |
| 1:AO:240:ALA:HB2  | 1:AS:214:VAL:HG11 | 1.99                     | 0.44              |
| 1:AS:162:PRO:O    | 2:DZ:31:LEU:HD21  | 2.18                     | 0.44              |
| 1:BA:196:GLU:HB3  | 1:BA:265:ASN:HD22 | 1.83                     | 0.44              |
| 1:BD:96:GLU:O     | 1:BD:100:THR:HG23 | 2.18                     | 0.44              |
| 1:BY:41:MET:HA    | 1:BY:81:TYR:O     | 2.18                     | 0.44              |
| 1:CA:13:VAL:HG11  | 1:CA:281:PRO:HG2  | 2.00                     | 0.44              |
| 1:CC:57:PRO:HB2   | 1:CF:84:LEU:HB3   | 1.99                     | 0.44              |
| 1:CG:20:VAL:HG23  | 5:IQ:213:ARG:HH22 | 1.82                     | 0.44              |
| 1:CJ:66:THR:HG22  | 2:ER:52:CYS:HB3   | 2.00                     | 0.44              |
| 1:CQ:210:SER:O    | 1:CQ:214:VAL:HG13 | 2.17                     | 0.44              |
| 2:DW:133:PRO:HG3  | 2:DW:161:SER:HA   | 1.99                     | 0.44              |
| 4:FK:69:TYR:HB2   | 4:FK:108:ILE:HD12 | 1.99                     | 0.44              |
| 5:IC:200:THR:O    | 5:IC:204:GLN:HG2  | 2.18                     | 0.44              |
| 1:AE:231:GLU:O    | 1:AE:235:ILE:HG13 | 2.18                     | 0.44              |
| 1:AL:209:THR:O    | 1:AL:213:LEU:HG   | 2.18                     | 0.44              |
| 1:AL:240:ALA:HB2  | 1:AW:214:VAL:HG11 | 1.98                     | 0.44              |
| 1:AO:194:GLY:HA3  | 4:FP:36:ASN:HD22  | 1.81                     | 0.44              |
| 1:AX:180:ILE:O    | 1:AX:184:ILE:HG13 | 2.17                     | 0.44              |
| 1:BD:135:LEU:HD23 | 1:BD:254:LEU:HB2  | 2.00                     | 0.44              |
| 1:BO:119:TYR:CE1  | 1:BO:281:PRO:HG3  | 2.53                     | 0.44              |
| 1:BQ:45:LYS:HG2   | 1:BQ:78:ARG:HB2   | 1.99                     | 0.44              |
| 1:BZ:89:ARG:HH21  | 1:BZ:112:LEU:HD21 | 1.83                     | 0.44              |
| 1:CB:91:LEU:HD21  | 1:CB:112:LEU:HD13 | 1.98                     | 0.44              |
| 1:DA:66:THR:HG22  | 2:FB:52:CYS:HB3   | 1.99                     | 0.44              |
| 1:DB:214:VAL:HG11 | 1:DD:240:ALA:HB2  | 2.00                     | 0.44              |
| 2:DP:167:THR:HB   | 2:DP:170:LEU:HB3  | 2.00                     | 0.44              |
| 2:DQ:123:LEU:HD13 | 2:DQ:173:VAL:HG11 | 1.99                     | 0.44              |
| 2:FD:23:LYS:N     | 2:FD:67:TYR:OH    | 2.51                     | 0.44              |
| 4:FW:173:SER:HB3  | 4:FW:176:VAL:HB   | 2.00                     | 0.44              |
| 4:GD:43:VAL:HG13  | 4:GD:43:VAL:O     | 2.17                     | 0.44              |
| 1:AO:205:VAL:HG12 | 1:AO:259:ILE:HG23 | 1.99                     | 0.44              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AO:277:MET:HA   | 1:AO:300:VAL:HB   | 2.00                     | 0.44              |
| 1:AQ:49:TRP:CE3   | 1:AQ:74:SER:HB3   | 2.53                     | 0.44              |
| 1:BD:119:TYR:CE1  | 1:BD:281:PRO:HG3  | 2.53                     | 0.44              |
| 1:BF:20:VAL:O     | 5:HP:213:ARG:NH2  | 2.43                     | 0.44              |
| 1:BH:174:LYS:HE2  | 1:BH:318:GLN:HE21 | 1.82                     | 0.44              |
| 1:BO:60:ILE:HG23  | 1:BU:290:THR:HG22 | 2.00                     | 0.44              |
| 1:CA:205:VAL:HG12 | 1:CA:259:ILE:HG23 | 1.99                     | 0.44              |
| 1:CB:169:VAL:HG22 | 1:CB:183:LYS:HG3  | 2.00                     | 0.44              |
| 1:CO:169:VAL:HG22 | 1:CO:183:LYS:HG3  | 2.00                     | 0.44              |
| 1:CR:57:PRO:HB2   | 1:CU:84:LEU:HB3   | 1.99                     | 0.44              |
| 1:DD:96:GLU:O     | 1:DD:100:THR:HG23 | 2.17                     | 0.44              |
| 2:DY:181:ARG:NH1  | 2:DZ:94:LEU:O     | 2.49                     | 0.44              |
| 2:EC:133:PRO:HG3  | 2:EC:161:SER:HA   | 1.99                     | 0.44              |
| 2:EQ:76:SER:HB3   | 2:EQ:87:GLU:HG2   | 1.99                     | 0.44              |
| 4:FU:141:LEU:HD11 | 4:FU:165:ALA:HB2  | 2.00                     | 0.44              |
| 4:FZ:127:TYR:HE1  | 4:FZ:170:LYS:HZ3  | 1.65                     | 0.44              |
| 4:GD:166:LEU:HD12 | 4:GD:180:LYS:HE2  | 1.99                     | 0.44              |
| 5:GS:202:PHE:O    | 5:GS:206:ILE:HG13 | 2.17                     | 0.44              |
| 5:GX:211:LYS:O    | 5:GX:214:ARG:HG2  | 2.17                     | 0.44              |
| 1:AC:130:ILE:O    | 1:AC:134:VAL:HG23 | 2.18                     | 0.43              |
| 1:AF:96:GLU:O     | 1:AF:100:THR:HG23 | 2.18                     | 0.43              |
| 1:AJ:35:GLU:O     | 1:AJ:272:LYS:HA   | 2.17                     | 0.43              |
| 1:AN:164:GLN:HE22 | 1:AN:308:ARG:HA   | 1.82                     | 0.43              |
| 1:AO:96:GLU:O     | 1:AO:100:THR:HG23 | 2.18                     | 0.43              |
| 1:AS:197:PHE:CD2  | 1:AS:243:ASN:HB2  | 2.53                     | 0.43              |
| 1:AX:79:LEU:HD11  | 1:AX:305:LEU:HB2  | 1.99                     | 0.43              |
| 1:BO:135:LEU:HD21 | 1:BO:255:LEU:HG   | 2.00                     | 0.43              |
| 1:BQ:135:LEU:HD23 | 1:BQ:254:LEU:HB2  | 1.99                     | 0.43              |
| 1:BT:96:GLU:O     | 1:BT:100:THR:HG23 | 2.18                     | 0.43              |
| 1:BW:87:LYS:NZ    | 2:EN:53:THR:O     | 2.35                     | 0.43              |
| 1:BY:16:ILE:HD12  | 1:BY:116:ALA:HB1  | 2.00                     | 0.43              |
| 1:CA:16:ILE:HD12  | 1:CA:116:ALA:HB1  | 2.00                     | 0.43              |
| 1:CD:196:GLU:HB3  | 1:CD:265:ASN:HD22 | 1.82                     | 0.43              |
| 1:CE:80:ASN:ND2   | 1:CE:153:PRO:O    | 2.51                     | 0.43              |
| 1:CF:101:SER:OG   | 1:CF:102:ASP:N    | 2.51                     | 0.43              |
| 1:CM:164:GLN:HE22 | 1:CM:308:ARG:HA   | 1.83                     | 0.43              |
| 1:CR:87:LYS:NZ    | 2:FC:53:THR:O     | 2.35                     | 0.43              |
| 1:CV:158:LEU:HB3  | 1:CV:260:LEU:HD21 | 2.00                     | 0.43              |
| 1:CX:14:ALA:HB2   | 5:JH:202:PHE:HE1  | 1.82                     | 0.43              |
| 1:CZ:203:VAL:HG22 | 1:CZ:261:ILE:HG23 | 2.00                     | 0.43              |
| 2:FB:133:PRO:HG3  | 2:FB:161:SER:HA   | 1.98                     | 0.43              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:FO:162:ASN:HB2  | 4:FO:184:PHE:O    | 2.17                     | 0.43              |
| 4:GI:144:ASN:HD21 | 4:GI:148:ALA:HB3  | 1.83                     | 0.43              |
| 5:GQ:202:PHE:O    | 5:GQ:206:ILE:HG13 | 2.17                     | 0.43              |
| 5:IH:200:THR:O    | 5:IH:204:GLN:HG2  | 2.17                     | 0.43              |
| 1:AL:231:GLU:O    | 1:AL:235:ILE:HG13 | 2.18                     | 0.43              |
| 1:AP:13:VAL:HG11  | 1:AP:281:PRO:HG2  | 2.00                     | 0.43              |
| 1:AR:35:GLU:O     | 1:AR:272:LYS:HA   | 2.18                     | 0.43              |
| 1:AS:55:ALA:O     | 1:AZ:86:TYR:OH    | 2.27                     | 0.43              |
| 1:AU:49:TRP:CE3   | 1:AU:74:SER:HB3   | 2.53                     | 0.43              |
| 1:AV:229:LYS:O    | 1:AV:233:VAL:HG23 | 2.19                     | 0.43              |
| 1:BA:89:ARG:HH21  | 1:BA:112:LEU:HD21 | 1.81                     | 0.43              |
| 1:BG:13:VAL:HG11  | 1:BG:281:PRO:HG2  | 1.98                     | 0.43              |
| 1:BH:14:ALA:HB2   | 5:HR:202:PHE:HE1  | 1.83                     | 0.43              |
| 1:BQ:159:LEU:HD12 | 1:BQ:260:LEU:HD13 | 1.99                     | 0.43              |
| 1:BS:49:TRP:CZ3   | 1:BS:74:SER:HB3   | 2.53                     | 0.43              |
| 1:BT:169:VAL:HG22 | 1:BT:183:LYS:HG3  | 1.98                     | 0.43              |
| 1:BU:43:TYR:HB2   | 1:BU:78:ARG:HG3   | 2.00                     | 0.43              |
| 1:BX:79:LEU:HD11  | 1:BX:305:LEU:HB2  | 2.00                     | 0.43              |
| 1:CR:34:ILE:HA    | 1:CR:271:PHE:O    | 2.18                     | 0.43              |
| 1:CW:161:MET:HG3  | 2:FE:31:LEU:HD11  | 2.00                     | 0.43              |
| 2:DJ:56:LYS:HD2   | 4:FK:56:PHE:HD1   | 1.83                     | 0.43              |
| 2:EO:165:LYS:HE3  | 2:EO:168:GLU:HA   | 2.00                     | 0.43              |
| 2:EZ:37:ASP:O     | 2:EZ:41:GLN:NE2   | 2.51                     | 0.43              |
| 2:FD:181:ARG:NH1  | 2:FE:94:LEU:O     | 2.50                     | 0.43              |
| 4:FL:73:VAL:HG21  | 4:FL:117:ILE:HD13 | 1.98                     | 0.43              |
| 4:FM:140:LYS:HD3  | 4:FM:161:ILE:HG21 | 2.00                     | 0.43              |
| 4:GG:43:VAL:HG13  | 4:GG:43:VAL:O     | 2.18                     | 0.43              |
| 4:GH:43:VAL:O     | 4:GH:43:VAL:HG13  | 2.18                     | 0.43              |
| 5:GU:189:LEU:HD11 | 5:GU:206:ILE:HG12 | 2.00                     | 0.43              |
| 1:AF:180:ILE:O    | 1:AF:184:ILE:HG13 | 2.18                     | 0.43              |
| 1:AF:203:VAL:HG13 | 1:AF:261:ILE:HG12 | 1.99                     | 0.43              |
| 1:AH:169:VAL:HG22 | 1:AH:183:LYS:HG3  | 2.01                     | 0.43              |
| 1:AN:59:THR:O     | 2:DR:61:ASN:ND2   | 2.52                     | 0.43              |
| 1:AP:89:ARG:HH21  | 1:AP:112:LEU:HD13 | 1.83                     | 0.43              |
| 1:AV:49:TRP:CZ3   | 1:AV:74:SER:HB3   | 2.53                     | 0.43              |
| 1:AY:96:GLU:O     | 1:AY:100:THR:HG23 | 2.18                     | 0.43              |
| 1:BR:3:LEU:HD23   | 2:EG:19:GLN:HG3   | 1.99                     | 0.43              |
| 1:BR:78:ARG:O     | 1:BR:154:ASN:ND2  | 2.43                     | 0.43              |
| 1:BW:49:TRP:CE3   | 1:BW:74:SER:HB3   | 2.52                     | 0.43              |
| 1:CA:113:LEU:HD11 | 1:CJ:49:TRP:CZ3   | 2.53                     | 0.43              |
| 1:CA:211:LEU:O    | 1:CA:214:VAL:HG22 | 2.19                     | 0.43              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CA:307:THR:HG22 | 2:EM:32:LEU:HB2   | 2.01                     | 0.43              |
| 1:CK:210:SER:O    | 1:CK:214:VAL:HG13 | 2.18                     | 0.43              |
| 1:CO:16:ILE:HD11  | 1:CO:120:LYS:HE3  | 2.00                     | 0.43              |
| 1:CT:240:ALA:HB2  | 1:CX:214:VAL:HG11 | 2.00                     | 0.43              |
| 1:CU:203:VAL:HG22 | 1:CU:261:ILE:HG23 | 2.00                     | 0.43              |
| 1:CY:96:GLU:O     | 1:CY:100:THR:HG23 | 2.17                     | 0.43              |
| 1:CZ:43:TYR:HE2   | 1:CZ:45:LYS:HE2   | 1.83                     | 0.43              |
| 2:DL:123:LEU:HD13 | 2:DL:173:VAL:HG11 | 1.99                     | 0.43              |
| 2:DT:183:ILE:HD12 | 4:FP:188:ALA:HB3  | 1.99                     | 0.43              |
| 2:EC:123:LEU:HD13 | 2:EC:173:VAL:HG11 | 1.99                     | 0.43              |
| 4:FN:142:ILE:HG13 | 4:FN:152:VAL:HG22 | 2.00                     | 0.43              |
| 5:IK:200:THR:O    | 5:IK:204:GLN:HG2  | 2.18                     | 0.43              |
| 5:JE:189:LEU:HD11 | 5:JE:206:ILE:HG12 | 1.99                     | 0.43              |
| 1:AA:126:ILE:O    | 1:AA:130:ILE:HG13 | 2.19                     | 0.43              |
| 1:AB:210:SER:O    | 1:AB:214:VAL:HG13 | 2.18                     | 0.43              |
| 1:AJ:209:THR:O    | 1:AJ:213:LEU:HG   | 2.18                     | 0.43              |
| 1:AL:180:ILE:O    | 1:AL:184:ILE:HG13 | 2.18                     | 0.43              |
| 1:AP:208:ALA:O    | 1:AP:212:LYS:HG3  | 2.18                     | 0.43              |
| 1:AX:257:HIS:CE1  | 1:AX:318:GLN:HG3  | 2.54                     | 0.43              |
| 1:AY:211:LEU:HD21 | 1:AZ:241:ILE:HG22 | 2.00                     | 0.43              |
| 1:BA:161:MET:SD   | 2:DT:31:LEU:HD21  | 2.58                     | 0.43              |
| 1:BG:49:TRP:CZ3   | 1:BG:74:SER:HB3   | 2.54                     | 0.43              |
| 1:BJ:165:ILE:HD12 | 1:BJ:165:ILE:H    | 1.84                     | 0.43              |
| 1:BJ:186:ALA:O    | 1:BJ:190:LYS:HG3  | 2.19                     | 0.43              |
| 1:BU:159:LEU:HD12 | 1:BU:260:LEU:HD13 | 1.99                     | 0.43              |
| 1:BY:48:LYS:HD2   | 4:FZ:32:LEU:HD22  | 2.00                     | 0.43              |
| 1:CC:34:ILE:HA    | 1:CC:271:PHE:O    | 2.18                     | 0.43              |
| 1:CC:317:LYS:HE2  | 1:CC:319:SER:HB2  | 2.00                     | 0.43              |
| 1:CP:16:ILE:HD11  | 1:CP:120:LYS:HE3  | 2.00                     | 0.43              |
| 1:CP:79:LEU:HD11  | 1:CP:305:LEU:HB2  | 1.99                     | 0.43              |
| 1:CX:163:GLU:HB3  | 1:CX:308:ARG:HG3  | 1.99                     | 0.43              |
| 1:DC:45:LYS:NZ    | 4:FS:28:ASP:OD2   | 2.46                     | 0.43              |
| 2:DO:69:TYR:HB2   | 2:DO:101:ILE:HD12 | 2.01                     | 0.43              |
| 2:EE:125:LYS:HD2  | 2:EE:169:ASP:HA   | 2.00                     | 0.43              |
| 2:EG:137:LEU:HD11 | 2:EG:159:ALA:HB2  | 2.00                     | 0.43              |
| 2:FH:123:LEU:HD21 | 2:FH:131:VAL:HG21 | 1.99                     | 0.43              |
| 1:AE:124:SER:O    | 1:AE:128:LYS:HG3  | 2.18                     | 0.43              |
| 1:AL:126:ILE:O    | 1:AL:130:ILE:HG13 | 2.18                     | 0.43              |
| 1:AO:126:ILE:O    | 1:AO:130:ILE:HG13 | 2.19                     | 0.43              |
| 1:AR:205:VAL:HG12 | 1:AR:259:ILE:HG23 | 2.01                     | 0.43              |
| 1:AU:124:SER:O    | 1:AU:128:LYS:HG3  | 2.18                     | 0.43              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AV:35:GLU:O     | 1:AV:272:LYS:HA   | 2.17                     | 0.43              |
| 1:AV:180:ILE:O    | 1:AV:184:ILE:HG13 | 2.17                     | 0.43              |
| 1:BH:49:TRP:CE3   | 1:BH:74:SER:HB3   | 2.53                     | 0.43              |
| 1:BI:49:TRP:CH2   | 1:BI:74:SER:HB3   | 2.54                     | 0.43              |
| 1:BJ:35:GLU:O     | 1:BJ:272:LYS:HA   | 2.18                     | 0.43              |
| 1:BK:96:GLU:O     | 1:BK:100:THR:HG23 | 2.18                     | 0.43              |
| 1:BY:49:TRP:CZ3   | 1:BY:74:SER:HB3   | 2.54                     | 0.43              |
| 1:CG:257:HIS:CE1  | 1:CG:318:GLN:HG3  | 2.53                     | 0.43              |
| 1:CJ:79:LEU:HD11  | 1:CJ:305:LEU:HB2  | 2.00                     | 0.43              |
| 1:CM:80:ASN:ND2   | 1:CM:154:ASN:HB2  | 2.33                     | 0.43              |
| 2:ED:31:LEU:HB3   | 2:ED:34:ASN:ND2   | 2.33                     | 0.43              |
| 2:EO:153:LYS:HG3  | 2:EO:154:SER:H    | 1.84                     | 0.43              |
| 4:FS:43:VAL:HG13  | 4:FS:43:VAL:O     | 2.18                     | 0.43              |
| 4:FY:93:VAL:HG21  | 4:FY:117:ILE:HD11 | 2.01                     | 0.43              |
| 4:FZ:64:PHE:CZ    | 4:FZ:108:ILE:HD11 | 2.52                     | 0.43              |
| 4:FZ:71:ARG:NH1   | 4:FZ:146:ASP:O    | 2.47                     | 0.43              |
| 5:JJ:200:THR:O    | 5:JJ:204:GLN:HG2  | 2.18                     | 0.43              |
| 1:AD:35:GLU:O     | 1:AD:272:LYS:HA   | 2.19                     | 0.43              |
| 1:AD:80:ASN:ND2   | 1:AD:153:PRO:O    | 2.52                     | 0.43              |
| 1:AD:241:ILE:HG22 | 1:AP:211:LEU:HD21 | 2.00                     | 0.43              |
| 1:AF:290:THR:HG22 | 1:AG:60:ILE:HG23  | 2.01                     | 0.43              |
| 1:AS:43:TYR:HE2   | 1:AS:45:LYS:HE2   | 1.83                     | 0.43              |
| 1:AX:96:GLU:O     | 1:AX:100:THR:HG23 | 2.18                     | 0.43              |
| 1:BE:203:VAL:HG22 | 1:BE:261:ILE:HG23 | 2.01                     | 0.43              |
| 1:BM:214:VAL:HG21 | 1:BP:240:ALA:HB2  | 2.00                     | 0.43              |
| 1:BP:206:ASP:OD1  | 1:BP:209:THR:OG1  | 2.27                     | 0.43              |
| 1:BU:158:LEU:HB3  | 1:BU:260:LEU:HD21 | 2.00                     | 0.43              |
| 1:BY:35:GLU:O     | 1:BY:272:LYS:HA   | 2.18                     | 0.43              |
| 1:CE:286:ASP:HB2  | 1:CE:294:HIS:HB2  | 2.01                     | 0.43              |
| 1:CJ:77:VAL:HG21  | 2:ER:32:LEU:HD23  | 2.00                     | 0.43              |
| 1:CR:157:GLY:N    | 1:CR:160:ASN:OD1  | 2.43                     | 0.43              |
| 1:CS:113:LEU:HD11 | 1:CV:49:TRP:CE3   | 2.53                     | 0.43              |
| 1:CU:34:ILE:HG12  | 1:CU:271:PHE:HB3  | 2.00                     | 0.43              |
| 1:CZ:77:VAL:HG21  | 2:DX:32:LEU:HD23  | 2.00                     | 0.43              |
| 2:EG:14:LYS:O     | 2:EG:18:ILE:HG13  | 2.18                     | 0.43              |
| 4:FR:149:LEU:HD13 | 4:FR:181:VAL:HG21 | 2.00                     | 0.43              |
| 4:FW:142:ILE:HG13 | 4:FW:152:VAL:HG22 | 2.01                     | 0.43              |
| 4:GA:43:VAL:HG13  | 4:GA:43:VAL:O     | 2.19                     | 0.43              |
| 4:GF:43:VAL:O     | 4:GF:43:VAL:HG13  | 2.19                     | 0.43              |
| 4:GG:37:GLU:O     | 4:GG:41:LYS:HD2   | 2.19                     | 0.43              |
| 5:GQ:211:LYS:O    | 5:GQ:215:ILE:HG13 | 2.19                     | 0.43              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:GW:200:THR:O    | 5:GW:204:GLN:HG2  | 2.18                     | 0.43              |
| 5:HE:200:THR:O    | 5:HE:204:GLN:HG2  | 2.18                     | 0.43              |
| 5:HL:200:THR:O    | 5:HL:204:GLN:HG2  | 2.18                     | 0.43              |
| 1:AG:66:THR:OG1   | 2:DI:54:SER:HB2   | 2.19                     | 0.43              |
| 1:AT:16:ILE:HD11  | 1:AT:120:LYS:HE3  | 1.99                     | 0.43              |
| 1:AY:28:TRP:HB3   | 1:AY:262:TYR:OH   | 2.18                     | 0.43              |
| 1:BI:196:GLU:HB3  | 1:BI:265:ASN:HD22 | 1.84                     | 0.43              |
| 1:BJ:13:VAL:HG11  | 1:BJ:281:PRO:HG2  | 1.99                     | 0.43              |
| 1:BU:214:VAL:HG11 | 1:CA:240:ALA:HB2  | 2.00                     | 0.43              |
| 1:BV:203:VAL:HG13 | 1:BV:261:ILE:HG12 | 2.00                     | 0.43              |
| 1:CD:49:TRP:HH2   | 1:CK:111:ASN:HA   | 1.83                     | 0.43              |
| 1:CE:203:VAL:HG22 | 1:CE:261:ILE:HG23 | 2.00                     | 0.43              |
| 1:CE:226:SER:OG   | 1:CU:226:SER:O    | 2.29                     | 0.43              |
| 1:CI:277:MET:HA   | 1:CI:300:VAL:HB   | 2.01                     | 0.43              |
| 1:CL:164:GLN:HE22 | 1:CL:308:ARG:HA   | 1.84                     | 0.43              |
| 2:DO:70:LYS:HA    | 2:DO:98:CYS:O     | 2.19                     | 0.43              |
| 2:DV:74:LYS:HE2   | 2:DV:89:GLY:HA3   | 2.01                     | 0.43              |
| 2:EN:167:THR:HG22 | 2:EN:168:GLU:N    | 2.33                     | 0.43              |
| 4:FU:165:ALA:HA   | 4:FU:181:VAL:HG12 | 2.00                     | 0.43              |
| 4:GA:149:LEU:HD13 | 4:GA:181:VAL:HG21 | 2.00                     | 0.43              |
| 4:GE:43:VAL:HG13  | 4:GE:43:VAL:O     | 2.18                     | 0.43              |
| 5:JD:200:THR:O    | 5:JD:204:GLN:HG2  | 2.19                     | 0.43              |
| 1:AI:126:ILE:O    | 1:AI:130:ILE:HG13 | 2.18                     | 0.43              |
| 1:AJ:165:ILE:HD13 | 1:AJ:191:LEU:HD23 | 2.01                     | 0.43              |
| 1:AK:174:LYS:HE2  | 1:AK:318:GLN:HG2  | 2.01                     | 0.43              |
| 1:AS:41:MET:HE2   | 1:AS:41:MET:HB2   | 1.90                     | 0.43              |
| 1:AX:59:THR:O     | 2:DX:61:ASN:ND2   | 2.52                     | 0.43              |
| 1:AZ:126:ILE:O    | 1:AZ:130:ILE:HG13 | 2.18                     | 0.43              |
| 1:BA:169:VAL:HB   | 1:BA:316:ILE:HA   | 2.00                     | 0.43              |
| 1:BH:16:ILE:HD12  | 1:BH:116:ALA:HB1  | 1.99                     | 0.43              |
| 1:BL:70:ILE:HD11  | 1:BW:86:TYR:CD2   | 2.54                     | 0.43              |
| 1:BQ:211:LEU:O    | 1:BQ:214:VAL:HG22 | 2.19                     | 0.43              |
| 1:BX:55:ALA:HA    | 1:CO:141:ILE:HD13 | 1.99                     | 0.43              |
| 1:BY:59:THR:O     | 2:EN:61:ASN:ND2   | 2.51                     | 0.43              |
| 1:CE:158:LEU:HB3  | 1:CE:260:LEU:HD21 | 2.00                     | 0.43              |
| 1:CF:70:ILE:HD11  | 1:CT:86:TYR:HD2   | 1.83                     | 0.43              |
| 1:CF:161:MET:SD   | 2:FD:31:LEU:HD21  | 2.58                     | 0.43              |
| 1:CI:35:GLU:O     | 1:CI:272:LYS:HA   | 2.19                     | 0.43              |
| 1:CO:35:GLU:O     | 1:CO:272:LYS:HA   | 2.19                     | 0.43              |
| 1:CO:66:THR:HG22  | 2:FA:52:CYS:HB3   | 2.00                     | 0.43              |
| 1:CS:49:TRP:CZ3   | 1:CS:74:SER:HB3   | 2.53                     | 0.43              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CU:158:LEU:HB3  | 1:CU:260:LEU:HD21 | 2.01                     | 0.43              |
| 1:DC:89:ARG:HH21  | 1:DC:112:LEU:HD21 | 1.84                     | 0.43              |
| 2:DP:137:LEU:HD11 | 2:DP:159:ALA:HB2  | 2.01                     | 0.43              |
| 4:FS:166:LEU:HD12 | 4:FS:180:LYS:HE2  | 2.00                     | 0.43              |
| 4:FX:93:VAL:HG21  | 4:FX:117:ILE:HD11 | 2.00                     | 0.43              |
| 4:GB:43:VAL:HG13  | 4:GB:43:VAL:O     | 2.18                     | 0.43              |
| 4:GE:144:ASN:HD21 | 4:GE:148:ALA:HB3  | 1.84                     | 0.43              |
| 4:GI:43:VAL:O     | 4:GI:43:VAL:HG13  | 2.18                     | 0.43              |
| 5:GM:211:LYS:O    | 5:GM:215:ILE:HG13 | 2.18                     | 0.43              |
| 5:IB:215:ILE:O    | 5:IB:219:GLU:HG3  | 2.19                     | 0.43              |
| 1:AF:78:ARG:HH21  | 4:FK:111:PHE:HE1  | 1.67                     | 0.43              |
| 1:AH:96:GLU:O     | 1:AH:100:THR:HG23 | 2.19                     | 0.43              |
| 1:AS:16:ILE:HD11  | 1:AS:120:LYS:HE3  | 2.01                     | 0.43              |
| 1:AS:96:GLU:O     | 1:AS:100:THR:HG23 | 2.19                     | 0.43              |
| 1:AT:317:LYS:HG2  | 1:AT:319:SER:H    | 1.84                     | 0.43              |
| 1:BE:35:GLU:O     | 1:BE:272:LYS:HA   | 2.19                     | 0.43              |
| 1:BK:226:SER:OG   | 1:BV:226:SER:O    | 2.29                     | 0.43              |
| 1:BO:165:ILE:H    | 1:BO:165:ILE:HD12 | 1.83                     | 0.43              |
| 1:BV:307:THR:HG22 | 2:EF:32:LEU:HB2   | 2.01                     | 0.43              |
| 1:BX:54:ASN:ND2   | 2:EP:47:ASN:HD21  | 2.17                     | 0.43              |
| 1:BY:290:THR:HG22 | 1:CK:60:ILE:HG23  | 2.00                     | 0.43              |
| 1:BZ:289:SER:HB2  | 1:CA:85:GLN:HE22  | 1.84                     | 0.43              |
| 1:CA:282:ASN:HB3  | 1:CA:296:TYR:HB2  | 2.00                     | 0.43              |
| 1:CF:203:VAL:HG22 | 1:CF:261:ILE:HG23 | 2.00                     | 0.43              |
| 1:CG:158:LEU:HB3  | 1:CG:260:LEU:HD21 | 2.00                     | 0.43              |
| 1:CM:107:ASP:OD2  | 1:CM:110:ASN:ND2  | 2.39                     | 0.43              |
| 2:DI:69:TYR:HB2   | 2:DI:101:ILE:HD12 | 2.01                     | 0.43              |
| 5:GN:202:PHE:O    | 5:GN:206:ILE:HG13 | 2.19                     | 0.43              |
| 1:AQ:121:LEU:O    | 1:AQ:125:GLU:HG2  | 2.19                     | 0.43              |
| 1:AT:43:TYR:HB3   | 1:AT:80:ASN:ND2   | 2.33                     | 0.43              |
| 1:AT:174:LYS:O    | 1:AT:212:LYS:NZ   | 2.52                     | 0.43              |
| 1:AU:296:TYR:HE2  | 1:BA:67:ILE:HG13  | 1.83                     | 0.43              |
| 1:AV:124:SER:O    | 1:AV:128:LYS:HG3  | 2.17                     | 0.43              |
| 1:AV:307:THR:HG22 | 2:DN:32:LEU:HB2   | 2.00                     | 0.43              |
| 1:BA:158:LEU:HB3  | 1:BA:260:LEU:HD21 | 2.01                     | 0.43              |
| 1:BC:35:GLU:O     | 1:BC:272:LYS:HA   | 2.19                     | 0.43              |
| 1:BL:260:LEU:HD23 | 1:BL:260:LEU:HA   | 1.91                     | 0.43              |
| 1:BP:112:LEU:HD21 | 1:BP:292:VAL:HG22 | 2.00                     | 0.43              |
| 1:BS:282:ASN:OD1  | 1:BS:283:GLU:N    | 2.52                     | 0.43              |
| 1:BU:79:LEU:HD11  | 1:BU:305:LEU:HB2  | 1.99                     | 0.43              |
| 1:BV:35:GLU:O     | 1:BV:272:LYS:HA   | 2.19                     | 0.43              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BY:174:LYS:O    | 1:BY:212:LYS:NZ   | 2.52                     | 0.43              |
| 1:CC:77:VAL:HG11  | 1:CC:305:LEU:HD13 | 2.01                     | 0.43              |
| 1:CG:35:GLU:O     | 1:CG:272:LYS:HA   | 2.19                     | 0.43              |
| 1:CL:35:GLU:O     | 1:CL:272:LYS:HA   | 2.19                     | 0.43              |
| 1:CQ:286:ASP:HB2  | 1:CQ:294:HIS:HB2  | 2.01                     | 0.43              |
| 1:CX:35:GLU:O     | 1:CX:272:LYS:HA   | 2.19                     | 0.43              |
| 1:CX:157:GLY:N    | 1:CX:160:ASN:OD1  | 2.49                     | 0.43              |
| 1:CY:49:TRP:CZ3   | 1:CY:74:SER:HB3   | 2.53                     | 0.43              |
| 1:DA:96:GLU:O     | 1:DA:100:THR:HG23 | 2.19                     | 0.43              |
| 1:DC:49:TRP:CE3   | 1:DC:74:SER:HB3   | 2.54                     | 0.43              |
| 2:DJ:154:SER:HA   | 2:DJ:181:ARG:HB2  | 2.00                     | 0.43              |
| 2:DT:125:LYS:HD2  | 2:DT:169:ASP:HA   | 2.01                     | 0.43              |
| 2:DV:167:THR:HG22 | 2:DV:168:GLU:N    | 2.34                     | 0.43              |
| 2:DY:30:GLY:O     | 2:DY:31:LEU:HD23  | 2.19                     | 0.43              |
| 2:EH:167:THR:HB   | 2:EH:170:LEU:HB3  | 2.01                     | 0.43              |
| 4:FS:133:SER:HB3  | 4:FS:177:TYR:CE1  | 2.54                     | 0.43              |
| 1:AF:188:LEU:HD23 | 1:AF:191:LEU:HD12 | 2.01                     | 0.42              |
| 1:AO:188:LEU:HD23 | 1:AO:191:LEU:HD12 | 2.00                     | 0.42              |
| 1:AQ:54:ASN:OD1   | 2:DJ:47:ASN:ND2   | 2.37                     | 0.42              |
| 1:AS:49:TRP:CZ3   | 1:AS:74:SER:HB3   | 2.54                     | 0.42              |
| 1:AS:130:ILE:O    | 1:AS:134:VAL:HG23 | 2.19                     | 0.42              |
| 1:AV:66:THR:HG22  | 2:DN:52:CYS:HB3   | 2.01                     | 0.42              |
| 1:AW:203:VAL:HA   | 1:AW:260:LEU:O    | 2.19                     | 0.42              |
| 1:AX:203:VAL:HG22 | 1:AX:261:ILE:HG23 | 2.01                     | 0.42              |
| 1:BF:211:LEU:HD23 | 1:BF:211:LEU:HA   | 1.88                     | 0.42              |
| 1:BS:97:LYS:HE2   | 1:BS:97:LYS:HB3   | 1.88                     | 0.42              |
| 1:BT:282:ASN:OD1  | 1:BT:283:GLU:N    | 2.51                     | 0.42              |
| 1:CD:87:LYS:NZ    | 4:GC:53:THR:O     | 2.38                     | 0.42              |
| 1:CH:174:LYS:O    | 1:CH:212:LYS:NZ   | 2.52                     | 0.42              |
| 1:CJ:59:THR:O     | 2:ES:61:ASN:ND2   | 2.51                     | 0.42              |
| 1:CR:35:GLU:O     | 1:CR:272:LYS:HA   | 2.19                     | 0.42              |
| 1:CU:101:SER:OG   | 1:CU:102:ASP:N    | 2.52                     | 0.42              |
| 1:CV:35:GLU:O     | 1:CV:272:LYS:HA   | 2.18                     | 0.42              |
| 1:DD:159:LEU:HD12 | 1:DD:260:LEU:HD13 | 2.01                     | 0.42              |
| 2:EK:58:LYS:HE2   | 2:EM:116:ASN:HD21 | 1.83                     | 0.42              |
| 2:EK:137:LEU:HD11 | 2:EK:159:ALA:HB2  | 2.01                     | 0.42              |
| 2:EM:76:SER:O     | 2:EM:84:LEU:HD12  | 2.19                     | 0.42              |
| 2:FI:56:LYS:HD2   | 4:GJ:56:PHE:HD1   | 1.84                     | 0.42              |
| 4:FM:142:ILE:HG23 | 4:FM:152:VAL:HG22 | 2.01                     | 0.42              |
| 4:FR:43:VAL:O     | 4:FR:43:VAL:HG13  | 2.19                     | 0.42              |
| 4:FU:64:PHE:CZ    | 4:FU:108:ILE:HD11 | 2.54                     | 0.42              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:FZ:137:VAL:HG12 | 4:FZ:138:LYS:HG3  | 2.00                     | 0.42              |
| 5:HB:202:PHE:O    | 5:HB:206:ILE:HG13 | 2.19                     | 0.42              |
| 5:HZ:200:THR:O    | 5:HZ:204:GLN:HG2  | 2.19                     | 0.42              |
| 1:AK:241:ILE:HG22 | 1:AO:211:LEU:HD21 | 2.01                     | 0.42              |
| 1:AM:169:VAL:HG22 | 1:AM:183:LYS:HG3  | 2.01                     | 0.42              |
| 1:AO:79:LEU:HD11  | 1:AO:305:LEU:HB2  | 2.00                     | 0.42              |
| 1:AT:35:GLU:O     | 1:AT:272:LYS:HA   | 2.19                     | 0.42              |
| 1:AU:256:LYS:HG2  | 1:AU:257:HIS:CD2  | 2.54                     | 0.42              |
| 1:AZ:65:ASN:ND2   | 2:DW:57:ASP:O     | 2.52                     | 0.42              |
| 1:AZ:231:GLU:O    | 1:AZ:235:ILE:HG13 | 2.19                     | 0.42              |
| 1:BN:169:VAL:HG22 | 1:BN:183:LYS:HG3  | 1.99                     | 0.42              |
| 1:BO:126:ILE:O    | 1:BO:130:ILE:HG13 | 2.20                     | 0.42              |
| 1:BP:35:GLU:O     | 1:BP:272:LYS:HA   | 2.19                     | 0.42              |
| 1:BQ:35:GLU:O     | 1:BQ:272:LYS:HA   | 2.18                     | 0.42              |
| 1:BQ:49:TRP:CZ3   | 1:BQ:74:SER:HB3   | 2.54                     | 0.42              |
| 1:BS:55:ALA:O     | 1:BZ:86:TYR:OH    | 2.30                     | 0.42              |
| 1:CL:96:GLU:O     | 1:CL:100:THR:HG23 | 2.19                     | 0.42              |
| 1:CL:211:LEU:HD23 | 1:CL:211:LEU:HA   | 1.86                     | 0.42              |
| 2:DY:114:THR:O    | 2:DZ:114:THR:HB   | 2.20                     | 0.42              |
| 2:ET:133:PRO:HG3  | 2:ET:161:SER:HA   | 2.01                     | 0.42              |
| 2:EW:167:THR:HG22 | 2:EW:168:GLU:H    | 1.84                     | 0.42              |
| 4:GH:107:ASP:OD1  | 4:GH:108:ILE:N    | 2.52                     | 0.42              |
| 5:HI:200:THR:O    | 5:HI:204:GLN:HG2  | 2.18                     | 0.42              |
| 5:IS:198:ASN:OD1  | 5:IS:201:GLU:HG3  | 2.18                     | 0.42              |
| 1:AI:203:VAL:HG22 | 1:AI:261:ILE:HG23 | 2.01                     | 0.42              |
| 1:AI:205:VAL:HG12 | 1:AI:259:ILE:HG23 | 2.01                     | 0.42              |
| 1:AK:126:ILE:O    | 1:AK:130:ILE:HG13 | 2.20                     | 0.42              |
| 1:AU:231:GLU:O    | 1:AU:235:ILE:HG13 | 2.19                     | 0.42              |
| 1:AX:231:GLU:O    | 1:AX:235:ILE:HG13 | 2.19                     | 0.42              |
| 1:BH:35:GLU:O     | 1:BH:272:LYS:HA   | 2.18                     | 0.42              |
| 1:BJ:101:SER:OG   | 1:BJ:102:ASP:N    | 2.52                     | 0.42              |
| 1:BM:19:GLU:HA    | 1:BM:120:LYS:HD3  | 2.01                     | 0.42              |
| 1:BQ:169:VAL:HG22 | 1:BQ:183:LYS:HG3  | 2.00                     | 0.42              |
| 1:BR:188:LEU:O    | 1:BR:191:LEU:HB2  | 2.19                     | 0.42              |
| 1:BW:231:GLU:O    | 1:BW:235:ILE:HG13 | 2.19                     | 0.42              |
| 1:BY:174:LYS:HE2  | 1:BY:318:GLN:HE21 | 1.83                     | 0.42              |
| 1:CB:41:MET:HE2   | 1:CB:41:MET:HB2   | 1.92                     | 0.42              |
| 1:CD:49:TRP:CZ3   | 1:CD:74:SER:HB3   | 2.54                     | 0.42              |
| 1:CH:48:LYS:HG3   | 2:EW:32:LEU:HD22  | 2.01                     | 0.42              |
| 1:CK:258:LYS:HZ3  | 1:CK:315:ASN:HB2  | 1.84                     | 0.42              |
| 1:CV:164:GLN:HE22 | 1:CV:308:ARG:HA   | 1.84                     | 0.42              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CW:49:TRP:CH2   | 1:CW:74:SER:HB3   | 2.55                     | 0.42              |
| 1:CW:91:LEU:HD21  | 1:CW:112:LEU:HD13 | 2.01                     | 0.42              |
| 1:CZ:163:GLU:HB2  | 2:DX:31:LEU:HD13  | 2.01                     | 0.42              |
| 1:DC:35:GLU:O     | 1:DC:272:LYS:HA   | 2.19                     | 0.42              |
| 2:DF:123:LEU:HD13 | 2:DF:173:VAL:HG11 | 2.02                     | 0.42              |
| 2:DP:160:LEU:HD11 | 4:FN:75:ARG:HH12  | 1.84                     | 0.42              |
| 2:DR:23:LYS:N     | 2:DR:67:TYR:OH    | 2.51                     | 0.42              |
| 2:EM:71:ARG:NH1   | 2:EM:142:HIS:O    | 2.53                     | 0.42              |
| 5:IV:200:THR:O    | 5:IV:204:GLN:HG2  | 2.19                     | 0.42              |
| 5:JM:189:LEU:HD11 | 5:JM:206:ILE:HG12 | 2.00                     | 0.42              |
| 1:AA:231:GLU:O    | 1:AA:235:ILE:HG13 | 2.20                     | 0.42              |
| 1:AD:96:GLU:O     | 1:AD:100:THR:HG23 | 2.19                     | 0.42              |
| 1:AE:57:PRO:HB2   | 1:AI:84:LEU:HD13  | 2.01                     | 0.42              |
| 1:AO:286:ASP:HB2  | 1:AO:294:HIS:HB2  | 2.02                     | 0.42              |
| 1:AR:143:LYS:HA   | 2:DQ:39:ARG:HE    | 1.83                     | 0.42              |
| 1:AS:211:LEU:O    | 1:AS:214:VAL:HG22 | 2.19                     | 0.42              |
| 1:AT:124:SER:O    | 1:AT:128:LYS:HG3  | 2.19                     | 0.42              |
| 1:BA:80:ASN:ND2   | 1:BA:153:PRO:O    | 2.40                     | 0.42              |
| 1:BB:214:VAL:HG11 | 1:BF:240:ALA:HB2  | 2.01                     | 0.42              |
| 1:BB:231:GLU:O    | 1:BB:235:ILE:HG13 | 2.20                     | 0.42              |
| 1:BC:163:GLU:HB2  | 2:EB:31:LEU:HD13  | 2.01                     | 0.42              |
| 1:BH:240:ALA:HB2  | 1:BL:214:VAL:HG11 | 2.01                     | 0.42              |
| 1:BI:96:GLU:O     | 1:BI:100:THR:HG23 | 2.18                     | 0.42              |
| 1:BN:133:PHE:CD2  | 1:BN:301:LEU:HD22 | 2.54                     | 0.42              |
| 1:BY:80:ASN:ND2   | 1:BY:153:PRO:O    | 2.34                     | 0.42              |
| 1:CE:210:SER:O    | 1:CE:214:VAL:HG13 | 2.20                     | 0.42              |
| 1:CF:65:ASN:ND2   | 2:FE:57:ASP:O     | 2.53                     | 0.42              |
| 1:CN:49:TRP:CE3   | 1:CN:74:SER:HB3   | 2.55                     | 0.42              |
| 1:CP:122:ALA:O    | 1:CP:126:ILE:HG13 | 2.20                     | 0.42              |
| 1:CS:277:MET:HA   | 1:CS:300:VAL:HB   | 2.02                     | 0.42              |
| 2:DJ:167:THR:HG22 | 2:DJ:168:GLU:N    | 2.35                     | 0.42              |
| 2:EA:166:LEU:HB2  | 2:EA:170:LEU:HD23 | 2.01                     | 0.42              |
| 2:ER:114:THR:O    | 2:ES:114:THR:HB   | 2.19                     | 0.42              |
| 2:FB:75:LEU:HD23  | 2:FB:75:LEU:HA    | 1.91                     | 0.42              |
| 4:FP:64:PHE:CZ    | 4:FP:108:ILE:HD11 | 2.55                     | 0.42              |
| 4:FV:73:VAL:HG21  | 4:FV:117:ILE:HD13 | 2.01                     | 0.42              |
| 5:IO:200:THR:O    | 5:IO:204:GLN:HG2  | 2.19                     | 0.42              |
| 1:AJ:77:VAL:HG11  | 1:AJ:305:LEU:HD13 | 1.99                     | 0.42              |
| 1:AO:207:PRO:O    | 1:AO:211:LEU:HG   | 2.19                     | 0.42              |
| 1:AR:78:ARG:HH21  | 2:DR:104:PHE:HE1  | 1.67                     | 0.42              |
| 1:AU:96:GLU:O     | 1:AU:100:THR:HG23 | 2.20                     | 0.42              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AV:209:THR:O    | 1:AV:213:LEU:HG   | 2.19                     | 0.42              |
| 1:AZ:135:LEU:HD21 | 1:AZ:255:LEU:HG   | 2.01                     | 0.42              |
| 1:BD:92:LYS:O     | 1:BD:96:GLU:HG3   | 2.20                     | 0.42              |
| 1:BI:178:ASP:OD1  | 1:BI:179:LYS:N    | 2.53                     | 0.42              |
| 1:BY:126:ILE:O    | 1:BY:130:ILE:HG13 | 2.18                     | 0.42              |
| 1:CA:111:ASN:HA   | 1:CJ:49:TRP:HH2   | 1.85                     | 0.42              |
| 1:CB:16:ILE:HD11  | 1:CB:120:LYS:HE3  | 2.02                     | 0.42              |
| 1:CB:174:LYS:O    | 1:CB:212:LYS:NZ   | 2.51                     | 0.42              |
| 1:CI:49:TRP:CE3   | 1:CI:74:SER:HB3   | 2.54                     | 0.42              |
| 1:CO:135:LEU:HD21 | 1:CO:255:LEU:HG   | 2.01                     | 0.42              |
| 1:CP:211:LEU:HD23 | 1:CP:211:LEU:HA   | 1.86                     | 0.42              |
| 1:CR:178:ASP:OD1  | 1:CR:178:ASP:N    | 2.52                     | 0.42              |
| 1:DD:66:THR:HG22  | 2:FI:52:CYS:HB3   | 2.01                     | 0.42              |
| 1:DE:16:ILE:HD11  | 1:DE:120:LYS:HE3  | 2.01                     | 0.42              |
| 2:DU:116:ASN:OD1  | 2:DV:58:LYS:HE2   | 2.18                     | 0.42              |
| 2:EH:63:PRO:HB2   | 2:EH:85:GLU:HG2   | 2.01                     | 0.42              |
| 4:FL:133:SER:HB3  | 4:FL:177:TYR:CE1  | 2.55                     | 0.42              |
| 5:GL:211:LYS:O    | 5:GL:215:ILE:HG13 | 2.19                     | 0.42              |
| 5:HF:211:LYS:O    | 5:HF:215:ILE:HG13 | 2.20                     | 0.42              |
| 5:IZ:200:THR:O    | 5:IZ:204:GLN:HG2  | 2.19                     | 0.42              |
| 1:AB:49:TRP:CZ3   | 1:AB:74:SER:HB3   | 2.54                     | 0.42              |
| 1:AC:126:ILE:O    | 1:AC:130:ILE:HG13 | 2.20                     | 0.42              |
| 1:AE:49:TRP:CE3   | 1:AE:74:SER:HB3   | 2.55                     | 0.42              |
| 1:AK:211:LEU:O    | 1:AK:214:VAL:HG22 | 2.20                     | 0.42              |
| 1:AP:207:PRO:O    | 1:AP:211:LEU:HG   | 2.20                     | 0.42              |
| 1:AU:35:GLU:O     | 1:AU:272:LYS:HA   | 2.18                     | 0.42              |
| 1:AU:132:HIS:HA   | 1:AU:254:LEU:HD13 | 2.01                     | 0.42              |
| 1:AV:96:GLU:O     | 1:AV:100:THR:HG23 | 2.20                     | 0.42              |
| 1:BH:96:GLU:O     | 1:BH:100:THR:HG23 | 2.20                     | 0.42              |
| 1:BI:107:ASP:HB3  | 1:BI:112:LEU:HB2  | 2.01                     | 0.42              |
| 1:BR:150:ARG:HH12 | 4:FY:65:LEU:HG    | 1.85                     | 0.42              |
| 1:CB:137:GLY:HA3  | 1:CB:160:ASN:OD1  | 2.19                     | 0.42              |
| 1:CL:152:LEU:HD21 | 2:EZ:105:SER:HA   | 2.02                     | 0.42              |
| 1:CN:163:GLU:HB3  | 1:CN:308:ARG:HG3  | 2.01                     | 0.42              |
| 1:CO:96:GLU:O     | 1:CO:100:THR:HG23 | 2.19                     | 0.42              |
| 1:CP:89:ARG:HH21  | 1:CP:112:LEU:HD21 | 1.84                     | 0.42              |
| 1:CW:152:LEU:HD21 | 2:FG:105:SER:HA   | 2.00                     | 0.42              |
| 1:CX:49:TRP:CE3   | 1:CX:74:SER:HB3   | 2.55                     | 0.42              |
| 1:DC:34:ILE:HA    | 1:DC:271:PHE:O    | 2.20                     | 0.42              |
| 1:DC:178:ASP:OD1  | 1:DC:178:ASP:N    | 2.52                     | 0.42              |
| 1:DE:122:ALA:O    | 1:DE:126:ILE:HG13 | 2.19                     | 0.42              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:DI:165:LYS:HE3  | 2:DI:168:GLU:HA   | 2.01                     | 0.42              |
| 2:DN:76:SER:HB3   | 2:DN:87:GLU:HG2   | 2.02                     | 0.42              |
| 2:EG:4:ILE:HG12   | 2:EG:8:LYS:HE3    | 2.01                     | 0.42              |
| 2:ER:148:VAL:HG21 | 2:ER:155:VAL:HG12 | 2.02                     | 0.42              |
| 2:FD:114:THR:O    | 2:FE:114:THR:HB   | 2.20                     | 0.42              |
| 4:FM:141:LEU:HD11 | 4:FM:165:ALA:HB2  | 2.01                     | 0.42              |
| 4:FN:64:PHE:CZ    | 4:FN:108:ILE:HD11 | 2.54                     | 0.42              |
| 4:GJ:43:VAL:HG13  | 4:GJ:43:VAL:O     | 2.19                     | 0.42              |
| 5:JK:200:THR:O    | 5:JK:204:GLN:HG2  | 2.19                     | 0.42              |
| 1:AG:286:ASP:HB2  | 1:AG:294:HIS:HB2  | 2.02                     | 0.42              |
| 1:AJ:108:ILE:O    | 2:DM:24:ASN:ND2   | 2.52                     | 0.42              |
| 1:AM:112:LEU:HD12 | 1:AM:112:LEU:HA   | 1.92                     | 0.42              |
| 1:AM:180:ILE:O    | 1:AM:184:ILE:HG13 | 2.20                     | 0.42              |
| 1:AO:307:THR:HG22 | 4:FP:32:LEU:HB2   | 2.02                     | 0.42              |
| 1:AQ:35:GLU:O     | 1:AQ:272:LYS:HA   | 2.19                     | 0.42              |
| 1:AR:211:LEU:O    | 1:AR:214:VAL:HG22 | 2.19                     | 0.42              |
| 1:AY:158:LEU:HB3  | 1:AY:260:LEU:HD21 | 2.02                     | 0.42              |
| 1:BA:174:LYS:O    | 1:BA:212:LYS:NZ   | 2.53                     | 0.42              |
| 1:BB:152:LEU:HD21 | 2:EA:105:SER:HA   | 2.02                     | 0.42              |
| 1:BH:119:TYR:CE1  | 1:BH:281:PRO:HG3  | 2.55                     | 0.42              |
| 1:BO:57:PRO:HG2   | 1:BS:84:LEU:HD13  | 2.00                     | 0.42              |
| 1:BO:77:VAL:HA    | 2:EL:29:SER:O     | 2.20                     | 0.42              |
| 1:BQ:195:ASP:HB2  | 4:FU:36:ASN:HB3   | 2.01                     | 0.42              |
| 1:CB:257:HIS:CE1  | 1:CB:318:GLN:HG3  | 2.55                     | 0.42              |
| 1:CK:43:TYR:HE2   | 1:CK:45:LYS:HE2   | 1.85                     | 0.42              |
| 1:CO:45:LYS:HE2   | 1:CO:78:ARG:HD3   | 2.01                     | 0.42              |
| 1:CO:159:LEU:HD12 | 1:CO:260:LEU:HD13 | 2.02                     | 0.42              |
| 1:CR:77:VAL:HG11  | 1:CR:305:LEU:HD13 | 2.01                     | 0.42              |
| 1:CT:35:GLU:O     | 1:CT:272:LYS:HA   | 2.19                     | 0.42              |
| 1:CV:306:ALA:O    | 4:GG:31:LEU:HB2   | 2.20                     | 0.42              |
| 2:DT:77:PHE:CE1   | 2:DT:84:LEU:HD13  | 2.55                     | 0.42              |
| 2:EJ:137:LEU:HD13 | 2:EJ:145:LEU:HD13 | 2.01                     | 0.42              |
| 2:ET:23:LYS:N     | 2:ET:67:TYR:OH    | 2.52                     | 0.42              |
| 2:EX:59:ILE:HG22  | 2:EX:111:ILE:HG12 | 2.02                     | 0.42              |
| 2:EY:137:LEU:HD11 | 2:EY:159:ALA:HB2  | 2.02                     | 0.42              |
| 4:GD:142:ILE:HD11 | 4:GD:152:VAL:HG23 | 2.02                     | 0.42              |
| 4:GH:23:LYS:N     | 4:GH:67:TYR:OH    | 2.51                     | 0.42              |
| 5:GO:202:PHE:O    | 5:GO:206:ILE:HG13 | 2.19                     | 0.42              |
| 5:GY:189:LEU:HD11 | 5:GY:206:ILE:HG12 | 2.02                     | 0.42              |
| 5:HK:209:THR:O    | 5:HK:213:ARG:HG3  | 2.20                     | 0.42              |
| 1:AG:308:ARG:O    | 2:DI:34:ASN:ND2   | 2.53                     | 0.42              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AN:57:PRO:HB2   | 1:AR:84:LEU:HD13  | 2.02                     | 0.42              |
| 1:AP:96:GLU:O     | 1:AP:100:THR:HG23 | 2.19                     | 0.42              |
| 1:AQ:77:VAL:HG11  | 1:AQ:305:LEU:HD13 | 2.00                     | 0.42              |
| 1:AQ:97:LYS:HE2   | 1:AQ:97:LYS:HB3   | 1.89                     | 0.42              |
| 1:AR:43:TYR:HA    | 1:AR:79:LEU:O     | 2.19                     | 0.42              |
| 1:AU:169:VAL:HG22 | 1:AU:183:LYS:HG3  | 2.02                     | 0.42              |
| 1:AW:231:GLU:O    | 1:AW:235:ILE:HG13 | 2.20                     | 0.42              |
| 1:BA:85:GLN:HB3   | 1:CY:60:ILE:HD11  | 2.02                     | 0.42              |
| 1:BB:210:SER:O    | 1:BB:214:VAL:HG13 | 2.20                     | 0.42              |
| 1:BC:178:ASP:OD1  | 1:BC:179:LYS:N    | 2.53                     | 0.42              |
| 1:BP:54:ASN:ND2   | 2:EG:47:ASN:HD21  | 2.17                     | 0.42              |
| 1:BT:150:ARG:HE   | 2:EL:63:PRO:HB3   | 1.84                     | 0.42              |
| 1:BU:178:ASP:N    | 1:BU:178:ASP:OD1  | 2.52                     | 0.42              |
| 1:BZ:41:MET:HE2   | 1:BZ:83:LYS:H     | 1.85                     | 0.42              |
| 1:CA:65:ASN:HB2   | 2:EK:59:ILE:H     | 1.83                     | 0.42              |
| 1:CA:121:LEU:O    | 1:CA:125:GLU:HG2  | 2.20                     | 0.42              |
| 1:CE:43:TYR:HE2   | 1:CE:45:LYS:HE2   | 1.84                     | 0.42              |
| 1:CI:260:LEU:HD23 | 1:CI:260:LEU:HA   | 1.95                     | 0.42              |
| 1:CL:101:SER:OG   | 1:CL:102:ASP:N    | 2.53                     | 0.42              |
| 1:CP:277:MET:HA   | 1:CP:300:VAL:HB   | 2.01                     | 0.42              |
| 1:CR:203:VAL:HA   | 1:CR:260:LEU:O    | 2.20                     | 0.42              |
| 1:CX:178:ASP:OD1  | 1:CX:178:ASP:N    | 2.52                     | 0.42              |
| 1:CZ:240:ALA:HB2  | 1:DC:214:VAL:HG11 | 2.02                     | 0.42              |
| 1:DC:157:GLY:N    | 1:DC:160:ASN:OD1  | 2.46                     | 0.42              |
| 2:EN:58:LYS:H     | 2:EN:115:ASN:ND2  | 2.18                     | 0.42              |
| 2:EP:75:LEU:HD23  | 2:EP:75:LEU:HA    | 1.89                     | 0.42              |
| 2:EV:69:TYR:HE1   | 2:EV:100:ASP:HA   | 1.84                     | 0.42              |
| 4:FQ:43:VAL:HG13  | 4:FQ:43:VAL:O     | 2.19                     | 0.42              |
| 4:GI:51:THR:HG21  | 4:GI:180:LYS:HE3  | 2.01                     | 0.42              |
| 5:HH:200:THR:O    | 5:HH:204:GLN:HG2  | 2.19                     | 0.42              |
| 1:AG:16:ILE:HD13  | 1:AG:116:ALA:HB1  | 2.01                     | 0.42              |
| 1:AM:231:GLU:O    | 1:AM:235:ILE:HG13 | 2.20                     | 0.42              |
| 1:AR:126:ILE:O    | 1:AR:130:ILE:HG13 | 2.20                     | 0.42              |
| 1:AU:229:LYS:O    | 1:AU:233:VAL:HG23 | 2.20                     | 0.42              |
| 1:AV:107:ASP:HB3  | 1:AV:112:LEU:HB2  | 2.01                     | 0.42              |
| 1:AZ:203:VAL:HG13 | 1:AZ:261:ILE:HG12 | 2.01                     | 0.42              |
| 1:BB:96:GLU:O     | 1:BB:100:THR:HG23 | 2.19                     | 0.42              |
| 1:BE:130:ILE:HG12 | 1:BE:301:LEU:HD21 | 2.01                     | 0.42              |
| 1:BH:244:ARG:NH1  | 1:BL:210:SER:OG   | 2.51                     | 0.42              |
| 1:BI:257:HIS:CD2  | 1:BI:318:GLN:HG3  | 2.55                     | 0.42              |
| 1:BN:158:LEU:HB3  | 1:BN:260:LEU:HD21 | 2.01                     | 0.42              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BQ:49:TRP:CE3   | 1:BQ:74:SER:HB3   | 2.54                     | 0.42              |
| 1:BT:119:TYR:CZ   | 1:BT:281:PRO:HG3  | 2.55                     | 0.42              |
| 1:BU:84:LEU:HD13  | 1:CA:57:PRO:HB2   | 2.01                     | 0.42              |
| 1:BX:49:TRP:CZ3   | 1:BX:74:SER:HB3   | 2.55                     | 0.42              |
| 1:BZ:203:VAL:HA   | 1:BZ:260:LEU:O    | 2.20                     | 0.42              |
| 1:CD:286:ASP:HB2  | 1:CD:294:HIS:HB2  | 2.02                     | 0.42              |
| 1:CI:178:ASP:N    | 1:CI:178:ASP:OD1  | 2.52                     | 0.42              |
| 1:CS:79:LEU:HD11  | 1:CS:305:LEU:HB2  | 2.00                     | 0.42              |
| 1:CV:23:PRO:HB2   | 1:CV:25:MET:HG2   | 2.01                     | 0.42              |
| 1:CV:257:HIS:CE1  | 1:CV:318:GLN:HG3  | 2.54                     | 0.42              |
| 1:DA:180:ILE:O    | 1:DA:184:ILE:HG13 | 2.20                     | 0.42              |
| 1:DE:158:LEU:HB3  | 1:DE:260:LEU:HD21 | 2.02                     | 0.42              |
| 2:DP:125:LYS:HD2  | 2:DP:169:ASP:HA   | 2.02                     | 0.42              |
| 2:DV:58:LYS:H     | 2:DV:115:ASN:ND2  | 2.18                     | 0.42              |
| 2:EM:77:PHE:CE1   | 2:EM:84:LEU:HD13  | 2.54                     | 0.42              |
| 4:FQ:10:GLU:O     | 4:FQ:14:LYS:HG2   | 2.18                     | 0.42              |
| 4:FV:142:ILE:HD11 | 4:FV:152:VAL:HG13 | 2.01                     | 0.42              |
| 4:GH:133:SER:HB3  | 4:GH:177:TYR:CE1  | 2.55                     | 0.42              |
| 5:JA:202:PHE:O    | 5:JA:206:ILE:HG13 | 2.20                     | 0.42              |
| 5:JI:189:LEU:HD11 | 5:JI:206:ILE:HG12 | 2.01                     | 0.42              |
| 1:AF:278:LEU:HD23 | 1:AF:278:LEU:HA   | 1.87                     | 0.42              |
| 1:AG:132:HIS:HA   | 1:AG:254:LEU:HD13 | 2.02                     | 0.42              |
| 1:AJ:28:TRP:CZ3   | 1:AJ:135:LEU:HB2  | 2.54                     | 0.42              |
| 1:AK:164:GLN:HE22 | 1:AK:308:ARG:HA   | 1.85                     | 0.42              |
| 1:AN:126:ILE:O    | 1:AN:130:ILE:HG13 | 2.20                     | 0.42              |
| 1:AU:30:SER:HB3   | 1:AU:33:GLN:HG3   | 2.02                     | 0.42              |
| 1:AV:8:TYR:CD2    | 1:AV:93:GLN:HG3   | 2.55                     | 0.42              |
| 1:AV:214:VAL:HG11 | 1:AY:240:ALA:HB2  | 2.02                     | 0.42              |
| 1:AW:205:VAL:HG12 | 1:AW:259:ILE:HG23 | 2.02                     | 0.42              |
| 1:BK:256:LYS:HE3  | 1:BK:256:LYS:HB2  | 1.89                     | 0.42              |
| 1:BL:96:GLU:O     | 1:BL:100:THR:HG23 | 2.20                     | 0.42              |
| 1:BL:257:HIS:HB3  | 1:BL:316:ILE:HB   | 2.02                     | 0.42              |
| 1:BP:81:TYR:OH    | 1:BP:272:LYS:O    | 2.30                     | 0.42              |
| 1:BR:181:PHE:O    | 1:BR:185:GLU:HG3  | 2.20                     | 0.42              |
| 1:CB:33:GLN:HG2   | 1:CB:266:SER:HA   | 2.02                     | 0.42              |
| 1:CC:51:ALA:O     | 4:GD:41:LYS:NZ    | 2.45                     | 0.42              |
| 1:CJ:286:ASP:HB2  | 1:CJ:294:HIS:HB2  | 2.01                     | 0.42              |
| 1:CK:57:PRO:HB2   | 1:CN:84:LEU:HD13  | 2.02                     | 0.42              |
| 1:CR:47:VAL:HG22  | 1:CR:76:VAL:HG22  | 2.01                     | 0.42              |
| 1:CS:49:TRP:CH2   | 1:CS:74:SER:HB3   | 2.55                     | 0.42              |
| 1:DE:277:MET:HA   | 1:DE:300:VAL:HB   | 2.01                     | 0.42              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:DR:133:PRO:HG3  | 2:DR:161:SER:HA   | 2.01                     | 0.42              |
| 2:DX:32:LEU:HD23  | 2:DX:32:LEU:HA    | 1.91                     | 0.42              |
| 2:EE:113:ILE:HD12 | 2:EE:113:ILE:HA   | 1.90                     | 0.42              |
| 2:EM:125:LYS:HD2  | 2:EM:169:ASP:HA   | 2.01                     | 0.42              |
| 2:EN:77:PHE:CD2   | 4:FZ:138:LYS:HG2  | 2.55                     | 0.42              |
| 2:EP:30:GLY:O     | 2:EP:31:LEU:HD23  | 2.20                     | 0.42              |
| 2:EX:165:LYS:HE3  | 2:EX:168:GLU:HA   | 2.00                     | 0.42              |
| 2:FC:116:ASN:ND2  | 4:GG:60:GLU:OE2   | 2.53                     | 0.42              |
| 3:FJ:184:ASN:HB3  | 3:FJ:190:ILE:HD13 | 2.02                     | 0.42              |
| 4:GC:120:ILE:HD12 | 4:GC:120:ILE:HA   | 1.94                     | 0.42              |
| 5:JG:190:LEU:HG   | 5:JG:209:THR:HG23 | 2.02                     | 0.42              |
| 5:JH:198:ASN:OD1  | 5:JH:201:GLU:HG3  | 2.20                     | 0.42              |
| 1:AG:41:MET:HE2   | 1:AG:83:LYS:H     | 1.84                     | 0.41              |
| 1:AJ:100:THR:HG22 | 1:AJ:105:ILE:HD13 | 2.01                     | 0.41              |
| 1:AN:203:VAL:HG22 | 1:AN:261:ILE:HG23 | 2.02                     | 0.41              |
| 1:AP:28:TRP:HB3   | 1:AP:262:TYR:OH   | 2.20                     | 0.41              |
| 1:AP:90:HIS:HE2   | 1:AP:295:SER:HG   | 1.66                     | 0.41              |
| 1:AT:209:THR:O    | 1:AT:213:LEU:HG   | 2.20                     | 0.41              |
| 1:AX:124:SER:O    | 1:AX:128:LYS:HG3  | 2.20                     | 0.41              |
| 1:AY:229:LYS:O    | 1:AY:233:VAL:HG23 | 2.19                     | 0.41              |
| 1:BF:59:THR:O     | 2:EA:61:ASN:ND2   | 2.53                     | 0.41              |
| 1:BJ:275:LYS:HE3  | 1:BJ:276:TYR:CZ   | 2.55                     | 0.41              |
| 1:BO:196:GLU:HB3  | 1:BO:265:ASN:HD22 | 1.85                     | 0.41              |
| 1:BV:165:ILE:HD13 | 1:BV:191:LEU:HD23 | 2.02                     | 0.41              |
| 1:BY:178:ASP:OD1  | 1:BY:178:ASP:N    | 2.52                     | 0.41              |
| 1:BZ:47:VAL:HG22  | 1:BZ:76:VAL:HG22  | 2.01                     | 0.41              |
| 1:CC:132:HIS:HA   | 1:CC:254:LEU:HD13 | 2.01                     | 0.41              |
| 1:CQ:84:LEU:HD13  | 1:DA:57:PRO:HB2   | 2.01                     | 0.41              |
| 1:CW:66:THR:HG22  | 2:FE:52:CYS:HB3   | 2.02                     | 0.41              |
| 1:CX:49:TRP:CZ3   | 1:CX:74:SER:HB3   | 2.55                     | 0.41              |
| 1:DB:80:ASN:ND2   | 1:DB:154:ASN:HB2  | 2.34                     | 0.41              |
| 1:DC:123:SER:O    | 1:DC:127:ILE:HG13 | 2.20                     | 0.41              |
| 2:DO:98:CYS:SG    | 2:DO:108:ALA:HB1  | 2.60                     | 0.41              |
| 2:EB:77:PHE:HD2   | 4:FU:138:LYS:HG3  | 1.85                     | 0.41              |
| 2:EB:166:LEU:HB2  | 2:EB:170:LEU:HD23 | 2.02                     | 0.41              |
| 2:EO:167:THR:HG22 | 2:EO:168:GLU:N    | 2.35                     | 0.41              |
| 2:FC:58:LYS:H     | 2:FC:115:ASN:ND2  | 2.18                     | 0.41              |
| 3:FJ:172:ASN:HB3  | 3:FJ:175:ILE:HD11 | 2.01                     | 0.41              |
| 4:FT:93:VAL:HG21  | 4:FT:117:ILE:HD11 | 2.02                     | 0.41              |
| 5:GS:200:THR:O    | 5:GS:204:GLN:HG2  | 2.20                     | 0.41              |
| 5:IP:200:THR:O    | 5:IP:204:GLN:HG2  | 2.20                     | 0.41              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AC:152:LEU:HD21 | 2:DH:105:SER:HA   | 2.02                     | 0.41              |
| 1:AF:158:LEU:HB3  | 1:AF:260:LEU:HD21 | 2.02                     | 0.41              |
| 1:AG:209:THR:O    | 1:AG:213:LEU:HG   | 2.20                     | 0.41              |
| 1:AL:273:PRO:HA   | 1:AL:302:GLY:HA3  | 2.01                     | 0.41              |
| 1:AN:66:THR:HG22  | 2:DQ:52:CYS:HB3   | 2.02                     | 0.41              |
| 1:AN:169:VAL:HG22 | 1:AN:183:LYS:HG3  | 2.01                     | 0.41              |
| 1:AQ:140:SER:HB2  | 1:AQ:148:GLN:HG2  | 2.02                     | 0.41              |
| 1:AU:85:GLN:HB3   | 1:BA:60:ILE:HD11  | 2.01                     | 0.41              |
| 1:AW:96:GLU:O     | 1:AW:100:THR:HG23 | 2.20                     | 0.41              |
| 1:BG:165:ILE:HD13 | 1:BG:191:LEU:HD23 | 2.02                     | 0.41              |
| 1:BK:203:VAL:HA   | 1:BK:260:LEU:O    | 2.20                     | 0.41              |
| 1:BN:49:TRP:CZ3   | 1:BR:113:LEU:HD11 | 2.55                     | 0.41              |
| 1:BN:49:TRP:CZ3   | 1:BN:74:SER:HB3   | 2.54                     | 0.41              |
| 1:CB:84:LEU:HD13  | 1:CL:57:PRO:HB2   | 2.01                     | 0.41              |
| 1:CC:178:ASP:N    | 1:CC:178:ASP:OD1  | 2.52                     | 0.41              |
| 1:CD:79:LEU:HD11  | 1:CD:305:LEU:HB2  | 2.01                     | 0.41              |
| 1:CJ:35:GLU:O     | 1:CJ:272:LYS:HA   | 2.20                     | 0.41              |
| 1:CL:308:ARG:O    | 2:ET:34:ASN:ND2   | 2.43                     | 0.41              |
| 1:CO:41:MET:HE2   | 1:CO:41:MET:HB2   | 1.94                     | 0.41              |
| 1:CO:205:VAL:HG12 | 1:CO:259:ILE:HG23 | 2.02                     | 0.41              |
| 1:CQ:113:LEU:HD11 | 1:DA:49:TRP:CE3   | 2.56                     | 0.41              |
| 1:DA:101:SER:OG   | 1:DA:102:ASP:N    | 2.53                     | 0.41              |
| 2:DK:140:ASN:HD21 | 2:DK:144:GLU:HB2  | 1.85                     | 0.41              |
| 2:DM:28:ASP:OD1   | 2:DM:28:ASP:N     | 2.52                     | 0.41              |
| 2:DT:58:LYS:HD3   | 4:FP:123:ASN:HD21 | 1.85                     | 0.41              |
| 2:DZ:137:LEU:HB3  | 2:DZ:145:LEU:HD22 | 2.02                     | 0.41              |
| 2:EI:76:SER:HB3   | 2:EI:87:GLU:HG2   | 2.02                     | 0.41              |
| 4:GB:23:LYS:N     | 4:GB:67:TYR:OH    | 2.52                     | 0.41              |
| 5:GL:189:LEU:HD11 | 5:GL:206:ILE:HG12 | 2.02                     | 0.41              |
| 1:AA:13:VAL:HG11  | 1:AA:281:PRO:HG2  | 2.00                     | 0.41              |
| 1:AE:150:ARG:HH22 | 2:DI:64:ALA:H     | 1.68                     | 0.41              |
| 1:AE:203:VAL:HG22 | 1:AE:261:ILE:HG23 | 2.01                     | 0.41              |
| 1:AF:197:PHE:CD2  | 1:AF:243:ASN:HB2  | 2.55                     | 0.41              |
| 1:AG:36:ASP:CG    | 5:GQ:214:ARG:HH22 | 2.23                     | 0.41              |
| 1:AI:39:LEU:O     | 1:AI:274:SER:OG   | 2.28                     | 0.41              |
| 1:AK:169:VAL:HG22 | 1:AK:183:LYS:HG3  | 2.01                     | 0.41              |
| 1:AK:256:LYS:HE3  | 1:AK:256:LYS:HB2  | 1.88                     | 0.41              |
| 1:AP:80:ASN:HB2   | 1:AP:155:MET:HG3  | 2.01                     | 0.41              |
| 1:AP:126:ILE:O    | 1:AP:130:ILE:HG13 | 2.20                     | 0.41              |
| 1:AP:180:ILE:O    | 1:AP:184:ILE:HG13 | 2.20                     | 0.41              |
| 1:AR:209:THR:O    | 1:AR:213:LEU:HG   | 2.19                     | 0.41              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AW:123:SER:O    | 1:AW:127:ILE:HG13 | 2.20                     | 0.41              |
| 1:BA:229:LYS:O    | 1:BA:233:VAL:HG23 | 2.20                     | 0.41              |
| 1:BE:49:TRP:CE3   | 1:BE:74:SER:HB3   | 2.56                     | 0.41              |
| 1:BI:52:PHE:CE1   | 1:BI:71:GLY:HA3   | 2.54                     | 0.41              |
| 1:BM:97:LYS:HB3   | 1:BM:97:LYS:HE2   | 1.89                     | 0.41              |
| 1:BP:16:ILE:HD11  | 1:BP:120:LYS:HE3  | 2.02                     | 0.41              |
| 1:BR:35:GLU:O     | 1:BR:272:LYS:HA   | 2.19                     | 0.41              |
| 1:BW:49:TRP:CZ3   | 1:BW:74:SER:HB3   | 2.56                     | 0.41              |
| 1:BY:212:LYS:HA   | 1:BY:215:LYS:HE3  | 2.02                     | 0.41              |
| 1:BZ:203:VAL:HG22 | 1:BZ:261:ILE:HG12 | 2.01                     | 0.41              |
| 1:CG:317:LYS:NZ   | 1:CG:319:SER:OXT  | 2.53                     | 0.41              |
| 1:CK:35:GLU:O     | 1:CK:272:LYS:HA   | 2.19                     | 0.41              |
| 1:CL:203:VAL:HG22 | 1:CL:261:ILE:HG23 | 2.01                     | 0.41              |
| 1:CR:28:TRP:O     | 1:CR:262:TYR:OH   | 2.34                     | 0.41              |
| 1:CU:96:GLU:O     | 1:CU:100:THR:HG23 | 2.20                     | 0.41              |
| 1:CU:277:MET:HA   | 1:CU:300:VAL:HB   | 2.01                     | 0.41              |
| 1:DD:49:TRP:CH2   | 1:DD:74:SER:HB3   | 2.55                     | 0.41              |
| 2:DJ:123:LEU:HD21 | 2:DJ:131:VAL:HG21 | 2.01                     | 0.41              |
| 2:DO:167:THR:HG22 | 2:DO:168:GLU:H    | 1.86                     | 0.41              |
| 2:DX:165:LYS:HB2  | 2:DX:171:PHE:CE2  | 2.55                     | 0.41              |
| 2:EA:140:ASN:OD1  | 2:EA:144:GLU:N    | 2.44                     | 0.41              |
| 2:EM:166:LEU:HB2  | 2:EM:170:LEU:HD23 | 2.02                     | 0.41              |
| 2:EV:30:GLY:O     | 2:EV:31:LEU:HD23  | 2.20                     | 0.41              |
| 4:FN:23:LYS:N     | 4:FN:67:TYR:OH    | 2.52                     | 0.41              |
| 4:GA:25:PRO:HB2   | 4:GA:27:HIS:CD2   | 2.55                     | 0.41              |
| 4:GC:20:LYS:HZ3   | 4:GC:21:PHE:HE1   | 1.67                     | 0.41              |
| 5:GK:211:LYS:O    | 5:GK:214:ARG:HG2  | 2.20                     | 0.41              |
| 5:HC:202:PHE:CE2  | 5:HC:206:ILE:HD11 | 2.56                     | 0.41              |
| 5:HJ:209:THR:O    | 5:HJ:213:ARG:HG3  | 2.20                     | 0.41              |
| 5:IL:202:PHE:O    | 5:IL:206:ILE:HG13 | 2.21                     | 0.41              |
| 5:IR:190:LEU:HG   | 5:IR:209:THR:HG23 | 2.02                     | 0.41              |
| 1:AC:67:ILE:HD12  | 1:AE:296:TYR:HE2  | 1.85                     | 0.41              |
| 1:AH:135:LEU:HD21 | 1:AH:255:LEU:HG   | 2.03                     | 0.41              |
| 1:AJ:20:VAL:O     | 5:GT:213:ARG:NH2  | 2.31                     | 0.41              |
| 1:AR:130:ILE:O    | 1:AR:134:VAL:HG23 | 2.20                     | 0.41              |
| 1:AU:27:LYS:O     | 5:HE:223:ARG:NH2  | 2.39                     | 0.41              |
| 1:AY:203:VAL:HG22 | 1:AY:261:ILE:HG23 | 2.02                     | 0.41              |
| 1:BG:84:LEU:HB3   | 1:BJ:57:PRO:HB2   | 2.01                     | 0.41              |
| 1:BG:96:GLU:O     | 1:BG:100:THR:HG23 | 2.20                     | 0.41              |
| 1:BJ:253:ASN:OD1  | 1:BJ:253:ASN:N    | 2.52                     | 0.41              |
| 1:BQ:119:TYR:CE1  | 1:BQ:281:PRO:HG3  | 2.55                     | 0.41              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BS:59:THR:O     | 4:GB:61:ASN:ND2   | 2.54                     | 0.41              |
| 1:BY:187:GLY:HA3  | 1:BY:312:LEU:HD13 | 2.01                     | 0.41              |
| 1:CC:57:PRO:HG2   | 1:CF:84:LEU:HD13  | 2.02                     | 0.41              |
| 1:CE:305:LEU:HD11 | 2:EY:32:LEU:HG    | 2.02                     | 0.41              |
| 1:CF:92:LYS:O     | 1:CF:96:GLU:HG3   | 2.20                     | 0.41              |
| 1:CG:306:ALA:O    | 4:GC:31:LEU:HB2   | 2.20                     | 0.41              |
| 1:CH:96:GLU:O     | 1:CH:100:THR:HG23 | 2.21                     | 0.41              |
| 1:CL:257:HIS:ND1  | 1:CL:318:GLN:HG3  | 2.35                     | 0.41              |
| 1:CM:203:VAL:HG22 | 1:CM:261:ILE:HG23 | 2.02                     | 0.41              |
| 1:CP:92:LYS:O     | 1:CP:96:GLU:HG3   | 2.20                     | 0.41              |
| 1:CV:41:MET:HE2   | 1:CV:41:MET:HB2   | 1.94                     | 0.41              |
| 1:CZ:79:LEU:HD11  | 1:CZ:305:LEU:HB2  | 2.02                     | 0.41              |
| 1:DA:253:ASN:OD1  | 1:DA:253:ASN:N    | 2.54                     | 0.41              |
| 1:DD:33:GLN:NE2   | 1:DD:269:ILE:O    | 2.48                     | 0.41              |
| 2:DQ:140:ASN:OD1  | 2:DQ:144:GLU:N    | 2.52                     | 0.41              |
| 2:DT:165:LYS:HE3  | 2:DT:168:GLU:HA   | 2.03                     | 0.41              |
| 2:DU:158:ILE:HG13 | 2:DU:178:PHE:HE2  | 1.85                     | 0.41              |
| 2:EC:23:LYS:N     | 2:EC:67:TYR:OH    | 2.52                     | 0.41              |
| 4:FT:144:ASN:OD1  | 4:FT:148:ALA:N    | 2.46                     | 0.41              |
| 4:GG:25:PRO:HB2   | 4:GG:27:HIS:CD2   | 2.55                     | 0.41              |
| 5:IJ:200:THR:O    | 5:IJ:204:GLN:HG2  | 2.20                     | 0.41              |
| 1:AA:169:VAL:HG22 | 1:AA:183:LYS:HG3  | 2.03                     | 0.41              |
| 1:AD:186:ALA:O    | 1:AD:190:LYS:HG3  | 2.20                     | 0.41              |
| 1:AG:260:LEU:HD23 | 1:AG:260:LEU:HA   | 1.95                     | 0.41              |
| 1:AH:57:PRO:HB2   | 1:AL:84:LEU:HD13  | 2.02                     | 0.41              |
| 1:AV:211:LEU:O    | 1:AV:214:VAL:HG22 | 2.21                     | 0.41              |
| 1:BM:86:TYR:OH    | 1:BP:55:ALA:O     | 2.28                     | 0.41              |
| 1:BR:180:ILE:O    | 1:BR:184:ILE:HG13 | 2.20                     | 0.41              |
| 1:BV:174:LYS:O    | 1:BV:212:LYS:NZ   | 2.54                     | 0.41              |
| 1:BX:257:HIS:CE1  | 1:BX:318:GLN:HG3  | 2.55                     | 0.41              |
| 1:BY:203:VAL:HG13 | 1:BY:261:ILE:HG12 | 2.02                     | 0.41              |
| 1:CB:113:LEU:HD11 | 1:CL:49:TRP:CE3   | 2.55                     | 0.41              |
| 1:CC:62:ASN:ND2   | 2:EV:102:ASP:HB2  | 2.35                     | 0.41              |
| 1:CF:180:ILE:O    | 1:CF:184:ILE:HG13 | 2.21                     | 0.41              |
| 1:CL:188:LEU:HD23 | 1:CL:191:LEU:HD12 | 2.02                     | 0.41              |
| 1:CN:57:PRO:HB2   | 1:CP:84:LEU:HB3   | 2.02                     | 0.41              |
| 1:CX:123:SER:O    | 1:CX:127:ILE:HG13 | 2.20                     | 0.41              |
| 1:DE:81:TYR:OH    | 1:DE:272:LYS:O    | 2.28                     | 0.41              |
| 2:DS:58:LYS:HD3   | 2:DS:112:PRO:HG2  | 2.02                     | 0.41              |
| 2:DY:74:LYS:HE2   | 2:DY:89:GLY:HA3   | 2.03                     | 0.41              |
| 2:EE:28:ASP:N     | 2:EE:28:ASP:OD1   | 2.54                     | 0.41              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:ER:116:ASN:HB3  | 2:ES:114:THR:HG21 | 2.02                     | 0.41              |
| 2:ET:77:PHE:HB2   | 4:GC:138:LYS:HE2  | 2.03                     | 0.41              |
| 2:FE:167:THR:HG22 | 2:FE:168:GLU:H    | 1.86                     | 0.41              |
| 4:FX:37:GLU:HG3   | 4:FX:39:ARG:H     | 1.85                     | 0.41              |
| 5:JO:200:THR:O    | 5:JO:204:GLN:HG2  | 2.20                     | 0.41              |
| 1:AA:13:VAL:O     | 1:AA:17:ILE:HB    | 2.21                     | 0.41              |
| 1:AA:186:ALA:O    | 1:AA:190:LYS:HG3  | 2.20                     | 0.41              |
| 1:AB:209:THR:O    | 1:AB:213:LEU:HG   | 2.20                     | 0.41              |
| 1:AD:77:VAL:HG11  | 1:AD:305:LEU:HD13 | 2.02                     | 0.41              |
| 1:AP:133:PHE:CD2  | 1:AP:301:LEU:HD22 | 2.56                     | 0.41              |
| 1:AR:203:VAL:HG22 | 1:AR:261:ILE:HG23 | 2.02                     | 0.41              |
| 1:AY:130:ILE:O    | 1:AY:134:VAL:HG23 | 2.21                     | 0.41              |
| 1:BB:49:TRP:CZ3   | 1:BB:74:SER:HB3   | 2.55                     | 0.41              |
| 1:BD:14:ALA:HB2   | 5:HN:202:PHE:HE1  | 1.85                     | 0.41              |
| 1:BD:142:GLN:NE2  | 1:BD:147:ASN:OD1  | 2.52                     | 0.41              |
| 1:BH:203:VAL:HG13 | 1:BH:261:ILE:HG12 | 2.02                     | 0.41              |
| 1:BJ:89:ARG:NH2   | 1:BJ:112:LEU:HD21 | 2.34                     | 0.41              |
| 1:BO:211:LEU:HD23 | 1:BO:211:LEU:HA   | 1.89                     | 0.41              |
| 1:BR:49:TRP:CZ3   | 1:BR:74:SER:HB3   | 2.55                     | 0.41              |
| 1:CK:79:LEU:HD11  | 1:CK:305:LEU:HB2  | 2.02                     | 0.41              |
| 1:CO:178:ASP:OD1  | 1:CO:178:ASP:N    | 2.52                     | 0.41              |
| 1:CR:39:LEU:O     | 1:CR:274:SER:OG   | 2.24                     | 0.41              |
| 1:CR:260:LEU:HD23 | 1:CR:260:LEU:HA   | 1.96                     | 0.41              |
| 1:CT:77:VAL:HA    | 2:FG:29:SER:O     | 2.20                     | 0.41              |
| 1:DE:169:VAL:HG22 | 1:DE:183:LYS:HG3  | 2.02                     | 0.41              |
| 2:DK:153:LYS:HG3  | 2:DK:154:SER:H    | 1.86                     | 0.41              |
| 2:DT:23:LYS:N     | 2:DT:67:TYR:OH    | 2.53                     | 0.41              |
| 2:EB:129:ASN:OD1  | 2:EB:130:GLY:N    | 2.54                     | 0.41              |
| 2:EL:133:PRO:HG3  | 2:EL:161:SER:HA   | 2.02                     | 0.41              |
| 5:HC:202:PHE:CZ   | 5:HC:206:ILE:HD11 | 2.56                     | 0.41              |
| 1:AU:282:ASN:OD1  | 1:AU:283:GLU:N    | 2.53                     | 0.41              |
| 1:AV:140:SER:HB2  | 1:AV:148:GLN:HG2  | 2.02                     | 0.41              |
| 1:AX:211:LEU:O    | 1:AX:214:VAL:HG22 | 2.21                     | 0.41              |
| 1:AY:164:GLN:HE22 | 1:AY:308:ARG:HA   | 1.86                     | 0.41              |
| 1:BE:142:GLN:OE1  | 1:BE:147:ASN:ND2  | 2.41                     | 0.41              |
| 1:BG:7:ASN:HB3    | 1:BG:10:ALA:HB3   | 2.03                     | 0.41              |
| 1:BG:196:GLU:HB3  | 1:BG:265:ASN:ND2  | 2.35                     | 0.41              |
| 1:BT:196:GLU:HB3  | 1:BT:265:ASN:ND2  | 2.36                     | 0.41              |
| 1:BW:96:GLU:O     | 1:BW:100:THR:HG23 | 2.20                     | 0.41              |
| 1:CD:28:TRP:HB3   | 1:CD:262:TYR:OH   | 2.21                     | 0.41              |
| 1:CK:255:LEU:HD22 | 1:CK:258:LYS:HB2  | 2.03                     | 0.41              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CK:289:SER:HB2  | 1:CL:85:GLN:HE22  | 1.85                     | 0.41              |
| 1:CP:169:VAL:HG22 | 1:CP:183:LYS:HG3  | 2.03                     | 0.41              |
| 1:CQ:35:GLU:O     | 1:CQ:272:LYS:HA   | 2.21                     | 0.41              |
| 1:CQ:135:LEU:HD21 | 1:CQ:255:LEU:HG   | 2.02                     | 0.41              |
| 1:DC:260:LEU:HD23 | 1:DC:260:LEU:HA   | 1.94                     | 0.41              |
| 2:DJ:65:LYS:HB2   | 2:DJ:85:GLU:OE1   | 2.21                     | 0.41              |
| 2:DT:145:LEU:HD23 | 2:DT:145:LEU:HA   | 1.95                     | 0.41              |
| 2:EN:69:TYR:CE2   | 2:EN:70:LYS:HG2   | 2.56                     | 0.41              |
| 2:FH:23:LYS:N     | 2:FH:67:TYR:OH    | 2.49                     | 0.41              |
| 3:FJ:140:ASP:OD1  | 3:FJ:140:ASP:N    | 2.53                     | 0.41              |
| 4:FQ:142:ILE:HD11 | 4:FQ:152:VAL:HG23 | 2.01                     | 0.41              |
| 5:HI:202:PHE:O    | 5:HI:206:ILE:HG13 | 2.21                     | 0.41              |
| 5:JN:189:LEU:HD11 | 5:JN:206:ILE:HG12 | 2.02                     | 0.41              |
| 1:AF:209:THR:O    | 1:AF:213:LEU:HG   | 2.20                     | 0.41              |
| 1:AJ:91:LEU:HG    | 1:AJ:112:LEU:HG   | 2.02                     | 0.41              |
| 1:AK:196:GLU:HB3  | 1:AK:265:ASN:HD22 | 1.84                     | 0.41              |
| 1:AN:186:ALA:O    | 1:AN:190:LYS:HG3  | 2.21                     | 0.41              |
| 1:AX:282:ASN:HB3  | 1:AX:296:TYR:HB2  | 2.03                     | 0.41              |
| 1:BK:196:GLU:OE1  | 1:BK:265:ASN:ND2  | 2.48                     | 0.41              |
| 1:BM:229:LYS:O    | 1:BM:233:VAL:HG23 | 2.20                     | 0.41              |
| 1:BP:142:GLN:NE2  | 1:BP:147:ASN:OD1  | 2.51                     | 0.41              |
| 1:BP:253:ASN:OD1  | 1:BP:253:ASN:N    | 2.53                     | 0.41              |
| 1:BT:211:LEU:O    | 1:BT:214:VAL:HG22 | 2.20                     | 0.41              |
| 1:CB:126:ILE:O    | 1:CB:130:ILE:HG13 | 2.20                     | 0.41              |
| 1:CB:205:VAL:HG12 | 1:CB:259:ILE:HG23 | 2.02                     | 0.41              |
| 1:CL:161:MET:SD   | 2:ET:31:LEU:HD21  | 2.61                     | 0.41              |
| 1:CL:257:HIS:CE1  | 1:CL:318:GLN:HG3  | 2.55                     | 0.41              |
| 1:CN:178:ASP:N    | 1:CN:178:ASP:OD1  | 2.52                     | 0.41              |
| 1:CN:286:ASP:HB2  | 1:CN:294:HIS:HB2  | 2.03                     | 0.41              |
| 1:CQ:126:ILE:O    | 1:CQ:130:ILE:HG13 | 2.20                     | 0.41              |
| 1:CW:152:LEU:HD23 | 1:CW:152:LEU:HA   | 1.92                     | 0.41              |
| 1:DB:23:PRO:HB2   | 1:DB:25:MET:HG2   | 2.02                     | 0.41              |
| 1:DB:124:SER:O    | 1:DB:128:LYS:HG3  | 2.21                     | 0.41              |
| 2:EA:123:LEU:HD13 | 2:EA:173:VAL:HG11 | 2.03                     | 0.41              |
| 2:FD:74:LYS:HE2   | 2:FD:89:GLY:HA3   | 2.02                     | 0.41              |
| 4:FS:35:SER:O     | 4:FS:41:LYS:HD2   | 2.21                     | 0.41              |
| 4:GE:25:PRO:HB2   | 4:GE:27:HIS:CD2   | 2.56                     | 0.41              |
| 4:GE:161:ILE:HA   | 4:GE:186:ASN:HA   | 2.01                     | 0.41              |
| 4:GG:20:LYS:HZ1   | 4:GG:175:GLU:HB2  | 1.86                     | 0.41              |
| 1:AC:124:SER:O    | 1:AC:128:LYS:HG3  | 2.20                     | 0.41              |
| 1:AD:307:THR:HG22 | 4:FO:32:LEU:HB2   | 2.02                     | 0.41              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AG:28:TRP:HB3   | 1:AG:262:TYR:OH   | 2.21                     | 0.41              |
| 1:AH:65:ASN:ND2   | 2:DN:57:ASP:O     | 2.54                     | 0.41              |
| 1:AJ:229:LYS:O    | 1:AJ:233:VAL:HG23 | 2.21                     | 0.41              |
| 1:AK:130:ILE:O    | 1:AK:134:VAL:HG23 | 2.21                     | 0.41              |
| 1:AL:36:ASP:CG    | 5:GV:214:ARG:HH22 | 2.24                     | 0.41              |
| 1:AQ:97:LYS:NZ    | 5:HB:200:THR:HG21 | 2.35                     | 0.41              |
| 1:AS:231:GLU:O    | 1:AS:235:ILE:HG13 | 2.21                     | 0.41              |
| 1:AT:203:VAL:HG22 | 1:AT:261:ILE:HG23 | 2.02                     | 0.41              |
| 1:AW:208:ALA:O    | 1:AW:212:LYS:HG3  | 2.21                     | 0.41              |
| 1:AX:55:ALA:HA    | 1:DD:141:ILE:HD13 | 2.02                     | 0.41              |
| 1:BD:77:VAL:HG11  | 1:BD:305:LEU:HD13 | 2.02                     | 0.41              |
| 1:BD:307:THR:HG22 | 2:EI:32:LEU:HB2   | 2.03                     | 0.41              |
| 1:BF:178:ASP:N    | 1:BF:178:ASP:OD1  | 2.53                     | 0.41              |
| 1:BF:188:LEU:HD23 | 1:BF:191:LEU:HD12 | 2.03                     | 0.41              |
| 1:BG:181:PHE:O    | 1:BG:185:GLU:HG3  | 2.21                     | 0.41              |
| 1:BH:203:VAL:HA   | 1:BH:260:LEU:O    | 2.21                     | 0.41              |
| 1:BI:34:ILE:HG12  | 1:BI:271:PHE:HB3  | 2.03                     | 0.41              |
| 1:BI:159:LEU:HD11 | 1:BI:258:LYS:HD3  | 2.03                     | 0.41              |
| 1:BN:54:ASN:OD1   | 2:EJ:47:ASN:ND2   | 2.34                     | 0.41              |
| 1:BN:96:GLU:O     | 1:BN:100:THR:HG23 | 2.20                     | 0.41              |
| 1:BQ:87:LYS:NZ    | 4:FY:53:THR:O     | 2.36                     | 0.41              |
| 1:BQ:97:LYS:HE2   | 1:BQ:97:LYS:HB3   | 1.95                     | 0.41              |
| 1:BQ:229:LYS:O    | 1:BQ:233:VAL:HG23 | 2.20                     | 0.41              |
| 1:BU:27:LYS:HG3   | 5:IE:217:PHE:HZ   | 1.85                     | 0.41              |
| 1:BV:203:VAL:HG22 | 1:BV:261:ILE:HG23 | 2.02                     | 0.41              |
| 1:BW:107:ASP:OD2  | 1:BW:110:ASN:ND2  | 2.33                     | 0.41              |
| 1:BY:209:THR:O    | 1:BY:213:LEU:HG   | 2.21                     | 0.41              |
| 1:BY:277:MET:HA   | 1:BY:300:VAL:HB   | 2.03                     | 0.41              |
| 1:BY:308:ARG:HG3  | 4:FZ:33:SER:HA    | 2.03                     | 0.41              |
| 1:BZ:143:LYS:HA   | 2:ES:39:ARG:HE    | 1.86                     | 0.41              |
| 1:CF:34:ILE:HG12  | 1:CF:271:PHE:HB3  | 2.03                     | 0.41              |
| 1:CF:85:GLN:NE2   | 1:CF:298:ASP:OD1  | 2.52                     | 0.41              |
| 1:CG:8:TYR:CD2    | 1:CG:93:GLN:HG3   | 2.56                     | 0.41              |
| 1:CH:35:GLU:O     | 1:CH:272:LYS:HA   | 2.21                     | 0.41              |
| 1:CH:66:THR:OG1   | 4:GD:58:LYS:NZ    | 2.50                     | 0.41              |
| 1:CL:16:ILE:HD11  | 1:CL:120:LYS:HE3  | 2.02                     | 0.41              |
| 1:CM:174:LYS:O    | 1:CM:212:LYS:NZ   | 2.54                     | 0.41              |
| 1:CN:35:GLU:O     | 1:CN:272:LYS:HA   | 2.20                     | 0.41              |
| 1:CO:152:LEU:HD21 | 2:EQ:105:SER:HA   | 2.03                     | 0.41              |
| 1:CP:148:GLN:HG3  | 2:ER:81:THR:O     | 2.20                     | 0.41              |
| 1:CP:205:VAL:HG12 | 1:CP:259:ILE:HG23 | 2.02                     | 0.41              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CQ:75:GLU:OE2   | 1:CQ:308:ARG:NH2  | 2.54                     | 0.41              |
| 1:CR:194:GLY:HA3  | 4:GH:36:ASN:OD1   | 2.20                     | 0.41              |
| 1:CT:49:TRP:CH2   | 1:CT:74:SER:HB3   | 2.56                     | 0.41              |
| 1:CT:210:SER:O    | 1:CT:214:VAL:HG13 | 2.20                     | 0.41              |
| 1:CT:289:SER:HB2  | 1:CU:85:GLN:HE22  | 1.85                     | 0.41              |
| 1:CV:178:ASP:N    | 1:CV:178:ASP:OD1  | 2.53                     | 0.41              |
| 1:CW:45:LYS:HE2   | 1:CW:78:ARG:HD3   | 2.03                     | 0.41              |
| 1:CY:180:ILE:O    | 1:CY:184:ILE:HG13 | 2.21                     | 0.41              |
| 1:CZ:35:GLU:O     | 1:CZ:272:LYS:HA   | 2.20                     | 0.41              |
| 1:DD:35:GLU:O     | 1:DD:272:LYS:HA   | 2.20                     | 0.41              |
| 2:DG:166:LEU:HD11 | 2:DG:172:ILE:HD13 | 2.02                     | 0.41              |
| 2:DI:36:ILE:HG23  | 2:DI:36:ILE:O     | 2.21                     | 0.41              |
| 2:DL:68:PRO:HD2   | 2:DL:101:ILE:HD11 | 2.03                     | 0.41              |
| 2:DR:153:LYS:O    | 2:DR:181:ARG:NH2  | 2.54                     | 0.41              |
| 2:DW:166:LEU:HB2  | 2:DW:170:LEU:HD23 | 2.03                     | 0.41              |
| 2:EK:113:ILE:HD12 | 2:EK:113:ILE:HA   | 1.95                     | 0.41              |
| 2:EO:23:LYS:HG3   | 2:EO:24:ASN:N     | 2.36                     | 0.41              |
| 2:ER:120:TYR:CE1  | 2:ER:174:LEU:HB2  | 2.55                     | 0.41              |
| 2:EU:69:TYR:HB2   | 2:EU:101:ILE:HD12 | 2.03                     | 0.41              |
| 4:FN:65:LEU:HD23  | 4:FN:92:HIS:CG    | 2.55                     | 0.41              |
| 4:FU:149:LEU:HD13 | 4:FU:181:VAL:HG11 | 2.02                     | 0.41              |
| 4:GA:20:LYS:HZ1   | 4:GA:175:GLU:HB2  | 1.85                     | 0.41              |
| 4:GB:107:ASP:OD1  | 4:GB:108:ILE:N    | 2.54                     | 0.41              |
| 4:GD:107:ASP:OD1  | 4:GD:108:ILE:N    | 2.54                     | 0.41              |
| 4:GG:23:LYS:N     | 4:GG:67:TYR:OH    | 2.54                     | 0.41              |
| 4:GJ:142:ILE:HD11 | 4:GJ:152:VAL:HG23 | 2.02                     | 0.41              |
| 5:GY:200:THR:O    | 5:GY:204:GLN:HG2  | 2.21                     | 0.41              |
| 5:HC:215:ILE:O    | 5:HC:219:GLU:HG3  | 2.21                     | 0.41              |
| 5:IC:198:ASN:OD1  | 5:IC:201:GLU:HG3  | 2.21                     | 0.41              |
| 5:JG:202:PHE:O    | 5:JG:206:ILE:HG13 | 2.21                     | 0.41              |
| 1:AA:112:LEU:HD12 | 1:AA:112:LEU:HA   | 1.91                     | 0.41              |
| 1:AC:79:LEU:HD11  | 1:AC:305:LEU:HB2  | 2.03                     | 0.41              |
| 1:AG:180:ILE:O    | 1:AG:184:ILE:HG13 | 2.20                     | 0.41              |
| 1:AK:164:GLN:OE1  | 1:AK:311:ILE:N    | 2.54                     | 0.41              |
| 1:AP:234:LEU:O    | 1:AP:238:ILE:HG13 | 2.21                     | 0.41              |
| 1:AQ:162:PRO:HG2  | 2:DJ:31:LEU:HD11  | 2.02                     | 0.41              |
| 1:AT:187:GLY:HA3  | 1:AT:312:LEU:HD13 | 2.03                     | 0.41              |
| 1:BA:307:THR:HG22 | 2:DT:32:LEU:HB2   | 2.03                     | 0.41              |
| 1:BD:208:ALA:O    | 1:BD:212:LYS:HG3  | 2.21                     | 0.41              |
| 1:BG:119:TYR:CE1  | 1:BG:281:PRO:HG3  | 2.55                     | 0.41              |
| 1:BJ:278:LEU:HD23 | 1:BJ:278:LEU:HA   | 1.88                     | 0.41              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BK:132:HIS:HA   | 1:BK:254:LEU:HD13 | 2.03                     | 0.41              |
| 1:BM:268:LEU:HD21 | 4:FW:36:ASN:HD21  | 1.86                     | 0.41              |
| 1:BU:86:TYR:CD2   | 1:CA:70:ILE:HD11  | 2.56                     | 0.41              |
| 1:BX:34:ILE:HA    | 1:BX:271:PHE:O    | 2.21                     | 0.41              |
| 1:CF:152:LEU:HD21 | 2:EV:105:SER:HA   | 2.02                     | 0.41              |
| 1:CM:8:TYR:CD2    | 1:CM:93:GLN:HG3   | 2.56                     | 0.41              |
| 1:CO:109:ASN:O    | 2:EP:24:ASN:ND2   | 2.53                     | 0.41              |
| 1:CR:57:PRO:HG2   | 1:CU:84:LEU:HD13  | 2.02                     | 0.41              |
| 1:CS:70:ILE:HD11  | 1:CZ:86:TYR:CD2   | 2.56                     | 0.41              |
| 1:CS:203:VAL:HA   | 1:CS:260:LEU:O    | 2.21                     | 0.41              |
| 1:CT:196:GLU:HB3  | 1:CT:265:ASN:HD22 | 1.86                     | 0.41              |
| 1:CV:169:VAL:HG22 | 1:CV:183:LYS:HG3  | 2.03                     | 0.41              |
| 1:DC:317:LYS:HE2  | 1:DC:319:SER:HB2  | 2.03                     | 0.41              |
| 2:EH:123:LEU:HD21 | 2:EH:131:VAL:HG21 | 2.03                     | 0.41              |
| 2:EU:156:ASN:HB3  | 2:EU:178:PHE:CZ   | 2.57                     | 0.41              |
| 4:FK:93:VAL:HG21  | 4:FK:117:ILE:HD11 | 2.03                     | 0.41              |
| 4:FQ:93:VAL:HG21  | 4:FQ:117:ILE:HD11 | 2.03                     | 0.41              |
| 4:GC:37:GLU:O     | 4:GC:41:LYS:HD2   | 2.20                     | 0.41              |
| 4:GH:142:ILE:HD11 | 4:GH:152:VAL:HG23 | 2.02                     | 0.41              |
| 5:HB:189:LEU:HD11 | 5:HB:206:ILE:HG12 | 2.03                     | 0.41              |
| 1:AA:96:GLU:O     | 1:AA:100:THR:HG23 | 2.21                     | 0.40              |
| 1:AC:57:PRO:HB2   | 1:AE:84:LEU:HB3   | 2.03                     | 0.40              |
| 1:AC:306:ALA:O    | 4:FK:31:LEU:HB2   | 2.21                     | 0.40              |
| 1:AF:133:PHE:CD2  | 1:AF:301:LEU:HD22 | 2.56                     | 0.40              |
| 1:AN:158:LEU:HB3  | 1:AN:260:LEU:HD21 | 2.02                     | 0.40              |
| 1:AS:255:LEU:HD23 | 1:AS:255:LEU:HA   | 1.93                     | 0.40              |
| 1:AW:39:LEU:HD11  | 1:AW:81:TYR:CD2   | 2.48                     | 0.40              |
| 1:AZ:146:LYS:HB3  | 4:FS:88:HIS:HD2   | 1.85                     | 0.40              |
| 1:BB:158:LEU:HB3  | 1:BB:260:LEU:HD21 | 2.03                     | 0.40              |
| 1:BI:50:ASP:HB3   | 1:BI:73:SER:OG    | 2.21                     | 0.40              |
| 1:BJ:28:TRP:CZ3   | 1:BJ:135:LEU:HB2  | 2.56                     | 0.40              |
| 1:BM:256:LYS:O    | 1:BM:258:LYS:HG2  | 2.21                     | 0.40              |
| 1:BN:49:TRP:CE3   | 1:BR:113:LEU:HD11 | 2.56                     | 0.40              |
| 1:BR:157:GLY:N    | 1:BR:160:ASN:OD1  | 2.39                     | 0.40              |
| 1:BT:79:LEU:HD11  | 1:BT:305:LEU:HB2  | 2.02                     | 0.40              |
| 1:CA:174:LYS:HE3  | 1:CA:318:GLN:HG3  | 2.02                     | 0.40              |
| 1:CJ:107:ASP:OD2  | 1:CJ:110:ASN:ND2  | 2.43                     | 0.40              |
| 1:CL:253:ASN:OD1  | 1:CL:253:ASN:N    | 2.54                     | 0.40              |
| 1:CN:123:SER:O    | 1:CN:127:ILE:HG13 | 2.20                     | 0.40              |
| 1:CS:91:LEU:HD21  | 1:CS:112:LEU:HD13 | 2.03                     | 0.40              |
| 1:CS:119:TYR:CZ   | 1:CS:281:PRO:HG3  | 2.56                     | 0.40              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CU:180:ILE:O    | 1:CU:184:ILE:HG13 | 2.21                     | 0.40              |
| 1:CW:135:LEU:HD21 | 1:CW:255:LEU:HG   | 2.01                     | 0.40              |
| 1:DA:59:THR:O     | 2:FC:61:ASN:ND2   | 2.54                     | 0.40              |
| 1:DD:178:ASP:OD1  | 1:DD:178:ASP:N    | 2.52                     | 0.40              |
| 2:DG:166:LEU:HB2  | 2:DG:170:LEU:HD23 | 2.03                     | 0.40              |
| 2:DL:133:PRO:HG3  | 2:DL:161:SER:HA   | 2.04                     | 0.40              |
| 2:EU:63:PRO:HB2   | 2:EU:85:GLU:HG2   | 2.03                     | 0.40              |
| 2:EU:165:LYS:HB2  | 2:EU:171:PHE:CE2  | 2.56                     | 0.40              |
| 2:EU:167:THR:HB   | 2:EU:170:LEU:HB3  | 2.03                     | 0.40              |
| 2:FE:77:PHE:HE1   | 2:FE:84:LEU:HD22  | 1.86                     | 0.40              |
| 5:HV:198:ASN:OD1  | 5:HV:201:GLU:HG3  | 2.20                     | 0.40              |
| 5:II:200:THR:O    | 5:II:204:GLN:HG2  | 2.21                     | 0.40              |
| 1:AI:209:THR:O    | 1:AI:213:LEU:HG   | 2.21                     | 0.40              |
| 1:AN:84:LEU:HD13  | 1:AT:57:PRO:HB2   | 2.02                     | 0.40              |
| 1:AU:203:VAL:HG13 | 1:AU:261:ILE:HG12 | 2.02                     | 0.40              |
| 1:AX:35:GLU:O     | 1:AX:272:LYS:HA   | 2.22                     | 0.40              |
| 1:AY:77:VAL:HG21  | 2:DU:32:LEU:HD23  | 2.03                     | 0.40              |
| 1:BA:121:LEU:HB3  | 1:CY:51:ALA:HB2   | 2.04                     | 0.40              |
| 1:BD:87:LYS:HD3   | 1:BD:296:TYR:CE2  | 2.56                     | 0.40              |
| 1:BE:176:LYS:O    | 1:BE:180:ILE:HG13 | 2.21                     | 0.40              |
| 1:BG:143:LYS:HE2  | 4:FV:37:GLU:HG2   | 2.02                     | 0.40              |
| 1:BJ:92:LYS:O     | 1:BJ:96:GLU:HG3   | 2.21                     | 0.40              |
| 1:BN:211:LEU:O    | 1:BN:214:VAL:HG22 | 2.22                     | 0.40              |
| 1:BU:28:TRP:O     | 1:BU:262:TYR:OH   | 2.27                     | 0.40              |
| 1:CD:180:ILE:O    | 1:CD:184:ILE:HG13 | 2.22                     | 0.40              |
| 1:CJ:203:VAL:HG22 | 1:CJ:261:ILE:HG23 | 2.03                     | 0.40              |
| 1:CL:180:ILE:O    | 1:CL:184:ILE:HG13 | 2.21                     | 0.40              |
| 1:CR:62:ASN:ND2   | 2:FD:102:ASP:HB2  | 2.37                     | 0.40              |
| 1:CZ:87:LYS:NZ    | 2:FH:53:THR:O     | 2.38                     | 0.40              |
| 1:DC:47:VAL:HG22  | 1:DC:76:VAL:HG22  | 2.03                     | 0.40              |
| 1:DD:82:LEU:HD12  | 1:DD:82:LEU:HA    | 1.95                     | 0.40              |
| 2:DG:156:ASN:OD1  | 2:DG:181:ARG:HG3  | 2.20                     | 0.40              |
| 2:DN:180:ASN:ND2  | 4:FM:186:ASN:O    | 2.52                     | 0.40              |
| 2:EG:167:THR:HG22 | 2:EG:168:GLU:N    | 2.36                     | 0.40              |
| 2:EK:23:LYS:HA    | 2:EK:45:PHE:CD2   | 2.56                     | 0.40              |
| 2:EL:180:ASN:O    | 2:EM:180:ASN:ND2  | 2.55                     | 0.40              |
| 2:EN:167:THR:HG22 | 2:EN:168:GLU:H    | 1.86                     | 0.40              |
| 2:EP:22:MET:HA    | 2:EP:67:TYR:CZ    | 2.56                     | 0.40              |
| 2:FA:181:ARG:HG2  | 2:FA:182:ALA:H    | 1.86                     | 0.40              |
| 4:FR:144:ASN:HD21 | 4:FR:148:ALA:HB3  | 1.85                     | 0.40              |
| 5:GU:211:LYS:O    | 5:GU:215:ILE:HG13 | 2.21                     | 0.40              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:HD:211:LYS:O    | 5:HD:215:ILE:HG13 | 2.22                     | 0.40              |
| 1:AA:85:GLN:HE22  | 1:AC:289:SER:HB2  | 1.86                     | 0.40              |
| 1:AF:162:PRO:HG2  | 2:DH:31:LEU:HD11  | 2.04                     | 0.40              |
| 1:AH:180:ILE:O    | 1:AH:184:ILE:HG13 | 2.22                     | 0.40              |
| 1:AK:132:HIS:HA   | 1:AK:254:LEU:HD13 | 2.03                     | 0.40              |
| 1:AL:57:PRO:HG2   | 1:AW:84:LEU:HD13  | 2.03                     | 0.40              |
| 1:AM:150:ARG:HH22 | 2:DO:64:ALA:H     | 1.67                     | 0.40              |
| 1:AN:86:TYR:OH    | 1:AT:55:ALA:O     | 2.30                     | 0.40              |
| 1:AO:196:GLU:HB3  | 1:AO:265:ASN:ND2  | 2.36                     | 0.40              |
| 1:AR:278:LEU:HD23 | 1:AR:278:LEU:HA   | 1.86                     | 0.40              |
| 1:BI:41:MET:HE3   | 1:BI:83:LYS:HB3   | 2.04                     | 0.40              |
| 1:BO:176:LYS:HB3  | 1:BO:178:ASP:OD1  | 2.21                     | 0.40              |
| 1:BP:92:LYS:O     | 1:BP:96:GLU:HG3   | 2.20                     | 0.40              |
| 1:BY:132:HIS:HA   | 1:BY:254:LEU:HD13 | 2.03                     | 0.40              |
| 1:CB:124:SER:O    | 1:CB:128:LYS:HG3  | 2.21                     | 0.40              |
| 1:CG:130:ILE:O    | 1:CG:134:VAL:HG23 | 2.21                     | 0.40              |
| 1:CG:178:ASP:OD1  | 1:CG:178:ASP:N    | 2.53                     | 0.40              |
| 1:CV:66:THR:HG22  | 4:GG:52:ARG:HB3   | 2.03                     | 0.40              |
| 1:DB:150:ARG:CZ   | 4:GJ:63:PRO:HB3   | 2.52                     | 0.40              |
| 1:DC:49:TRP:CZ3   | 1:DC:74:SER:HB3   | 2.56                     | 0.40              |
| 1:DD:286:ASP:HB2  | 1:DD:294:HIS:HB2  | 2.03                     | 0.40              |
| 2:DP:133:PRO:HG3  | 2:DP:161:SER:HA   | 2.04                     | 0.40              |
| 2:DT:89:GLY:HA2   | 2:DT:141:GLN:O    | 2.22                     | 0.40              |
| 2:EA:125:LYS:NZ   | 2:EA:169:ASP:OD1  | 2.45                     | 0.40              |
| 2:EK:23:LYS:HG3   | 2:EK:24:ASN:N     | 2.36                     | 0.40              |
| 2:EK:23:LYS:HE3   | 2:EK:23:LYS:HB2   | 1.95                     | 0.40              |
| 2:EL:28:ASP:N     | 2:EL:28:ASP:OD1   | 2.54                     | 0.40              |
| 2:ES:167:THR:HG22 | 2:ES:168:GLU:H    | 1.86                     | 0.40              |
| 2:EV:114:THR:O    | 2:EW:114:THR:HB   | 2.20                     | 0.40              |
| 2:EZ:114:THR:O    | 2:FA:114:THR:HB   | 2.21                     | 0.40              |
| 2:FB:69:TYR:HE1   | 2:FB:100:ASP:HA   | 1.87                     | 0.40              |
| 4:FW:37:GLU:O     | 4:FW:41:LYS:HD2   | 2.21                     | 0.40              |
| 4:GE:120:ILE:HD12 | 4:GE:120:ILE:HA   | 1.95                     | 0.40              |
| 1:AB:180:ILE:O    | 1:AB:184:ILE:HG13 | 2.21                     | 0.40              |
| 1:AK:84:LEU:HD13  | 1:AV:57:PRO:HB2   | 2.03                     | 0.40              |
| 1:AN:49:TRP:CE3   | 1:AN:74:SER:HB3   | 2.57                     | 0.40              |
| 1:AO:232:ASP:O    | 1:AO:236:GLN:HG2  | 2.22                     | 0.40              |
| 1:AR:121:LEU:O    | 1:AR:125:GLU:HG2  | 2.22                     | 0.40              |
| 1:AR:231:GLU:O    | 1:AR:235:ILE:HG13 | 2.21                     | 0.40              |
| 1:AV:158:LEU:HB3  | 1:AV:260:LEU:HD21 | 2.04                     | 0.40              |
| 1:AW:97:LYS:HE2   | 1:AW:97:LYS:HB3   | 1.92                     | 0.40              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BA:124:SER:O    | 1:BA:128:LYS:HG3  | 2.21                     | 0.40              |
| 1:BB:36:ASP:CG    | 5:HL:214:ARG:HH22 | 2.24                     | 0.40              |
| 1:BF:306:ALA:O    | 4:FT:31:LEU:HB2   | 2.20                     | 0.40              |
| 1:BI:100:THR:HG22 | 1:BI:105:ILE:HG12 | 2.04                     | 0.40              |
| 1:BK:164:GLN:OE1  | 1:BK:311:ILE:N    | 2.54                     | 0.40              |
| 1:BL:7:ASN:HB3    | 1:BL:10:ALA:HB3   | 2.03                     | 0.40              |
| 1:BR:229:LYS:O    | 1:BR:233:VAL:HG23 | 2.21                     | 0.40              |
| 1:BV:96:GLU:O     | 1:BV:100:THR:HG23 | 2.20                     | 0.40              |
| 1:CA:203:VAL:HG13 | 1:CA:261:ILE:HG12 | 2.03                     | 0.40              |
| 1:CB:288:ASP:OD1  | 1:CB:289:SER:N    | 2.48                     | 0.40              |
| 1:CD:169:VAL:HG22 | 1:CD:183:LYS:HG3  | 2.04                     | 0.40              |
| 1:CH:16:ILE:HD11  | 1:CH:120:LYS:HE3  | 2.02                     | 0.40              |
| 1:CH:78:ARG:O     | 1:CH:154:ASN:ND2  | 2.42                     | 0.40              |
| 1:CO:277:MET:HA   | 1:CO:300:VAL:HB   | 2.04                     | 0.40              |
| 1:CS:86:TYR:CD2   | 1:CV:70:ILE:HD11  | 2.55                     | 0.40              |
| 1:CU:181:PHE:CZ   | 1:CU:233:VAL:HG12 | 2.57                     | 0.40              |
| 1:CX:39:LEU:O     | 1:CX:274:SER:OG   | 2.24                     | 0.40              |
| 1:DA:257:HIS:CG   | 1:DA:318:GLN:HG3  | 2.56                     | 0.40              |
| 1:DB:277:MET:HA   | 1:DB:300:VAL:HB   | 2.04                     | 0.40              |
| 1:DC:39:LEU:O     | 1:DC:274:SER:OG   | 2.23                     | 0.40              |
| 1:DE:142:GLN:O    | 4:FS:39:ARG:HD2   | 2.21                     | 0.40              |
| 2:DJ:133:PRO:HG3  | 2:DJ:161:SER:HA   | 2.03                     | 0.40              |
| 2:DK:89:GLY:HA2   | 2:DK:141:GLN:O    | 2.21                     | 0.40              |
| 2:EF:37:ASP:O     | 2:EF:41:GLN:NE2   | 2.55                     | 0.40              |
| 2:EF:56:LYS:HD2   | 4:FW:56:PHE:HD1   | 1.86                     | 0.40              |
| 2:EP:77:PHE:HB2   | 4:GA:138:LYS:HE2  | 2.02                     | 0.40              |
| 2:EY:165:LYS:HB2  | 2:EY:171:PHE:CE2  | 2.57                     | 0.40              |
| 2:FG:125:LYS:HD2  | 2:FG:169:ASP:HA   | 2.04                     | 0.40              |
| 2:FH:74:LYS:HE2   | 2:FH:89:GLY:HA3   | 2.03                     | 0.40              |
| 4:GF:35:SER:O     | 4:GF:41:LYS:HD2   | 2.21                     | 0.40              |
| 4:GI:8:VAL:HG12   | 4:GI:12:GLN:NE2   | 2.36                     | 0.40              |
| 5:HY:211:LYS:O    | 5:HY:214:ARG:HG2  | 2.21                     | 0.40              |
| 5:IN:200:THR:O    | 5:IN:204:GLN:HG2  | 2.22                     | 0.40              |
| 1:AB:158:LEU:HB3  | 1:AB:260:LEU:HD21 | 2.03                     | 0.40              |
| 1:AC:209:THR:O    | 1:AC:213:LEU:HG   | 2.21                     | 0.40              |
| 1:AG:231:GLU:O    | 1:AG:235:ILE:HG13 | 2.21                     | 0.40              |
| 1:AJ:84:LEU:HB3   | 1:AM:57:PRO:HB2   | 2.03                     | 0.40              |
| 1:AT:25:MET:SD    | 1:AT:134:VAL:HG21 | 2.62                     | 0.40              |
| 1:AV:194:GLY:HA3  | 2:DN:36:ILE:HD12  | 2.03                     | 0.40              |
| 1:BB:203:VAL:HA   | 1:BB:260:LEU:O    | 2.21                     | 0.40              |
| 1:BO:41:MET:HG2   | 4:FX:111:PHE:HE2  | 1.87                     | 0.40              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BP:196:GLU:HB3  | 1:BP:265:ASN:ND2  | 2.36                     | 0.40              |
| 1:BQ:101:SER:OG   | 1:BQ:102:ASP:N    | 2.55                     | 0.40              |
| 1:BU:286:ASP:HB2  | 1:BU:294:HIS:HB2  | 2.03                     | 0.40              |
| 1:CA:79:LEU:HD11  | 1:CA:305:LEU:HB2  | 2.03                     | 0.40              |
| 1:CF:16:ILE:HD11  | 1:CF:120:LYS:HE3  | 2.03                     | 0.40              |
| 1:CG:277:MET:HA   | 1:CG:300:VAL:HB   | 2.03                     | 0.40              |
| 1:CI:123:SER:O    | 1:CI:127:ILE:HG13 | 2.21                     | 0.40              |
| 1:CP:197:PHE:CD2  | 1:CP:243:ASN:HB2  | 2.57                     | 0.40              |
| 1:CW:178:ASP:N    | 1:CW:178:ASP:OD1  | 2.55                     | 0.40              |
| 1:DC:267:GLU:H    | 1:DC:267:GLU:HG2  | 1.71                     | 0.40              |
| 2:DK:133:PRO:HG3  | 2:DK:161:SER:HA   | 2.03                     | 0.40              |
| 2:DS:140:ASN:HD21 | 2:DS:144:GLU:HB2  | 1.86                     | 0.40              |
| 2:EC:136:LYS:HD3  | 2:EC:155:VAL:HG21 | 2.04                     | 0.40              |
| 2:ED:167:THR:HG22 | 2:ED:168:GLU:H    | 1.86                     | 0.40              |
| 2:EG:23:LYS:HG3   | 2:EG:24:ASN:H     | 1.86                     | 0.40              |
| 4:FL:65:LEU:HD23  | 4:FL:65:LEU:HA    | 1.92                     | 0.40              |
| 4:FY:141:LEU:HB3  | 4:FY:149:LEU:HD22 | 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   | AA    | 305/319 (96%) | 302 (99%) | 3 (1%)  | 0        | 100         | 100 |
| 1   | AB    | 309/319 (97%) | 302 (98%) | 7 (2%)  | 0        | 100         | 100 |
| 1   | AC    | 309/319 (97%) | 303 (98%) | 6 (2%)  | 0        | 100         | 100 |
| 1   | AD    | 305/319 (96%) | 302 (99%) | 3 (1%)  | 0        | 100         | 100 |
| 1   | AE    | 309/319 (97%) | 305 (99%) | 4 (1%)  | 0        | 100         | 100 |
| 1   | AF    | 309/319 (97%) | 305 (99%) | 4 (1%)  | 0        | 100         | 100 |
| 1   | AG    | 305/319 (96%) | 301 (99%) | 4 (1%)  | 0        | 100         | 100 |

