



## Full wwPDB EM Validation Report ⓘ

Apr 13, 2023 – 05:11 am BST

PDB ID : 7Z49  
EMDB ID : EMD-14488  
Title : The capsid of bacteriophage SU10.  
Authors : Siborova, M.; Fuzik, T.; Prochazkova, M.; Novacek, J.; Plevka, P.  
Deposited on : 2022-03-03  
Resolution : 4.20 Å (reported)

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev50  
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) : 2.32.2

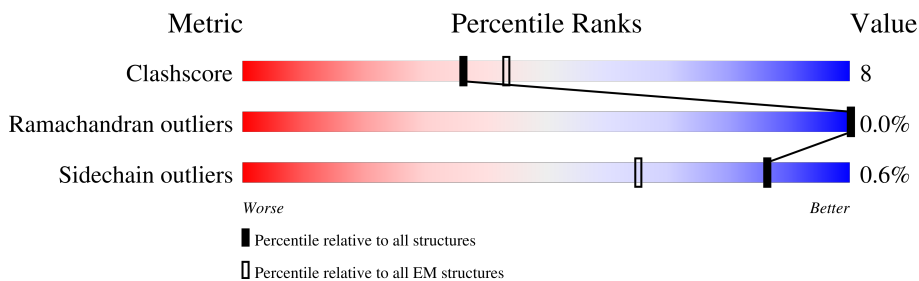
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 4.20 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    | 352    | <div style="display: flex; justify-content: space-between; align-items: center;"> <span style="margin-right: 10px;">41%</span> </div> |
| 1   | AB    | 352    | <div style="display: flex; justify-content: space-between; align-items: center;"> <span style="margin-right: 10px;">41%</span> </div> |
| 1   | AC    | 352    | <div style="display: flex; justify-content: space-between; align-items: center;"> <span style="margin-right: 10px;">42%</span> </div> |
| 1   | AD    | 352    | <div style="display: flex; justify-content: space-between; align-items: center;"> <span style="margin-right: 10px;">43%</span> </div> |
| 1   | AE    | 352    | <div style="display: flex; justify-content: space-between; align-items: center;"> <span style="margin-right: 10px;">45%</span> </div> |
| 1   | AF    | 352    | <div style="display: flex; justify-content: space-between; align-items: center;"> <span style="margin-right: 10px;">41%</span> </div> |
| 1   | AG    | 352    | <div style="display: flex; justify-content: space-between; align-items: center;"> <span style="margin-right: 10px;">38%</span> </div> |
| 1   | AH    | 352    | <div style="display: flex; justify-content: space-between; align-items: center;"> <span style="margin-right: 10px;">43%</span> </div> |

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| Mol | Chain | Length | Quality of chain  |
|-----|-------|--------|-------------------|
| 1   | AI    | 352    | 42%<br>89%<br>9%  |
| 1   | AJ    | 352    | 38%<br>88%<br>10% |
| 1   | AK    | 352    | 39%<br>81%<br>17% |
| 1   | AL    | 352    | 40%<br>90%<br>9%  |
| 1   | AM    | 352    | 39%<br>76%<br>21% |
| 1   | AN    | 352    | 43%<br>87%<br>11% |
| 1   | AO    | 352    | 39%<br>84%<br>14% |
| 1   | AP    | 352    | 40%<br>72%<br>26% |
| 1   | AQ    | 352    | 44%<br>86%<br>13% |
| 1   | AR    | 352    | 45%<br>86%<br>12% |
| 1   | AS    | 352    | 40%<br>80%<br>18% |
| 1   | AT    | 352    | 45%<br>87%<br>11% |
| 1   | AU    | 352    | 43%<br>86%<br>12% |
| 1   | AV    | 352    | 40%<br>86%<br>13% |
| 1   | AW    | 352    | 40%<br>82%<br>17% |
| 1   | AX    | 352    | 40%<br>88%<br>10% |
| 1   | AY    | 352    | 36%<br>87%<br>11% |
| 1   | AZ    | 352    | 31%<br>88%<br>11% |
| 1   | BA    | 352    | 39%<br>83%<br>15% |
| 1   | BB    | 352    | 36%<br>86%<br>12% |
| 1   | BC    | 352    | 32%<br>88%<br>11% |
| 1   | BD    | 352    | 30%<br>88%<br>11% |
| 1   | BE    | 352    | 41%<br>85%<br>14% |
| 1   | BF    | 352    | 35%<br>86%<br>13% |
| 1   | BG    | 352    | 36%<br>89%<br>9%  |

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| Mol | Chain | Length | Quality of chain     |
|-----|-------|--------|----------------------|
| 1   | BH    | 352    | 41%<br>88%<br>10% .  |
| 1   | BI    | 352    | 21%<br>72%<br>26% .  |
| 1   | BJ    | 352    | 35%<br>89%<br>9% .   |
| 1   | BK    | 352    | 41%<br>78%<br>20% .. |
| 1   | BL    | 352    | 34%<br>86%<br>12% .  |
| 1   | BM    | 352    | 40%<br>83%<br>14% .  |
| 1   | BN    | 352    | 44%<br>78%<br>20% .  |
| 1   | BO    | 352    | 29%<br>86%<br>13% .  |
| 1   | BP    | 352    | 38%<br>85%<br>13% .. |
| 1   | BQ    | 352    | 43%<br>86%<br>13% .  |
| 1   | BR    | 352    | 32%<br>86%<br>12% .  |
| 1   | BS    | 352    | 33%<br>87%<br>11% .  |
| 1   | BT    | 352    | 38%<br>86%<br>12% .  |
| 1   | BU    | 352    | 31%<br>80%<br>19% .  |
| 1   | BV    | 352    | 29%<br>87%<br>11% .  |
| 1   | BW    | 352    | 22%<br>82%<br>16% .  |
| 1   | BX    | 352    | 29%<br>79%<br>20% .  |
| 1   | BY    | 352    | 25%<br>81%<br>17% .  |
| 1   | BZ    | 352    | 29%<br>84%<br>14% .  |
| 1   | CA    | 352    | 32%<br>80%<br>17% .. |
| 1   | CB    | 352    | 35%<br>84%<br>14% .  |
| 1   | CC    | 352    | 22%<br>86%<br>12% .  |
| 1   | CD    | 352    | 38%<br>82%<br>15% .  |
| 1   | CE    | 352    | 32%<br>80%<br>18% .  |
| 1   | CF    | 352    | 40%<br>84%<br>14% .  |

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| Mol | Chain | Length | Quality of chain  |
|-----|-------|--------|-------------------|
| 1   | CG    | 352    | 41%<br>82%<br>16% |
| 1   | CH    | 352    | 36%<br>88%<br>10% |
| 1   | CI    | 352    | 24%<br>86%<br>12% |
| 1   | CJ    | 352    | 37%<br>87%<br>12% |
| 1   | CK    | 352    | 42%<br>83%<br>16% |
| 1   | CL    | 352    | 39%<br>79%<br>18% |
| 1   | CM    | 352    | 20%<br>85%<br>13% |
| 1   | CN    | 352    | 39%<br>78%<br>19% |
| 1   | CO    | 352    | 39%<br>81%<br>16% |
| 1   | CP    | 352    | 39%<br>84%<br>14% |
| 1   | CQ    | 352    | 30%<br>81%<br>17% |
| 1   | CR    | 352    | 36%<br>82%<br>16% |
| 1   | CS    | 352    | 38%<br>72%<br>26% |
| 1   | CT    | 352    | 36%<br>85%<br>13% |
| 1   | CU    | 352    | 37%<br>79%<br>19% |
| 1   | CV    | 352    | 32%<br>84%<br>15% |
| 1   | CW    | 352    | 41%<br>78%<br>20% |
| 1   | CX    | 352    | 38%<br>90%<br>9%  |
| 1   | CY    | 352    | 32%<br>83%<br>16% |
| 1   | CZ    | 352    | 41%<br>77%<br>22% |
| 1   | DA    | 352    | 36%<br>82%<br>16% |
| 1   | DB    | 352    | 34%<br>82%<br>17% |
| 1   | DC    | 352    | 32%<br>84%<br>14% |
| 1   | DD    | 352    | 34%<br>72%<br>25% |
| 1   | DE    | 352    | 32%<br>84%<br>14% |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1   | DF    | 352    |                  |
| 1   | DG    | 352    |                  |
| 1   | DH    | 352    |                  |
| 1   | DI    | 352    |                  |
| 1   | DJ    | 352    |                  |
| 1   | DK    | 352    |                  |
| 1   | DL    | 352    |                  |
| 1   | DM    | 352    |                  |
| 1   | DN    | 352    |                  |
| 1   | DO    | 352    |                  |
| 1   | DP    | 352    |                  |
| 1   | DQ    | 352    |                  |

## 2 Entry composition [i](#)

There is only 1 type of molecule in this entry. The entry contains 254241 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 head protein.

| Mol | Chain | Residues | Atoms |      |     |     |    | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
|     |       |          | Total | C    | N   | O   | S  |         |       |
| 1   | AA    | 347      | 2685  | 1684 | 470 | 521 | 10 | 0       | 0     |
| 1   | AB    | 347      | 2685  | 1684 | 470 | 521 | 10 | 0       | 0     |
| 1   | AC    | 344      | 2663  | 1671 | 466 | 516 | 10 | 0       | 0     |
| 1   | AD    | 347      | 2685  | 1684 | 470 | 521 | 10 | 0       | 0     |
| 1   | AE    | 346      | 2677  | 1680 | 468 | 519 | 10 | 0       | 0     |
| 1   | AF    | 346      | 2676  | 1678 | 468 | 520 | 10 | 0       | 0     |
| 1   | AG    | 347      | 2685  | 1684 | 470 | 521 | 10 | 0       | 0     |
| 1   | AH    | 347      | 2685  | 1684 | 470 | 521 | 10 | 0       | 0     |
| 1   | AI    | 347      | 2685  | 1684 | 470 | 521 | 10 | 0       | 0     |
| 1   | AJ    | 347      | 2685  | 1684 | 470 | 521 | 10 | 0       | 0     |
| 1   | AK    | 347      | 2685  | 1684 | 470 | 521 | 10 | 0       | 0     |
| 1   | AL    | 347      | 2685  | 1684 | 470 | 521 | 10 | 0       | 0     |
| 1   | AM    | 344      | 2663  | 1671 | 466 | 516 | 10 | 0       | 0     |
| 1   | AN    | 344      | 2663  | 1671 | 466 | 516 | 10 | 0       | 0     |
| 1   | AO    | 344      | 2663  | 1671 | 466 | 516 | 10 | 0       | 0     |
| 1   | AP    | 347      | 2685  | 1684 | 470 | 521 | 10 | 0       | 0     |
| 1   | AQ    | 347      | 2685  | 1684 | 470 | 521 | 10 | 0       | 0     |

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| Mol | Chain | Residues | Atoms |      |     |     |    | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| 1   | AR    | 347      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2685  | 1684 | 470 | 521 | 10 |         |       |
| 1   | AS    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2677  | 1680 | 468 | 519 | 10 |         |       |
| 1   | AT    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2677  | 1680 | 468 | 519 | 10 |         |       |
| 1   | AU    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2677  | 1680 | 468 | 519 | 10 |         |       |
| 1   | AV    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2676  | 1678 | 468 | 520 | 10 |         |       |
| 1   | AW    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2676  | 1678 | 468 | 520 | 10 |         |       |
| 1   | AX    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2676  | 1678 | 468 | 520 | 10 |         |       |
| 1   | AY    | 347      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2685  | 1684 | 470 | 521 | 10 |         |       |
| 1   | AZ    | 347      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2685  | 1684 | 470 | 521 | 10 |         |       |
| 1   | BA    | 344      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2663  | 1671 | 466 | 516 | 10 |         |       |
| 1   | BB    | 347      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2685  | 1684 | 470 | 521 | 10 |         |       |
| 1   | BC    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2677  | 1680 | 468 | 519 | 10 |         |       |
| 1   | BD    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2676  | 1678 | 468 | 520 | 10 |         |       |
| 1   | BE    | 347      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2685  | 1684 | 470 | 521 | 10 |         |       |
| 1   | BF    | 347      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2685  | 1684 | 470 | 521 | 10 |         |       |
| 1   | BG    | 347      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2685  | 1684 | 470 | 521 | 10 |         |       |
| 1   | BH    | 347      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2685  | 1684 | 470 | 521 | 10 |         |       |
| 1   | BI    | 347      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2685  | 1684 | 470 | 521 | 10 |         |       |
| 1   | BJ    | 347      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2685  | 1684 | 470 | 521 | 10 |         |       |
| 1   | BK    | 344      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2663  | 1671 | 466 | 516 | 10 |         |       |
| 1   | BL    | 344      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2663  | 1671 | 466 | 516 | 10 |         |       |

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| Mol | Chain | Residues | Atoms |      |     |     |    | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| 1   | BM    | 344      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2663  | 1671 | 466 | 516 | 10 |         |       |
| 1   | BN    | 347      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2685  | 1684 | 470 | 521 | 10 |         |       |
| 1   | BO    | 347      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2685  | 1684 | 470 | 521 | 10 |         |       |
| 1   | BP    | 347      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2685  | 1684 | 470 | 521 | 10 |         |       |
| 1   | BQ    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2677  | 1680 | 468 | 519 | 10 |         |       |
| 1   | BR    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2677  | 1680 | 468 | 519 | 10 |         |       |
| 1   | BS    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2677  | 1680 | 468 | 519 | 10 |         |       |
| 1   | BT    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2676  | 1678 | 468 | 520 | 10 |         |       |
| 1   | BU    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2676  | 1678 | 468 | 520 | 10 |         |       |
| 1   | BV    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2676  | 1678 | 468 | 520 | 10 |         |       |
| 1   | BW    | 345      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2672  | 1676 | 467 | 519 | 10 |         |       |
| 1   | BX    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2677  | 1680 | 468 | 519 | 10 |         |       |
| 1   | BY    | 347      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2685  | 1684 | 470 | 521 | 10 |         |       |
| 1   | BZ    | 345      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2670  | 1675 | 467 | 518 | 10 |         |       |
| 1   | CA    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2677  | 1680 | 468 | 519 | 10 |         |       |
| 1   | CB    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2676  | 1678 | 468 | 520 | 10 |         |       |
| 1   | CC    | 347      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2685  | 1684 | 470 | 521 | 10 |         |       |
| 1   | CD    | 343      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2657  | 1668 | 465 | 514 | 10 |         |       |
| 1   | CE    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2676  | 1678 | 468 | 520 | 10 |         |       |
| 1   | CF    | 342      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2644  | 1656 | 464 | 514 | 10 |         |       |
| 1   | CG    | 347      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2685  | 1684 | 470 | 521 | 10 |         |       |

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| Mol | Chain | Residues | Atoms |      |     |     |    | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
|     |       |          | Total | C    | N   | O   | S  |         |       |
| 1   | CH    | 347      | 2685  | 1684 | 470 | 521 | 10 | 0       | 0     |
| 1   | CI    | 346      | 2676  | 1678 | 468 | 520 | 10 | 0       | 0     |
| 1   | CJ    | 347      | 2685  | 1684 | 470 | 521 | 10 | 0       | 0     |
| 1   | CK    | 347      | 2685  | 1684 | 470 | 521 | 10 | 0       | 0     |
| 1   | CL    | 343      | 2654  | 1665 | 464 | 515 | 10 | 0       | 0     |
| 1   | CM    | 346      | 2676  | 1678 | 468 | 520 | 10 | 0       | 0     |
| 1   | CN    | 342      | 2644  | 1656 | 464 | 514 | 10 | 0       | 0     |
| 1   | CO    | 341      | 2637  | 1651 | 463 | 513 | 10 | 0       | 0     |
| 1   | CP    | 345      | 2668  | 1674 | 466 | 518 | 10 | 0       | 0     |
| 1   | CQ    | 346      | 2676  | 1678 | 468 | 520 | 10 | 0       | 0     |
| 1   | CR    | 345      | 2670  | 1675 | 467 | 518 | 10 | 0       | 0     |
| 1   | CS    | 347      | 2685  | 1684 | 470 | 521 | 10 | 0       | 0     |
| 1   | CT    | 346      | 2677  | 1680 | 468 | 519 | 10 | 0       | 0     |
| 1   | CU    | 346      | 2676  | 1678 | 468 | 520 | 10 | 0       | 0     |
| 1   | CV    | 347      | 2685  | 1684 | 470 | 521 | 10 | 0       | 0     |
| 1   | CW    | 346      | 2677  | 1680 | 468 | 519 | 10 | 0       | 0     |
| 1   | CX    | 346      | 2676  | 1678 | 468 | 520 | 10 | 0       | 0     |
| 1   | CY    | 347      | 2685  | 1684 | 470 | 521 | 10 | 0       | 0     |
| 1   | CZ    | 347      | 2685  | 1684 | 470 | 521 | 10 | 0       | 0     |
| 1   | DA    | 346      | 2677  | 1680 | 468 | 519 | 10 | 0       | 0     |
| 1   | DB    | 347      | 2685  | 1684 | 470 | 521 | 10 | 0       | 0     |

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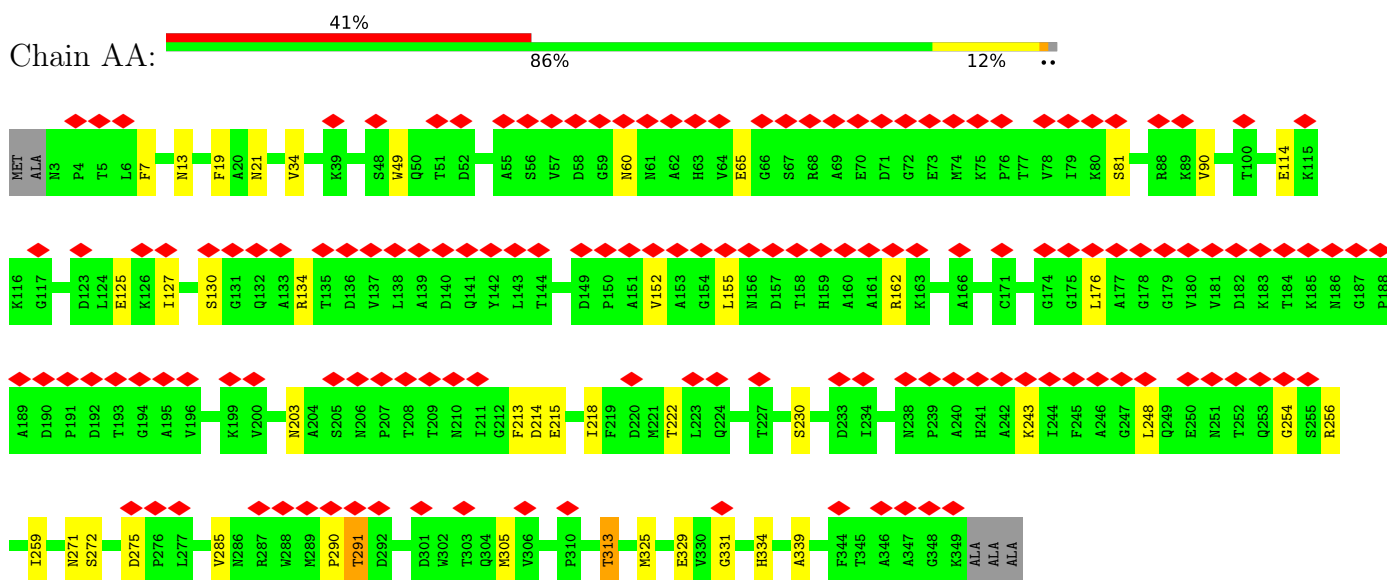
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| Mol | Chain | Residues | Atoms |      |     |     |    | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| 1   | DC    | 345      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2670  | 1675 | 467 | 518 | 10 |         |       |
| 1   | DD    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2677  | 1680 | 468 | 519 | 10 |         |       |
| 1   | DE    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2676  | 1678 | 468 | 520 | 10 |         |       |
| 1   | DF    | 347      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2685  | 1684 | 470 | 521 | 10 |         |       |
| 1   | DG    | 343      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2657  | 1668 | 465 | 514 | 10 |         |       |
| 1   | DH    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2676  | 1678 | 468 | 520 | 10 |         |       |
| 1   | DI    | 347      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2685  | 1684 | 470 | 521 | 10 |         |       |
| 1   | DJ    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2676  | 1678 | 468 | 520 | 10 |         |       |
| 1   | DK    | 343      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2654  | 1665 | 464 | 515 | 10 |         |       |
| 1   | DL    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2676  | 1678 | 468 | 520 | 10 |         |       |
| 1   | DM    | 345      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2668  | 1674 | 466 | 518 | 10 |         |       |
| 1   | DN    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2676  | 1678 | 468 | 520 | 10 |         |       |
| 1   | DO    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2677  | 1680 | 468 | 519 | 10 |         |       |
| 1   | DP    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2676  | 1678 | 468 | 520 | 10 |         |       |
| 1   | DQ    | 346      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 2676  | 1678 | 468 | 520 | 10 |         |       |

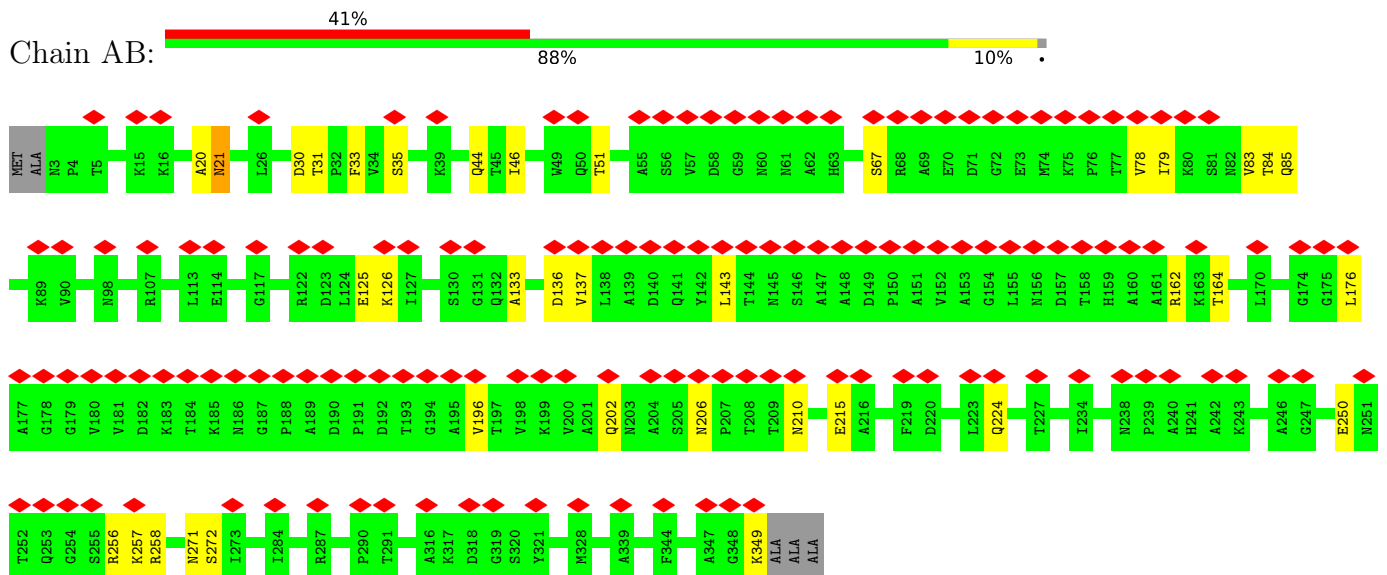
### 3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and 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.

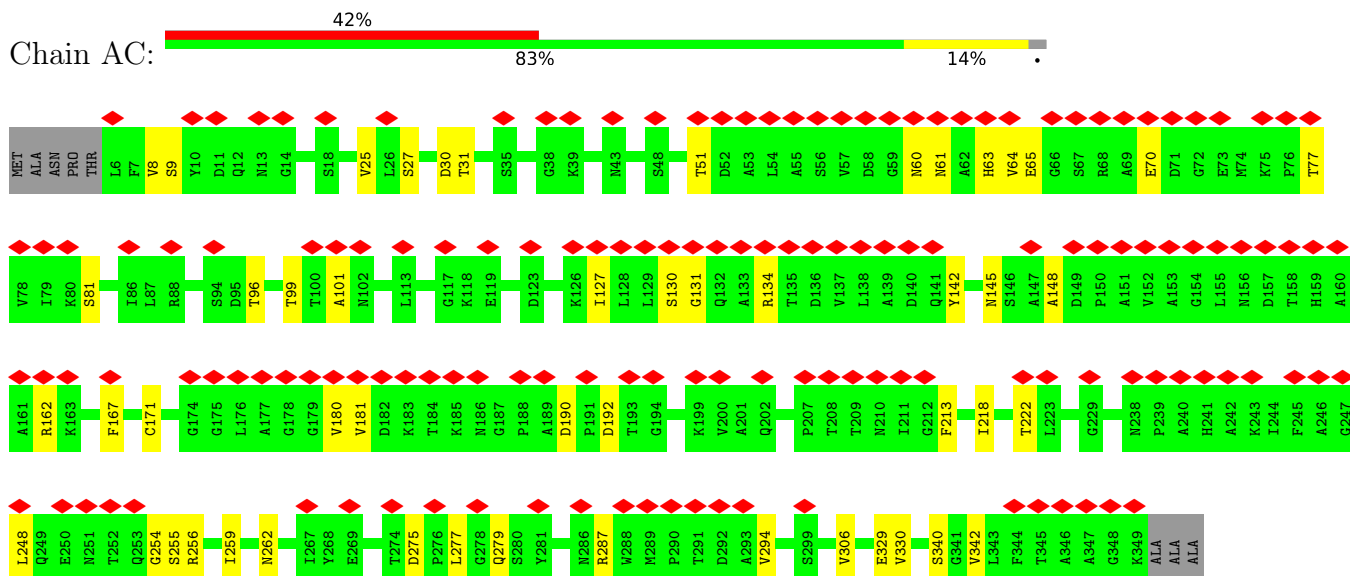
- Molecule 1: Major head protein



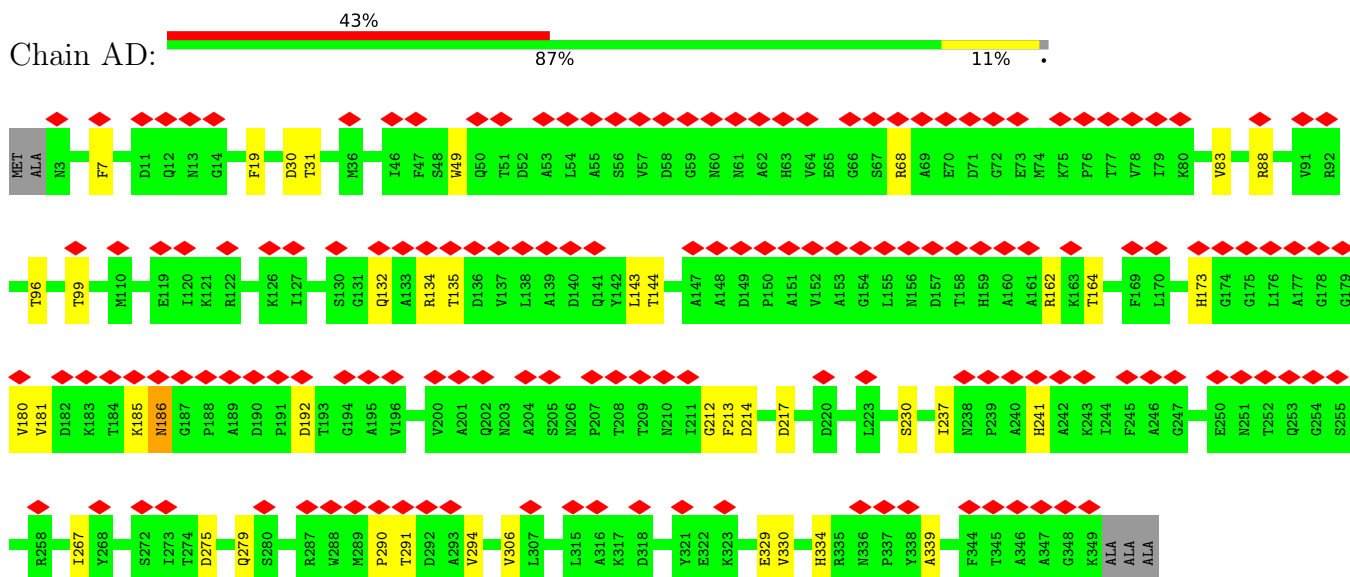
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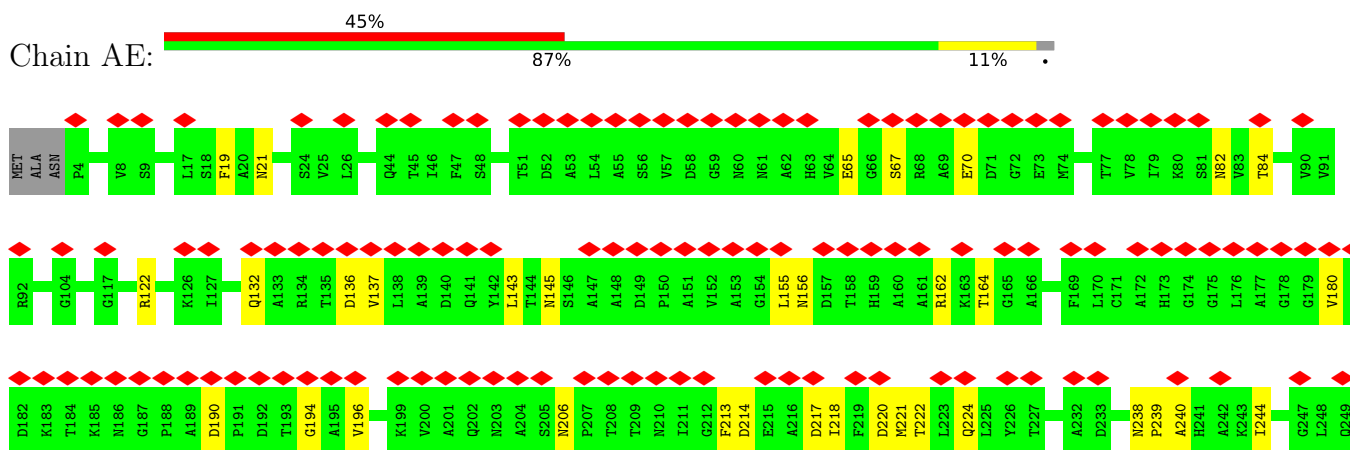
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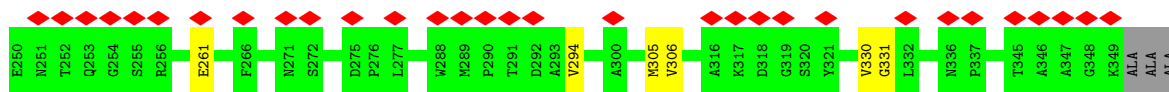


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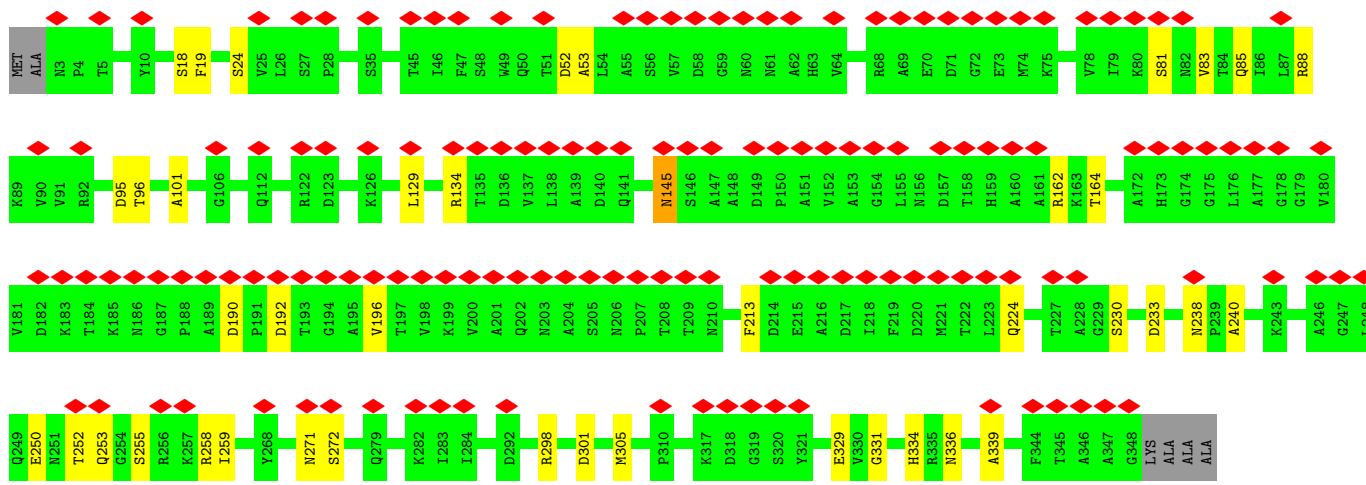
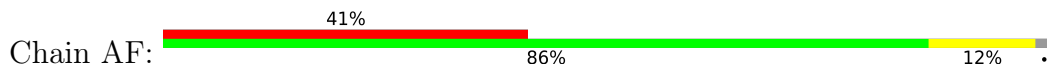


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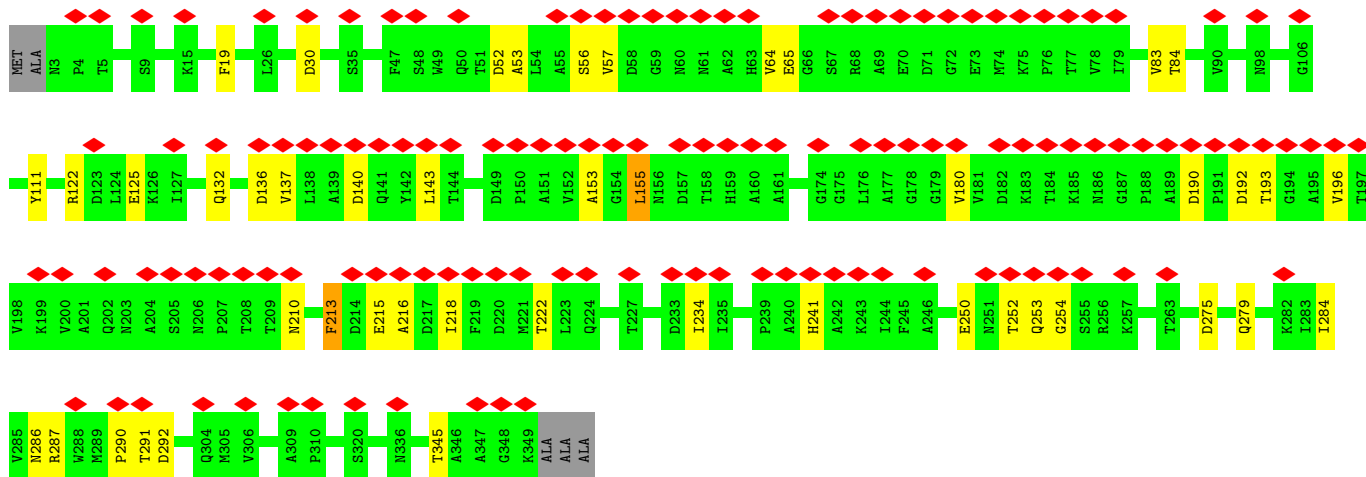
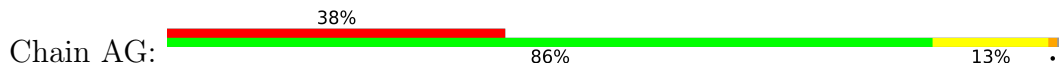




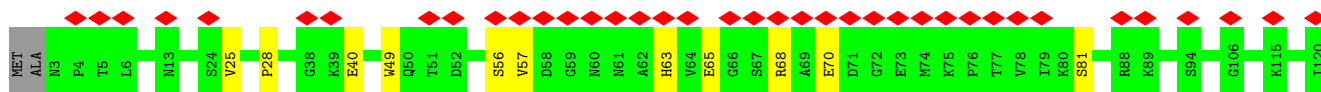
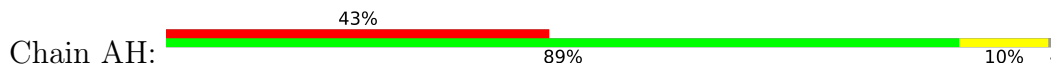
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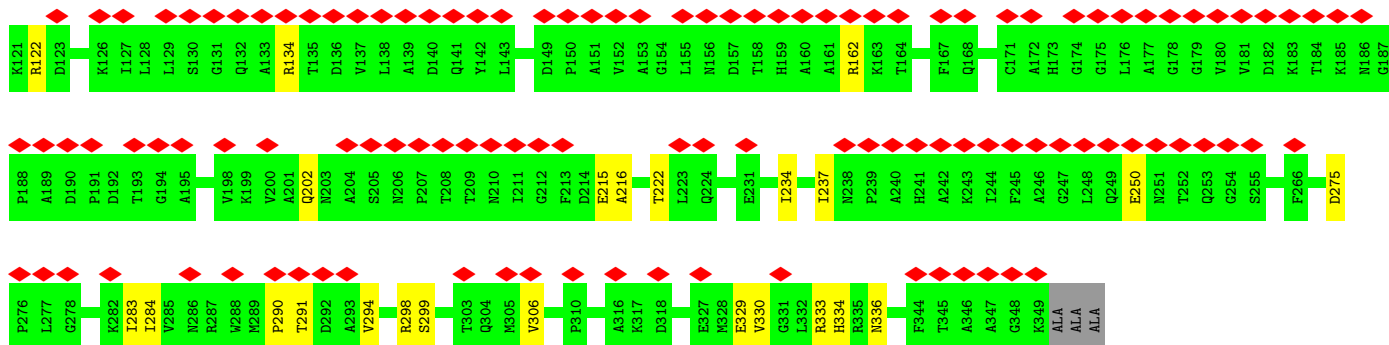


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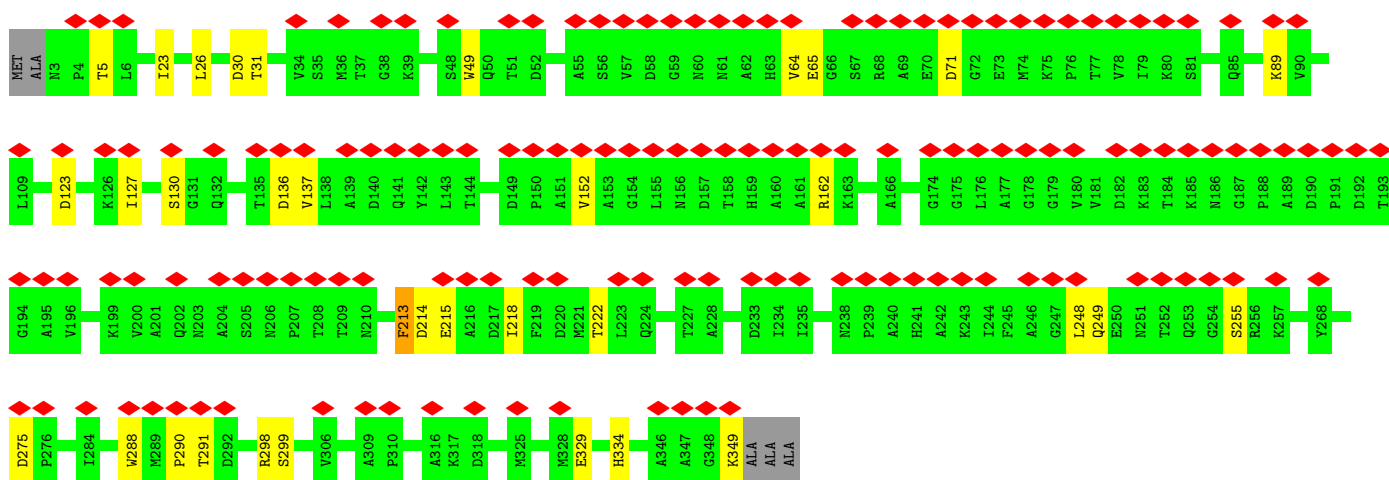
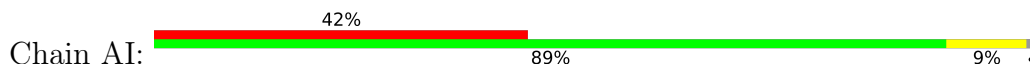


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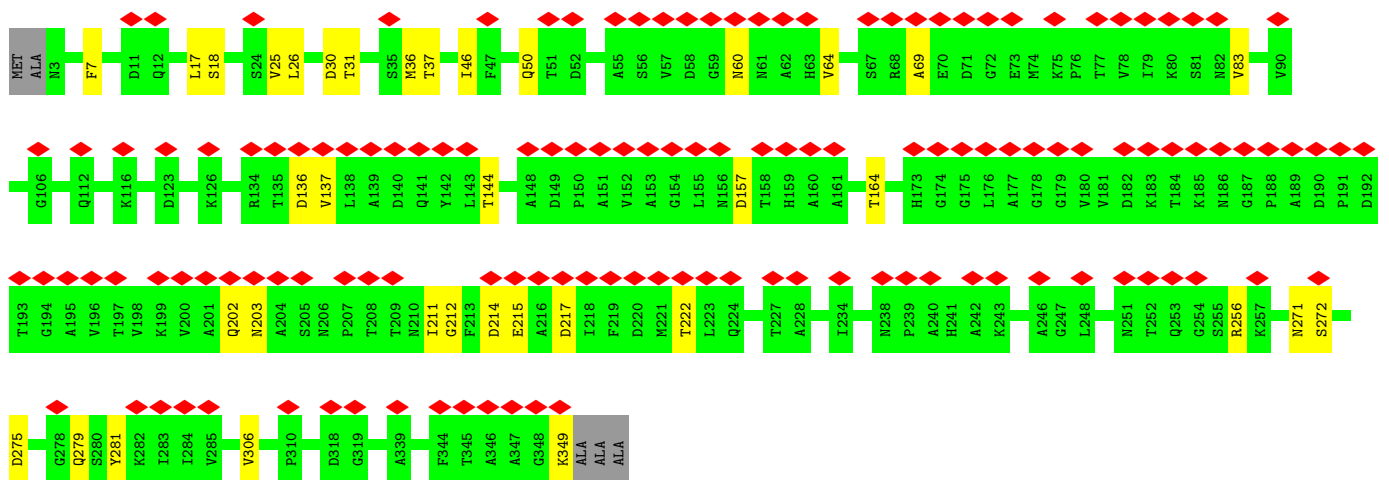
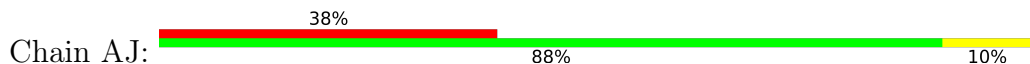