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| Mol | Chain | Analysed      | Favoured  | Allowed | Outliers | Percentiles |     |
|-----|-------|---------------|-----------|---------|----------|-------------|-----|
| 1   | AH    | 309/319 (97%) | 305 (99%) | 4 (1%)  | 0        | 100         | 100 |
| 1   | AI    | 309/319 (97%) | 307 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 1   | AJ    | 305/319 (96%) | 300 (98%) | 5 (2%)  | 0        | 100         | 100 |
| 1   | AK    | 309/319 (97%) | 306 (99%) | 3 (1%)  | 0        | 100         | 100 |
| 1   | AL    | 309/319 (97%) | 304 (98%) | 5 (2%)  | 0        | 100         | 100 |
| 1   | AM    | 305/319 (96%) | 301 (99%) | 4 (1%)  | 0        | 100         | 100 |
| 1   | AN    | 309/319 (97%) | 306 (99%) | 3 (1%)  | 0        | 100         | 100 |
| 1   | AO    | 309/319 (97%) | 304 (98%) | 5 (2%)  | 0        | 100         | 100 |
| 1   | AP    | 305/319 (96%) | 301 (99%) | 4 (1%)  | 0        | 100         | 100 |
| 1   | AQ    | 309/319 (97%) | 306 (99%) | 3 (1%)  | 0        | 100         | 100 |
| 1   | AR    | 309/319 (97%) | 304 (98%) | 5 (2%)  | 0        | 100         | 100 |
| 1   | AS    | 309/319 (97%) | 303 (98%) | 6 (2%)  | 0        | 100         | 100 |
| 1   | AT    | 309/319 (97%) | 306 (99%) | 3 (1%)  | 0        | 100         | 100 |
| 1   | AU    | 309/319 (97%) | 305 (99%) | 4 (1%)  | 0        | 100         | 100 |
| 1   | AV    | 309/319 (97%) | 306 (99%) | 3 (1%)  | 0        | 100         | 100 |
| 1   | AW    | 309/319 (97%) | 307 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 1   | AX    | 309/319 (97%) | 307 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 1   | AY    | 309/319 (97%) | 302 (98%) | 7 (2%)  | 0        | 100         | 100 |
| 1   | AZ    | 309/319 (97%) | 306 (99%) | 3 (1%)  | 0        | 100         | 100 |
| 1   | BA    | 309/319 (97%) | 307 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 1   | BB    | 309/319 (97%) | 305 (99%) | 4 (1%)  | 0        | 100         | 100 |
| 1   | BC    | 294/319 (92%) | 286 (97%) | 8 (3%)  | 0        | 100         | 100 |
| 1   | BD    | 305/319 (96%) | 301 (99%) | 4 (1%)  | 0        | 100         | 100 |
| 1   | BE    | 309/319 (97%) | 306 (99%) | 3 (1%)  | 0        | 100         | 100 |
| 1   | BF    | 309/319 (97%) | 304 (98%) | 5 (2%)  | 0        | 100         | 100 |
| 1   | BG    | 305/319 (96%) | 300 (98%) | 5 (2%)  | 0        | 100         | 100 |
| 1   | BH    | 309/319 (97%) | 306 (99%) | 3 (1%)  | 0        | 100         | 100 |
| 1   | BI    | 309/319 (97%) | 304 (98%) | 5 (2%)  | 0        | 100         | 100 |
| 1   | BJ    | 305/319 (96%) | 299 (98%) | 6 (2%)  | 0        | 100         | 100 |
| 1   | BK    | 309/319 (97%) | 305 (99%) | 4 (1%)  | 0        | 100         | 100 |
| 1   | BL    | 309/319 (97%) | 305 (99%) | 4 (1%)  | 0        | 100         | 100 |

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| Mol | Chain | Analysed      | Favoured  | Allowed | Outliers | Percentiles |     |
|-----|-------|---------------|-----------|---------|----------|-------------|-----|
| 1   | BM    | 307/319 (96%) | 304 (99%) | 3 (1%)  | 0        | 100         | 100 |
| 1   | BN    | 309/319 (97%) | 304 (98%) | 5 (2%)  | 0        | 100         | 100 |
| 1   | BO    | 309/319 (97%) | 304 (98%) | 5 (2%)  | 0        | 100         | 100 |
| 1   | BP    | 305/319 (96%) | 302 (99%) | 3 (1%)  | 0        | 100         | 100 |
| 1   | BQ    | 309/319 (97%) | 307 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 1   | BR    | 307/319 (96%) | 302 (98%) | 5 (2%)  | 0        | 100         | 100 |
| 1   | BS    | 309/319 (97%) | 303 (98%) | 6 (2%)  | 0        | 100         | 100 |
| 1   | BT    | 293/319 (92%) | 290 (99%) | 3 (1%)  | 0        | 100         | 100 |
| 1   | BU    | 309/319 (97%) | 306 (99%) | 3 (1%)  | 0        | 100         | 100 |
| 1   | BV    | 309/319 (97%) | 306 (99%) | 3 (1%)  | 0        | 100         | 100 |
| 1   | BW    | 309/319 (97%) | 306 (99%) | 3 (1%)  | 0        | 100         | 100 |
| 1   | BX    | 293/319 (92%) | 289 (99%) | 4 (1%)  | 0        | 100         | 100 |
| 1   | BY    | 309/319 (97%) | 304 (98%) | 5 (2%)  | 0        | 100         | 100 |
| 1   | BZ    | 309/319 (97%) | 305 (99%) | 4 (1%)  | 0        | 100         | 100 |
| 1   | CA    | 309/319 (97%) | 306 (99%) | 3 (1%)  | 0        | 100         | 100 |
| 1   | CB    | 309/319 (97%) | 306 (99%) | 3 (1%)  | 0        | 100         | 100 |
| 1   | CC    | 309/319 (97%) | 306 (99%) | 3 (1%)  | 0        | 100         | 100 |
| 1   | CD    | 309/319 (97%) | 304 (98%) | 5 (2%)  | 0        | 100         | 100 |
| 1   | CE    | 309/319 (97%) | 302 (98%) | 7 (2%)  | 0        | 100         | 100 |
| 1   | CF    | 309/319 (97%) | 305 (99%) | 4 (1%)  | 0        | 100         | 100 |
| 1   | CG    | 309/319 (97%) | 306 (99%) | 3 (1%)  | 0        | 100         | 100 |
| 1   | CH    | 309/319 (97%) | 305 (99%) | 4 (1%)  | 0        | 100         | 100 |
| 1   | CI    | 309/319 (97%) | 306 (99%) | 3 (1%)  | 0        | 100         | 100 |
| 1   | CJ    | 309/319 (97%) | 305 (99%) | 4 (1%)  | 0        | 100         | 100 |
| 1   | CK    | 309/319 (97%) | 302 (98%) | 7 (2%)  | 0        | 100         | 100 |
| 1   | CL    | 309/319 (97%) | 305 (99%) | 4 (1%)  | 0        | 100         | 100 |
| 1   | CM    | 309/319 (97%) | 306 (99%) | 3 (1%)  | 0        | 100         | 100 |
| 1   | CN    | 309/319 (97%) | 307 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 1   | CO    | 309/319 (97%) | 306 (99%) | 3 (1%)  | 0        | 100         | 100 |
| 1   | CP    | 309/319 (97%) | 305 (99%) | 4 (1%)  | 0        | 100         | 100 |
| 1   | CQ    | 309/319 (97%) | 306 (99%) | 3 (1%)  | 0        | 100         | 100 |