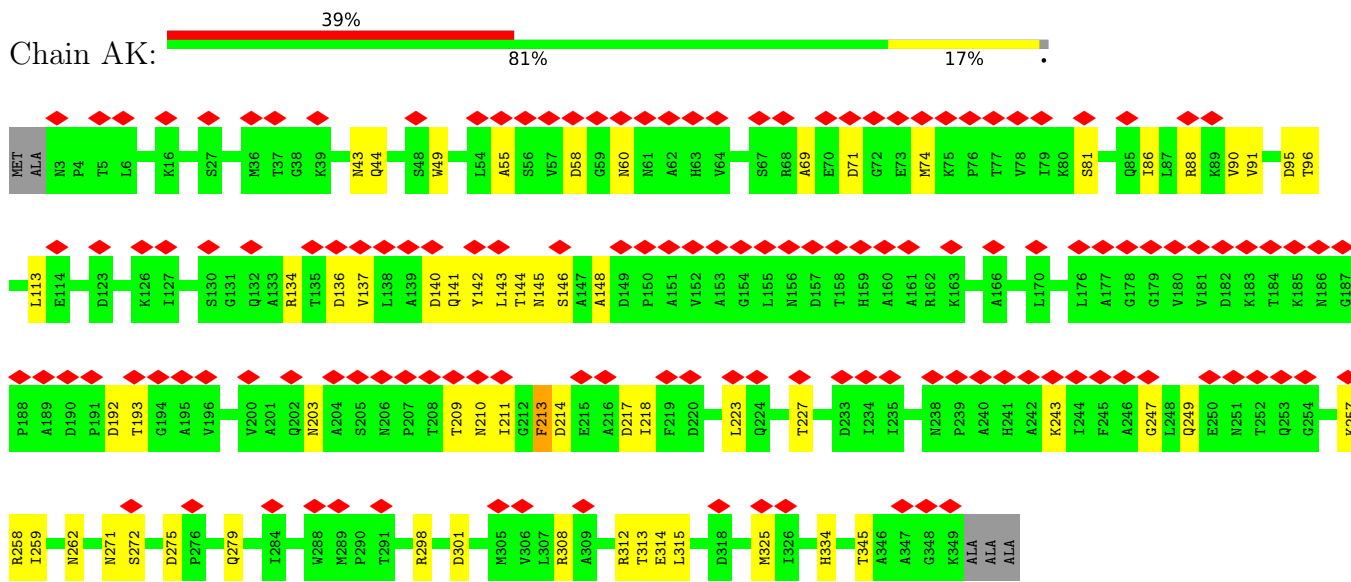
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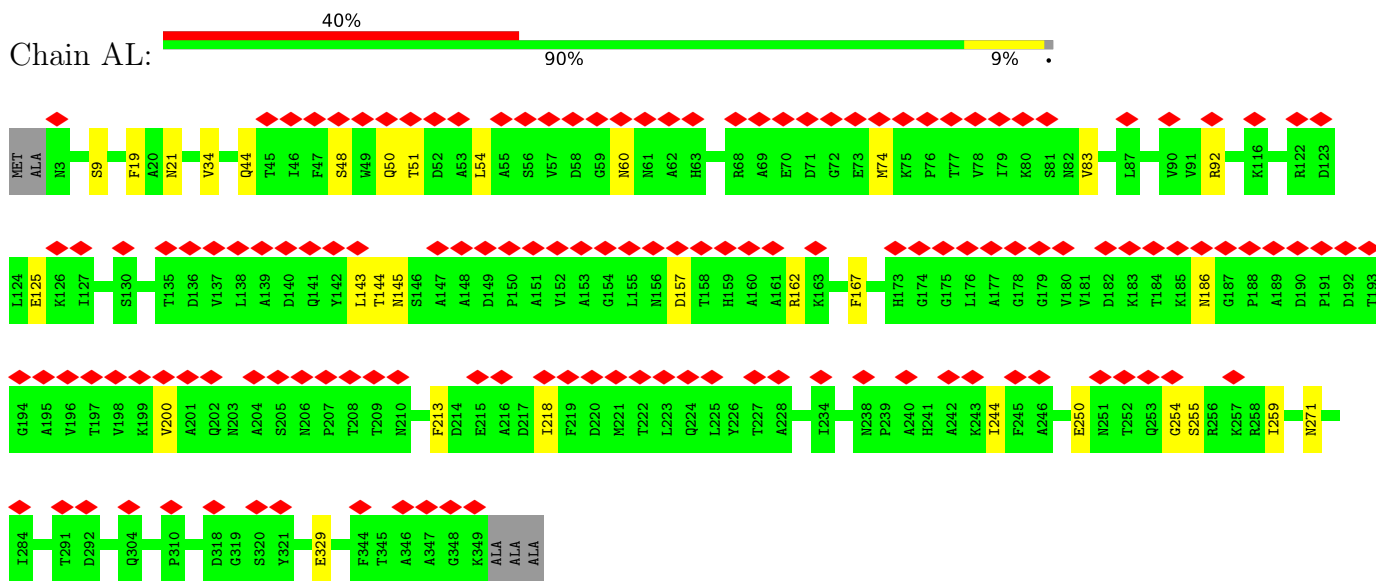
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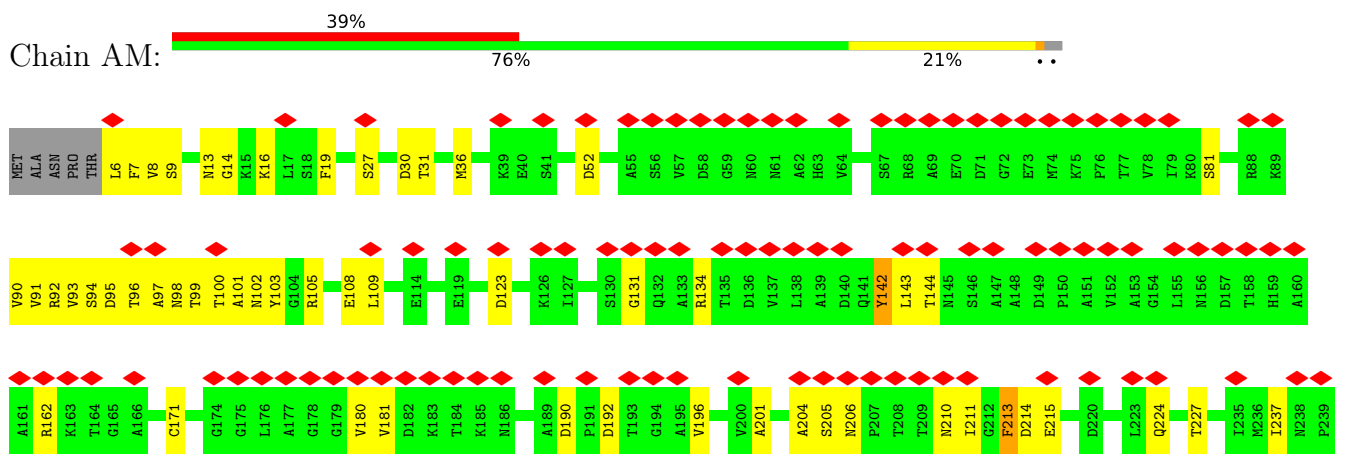
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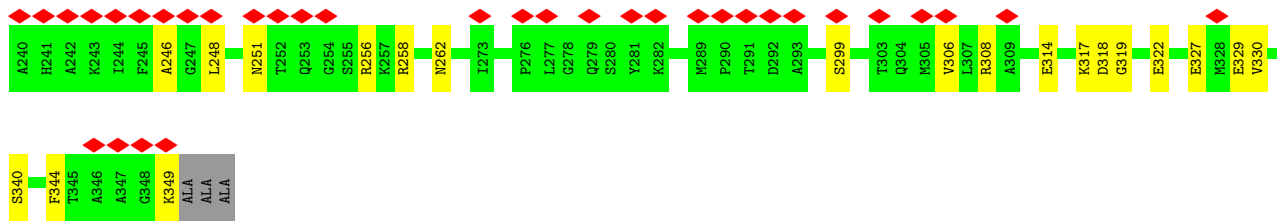
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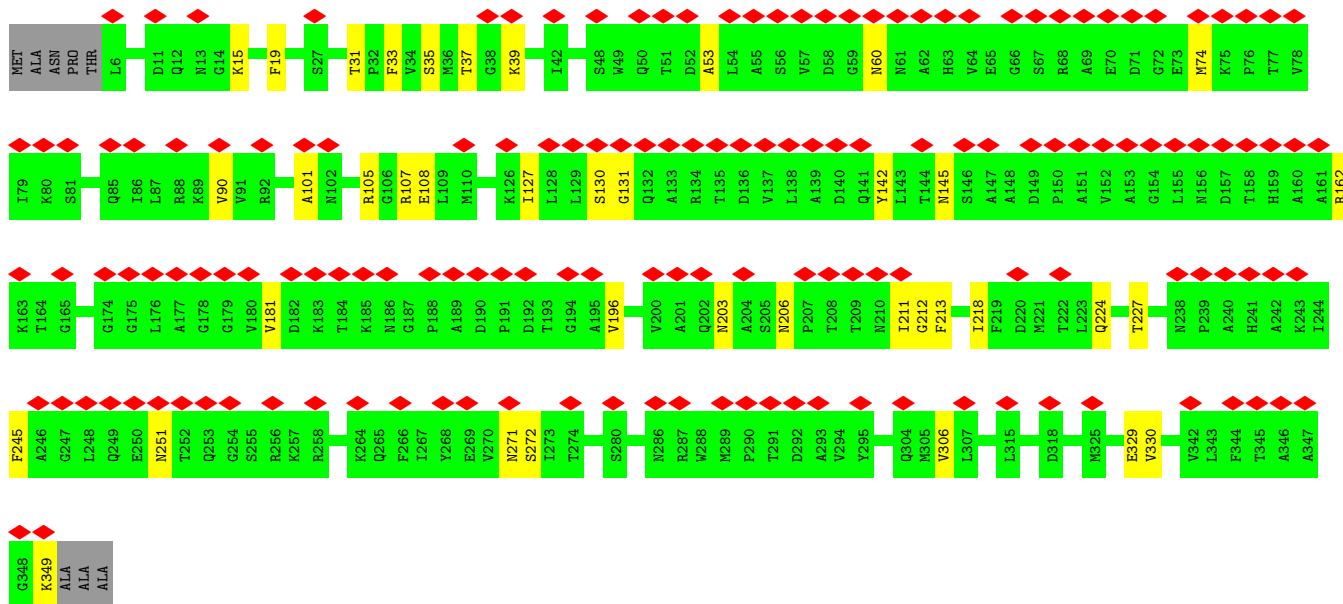
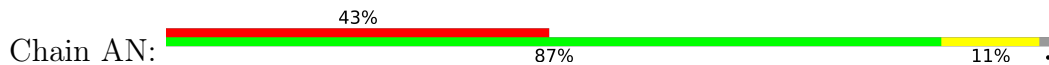
• Molecule 1: Major head protein



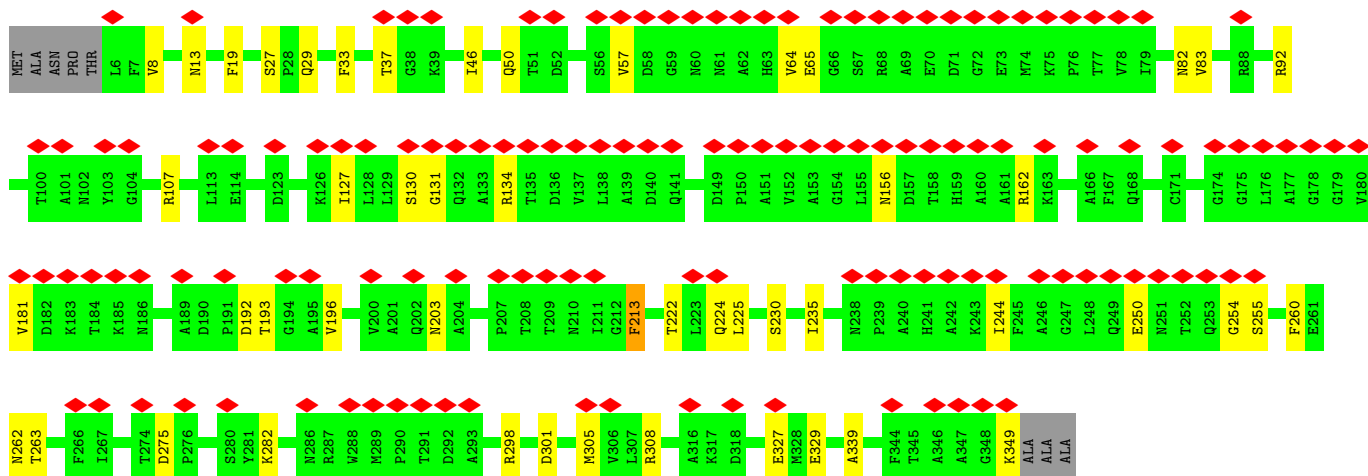
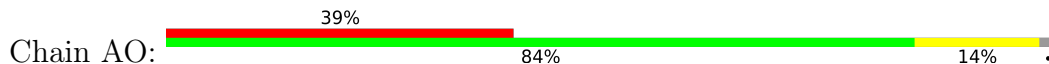




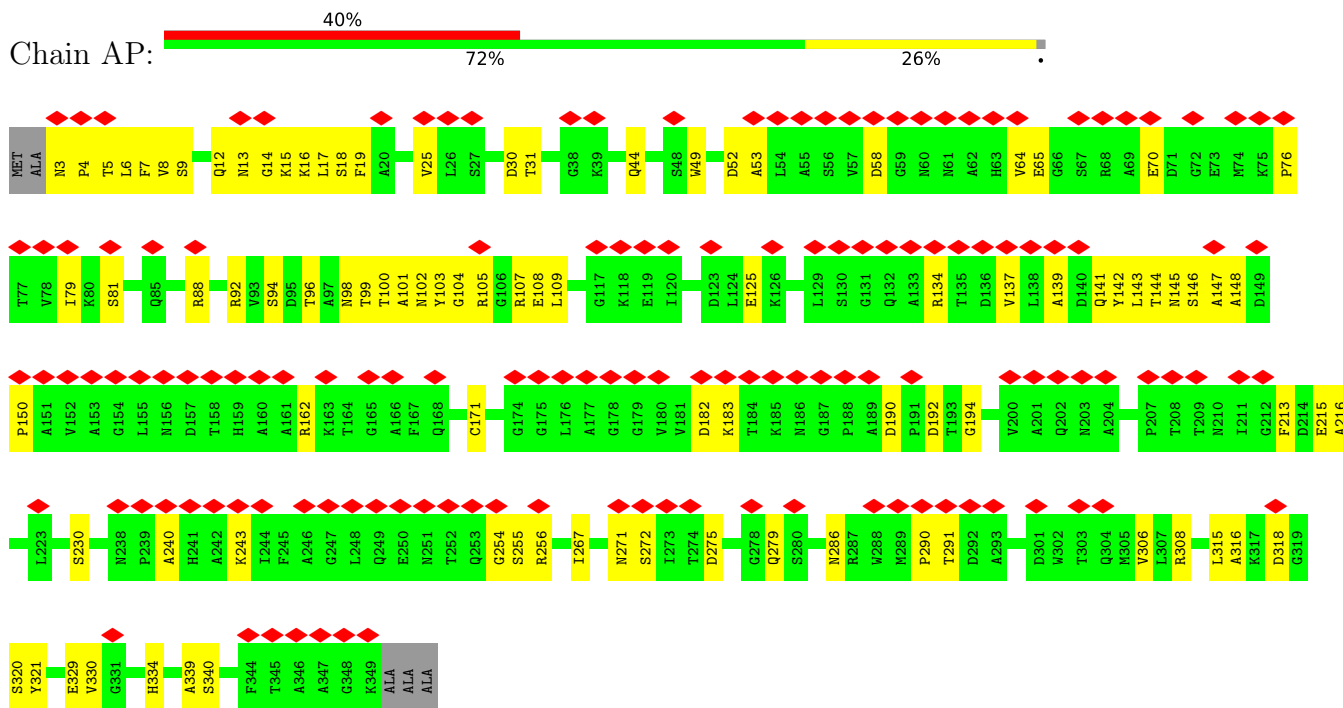
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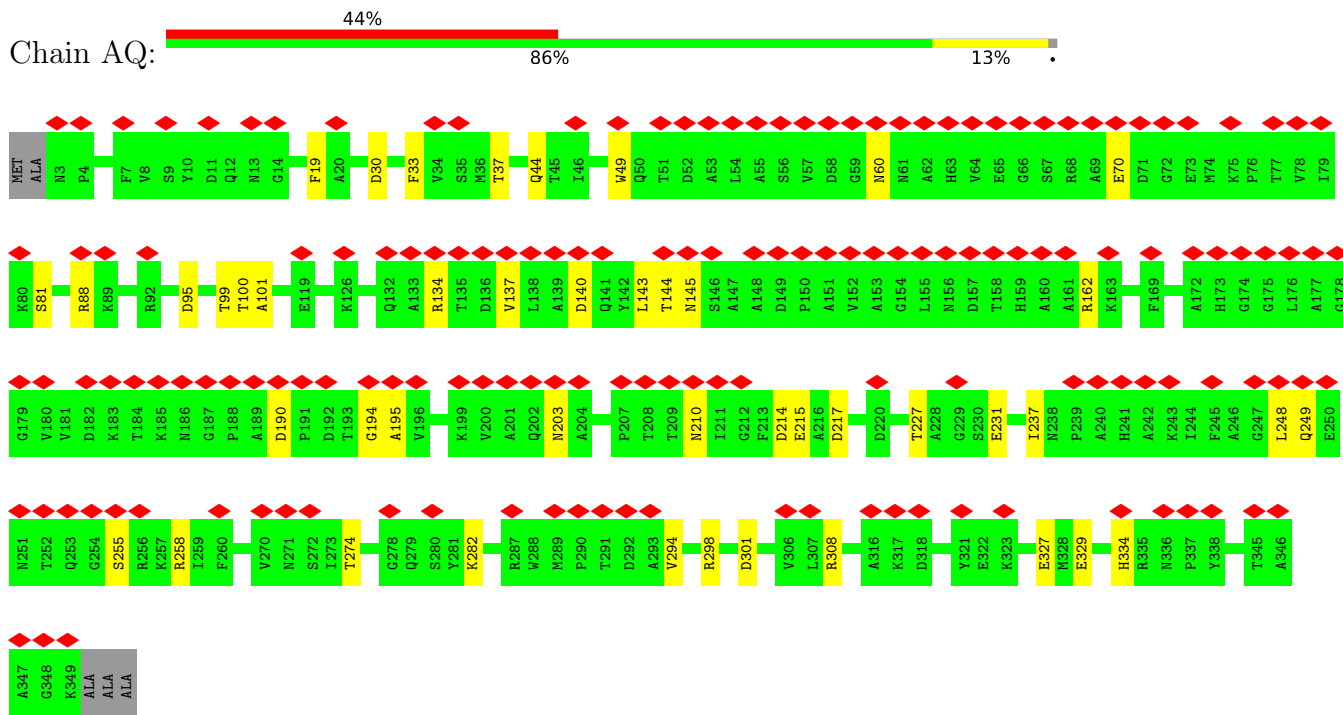
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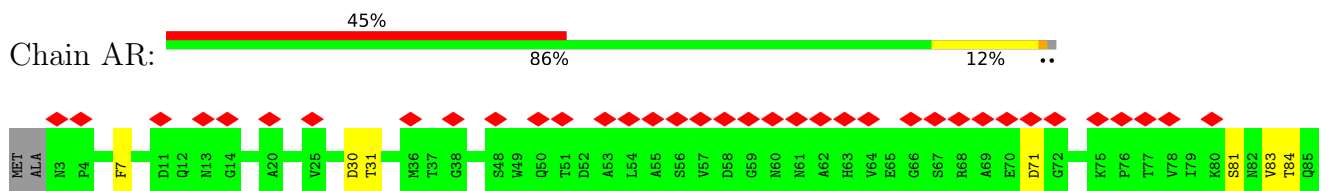
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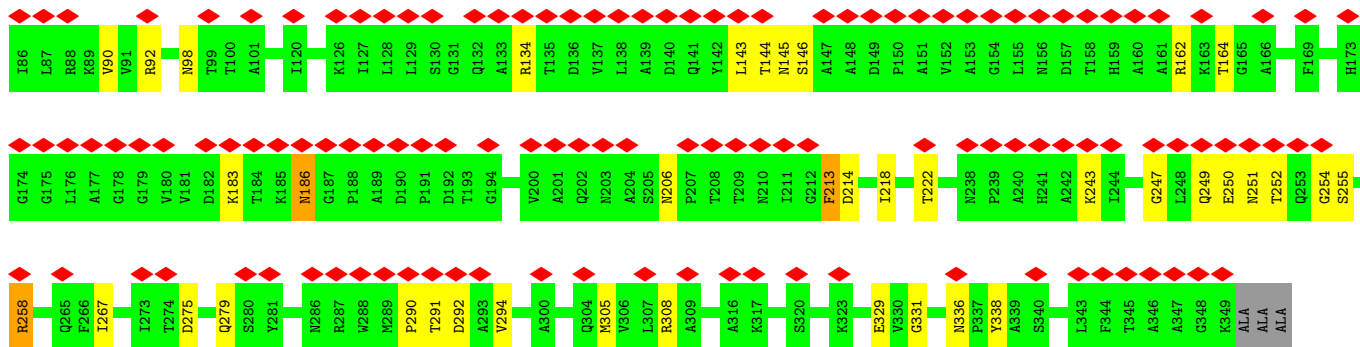


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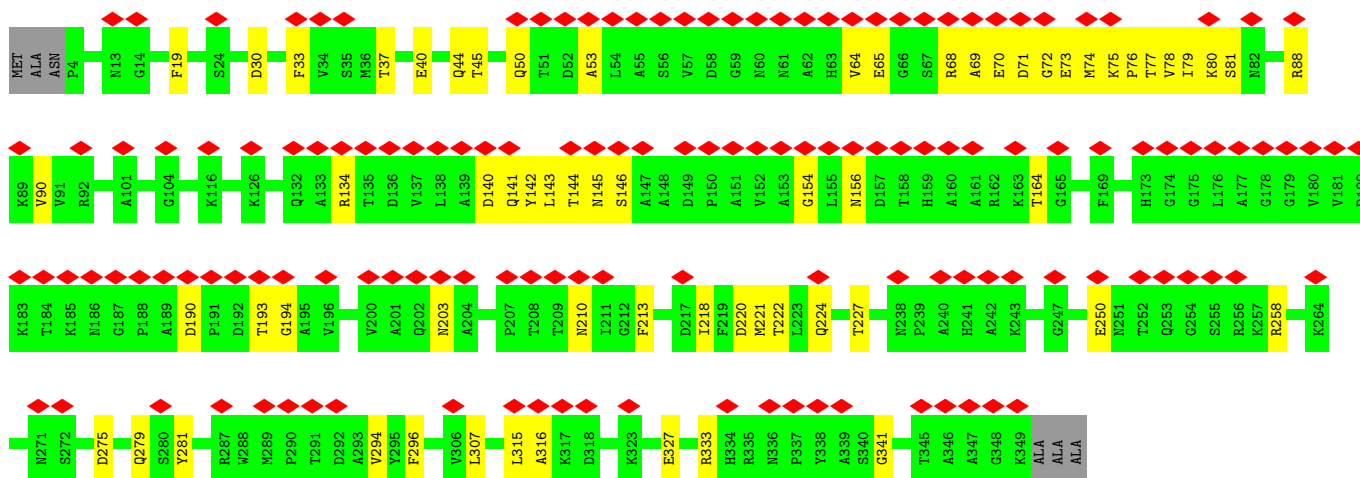
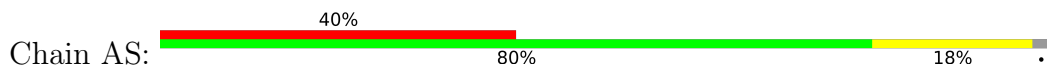


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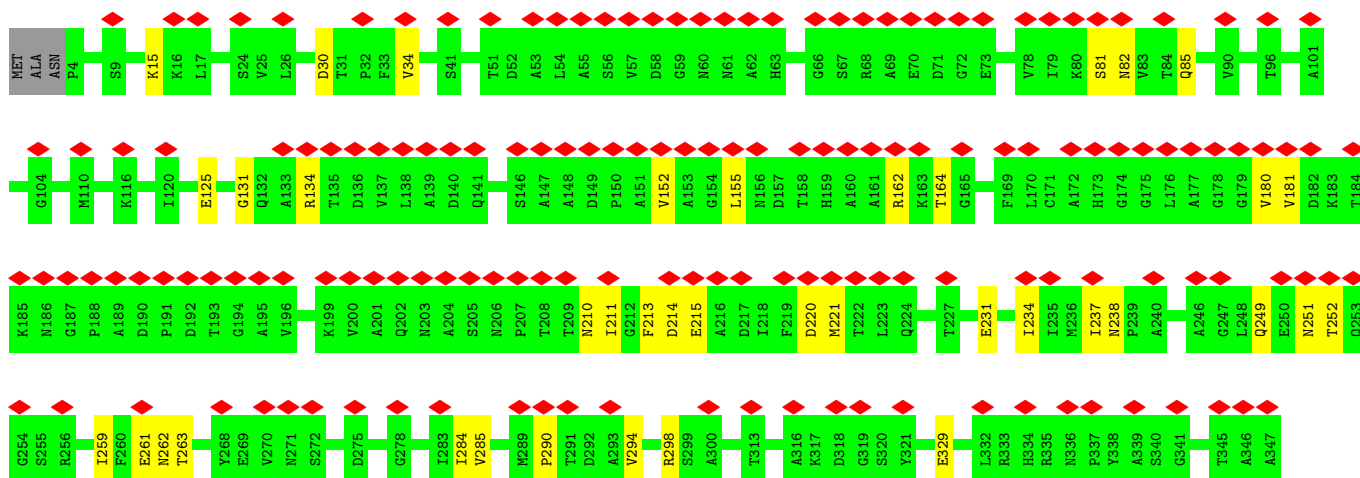
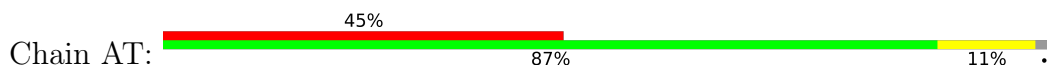


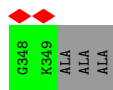


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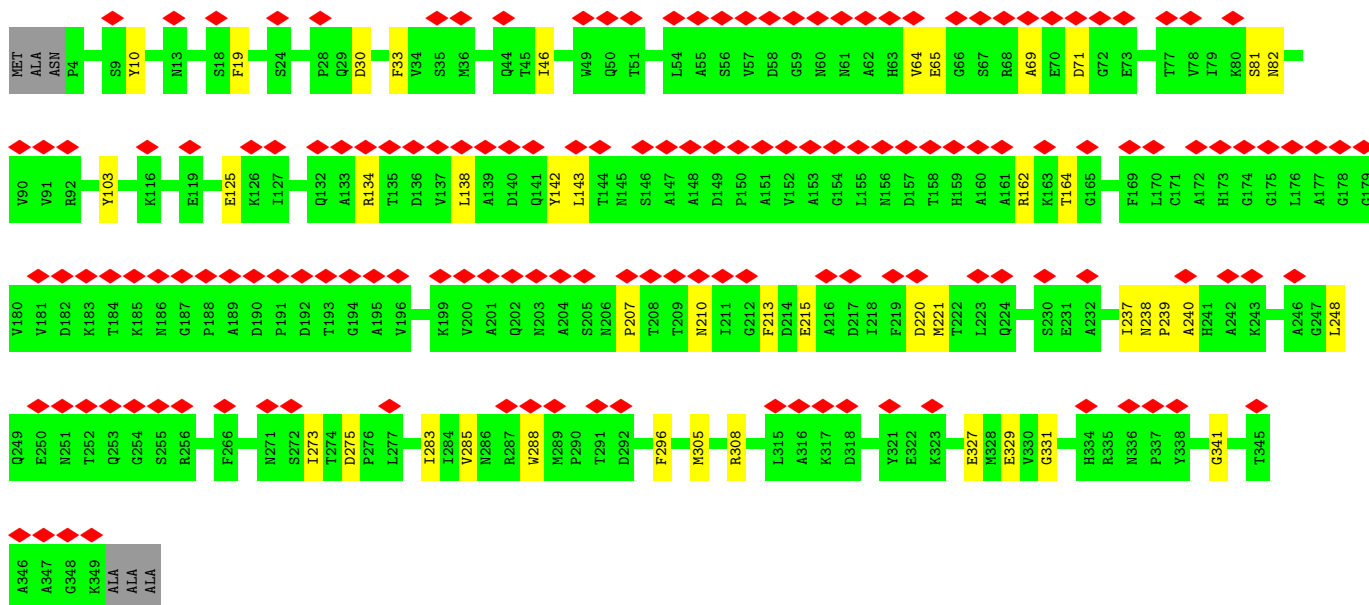
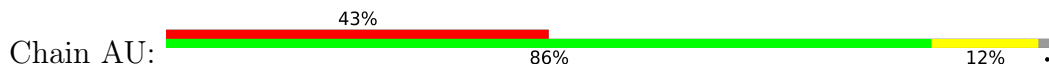


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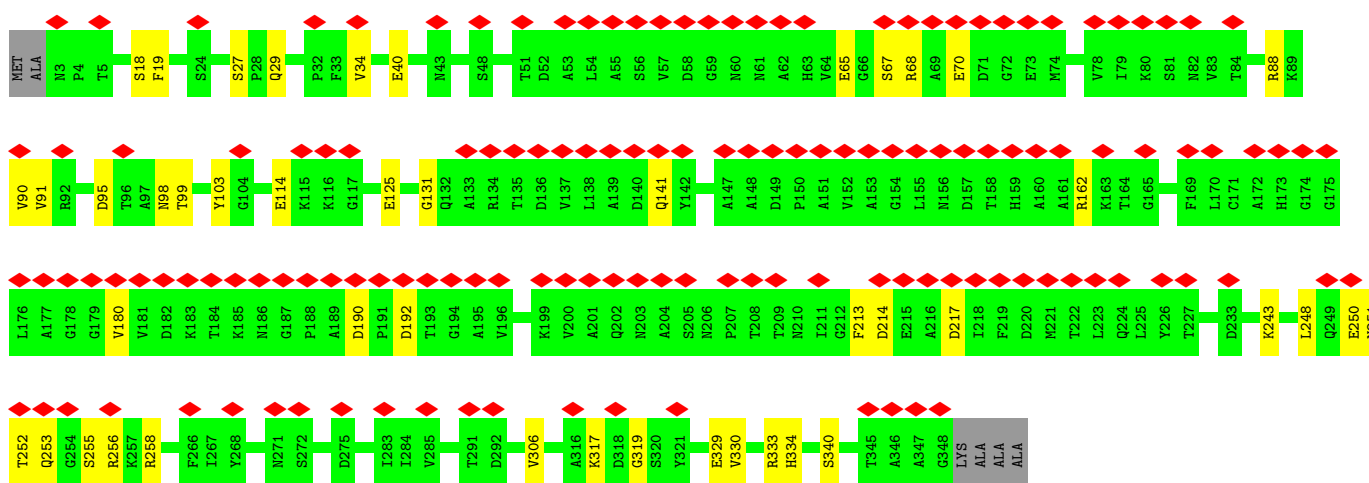
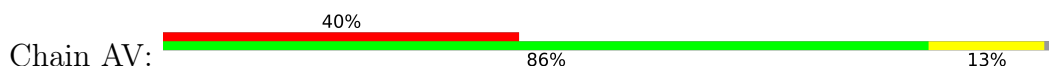




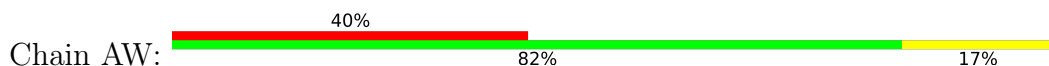
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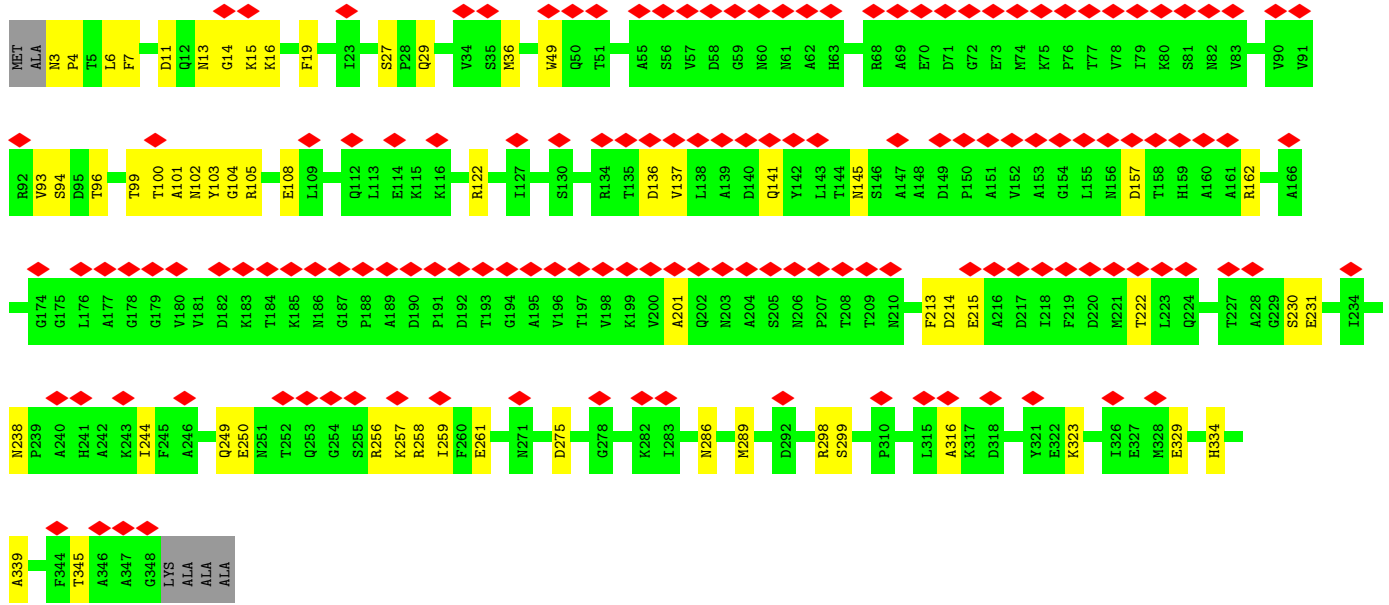


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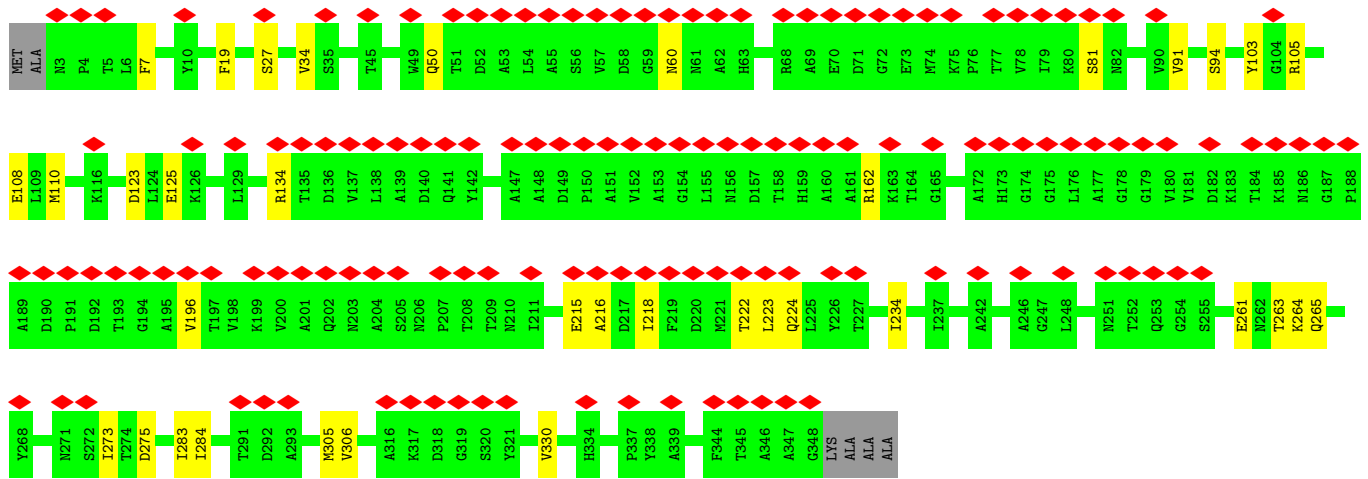
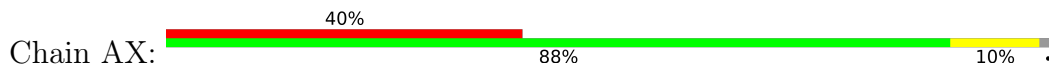


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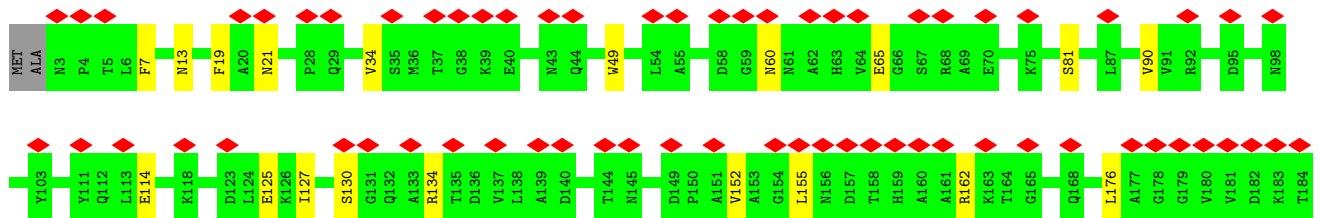
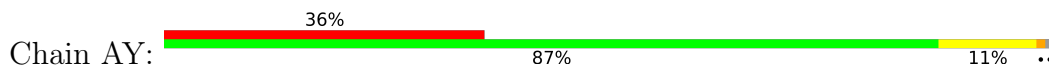


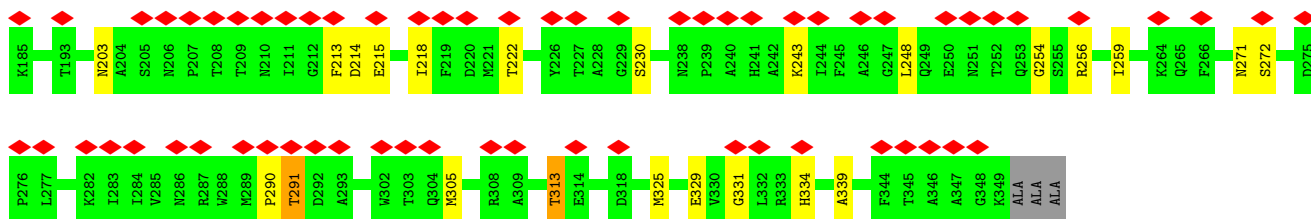


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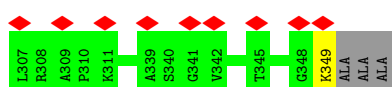
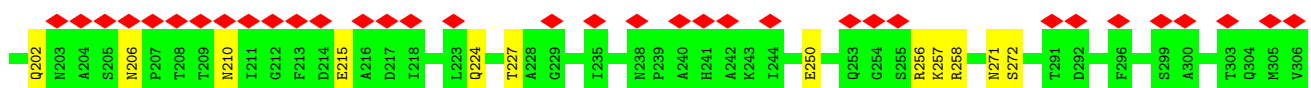
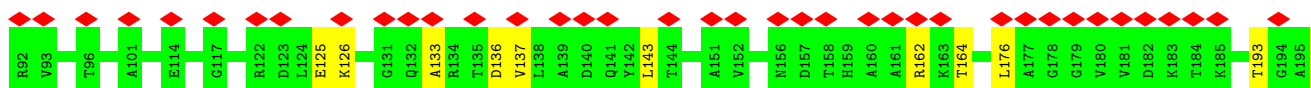
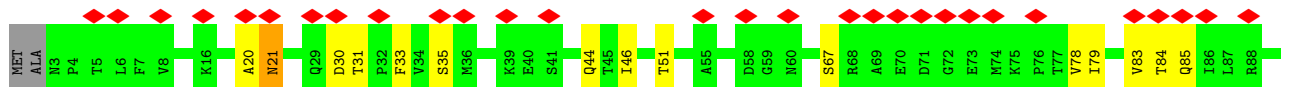
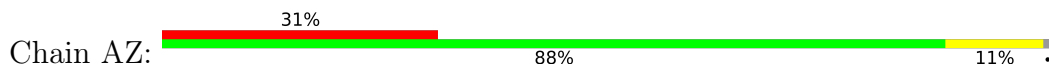


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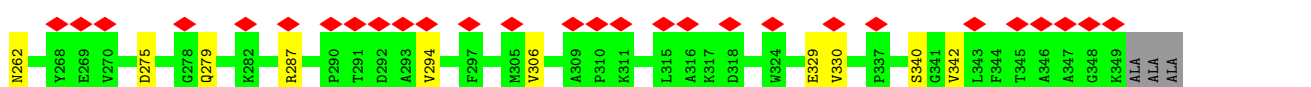
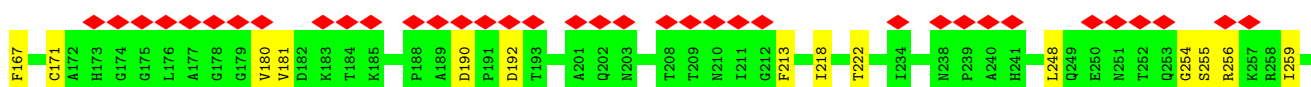
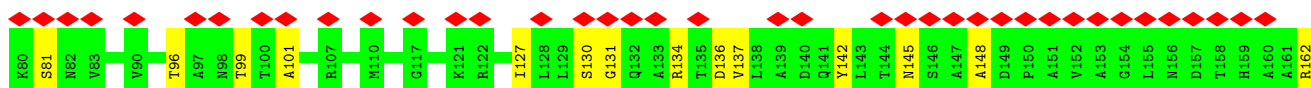
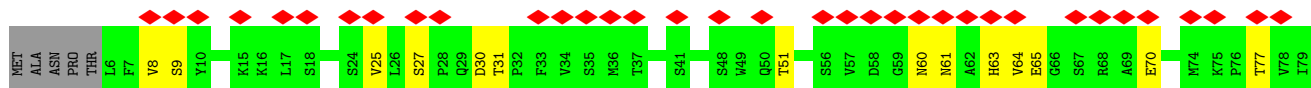
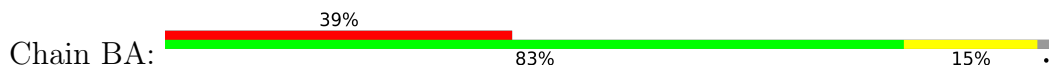