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| Mol | Chain | Analysed      | Favoured   | Allowed | Outliers | Percentiles |     |
|-----|-------|---------------|------------|---------|----------|-------------|-----|
| 1   | CR    | 309/319 (97%) | 307 (99%)  | 2 (1%)  | 0        | 100         | 100 |
| 1   | CS    | 309/319 (97%) | 304 (98%)  | 5 (2%)  | 0        | 100         | 100 |
| 1   | CT    | 309/319 (97%) | 303 (98%)  | 6 (2%)  | 0        | 100         | 100 |
| 1   | CU    | 309/319 (97%) | 307 (99%)  | 2 (1%)  | 0        | 100         | 100 |
| 1   | CV    | 309/319 (97%) | 305 (99%)  | 4 (1%)  | 0        | 100         | 100 |
| 1   | CW    | 309/319 (97%) | 306 (99%)  | 3 (1%)  | 0        | 100         | 100 |
| 1   | CX    | 309/319 (97%) | 307 (99%)  | 2 (1%)  | 0        | 100         | 100 |
| 1   | CY    | 309/319 (97%) | 306 (99%)  | 3 (1%)  | 0        | 100         | 100 |
| 1   | CZ    | 309/319 (97%) | 302 (98%)  | 7 (2%)  | 0        | 100         | 100 |
| 1   | DA    | 309/319 (97%) | 305 (99%)  | 4 (1%)  | 0        | 100         | 100 |
| 1   | DB    | 309/319 (97%) | 305 (99%)  | 4 (1%)  | 0        | 100         | 100 |
| 1   | DC    | 309/319 (97%) | 306 (99%)  | 3 (1%)  | 0        | 100         | 100 |
| 1   | DD    | 309/319 (97%) | 306 (99%)  | 3 (1%)  | 0        | 100         | 100 |
| 1   | DE    | 309/319 (97%) | 304 (98%)  | 5 (2%)  | 0        | 100         | 100 |
| 2   | DF    | 149/185 (80%) | 148 (99%)  | 1 (1%)  | 0        | 100         | 100 |
| 2   | DG    | 146/185 (79%) | 145 (99%)  | 1 (1%)  | 0        | 100         | 100 |
| 2   | DH    | 148/185 (80%) | 147 (99%)  | 1 (1%)  | 0        | 100         | 100 |
| 2   | DI    | 147/185 (80%) | 143 (97%)  | 4 (3%)  | 0        | 100         | 100 |
| 2   | DJ    | 148/185 (80%) | 146 (99%)  | 2 (1%)  | 0        | 100         | 100 |
| 2   | DK    | 147/185 (80%) | 145 (99%)  | 2 (1%)  | 0        | 100         | 100 |
| 2   | DL    | 148/185 (80%) | 148 (100%) | 0       | 0        | 100         | 100 |
| 2   | DM    | 148/185 (80%) | 146 (99%)  | 2 (1%)  | 0        | 100         | 100 |
| 2   | DN    | 148/185 (80%) | 146 (99%)  | 2 (1%)  | 0        | 100         | 100 |
| 2   | DO    | 147/185 (80%) | 144 (98%)  | 3 (2%)  | 0        | 100         | 100 |
| 2   | DP    | 147/185 (80%) | 145 (99%)  | 2 (1%)  | 0        | 100         | 100 |
| 2   | DQ    | 146/185 (79%) | 145 (99%)  | 1 (1%)  | 0        | 100         | 100 |
| 2   | DR    | 148/185 (80%) | 147 (99%)  | 1 (1%)  | 0        | 100         | 100 |
| 2   | DS    | 162/185 (88%) | 160 (99%)  | 2 (1%)  | 0        | 100         | 100 |
| 2   | DT    | 148/185 (80%) | 145 (98%)  | 3 (2%)  | 0        | 100         | 100 |
| 2   | DU    | 147/185 (80%) | 145 (99%)  | 2 (1%)  | 0        | 100         | 100 |
| 2   | DV    | 147/185 (80%) | 146 (99%)  | 1 (1%)  | 0        | 100         | 100 |

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| Mol | Chain | Analysed      | Favoured  | Allowed | Outliers | Percentiles |     |
|-----|-------|---------------|-----------|---------|----------|-------------|-----|
| 2   | DW    | 147/185 (80%) | 145 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 2   | DX    | 154/185 (83%) | 153 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 2   | DY    | 145/185 (78%) | 142 (98%) | 3 (2%)  | 0        | 100         | 100 |
| 2   | DZ    | 148/185 (80%) | 147 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 2   | EA    | 114/185 (62%) | 113 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 2   | EB    | 154/185 (83%) | 152 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 2   | EC    | 147/185 (80%) | 146 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 2   | ED    | 156/185 (84%) | 153 (98%) | 3 (2%)  | 0        | 100         | 100 |
| 2   | EE    | 154/185 (83%) | 153 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 2   | EF    | 148/185 (80%) | 146 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 2   | EG    | 171/185 (92%) | 168 (98%) | 3 (2%)  | 0        | 100         | 100 |
| 2   | EH    | 147/185 (80%) | 146 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 2   | EI    | 153/185 (83%) | 152 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 2   | EJ    | 160/185 (86%) | 159 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 2   | EK    | 162/185 (88%) | 161 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 2   | EL    | 146/185 (79%) | 144 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 2   | EM    | 148/185 (80%) | 146 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 2   | EN    | 147/185 (80%) | 145 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 2   | EO    | 164/185 (89%) | 163 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 2   | EP    | 147/185 (80%) | 145 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 2   | EQ    | 154/185 (83%) | 153 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 2   | ER    | 145/185 (78%) | 142 (98%) | 3 (2%)  | 0        | 100         | 100 |
| 2   | ES    | 148/185 (80%) | 146 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 2   | ET    | 147/185 (80%) | 145 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 2   | EU    | 154/185 (83%) | 153 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 2   | EV    | 145/185 (78%) | 143 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 2   | EW    | 148/185 (80%) | 145 (98%) | 3 (2%)  | 0        | 100         | 100 |
| 2   | EX    | 147/185 (80%) | 146 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 2   | EY    | 154/185 (83%) | 152 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 2   | EZ    | 145/185 (78%) | 144 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 2   | FA    | 148/185 (80%) | 147 (99%) | 1 (1%)  | 0        | 100         | 100 |