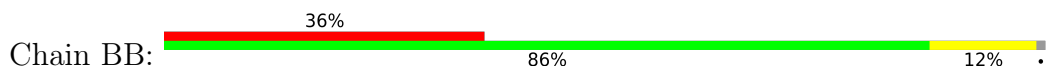
• Molecule 1: Major head protein

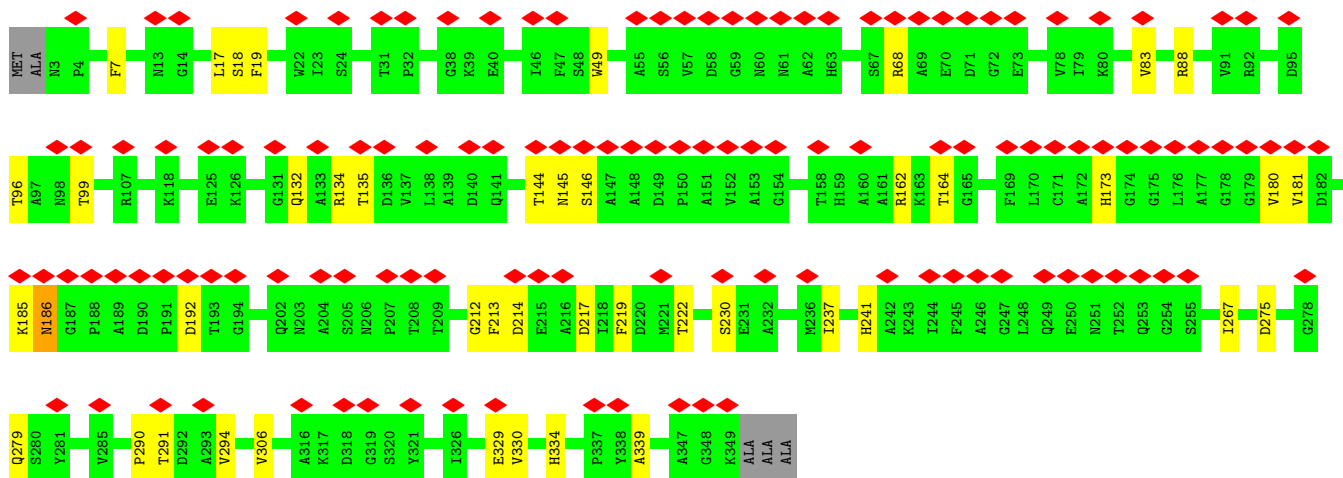


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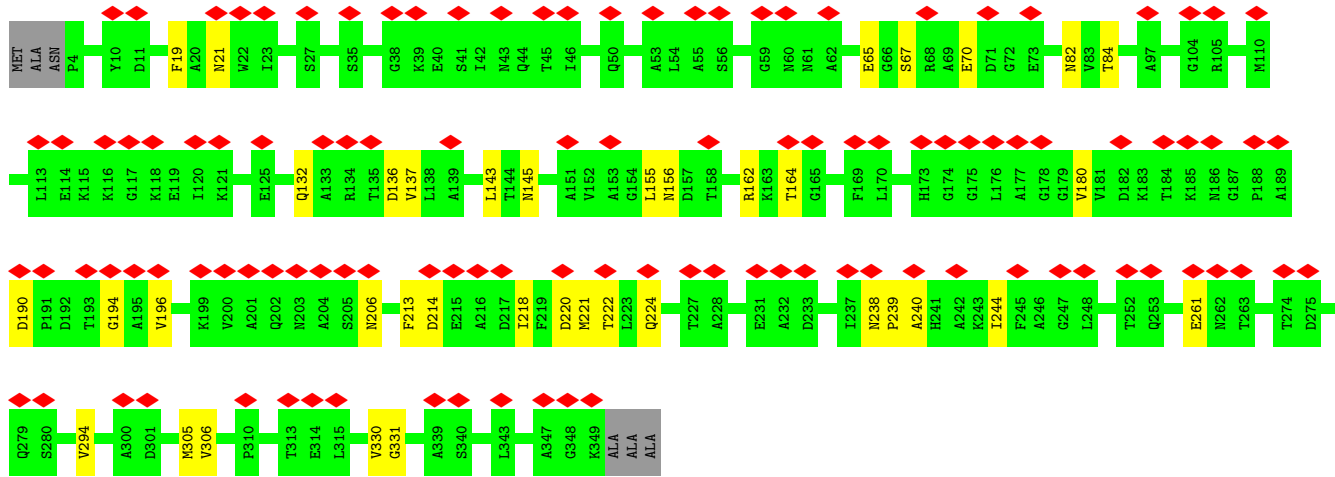
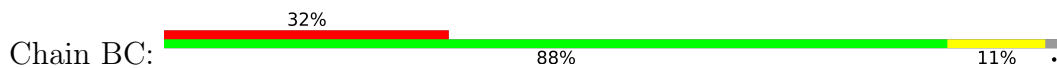


• Molecule 1: Major head protein

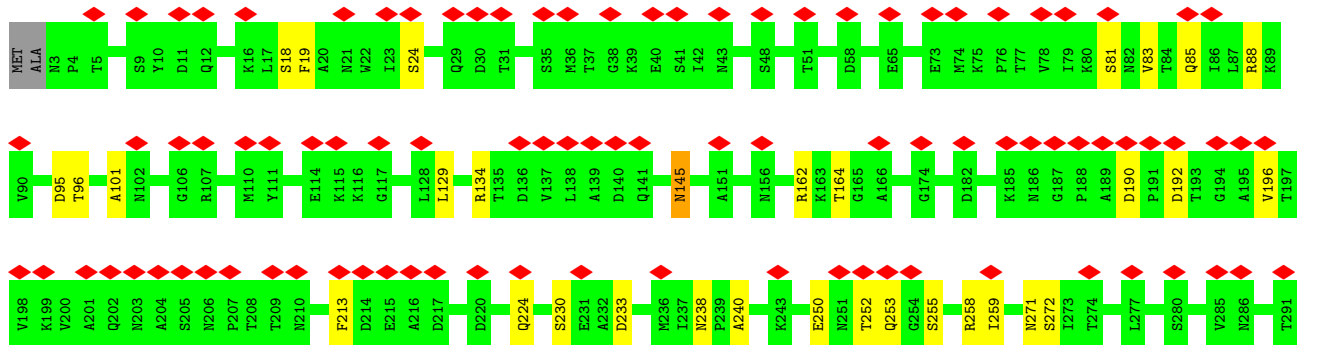
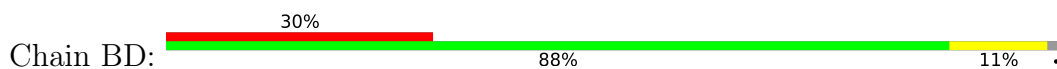


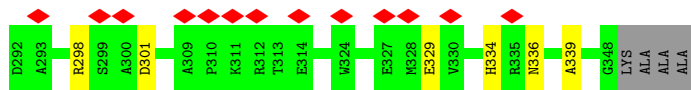


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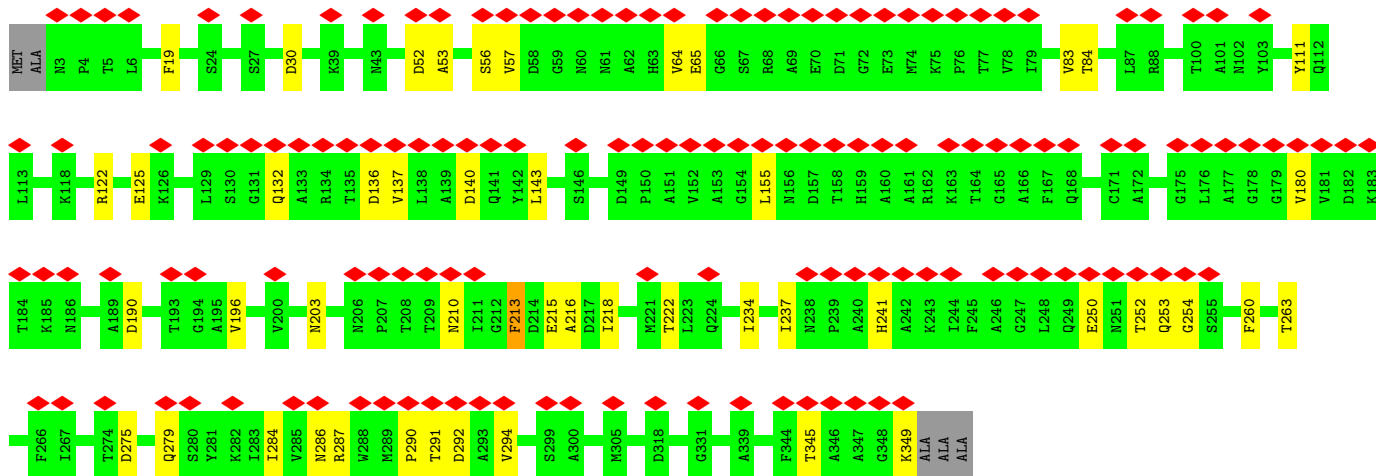
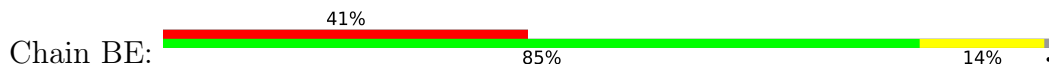


• Molecule 1: Major head protein

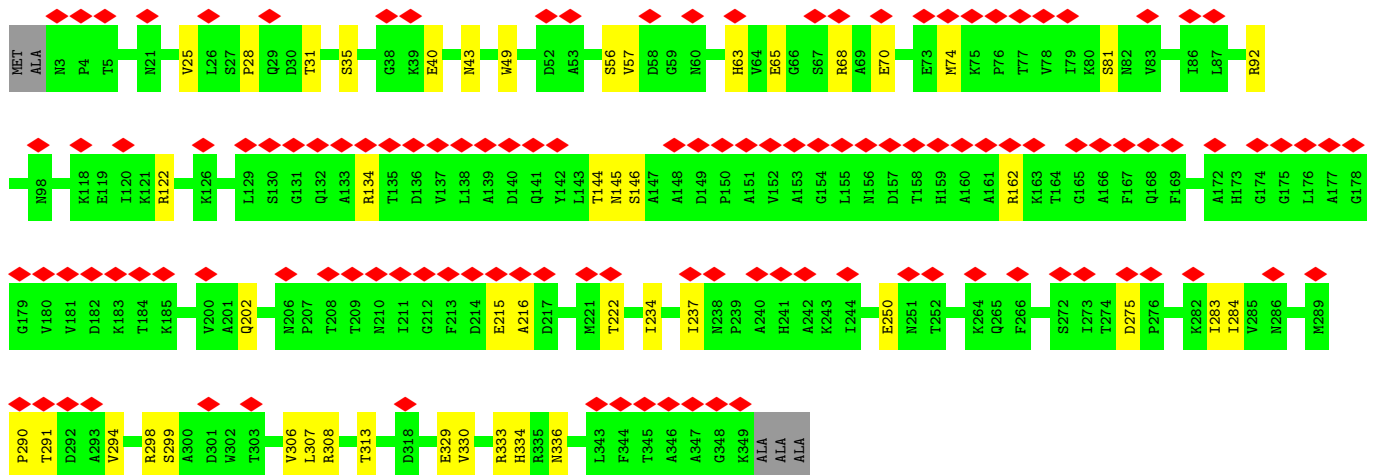
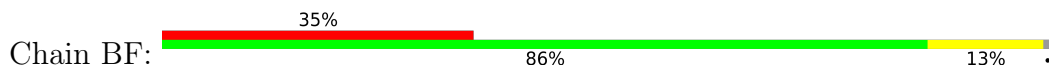




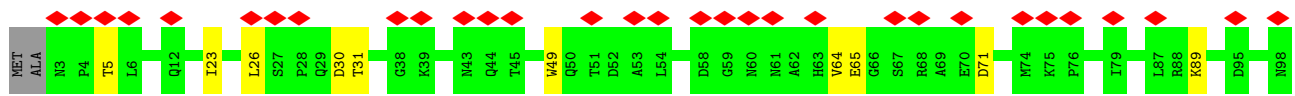
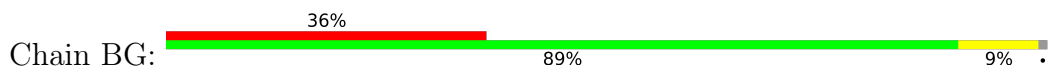
• Molecule 1: Major head protein



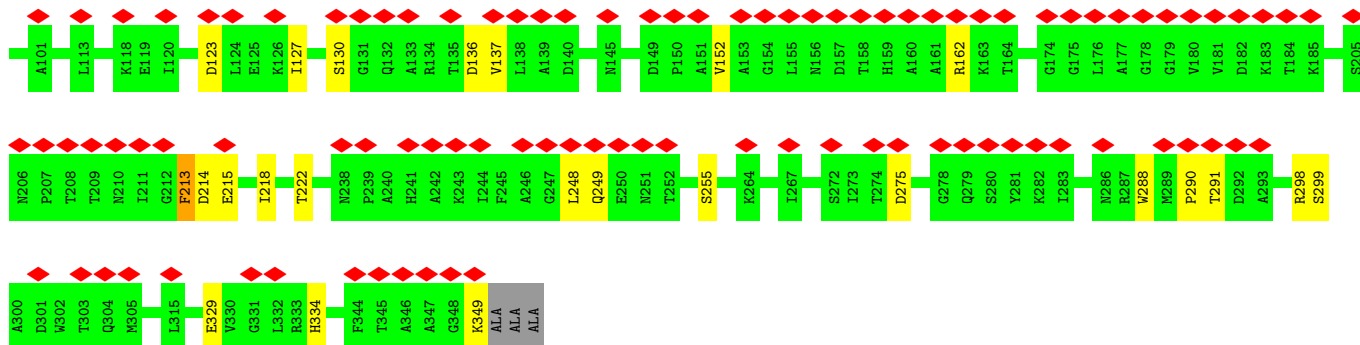
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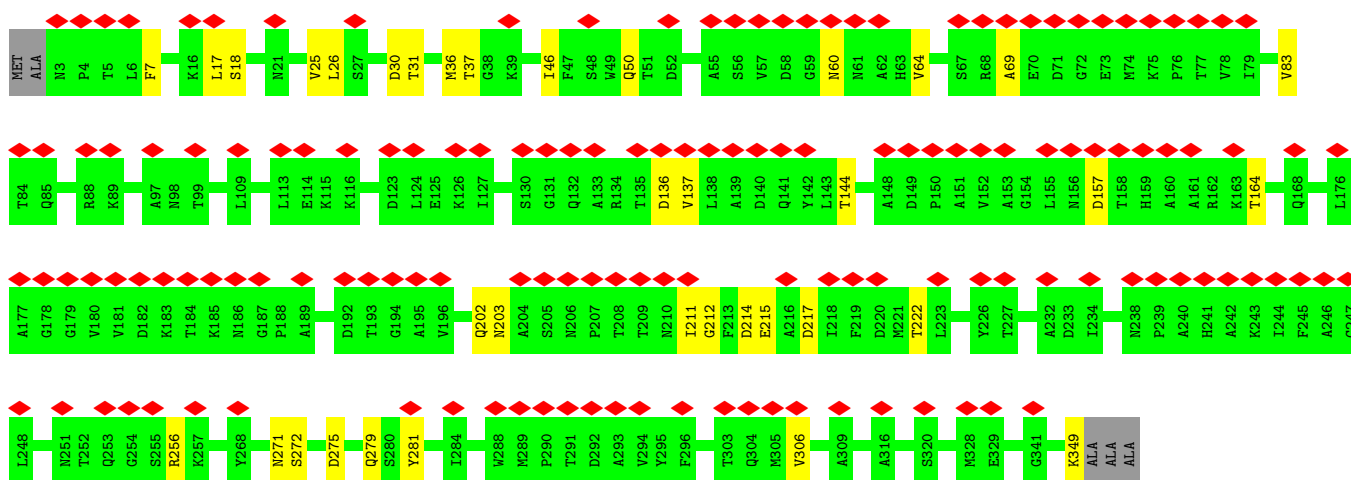
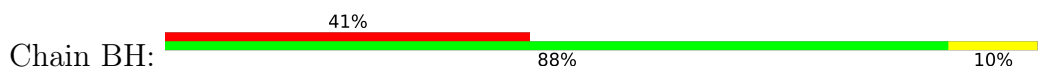
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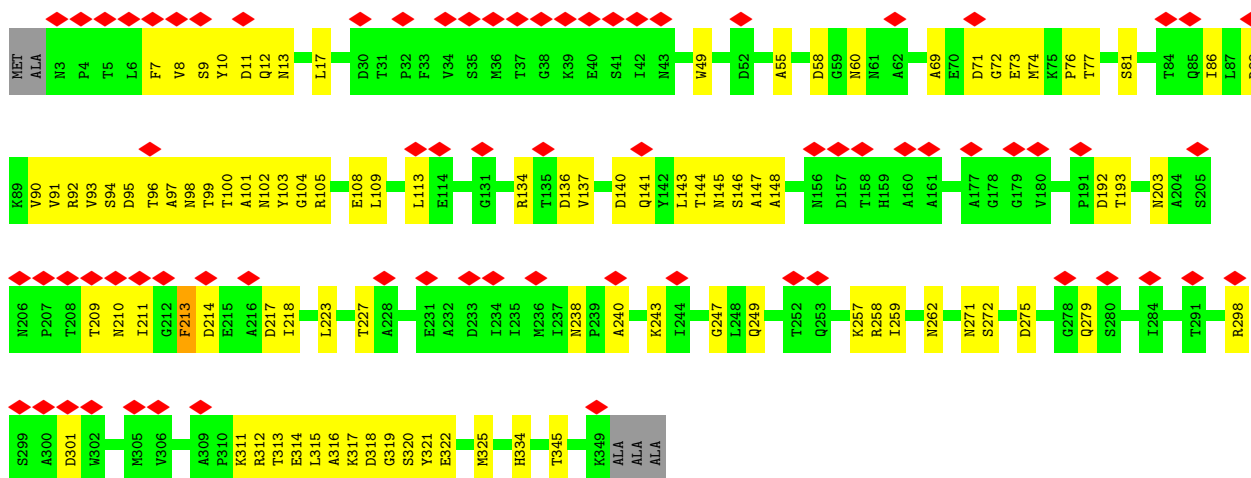
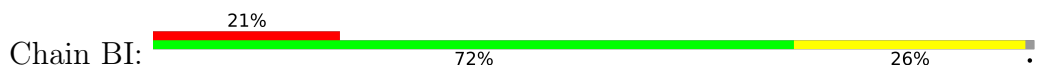




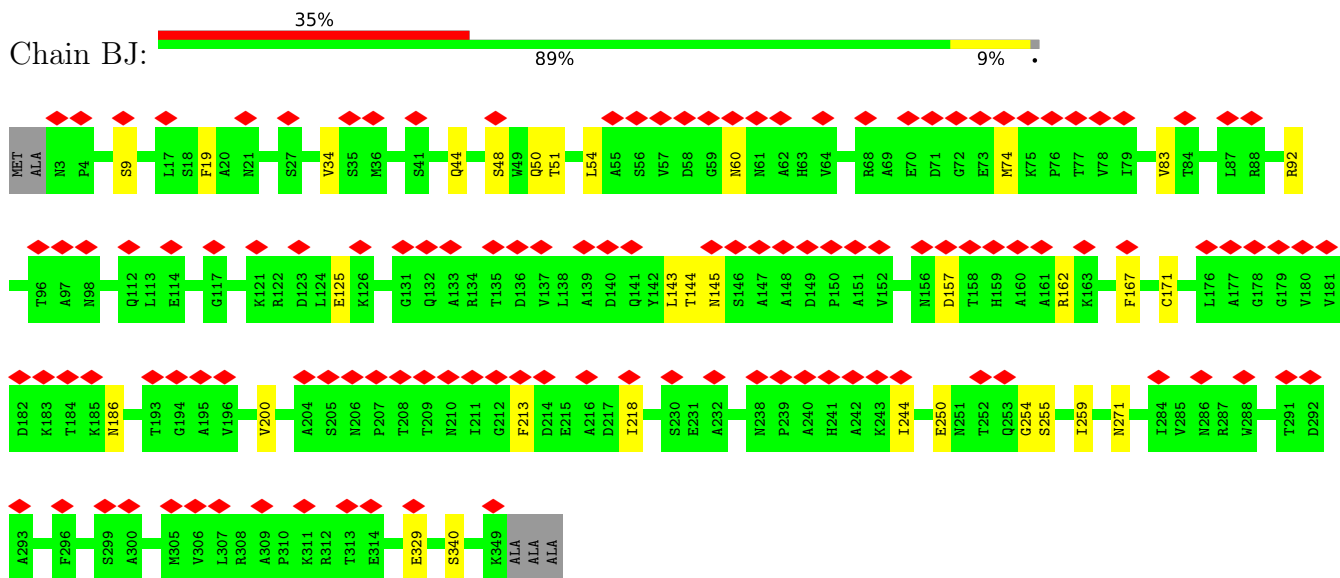
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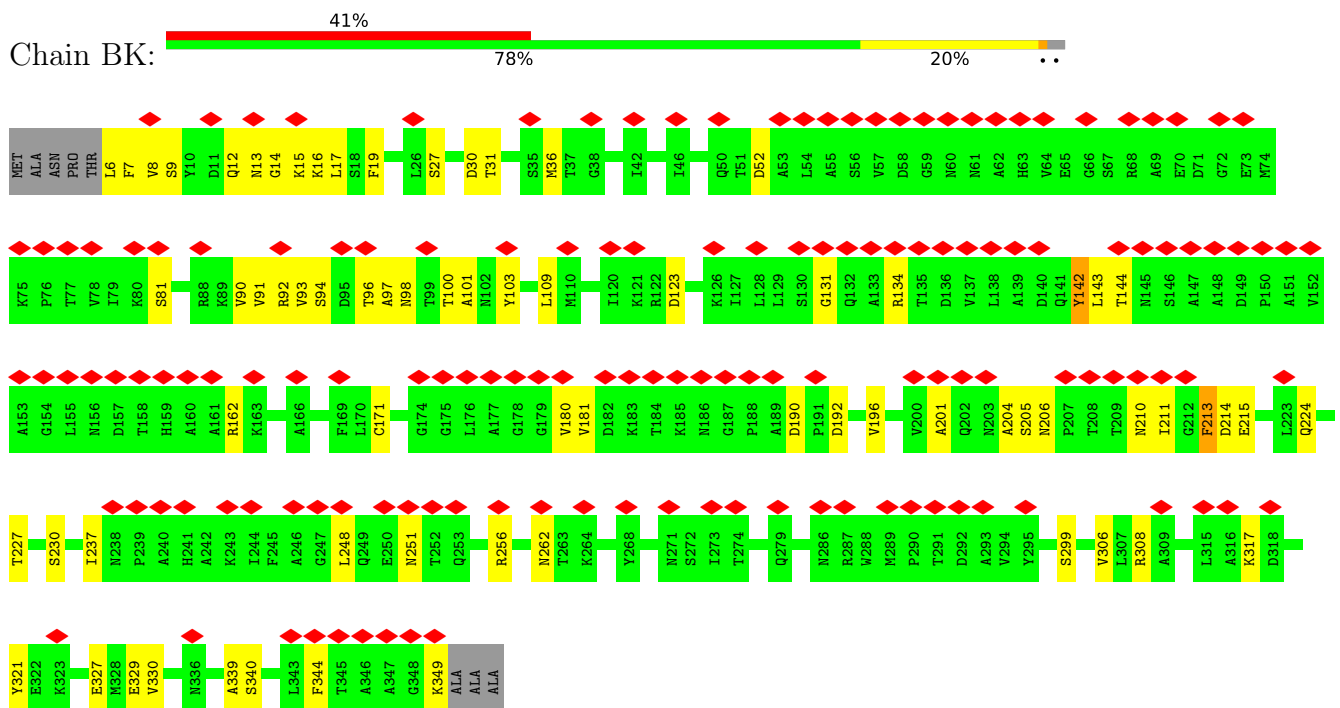
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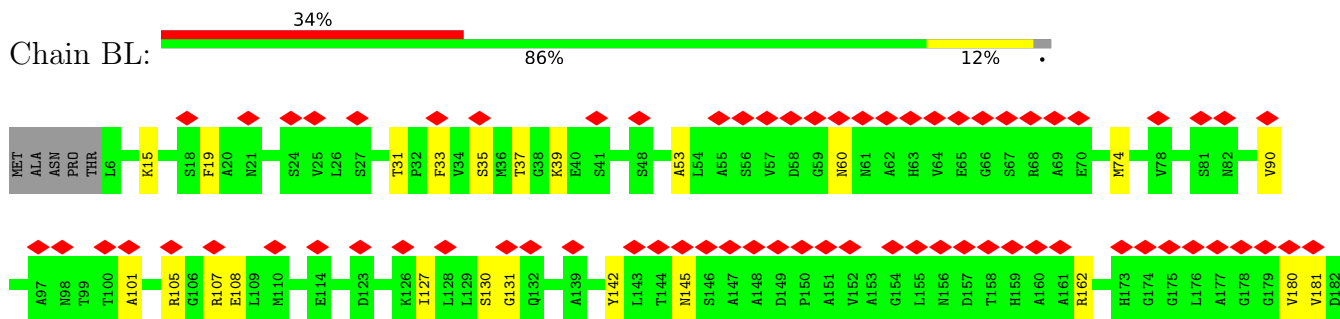
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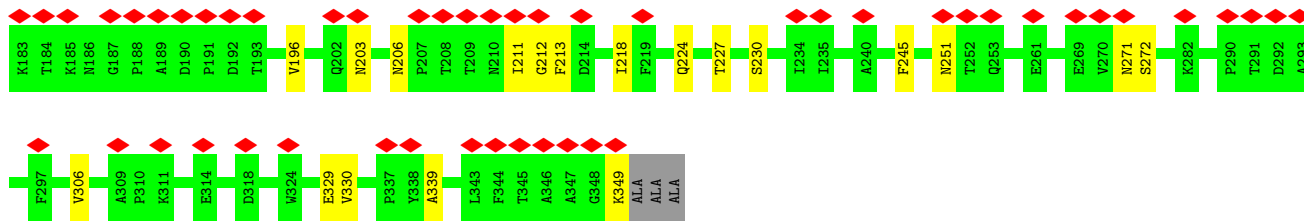


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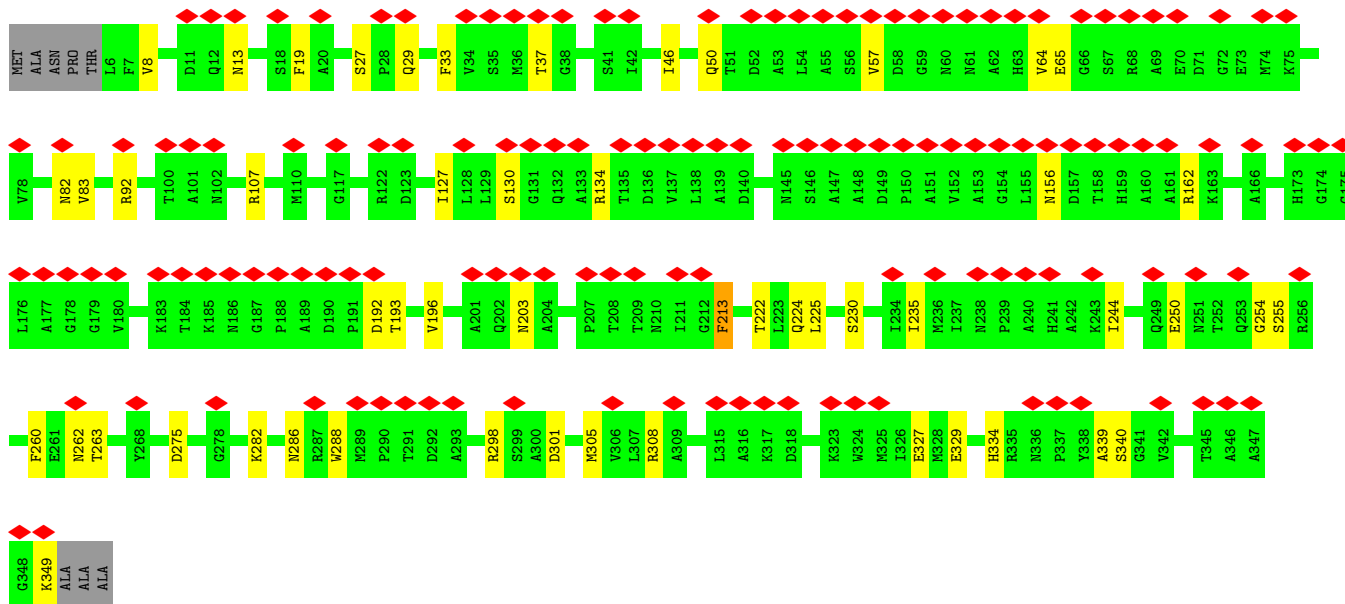
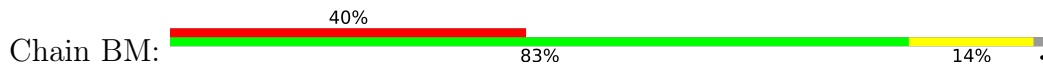


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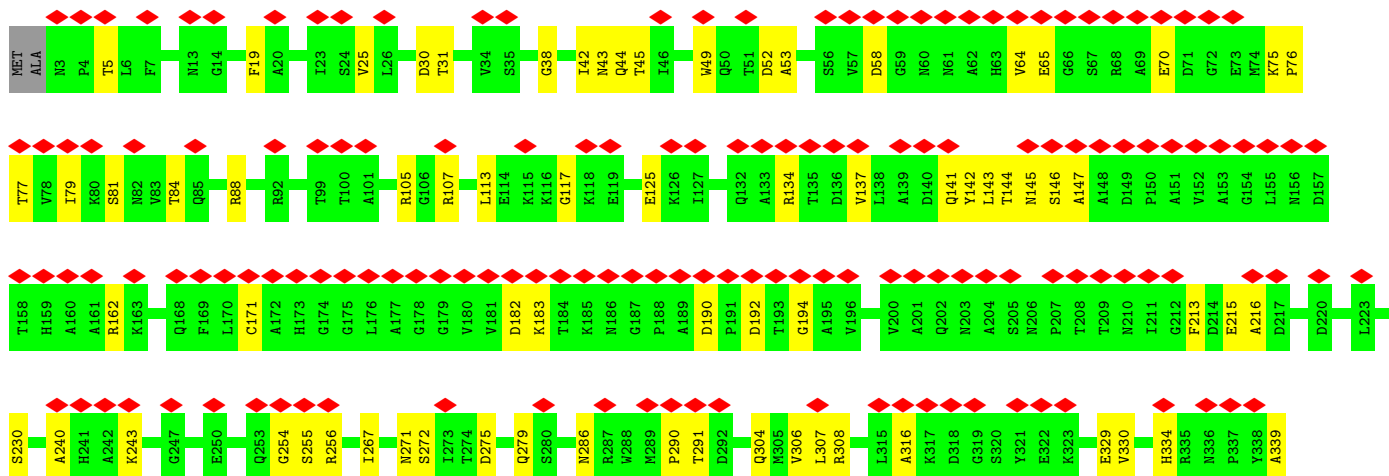
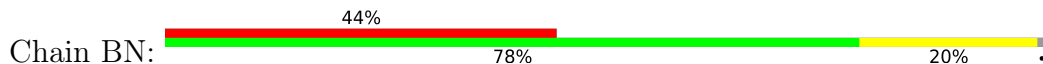


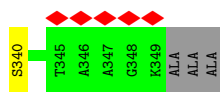


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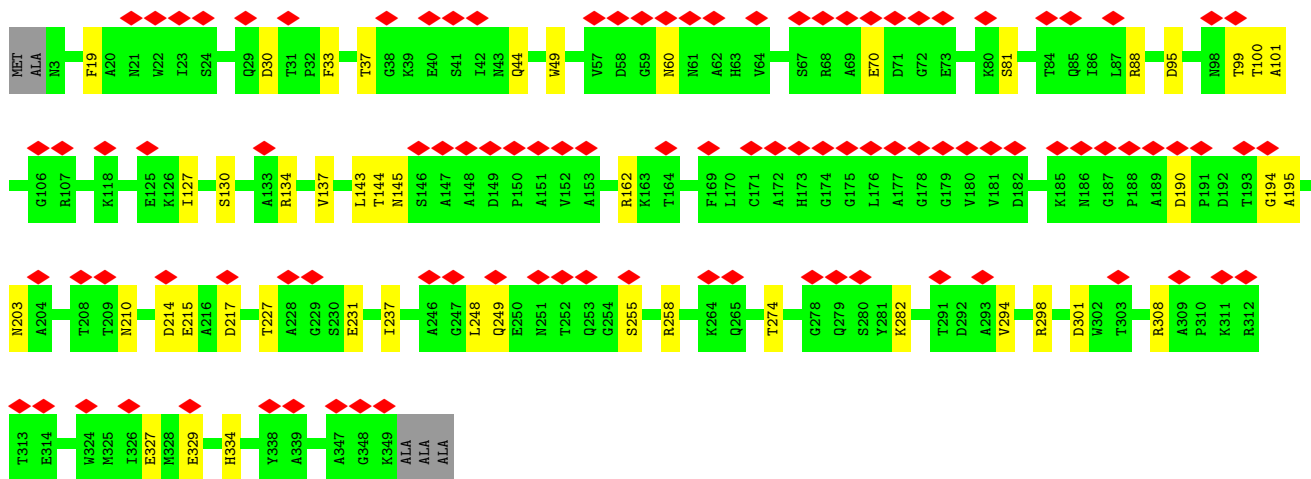
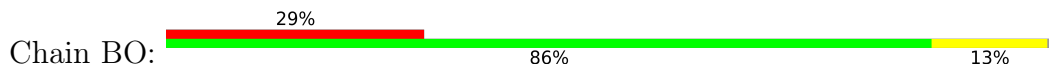


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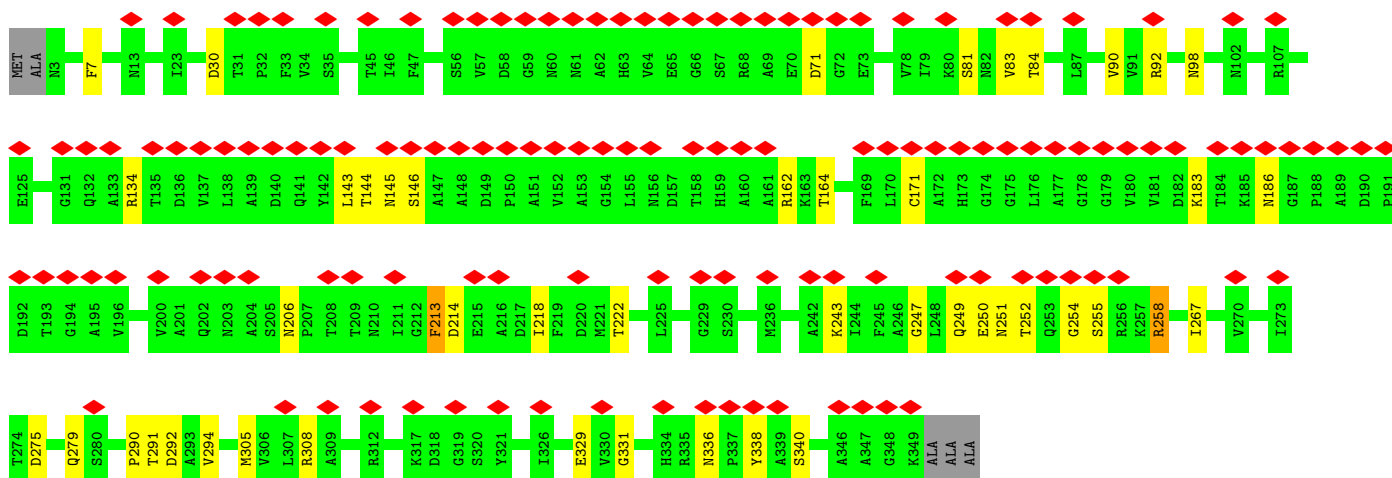
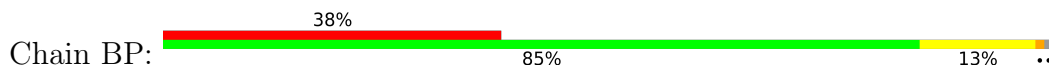




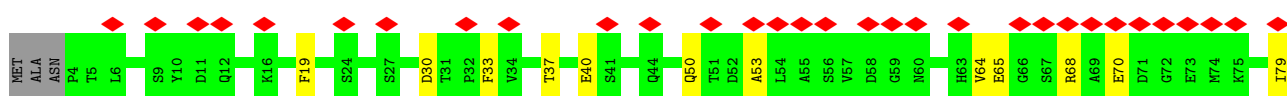
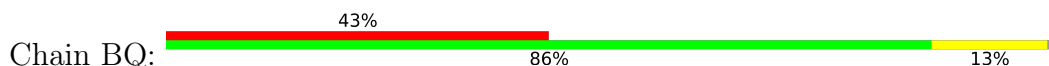
• Molecule 1: Major head protein

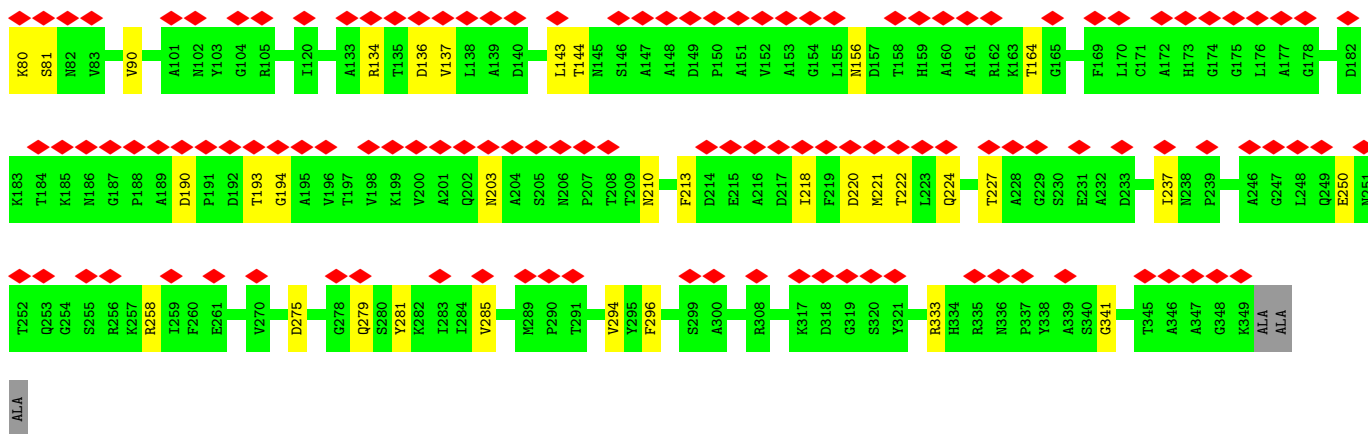


• Molecule 1: Major head protein

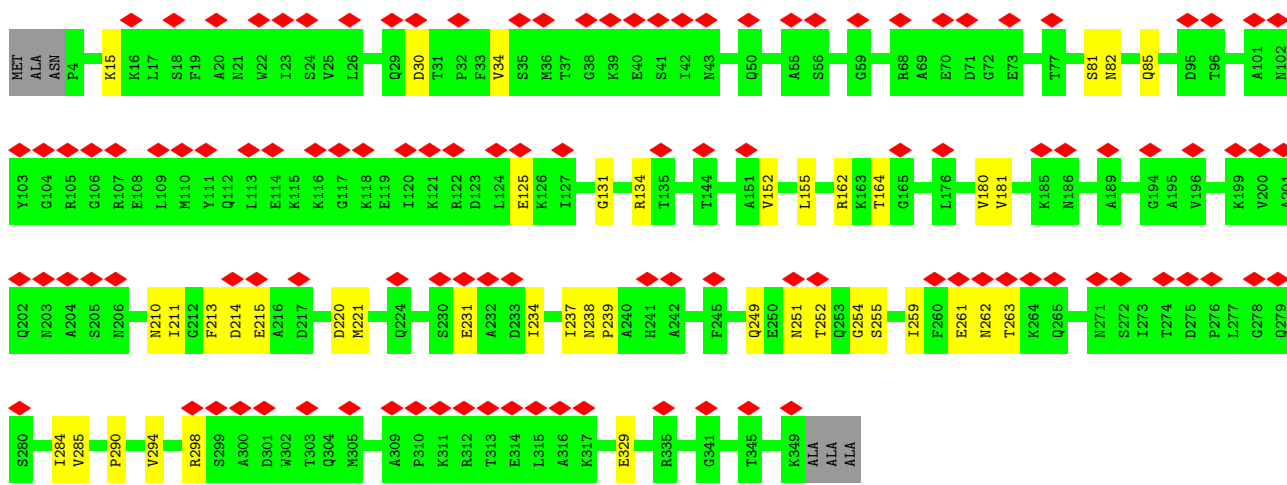
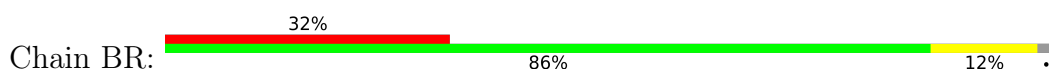


• Molecule 1: Major head protein

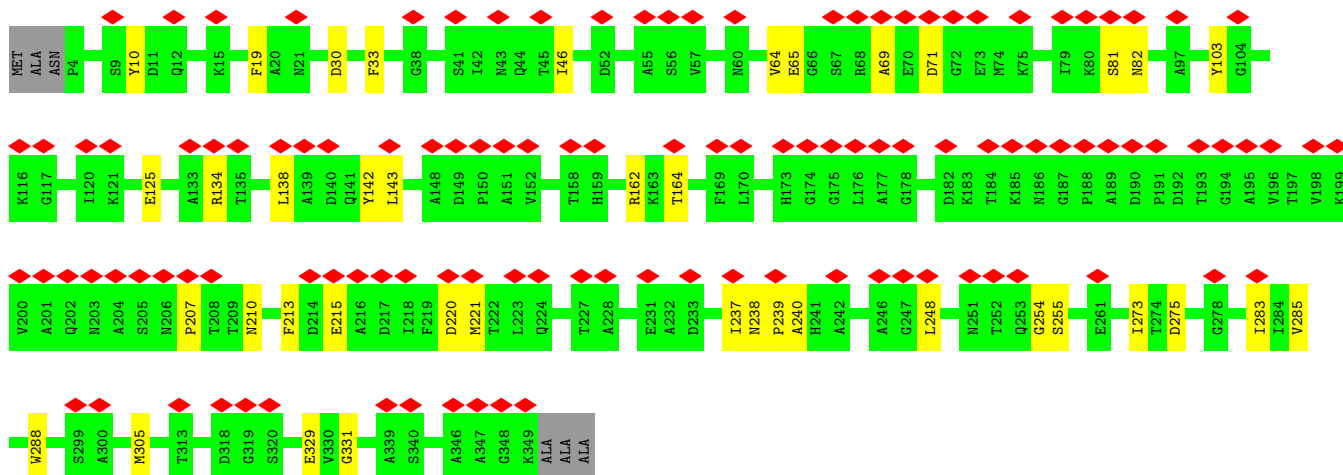
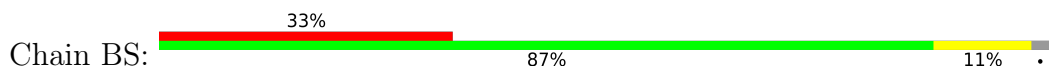