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| Mol | Chain | Analysed      | Favoured  | Allowed | Outliers | Percentiles |     |
|-----|-------|---------------|-----------|---------|----------|-------------|-----|
| 2   | FB    | 147/185 (80%) | 146 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 2   | FC    | 154/185 (83%) | 152 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 2   | FD    | 145/185 (78%) | 142 (98%) | 3 (2%)  | 0        | 100         | 100 |
| 2   | FE    | 148/185 (80%) | 147 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 2   | FF    | 147/185 (80%) | 146 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 2   | FG    | 154/185 (83%) | 152 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 2   | FH    | 145/185 (78%) | 142 (98%) | 3 (2%)  | 0        | 100         | 100 |
| 2   | FI    | 148/185 (80%) | 147 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 3   | FJ    | 153/254 (60%) | 152 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 4   | FK    | 146/190 (77%) | 144 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 4   | FL    | 146/190 (77%) | 145 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 4   | FM    | 147/190 (77%) | 144 (98%) | 3 (2%)  | 0        | 100         | 100 |
| 4   | FN    | 146/190 (77%) | 145 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 4   | FO    | 150/190 (79%) | 146 (97%) | 4 (3%)  | 0        | 100         | 100 |
| 4   | FP    | 146/190 (77%) | 145 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 4   | FQ    | 165/190 (87%) | 160 (97%) | 5 (3%)  | 0        | 100         | 100 |
| 4   | FR    | 165/190 (87%) | 162 (98%) | 3 (2%)  | 0        | 100         | 100 |
| 4   | FS    | 165/190 (87%) | 162 (98%) | 3 (2%)  | 0        | 100         | 100 |
| 4   | FT    | 138/190 (73%) | 136 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 4   | FU    | 145/190 (76%) | 141 (97%) | 4 (3%)  | 0        | 100         | 100 |
| 4   | FV    | 148/190 (78%) | 145 (98%) | 3 (2%)  | 0        | 100         | 100 |
| 4   | FW    | 148/190 (78%) | 145 (98%) | 3 (2%)  | 0        | 100         | 100 |
| 4   | FX    | 145/190 (76%) | 141 (97%) | 4 (3%)  | 0        | 100         | 100 |
| 4   | FY    | 145/190 (76%) | 142 (98%) | 3 (2%)  | 0        | 100         | 100 |
| 4   | FZ    | 146/190 (77%) | 145 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 4   | GA    | 165/190 (87%) | 164 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 4   | GB    | 165/190 (87%) | 161 (98%) | 4 (2%)  | 0        | 100         | 100 |
| 4   | GC    | 165/190 (87%) | 164 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 4   | GD    | 165/190 (87%) | 163 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 4   | GE    | 165/190 (87%) | 163 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 4   | GF    | 165/190 (87%) | 163 (99%) | 2 (1%)  | 0        | 100         | 100 |

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| Mol | Chain | Analysed      | Favoured  | Allowed | Outliers | Percentiles |     |
|-----|-------|---------------|-----------|---------|----------|-------------|-----|
| 4   | GG    | 165/190 (87%) | 163 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 4   | GH    | 165/190 (87%) | 163 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 4   | GI    | 165/190 (87%) | 164 (99%) | 1 (1%)  | 0        | 100         | 100 |
| 4   | GJ    | 165/190 (87%) | 162 (98%) | 3 (2%)  | 0        | 100         | 100 |
| 5   | GK    | 28/230 (12%)  | 28 (100%) | 0       | 0        | 100         | 100 |
| 5   | GL    | 35/230 (15%)  | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | GM    | 35/230 (15%)  | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | GN    | 35/230 (15%)  | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | GO    | 35/230 (15%)  | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | GP    | 35/230 (15%)  | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | GQ    | 35/230 (15%)  | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | GR    | 35/230 (15%)  | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | GS    | 35/230 (15%)  | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | GT    | 35/230 (15%)  | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | GU    | 35/230 (15%)  | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | GV    | 35/230 (15%)  | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | GW    | 28/230 (12%)  | 28 (100%) | 0       | 0        | 100         | 100 |
| 5   | GX    | 35/230 (15%)  | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | GY    | 35/230 (15%)  | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | GZ    | 35/230 (15%)  | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | HA    | 35/230 (15%)  | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | HB    | 35/230 (15%)  | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | HC    | 35/230 (15%)  | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | HD    | 28/230 (12%)  | 28 (100%) | 0       | 0        | 100         | 100 |
| 5   | HE    | 35/230 (15%)  | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | HF    | 35/230 (15%)  | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | HG    | 35/230 (15%)  | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | HH    | 28/230 (12%)  | 28 (100%) | 0       | 0        | 100         | 100 |
| 5   | HI    | 28/230 (12%)  | 28 (100%) | 0       | 0        | 100         | 100 |
| 5   | HJ    | 28/230 (12%)  | 28 (100%) | 0       | 0        | 100         | 100 |
| 5   | HK    | 28/230 (12%)  | 28 (100%) | 0       | 0        | 100         | 100 |

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| Mol | Chain | Analysed     | Favoured  | Allowed | Outliers | Percentiles |     |
|-----|-------|--------------|-----------|---------|----------|-------------|-----|
| 5   | HL    | 35/230 (15%) | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | HM    | 27/230 (12%) | 27 (100%) | 0       | 0        | 100         | 100 |
| 5   | HN    | 35/230 (15%) | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | HO    | 35/230 (15%) | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | HP    | 35/230 (15%) | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | HQ    | 35/230 (15%) | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | HR    | 35/230 (15%) | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | HS    | 35/230 (15%) | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | HT    | 35/230 (15%) | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | HU    | 35/230 (15%) | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | HV    | 35/230 (15%) | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | HW    | 26/230 (11%) | 26 (100%) | 0       | 0        | 100         | 100 |
| 5   | HX    | 35/230 (15%) | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | HY    | 35/230 (15%) | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | HZ    | 35/230 (15%) | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | IA    | 35/230 (15%) | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | IB    | 27/230 (12%) | 27 (100%) | 0       | 0        | 100         | 100 |
| 5   | IC    | 35/230 (15%) | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | ID    | 27/230 (12%) | 27 (100%) | 0       | 0        | 100         | 100 |
| 5   | IE    | 35/230 (15%) | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | IF    | 35/230 (15%) | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | IG    | 35/230 (15%) | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | IH    | 27/230 (12%) | 27 (100%) | 0       | 0        | 100         | 100 |
| 5   | II    | 28/230 (12%) | 28 (100%) | 0       | 0        | 100         | 100 |
| 5   | IJ    | 28/230 (12%) | 28 (100%) | 0       | 0        | 100         | 100 |
| 5   | IK    | 28/230 (12%) | 28 (100%) | 0       | 0        | 100         | 100 |
| 5   | IL    | 38/230 (16%) | 38 (100%) | 0       | 0        | 100         | 100 |
| 5   | IM    | 35/230 (15%) | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | IN    | 35/230 (15%) | 35 (100%) | 0       | 0        | 100         | 100 |
| 5   | IO    | 38/230 (16%) | 38 (100%) | 0       | 0        | 100         | 100 |
| 5   | IP    | 35/230 (15%) | 35 (100%) | 0       | 0        | 100         | 100 |

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| Mol | Chain | Analysed          | Favoured    | Allowed  | Outliers | Percentiles |     |
|-----|-------|-------------------|-------------|----------|----------|-------------|-----|
| 5   | IQ    | 35/230 (15%)      | 35 (100%)   | 0        | 0        | 100         | 100 |
| 5   | IR    | 38/230 (16%)      | 38 (100%)   | 0        | 0        | 100         | 100 |
| 5   | IS    | 35/230 (15%)      | 35 (100%)   | 0        | 0        | 100         | 100 |
| 5   | IT    | 35/230 (15%)      | 35 (100%)   | 0        | 0        | 100         | 100 |
| 5   | IU    | 38/230 (16%)      | 38 (100%)   | 0        | 0        | 100         | 100 |
| 5   | IV    | 35/230 (15%)      | 35 (100%)   | 0        | 0        | 100         | 100 |
| 5   | IW    | 35/230 (15%)      | 35 (100%)   | 0        | 0        | 100         | 100 |
| 5   | IX    | 35/230 (15%)      | 35 (100%)   | 0        | 0        | 100         | 100 |
| 5   | IY    | 38/230 (16%)      | 38 (100%)   | 0        | 0        | 100         | 100 |
| 5   | IZ    | 35/230 (15%)      | 35 (100%)   | 0        | 0        | 100         | 100 |
| 5   | JA    | 38/230 (16%)      | 38 (100%)   | 0        | 0        | 100         | 100 |
| 5   | JB    | 35/230 (15%)      | 35 (100%)   | 0        | 0        | 100         | 100 |
| 5   | JC    | 35/230 (15%)      | 35 (100%)   | 0        | 0        | 100         | 100 |
| 5   | JD    | 38/230 (16%)      | 38 (100%)   | 0        | 0        | 100         | 100 |
| 5   | JE    | 35/230 (15%)      | 35 (100%)   | 0        | 0        | 100         | 100 |
| 5   | JF    | 35/230 (15%)      | 35 (100%)   | 0        | 0        | 100         | 100 |
| 5   | JG    | 38/230 (16%)      | 38 (100%)   | 0        | 0        | 100         | 100 |
| 5   | JH    | 35/230 (15%)      | 35 (100%)   | 0        | 0        | 100         | 100 |
| 5   | JI    | 35/230 (15%)      | 35 (100%)   | 0        | 0        | 100         | 100 |
| 5   | JJ    | 38/230 (16%)      | 38 (100%)   | 0        | 0        | 100         | 100 |
| 5   | JK    | 35/230 (15%)      | 35 (100%)   | 0        | 0        | 100         | 100 |
| 5   | JL    | 35/230 (15%)      | 35 (100%)   | 0        | 0        | 100         | 100 |
| 5   | JM    | 35/230 (15%)      | 35 (100%)   | 0        | 0        | 100         | 100 |
| 5   | JN    | 38/230 (16%)      | 38 (100%)   | 0        | 0        | 100         | 100 |
| 5   | JO    | 35/230 (15%)      | 35 (100%)   | 0        | 0        | 100         | 100 |
| All | All   | 40930/61121 (67%) | 40441 (99%) | 489 (1%) | 0        | 100         | 100 |

There are no Ramachandran outliers to report.

### 5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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   | AA    | 281/286 (98%) | 281 (100%) | 0        | 100         | 100 |
| 1   | AB    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | AC    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | AD    | 281/286 (98%) | 281 (100%) | 0        | 100         | 100 |
| 1   | AE    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | AF    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | AG    | 281/286 (98%) | 281 (100%) | 0        | 100         | 100 |
| 1   | AH    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | AI    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | AJ    | 281/286 (98%) | 281 (100%) | 0        | 100         | 100 |
| 1   | AK    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | AL    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | AM    | 281/286 (98%) | 281 (100%) | 0        | 100         | 100 |
| 1   | AN    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | AO    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | AP    | 281/286 (98%) | 281 (100%) | 0        | 100         | 100 |
| 1   | AQ    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | AR    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | AS    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | AT    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | AU    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | AV    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | AW    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | AX    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | AY    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | AZ    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | BA    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | BB    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | BC    | 271/286 (95%) | 271 (100%) | 0        | 100         | 100 |

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| Mol | Chain | Analysed      | Rotameric  | Outliers | Percentiles |     |
|-----|-------|---------------|------------|----------|-------------|-----|
| 1   | BD    | 281/286 (98%) | 281 (100%) | 0        | 100         | 100 |
| 1   | BE    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | BF    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | BG    | 281/286 (98%) | 281 (100%) | 0        | 100         | 100 |
| 1   | BH    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | BI    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | BJ    | 281/286 (98%) | 281 (100%) | 0        | 100         | 100 |
| 1   | BK    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | BL    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | BM    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | BN    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | BO    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | BP    | 281/286 (98%) | 281 (100%) | 0        | 100         | 100 |
| 1   | BQ    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | BR    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | BS    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | BT    | 271/286 (95%) | 271 (100%) | 0        | 100         | 100 |
| 1   | BU    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | BV    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | BW    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | BX    | 271/286 (95%) | 271 (100%) | 0        | 100         | 100 |
| 1   | BY    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | BZ    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | CA    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | CB    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | CC    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | CD    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | CE    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | CF    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | CG    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | CH    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |

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| Mol | Chain | Analysed      | Rotameric  | Outliers | Percentiles |     |
|-----|-------|---------------|------------|----------|-------------|-----|
| 1   | CI    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | CJ    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | CK    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | CL    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | CM    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | CN    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | CO    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | CP    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | CQ    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | CR    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | CS    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | CT    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | CU    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | CV    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | CW    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | CX    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | CY    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | CZ    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | DA    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | DB    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | DC    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | DD    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 1   | DE    | 283/286 (99%) | 283 (100%) | 0        | 100         | 100 |
| 2   | DF    | 130/154 (84%) | 130 (100%) | 0        | 100         | 100 |
| 2   | DG    | 129/154 (84%) | 129 (100%) | 0        | 100         | 100 |
| 2   | DH    | 130/154 (84%) | 130 (100%) | 0        | 100         | 100 |
| 2   | DI    | 129/154 (84%) | 129 (100%) | 0        | 100         | 100 |
| 2   | DJ    | 130/154 (84%) | 130 (100%) | 0        | 100         | 100 |
| 2   | DK    | 129/154 (84%) | 129 (100%) | 0        | 100         | 100 |
| 2   | DL    | 130/154 (84%) | 130 (100%) | 0        | 100         | 100 |
| 2   | DM    | 129/154 (84%) | 129 (100%) | 0        | 100         | 100 |

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| Mol | Chain | Analysed      | Rotameric  | Outliers | Percentiles |     |
|-----|-------|---------------|------------|----------|-------------|-----|
| 2   | DN    | 130/154 (84%) | 130 (100%) | 0        | 100         | 100 |
| 2   | DO    | 129/154 (84%) | 129 (100%) | 0        | 100         | 100 |
| 2   | DP    | 129/154 (84%) | 129 (100%) | 0        | 100         | 100 |
| 2   | DQ    | 129/154 (84%) | 129 (100%) | 0        | 100         | 100 |
| 2   | DR    | 130/154 (84%) | 130 (100%) | 0        | 100         | 100 |
| 2   | DS    | 142/154 (92%) | 142 (100%) | 0        | 100         | 100 |
| 2   | DT    | 130/154 (84%) | 130 (100%) | 0        | 100         | 100 |
| 2   | DU    | 128/154 (83%) | 128 (100%) | 0        | 100         | 100 |
| 2   | DV    | 129/154 (84%) | 129 (100%) | 0        | 100         | 100 |
| 2   | DW    | 128/154 (83%) | 128 (100%) | 0        | 100         | 100 |
| 2   | DX    | 132/154 (86%) | 132 (100%) | 0        | 100         | 100 |
| 2   | DY    | 127/154 (82%) | 127 (100%) | 0        | 100         | 100 |
| 2   | DZ    | 130/154 (84%) | 130 (100%) | 0        | 100         | 100 |
| 2   | EA    | 99/154 (64%)  | 99 (100%)  | 0        | 100         | 100 |
| 2   | EB    | 132/154 (86%) | 132 (100%) | 0        | 100         | 100 |
| 2   | EC    | 129/154 (84%) | 129 (100%) | 0        | 100         | 100 |
| 2   | ED    | 133/154 (86%) | 133 (100%) | 0        | 100         | 100 |
| 2   | EE    | 131/154 (85%) | 131 (100%) | 0        | 100         | 100 |
| 2   | EF    | 130/154 (84%) | 130 (100%) | 0        | 100         | 100 |
| 2   | EG    | 147/154 (96%) | 147 (100%) | 0        | 100         | 100 |
| 2   | EH    | 129/154 (84%) | 129 (100%) | 0        | 100         | 100 |
| 2   | EI    | 131/154 (85%) | 131 (100%) | 0        | 100         | 100 |
| 2   | EJ    | 141/154 (92%) | 141 (100%) | 0        | 100         | 100 |
| 2   | EK    | 142/154 (92%) | 142 (100%) | 0        | 100         | 100 |
| 2   | EL    | 129/154 (84%) | 129 (100%) | 0        | 100         | 100 |
| 2   | EM    | 130/154 (84%) | 130 (100%) | 0        | 100         | 100 |
| 2   | EN    | 129/154 (84%) | 129 (100%) | 0        | 100         | 100 |
| 2   | EO    | 144/154 (94%) | 144 (100%) | 0        | 100         | 100 |
| 2   | EP    | 128/154 (83%) | 128 (100%) | 0        | 100         | 100 |
| 2   | EQ    | 132/154 (86%) | 132 (100%) | 0        | 100         | 100 |
| 2   | ER    | 127/154 (82%) | 127 (100%) | 0        | 100         | 100 |

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| Mol | Chain | Analysed      | Rotameric  | Outliers | Percentiles |     |
|-----|-------|---------------|------------|----------|-------------|-----|
| 2   | ES    | 130/154 (84%) | 130 (100%) | 0        | 100         | 100 |
| 2   | ET    | 128/154 (83%) | 128 (100%) | 0        | 100         | 100 |
| 2   | EU    | 132/154 (86%) | 132 (100%) | 0        | 100         | 100 |
| 2   | EV    | 127/154 (82%) | 127 (100%) | 0        | 100         | 100 |
| 2   | EW    | 130/154 (84%) | 130 (100%) | 0        | 100         | 100 |
| 2   | EX    | 128/154 (83%) | 128 (100%) | 0        | 100         | 100 |
| 2   | EY    | 132/154 (86%) | 132 (100%) | 0        | 100         | 100 |
| 2   | EZ    | 127/154 (82%) | 127 (100%) | 0        | 100         | 100 |
| 2   | FA    | 130/154 (84%) | 130 (100%) | 0        | 100         | 100 |
| 2   | FB    | 128/154 (83%) | 128 (100%) | 0        | 100         | 100 |
| 2   | FC    | 132/154 (86%) | 132 (100%) | 0        | 100         | 100 |
| 2   | FD    | 127/154 (82%) | 127 (100%) | 0        | 100         | 100 |
| 2   | FE    | 130/154 (84%) | 130 (100%) | 0        | 100         | 100 |
| 2   | FF    | 128/154 (83%) | 128 (100%) | 0        | 100         | 100 |
| 2   | FG    | 132/154 (86%) | 132 (100%) | 0        | 100         | 100 |
| 2   | FH    | 127/154 (82%) | 127 (100%) | 0        | 100         | 100 |
| 2   | FI    | 130/154 (84%) | 130 (100%) | 0        | 100         | 100 |
| 3   | FJ    | 141/218 (65%) | 141 (100%) | 0        | 100         | 100 |
| 4   | FK    | 130/163 (80%) | 130 (100%) | 0        | 100         | 100 |
| 4   | FL    | 130/163 (80%) | 130 (100%) | 0        | 100         | 100 |
| 4   | FM    | 131/163 (80%) | 131 (100%) | 0        | 100         | 100 |
| 4   | FN    | 130/163 (80%) | 130 (100%) | 0        | 100         | 100 |
| 4   | FO    | 133/163 (82%) | 133 (100%) | 0        | 100         | 100 |
| 4   | FP    | 129/163 (79%) | 129 (100%) | 0        | 100         | 100 |
| 4   | FQ    | 148/163 (91%) | 148 (100%) | 0        | 100         | 100 |
| 4   | FR    | 148/163 (91%) | 148 (100%) | 0        | 100         | 100 |
| 4   | FS    | 148/163 (91%) | 148 (100%) | 0        | 100         | 100 |
| 4   | FT    | 124/163 (76%) | 124 (100%) | 0        | 100         | 100 |
| 4   | FU    | 130/163 (80%) | 130 (100%) | 0        | 100         | 100 |
| 4   | FV    | 131/163 (80%) | 131 (100%) | 0        | 100         | 100 |
| 4   | FW    | 131/163 (80%) | 131 (100%) | 0        | 100         | 100 |

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| Mol | Chain | Analysed      | Rotameric  | Outliers | Percentiles |     |
|-----|-------|---------------|------------|----------|-------------|-----|
| 4   | FX    | 129/163 (79%) | 129 (100%) | 0        | 100         | 100 |
| 4   | FY    | 129/163 (79%) | 129 (100%) | 0        | 100         | 100 |
| 4   | FZ    | 130/163 (80%) | 130 (100%) | 0        | 100         | 100 |
| 4   | GA    | 148/163 (91%) | 148 (100%) | 0        | 100         | 100 |
| 4   | GB    | 148/163 (91%) | 148 (100%) | 0        | 100         | 100 |
| 4   | GC    | 148/163 (91%) | 148 (100%) | 0        | 100         | 100 |
| 4   | GD    | 148/163 (91%) | 148 (100%) | 0        | 100         | 100 |
| 4   | GE    | 148/163 (91%) | 148 (100%) | 0        | 100         | 100 |
| 4   | GF    | 148/163 (91%) | 148 (100%) | 0        | 100         | 100 |
| 4   | GG    | 148/163 (91%) | 148 (100%) | 0        | 100         | 100 |
| 4   | GH    | 148/163 (91%) | 148 (100%) | 0        | 100         | 100 |
| 4   | GI    | 148/163 (91%) | 148 (100%) | 0        | 100         | 100 |
| 4   | GJ    | 148/163 (91%) | 148 (100%) | 0        | 100         | 100 |
| 5   | GK    | 29/210 (14%)  | 29 (100%)  | 0        | 100         | 100 |
| 5   | GL    | 35/210 (17%)  | 35 (100%)  | 0        | 100         | 100 |
| 5   | GM    | 35/210 (17%)  | 35 (100%)  | 0        | 100         | 100 |
| 5   | GN    | 35/210 (17%)  | 35 (100%)  | 0        | 100         | 100 |
| 5   | GO    | 35/210 (17%)  | 35 (100%)  | 0        | 100         | 100 |
| 5   | GP    | 35/210 (17%)  | 35 (100%)  | 0        | 100         | 100 |
| 5   | GQ    | 35/210 (17%)  | 35 (100%)  | 0        | 100         | 100 |
| 5   | GR    | 35/210 (17%)  | 35 (100%)  | 0        | 100         | 100 |
| 5   | GS    | 35/210 (17%)  | 35 (100%)  | 0        | 100         | 100 |
| 5   | GT    | 35/210 (17%)  | 35 (100%)  | 0        | 100         | 100 |
| 5   | GU    | 35/210 (17%)  | 35 (100%)  | 0        | 100         | 100 |
| 5   | GV    | 35/210 (17%)  | 35 (100%)  | 0        | 100         | 100 |
| 5   | GW    | 29/210 (14%)  | 29 (100%)  | 0        | 100         | 100 |
| 5   | GX    | 35/210 (17%)  | 35 (100%)  | 0        | 100         | 100 |
| 5   | GY    | 35/210 (17%)  | 35 (100%)  | 0        | 100         | 100 |
| 5   | GZ    | 35/210 (17%)  | 35 (100%)  | 0        | 100         | 100 |
| 5   | HA    | 35/210 (17%)  | 35 (100%)  | 0        | 100         | 100 |
| 5   | HB    | 35/210 (17%)  | 35 (100%)  | 0        | 100         | 100 |

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| Mol | Chain | Analysed     | Rotameric | Outliers | Percentiles |     |
|-----|-------|--------------|-----------|----------|-------------|-----|
| 5   | HC    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | HD    | 29/210 (14%) | 29 (100%) | 0        | 100         | 100 |
| 5   | HE    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | HF    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | HG    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | HH    | 29/210 (14%) | 29 (100%) | 0        | 100         | 100 |
| 5   | HI    | 29/210 (14%) | 29 (100%) | 0        | 100         | 100 |
| 5   | HJ    | 29/210 (14%) | 29 (100%) | 0        | 100         | 100 |
| 5   | HK    | 29/210 (14%) | 29 (100%) | 0        | 100         | 100 |
| 5   | HL    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | HM    | 28/210 (13%) | 28 (100%) | 0        | 100         | 100 |
| 5   | HN    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | HO    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | HP    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | HQ    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | HR    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | HS    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | HT    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | HU    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | HV    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | HW    | 27/210 (13%) | 27 (100%) | 0        | 100         | 100 |
| 5   | HX    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | HY    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | HZ    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | IA    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | IB    | 28/210 (13%) | 28 (100%) | 0        | 100         | 100 |
| 5   | IC    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | ID    | 28/210 (13%) | 28 (100%) | 0        | 100         | 100 |
| 5   | IE    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | IF    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | IG    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |

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| Mol | Chain | Analysed     | Rotameric | Outliers | Percentiles |     |
|-----|-------|--------------|-----------|----------|-------------|-----|
| 5   | IH    | 28/210 (13%) | 28 (100%) | 0        | 100         | 100 |
| 5   | II    | 29/210 (14%) | 29 (100%) | 0        | 100         | 100 |
| 5   | IJ    | 29/210 (14%) | 29 (100%) | 0        | 100         | 100 |
| 5   | IK    | 29/210 (14%) | 29 (100%) | 0        | 100         | 100 |
| 5   | IL    | 38/210 (18%) | 38 (100%) | 0        | 100         | 100 |
| 5   | IM    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | IN    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | IO    | 38/210 (18%) | 38 (100%) | 0        | 100         | 100 |
| 5   | IP    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | IQ    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | IR    | 38/210 (18%) | 38 (100%) | 0        | 100         | 100 |
| 5   | IS    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | IT    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | IU    | 38/210 (18%) | 38 (100%) | 0        | 100         | 100 |
| 5   | IV    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | IW    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | IX    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | IY    | 38/210 (18%) | 38 (100%) | 0        | 100         | 100 |
| 5   | IZ    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | JA    | 38/210 (18%) | 38 (100%) | 0        | 100         | 100 |
| 5   | JB    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | JC    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | JD    | 38/210 (18%) | 38 (100%) | 0        | 100         | 100 |
| 5   | JE    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | JF    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | JG    | 38/210 (18%) | 38 (100%) | 0        | 100         | 100 |
| 5   | JH    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | JI    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | JJ    | 38/210 (18%) | 38 (100%) | 0        | 100         | 100 |
| 5   | JK    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |
| 5   | JL    | 35/210 (17%) | 35 (100%) | 0        | 100         | 100 |

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| Mol | Chain | Analysed          | Rotameric    | Outliers | Percentiles |     |
|-----|-------|-------------------|--------------|----------|-------------|-----|
| 5   | JM    | 35/210 (17%)      | 35 (100%)    | 0        | 100         | 100 |
| 5   | JN    | 38/210 (18%)      | 38 (100%)    | 0        | 100         | 100 |
| 5   | JO    | 35/210 (17%)      | 35 (100%)    | 0        | 100         | 100 |
| All | All   | 37314/54248 (69%) | 37314 (100%) | 0        | 100         | 100 |

There are no protein residues with a non-rotameric sidechain to report.

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (56) such sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | AB    | 54  | ASN  |
| 1   | AF    | 257 | HIS  |
| 1   | AF    | 318 | GLN  |
| 1   | AK    | 85  | GLN  |
| 1   | AK    | 110 | ASN  |
| 1   | AN    | 110 | ASN  |
| 1   | AN    | 142 | GLN  |
| 1   | AN    | 147 | ASN  |
| 1   | AS    | 62  | ASN  |
| 1   | AU    | 80  | ASN  |
| 1   | AW    | 54  | ASN  |
| 1   | AY    | 85  | GLN  |
| 1   | AY    | 110 | ASN  |
| 1   | AZ    | 110 | ASN  |
| 1   | BA    | 54  | ASN  |
| 1   | BA    | 110 | ASN  |
| 1   | BB    | 313 | GLN  |
| 1   | BL    | 44  | GLN  |
| 1   | BO    | 109 | ASN  |
| 1   | BS    | 257 | HIS  |
| 1   | BS    | 318 | GLN  |
| 1   | BT    | 318 | GLN  |
| 1   | BX    | 54  | ASN  |
| 1   | BX    | 85  | GLN  |
| 1   | BY    | 85  | GLN  |
| 1   | BY    | 110 | ASN  |
| 1   | BZ    | 110 | ASN  |
| 1   | CA    | 110 | ASN  |
| 1   | CH    | 62  | ASN  |
| 1   | CJ    | 85  | GLN  |
| 1   | CK    | 62  | ASN  |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | CP    | 110 | ASN  |
| 1   | CY    | 54  | ASN  |
| 1   | DC    | 62  | ASN  |
| 1   | DE    | 110 | ASN  |
| 2   | DV    | 115 | ASN  |
| 2   | DX    | 115 | ASN  |
| 2   | EG    | 47  | ASN  |
| 2   | EH    | 41  | GLN  |
| 2   | EI    | 24  | ASN  |
| 2   | EI    | 34  | ASN  |
| 2   | EN    | 115 | ASN  |
| 2   | EO    | 156 | ASN  |
| 2   | EP    | 61  | ASN  |
| 2   | ER    | 180 | ASN  |
| 2   | FF    | 156 | ASN  |
| 2   | FF    | 180 | ASN  |
| 3   | FJ    | 162 | ASN  |
| 4   | FM    | 88  | HIS  |
| 4   | FO    | 162 | ASN  |
| 4   | FS    | 88  | HIS  |
| 4   | FT    | 24  | ASN  |
| 4   | FW    | 186 | ASN  |
| 4   | GF    | 88  | HIS  |
| 4   | GH    | 88  | HIS  |
| 4   | GJ    | 88  | HIS  |

### 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 monosaccharides 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.

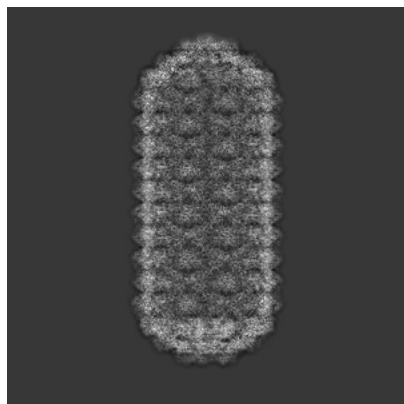
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-17739. These allow visual inspection of the internal detail of the map and identification of artifacts.

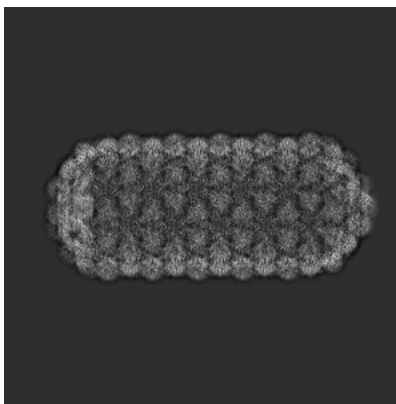
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

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

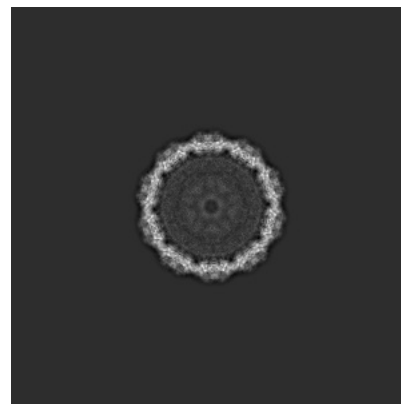
#### 6.1.1 Primary map



X

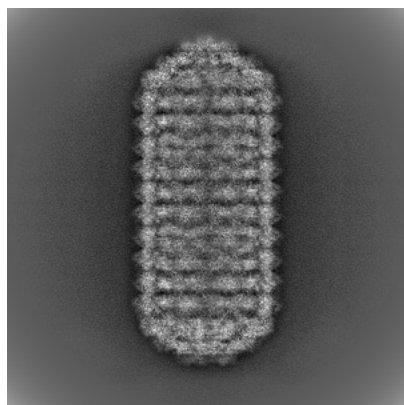


Y

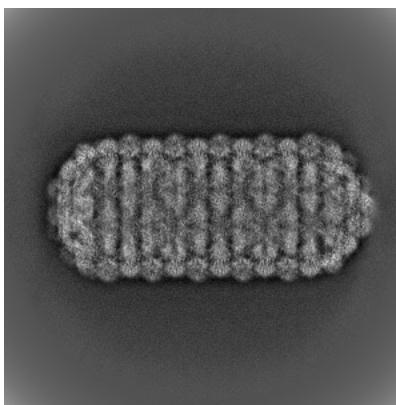


Z

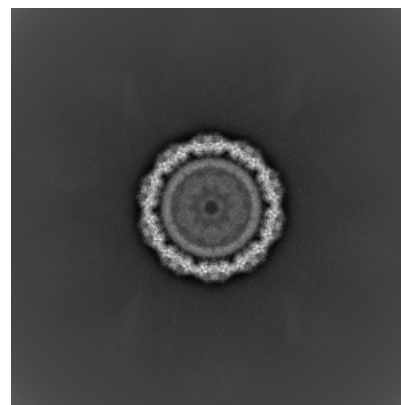
#### 6.1.2 Raw map



X



Y



Z

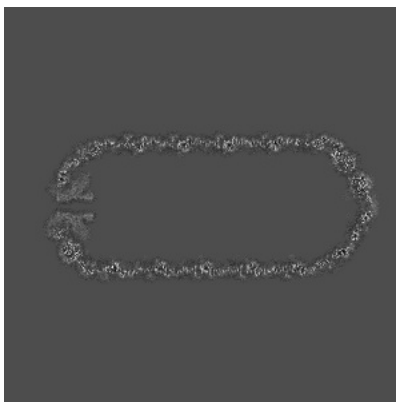
The images above show the map projected in three orthogonal directions.

## 6.2 Central slices [i](#)

### 6.2.1 Primary map



X Index: 360

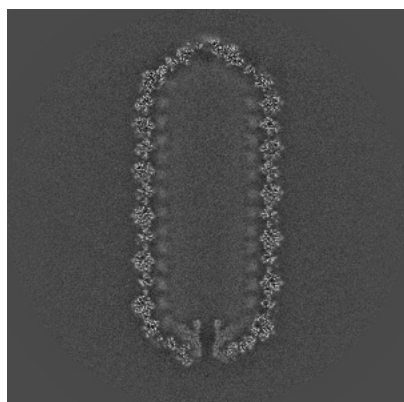


Y Index: 360

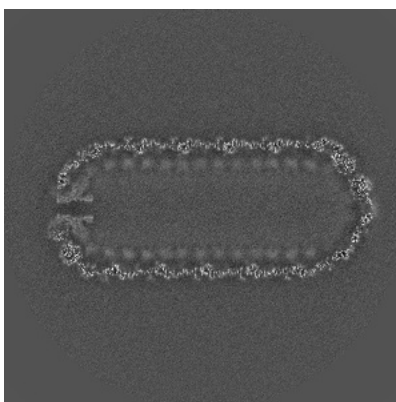


Z Index: 360

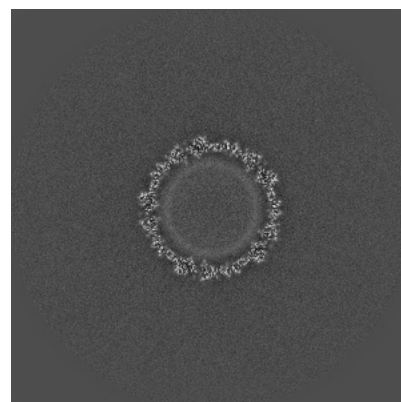
### 6.2.2 Raw map



X Index: 360



Y Index: 360

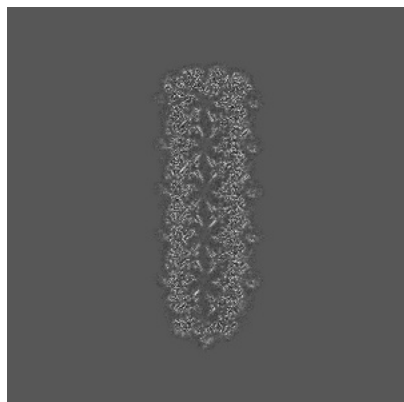


Z Index: 360

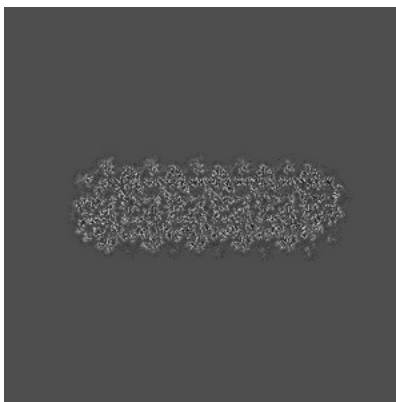
The images above show central slices of the map in three orthogonal directions.

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

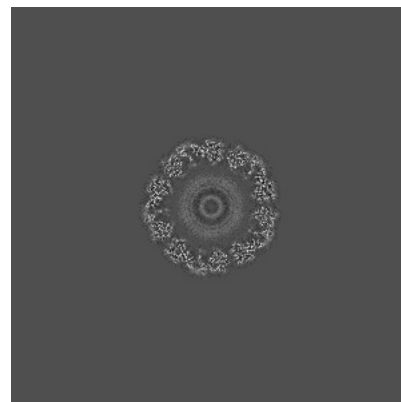
### 6.3.1 Primary map



X Index: 260

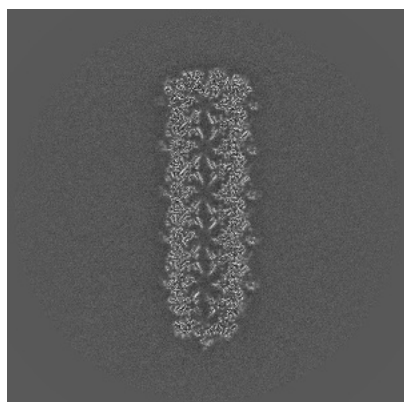


Y Index: 465

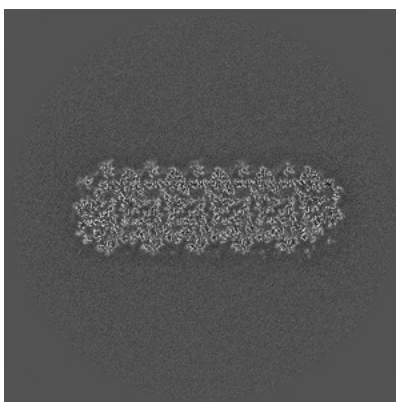


Z Index: 145

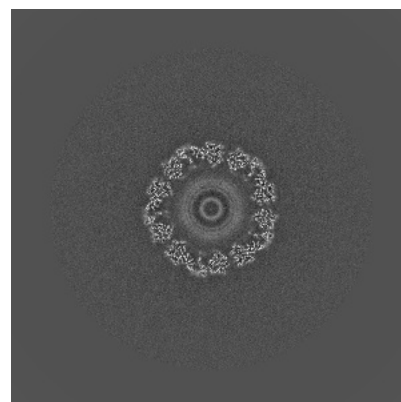
### 6.3.2 Raw map



X Index: 260



Y Index: 465



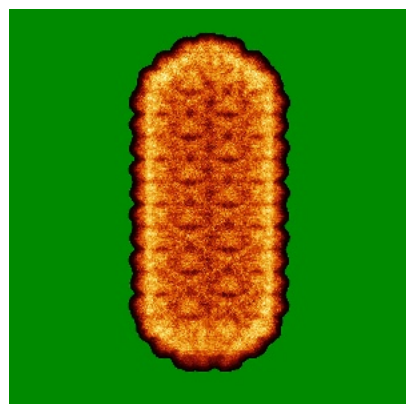
Z Index: 145

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

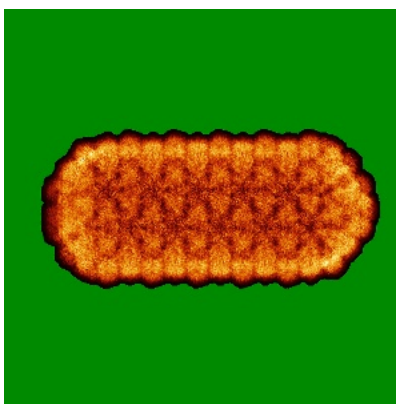


## 6.4 Orthogonal standard-deviation projections (False-color) [i](#)

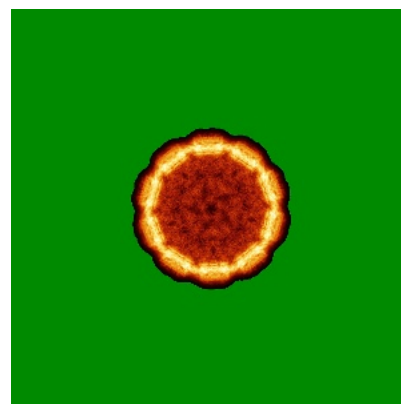
### 6.4.1 Primary map



X

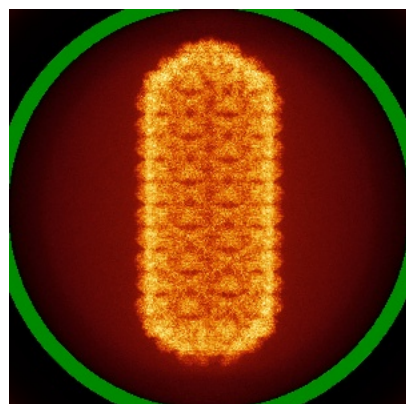


Y

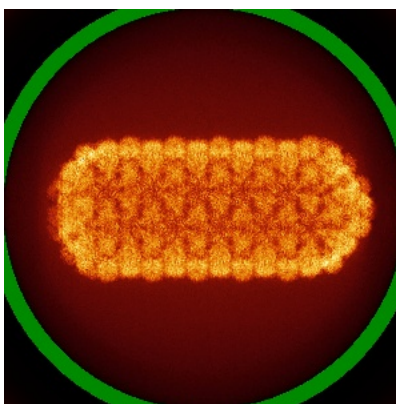


Z

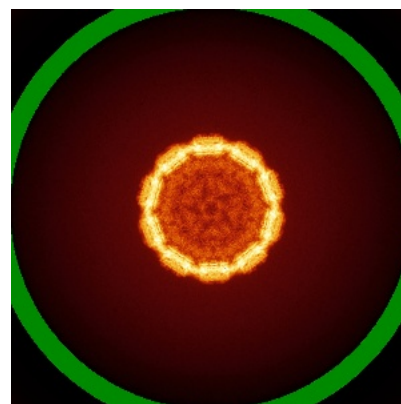
### 6.4.2 Raw map



X



Y



Z

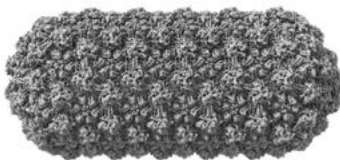
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

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

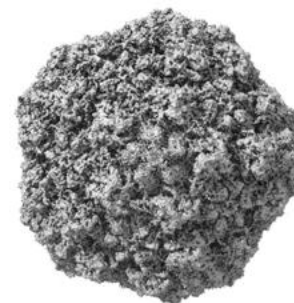
### 6.5.1 Primary map



X



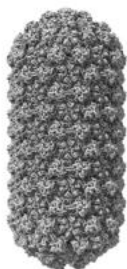
Y



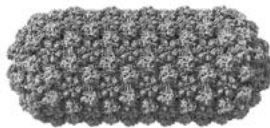
Z

The images above show the 3D surface view of the map at the recommended contour level 0.01. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

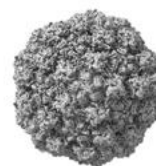
### 6.5.2 Raw map



X



Y



Z

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.

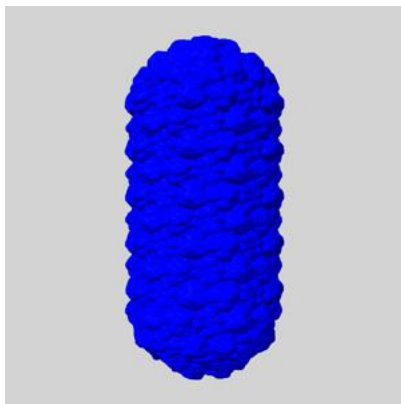
## 6.6 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

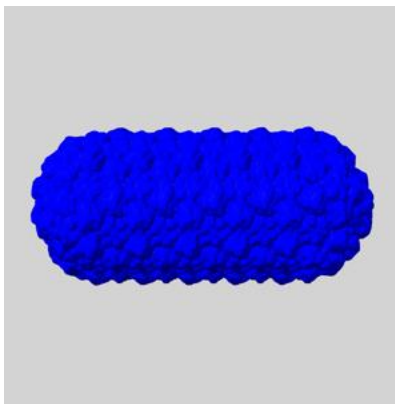
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

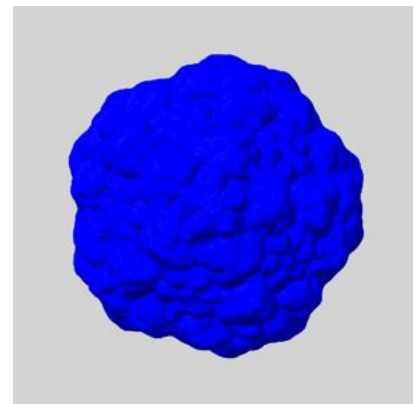
### 6.6.1 emd\_17739\_msk\_1.map [i](#)



X



Y

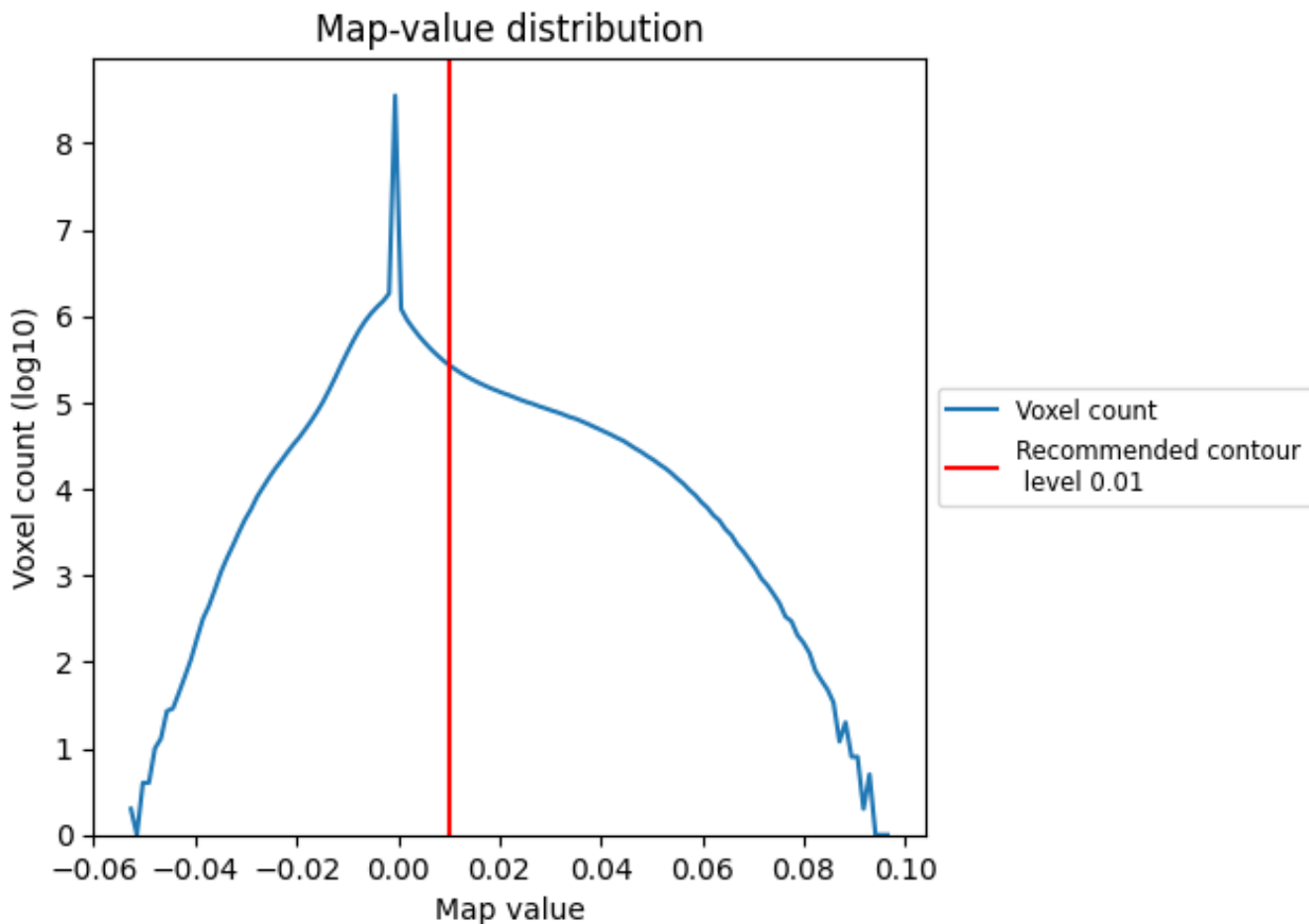


Z

## 7 Map analysis [i](#)

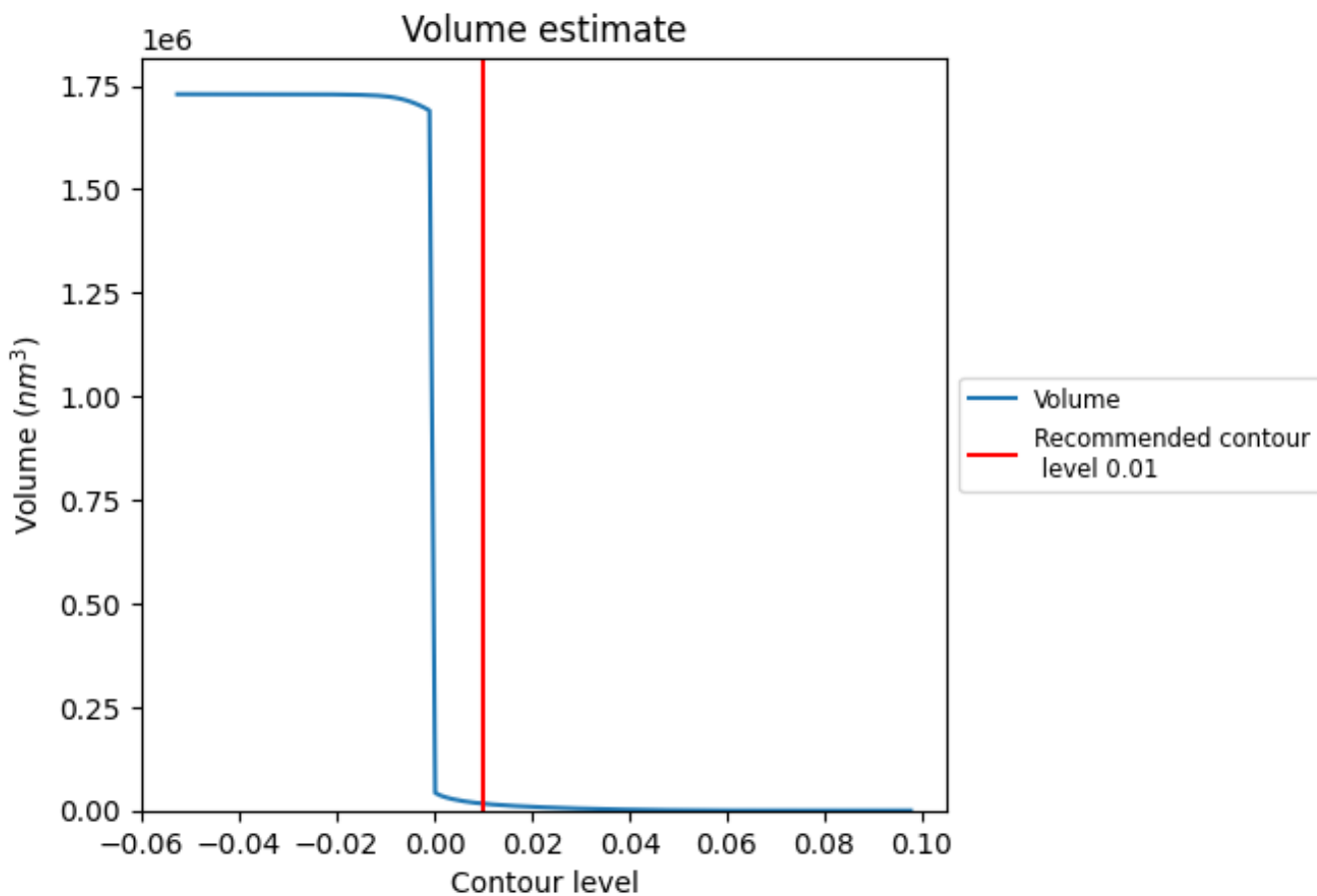
This section contains the results of statistical analysis of the map.

### 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.

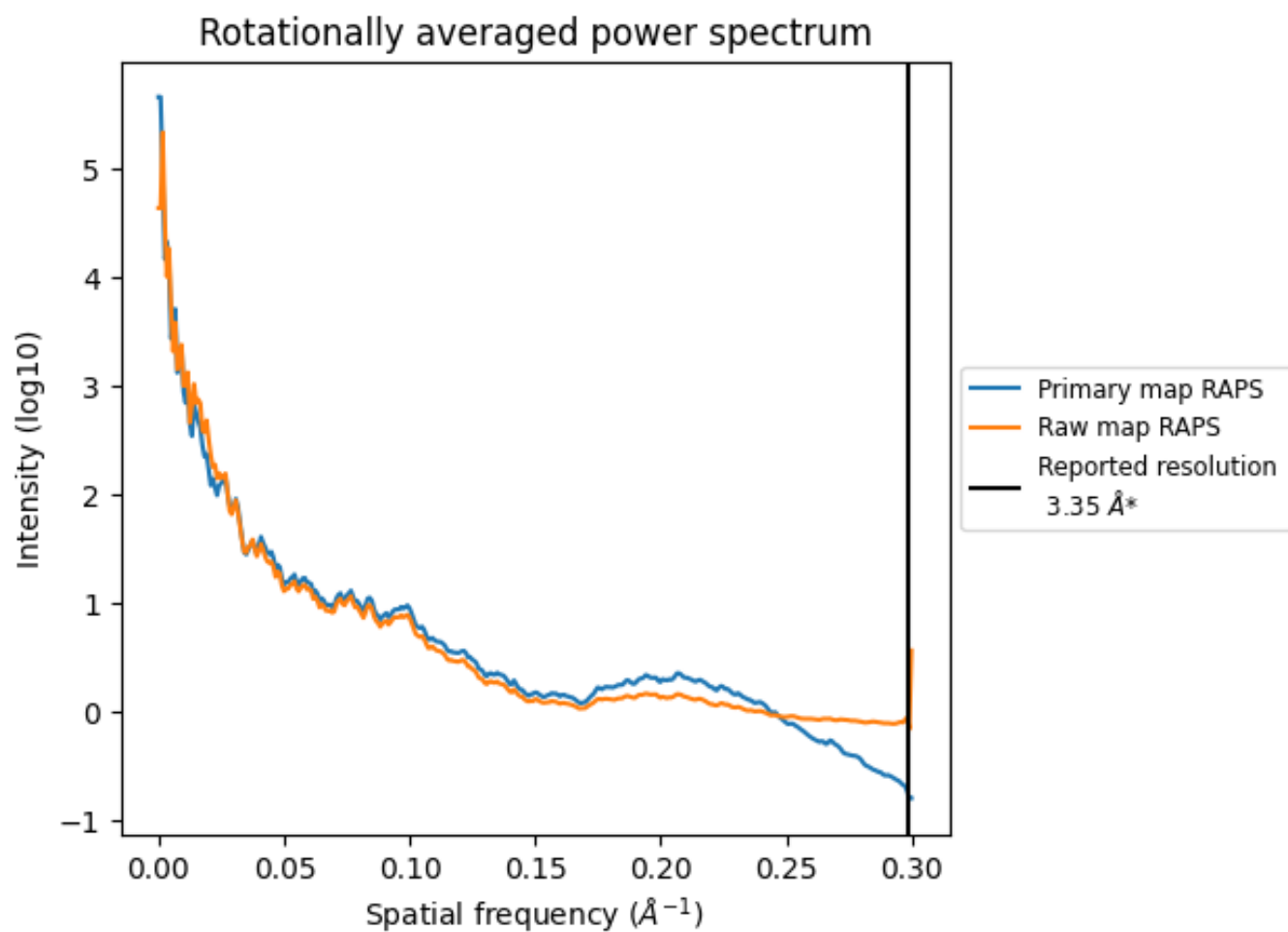
## 7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is  $16709 \text{ nm}^3$ ; this corresponds to an approximate mass of  $15093 \text{ kDa}$ .