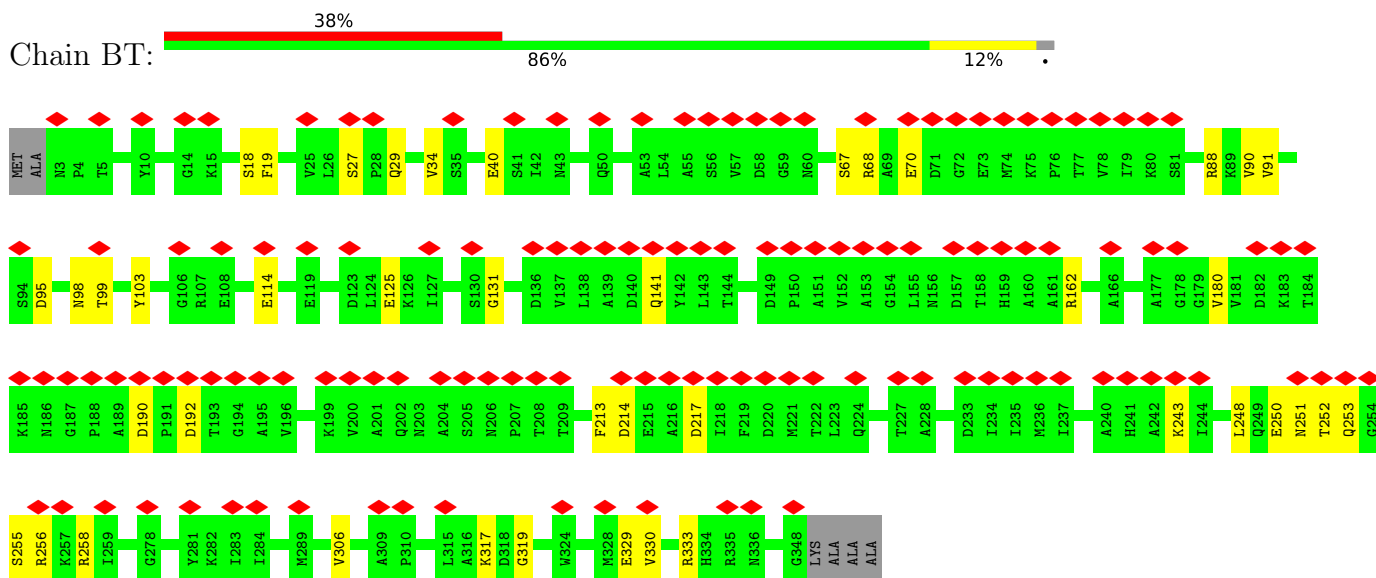
• Molecule 1: Major head protein



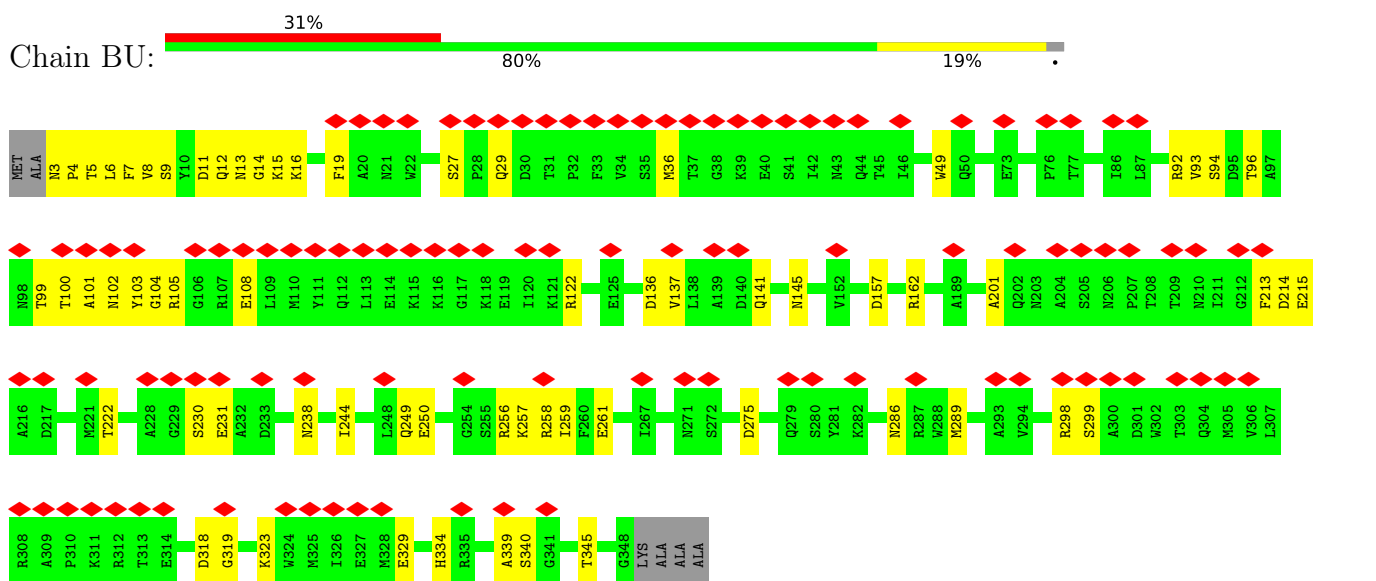
• Molecule 1: Major head protein



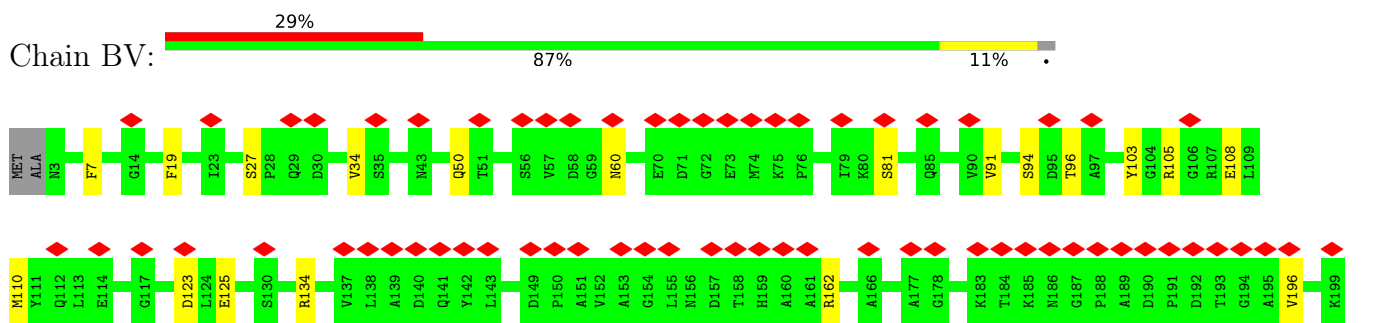
• Molecule 1: Major head protein

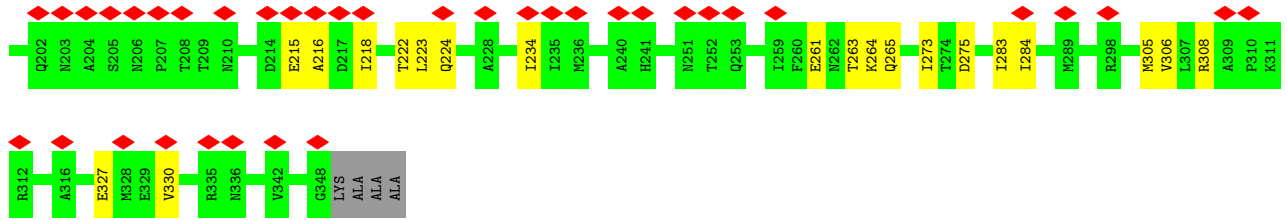


• Molecule 1: Major head protein

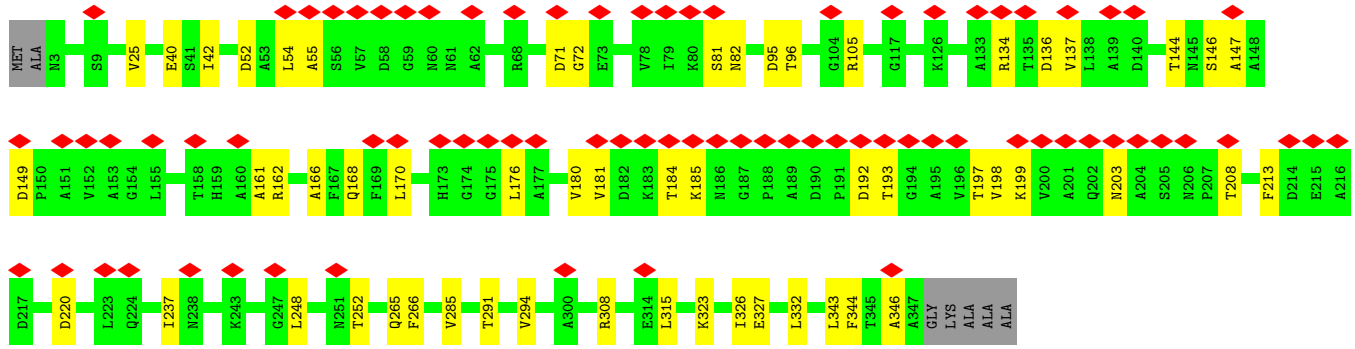
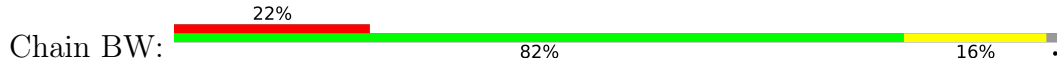


• Molecule 1: Major head protein

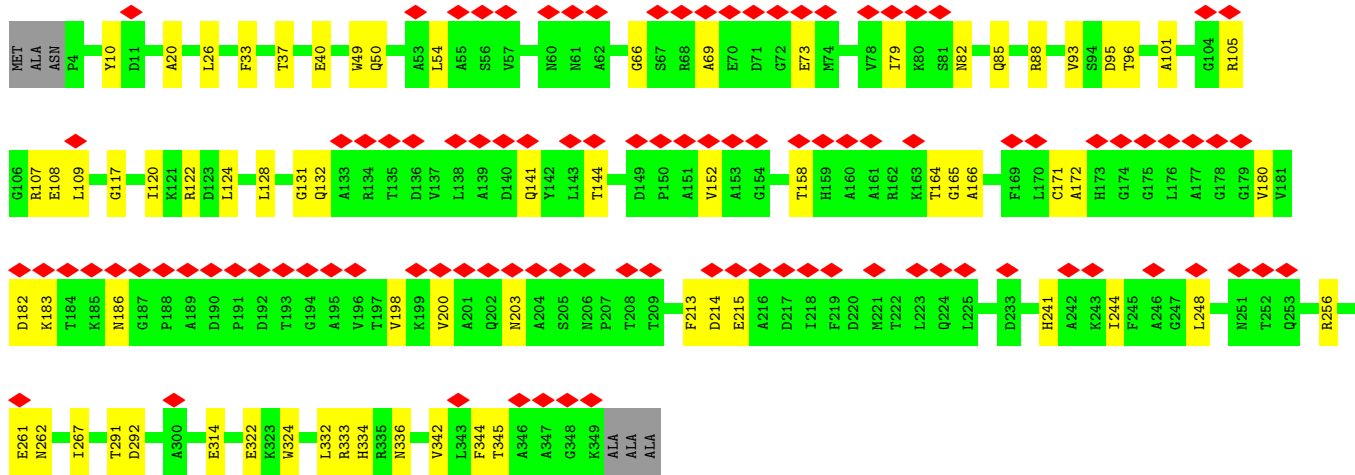
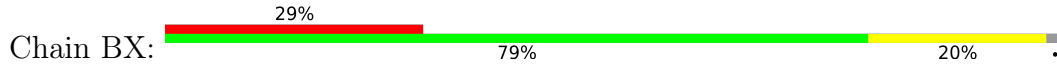




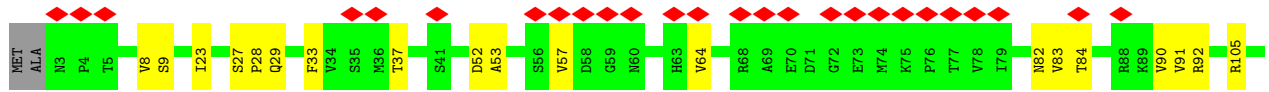
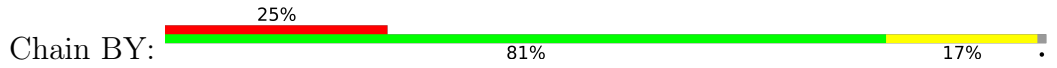
• Molecule 1: Major head protein

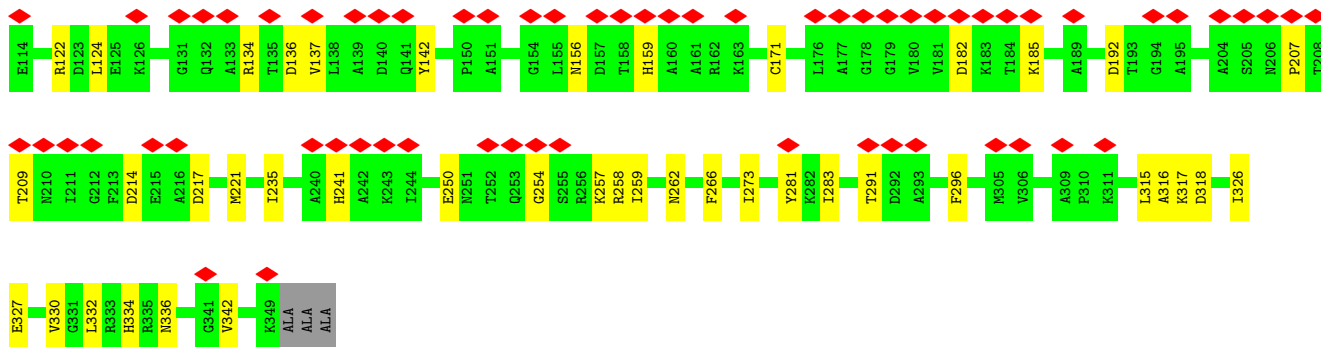


• Molecule 1: Major head protein

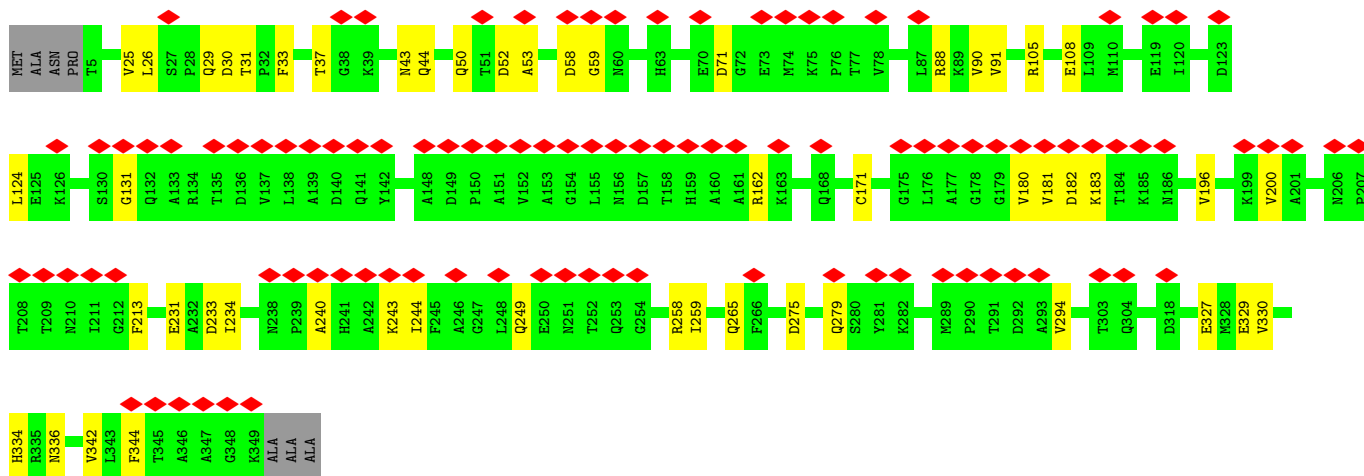
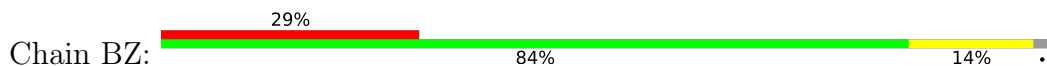


• Molecule 1: Major head protein

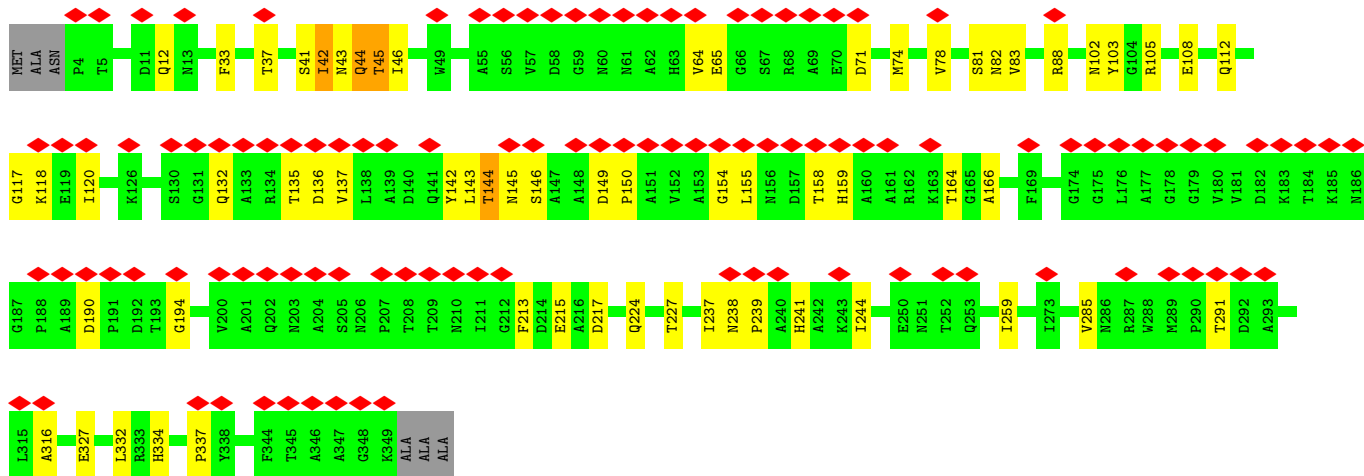
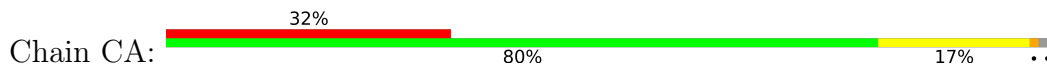




• Molecule 1: Major head protein



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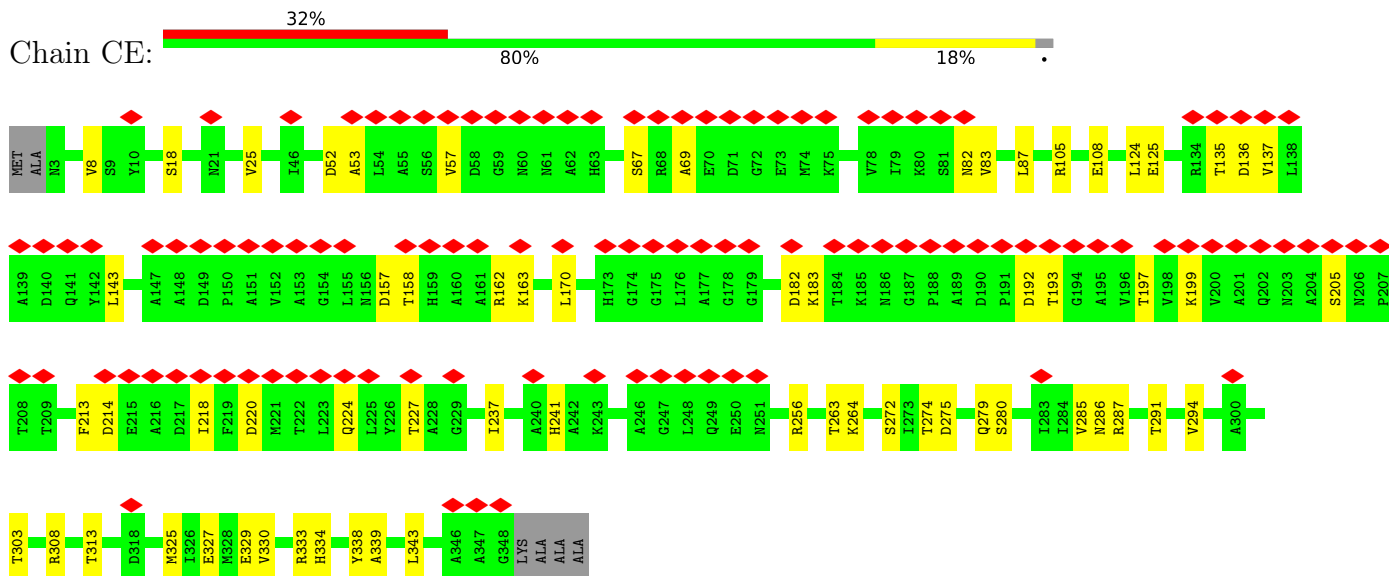


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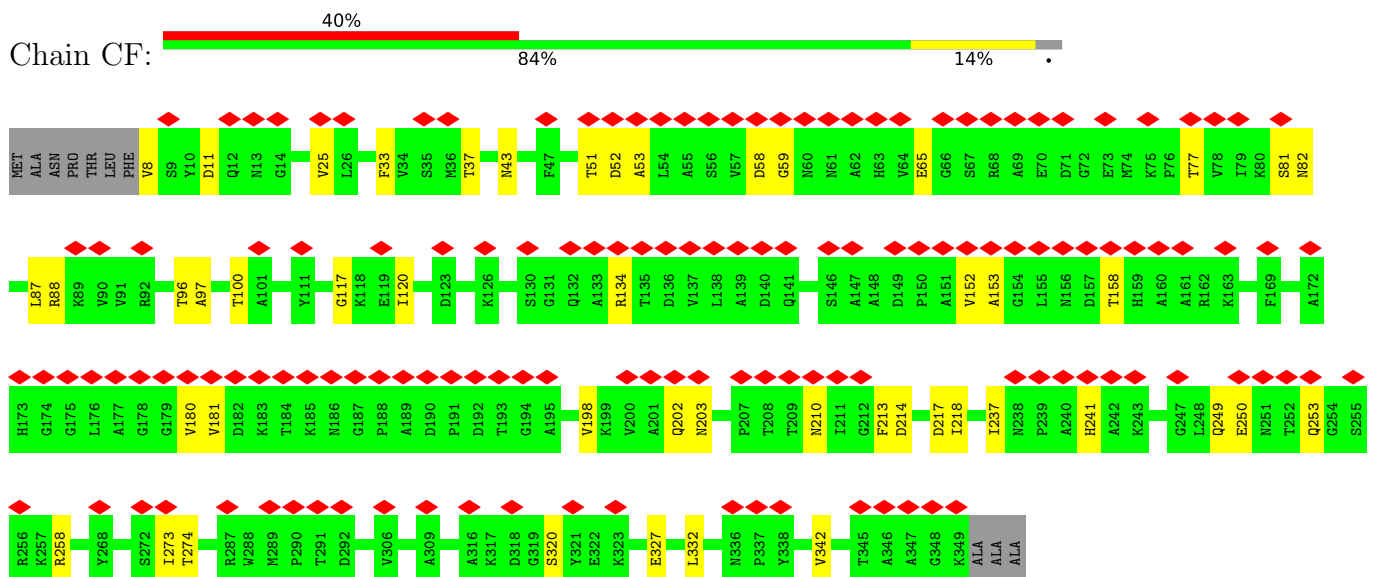




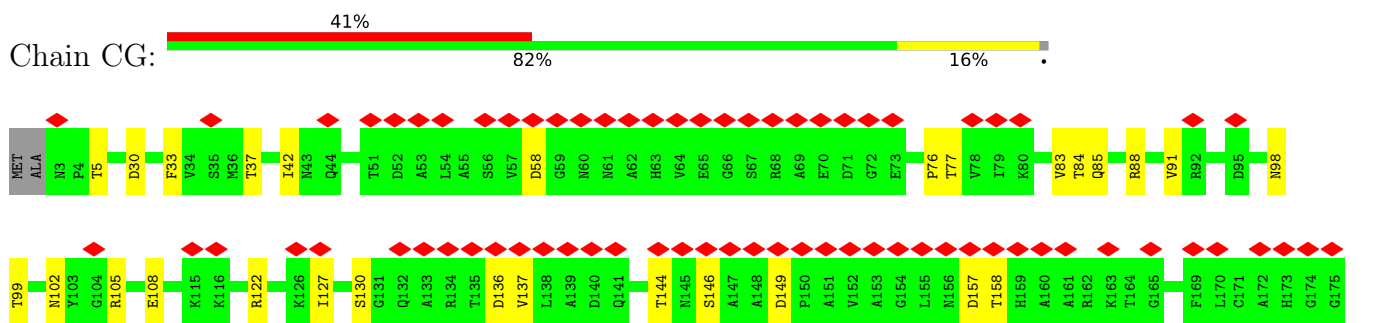
• Molecule 1: Major head protein

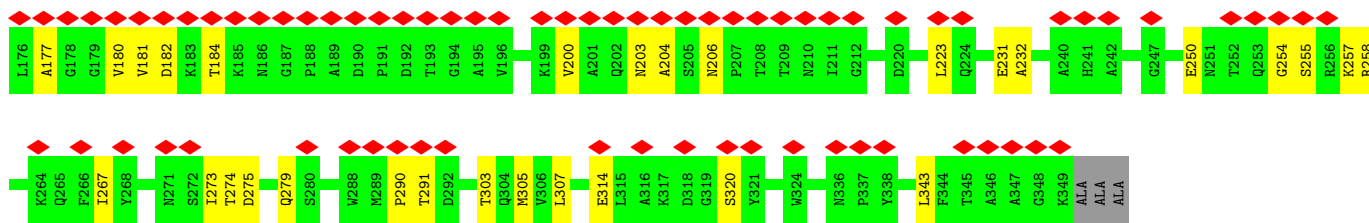


• Molecule 1: Major head protein

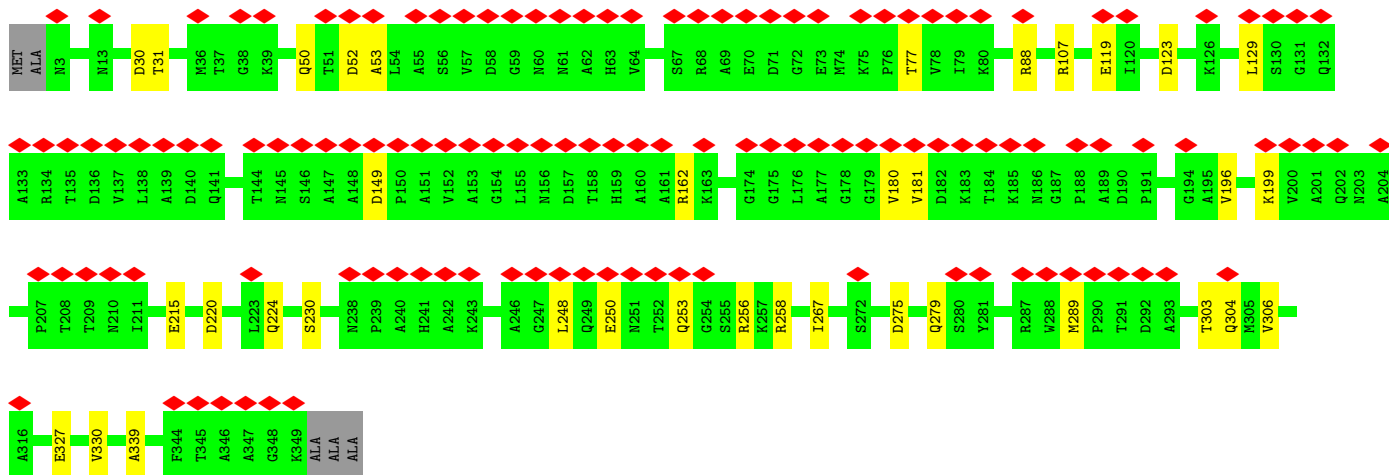
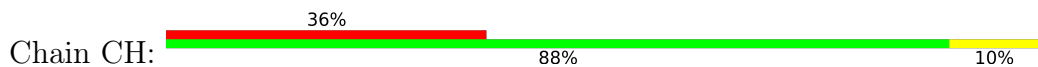


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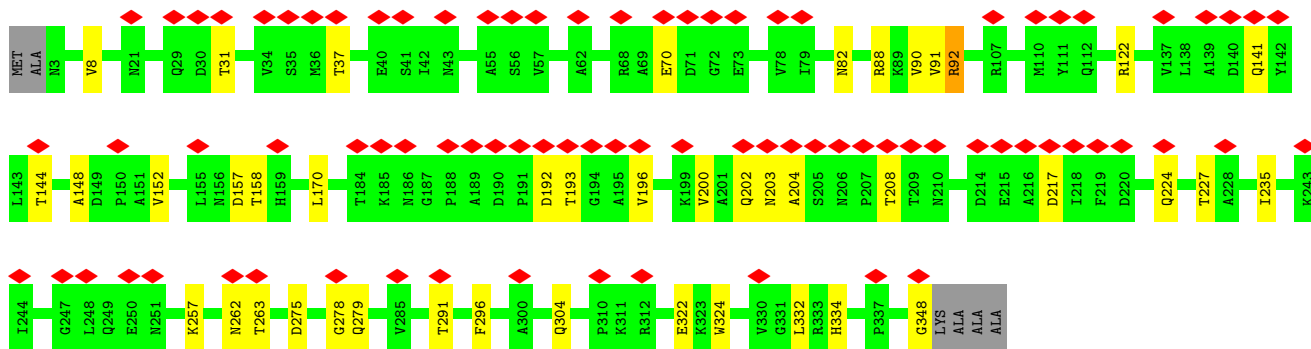
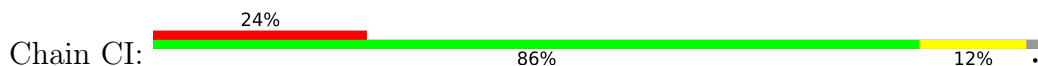




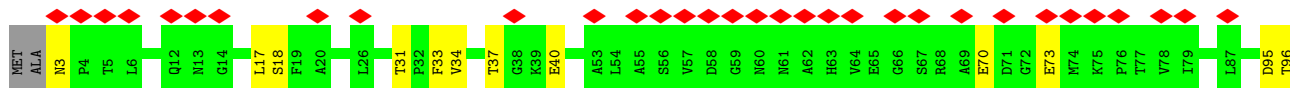
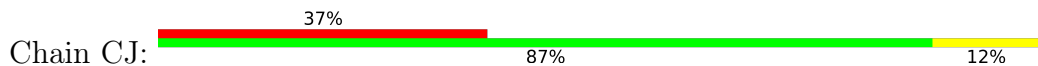
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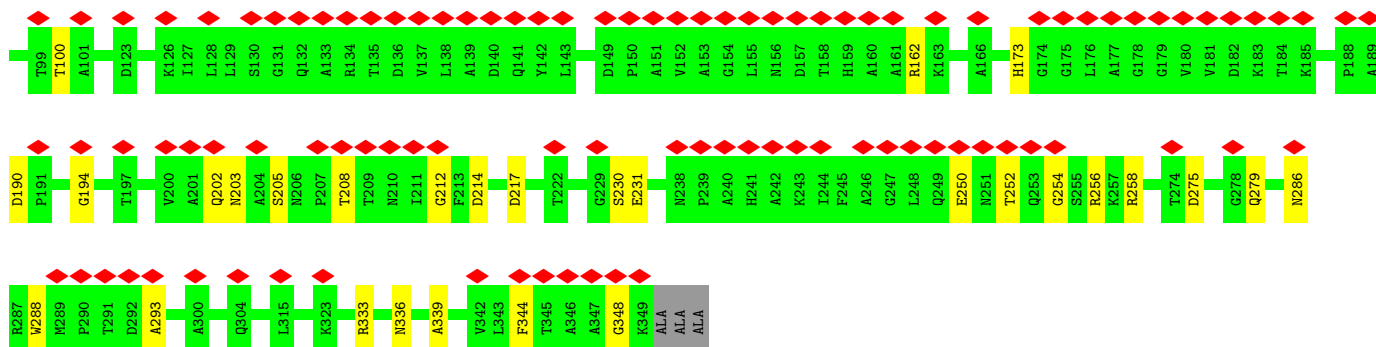


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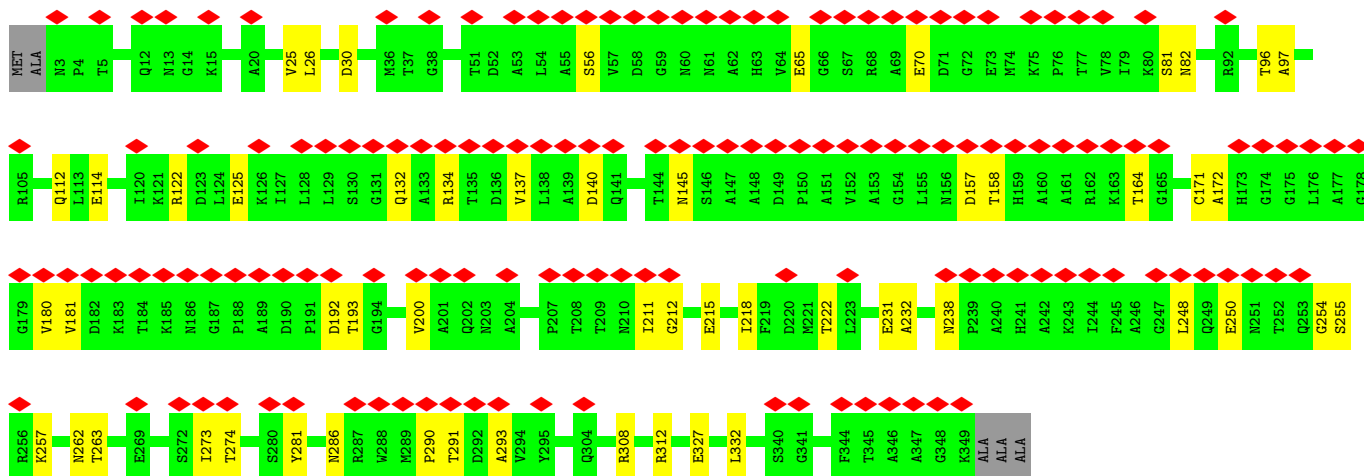
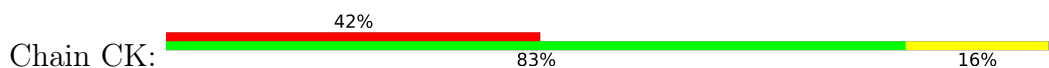


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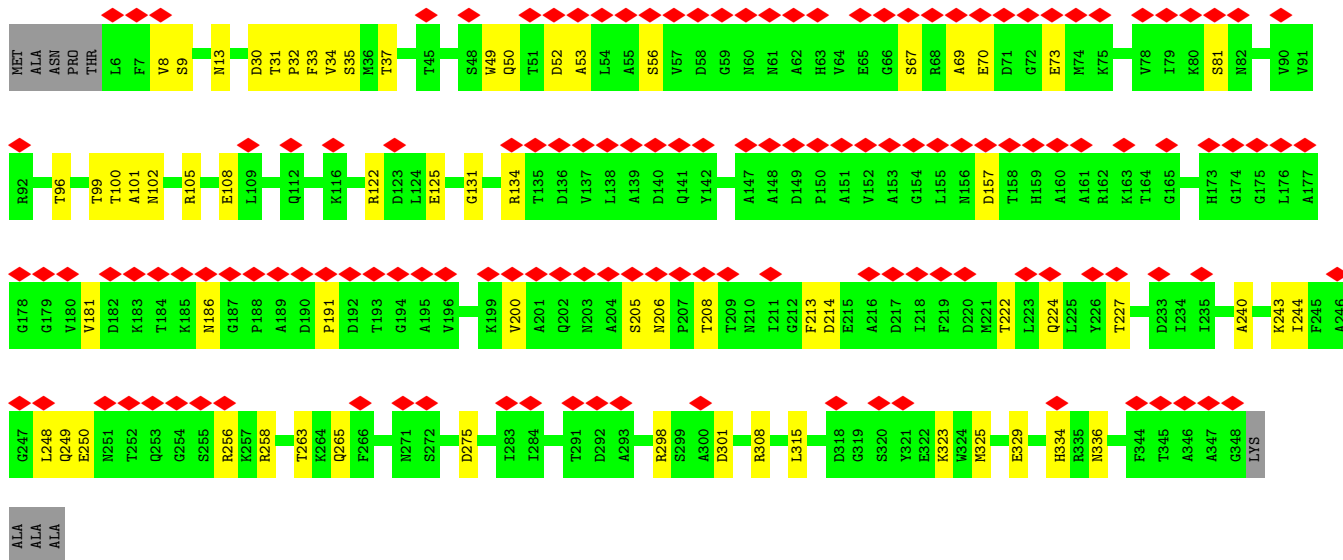
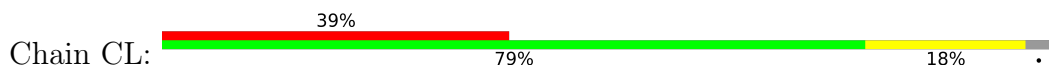




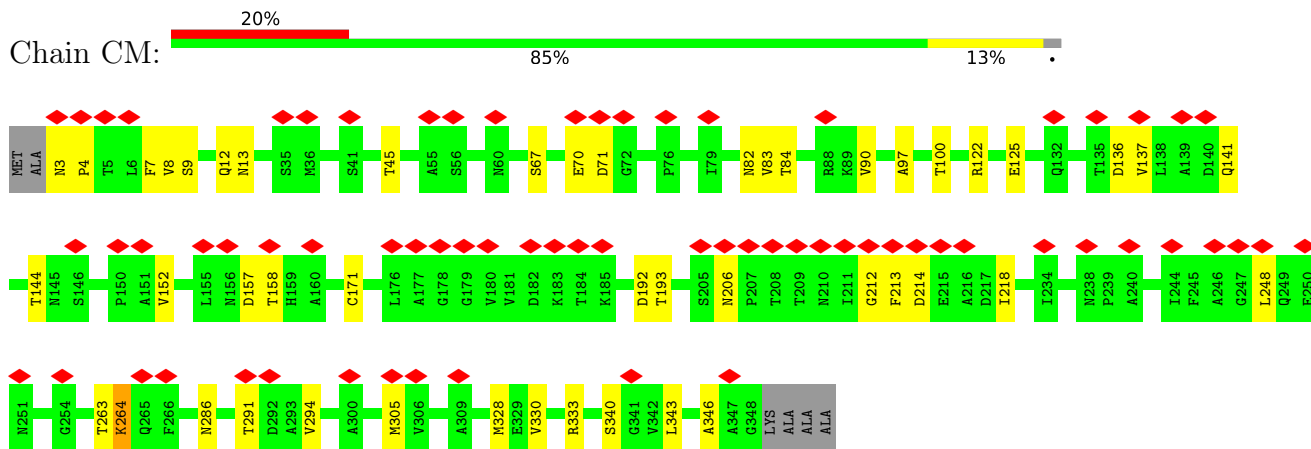
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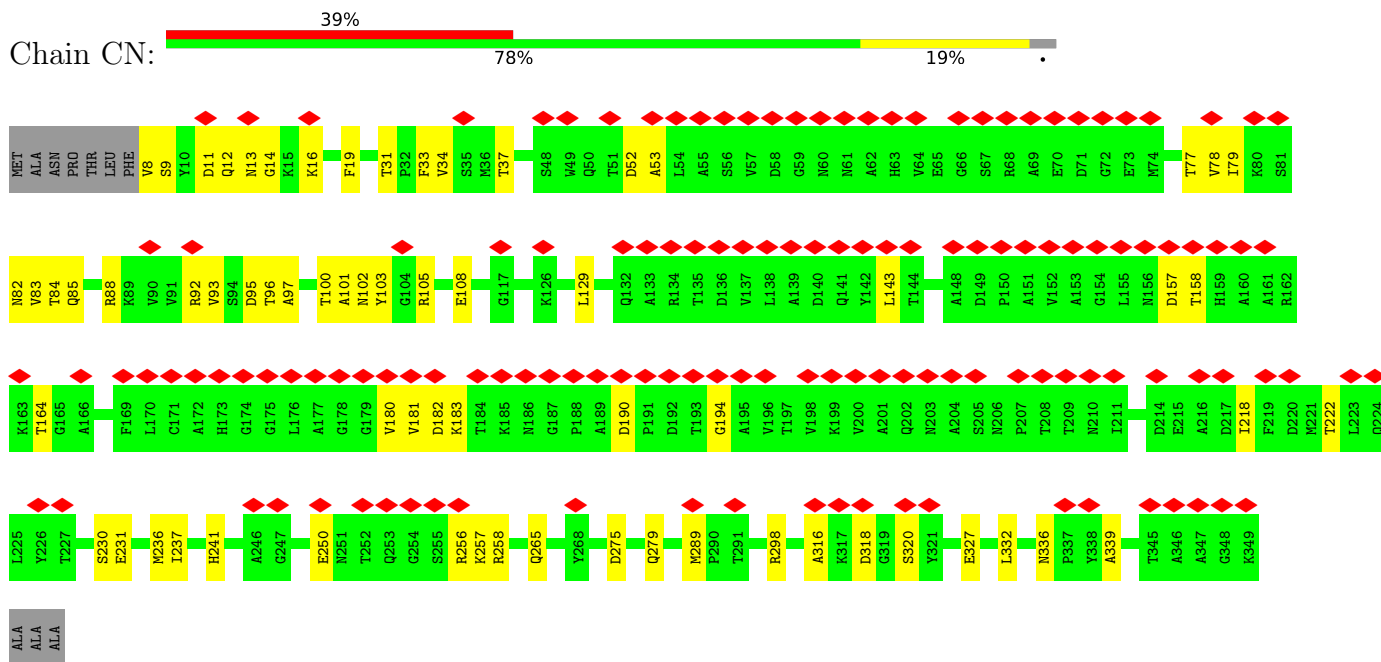
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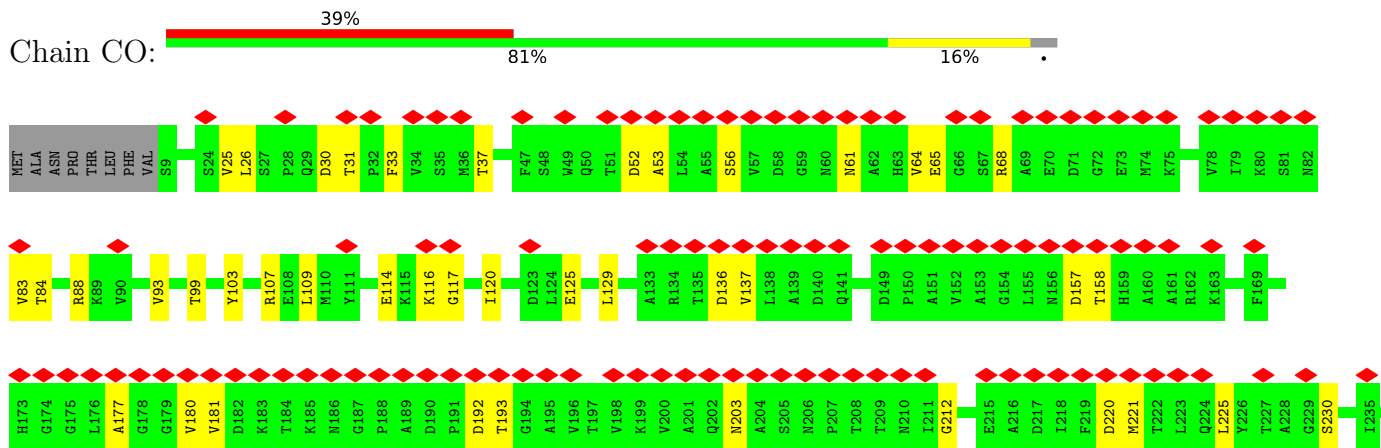
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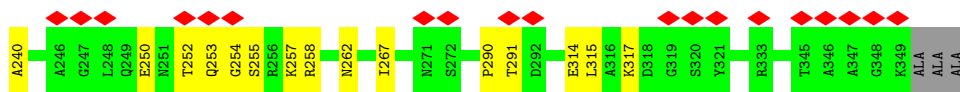