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 i

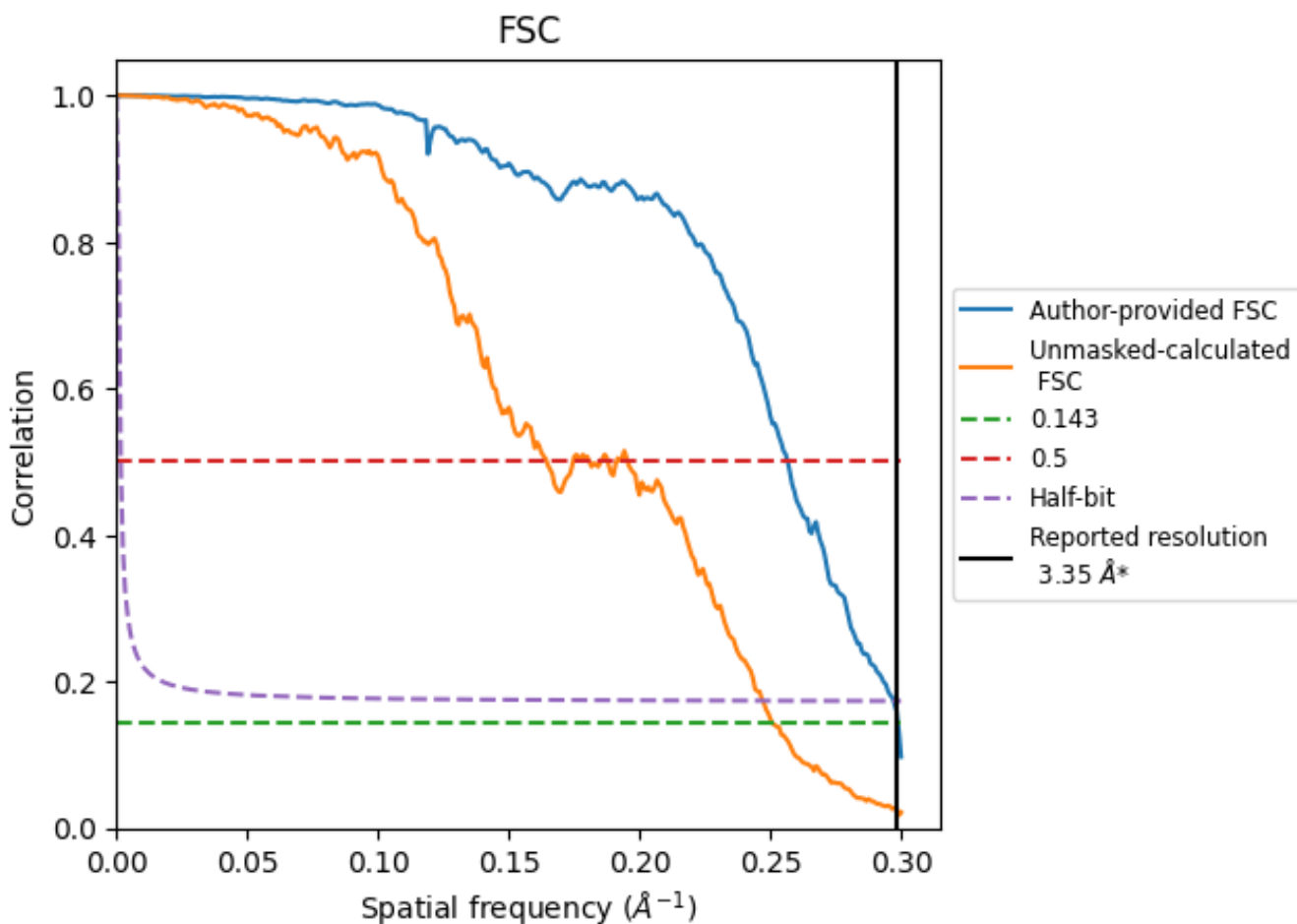


\*Reported resolution corresponds to spatial frequency of 0.299 Å<sup>-1</sup>

## 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 0.299 Å<sup>-1</sup>

## 8.2 Resolution estimates [i](#)

| Resolution estimate (Å)   | Estimation criterion (FSC cut-off) |      |          |
|---------------------------|------------------------------------|------|----------|
|                           | 0.143                              | 0.5  | Half-bit |
| Reported by author        | 3.35                               | -    | -        |
| Author-provided FSC curve | 3.35                               | 3.90 | 3.37     |
| Unmasked-calculated*      | 3.99                               | 6.08 | 4.05     |

\*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 3.99 differs from the reported value 3.35 by more than 10 %

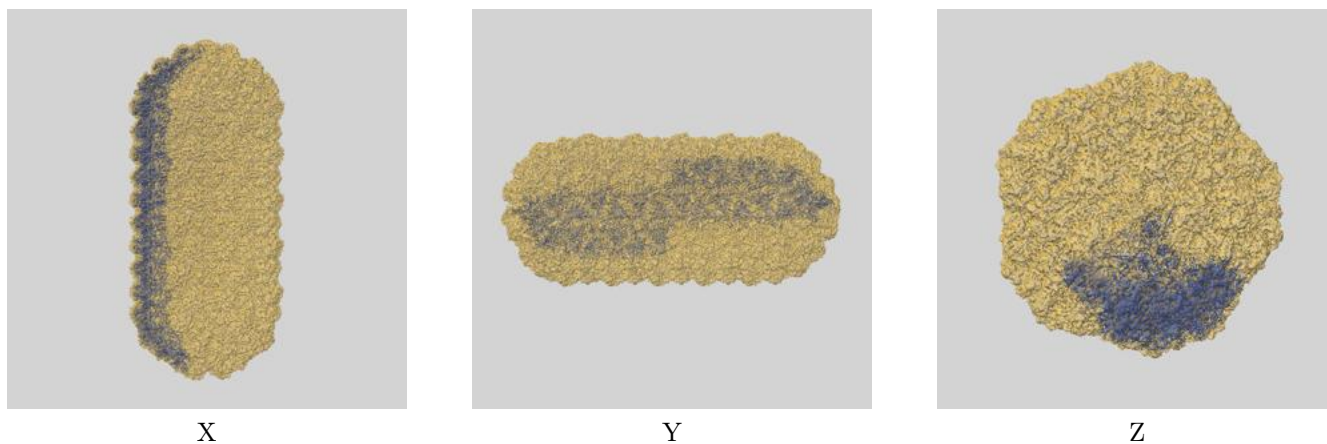


## 9 Map-model fit [i](#)

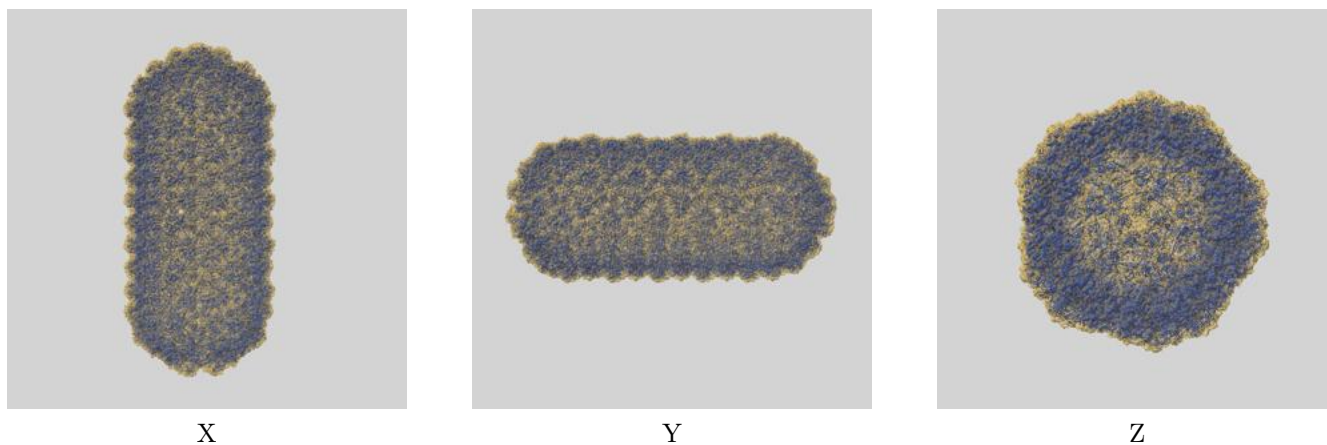
This section contains information regarding the fit between EMDB map EMD-17739 and PDB model 8PKH. Per-residue inclusion information can be found in section 3 on page 26.

### 9.1 Map-model overlays

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

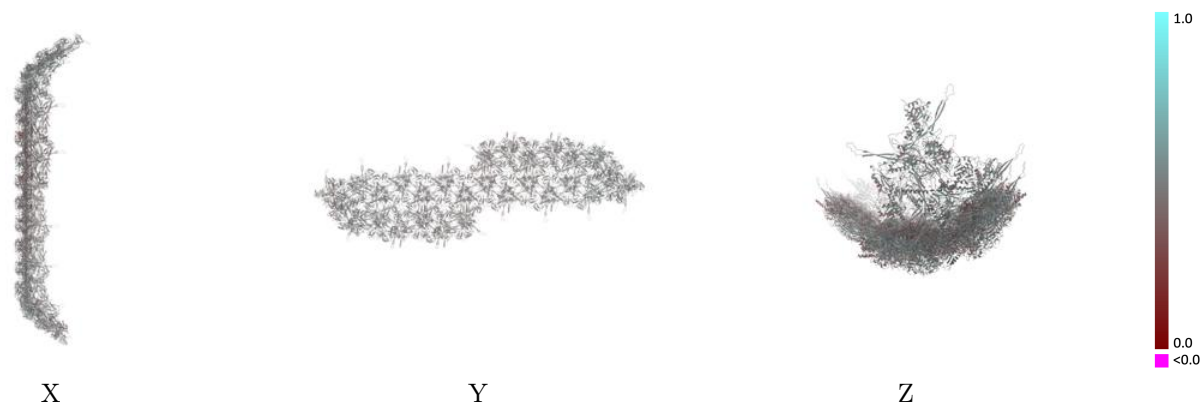


#### 9.1.2 Map-model assembly overlay [i](#)



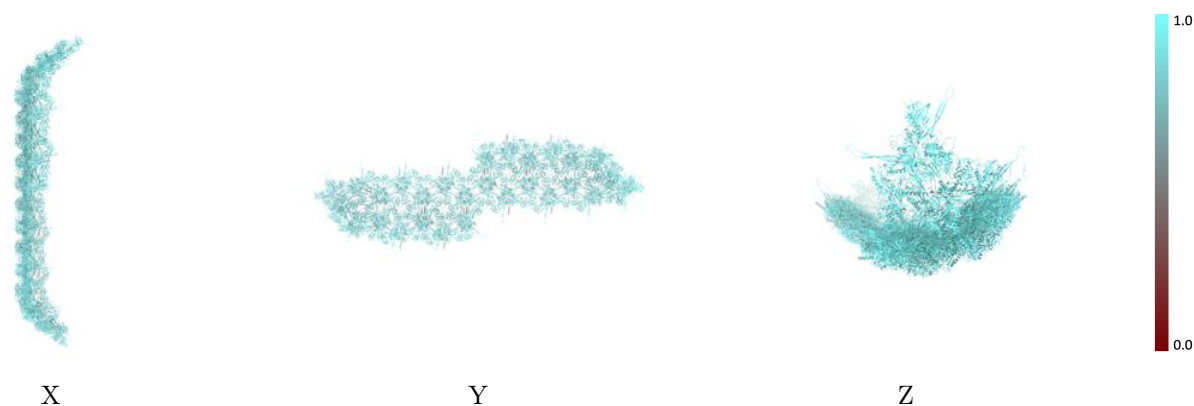
The images above show the 3D surface view of the map at the recommended contour level 0.01 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



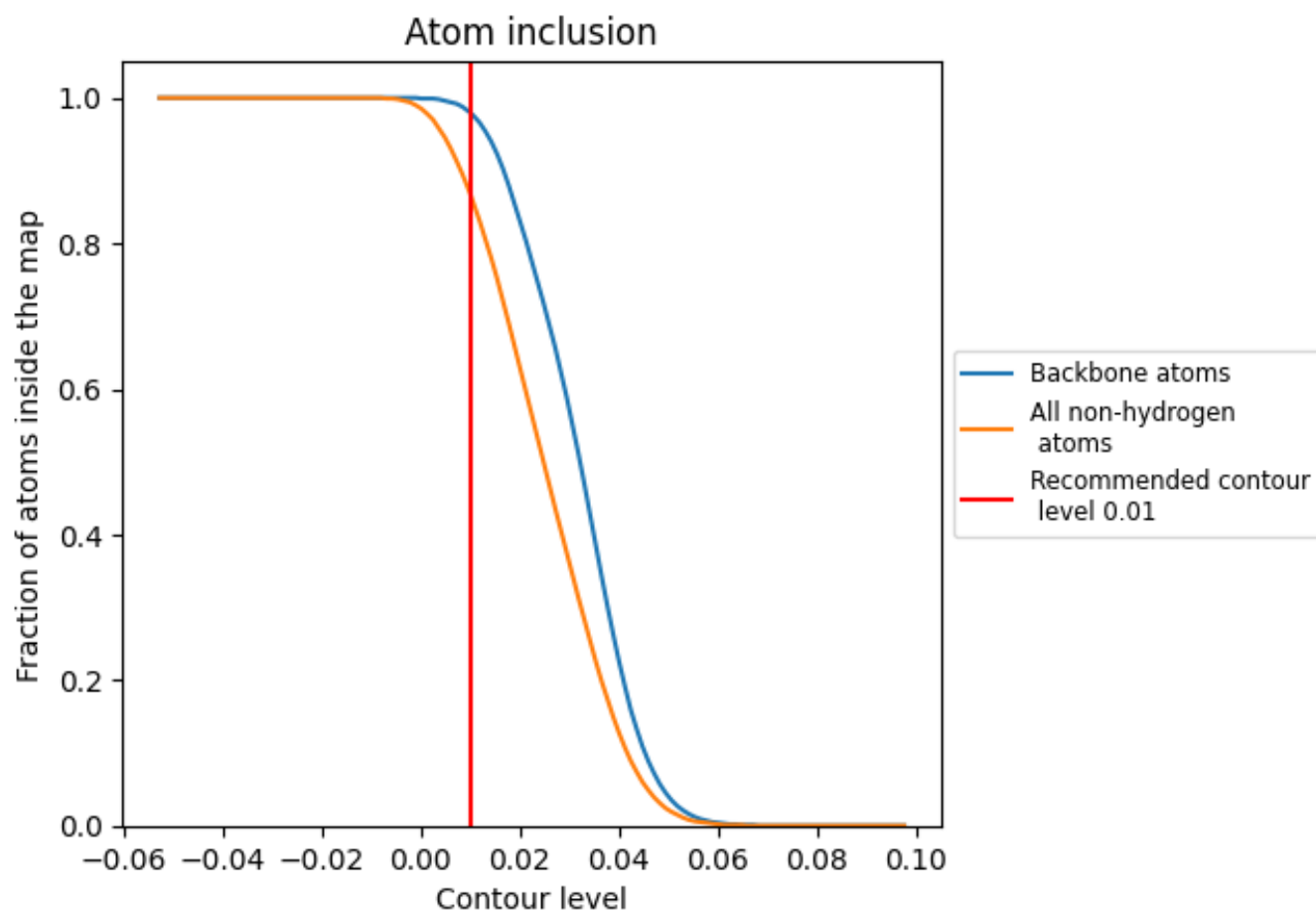
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.01).







































































## 9.4 Atom inclusion [i](#)



At the recommended contour level, 98% of all backbone atoms, 87% 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 (0.01) and Q-score for the entire model and for each chain.

| Chain | Atom inclusion   | Q-score  |
|-------|--|--|
| All   |  0.8690   |  0.4550   |
| AA    |  0.8950   |  0.4860   |
| AB    |  0.8860   |  0.4790   |
| AC    |  0.8930   |  0.4840   |
| AD    |  0.8850   |  0.4920   |
| AE    |  0.8880   |  0.4860   |
| AF    |  0.8930   |  0.4880   |
| AG    |  0.8900   |  0.4880   |
| AH    |  0.8820   |  0.4790   |
| AI    |  0.8860   |  0.4850   |
| AJ    |  0.8840   |  0.4840   |
| AK    |  0.8740   |  0.4650   |
| AL    |  0.8800   |  0.4740   |
| AM    |  0.8830   |  0.4910   |
| AN    |  0.8850  |  0.4820  |
| AO    |  0.8710 |  0.4740 |
| AP    |  0.8950 |  0.4920 |
| AQ    |  0.8850 |  0.4810 |
| AR    |  0.8890 |  0.4880 |
| AS    |  0.8660 |  0.4530 |
| AT    |  0.8610 |  0.4650 |
| AU    |  0.8600 |  0.4460 |
| AV    |  0.8710 |  0.4600 |
| AW    |  0.8650 |  0.4660 |
| AX    |  0.8650 |  0.4590 |
| AY    |  0.8590 |  0.4530 |
| AZ    |  0.8540 |  0.4440 |
| BA    |  0.8600 |  0.4510 |
| BB    |  0.8580 |  0.4510 |
| BC    |  0.8660 |  0.4510 |
| BD    |  0.8770 |  0.4820 |
| BE    |  0.8730 |  0.4720 |
| BF    |  0.8850 |  0.4770 |
| BG    |  0.8940 |  0.4880 |
| BH    |  0.8810 |  0.4800 |























































































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| Chain | Atom inclusion   | Q-score  |
|-------|--|--|
| BI    |  0.8920   |  0.4770   |
| BJ    |  0.8950   |  0.4900   |
| BK    |  0.8790   |  0.4760   |
| BL    |  0.8900   |  0.4790   |
| BM    |  0.8890   |  0.4860   |
| BN    |  0.8900   |  0.4820   |
| BO    |  0.8870   |  0.4750   |
| BP    |  0.8930   |  0.4850   |
| BQ    |  0.8790   |  0.4760   |
| BR    |  0.8630   |  0.4690   |
| BS    |  0.8760   |  0.4590   |
| BT    |  0.8780   |  0.4720   |
| BU    |  0.8780   |  0.4590   |
| BV    |  0.8890   |  0.4690   |
| BW    |  0.8790   |  0.4660   |
| BX    |  0.8620   |  0.4540   |
| BY    |  0.8890   |  0.4740   |
| BZ    |  0.8810  |  0.4520  |
| CA    |  0.8730 |  0.4530 |
| CB    |  0.8670 |  0.4440 |
| CC    |  0.8590 |  0.4430 |
| CD    |  0.8670 |  0.4510 |
| CE    |  0.8720 |  0.4490 |
| CF    |  0.8530 |  0.4400 |
| CG    |  0.8590 |  0.4370 |
| CH    |  0.8650 |  0.4470 |
| CI    |  0.8610 |  0.4470 |
| CJ    |  0.8730 |  0.4480 |
| CK    |  0.8680 |  0.4430 |
| CL    |  0.8560 |  0.4450 |
| CM    |  0.8660 |  0.4460 |
| CN    |  0.8670 |  0.4470 |
| CO    |  0.8660 |  0.4510 |
| CP    |  0.8690 |  0.4470 |
| CQ    |  0.8660 |  0.4390 |
| CR    |  0.8580 |  0.4410 |
| CS    |  0.8520 |  0.4400 |
| CT    |  0.8610 |  0.4380 |
| CU    |  0.8680 |  0.4440 |
| CV    |  0.8540 |  0.4380 |
| CW    |  0.8590 |  0.4470 |
| CX    |  0.8650 |  0.4410 |



















































































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| Chain | Atom inclusion   | Q-score  |
|-------|--|--|
| CY    |  0.8530   |  0.4430   |
| CZ    |  0.8580   |  0.4390   |
| DA    |  0.8650   |  0.4500   |
| DB    |  0.8530   |  0.4430   |
| DC    |  0.8670   |  0.4430   |
| DD    |  0.8700   |  0.4520   |
| DE    |  0.8700   |  0.4480   |
| DF    |  0.9060   |  0.4760   |
| DG    |  0.8910   |  0.4710   |
| DH    |  0.8650   |  0.4710   |
| DI    |  0.8760   |  0.4800   |
| DJ    |  0.8850   |  0.4710   |
| DK    |  0.8880   |  0.4830   |
| DL    |  0.8820   |  0.4770   |
| DM    |  0.8340   |  0.4460   |
| DN    |  0.8600   |  0.4720   |
| DO    |  0.8640   |  0.4720   |
| DP    |  0.8760   |  0.4790   |
| DQ    |  0.9020  |  0.4870  |
| DR    |  0.8810 |  0.4830 |
| DS    |  0.8390 |  0.4190 |
| DT    |  0.8700 |  0.4600 |
| DU    |  0.8700 |  0.4640 |
| DV    |  0.8570 |  0.4650 |
| DW    |  0.8500 |  0.4140 |
| DX    |  0.8640 |  0.4470 |
| DY    |  0.8790 |  0.4490 |
| DZ    |  0.8570 |  0.4410 |
| EA    |  0.8070 |  0.3940 |
| EB    |  0.8660 |  0.4690 |
| EC    |  0.9020 |  0.4880 |
| ED    |  0.8730 |  0.4660 |
| EE    |  0.8990 |  0.4780 |
| EF    |  0.8710 |  0.4690 |
| EG    |  0.8680 |  0.4740 |
| EH    |  0.8440 |  0.4430 |
| EI    |  0.8870 |  0.4760 |
| EJ    |  0.8760 |  0.4760 |
| EK    |  0.8790 |  0.4450 |
| EL    |  0.8830 |  0.4650 |
| EM    |  0.8820 |  0.4530 |
| EN    |  0.8640 |  0.4610 |


















































































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| Chain | Atom inclusion   | Q-score  |
|-------|--|--|
| EO    |  0.8650   |  0.4430   |
| EP    |  0.8760   |  0.4580   |
| EQ    |  0.8720   |  0.4560   |
| ER    |  0.8460   |  0.4240   |
| ES    |  0.8670   |  0.4490   |
| ET    |  0.8890   |  0.4530   |
| EU    |  0.8710   |  0.4540   |
| EV    |  0.8440   |  0.4130   |
| EW    |  0.8810   |  0.4480   |
| EX    |  0.8650   |  0.4510   |
| EY    |  0.8790   |  0.4550   |
| EZ    |  0.8450   |  0.4190   |
| FA    |  0.8740   |  0.4580   |
| FB    |  0.8390   |  0.4060   |
| FC    |  0.8690   |  0.4540   |
| FD    |  0.8760   |  0.4470   |
| FE    |  0.8690   |  0.4490   |
| FF    |  0.8380   |  0.4210   |
| FG    |  0.8700  |  0.4500  |
| FH    |  0.8660 |  0.4530 |
| FI    |  0.8630 |  0.4500 |
| FJ    |  0.8660 |  0.4640 |
| FK    |  0.8880 |  0.4770 |
| FL    |  0.8830 |  0.4810 |
| FM    |  0.8690 |  0.4690 |
| FN    |  0.8580 |  0.4730 |
| FO    |  0.8820 |  0.4810 |
| FP    |  0.8730 |  0.4610 |
| FQ    |  0.8430 |  0.4410 |
| FR    |  0.7830 |  0.3770 |
| FS    |  0.8260 |  0.4130 |
| FT    |  0.8570 |  0.4530 |
| FU    |  0.8690 |  0.4690 |
| FV    |  0.8750 |  0.4670 |
| FW    |  0.8690 |  0.4680 |
| FX    |  0.8770 |  0.4740 |
| FY    |  0.8710 |  0.4580 |
| FZ    |  0.8700 |  0.4380 |
| GA    |  0.8230 |  0.4120 |
| GB    |  0.8030 |  0.3970 |
| GC    |  0.8360 |  0.4250 |
| GD    |  0.7890 |  0.3740 |

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| Chain | Atom inclusion   | Q-score  |
|-------|--|--|
| GE    |  0.8460   |  0.4230   |
| GF    |  0.8050   |  0.3810   |
| GG    |  0.7830   |  0.3850   |
| GH    |  0.8230   |  0.4150   |
| GI    |  0.8060   |  0.3890   |
| GJ    |  0.8260   |  0.4160   |
| GK    |  0.8450   |  0.4430   |
| GL    |  0.8630   |  0.4520   |
| GM    |  0.8340   |  0.4420   |
| GN    |  0.8370   |  0.4490   |
| GO    |  0.8860   |  0.4550   |
| GP    |  0.8760   |  0.4290   |
| GQ    |  0.7950   |  0.4300   |
| GR    |  0.8700   |  0.4480   |
| GS    |  0.8700   |  0.4290   |
| GT    |  0.8760   |  0.4550   |
| GU    |  0.8730   |  0.4430   |
| GV    |  0.8890   |  0.4410   |
| GW    |  0.8570  |  0.4560  |
| GX    |  0.8760 |  0.4350 |
| GY    |  0.8630 |  0.4380 |
| GZ    |  0.8890 |  0.4490 |
| HA    |  0.8600 |  0.4450 |
| HB    |  0.8370 |  0.4480 |
| HC    |  0.8990 |  0.4180 |
| HD    |  0.8640 |  0.4230 |
| HE    |  0.8730 |  0.4200 |
| HF    |  0.8760 |  0.4120 |
| HG    |  0.8660 |  0.4260 |
| HH    |  0.8490 |  0.4240 |
| HI    |  0.8610 |  0.3990 |
| HJ    |  0.8800 |  0.3940 |
| HK    |  0.8950 |  0.3990 |
| HL    |  0.7590 |  0.3960 |
| HM    |  0.8300 |  0.3880 |
| HN    |  0.8790 |  0.4560 |
| HO    |  0.8760 |  0.4460 |
| HP    |  0.8600 |  0.4340 |
| HQ    |  0.8400 |  0.4290 |
| HR    |  0.9120 |  0.4650 |
| HS    |  0.8140 |  0.4200 |
| HT    |  0.8830 |  0.4590 |

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| Chain | Atom inclusion   | Q-score  |
|-------|--|--|
| HU    |  0.8730   |  0.4420   |
| HV    |  0.9020   |  0.4500   |
| HW    |  0.7830   |  0.4290   |
| HX    |  0.8860   |  0.4450   |
| HY    |  0.8920   |  0.4530   |
| HZ    |  0.8760   |  0.4370   |
| IA    |  0.8440   |  0.4320   |
| IB    |  0.7730   |  0.4380   |
| IC    |  0.8920   |  0.4360   |
| ID    |  0.8580   |  0.4180   |
| IE    |  0.8960   |  0.4490   |
| IF    |  0.8990   |  0.4330   |
| IG    |  0.8760   |  0.4440   |
| IH    |  0.8620   |  0.3980   |
| II    |  0.8840   |  0.4400   |
| IJ    |  0.9030   |  0.4140   |
| IK    |  0.9190   |  0.4140   |
| IL    |  0.8780   |  0.4070   |
| IM    |  0.8890   |  0.4240   |
| IN    |  0.8630   |  0.4090   |
| IO    |  0.8660  |  0.3970  |
| IP    |  0.8730 |  0.4010 |
| IQ    |  0.8790 |  0.4020 |
| IR    |  0.8570 |  0.4000 |
| IS    |  0.8700 |  0.4130 |
| IT    |  0.8830 |  0.4230 |
| IU    |  0.8540 |  0.4070 |
| IV    |  0.8370 |  0.4000 |
| IW    |  0.8860 |  0.4240 |
| IX    |  0.8790 |  0.4120 |
| IY    |  0.8780 |  0.4060 |
| IZ    |  0.8660 |  0.4200 |
| JA    |  0.8720 |  0.4130 |
| JB    |  0.8760 |  0.4020 |
| JC    |  0.8600 |  0.4000 |
| JD    |  0.8870 |  0.4080 |
| JE    |  0.8530 |  0.4110 |
| JF    |  0.8730 |  0.3960 |
| JG    |  0.8570 |  0.3960 |
| JH    |  0.8790 |  0.4010 |
| JI    |  0.8470 |  0.4310 |
| JJ    |  0.8720 |  0.4050 |

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| Chain | Atom inclusion   | Q-score  |
|-------|--|--|
| JK    |  0.8700 |  0.4090 |
| JL    |  0.8790 |  0.4350 |
| JM    |  0.8660 |  0.4050 |
| JN    |  0.8780 |  0.4070 |
| JO    |  0.8600 |  0.4140 |