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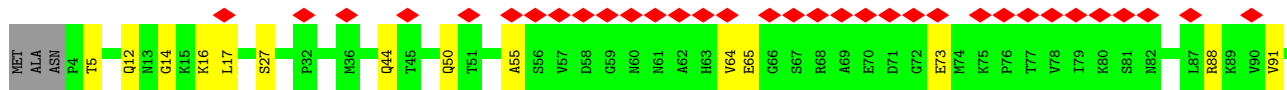
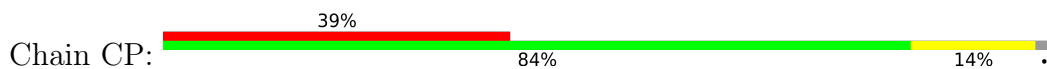


• Molecule 1: Major head protein

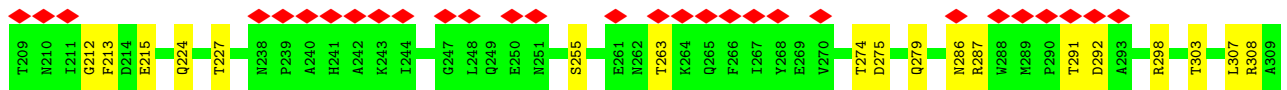
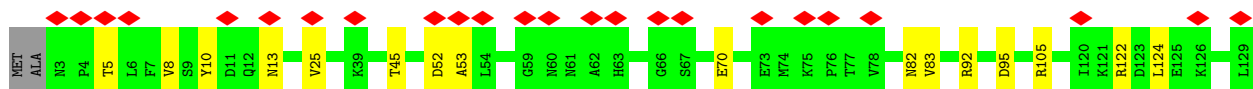
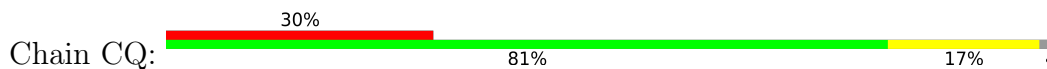




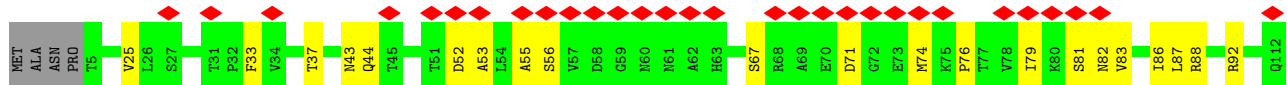
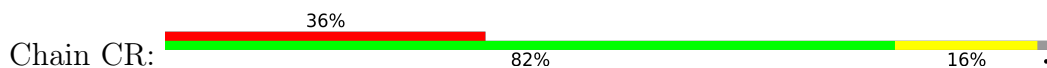
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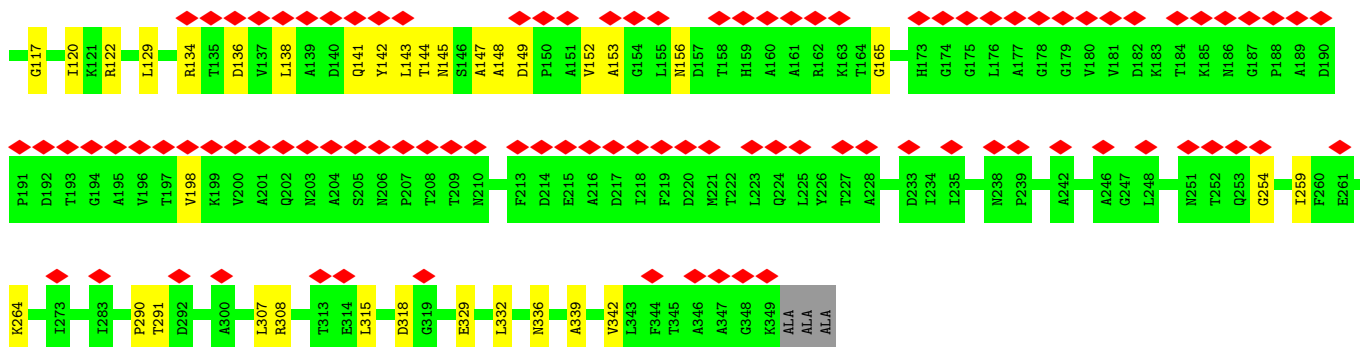


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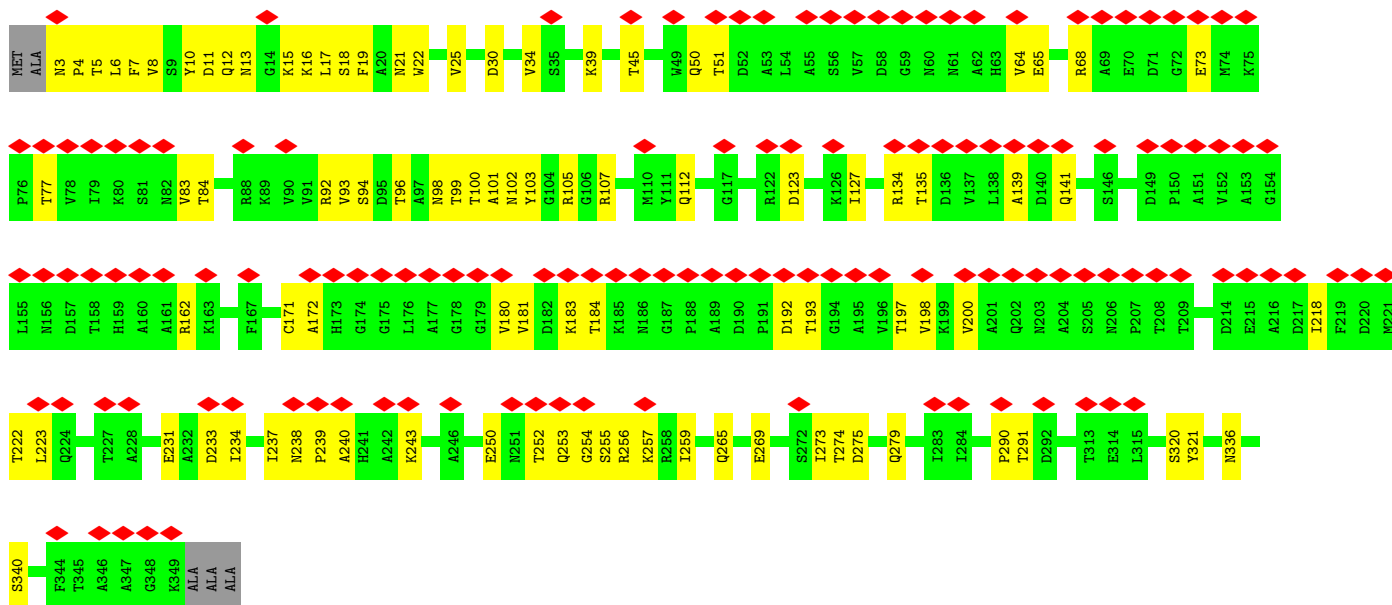
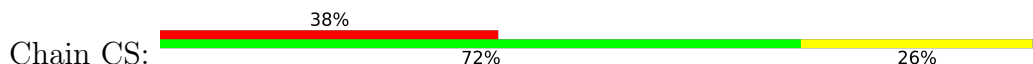


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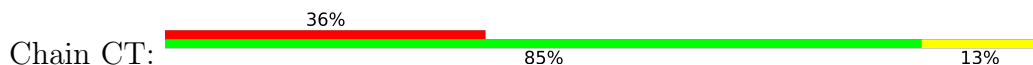


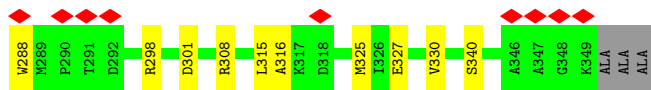


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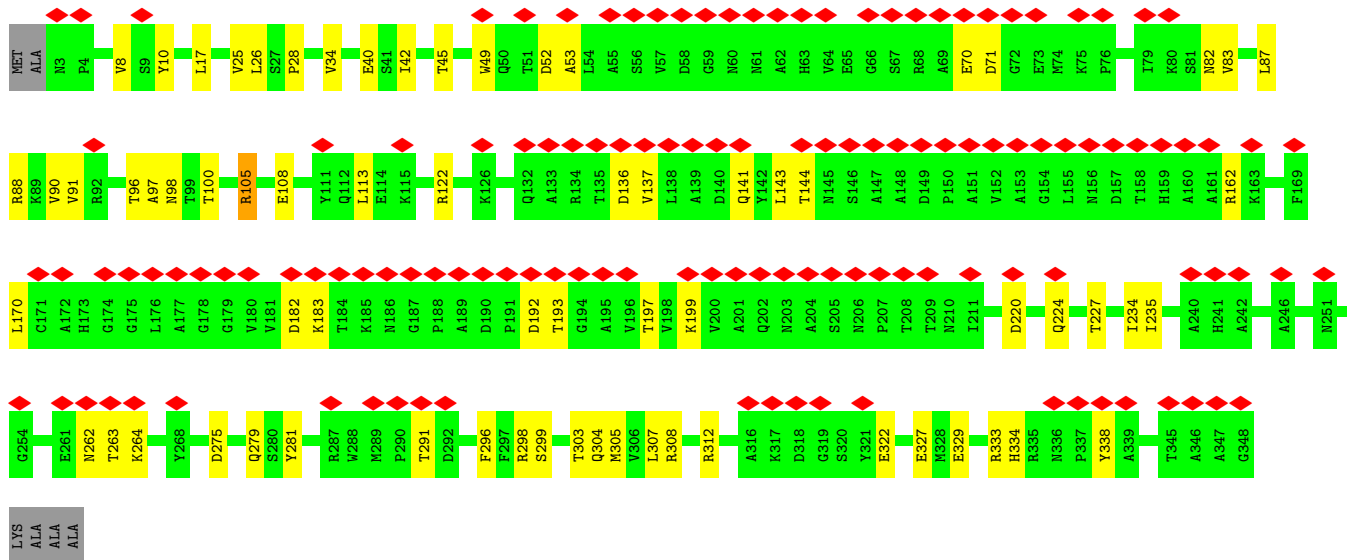
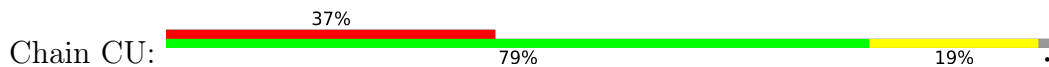


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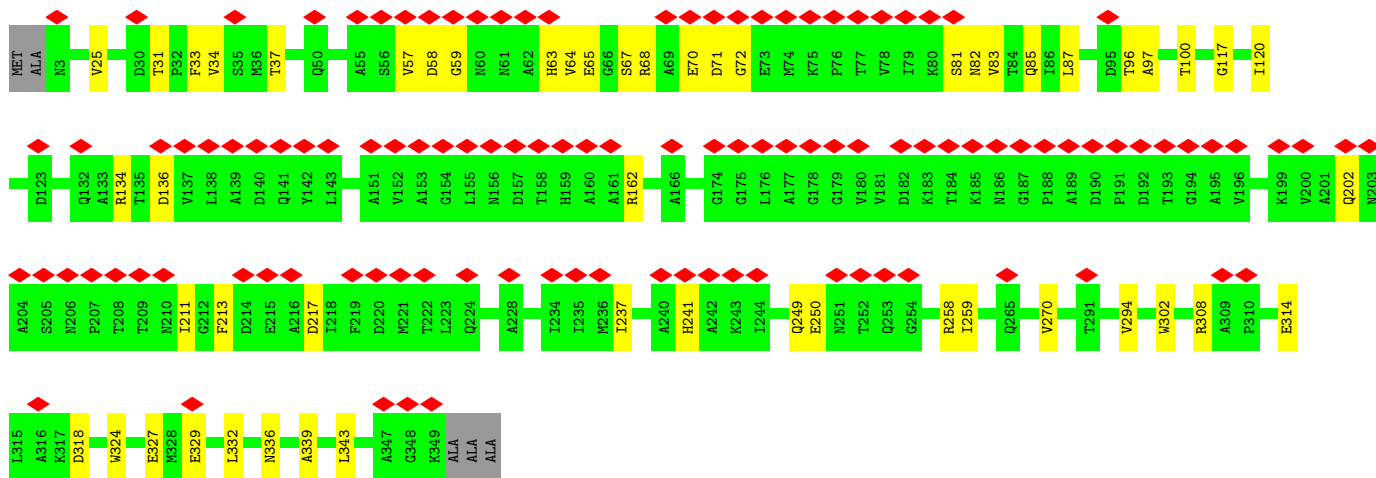
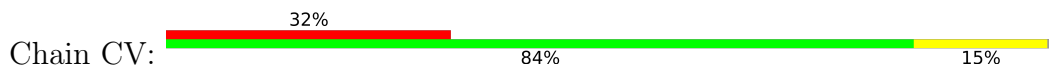




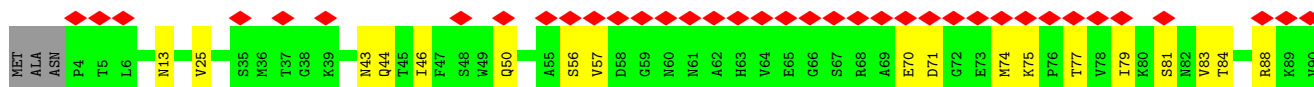
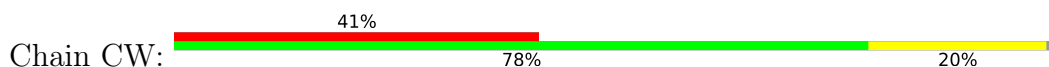
• Molecule 1: Major head protein



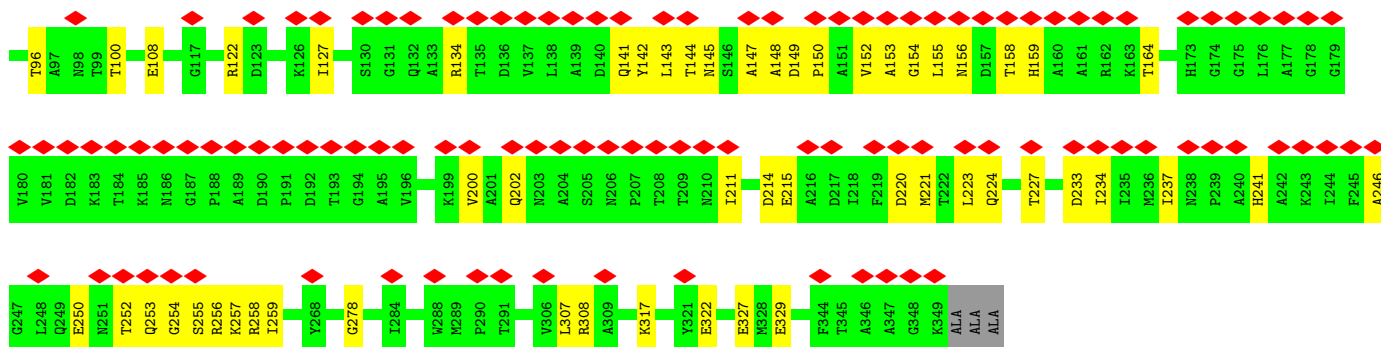
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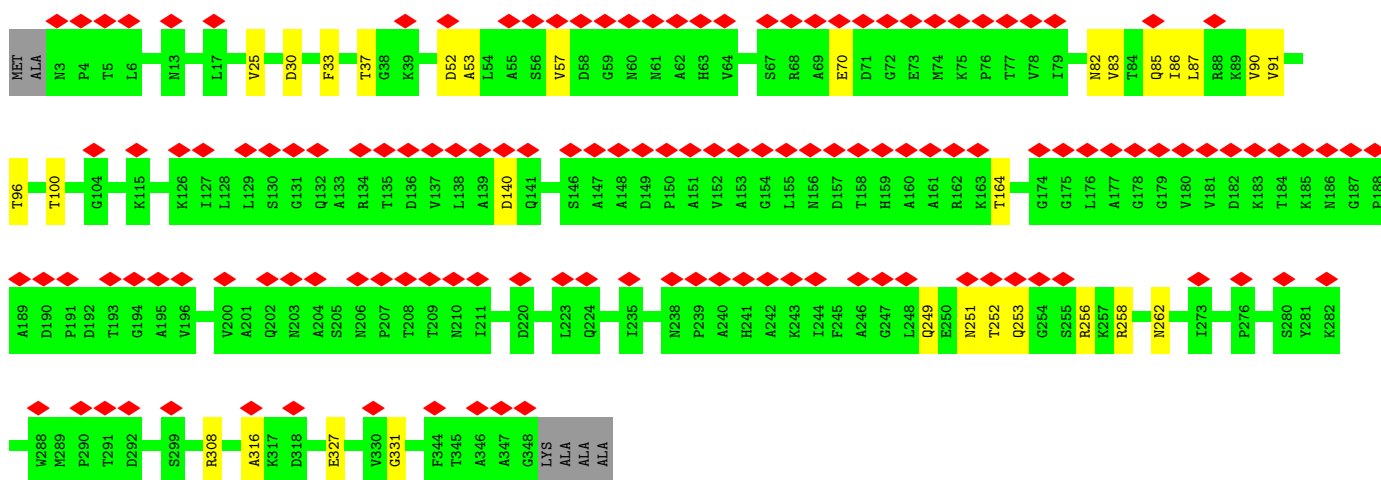
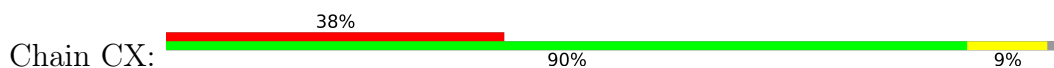
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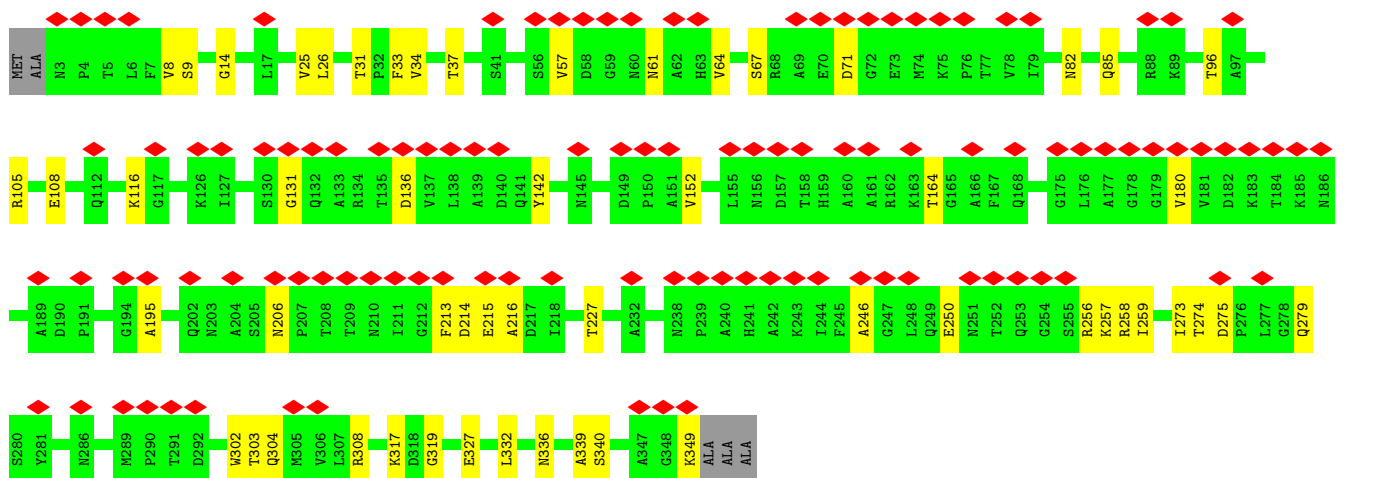
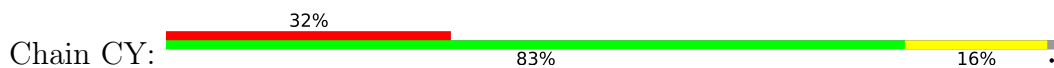




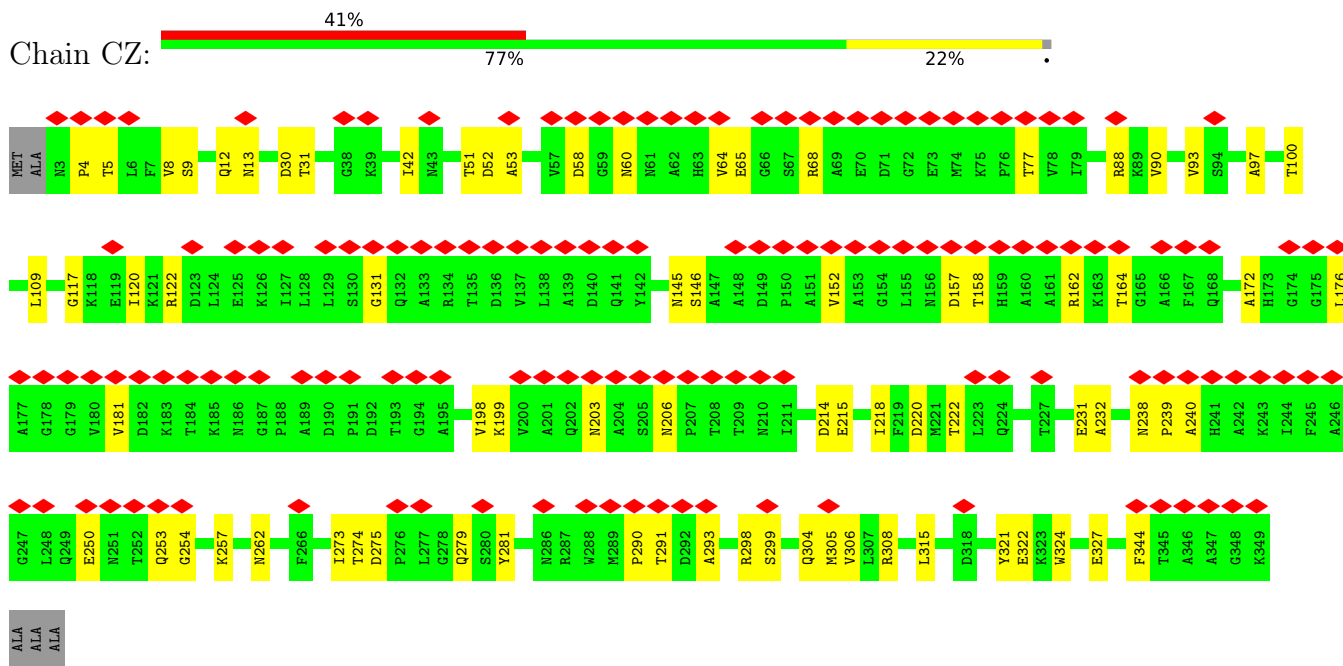
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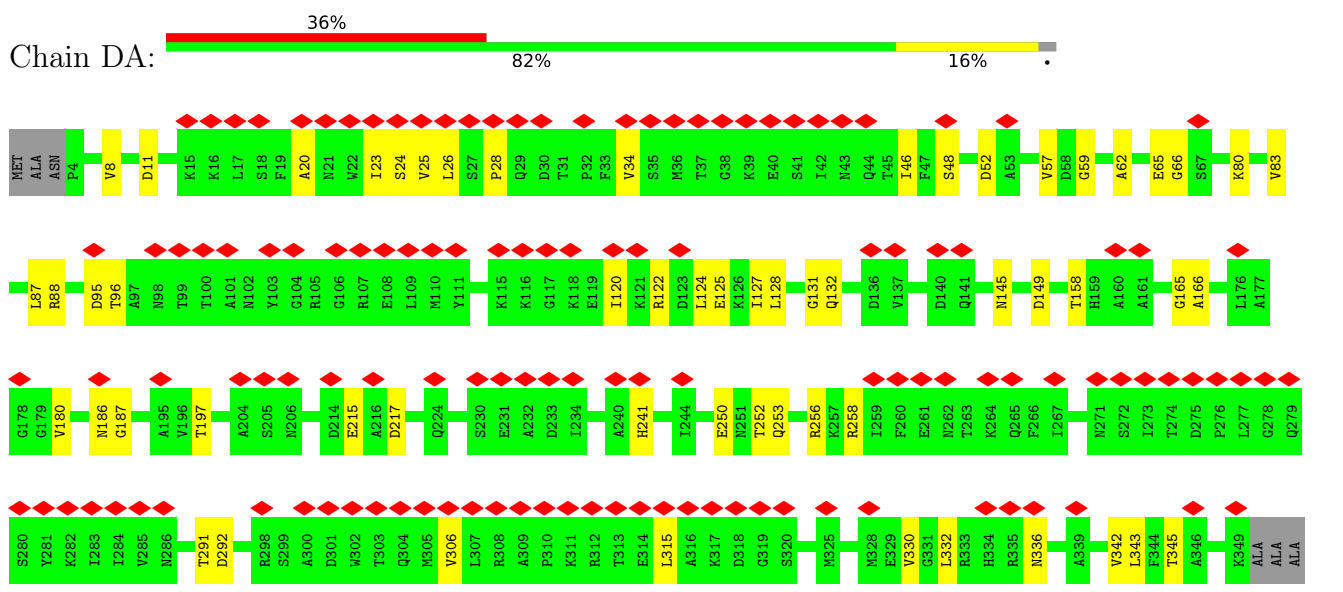
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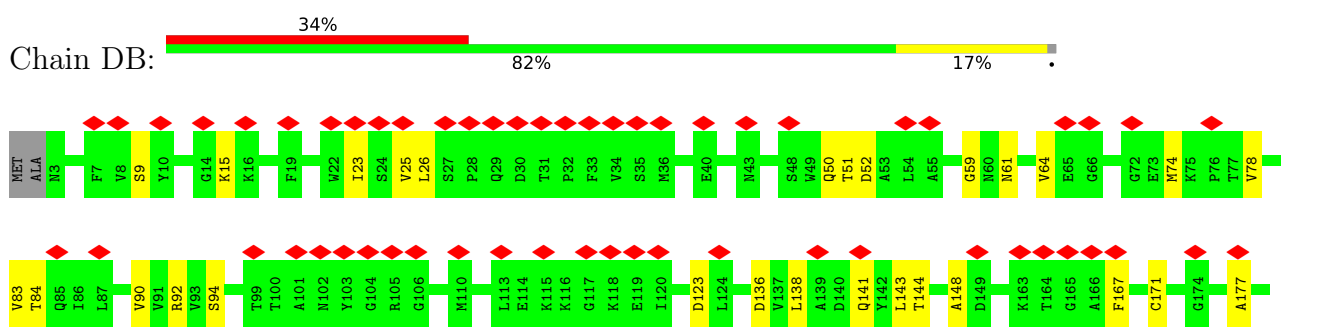
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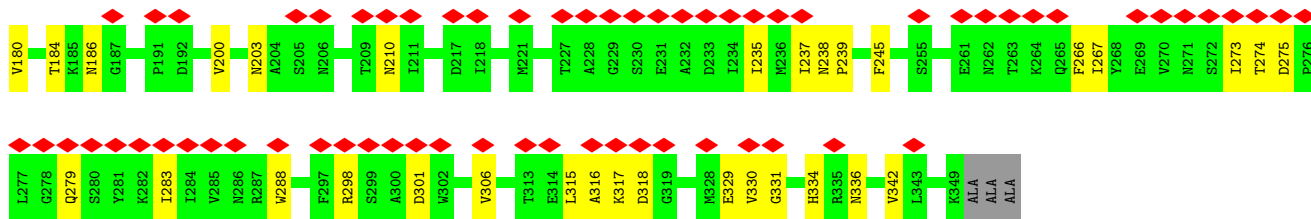


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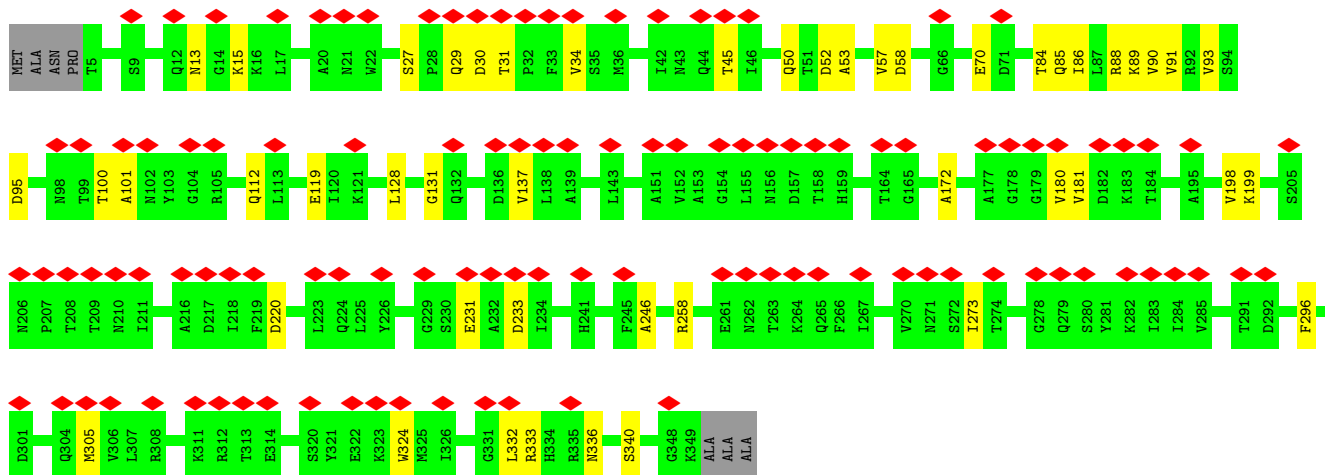
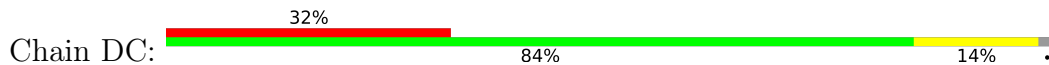


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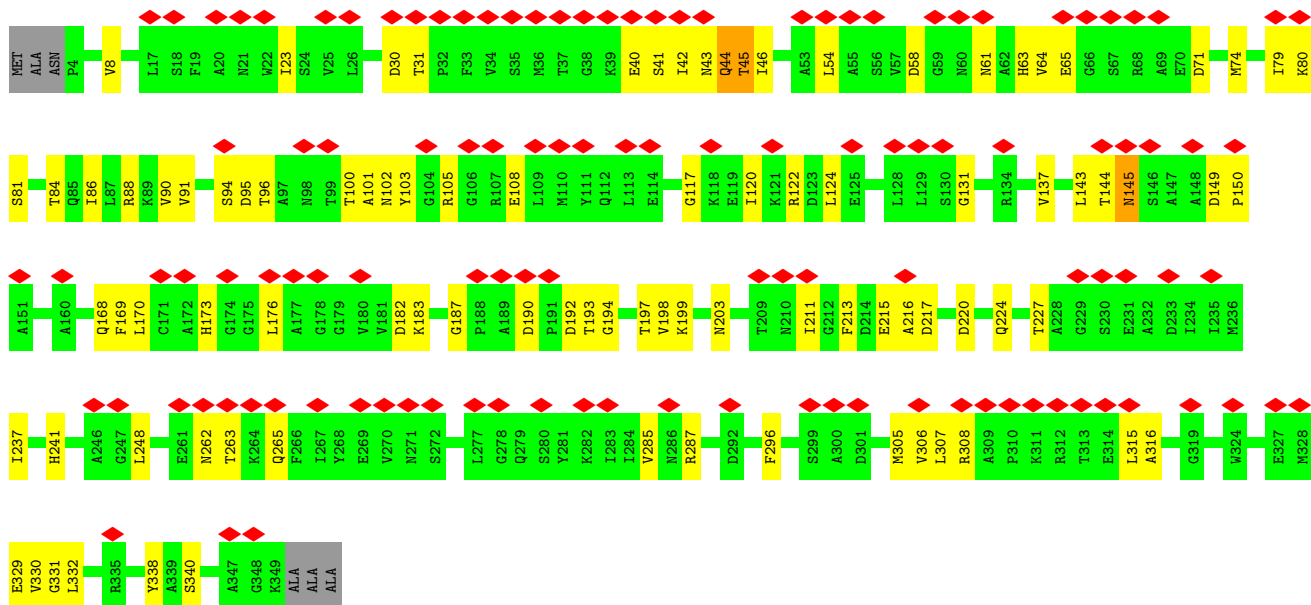
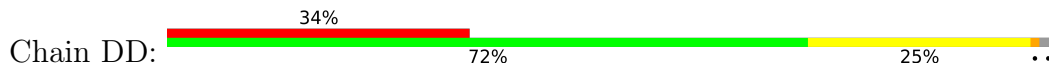




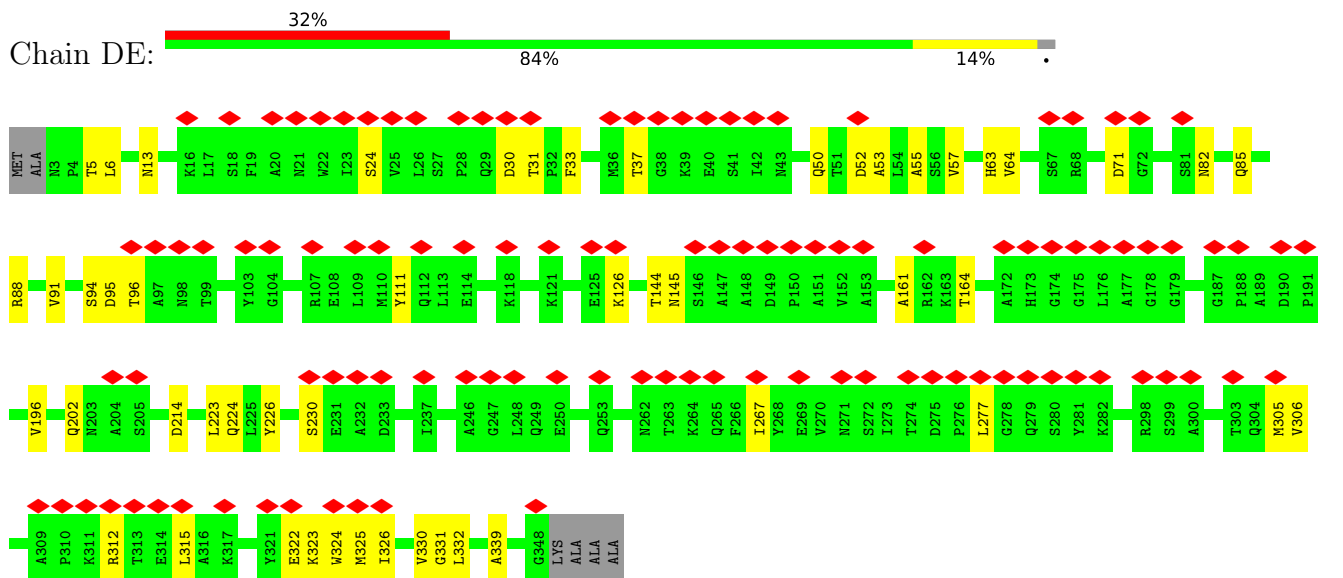
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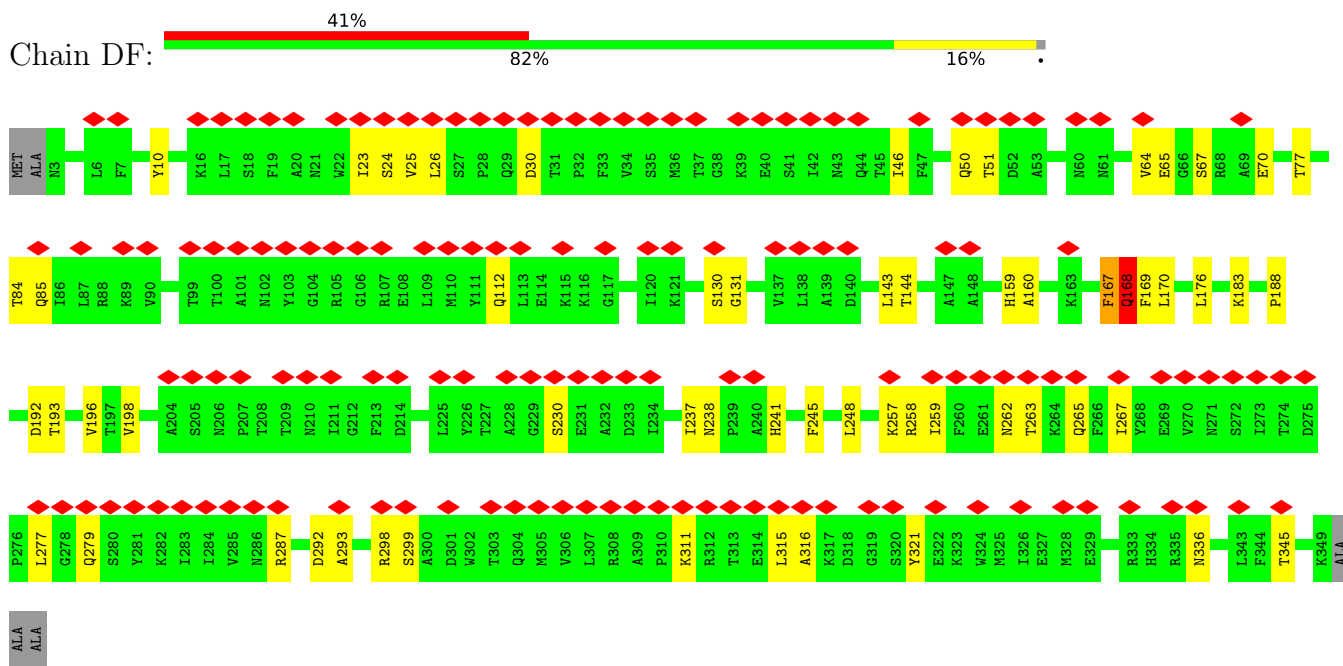
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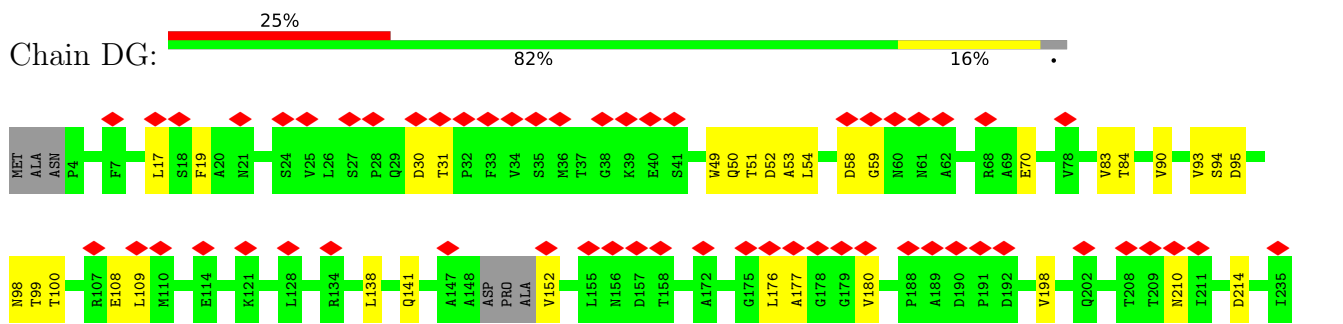
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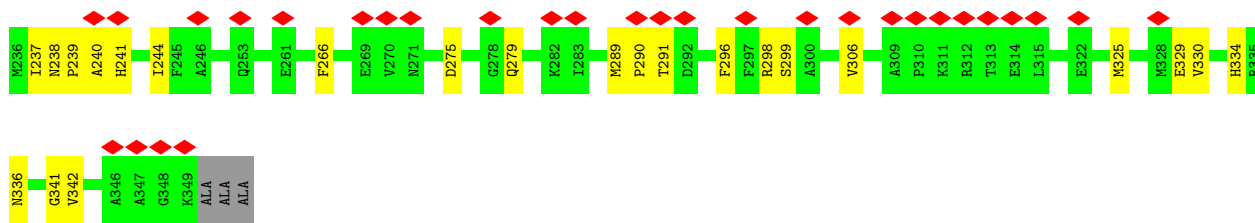


• Molecule 1: Major head protein

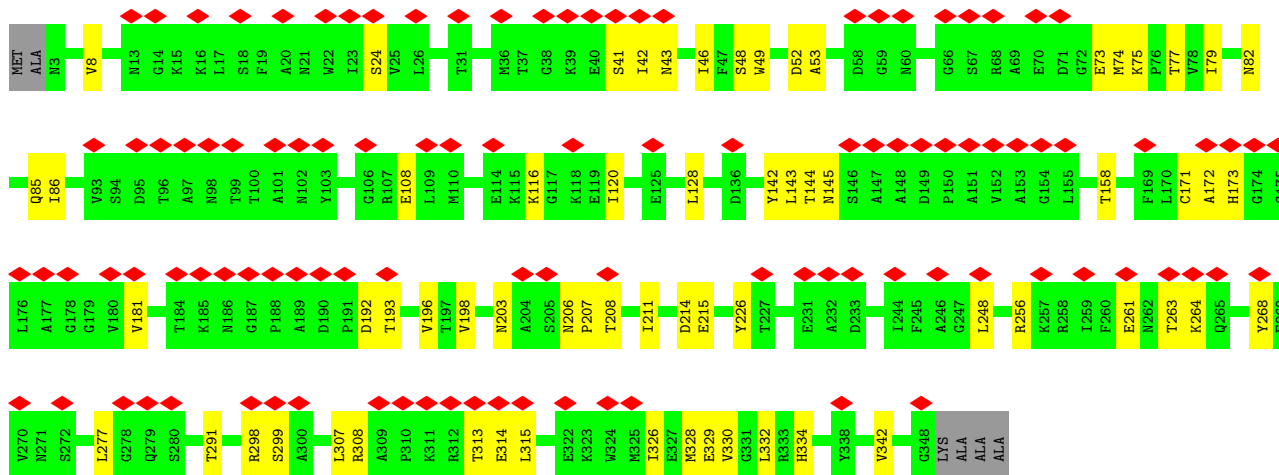
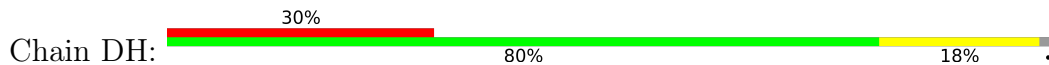


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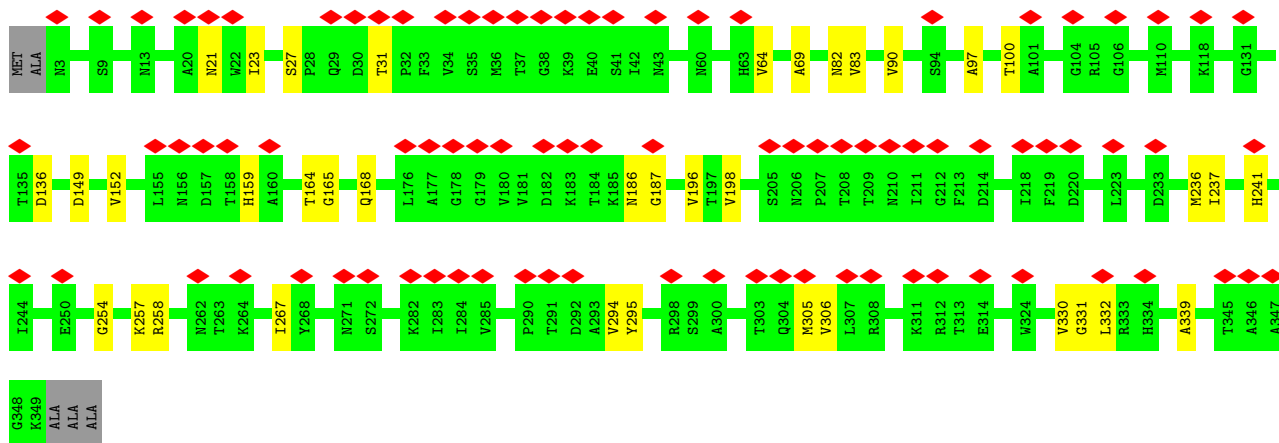
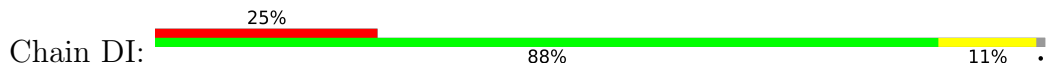




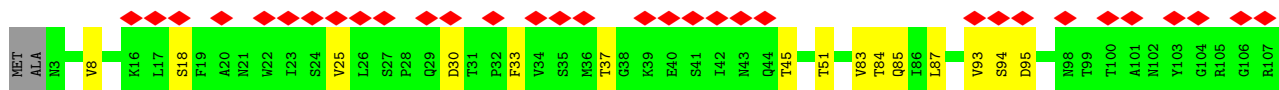
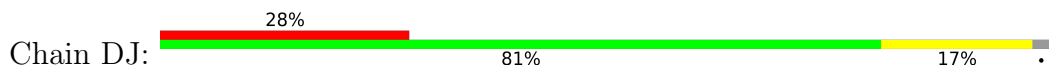
• Molecule 1: Major head protein

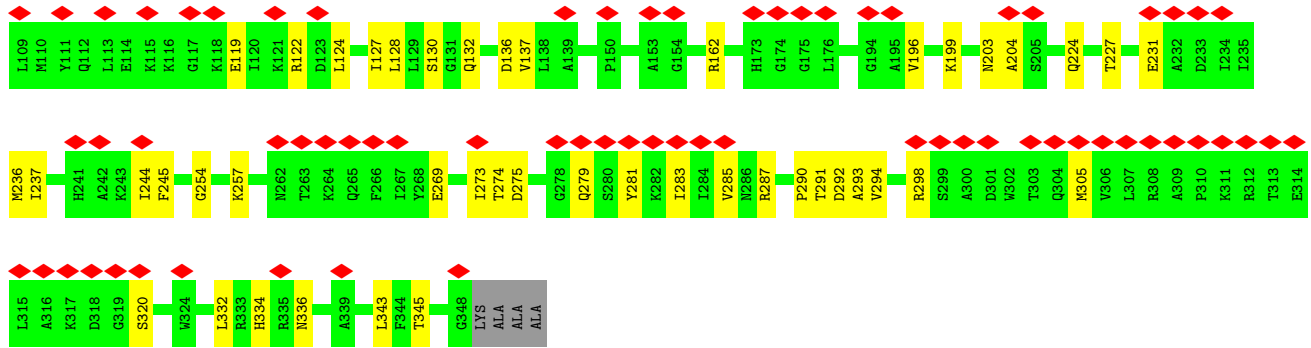


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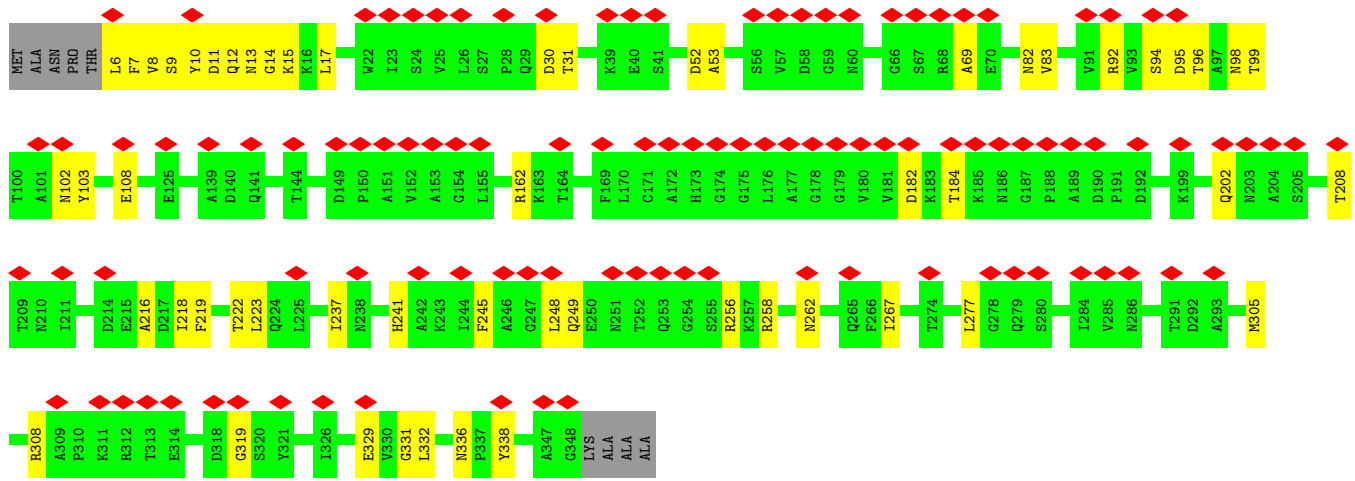
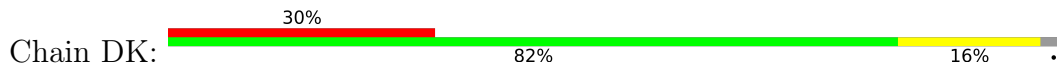


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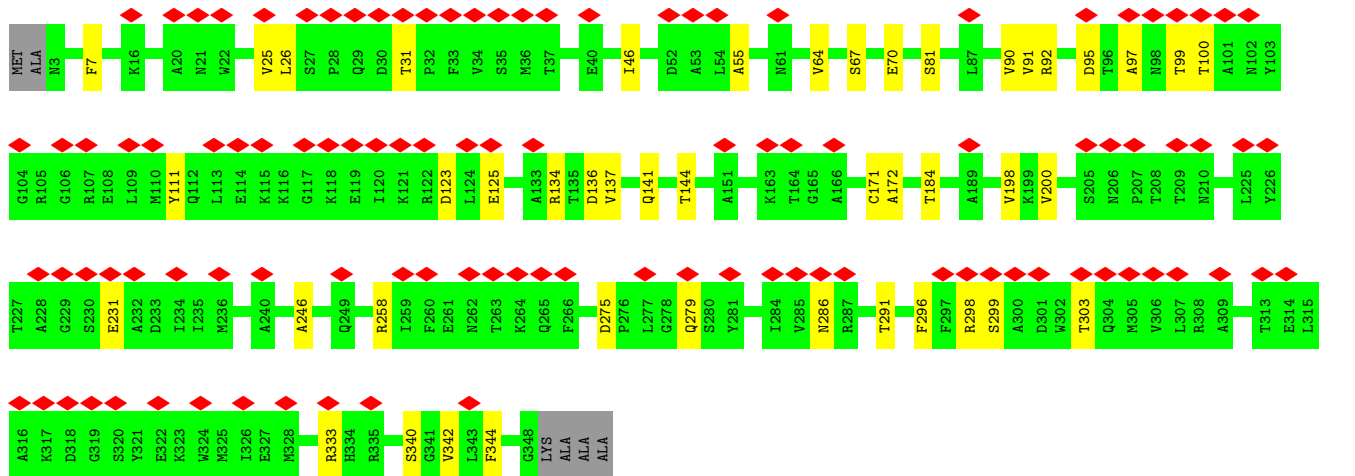
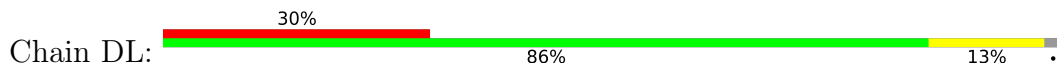




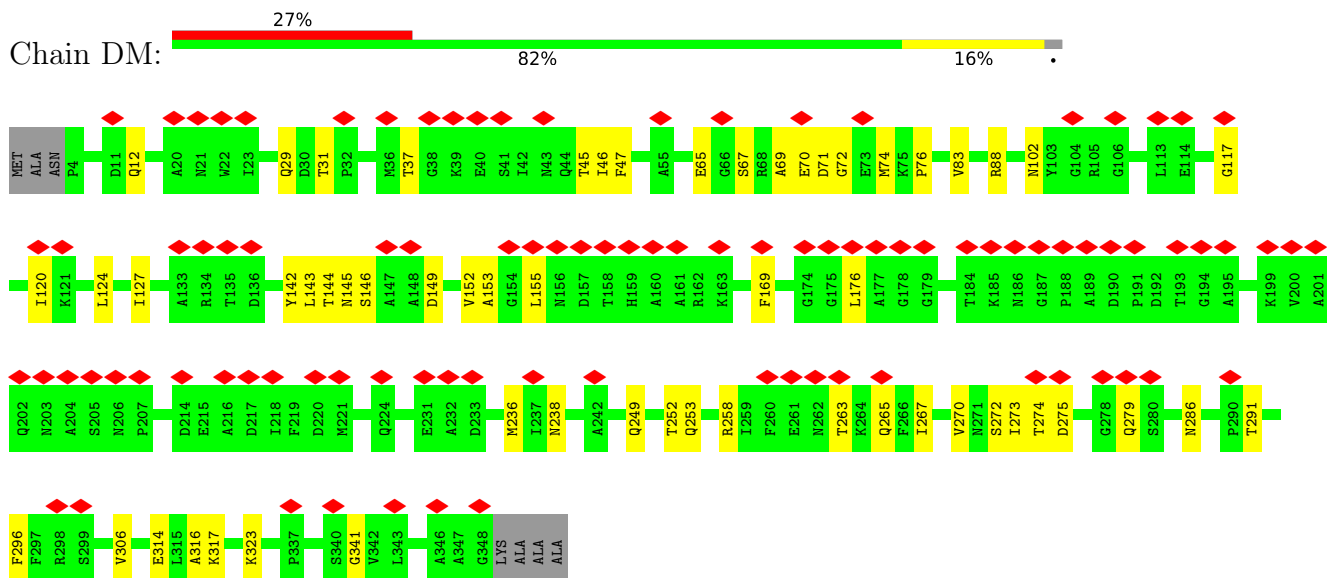
• Molecule 1: Major head protein



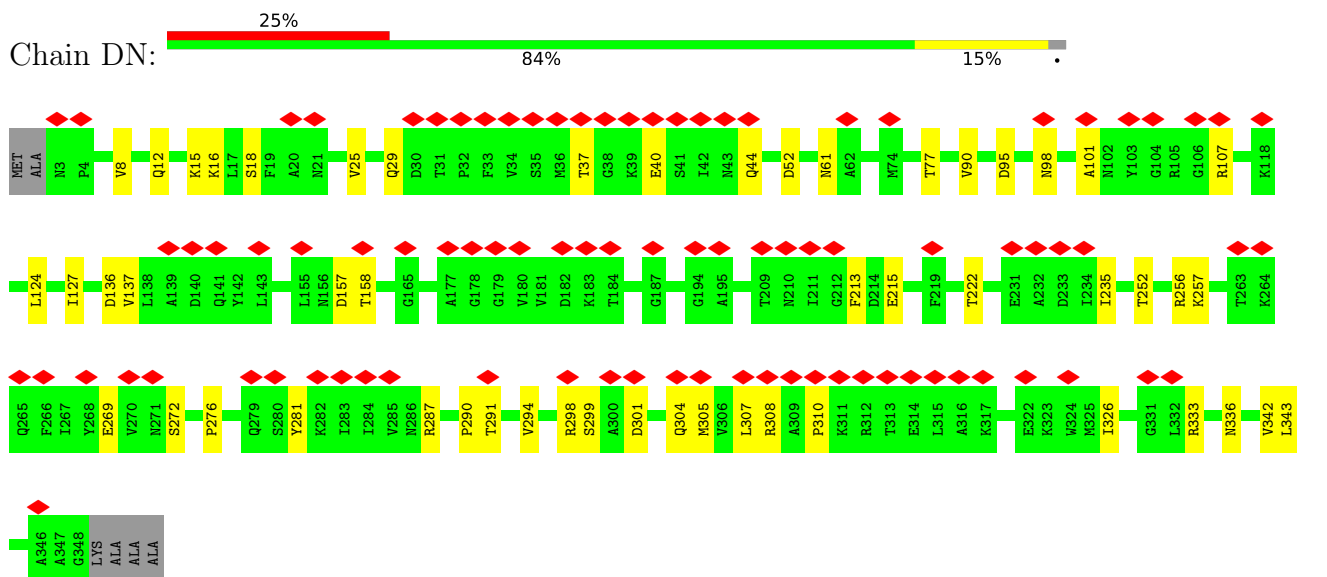
• Molecule 1: Major head protein



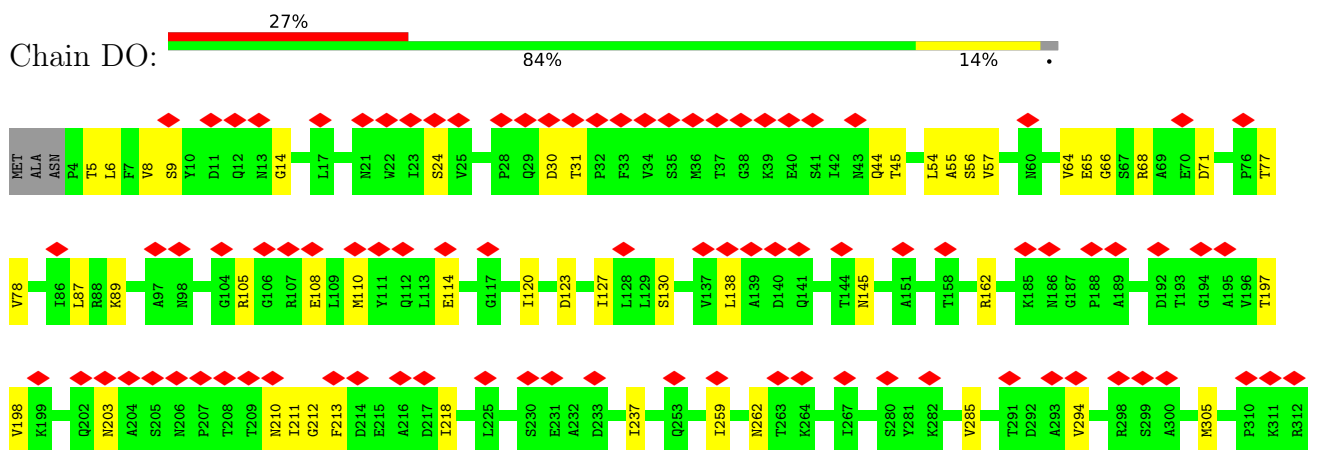
• Molecule 1: Major head protein

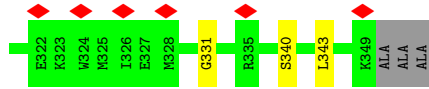


• Molecule 1: Major head protein

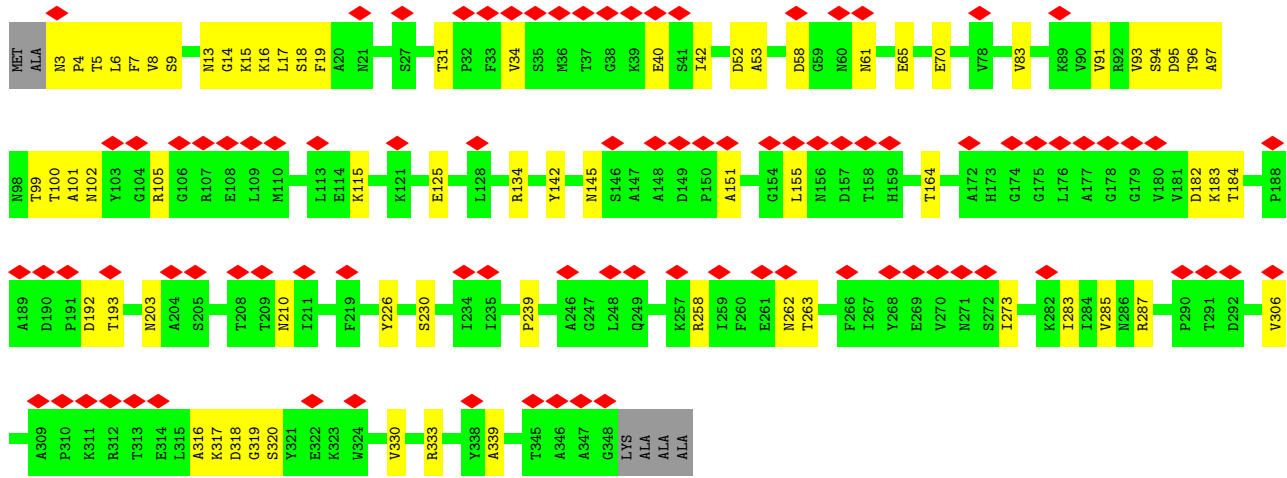
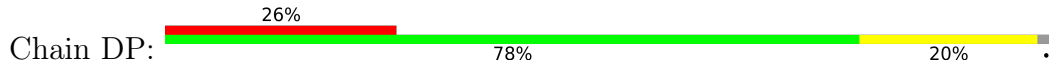


• Molecule 1: Major head protein

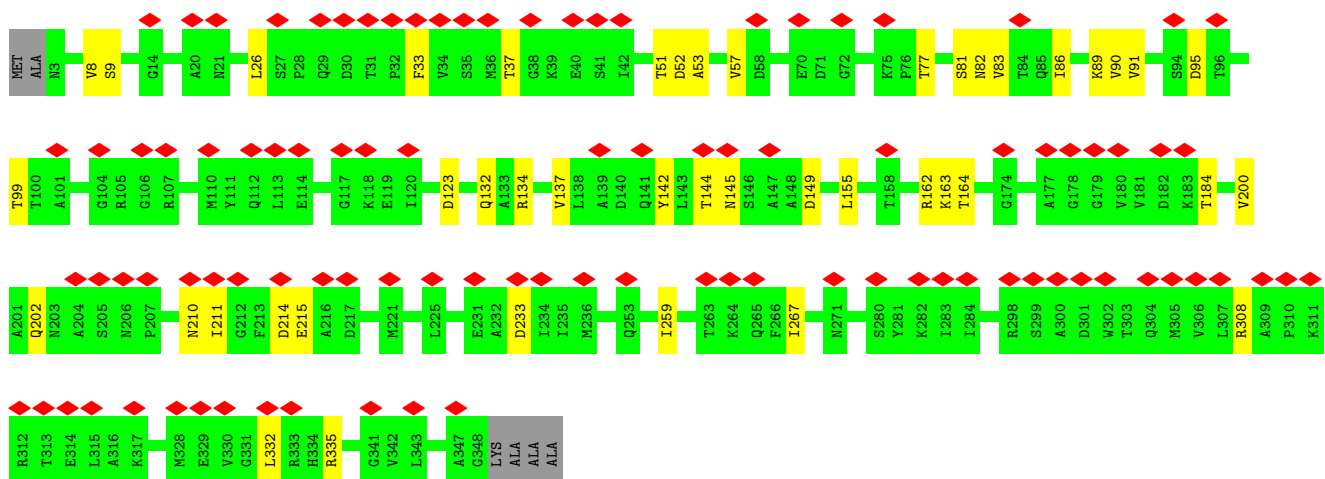
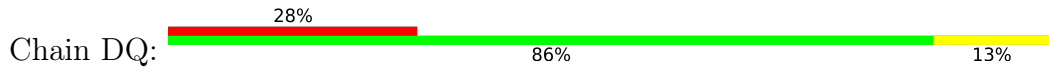




• Molecule 1: Major head protein



• Molecule 1: Major head protein





## 4 Experimental information

| Property                             | Value                                   | Source    |
|--------------------------------------|---|-----------|
| EM reconstruction method             | SINGLE PARTICLE                         | Depositor |
| Imposed symmetry                     | POINT, C5                               | Depositor |
| Number of particles used             | 9418                                    | 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 ( $e^-/\text{\AA}^2$ ) | 49                                      | Depositor |
| Minimum defocus (nm)                 | 1200                                    | Depositor |
| Maximum defocus (nm)                 | 2700                                    | Depositor |
| Magnification                        | 59000                                   | Depositor |
| Image detector                       | FEI FALCON II (4k x 4k)                 | Depositor |
| Maximum map value                    | 0.130                                   | Depositor |
| Minimum map value                    | -0.075                                  | Depositor |
| Average map value                    | 0.001                                   | Depositor |
| Map value standard deviation         | 0.005                                   | Depositor |
| Recommended contour level            | 0.02                                    | Depositor |
| Map size (Å)                         | 1788.48, 1788.48, 1788.48               | wwPDB     |
| Map dimensions                       | 1296, 1296, 1296                        | wwPDB     |
| Map angles (°)                       | 90.0, 90.0, 90.0                        | wwPDB     |
| Pixel spacing (Å)                    | 1.38, 1.38, 1.38                        | 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         | 0/2736  | 0.43        | 0/3706  |
| 1   | AB    | 0.24         | 0/2736  | 0.41        | 0/3706  |
| 1   | AC    | 0.25         | 0/2713  | 0.42        | 0/3673  |
| 1   | AD    | 0.25         | 0/2736  | 0.43        | 0/3706  |
| 1   | AE    | 0.24         | 0/2728  | 0.43        | 0/3694  |
| 1   | AF    | 0.24         | 0/2727  | 0.41        | 0/3695  |
| 1   | AG    | 0.24         | 0/2736  | 0.44        | 0/3706  |
| 1   | AH    | 0.24         | 0/2736  | 0.43        | 0/3706  |
| 1   | AI    | 0.25         | 0/2736  | 0.44        | 0/3706  |
| 1   | AJ    | 0.24         | 0/2736  | 0.42        | 0/3706  |
| 1   | AK    | 0.24         | 0/2736  | 0.42        | 0/3706  |
| 1   | AL    | 0.25         | 0/2736  | 0.43        | 0/3706  |
| 1   | AM    | 0.25         | 0/2713  | 0.43        | 0/3673  |
| 1   | AN    | 0.24         | 0/2713  | 0.42        | 0/3673  |
| 1   | AO    | 0.25         | 0/2713  | 0.42        | 0/3673  |
| 1   | AP    | 0.24         | 0/2736  | 0.43        | 0/3706  |
| 1   | AQ    | 0.25         | 0/2736  | 0.42        | 0/3706  |
| 1   | AR    | 0.25         | 0/2736  | 0.42        | 0/3706  |
| 1   | AS    | 0.24         | 0/2728  | 0.43        | 0/3694  |
| 1   | AT    | 0.24         | 0/2728  | 0.44        | 0/3694  |
| 1   | AU    | 0.24         | 0/2728  | 0.44        | 0/3694  |
| 1   | AV    | 0.25         | 0/2727  | 0.42        | 0/3695  |
| 1   | AW    | 0.24         | 0/2727  | 0.42        | 0/3695  |
| 1   | AX    | 0.24         | 0/2727  | 0.41        | 0/3695  |
| 1   | AY    | 0.25         | 0/2736  | 0.43        | 0/3706  |
| 1   | AZ    | 0.24         | 0/2736  | 0.41        | 0/3706  |
| 1   | BA    | 0.25         | 0/2713  | 0.42        | 0/3673  |
| 1   | BB    | 0.25         | 0/2736  | 0.43        | 0/3706  |
| 1   | BC    | 0.24         | 0/2728  | 0.43        | 0/3694  |
| 1   | BD    | 0.24         | 0/2727  | 0.41        | 0/3695  |
| 1   | BE    | 0.25         | 0/2736  | 0.44        | 0/3706  |
| 1   | BF    | 0.24         | 0/2736  | 0.43        | 0/3706  |
| 1   | BG    | 0.25         | 0/2736  | 0.44        | 0/3706  |
| 1   | BH    | 0.24         | 0/2736  | 0.42        | 0/3706  |

| Mol | Chain | Bond lengths |         | Bond angles |         |
|-----|-------|--------------|---------|-------------|---------|
|     |       | RMSZ         | # Z  >5 | RMSZ        | # Z  >5 |
| 1   | BI    | 0.24         | 0/2736  | 0.42        | 0/3706  |
| 1   | BJ    | 0.25         | 0/2736  | 0.43        | 0/3706  |
| 1   | BK    | 0.25         | 0/2713  | 0.43        | 0/3673  |
| 1   | BL    | 0.24         | 0/2713  | 0.42        | 0/3673  |
| 1   | BM    | 0.25         | 0/2713  | 0.42        | 0/3673  |
| 1   | BN    | 0.24         | 0/2736  | 0.43        | 0/3706  |
| 1   | BO    | 0.25         | 0/2736  | 0.42        | 0/3706  |
| 1   | BP    | 0.25         | 0/2736  | 0.42        | 0/3706  |
| 1   | BQ    | 0.24         | 0/2728  | 0.43        | 0/3694  |
| 1   | BR    | 0.24         | 0/2728  | 0.44        | 0/3694  |
| 1   | BS    | 0.24         | 0/2728  | 0.44        | 0/3694  |
| 1   | BT    | 0.25         | 0/2727  | 0.42        | 0/3695  |
| 1   | BU    | 0.24         | 0/2727  | 0.42        | 0/3695  |
| 1   | BV    | 0.24         | 0/2727  | 0.42        | 0/3695  |
| 1   | BW    | 0.25         | 0/2723  | 0.44        | 0/3690  |
| 1   | BX    | 0.24         | 0/2728  | 0.44        | 0/3694  |
| 1   | BY    | 0.25         | 0/2736  | 0.43        | 0/3706  |
| 1   | BZ    | 0.25         | 0/2720  | 0.43        | 0/3683  |
| 1   | CA    | 0.24         | 0/2728  | 0.45        | 0/3694  |
| 1   | CB    | 0.25         | 0/2727  | 0.44        | 0/3695  |
| 1   | CC    | 0.24         | 0/2736  | 0.46        | 0/3706  |
| 1   | CD    | 0.25         | 0/2706  | 0.45        | 0/3661  |
| 1   | CE    | 0.24         | 0/2727  | 0.44        | 0/3695  |
| 1   | CF    | 0.24         | 0/2693  | 0.43        | 0/3646  |
| 1   | CG    | 0.25         | 0/2736  | 0.45        | 0/3706  |
| 1   | CH    | 0.24         | 0/2736  | 0.42        | 0/3706  |
| 1   | CI    | 0.25         | 0/2727  | 0.45        | 0/3695  |
| 1   | CJ    | 0.25         | 0/2736  | 0.44        | 0/3706  |
| 1   | CK    | 0.24         | 0/2736  | 0.44        | 0/3706  |
| 1   | CL    | 0.25         | 0/2704  | 0.43        | 0/3662  |
| 1   | CM    | 0.25         | 0/2727  | 0.45        | 0/3695  |
| 1   | CN    | 0.25         | 0/2693  | 0.44        | 0/3646  |
| 1   | CO    | 0.25         | 0/2686  | 0.45        | 0/3636  |
| 1   | CP    | 0.24         | 0/2719  | 0.43        | 0/3683  |
| 1   | CQ    | 0.25         | 0/2727  | 0.44        | 0/3695  |
| 1   | CR    | 0.25         | 0/2720  | 0.44        | 0/3683  |
| 1   | CS    | 0.25         | 0/2736  | 0.43        | 0/3706  |
| 1   | CT    | 0.24         | 0/2728  | 0.42        | 0/3694  |
| 1   | CU    | 0.25         | 0/2727  | 0.45        | 0/3695  |
| 1   | CV    | 0.24         | 0/2736  | 0.43        | 0/3706  |
| 1   | CW    | 0.24         | 0/2728  | 0.45        | 0/3694  |
| 1   | CX    | 0.25         | 0/2727  | 0.43        | 0/3695  |
| 1   | CY    | 0.25         | 0/2736  | 0.44        | 0/3706  |

| Mol | Chain | Bond lengths |          | Bond angles |          |
|-----|-------|--------------|----------|-------------|----------|
|     |       | RMSZ         | # Z  >5  | RMSZ        | # Z  >5  |
| 1   | CZ    | 0.25         | 0/2736   | 0.46        | 0/3706   |
| 1   | DA    | 0.24         | 0/2728   | 0.44        | 0/3694   |
| 1   | DB    | 0.25         | 0/2736   | 0.43        | 0/3706   |
| 1   | DC    | 0.25         | 0/2720   | 0.44        | 0/3683   |
| 1   | DD    | 0.25         | 0/2728   | 0.44        | 0/3694   |
| 1   | DE    | 0.25         | 0/2727   | 0.44        | 0/3695   |
| 1   | DF    | 0.25         | 0/2736   | 0.45        | 0/3706   |
| 1   | DG    | 0.25         | 0/2706   | 0.45        | 0/3661   |
| 1   | DH    | 0.25         | 0/2727   | 0.44        | 0/3695   |
| 1   | DI    | 0.25         | 0/2736   | 0.43        | 0/3706   |
| 1   | DJ    | 0.25         | 0/2727   | 0.45        | 0/3695   |
| 1   | DK    | 0.25         | 0/2704   | 0.43        | 0/3662   |
| 1   | DL    | 0.25         | 0/2727   | 0.44        | 0/3695   |
| 1   | DM    | 0.24         | 0/2719   | 0.43        | 0/3683   |
| 1   | DN    | 0.25         | 0/2727   | 0.44        | 0/3695   |
| 1   | DO    | 0.25         | 0/2728   | 0.43        | 0/3694   |
| 1   | DP    | 0.25         | 0/2727   | 0.44        | 0/3695   |
| 1   | DQ    | 0.25         | 0/2727   | 0.42        | 0/3695   |
| All | All   | 0.25         | 0/259063 | 0.43        | 0/350885 |

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

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 1   | AF    | 0                   | 1                   |
| 1   | BD    | 0                   | 1                   |
| 1   | CA    | 0                   | 1                   |
| 1   | CC    | 0                   | 2                   |
| 1   | DF    | 0                   | 2                   |
| All | All   | 0                   | 7                   |

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (7) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group   |
|-----|-------|-----|------|---------|
| 1   | AF    | 213 | PHE  | Peptide |
| 1   | BD    | 213 | PHE  | Peptide |

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| Mol | Chain | Res | Type | Group   |
|-----|-------|-----|------|---------|
| 1   | CA    | 144 | THR  | Peptide |
| 1   | CC    | 167 | PHE  | Peptide |
| 1   | CC    | 168 | GLN  | Peptide |
| 1   | DF    | 167 | PHE  | Peptide |
| 1   | DF    | 168 | GLN  | Peptide |

## 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    | 2685  | 0        | 2651     | 29      | 0            |
| 1   | AB    | 2685  | 0        | 2651     | 24      | 0            |
| 1   | AC    | 2663  | 0        | 2631     | 33      | 0            |
| 1   | AD    | 2685  | 0        | 2651     | 26      | 0            |
| 1   | AE    | 2677  | 0        | 2646     | 25      | 0            |
| 1   | AF    | 2676  | 0        | 2638     | 26      | 0            |
| 1   | AG    | 2685  | 0        | 2651     | 27      | 0            |
| 1   | AH    | 2685  | 0        | 2651     | 28      | 0            |
| 1   | AI    | 2685  | 0        | 2651     | 23      | 0            |
| 1   | AJ    | 2685  | 0        | 2651     | 23      | 0            |
| 1   | AK    | 2685  | 0        | 2645     | 86      | 0            |
| 1   | AL    | 2685  | 0        | 2651     | 23      | 0            |
| 1   | AM    | 2663  | 0        | 2625     | 164     | 0            |
| 1   | AN    | 2663  | 0        | 2631     | 26      | 0            |
| 1   | AO    | 2663  | 0        | 2631     | 32      | 0            |
| 1   | AP    | 2685  | 0        | 2627     | 376     | 0            |
| 1   | AQ    | 2685  | 0        | 2651     | 26      | 0            |
| 1   | AR    | 2685  | 0        | 2651     | 30      | 0            |
| 1   | AS    | 2677  | 0        | 2642     | 166     | 0            |
| 1   | AT    | 2677  | 0        | 2646     | 25      | 0            |
| 1   | AU    | 2677  | 0        | 2646     | 26      | 0            |
| 1   | AV    | 2676  | 0        | 2638     | 33      | 0            |
| 1   | AW    | 2676  | 0        | 2619     | 213     | 0            |
| 1   | AX    | 2676  | 0        | 2638     | 22      | 0            |
| 1   | AY    | 2685  | 0        | 2651     | 27      | 0            |
| 1   | AZ    | 2685  | 0        | 2651     | 26      | 0            |
| 1   | BA    | 2663  | 0        | 2631     | 34      | 0            |
| 1   | BB    | 2685  | 0        | 2651     | 27      | 0            |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 1   | BC    | 2677  | 0        | 2646     | 24      | 0            |
| 1   | BD    | 2676  | 0        | 2638     | 23      | 0            |
| 1   | BE    | 2685  | 0        | 2651     | 28      | 0            |
| 1   | BF    | 2685  | 0        | 2651     | 54      | 0            |
| 1   | BG    | 2685  | 0        | 2651     | 24      | 0            |
| 1   | BH    | 2685  | 0        | 2651     | 23      | 0            |
| 1   | BI    | 2685  | 0        | 2631     | 450     | 0            |
| 1   | BJ    | 2685  | 0        | 2651     | 22      | 0            |
| 1   | BK    | 2663  | 0        | 2622     | 168     | 0            |
| 1   | BL    | 2663  | 0        | 2631     | 29      | 0            |
| 1   | BM    | 2663  | 0        | 2631     | 31      | 0            |
| 1   | BN    | 2685  | 0        | 2642     | 144     | 0            |
| 1   | BO    | 2685  | 0        | 2651     | 26      | 0            |
| 1   | BP    | 2685  | 0        | 2651     | 29      | 0            |
| 1   | BQ    | 2677  | 0        | 2646     | 31      | 0            |
| 1   | BR    | 2677  | 0        | 2646     | 27      | 0            |
| 1   | BS    | 2677  | 0        | 2646     | 25      | 0            |
| 1   | BT    | 2676  | 0        | 2638     | 29      | 0            |
| 1   | BU    | 2676  | 0        | 2623     | 270     | 0            |
| 1   | BV    | 2676  | 0        | 2638     | 24      | 0            |
| 1   | BW    | 2672  | 0        | 2635     | 40      | 0            |
| 1   | BX    | 2677  | 0        | 2646     | 53      | 0            |
| 1   | BY    | 2685  | 0        | 2651     | 41      | 0            |
| 1   | BZ    | 2670  | 0        | 2638     | 34      | 0            |
| 1   | CA    | 2677  | 0        | 2646     | 45      | 0            |
| 1   | CB    | 2676  | 0        | 2638     | 40      | 0            |
| 1   | CC    | 2685  | 0        | 2651     | 33      | 0            |
| 1   | CD    | 2657  | 0        | 2629     | 39      | 0            |
| 1   | CE    | 2676  | 0        | 2638     | 44      | 0            |
| 1   | CF    | 2644  | 0        | 2611     | 34      | 0            |
| 1   | CG    | 2685  | 0        | 2651     | 38      | 0            |
| 1   | CH    | 2685  | 0        | 2651     | 22      | 0            |
| 1   | CI    | 2676  | 0        | 2638     | 28      | 0            |
| 1   | CJ    | 2685  | 0        | 2651     | 26      | 0            |
| 1   | CK    | 2685  | 0        | 2651     | 41      | 0            |
| 1   | CL    | 2654  | 0        | 2618     | 41      | 0            |
| 1   | CM    | 2676  | 0        | 2638     | 31      | 0            |
| 1   | CN    | 2644  | 0        | 2608     | 115     | 0            |
| 1   | CO    | 2637  | 0        | 2602     | 39      | 0            |
| 1   | CP    | 2668  | 0        | 2633     | 37      | 0            |
| 1   | CQ    | 2676  | 0        | 2638     | 43      | 0            |
| 1   | CR    | 2670  | 0        | 2631     | 138     | 0            |

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| Mol | Chain | Non-H  | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|--------|----------|----------|---------|--------------|
| 1   | CS    | 2685   | 0        | 2641     | 281     | 0            |
| 1   | CT    | 2677   | 0        | 2646     | 34      | 0            |
| 1   | CU    | 2676   | 0        | 2638     | 48      | 0            |
| 1   | CV    | 2685   | 0        | 2647     | 48      | 0            |
| 1   | CW    | 2677   | 0        | 2629     | 173     | 0            |
| 1   | CX    | 2676   | 0        | 2638     | 22      | 0            |
| 1   | CY    | 2685   | 0        | 2651     | 37      | 0            |
| 1   | CZ    | 2685   | 0        | 2647     | 94      | 0            |
| 1   | DA    | 2677   | 0        | 2646     | 36      | 0            |
| 1   | DB    | 2685   | 0        | 2651     | 45      | 0            |
| 1   | DC    | 2670   | 0        | 2638     | 42      | 0            |
| 1   | DD    | 2677   | 0        | 2646     | 68      | 0            |
| 1   | DE    | 2676   | 0        | 2638     | 42      | 0            |
| 1   | DF    | 2685   | 0        | 2651     | 44      | 0            |
| 1   | DG    | 2657   | 0        | 2629     | 37      | 0            |
| 1   | DH    | 2676   | 0        | 2634     | 181     | 0            |
| 1   | DI    | 2685   | 0        | 2651     | 28      | 0            |
| 1   | DJ    | 2676   | 0        | 2638     | 38      | 0            |
| 1   | DK    | 2654   | 0        | 2605     | 216     | 0            |
| 1   | DL    | 2676   | 0        | 2638     | 30      | 0            |
| 1   | DM    | 2668   | 0        | 2633     | 111     | 0            |
| 1   | DN    | 2676   | 0        | 2638     | 38      | 0            |
| 1   | DO    | 2677   | 0        | 2642     | 52      | 0            |
| 1   | DP    | 2676   | 0        | 2624     | 292     | 0            |
| 1   | DQ    | 2676   | 0        | 2638     | 30      | 0            |
| All | All   | 254241 | 0        | 250802   | 4251    | 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 8.

All (4251) 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:AP:96:THR:CG2  | 1:CZ:65:GLU:H     | 1.04                     | 1.65              |
| 1:BU:14:GLY:CA   | 1:DP:102:ASN:HD21 | 1.08                     | 1.65              |
| 1:AW:16:LYS:HG3  | 1:BK:103:TYR:CD2  | 1.21                     | 1.62              |
| 1:BI:92:ARG:CZ   | 1:DK:6:LEU:HD23   | 1.16                     | 1.62              |
| 1:AP:79:ILE:HD13 | 1:CR:147:ALA:CB   | 1.16                     | 1.61              |
| 1:BI:7:PHE:CZ    | 1:DK:92:ARG:HD3   | 1.35                     | 1.61              |
| 1:AM:97:ALA:CB   | 1:CN:9:SER:HB2    | 1.24                     | 1.60              |
| 1:AP:320:SER:CB  | 1:CZ:65:GLU:CG    | 1.75                     | 1.58              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BI:7:PHE:CD2    | 1:DK:92:ARG:HD2   | 1.35                     | 1.58              |
| 1:AW:7:PHE:CE1    | 1:BK:97:ALA:HB1   | 1.36                     | 1.58              |
| 1:AK:145:ASN:ND2  | 1:BN:145:ASN:CB   | 1.67                     | 1.58              |
| 1:BI:96:THR:HB    | 1:DM:152:VAL:CG2  | 1.21                     | 1.57              |
| 1:AP:144:THR:CG2  | 1:CR:141:GLN:HG3  | 1.15                     | 1.56              |
| 1:AW:16:LYS:CA    | 1:BK:103:TYR:HE2  | 1.16                     | 1.56              |
| 1:BI:147:ALA:HA   | 1:DH:79:ILE:CG2   | 1.10                     | 1.56              |
| 1:BI:147:ALA:CA   | 1:DH:79:ILE:HG21  | 1.17                     | 1.56              |
| 1:BI:105:ARG:H    | 1:DK:14:GLY:CA    | 0.95                     | 1.55              |
| 1:BI:145:ASN:CA   | 1:DP:19:PHE:CZ    | 1.78                     | 1.55              |
| 1:BU:5:THR:N      | 1:DH:74:MET:CB    | 1.68                     | 1.55              |
| 1:BI:103:TYR:CA   | 1:DK:15:LYS:HB2   | 1.16                     | 1.54              |
| 1:BI:144:THR:CG2  | 1:DH:143:LEU:HD23 | 1.24                     | 1.54              |
| 1:AW:16:LYS:HA    | 1:BK:103:TYR:CE2  | 1.42                     | 1.54              |
| 1:AP:144:THR:HG21 | 1:CR:141:GLN:CG   | 1.05                     | 1.52              |
| 1:BI:92:ARG:CZ    | 1:DK:6:LEU:CD2    | 1.85                     | 1.51              |
| 1:AW:16:LYS:CA    | 1:BK:103:TYR:CE2  | 1.90                     | 1.51              |
| 1:BI:147:ALA:C    | 1:DH:79:ILE:HG13  | 1.27                     | 1.51              |
| 1:BI:315:LEU:HD22 | 1:DP:318:ASP:CG   | 1.19                     | 1.50              |
| 1:AP:79:ILE:CD1   | 1:CR:147:ALA:HB1  | 1.35                     | 1.50              |
| 1:AP:8:VAL:HB     | 1:CS:96:THR:CG2   | 1.39                     | 1.50              |
| 1:AP:8:VAL:CB     | 1:CS:96:THR:HG21  | 1.03                     | 1.49              |
| 1:BI:145:ASN:CA   | 1:DP:19:PHE:CE2   | 1.80                     | 1.49              |
| 1:BI:145:ASN:HA   | 1:DP:19:PHE:CE2   | 0.98                     | 1.49              |
| 1:BI:148:ALA:N    | 1:DH:79:ILE:HG13  | 1.22                     | 1.49              |
| 1:AS:76:PRO:CG    | 1:CS:10:TYR:HB3   | 1.03                     | 1.48              |
| 1:BI:10:TYR:CD1   | 1:DK:95:ASP:OD2   | 1.66                     | 1.48              |
| 1:AS:73:GLU:HG3   | 1:CS:3:ASN:C      | 1.16                     | 1.48              |
| 1:BI:145:ASN:HA   | 1:DP:19:PHE:CZ    | 0.97                     | 1.47              |
| 1:AM:103:TYR:CD2  | 1:CN:16:LYS:HG2   | 1.47                     | 1.47              |
| 1:AS:76:PRO:HG2   | 1:CS:10:TYR:CB    | 0.99                     | 1.47              |
| 1:BI:147:ALA:HA   | 1:DH:79:ILE:CB    | 1.42                     | 1.47              |
| 1:AM:101:ALA:N    | 1:CR:44:GLN:HE22  | 1.05                     | 1.46              |
| 1:AW:16:LYS:CG    | 1:BK:103:TYR:CD2  | 1.96                     | 1.46              |
| 1:BI:96:THR:CB    | 1:DM:152:VAL:HG21 | 0.99                     | 1.46              |
| 1:BU:94:SER:CB    | 1:DP:8:VAL:HA     | 1.42                     | 1.45              |
| 1:BU:94:SER:HB2   | 1:DP:8:VAL:CA     | 1.15                     | 1.45              |
| 1:BU:5:THR:N      | 1:DH:74:MET:HB3   | 1.12                     | 1.45              |
| 1:BU:4:PRO:CA     | 1:DH:74:MET:HB2   | 1.46                     | 1.44              |
| 1:AW:99:THR:HA    | 1:BN:308:ARG:CG   | 1.48                     | 1.44              |
| 1:BI:103:TYR:HA   | 1:DK:15:LYS:CB    | 0.98                     | 1.43              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BI:144:THR:HG23 | 1:DH:143:LEU:CD2  | 1.44                     | 1.43              |
| 1:BI:147:ALA:H    | 1:DH:143:LEU:CD1  | 1.30                     | 1.43              |
| 1:AP:8:VAL:CB     | 1:CS:96:THR:CG2   | 1.93                     | 1.43              |
| 1:AP:320:SER:HB2  | 1:CZ:65:GLU:CG    | 0.98                     | 1.43              |
| 1:BU:4:PRO:HA     | 1:DH:74:MET:CB    | 1.45                     | 1.42              |
| 1:BI:76:PRO:C     | 1:DP:13:ASN:HD21  | 1.03                     | 1.42              |
| 1:AP:100:THR:HA   | 1:CW:307:LEU:CD1  | 0.96                     | 1.42              |
| 1:BI:96:THR:CG2   | 1:DM:152:VAL:HG11 | 1.46                     | 1.42              |
| 1:AM:7:PHE:CZ     | 1:CN:108:GLU:OE2  | 1.73                     | 1.41              |
| 1:BI:147:ALA:N    | 1:DH:143:LEU:HD11 | 1.15                     | 1.41              |
| 1:AP:79:ILE:CD1   | 1:CR:147:ALA:CB   | 1.91                     | 1.41              |
| 1:AW:13:ASN:CB    | 1:BN:77:THR:OG1   | 1.68                     | 1.41              |
| 1:BI:92:ARG:NH2   | 1:DK:6:LEU:CD2    | 1.83                     | 1.41              |
| 1:AK:145:ASN:ND2  | 1:BN:145:ASN:CG   | 1.71                     | 1.41              |
| 1:AP:92:ARG:CZ    | 1:CS:6:LEU:N      | 1.74                     | 1.41              |
| 1:AW:7:PHE:CD1    | 1:BK:97:ALA:CB    | 2.04                     | 1.40              |
| 1:BU:92:ARG:CG    | 1:DP:6:LEU:HA     | 1.51                     | 1.40              |
| 1:AP:104:GLY:O    | 1:CS:15:LYS:CG    | 1.63                     | 1.40              |
| 1:AW:6:LEU:CD1    | 1:BK:92:ARG:HH11  | 1.35                     | 1.40              |
| 1:AM:317:LYS:C    | 1:CV:68:ARG:HE    | 1.09                     | 1.38              |
| 1:BU:14:GLY:HA3   | 1:DP:102:ASN:ND2  | 1.11                     | 1.38              |
| 1:BI:96:THR:CB    | 1:DM:152:VAL:CG2  | 1.81                     | 1.38              |
| 1:AP:145:ASN:OD1  | 1:CR:145:ASN:ND2  | 1.56                     | 1.37              |
| 1:AW:7:PHE:CD1    | 1:BK:97:ALA:HB3   | 1.57                     | 1.37              |
| 1:AW:14:GLY:C     | 1:BK:103:TYR:CE1  | 1.98                     | 1.37              |
| 1:BI:92:ARG:NE    | 1:DK:6:LEU:HD23   | 1.35                     | 1.37              |
| 1:BI:322:GLU:O    | 1:DK:7:PHE:CB     | 1.72                     | 1.37              |
| 1:AP:100:THR:CA   | 1:CW:307:LEU:HD11 | 0.89                     | 1.36              |
| 1:AW:7:PHE:CE1    | 1:BK:97:ALA:CB    | 2.05                     | 1.36              |
| 1:AM:101:ALA:H    | 1:CR:44:GLN:NE2   | 1.16                     | 1.36              |
| 1:AW:6:LEU:CD2    | 1:BK:92:ARG:NH1   | 1.85                     | 1.36              |
| 1:AP:13:ASN:N     | 1:CS:105:ARG:HH12 | 1.18                     | 1.36              |
| 1:AW:99:THR:CA    | 1:BN:308:ARG:HG3  | 1.55                     | 1.36              |
| 1:AW:108:GLU:OE2  | 1:BK:12:GLN:HG2   | 1.26                     | 1.35              |
| 1:AM:6:LEU:N      | 1:CR:74:MET:HG2   | 1.40                     | 1.34              |
| 1:AP:5:THR:CG2    | 1:CW:74:MET:HB2   | 1.38                     | 1.34              |
| 1:BU:5:THR:N      | 1:DH:74:MET:CA    | 1.90                     | 1.34              |
| 1:AP:17:LEU:CD2   | 1:CW:145:ASN:CB   | 1.93                     | 1.33              |
| 1:BI:315:LEU:CD2  | 1:DP:318:ASP:CG   | 1.96                     | 1.33              |
| 1:AW:16:LYS:HG3   | 1:BK:103:TYR:CE2  | 1.62                     | 1.33              |
| 1:AP:104:GLY:CA   | 1:CS:15:LYS:HG3   | 1.44                     | 1.32              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AS:145:ASN:ND2  | 1:CW:145:ASN:HD21 | 1.24                     | 1.32              |
| 1:BI:148:ALA:N    | 1:DH:79:ILE:CG1   | 1.90                     | 1.32              |
| 1:BI:95:ASP:O     | 1:DK:10:TYR:CD1   | 1.82                     | 1.32              |
| 1:AW:100:THR:CG2  | 1:BN:84:THR:HG21  | 1.57                     | 1.32              |
| 1:AP:96:THR:CG2   | 1:CZ:65:GLU:N     | 1.88                     | 1.31              |
| 1:BU:103:TYR:O    | 1:DP:16:LYS:CG    | 1.78                     | 1.31              |
| 1:BU:14:GLY:CA    | 1:DP:102:ASN:ND2  | 1.73                     | 1.31              |
| 1:AM:319:GLY:O    | 1:CV:68:ARG:CD    | 1.75                     | 1.31              |
| 1:BU:13:ASN:N     | 1:DP:105:ARG:HH12 | 1.24                     | 1.31              |
| 1:BU:3:ASN:ND2    | 1:DH:75:LYS:CG    | 1.83                     | 1.31              |
| 1:BI:13:ASN:HB2   | 1:DM:76:PRO:CG    | 1.60                     | 1.30              |
| 1:BI:143:LEU:C    | 1:DP:17:LEU:HD11  | 1.50                     | 1.29              |
| 1:BU:318:ASP:HA   | 1:DH:314:GLU:O    | 1.14                     | 1.29              |
| 1:AS:78:VAL:N     | 1:CW:149:ASP:O    | 1.66                     | 1.29              |
| 1:BI:103:TYR:N    | 1:DK:15:LYS:HG3   | 1.45                     | 1.29              |
| 1:AW:99:THR:OG1   | 1:BN:308:ARG:HD3  | 1.31                     | 1.28              |
| 1:BI:147:ALA:N    | 1:DH:79:ILE:HG21  | 1.44                     | 1.28              |
| 1:BI:322:GLU:O    | 1:DK:7:PHE:HB3    | 1.11                     | 1.28              |
| 1:AM:97:ALA:HB2   | 1:CN:9:SER:CB     | 1.61                     | 1.28              |
| 1:BI:7:PHE:CE1    | 1:DK:92:ARG:CD    | 2.07                     | 1.27              |
| 1:BI:104:GLY:N    | 1:DK:13:ASN:O     | 1.65                     | 1.27              |
| 1:BI:7:PHE:CZ     | 1:DK:92:ARG:CD    | 2.18                     | 1.27              |
| 1:BU:92:ARG:O     | 1:DP:7:PHE:HB3    | 1.17                     | 1.27              |
| 1:AS:65:GLU:CB    | 1:CN:320:SER:OG   | 1.81                     | 1.27              |
| 1:BU:92:ARG:O     | 1:DP:7:PHE:CB     | 1.81                     | 1.27              |
| 1:AP:8:VAL:HA     | 1:CS:96:THR:OG1   | 1.16                     | 1.26              |
| 1:AP:4:PRO:N      | 1:CW:75:LYS:HG2   | 1.41                     | 1.26              |
| 1:BI:7:PHE:CG     | 1:DK:92:ARG:CD    | 2.12                     | 1.26              |
| 1:AP:320:SER:CB   | 1:CZ:65:GLU:HG2   | 1.46                     | 1.26              |
| 1:AM:97:ALA:CB    | 1:CN:9:SER:CB     | 2.10                     | 1.25              |
| 1:AM:6:LEU:HD12   | 1:CN:92:ARG:NH1   | 1.52                     | 1.25              |
| 1:BI:92:ARG:CD    | 1:DK:6:LEU:HB2    | 1.64                     | 1.25              |
| 1:BI:95:ASP:O     | 1:DK:10:TYR:CG    | 1.88                     | 1.25              |
| 1:AM:100:THR:HG21 | 1:CN:11:ASP:OD1   | 1.13                     | 1.25              |
| 1:AW:102:ASN:O    | 1:BN:43:ASN:HB2   | 1.32                     | 1.25              |
| 1:BU:92:ARG:C     | 1:DP:6:LEU:O      | 1.74                     | 1.25              |
| 1:AP:3:ASN:O      | 1:CW:74:MET:HG3   | 1.25                     | 1.24              |
| 1:BI:96:THR:OG1   | 1:DM:152:VAL:HG21 | 1.22                     | 1.24              |
| 1:BU:94:SER:CB    | 1:DP:8:VAL:CA     | 2.02                     | 1.24              |
| 1:AK:142:TYR:HB2  | 1:BN:146:SER:OG   | 1.38                     | 1.24              |
| 1:AP:320:SER:HB2  | 1:CZ:65:GLU:CD    | 1.55                     | 1.24              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AS:73:GLU:CG    | 1:CS:3:ASN:C      | 2.04                     | 1.24              |
| 1:AP:144:THR:O    | 1:CR:142:TYR:HA   | 1.31                     | 1.24              |
| 1:BI:315:LEU:CD2  | 1:DP:318:ASP:OD2  | 1.86                     | 1.24              |
| 1:BI:322:GLU:O    | 1:DK:7:PHE:CD2    | 1.91                     | 1.24              |
| 1:BI:74:MET:CE    | 1:DP:4:PRO:HB3    | 1.66                     | 1.24              |
| 1:AW:102:ASN:O    | 1:BN:43:ASN:CB    | 1.86                     | 1.23              |
| 1:BI:322:GLU:O    | 1:DK:7:PHE:CG     | 1.91                     | 1.23              |
| 1:AP:3:ASN:C      | 1:CW:75:LYS:HG2   | 1.58                     | 1.23              |
| 1:AP:108:GLU:CB   | 1:CS:7:PHE:CE1    | 2.21                     | 1.23              |
| 1:AP:144:THR:CB   | 1:CR:141:GLN:HG3  | 1.66                     | 1.23              |
| 1:BI:7:PHE:CD2    | 1:DK:92:ARG:CD    | 2.21                     | 1.23              |
| 1:AM:103:TYR:HD2  | 1:CN:16:LYS:CG    | 1.51                     | 1.22              |
| 1:AS:143:LEU:C    | 1:CW:142:TYR:O    | 1.67                     | 1.22              |
| 1:BI:74:MET:CE    | 1:DP:4:PRO:CB     | 2.17                     | 1.22              |
| 1:AP:144:THR:HG21 | 1:CR:141:GLN:CD   | 1.60                     | 1.22              |
| 1:AW:14:GLY:C     | 1:BK:103:TYR:HE1  | 1.32                     | 1.22              |
| 1:BI:92:ARG:NH2   | 1:DK:6:LEU:HD23   | 1.40                     | 1.22              |
| 1:BI:73:GLU:OE2   | 1:DP:4:PRO:HD3    | 1.37                     | 1.22              |
| 1:BI:76:PRO:C     | 1:DP:13:ASN:ND2   | 1.84                     | 1.22              |
| 1:AS:73:GLU:HG3   | 1:CS:3:ASN:O      | 1.36                     | 1.22              |
| 1:AS:143:LEU:O    | 1:CW:143:LEU:HD23 | 1.38                     | 1.22              |
| 1:BI:72:GLY:N     | 1:DP:4:PRO:O      | 1.64                     | 1.21              |
| 1:BI:145:ASN:N    | 1:DP:17:LEU:HD13  | 1.48                     | 1.21              |
| 1:AW:105:ARG:CD   | 1:BK:15:LYS:HG3   | 1.63                     | 1.21              |
| 1:BI:147:ALA:CA   | 1:DH:79:ILE:HG13  | 1.70                     | 1.21              |
| 1:BI:74:MET:SD    | 1:DP:7:PHE:HB2    | 1.81                     | 1.21              |
| 1:BI:322:GLU:HG3  | 1:DK:7:PHE:CD2    | 1.75                     | 1.21              |
| 1:AW:13:ASN:HB2   | 1:BN:77:THR:OG1   | 1.09                     | 1.20              |
| 1:BI:147:ALA:CB   | 1:DH:79:ILE:HB    | 1.69                     | 1.20              |
| 1:BU:5:THR:CA     | 1:DH:73:GLU:O     | 1.89                     | 1.20              |
| 1:AS:73:GLU:CD    | 1:CS:4:PRO:CA     | 1.97                     | 1.20              |
| 1:BI:7:PHE:CE2    | 1:DK:92:ARG:CD    | 2.24                     | 1.20              |
| 1:BI:103:TYR:CA   | 1:DK:15:LYS:CG    | 2.19                     | 1.20              |
| 1:AP:103:TYR:O    | 1:CS:16:LYS:HD3   | 1.38                     | 1.19              |
| 1:BI:322:GLU:HB3  | 1:DK:7:PHE:O      | 1.38                     | 1.19              |
| 1:AP:103:TYR:O    | 1:CS:16:LYS:CD    | 1.87                     | 1.19              |
| 1:AW:99:THR:OG1   | 1:BN:308:ARG:CD   | 1.91                     | 1.19              |
| 1:BI:74:MET:HE3   | 1:DP:4:PRO:CB     | 1.72                     | 1.19              |
| 1:BI:147:ALA:CA   | 1:DH:79:ILE:CB    | 2.14                     | 1.19              |
| 1:AP:4:PRO:CA     | 1:CW:75:LYS:HG2   | 1.69                     | 1.19              |
| 1:AP:8:VAL:CA     | 1:CS:96:THR:HG21  | 1.70                     | 1.19              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BI:92:ARG:HD2   | 1:DK:6:LEU:CB     | 1.73                     | 1.19              |
| 1:AP:6:LEU:CD2    | 1:CS:93:VAL:O     | 1.88                     | 1.19              |
| 1:AW:6:LEU:HD13   | 1:BK:92:ARG:NE    | 1.57                     | 1.19              |
| 1:BI:7:PHE:CG     | 1:DK:92:ARG:HD2   | 1.33                     | 1.19              |
| 1:AM:92:ARG:NH1   | 1:CR:156:ASN:ND2  | 1.91                     | 1.19              |
| 1:AP:105:ARG:CB   | 1:CS:12:GLN:HG2   | 1.72                     | 1.19              |
| 1:AP:141:GLN:NE2  | 1:CR:143:LEU:CB   | 1.97                     | 1.19              |
| 1:AS:65:GLU:HB3   | 1:CN:320:SER:OG   | 1.02                     | 1.19              |
| 1:BU:12:GLN:HB2   | 1:DP:97:ALA:CA    | 1.73                     | 1.19              |
| 1:BI:102:ASN:ND2  | 1:DK:11:ASP:O     | 1.75                     | 1.18              |
| 1:BU:4:PRO:C      | 1:DH:74:MET:HA    | 1.62                     | 1.18              |
| 1:BU:12:GLN:CB    | 1:DP:97:ALA:HA    | 1.72                     | 1.18              |
| 1:AP:7:PHE:CZ     | 1:CW:75:LYS:HG3   | 1.77                     | 1.18              |
| 1:AP:145:ASN:CG   | 1:CR:145:ASN:ND2  | 1.80                     | 1.17              |
| 1:AW:6:LEU:CD1    | 1:BK:92:ARG:NH1   | 2.06                     | 1.17              |
| 1:BI:92:ARG:CG    | 1:DK:6:LEU:HB2    | 1.57                     | 1.17              |
| 1:AP:5:THR:CG2    | 1:CW:74:MET:CB    | 2.16                     | 1.17              |
| 1:AP:108:GLU:HB2  | 1:CS:7:PHE:CE1    | 1.78                     | 1.17              |
| 1:AW:7:PHE:CB     | 1:BK:93:VAL:HG13  | 1.73                     | 1.17              |
| 1:AW:100:THR:HG22 | 1:BN:84:THR:CG2   | 1.72                     | 1.17              |
| 1:BI:7:PHE:CE1    | 1:DK:92:ARG:HD3   | 1.62                     | 1.17              |
| 1:BI:109:LEU:HB2  | 1:DK:9:SER:OG     | 1.44                     | 1.17              |
| 1:BI:102:ASN:HD21 | 1:DK:11:ASP:C     | 1.46                     | 1.17              |
| 1:BI:320:SER:HB3  | 1:DM:153:ALA:HB2  | 1.21                     | 1.17              |
| 1:BI:147:ALA:N    | 1:DH:143:LEU:CD1  | 1.96                     | 1.16              |
| 1:AK:308:ARG:NH2  | 1:BK:96:THR:OG1   | 1.77                     | 1.16              |
| 1:AM:97:ALA:HB2   | 1:CN:9:SER:CA     | 1.75                     | 1.16              |
| 1:AM:100:THR:HB   | 1:CR:44:GLN:OE1   | 1.43                     | 1.16              |
| 1:BI:315:LEU:HD22 | 1:DP:318:ASP:OD2  | 1.01                     | 1.16              |
| 1:BI:317:LYS:NZ   | 1:DO:65:GLU:HG3   | 1.59                     | 1.16              |
| 1:AP:4:PRO:O      | 1:CS:92:ARG:NH1   | 1.78                     | 1.16              |
| 1:AW:14:GLY:CA    | 1:BK:103:TYR:HE1  | 1.58                     | 1.16              |
| 1:AM:6:LEU:CD1    | 1:CN:92:ARG:HH11  | 1.58                     | 1.16              |
| 1:AS:73:GLU:OE1   | 1:CS:4:PRO:CB     | 1.87                     | 1.16              |
| 1:BI:147:ALA:HB1  | 1:DH:79:ILE:HB    | 1.28                     | 1.16              |
| 1:BU:92:ARG:CB    | 1:DP:6:LEU:HA     | 1.76                     | 1.16              |
| 1:BU:319:GLY:HA2  | 1:DH:313:THR:CG2  | 1.76                     | 1.16              |
| 1:BU:8:VAL:HG23   | 1:DP:96:THR:OG1   | 1.44                     | 1.15              |
| 1:AM:7:PHE:CE2    | 1:CN:108:GLU:OE2  | 1.99                     | 1.15              |
| 1:BU:99:THR:CB    | 1:DH:307:LEU:HD23 | 1.76                     | 1.15              |
| 1:AH:65:GLU:HG3   | 1:BK:96:THR:OG1   | 1.37                     | 1.15              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AM:92:ARG:HH11  | 1:CR:156:ASN:ND2  | 1.45                     | 1.15              |
| 1:AP:104:GLY:CA   | 1:CS:15:LYS:CG    | 2.04                     | 1.15              |
| 1:AP:320:SER:HB3  | 1:CZ:65:GLU:HG2   | 1.24                     | 1.15              |
| 1:BI:147:ALA:CA   | 1:DH:79:ILE:CG2   | 1.87                     | 1.15              |
| 1:AW:6:LEU:HD21   | 1:BK:92:ARG:NH1   | 1.54                     | 1.15              |
| 1:BU:5:THR:HA     | 1:DH:73:GLU:O     | 1.44                     | 1.15              |
| 1:BU:92:ARG:HB3   | 1:DP:6:LEU:CA     | 1.76                     | 1.15              |
| 1:AW:14:GLY:CA    | 1:BK:103:TYR:CE1  | 2.29                     | 1.14              |
| 1:BU:92:ARG:HH11  | 1:DP:5:THR:HG23   | 1.12                     | 1.14              |
| 1:BF:74:MET:CE    | 1:DK:6:LEU:HG     | 1.75                     | 1.14              |
| 1:BI:7:PHE:CE2    | 1:DK:92:ARG:HD3   | 1.82                     | 1.14              |
| 1:AP:104:GLY:HA3  | 1:CS:15:LYS:CG    | 1.67                     | 1.14              |
| 1:AP:108:GLU:HB2  | 1:CS:7:PHE:CZ     | 1.81                     | 1.14              |
| 1:BU:3:ASN:HD22   | 1:DH:75:LYS:CG    | 1.41                     | 1.13              |
| 1:BI:109:LEU:HD11 | 1:DK:7:PHE:CE1    | 1.83                     | 1.13              |
| 1:AP:320:SER:CA   | 1:CZ:65:GLU:CD    | 2.14                     | 1.13              |
| 1:AP:321:TYR:HE2  | 1:CZ:68:ARG:HG2   | 1.05                     | 1.13              |
| 1:BI:147:ALA:HA   | 1:DH:79:ILE:CG1   | 1.78                     | 1.13              |
| 1:AM:97:ALA:HB1   | 1:CN:9:SER:HB2    | 1.15                     | 1.13              |
| 1:AP:4:PRO:N      | 1:CW:75:LYS:CG    | 2.02                     | 1.13              |
| 1:AP:141:GLN:NE2  | 1:CR:143:LEU:HB3  | 1.14                     | 1.12              |
| 1:BI:109:LEU:HD11 | 1:DK:7:PHE:CZ     | 1.84                     | 1.13              |
| 1:AP:17:LEU:HD21  | 1:CW:145:ASN:CB   | 1.67                     | 1.12              |
| 1:AW:100:THR:OG1  | 1:BN:45:THR:HA    | 1.50                     | 1.12              |
| 1:BI:320:SER:O    | 1:DM:153:ALA:CB   | 1.97                     | 1.12              |
| 1:BU:3:ASN:ND2    | 1:DH:75:LYS:HG2   | 1.01                     | 1.12              |
| 1:BU:99:THR:HB    | 1:DH:307:LEU:CD2  | 1.78                     | 1.12              |
| 1:AP:92:ARG:NH1   | 1:CS:6:LEU:H      | 1.48                     | 1.12              |
| 1:AM:7:PHE:HB3    | 1:CN:93:VAL:HG12  | 1.12                     | 1.12              |
| 1:AS:315:LEU:HA   | 1:CS:320:SER:OG   | 1.48                     | 1.12              |
| 1:AW:108:GLU:HB2  | 1:BK:7:PHE:CE2    | 1.85                     | 1.12              |
| 1:BI:147:ALA:CA   | 1:DH:79:ILE:CG1   | 2.27                     | 1.12              |
| 1:AK:148:ALA:HA   | 1:BN:143:LEU:HD12 | 1.28                     | 1.11              |
| 1:AM:16:LYS:HG2   | 1:CN:103:TYR:N    | 1.63                     | 1.11              |
| 1:BI:145:ASN:N    | 1:DP:17:LEU:CD1   | 2.13                     | 1.11              |
| 1:AS:76:PRO:CG    | 1:CS:10:TYR:CB    | 1.76                     | 1.11              |
| 1:AP:17:LEU:HD22  | 1:CW:145:ASN:HB3  | 1.27                     | 1.11              |
| 1:BI:10:TYR:HD1   | 1:DK:95:ASP:OD2   | 1.05                     | 1.11              |
| 1:BI:95:ASP:C     | 1:DK:8:VAL:CG1    | 2.13                     | 1.11              |
| 1:AW:6:LEU:HD11   | 1:BK:92:ARG:HH11  | 1.05                     | 1.10              |
| 1:AP:144:THR:CG2  | 1:CR:141:GLN:NE2  | 2.14                     | 1.10              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BI:13:ASN:HB2   | 1:DM:76:PRO:HG3   | 1.31                     | 1.10              |
| 1:BI:146:SER:O    | 1:DH:79:ILE:CG2   | 2.00                     | 1.10              |
| 1:AM:100:THR:CG2  | 1:CN:11:ASP:OD1   | 2.00                     | 1.10              |
| 1:AP:6:LEU:HD22   | 1:CS:93:VAL:O     | 1.33                     | 1.10              |
| 1:AP:17:LEU:HD22  | 1:CW:145:ASN:CB   | 1.76                     | 1.10              |
| 1:AP:100:THR:N    | 1:CW:307:LEU:HD11 | 1.56                     | 1.10              |
| 1:AP:4:PRO:N      | 1:CW:74:MET:SD    | 2.25                     | 1.10              |
| 1:AP:8:VAL:HA     | 1:CS:96:THR:CB    | 1.82                     | 1.10              |
| 1:AW:6:LEU:HD13   | 1:BK:92:ARG:HE    | 1.10                     | 1.10              |
| 1:BU:3:ASN:CB     | 1:DP:115:LYS:NZ   | 2.14                     | 1.10              |
| 1:AW:105:ARG:HD3  | 1:BK:15:LYS:HG3   | 1.18                     | 1.09              |
| 1:AP:103:TYR:O    | 1:CS:16:LYS:CG    | 1.98                     | 1.09              |
| 1:BU:318:ASP:CA   | 1:DH:314:GLU:O    | 1.98                     | 1.09              |
| 1:AW:7:PHE:CD1    | 1:BK:97:ALA:HB1   | 1.79                     | 1.09              |
| 1:BU:3:ASN:HB3    | 1:DP:115:LYS:HZ1  | 1.09                     | 1.09              |
| 1:AP:100:THR:HA   | 1:CW:307:LEU:HD12 | 1.28                     | 1.09              |
| 1:BI:102:ASN:ND2  | 1:DK:11:ASP:C     | 2.05                     | 1.09              |
| 1:BU:99:THR:OG1   | 1:DH:308:ARG:HA   | 1.29                     | 1.09              |
| 1:AW:7:PHE:CG     | 1:BK:93:VAL:HG13  | 1.86                     | 1.08              |
| 1:AP:3:ASN:O      | 1:CW:74:MET:CG    | 2.02                     | 1.08              |
| 1:BF:74:MET:CE    | 1:DK:6:LEU:CD1    | 2.30                     | 1.08              |
| 1:BI:95:ASP:O     | 1:DK:10:TYR:CE1   | 2.05                     | 1.08              |
| 1:BI:319:GLY:HA2  | 1:DO:66:GLY:O     | 1.52                     | 1.08              |
| 1:BI:100:THR:O    | 1:DK:12:GLN:NE2   | 1.85                     | 1.08              |
| 1:BU:12:GLN:HB2   | 1:DP:97:ALA:HA    | 1.15                     | 1.08              |
| 1:BU:92:ARG:O     | 1:DP:6:LEU:O      | 1.67                     | 1.08              |
| 1:AK:142:TYR:CB   | 1:BN:146:SER:OG   | 2.01                     | 1.08              |
| 1:AS:73:GLU:CG    | 1:CS:4:PRO:N      | 2.13                     | 1.08              |
| 1:AW:100:THR:CG2  | 1:BN:84:THR:CG2   | 2.27                     | 1.08              |
| 1:AP:17:LEU:CD2   | 1:CW:145:ASN:HB3  | 1.73                     | 1.08              |
| 1:AP:144:THR:CG2  | 1:CR:141:GLN:CD   | 2.19                     | 1.08              |
| 1:AP:144:THR:CG2  | 1:CR:141:GLN:CG   | 1.88                     | 1.08              |
| 1:AP:144:THR:HG23 | 1:CR:141:GLN:NE2  | 1.68                     | 1.07              |
| 1:AM:16:LYS:NZ    | 1:CN:19:PHE:CD2   | 2.22                     | 1.07              |
| 1:AP:5:THR:HG21   | 1:CW:74:MET:HB2   | 1.11                     | 1.07              |
| 1:AS:44:GLN:HE21  | 1:CS:102:ASN:HA   | 1.08                     | 1.07              |
| 1:BI:72:GLY:HA2   | 1:DP:3:ASN:HD21   | 1.17                     | 1.07              |
| 1:BU:99:THR:HB    | 1:DH:307:LEU:HD23 | 1.08                     | 1.07              |
| 1:AM:105:ARG:NH1  | 1:CN:13:ASN:O     | 1.87                     | 1.07              |
| 1:BI:17:LEU:CD1   | 1:DM:144:THR:N    | 2.16                     | 1.07              |
| 1:BI:92:ARG:HD2   | 1:DK:6:LEU:HB2    | 1.28                     | 1.07              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BI:95:ASP:C     | 1:DK:8:VAL:HG12   | 1.74                     | 1.07              |
| 1:BI:147:ALA:CB   | 1:DH:79:ILE:CB    | 2.33                     | 1.07              |
| 1:BU:11:ASP:H     | 1:DP:96:THR:CB    | 1.63                     | 1.07              |
| 1:BU:318:ASP:O    | 1:DH:315:LEU:CD2  | 2.02                     | 1.07              |
| 1:AS:145:ASN:HD22 | 1:CW:145:ASN:ND2  | 1.53                     | 1.07              |
| 1:BU:4:PRO:C      | 1:DH:74:MET:CB    | 2.22                     | 1.07              |
| 1:AP:8:VAL:CA     | 1:CS:96:THR:OG1   | 2.03                     | 1.06              |
| 1:AW:7:PHE:HB3    | 1:BK:93:VAL:HG13  | 1.29                     | 1.06              |
| 1:BI:103:TYR:HA   | 1:DK:15:LYS:CG    | 1.81                     | 1.06              |
| 1:BI:144:THR:CG2  | 1:DH:143:LEU:CD2  | 2.15                     | 1.06              |
| 1:BU:6:LEU:H      | 1:DH:74:MET:HE2   | 1.18                     | 1.06              |
| 1:AP:8:VAL:HG12   | 1:CS:96:THR:HG23  | 1.30                     | 1.06              |
| 1:AW:108:GLU:CB   | 1:BK:7:PHE:CE2    | 2.29                     | 1.06              |
| 1:BI:145:ASN:CB   | 1:DP:19:PHE:CE2   | 2.36                     | 1.06              |
| 1:BI:322:GLU:HG3  | 1:DK:7:PHE:HD2    | 1.04                     | 1.06              |
| 1:BU:8:VAL:HG12   | 1:DP:95:ASP:HB3   | 1.35                     | 1.06              |
| 1:BU:103:TYR:CE1  | 1:DP:16:LYS:HB3   | 1.90                     | 1.06              |
| 1:AP:108:GLU:C    | 1:CS:7:PHE:HE1    | 1.57                     | 1.06              |
| 1:BI:103:TYR:N    | 1:DK:15:LYS:CG    | 2.19                     | 1.06              |
| 1:AM:101:ALA:N    | 1:CR:44:GLN:NE2   | 1.84                     | 1.06              |
| 1:AS:73:GLU:HG3   | 1:CS:4:PRO:N      | 1.69                     | 1.06              |
| 1:AW:101:ALA:H    | 1:BN:42:ILE:HG13  | 1.20                     | 1.06              |
| 1:BI:72:GLY:CA    | 1:DP:3:ASN:HD21   | 1.69                     | 1.06              |
| 1:BI:73:GLU:CD    | 1:DP:4:PRO:HD3    | 1.70                     | 1.06              |
| 1:AP:13:ASN:N     | 1:CS:105:ARG:NH1  | 2.03                     | 1.05              |
| 1:AP:17:LEU:HD21  | 1:CW:145:ASN:ND2  | 1.55                     | 1.05              |
| 1:AP:9:SER:N      | 1:CS:96:THR:HB    | 1.71                     | 1.05              |
| 1:AP:321:TYR:CE2  | 1:CZ:68:ARG:HG2   | 1.91                     | 1.05              |
| 1:AW:14:GLY:O     | 1:BK:103:TYR:CE1  | 2.09                     | 1.05              |
| 1:BU:4:PRO:CA     | 1:DH:74:MET:CB    | 2.16                     | 1.05              |
| 1:BU:8:VAL:HG12   | 1:DP:95:ASP:CB    | 1.86                     | 1.05              |
| 1:AM:101:ALA:CA   | 1:CR:44:GLN:HE22  | 1.69                     | 1.05              |
| 1:AM:103:TYR:CD2  | 1:CN:16:LYS:CG    | 2.33                     | 1.05              |
| 1:AS:76:PRO:CG    | 1:CS:10:TYR:HB2   | 1.82                     | 1.05              |
| 1:BF:74:MET:HE1   | 1:DK:6:LEU:CG     | 1.87                     | 1.05              |
| 1:BI:96:THR:HB    | 1:DM:152:VAL:HG22 | 1.33                     | 1.05              |
| 1:BU:12:GLN:HG3   | 1:DP:97:ALA:HB1   | 1.35                     | 1.05              |
| 1:BI:92:ARG:CD    | 1:DK:6:LEU:HD23   | 1.85                     | 1.05              |
| 1:BI:146:SER:O    | 1:DH:79:ILE:HG22  | 1.53                     | 1.05              |
| 1:BI:146:SER:C    | 1:DH:79:ILE:HG21  | 1.77                     | 1.05              |
| 1:AM:317:LYS:C    | 1:CV:68:ARG:NE    | 1.87                     | 1.05              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AS:76:PRO:HG3   | 1:CS:10:TYR:CB    | 1.87                     | 1.05              |
| 1:BI:322:GLU:CB   | 1:DK:7:PHE:O      | 2.04                     | 1.05              |
| 1:BU:319:GLY:HA2  | 1:DH:313:THR:HG23 | 1.32                     | 1.05              |
| 1:AP:13:ASN:HB3   | 1:CW:77:THR:O     | 1.55                     | 1.04              |
| 1:AP:105:ARG:HB2  | 1:CS:12:GLN:HG2   | 1.09                     | 1.04              |
| 1:AW:105:ARG:CD   | 1:BK:15:LYS:CG    | 2.35                     | 1.04              |
| 1:BI:7:PHE:CE2    | 1:DK:92:ARG:HD2   | 1.90                     | 1.04              |
| 1:BI:317:LYS:CB   | 1:DO:68:ARG:HE    | 1.67                     | 1.04              |
| 1:BU:9:SER:O      | 1:DP:96:THR:O     | 1.75                     | 1.04              |
| 1:BU:11:ASP:H     | 1:DP:96:THR:HB    | 1.00                     | 1.04              |
| 1:AP:92:ARG:CZ    | 1:CS:6:LEU:H      | 1.52                     | 1.04              |
| 1:AP:96:THR:HG23  | 1:CZ:65:GLU:CB    | 1.87                     | 1.04              |
| 1:AM:108:GLU:CD   | 1:CN:12:GLN:HE22  | 1.58                     | 1.04              |
| 1:BF:65:GLU:OE1   | 1:DP:95:ASP:O     | 1.73                     | 1.04              |
| 1:BI:317:LYS:HB3  | 1:DO:68:ARG:HE    | 0.89                     | 1.04              |
| 1:AW:16:LYS:N     | 1:BK:103:TYR:CE2  | 2.11                     | 1.04              |
| 1:AP:17:LEU:HD21  | 1:CW:145:ASN:HB2  | 1.31                     | 1.04              |
| 1:BU:92:ARG:HG2   | 1:DP:6:LEU:HA     | 1.32                     | 1.04              |
| 1:AW:16:LYS:CB    | 1:BK:103:TYR:CE2  | 2.41                     | 1.03              |
| 1:BI:95:ASP:O     | 1:DK:10:TYR:CD2   | 2.11                     | 1.03              |
| 1:BI:143:LEU:O    | 1:DP:17:LEU:HD11  | 1.54                     | 1.03              |
| 1:BU:14:GLY:HA2   | 1:DP:102:ASN:ND2  | 1.69                     | 1.03              |
| 1:BI:105:ARG:HG2  | 1:DK:13:ASN:C     | 1.79                     | 1.03              |
| 1:BU:13:ASN:HB2   | 1:DP:105:ARG:CZ   | 1.84                     | 1.03              |
| 1:AK:145:ASN:ND2  | 1:BN:145:ASN:HB3  | 1.40                     | 1.03              |
| 1:AW:13:ASN:OD1   | 1:BN:76:PRO:HB2   | 1.57                     | 1.03              |
| 1:BI:105:ARG:N    | 1:DK:14:GLY:HA2   | 0.85                     | 1.03              |
| 1:BU:3:ASN:CG     | 1:DP:115:LYS:HZ2  | 1.60                     | 1.03              |
| 1:BU:8:VAL:CG2    | 1:DP:96:THR:OG1   | 2.06                     | 1.03              |
| 1:AK:74:MET:HB2   | 1:BK:6:LEU:C      | 1.76                     | 1.03              |
| 1:BI:148:ALA:H    | 1:DH:79:ILE:CG1   | 1.59                     | 1.03              |
| 1:AP:104:GLY:HA3  | 1:CS:15:LYS:HG3   | 1.28                     | 1.03              |
| 1:AP:108:GLU:C    | 1:CS:7:PHE:CE1    | 2.32                     | 1.03              |
| 1:AP:96:THR:HG21  | 1:CZ:65:GLU:H     | 0.88                     | 1.02              |
| 1:BI:73:GLU:OE2   | 1:DP:3:ASN:HA     | 1.57                     | 1.02              |
| 1:AK:143:LEU:HD22 | 1:BN:145:ASN:OD1  | 1.57                     | 1.02              |
| 1:AW:16:LYS:HG3   | 1:BK:103:TYR:CG   | 1.92                     | 1.02              |
| 1:AW:94:SER:OG    | 1:BQ:65:GLU:OE2   | 1.78                     | 1.02              |
| 1:BI:109:LEU:HD11 | 1:DK:7:PHE:CD1    | 1.94                     | 1.02              |
| 1:AK:142:TYR:C    | 1:BN:144:THR:HA   | 1.80                     | 1.02              |
| 1:AP:8:VAL:CG1    | 1:CS:96:THR:CG2   | 2.36                     | 1.02              |

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| Atom-1            | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 1:BF:74:MET:CE    | 1:DK:6:LEU:CG    | 2.37                     | 1.02              |
| 1:BI:96:THR:HG21  | 1:DM:152:VAL:CG1 | 1.87                     | 1.02              |
| 1:AP:17:LEU:CD2   | 1:CW:145:ASN:HB2 | 1.79                     | 1.02              |
| 1:AS:145:ASN:ND2  | 1:CW:145:ASN:ND2 | 2.07                     | 1.02              |
| 1:AS:315:LEU:CA   | 1:CS:320:SER:OG  | 2.08                     | 1.02              |
| 1:AM:97:ALA:HB2   | 1:CN:9:SER:HB2   | 1.11                     | 1.01              |
| 1:AS:44:GLN:NE2   | 1:CS:102:ASN:HA  | 1.75                     | 1.01              |
| 1:BI:96:THR:CG2   | 1:DM:152:VAL:CG1 | 2.39                     | 1.01              |
| 1:AS:78:VAL:H     | 1:CW:149:ASP:C   | 1.62                     | 1.01              |
| 1:BI:74:MET:HE2   | 1:DP:4:PRO:CB    | 1.88                     | 1.01              |
| 1:AS:140:ASP:O    | 1:CW:144:THR:OG1 | 1.53                     | 1.01              |
| 1:BI:92:ARG:CZ    | 1:DK:6:LEU:HD21  | 1.88                     | 1.01              |
| 1:BI:109:LEU:HD11 | 1:DK:7:PHE:CE2   | 1.96                     | 1.01              |
| 1:BU:7:PHE:CZ     | 1:DP:97:ALA:HB3  | 1.95                     | 1.01              |
| 1:AP:103:TYR:O    | 1:CS:16:LYS:HG2  | 1.61                     | 1.01              |
| 1:BU:92:ARG:NH1   | 1:DP:5:THR:HG23  | 1.75                     | 1.01              |
| 1:BF:74:MET:HE1   | 1:DK:6:LEU:CD1   | 1.91                     | 1.00              |
| 1:BI:147:ALA:C    | 1:DH:79:ILE:CG1  | 2.24                     | 1.00              |
| 1:BI:13:ASN:CB    | 1:DM:76:PRO:HG3  | 1.90                     | 1.00              |
| 1:AP:144:THR:OG1  | 1:CR:141:GLN:HB2 | 1.59                     | 1.00              |
| 1:AP:79:ILE:HD13  | 1:CR:147:ALA:HB2 | 1.04                     | 1.00              |
| 1:BU:13:ASN:N     | 1:DP:105:ARG:NH1 | 2.09                     | 1.00              |
| 1:BU:92:ARG:HB2   | 1:DP:5:THR:O     | 1.62                     | 1.00              |
| 1:AK:145:ASN:ND2  | 1:BN:145:ASN:ND2 | 2.09                     | 1.00              |
| 1:AP:92:ARG:NH2   | 1:CS:6:LEU:N     | 2.08                     | 1.00              |
| 1:AP:94:SER:O     | 1:CS:7:PHE:CD2   | 2.15                     | 1.00              |
| 1:BI:96:THR:HB    | 1:DM:152:VAL:CB  | 1.91                     | 1.00              |
| 1:BU:3:ASN:ND2    | 1:DH:53:ALA:O    | 1.93                     | 1.00              |
| 1:AW:7:PHE:HD1    | 1:BK:97:ALA:HB3  | 0.83                     | 0.99              |
| 1:BI:317:LYS:HB3  | 1:DO:68:ARG:NE   | 1.56                     | 0.99              |
| 1:BU:5:THR:N      | 1:DH:74:MET:HA   | 1.71                     | 0.99              |
| 1:AP:96:THR:HG21  | 1:CZ:65:GLU:N    | 1.63                     | 0.99              |
| 1:AS:73:GLU:OE1   | 1:CS:4:PRO:HB3   | 1.03                     | 0.99              |
| 1:AM:99:THR:HG21  | 1:CR:308:ARG:HD2 | 1.44                     | 0.99              |
| 1:AS:44:GLN:HG2   | 1:CS:101:ALA:C   | 1.82                     | 0.99              |
| 1:BI:96:THR:N     | 1:DK:8:VAL:CG1   | 2.26                     | 0.99              |
| 1:BU:103:TYR:O    | 1:DP:16:LYS:HG3  | 0.83                     | 0.99              |
| 1:AP:8:VAL:CA     | 1:CS:96:THR:CG2  | 2.33                     | 0.99              |
| 1:AP:141:GLN:HE22 | 1:CR:143:LEU:HB3 | 1.22                     | 0.99              |
| 1:AW:101:ALA:H    | 1:BN:42:ILE:CG1  | 1.74                     | 0.99              |
| 1:AW:16:LYS:CG    | 1:BK:103:TYR:CE2 | 2.32                     | 0.98              |

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| Atom-1            | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 1:BI:315:LEU:HD22 | 1:DP:318:ASP:OD1 | 1.62                     | 0.98              |
| 1:AP:5:THR:HG23   | 1:CW:74:MET:CB   | 1.93                     | 0.98              |
| 1:AM:97:ALA:H     | 1:CN:8:VAL:N     | 1.59                     | 0.98              |
| 1:AP:107:ARG:O    | 1:CS:13:ASN:OD1  | 1.81                     | 0.98              |
| 1:BF:74:MET:HE3   | 1:DK:6:LEU:CD1   | 1.93                     | 0.98              |
| 1:BU:3:ASN:HB3    | 1:DP:115:LYS:NZ  | 1.74                     | 0.98              |
| 1:AW:6:LEU:CG     | 1:BK:92:ARG:HH11 | 1.76                     | 0.98              |
| 1:BI:96:THR:OG1   | 1:DM:152:VAL:CG2 | 1.97                     | 0.98              |
| 1:BU:92:ARG:CG    | 1:DP:6:LEU:CA    | 2.41                     | 0.98              |
| 1:AP:7:PHE:O      | 1:CS:94:SER:OG   | 1.80                     | 0.98              |
| 1:AK:143:LEU:N    | 1:BN:146:SER:H   | 1.48                     | 0.97              |
| 1:AS:146:SER:O    | 1:CW:79:ILE:CG1  | 2.08                     | 0.97              |
| 1:AP:7:PHE:HA     | 1:CS:92:ARG:NH1  | 1.80                     | 0.97              |
| 1:AW:6:LEU:CD1    | 1:BK:92:ARG:HE   | 1.77                     | 0.97              |
| 1:BI:148:ALA:H    | 1:DH:79:ILE:HG12 | 1.24                     | 0.97              |
| 1:BI:103:TYR:CA   | 1:DK:15:LYS:CB   | 1.89                     | 0.97              |
| 1:BU:103:TYR:OH   | 1:DP:16:LYS:O    | 1.81                     | 0.97              |
| 1:AW:6:LEU:HD22   | 1:BK:92:ARG:NH1  | 1.75                     | 0.97              |
| 1:BI:108:GLU:CB   | 1:DK:11:ASP:OD1  | 2.03                     | 0.97              |
| 1:AM:6:LEU:N      | 1:CR:74:MET:CG   | 2.26                     | 0.97              |
| 1:BU:92:ARG:HG2   | 1:DP:6:LEU:CA    | 1.94                     | 0.97              |
| 1:AW:7:PHE:HB2    | 1:BK:93:VAL:HG22 | 1.44                     | 0.97              |
| 1:AP:96:THR:HG23  | 1:CZ:65:GLU:H    | 1.30                     | 0.96              |
| 1:AS:143:LEU:N    | 1:CW:144:THR:N   | 2.13                     | 0.96              |
| 1:AW:6:LEU:HD21   | 1:BK:92:ARG:HH12 | 1.17                     | 0.96              |
| 1:BU:3:ASN:CG     | 1:DP:115:LYS:NZ  | 2.17                     | 0.96              |
| 1:BF:43:ASN:OD1   | 1:DK:103:TYR:CD1 | 2.17                     | 0.96              |
| 1:BU:14:GLY:HA3   | 1:DP:102:ASN:CG  | 1.86                     | 0.96              |
| 1:AK:142:TYR:N    | 1:BN:144:THR:HA  | 1.80                     | 0.96              |
| 1:AM:14:GLY:H     | 1:CN:105:ARG:NH1 | 1.62                     | 0.96              |
| 1:AP:4:PRO:HA     | 1:CW:75:LYS:HG2  | 1.47                     | 0.96              |
| 1:AP:105:ARG:HB2  | 1:CS:12:GLN:CG   | 1.94                     | 0.96              |
| 1:AW:6:LEU:HD13   | 1:BK:92:ARG:CZ   | 1.95                     | 0.96              |
| 1:AP:8:VAL:CG1    | 1:CS:96:THR:HG23 | 1.96                     | 0.96              |
| 1:AK:143:LEU:N    | 1:BN:144:THR:CA  | 2.19                     | 0.96              |
| 1:AP:100:THR:CA   | 1:CW:307:LEU:CD1 | 1.75                     | 0.96              |
| 1:AP:108:GLU:CB   | 1:CS:7:PHE:HE1   | 1.71                     | 0.96              |
| 1:AS:143:LEU:O    | 1:CW:142:TYR:O   | 1.84                     | 0.96              |
| 1:BU:3:ASN:CB     | 1:DP:115:LYS:HZ1 | 1.75                     | 0.96              |
| 1:AP:320:SER:HA   | 1:CZ:65:GLU:OE2  | 1.66                     | 0.96              |
| 1:AW:14:GLY:HA2   | 1:BK:103:TYR:CE1 | 1.98                     | 0.96              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:AW:100:THR:OG1 | 1:BN:45:THR:CA    | 2.14                     | 0.95              |
| 1:AP:144:THR:O   | 1:CR:142:TYR:CA   | 2.15                     | 0.95              |
| 1:BI:143:LEU:HB2 | 1:DH:145:ASN:N    | 1.75                     | 0.95              |
| 1:BU:318:ASP:O   | 1:DH:315:LEU:HD23 | 1.64                     | 0.95              |
| 1:BI:13:ASN:CB   | 1:DM:76:PRO:CG    | 2.43                     | 0.95              |
| 1:BI:141:GLN:HA  | 1:DH:143:LEU:O    | 1.65                     | 0.95              |
| 1:AM:92:ARG:HH11 | 1:CR:156:ASN:HD21 | 1.05                     | 0.95              |
| 1:BI:320:SER:O   | 1:DM:153:ALA:HB3  | 1.64                     | 0.95              |
| 1:BI:315:LEU:CD2 | 1:DP:318:ASP:OD1  | 2.10                     | 0.94              |
| 1:AS:44:GLN:HG2  | 1:CS:101:ALA:O    | 1.66                     | 0.94              |
| 1:AW:100:THR:HB  | 1:BN:44:GLN:O     | 1.67                     | 0.94              |
| 1:BU:99:THR:HG1  | 1:DH:308:ARG:HA   | 1.33                     | 0.94              |
| 1:BI:144:THR:O   | 1:DP:19:PHE:CZ    | 2.20                     | 0.94              |
| 1:AP:147:ALA:O   | 1:CR:143:LEU:HA   | 1.62                     | 0.94              |
| 1:BF:74:MET:HE1  | 1:DK:6:LEU:HD12   | 1.48                     | 0.94              |
| 1:AS:44:GLN:HE21 | 1:CS:102:ASN:CA   | 1.79                     | 0.94              |
| 1:BI:96:THR:CA   | 1:DM:152:VAL:HG21 | 1.98                     | 0.94              |
| 1:BU:4:PRO:CA    | 1:DH:74:MET:CA    | 2.46                     | 0.94              |
| 1:BU:13:ASN:HB3  | 1:DH:77:THR:OG1   | 1.66                     | 0.94              |
| 1:BI:92:ARG:CD   | 1:DK:6:LEU:CB     | 2.38                     | 0.93              |
| 1:AP:13:ASN:H    | 1:CS:105:ARG:HH12 | 1.16                     | 0.93              |
| 1:AP:108:GLU:HG2 | 1:CS:11:ASP:C     | 1.89                     | 0.93              |
| 1:AS:146:SER:O   | 1:CW:79:ILE:HG13  | 1.68                     | 0.93              |
| 1:BU:4:PRO:C     | 1:DH:74:MET:CA    | 2.26                     | 0.93              |
| 1:DB:74:MET:SD   | 1:DF:112:GLN:NE2  | 2.42                     | 0.93              |
| 1:AM:6:LEU:CD1   | 1:CN:92:ARG:NH1   | 2.23                     | 0.93              |
| 1:AS:75:LYS:HA   | 1:CW:152:VAL:HG23 | 1.50                     | 0.93              |
| 1:BU:7:PHE:CZ    | 1:DP:97:ALA:CB    | 2.52                     | 0.93              |
| 1:AS:76:PRO:HB3  | 1:CS:10:TYR:O     | 1.68                     | 0.93              |
| 1:AW:108:GLU:OE2 | 1:BK:12:GLN:CG    | 2.16                     | 0.93              |
| 1:AC:51:THR:O    | 1:AC:77:THR:OG1   | 1.86                     | 0.93              |
| 1:AP:96:THR:HG22 | 1:CZ:65:GLU:H     | 1.30                     | 0.93              |
| 1:BF:74:MET:CE   | 1:DK:6:LEU:HD12   | 1.98                     | 0.93              |
| 1:BI:77:THR:N    | 1:DP:13:ASN:HD21  | 1.67                     | 0.93              |
| 1:BI:322:GLU:CG  | 1:DK:7:PHE:O      | 2.16                     | 0.93              |
| 1:AS:315:LEU:C   | 1:CS:320:SER:OG   | 2.06                     | 0.93              |
| 1:AP:7:PHE:HA    | 1:CS:92:ARG:HH12  | 1.32                     | 0.92              |
| 1:BA:51:THR:O    | 1:BA:77:THR:OG1   | 1.86                     | 0.92              |
| 1:BI:143:LEU:O   | 1:DP:17:LEU:CD1   | 2.17                     | 0.92              |
| 1:BU:92:ARG:HB3  | 1:DP:6:LEU:C      | 1.88                     | 0.92              |
| 1:AP:92:ARG:CZ   | 1:CW:156:ASN:OD1  | 2.16                     | 0.92              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:BI:320:SER:CB  | 1:DM:153:ALA:HB2  | 1.97                     | 0.92              |
| 1:AP:17:LEU:HD21 | 1:CW:145:ASN:HD22 | 1.15                     | 0.92              |
| 1:BI:96:THR:HG21 | 1:DM:152:VAL:HG11 | 0.93                     | 0.92              |
| 1:AM:16:LYS:NZ   | 1:CN:19:PHE:CB    | 2.32                     | 0.92              |
| 1:AS:76:PRO:HG2  | 1:CS:10:TYR:CG    | 2.05                     | 0.92              |
| 1:AW:7:PHE:CE1   | 1:BK:97:ALA:O     | 2.23                     | 0.92              |
| 1:BI:145:ASN:C   | 1:DP:19:PHE:CZ    | 2.43                     | 0.92              |
| 1:BU:92:ARG:NE   | 1:DP:5:THR:O      | 2.02                     | 0.92              |
| 1:AP:8:VAL:CG1   | 1:CS:96:THR:HG21  | 1.98                     | 0.92              |
| 1:AH:65:GLU:CG   | 1:BK:96:THR:OG1   | 2.17                     | 0.92              |
| 1:AM:93:VAL:HG12 | 1:CN:8:VAL:HG22   | 1.49                     | 0.92              |
| 1:AM:16:LYS:NZ   | 1:CN:19:PHE:CG    | 2.39                     | 0.91              |
| 1:AP:320:SER:CA  | 1:CZ:65:GLU:OE2   | 2.17                     | 0.91              |
| 1:AS:45:THR:HG22 | 1:CS:99:THR:HB    | 1.50                     | 0.91              |
| 1:AP:320:SER:CB  | 1:CZ:65:GLU:CD    | 2.15                     | 0.91              |
| 1:BI:322:GLU:CG  | 1:DK:7:PHE:HD2    | 1.82                     | 0.91              |
| 1:AW:4:PRO:HD3   | 1:BN:76:PRO:HA    | 1.52                     | 0.91              |
| 1:AW:7:PHE:HD1   | 1:BK:97:ALA:CB    | 1.62                     | 0.91              |
| 1:AW:101:ALA:N   | 1:BN:42:ILE:HG13  | 1.84                     | 0.91              |
| 1:BU:13:ASN:H    | 1:DP:105:ARG:HH12 | 1.07                     | 0.91              |
| 1:AW:16:LYS:HD2  | 1:BK:101:ALA:O    | 1.70                     | 0.91              |
| 1:AP:17:LEU:CD2  | 1:CW:145:ASN:ND2  | 2.18                     | 0.91              |
| 1:BU:6:LEU:HD12  | 1:DP:93:VAL:O     | 1.70                     | 0.91              |
| 1:AS:65:GLU:HB3  | 1:CN:320:SER:HG   | 1.13                     | 0.91              |
| 1:BU:19:PHE:CE2  | 1:DP:16:LYS:NZ    | 2.38                     | 0.91              |
| 1:AS:144:THR:HB  | 1:CW:141:GLN:O    | 1.69                     | 0.91              |
| 1:BU:318:ASP:O   | 1:DH:315:LEU:HD21 | 1.68                     | 0.91              |
| 1:BI:102:ASN:C   | 1:DK:15:LYS:HG3   | 1.91                     | 0.90              |
| 1:BU:11:ASP:N    | 1:DP:96:THR:HB    | 1.85                     | 0.90              |
| 1:AS:72:GLY:C    | 1:CS:3:ASN:O      | 2.10                     | 0.90              |
| 1:CL:206:ASN:ND2 | 1:CL:214:ASP:OD2  | 2.04                     | 0.90              |
| 1:BU:8:VAL:HG23  | 1:DP:96:THR:CB    | 2.00                     | 0.90              |
| 1:BU:12:GLN:HG3  | 1:DP:97:ALA:CB    | 2.01                     | 0.90              |
| 1:AM:7:PHE:CB    | 1:CN:93:VAL:HG12  | 2.01                     | 0.90              |
| 1:BI:143:LEU:C   | 1:DP:17:LEU:CD1   | 2.38                     | 0.90              |
| 1:AW:14:GLY:C    | 1:BK:103:TYR:CZ   | 2.45                     | 0.90              |
| 1:AM:319:GLY:O   | 1:CV:68:ARG:HD3   | 0.97                     | 0.90              |
| 1:BU:15:LYS:HG2  | 1:DP:100:THR:HG21 | 1.53                     | 0.90              |
| 1:AH:65:GLU:HG3  | 1:BK:96:THR:HG1   | 1.30                     | 0.90              |
| 1:AM:7:PHE:HB2   | 1:CR:74:MET:SD    | 2.11                     | 0.90              |
| 1:AP:104:GLY:O   | 1:CS:15:LYS:HG2   | 1.08                     | 0.90              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AK:143:LEU:N    | 1:BN:144:THR:HA   | 1.83                     | 0.89              |
| 1:BI:145:ASN:N    | 1:DP:19:PHE:CZ    | 2.40                     | 0.89              |
| 1:CD:96:THR:O     | 1:CD:100:THR:OG1  | 1.91                     | 0.89              |
| 1:AP:4:PRO:CA     | 1:CW:75:LYS:CG    | 2.39                     | 0.89              |
| 1:AS:78:VAL:N     | 1:CW:149:ASP:C    | 2.19                     | 0.89              |
| 1:AM:14:GLY:N     | 1:CN:105:ARG:NH1  | 2.19                     | 0.89              |
| 1:BI:109:LEU:HD11 | 1:DK:7:PHE:CD2    | 2.07                     | 0.89              |
| 1:BF:43:ASN:OD1   | 1:DK:103:TYR:HD1  | 1.52                     | 0.89              |
| 1:BI:96:THR:CB    | 1:DM:152:VAL:HG11 | 2.02                     | 0.89              |
| 1:AP:92:ARG:NH1   | 1:CW:156:ASN:OD1  | 2.06                     | 0.89              |
| 1:BI:145:ASN:H    | 1:DP:17:LEU:HD13  | 1.14                     | 0.89              |
| 1:BI:17:LEU:HD11  | 1:DM:144:THR:N    | 1.56                     | 0.89              |
| 1:AP:8:VAL:CA     | 1:CS:96:THR:CB    | 2.47                     | 0.89              |
| 1:AW:6:LEU:HD11   | 1:BK:92:ARG:NH1   | 1.79                     | 0.89              |
| 1:BI:144:THR:HG22 | 1:DH:143:LEU:HD23 | 1.51                     | 0.89              |
| 1:BU:4:PRO:HA     | 1:DH:74:MET:CA    | 2.00                     | 0.89              |
| 1:AP:96:THR:HG22  | 1:CZ:65:GLU:N     | 1.87                     | 0.89              |
| 1:AW:102:ASN:C    | 1:BN:43:ASN:HB2   | 1.90                     | 0.89              |
| 1:DK:258:ARG:NH1  | 1:DK:267:ILE:O    | 2.06                     | 0.89              |
| 1:AS:45:THR:CG2   | 1:CS:99:THR:HB    | 2.02                     | 0.88              |
| 1:AK:146:SER:HB2  | 1:BN:141:GLN:H    | 1.36                     | 0.88              |
| 1:AP:96:THR:CG2   | 1:CZ:65:GLU:CB    | 2.51                     | 0.88              |
| 1:AS:143:LEU:CB   | 1:CW:142:TYR:O    | 2.16                     | 0.88              |
| 1:AW:7:PHE:HB3    | 1:BK:93:VAL:CG1   | 2.01                     | 0.88              |
| 1:BU:11:ASP:N     | 1:DP:96:THR:CB    | 2.36                     | 0.88              |
| 1:CS:93:VAL:O     | 1:CS:321:TYR:OH   | 1.90                     | 0.88              |
| 1:AP:3:ASN:C      | 1:CW:74:MET:SD    | 2.51                     | 0.88              |
| 1:BI:99:THR:N     | 1:DK:10:TYR:HA    | 1.85                     | 0.88              |
| 1:AP:9:SER:H      | 1:CS:96:THR:HB    | 1.35                     | 0.88              |
| 1:BU:8:VAL:HG22   | 1:DP:94:SER:HB3   | 1.55                     | 0.88              |
| 1:AM:16:LYS:HZ2   | 1:CN:19:PHE:CB    | 1.87                     | 0.88              |
| 1:BI:92:ARG:HA    | 1:DK:7:PHE:HB2    | 1.53                     | 0.88              |
| 1:AP:79:ILE:HD12  | 1:CR:147:ALA:HB1  | 1.53                     | 0.88              |
| 1:AP:144:THR:CG2  | 1:CR:141:GLN:HE21 | 1.83                     | 0.88              |
| 1:BI:96:THR:HB    | 1:DM:152:VAL:CG1  | 2.04                     | 0.88              |
| 1:BI:311:LYS:HG3  | 1:DP:317:LYS:HZ1  | 1.39                     | 0.88              |
| 1:BI:13:ASN:HB2   | 1:DM:76:PRO:CB    | 2.03                     | 0.88              |
| 1:BU:6:LEU:N      | 1:DH:74:MET:HE2   | 1.88                     | 0.88              |
| 1:BI:108:GLU:HB2  | 1:DK:11:ASP:OD1   | 1.21                     | 0.88              |
| 1:BI:109:LEU:HD11 | 1:DK:7:PHE:CG     | 2.08                     | 0.88              |
| 1:DA:306:VAL:HG22 | 1:DA:330:VAL:HG12 | 1.56                     | 0.88              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AP:108:GLU:HB3  | 1:CS:7:PHE:CE1    | 2.06                     | 0.88              |
| 1:AM:6:LEU:HD13   | 1:CR:71:ASP:HB2   | 1.55                     | 0.87              |
| 1:BU:92:ARG:CD    | 1:DP:6:LEU:HA     | 2.02                     | 0.87              |
| 1:AM:97:ALA:HB2   | 1:CN:9:SER:N      | 1.88                     | 0.87              |
| 1:AP:321:TYR:HE2  | 1:CZ:68:ARG:CG    | 1.87                     | 0.87              |
| 1:BI:12:GLN:C     | 1:DK:96:THR:HG21  | 1.93                     | 0.87              |
| 1:AW:16:LYS:CD    | 1:BK:101:ALA:O    | 2.22                     | 0.87              |
| 1:AP:8:VAL:HA     | 1:CS:96:THR:CG2   | 2.00                     | 0.87              |
| 1:AP:96:THR:HG23  | 1:CZ:65:GLU:HB3   | 1.54                     | 0.87              |
| 1:BI:72:GLY:CA    | 1:DP:3:ASN:ND2    | 2.37                     | 0.87              |
| 1:BI:109:LEU:CD1  | 1:DK:7:PHE:CG     | 2.56                     | 0.87              |
| 1:AP:141:GLN:HE21 | 1:CR:143:LEU:HB3  | 1.38                     | 0.87              |
| 1:BI:11:ASP:HB3   | 1:DK:94:SER:HB3   | 1.55                     | 0.87              |
| 1:BI:92:ARG:HD2   | 1:DK:6:LEU:N      | 1.88                     | 0.87              |
| 1:BU:13:ASN:CA    | 1:DP:105:ARG:HH12 | 1.84                     | 0.87              |
| 1:AW:7:PHE:HE1    | 1:BK:97:ALA:CB    | 1.64                     | 0.87              |
| 1:AW:102:ASN:O    | 1:BN:43:ASN:HB3   | 1.72                     | 0.87              |
| 1:AP:144:THR:HG21 | 1:CR:141:GLN:HG2  | 1.52                     | 0.86              |
| 1:AS:75:LYS:O     | 1:CW:153:ALA:HB2  | 1.74                     | 0.86              |
| 1:AP:8:VAL:HG12   | 1:CS:96:THR:CG2   | 2.03                     | 0.86              |
| 1:AW:6:LEU:CG     | 1:BK:92:ARG:NH1   | 2.37                     | 0.86              |
| 1:AM:101:ALA:CA   | 1:CR:44:GLN:NE2   | 2.33                     | 0.86              |
| 1:BI:74:MET:HE3   | 1:DP:4:PRO:HB3    | 0.89                     | 0.86              |
| 1:BI:92:ARG:NH2   | 1:DK:6:LEU:HD22   | 1.86                     | 0.86              |
| 1:BU:92:ARG:HH11  | 1:DP:5:THR:CG2    | 1.85                     | 0.86              |
| 1:CZ:51:THR:O     | 1:CZ:77:THR:OG1   | 1.94                     | 0.86              |
| 1:AK:145:ASN:CG   | 1:BN:145:ASN:HB3  | 1.95                     | 0.86              |
| 1:AW:105:ARG:HD2  | 1:BK:15:LYS:CG    | 2.01                     | 0.86              |
| 1:BI:317:LYS:NZ   | 1:DO:65:GLU:CG    | 2.37                     | 0.86              |
| 1:BU:5:THR:OG1    | 1:DH:74:MET:CE    | 2.23                     | 0.86              |
| 1:BU:9:SER:C      | 1:DP:96:THR:O     | 2.06                     | 0.86              |
| 1:BX:88:ARG:NH1   | 1:CC:64:VAL:O     | 2.09                     | 0.86              |
| 1:AP:79:ILE:HD12  | 1:CR:147:ALA:CB   | 2.04                     | 0.86              |
| 1:AP:105:ARG:HG2  | 1:CS:15:LYS:HB3   | 1.58                     | 0.86              |
| 1:AS:76:PRO:CB    | 1:CS:10:TYR:HB3   | 2.05                     | 0.86              |
| 1:BI:144:THR:O    | 1:DP:19:PHE:CE2   | 2.28                     | 0.86              |
| 1:BI:96:THR:CB    | 1:DM:152:VAL:CG1  | 2.54                     | 0.86              |
| 1:BI:103:TYR:C    | 1:DK:15:LYS:HB2   | 1.96                     | 0.86              |
| 1:BI:320:SER:HB3  | 1:DM:153:ALA:CB   | 2.04                     | 0.86              |
| 1:BU:94:SER:HB2   | 1:DP:8:VAL:HA     | 0.89                     | 0.86              |
| 1:AK:145:ASN:OD1  | 1:BN:142:TYR:CA   | 1.92                     | 0.86              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BI:96:THR:CB    | 1:DM:152:VAL:CB   | 2.51                     | 0.85              |
| 1:AP:4:PRO:O      | 1:CW:74:MET:HG2   | 1.67                     | 0.85              |
| 1:AS:73:GLU:N     | 1:CS:3:ASN:O      | 2.09                     | 0.85              |
| 1:AS:143:LEU:H    | 1:CW:144:THR:N    | 1.72                     | 0.85              |
| 1:BI:74:MET:HE2   | 1:DP:4:PRO:C      | 1.97                     | 0.85              |
| 1:BI:109:LEU:CD1  | 1:DK:7:PHE:CD1    | 2.57                     | 0.85              |
| 1:BI:145:ASN:HB3  | 1:DP:19:PHE:CE2   | 2.10                     | 0.85              |
| 1:BU:94:SER:CA    | 1:DP:8:VAL:HA     | 2.05                     | 0.85              |
| 1:CC:51:THR:O     | 1:CC:77:THR:OG1   | 1.94                     | 0.85              |
| 1:AW:7:PHE:CE1    | 1:BK:97:ALA:C     | 2.49                     | 0.85              |
| 1:BI:73:GLU:OE2   | 1:DP:4:PRO:CD     | 2.24                     | 0.85              |
| 1:BI:95:ASP:O     | 1:DK:10:TYR:CZ    | 2.27                     | 0.85              |
| 1:AP:105:ARG:CB   | 1:CS:12:GLN:CG    | 2.52                     | 0.85              |
| 1:AW:7:PHE:HE1    | 1:BK:97:ALA:HB1   | 1.06                     | 0.85              |
| 1:BI:11:ASP:N     | 1:DK:95:ASP:OD1   | 1.97                     | 0.85              |
| 1:BI:77:THR:N     | 1:DP:13:ASN:ND2   | 2.21                     | 0.85              |
| 1:AP:4:PRO:HA     | 1:CW:75:LYS:CG    | 2.03                     | 0.85              |
| 1:BI:147:ALA:CB   | 1:DH:79:ILE:CG2   | 2.55                     | 0.85              |
| 1:BI:103:TYR:CE1  | 1:DM:145:ASN:OD1  | 2.30                     | 0.85              |
| 1:BU:92:ARG:CB    | 1:DP:5:THR:O      | 2.25                     | 0.85              |
| 1:BI:105:ARG:H    | 1:DK:14:GLY:N     | 1.74                     | 0.85              |
| 1:AK:142:TYR:O    | 1:BN:143:LEU:O    | 1.93                     | 0.85              |
| 1:AP:12:GLN:HE22  | 1:CS:102:ASN:ND2  | 1.74                     | 0.85              |
| 1:CG:250:GLU:OE1  | 1:CG:258:ARG:NH2  | 2.09                     | 0.85              |
| 1:AP:144:THR:O    | 1:CR:141:GLN:O    | 1.83                     | 0.85              |
| 1:BU:7:PHE:CE2    | 1:DP:97:ALA:HB3   | 2.10                     | 0.85              |
| 1:AP:7:PHE:HZ     | 1:CW:75:LYS:HG3   | 1.33                     | 0.84              |
| 1:BX:88:ARG:NH2   | 1:CC:67:SER:O     | 2.09                     | 0.84              |
| 1:AK:143:LEU:HD12 | 1:BN:147:ALA:O    | 1.77                     | 0.84              |
| 1:AP:12:GLN:C     | 1:CS:105:ARG:HH12 | 1.81                     | 0.84              |
| 1:AW:14:GLY:O     | 1:BK:103:TYR:HE1  | 1.49                     | 0.84              |
| 1:BI:321:TYR:O    | 1:DK:6:LEU:O      | 1.94                     | 0.84              |
| 1:AM:16:LYS:HZ2   | 1:CN:19:PHE:HB2   | 1.42                     | 0.84              |
| 1:BI:104:GLY:C    | 1:DK:14:GLY:HA2   | 1.96                     | 0.84              |
| 1:BI:311:LYS:HG3  | 1:DP:317:LYS:NZ   | 1.92                     | 0.84              |
| 1:BI:92:ARG:CG    | 1:DK:6:LEU:CB     | 2.51                     | 0.84              |
| 1:AP:100:THR:OG1  | 1:CW:307:LEU:HD13 | 1.78                     | 0.84              |
| 1:BU:12:GLN:CG    | 1:DP:97:ALA:CB    | 2.56                     | 0.84              |
| 1:AS:73:GLU:HG2   | 1:CS:3:ASN:CG     | 1.97                     | 0.84              |
| 1:AS:76:PRO:HG3   | 1:CS:10:TYR:HB2   | 1.49                     | 0.84              |
| 1:BI:317:LYS:CB   | 1:DO:68:ARG:NE    | 2.22                     | 0.84              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AM:6:LEU:HD13   | 1:CR:71:ASP:CB    | 2.08                     | 0.83              |
| 1:AP:79:ILE:HD11  | 1:CR:147:ALA:HB1  | 1.55                     | 0.83              |
| 1:AM:100:THR:CB   | 1:CR:44:GLN:OE1   | 2.26                     | 0.83              |
| 1:AS:145:ASN:HD22 | 1:CW:145:ASN:HD21 | 0.84                     | 0.83              |
| 1:AP:107:ARG:O    | 1:CS:13:ASN:CG    | 2.16                     | 0.83              |
| 1:AW:4:PRO:HD3    | 1:BN:76:PRO:CA    | 2.08                     | 0.83              |
| 1:BF:74:MET:HE3   | 1:DK:6:LEU:HD11   | 1.60                     | 0.83              |
| 1:AM:7:PHE:CE2    | 1:CN:108:GLU:CD   | 2.51                     | 0.83              |
| 1:AS:143:LEU:HB2  | 1:CW:142:TYR:O    | 1.77                     | 0.83              |
| 1:CJ:250:GLU:OE1  | 1:CJ:258:ARG:NH2  | 2.12                     | 0.83              |
| 1:AW:105:ARG:NE   | 1:BK:13:ASN:C     | 2.28                     | 0.83              |
| 1:AM:6:LEU:HD12   | 1:CN:92:ARG:HH11  | 0.70                     | 0.83              |
| 1:AW:16:LYS:HG2   | 1:BK:103:TYR:CD2  | 2.13                     | 0.83              |
| 1:BI:105:ARG:N    | 1:DK:14:GLY:CA    | 1.72                     | 0.83              |
| 1:AP:16:LYS:NZ    | 1:CS:19:PHE:HD2   | 1.76                     | 0.83              |
| 1:AP:16:LYS:NZ    | 1:CS:19:PHE:CD2   | 2.47                     | 0.83              |
| 1:BI:95:ASP:O     | 1:DK:10:TYR:CE2   | 2.31                     | 0.83              |
| 1:CZ:308:ARG:NH1  | 1:CZ:327:GLU:OE1  | 2.12                     | 0.83              |
| 1:AW:6:LEU:CD1    | 1:BK:92:ARG:CZ    | 2.55                     | 0.83              |
| 1:BI:320:SER:CB   | 1:DM:153:ALA:CB   | 2.57                     | 0.83              |
| 1:DD:102:ASN:ND2  | 1:DO:14:GLY:O     | 2.12                     | 0.82              |
| 1:AP:144:THR:CB   | 1:CR:141:GLN:CG   | 2.36                     | 0.82              |
| 1:AW:99:THR:OG1   | 1:BN:308:ARG:HD2  | 1.79                     | 0.82              |
| 1:BI:145:ASN:CA   | 1:DP:19:PHE:HE2   | 1.92                     | 0.82              |
| 1:BU:14:GLY:CA    | 1:DP:102:ASN:CG   | 2.46                     | 0.82              |
| 1:CN:257:LYS:NZ   | 1:CR:254:GLY:O    | 2.11                     | 0.82              |
| 1:CO:252:THR:OG1  | 1:CO:255:SER:O    | 1.97                     | 0.82              |
| 1:BI:10:TYR:CG    | 1:DK:95:ASP:OD2   | 2.04                     | 0.82              |
| 1:BU:12:GLN:CG    | 1:DP:97:ALA:HA    | 2.08                     | 0.82              |
| 1:BU:319:GLY:CA   | 1:DH:313:THR:HG23 | 2.09                     | 0.82              |
| 1:AH:68:ARG:HB3   | 1:BK:321:TYR:OH   | 1.79                     | 0.82              |
| 1:AP:162:ARG:NH1  | 1:AP:329:GLU:OE2  | 2.12                     | 0.82              |
| 1:BI:92:ARG:HG3   | 1:DK:6:LEU:HB2    | 1.58                     | 0.82              |
| 1:BU:93:VAL:HA    | 1:DP:7:PHE:O      | 1.78                     | 0.82              |
| 1:AM:101:ALA:HB3  | 1:CR:44:GLN:HE21  | 1.45                     | 0.82              |
| 1:BI:9:SER:OG     | 1:DK:95:ASP:CA    | 2.22                     | 0.82              |
| 1:BI:319:GLY:CA   | 1:DO:66:GLY:O     | 2.28                     | 0.82              |
| 1:BU:12:GLN:CG    | 1:DP:97:ALA:HB1   | 2.10                     | 0.82              |
| 1:AP:144:THR:HG22 | 1:CR:138:LEU:HD22 | 1.61                     | 0.82              |
| 1:CW:254:GLY:O    | 1:CW:257:LYS:NZ   | 2.12                     | 0.82              |
| 1:AP:9:SER:N      | 1:CS:96:THR:CB    | 2.43                     | 0.82              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:DF:238:ASN:ND2 | 1:DF:293:ALA:O   | 2.13                     | 0.82              |
| 1:BN:5:THR:O     | 1:BQ:156:ASN:ND2 | 2.12                     | 0.81              |
| 1:AM:16:LYS:CG   | 1:CN:103:TYR:N   | 2.23                     | 0.81              |
| 1:DF:183:LYS:NZ  | 1:DF:292:ASP:OD2 | 2.13                     | 0.81              |
| 1:AP:8:VAL:CG1   | 1:CS:94:SER:OG   | 2.28                     | 0.81              |
| 1:AP:100:THR:CB  | 1:CW:307:LEU:CD1 | 2.58                     | 0.81              |
| 1:AP:148:ALA:C   | 1:CR:143:LEU:HA  | 2.01                     | 0.81              |
| 1:BI:74:MET:HE2  | 1:DP:4:PRO:CA    | 2.09                     | 0.81              |
| 1:AP:105:ARG:HB3 | 1:CS:13:ASN:N    | 1.81                     | 0.81              |
| 1:BU:99:THR:OG1  | 1:DH:308:ARG:CA  | 2.20                     | 0.81              |
| 1:DA:215:GLU:OE2 | 1:DA:256:ARG:NH2 | 2.14                     | 0.81              |
| 1:AP:96:THR:HG21 | 1:CZ:64:VAL:CG1  | 2.10                     | 0.81              |
| 1:BP:308:ARG:NH2 | 1:BT:99:THR:O    | 2.14                     | 0.81              |
| 1:DE:196:VAL:O   | 1:DE:224:GLN:NE2 | 2.14                     | 0.81              |
| 1:AP:8:VAL:HA    | 1:CS:96:THR:HG1  | 0.90                     | 0.81              |
| 1:AS:44:GLN:HG2  | 1:CS:101:ALA:N   | 1.95                     | 0.81              |
| 1:BI:92:ARG:HD2  | 1:DK:6:LEU:CD2   | 2.11                     | 0.81              |
| 1:BN:162:ARG:NH1 | 1:BN:329:GLU:OE2 | 2.12                     | 0.81              |
| 1:AR:308:ARG:NH2 | 1:AV:99:THR:O    | 2.14                     | 0.81              |
| 1:AW:16:LYS:HD3  | 1:BK:101:ALA:C   | 2.02                     | 0.81              |
| 1:AW:213:PHE:O   | 1:AW:215:GLU:HG3 | 1.80                     | 0.81              |
| 1:BI:17:LEU:HD11 | 1:DM:143:LEU:C   | 2.00                     | 0.81              |
| 1:BU:103:TYR:CZ  | 1:DP:16:LYS:HB3  | 2.16                     | 0.81              |
| 1:AP:5:THR:O     | 1:AS:156:ASN:ND2 | 2.12                     | 0.80              |
| 1:AP:8:VAL:CA    | 1:CS:96:THR:HG1  | 1.84                     | 0.80              |
| 1:CS:51:THR:O    | 1:CS:77:THR:OG1  | 1.97                     | 0.80              |
| 1:AP:92:ARG:NH1  | 1:CS:6:LEU:N     | 2.12                     | 0.80              |
| 1:AW:6:LEU:CD2   | 1:BK:92:ARG:HH12 | 1.74                     | 0.80              |
| 1:AW:100:THR:OG1 | 1:BN:45:THR:N    | 2.14                     | 0.80              |
| 1:DC:89:LYS:NZ   | 1:DC:119:GLU:OE1 | 2.14                     | 0.80              |
| 1:AP:108:GLU:CG  | 1:CS:12:GLN:HA   | 1.63                     | 0.80              |
| 1:BI:109:LEU:CD1 | 1:DK:7:PHE:CD2   | 2.64                     | 0.80              |
| 1:BI:144:THR:HA  | 1:DH:143:LEU:CB  | 2.12                     | 0.80              |
| 1:CG:122:ARG:NH2 | 1:CO:56:SER:OG   | 2.15                     | 0.80              |
| 1:CO:203:ASN:ND2 | 1:CO:212:GLY:O   | 2.14                     | 0.80              |
| 1:DQ:200:VAL:O   | 1:DQ:202:GLN:NE2 | 2.13                     | 0.80              |
| 1:AQ:249:GLN:OE1 | 1:AQ:258:ARG:NH2 | 2.14                     | 0.80              |
| 1:AM:95:ASP:OD2  | 1:CV:67:SER:HA   | 1.82                     | 0.80              |
| 1:BI:103:TYR:HA  | 1:DK:15:LYS:HB3  | 1.54                     | 0.80              |
| 1:BO:249:GLN:OE1 | 1:BO:258:ARG:NH2 | 2.14                     | 0.80              |
| 1:BU:19:PHE:HE2  | 1:DP:16:LYS:NZ   | 1.76                     | 0.80              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:AE:82:ASN:ND2  | 1:AE:164:THR:O    | 2.14                     | 0.80              |
| 1:AW:4:PRO:CD    | 1:BN:75:LYS:O     | 2.28                     | 0.80              |
| 1:BI:144:THR:C   | 1:DP:19:PHE:CZ    | 2.55                     | 0.80              |
| 1:CJ:203:ASN:ND2 | 1:CJ:212:GLY:O    | 2.15                     | 0.80              |
| 1:BU:213:PHE:O   | 1:BU:215:GLU:HG3  | 1.80                     | 0.80              |
| 1:BU:92:ARG:HE   | 1:DP:5:THR:C      | 1.85                     | 0.80              |
| 1:CG:254:GLY:O   | 1:CG:257:LYS:NZ   | 2.14                     | 0.80              |
| 1:AS:73:GLU:CG   | 1:CS:4:PRO:CA     | 2.57                     | 0.80              |
| 1:AW:14:GLY:HA2  | 1:BK:103:TYR:HE1  | 1.37                     | 0.80              |
| 1:BC:82:ASN:ND2  | 1:BC:164:THR:O    | 2.14                     | 0.80              |
| 1:AK:145:ASN:HB3 | 1:BK:17:LEU:CD1   | 2.11                     | 0.79              |
| 1:AP:144:THR:OG1 | 1:CR:141:GLN:CB   | 2.30                     | 0.79              |
| 1:AW:105:ARG:NE  | 1:BK:14:GLY:N     | 2.27                     | 0.79              |
| 1:BU:92:ARG:CB   | 1:DP:6:LEU:CA     | 2.42                     | 0.79              |
| 1:CE:199:LYS:NZ  | 1:CE:220:ASP:OD2  | 2.15                     | 0.79              |
| 1:AP:100:THR:CA  | 1:CW:307:LEU:HD13 | 2.05                     | 0.79              |
| 1:AS:143:LEU:CA  | 1:CW:142:TYR:O    | 2.30                     | 0.79              |
| 1:BU:12:GLN:OE1  | 1:DP:100:THR:OG1  | 1.99                     | 0.79              |
| 1:BU:13:ASN:CA   | 1:DP:105:ARG:NH1  | 2.41                     | 0.79              |
| 1:CB:143:LEU:O   | 1:CB:144:THR:HG22 | 1.82                     | 0.79              |
| 1:DF:230:SER:O   | 1:DF:298:ARG:NH2  | 2.15                     | 0.79              |
| 1:AS:75:LYS:O    | 1:CW:153:ALA:CB   | 2.31                     | 0.79              |
| 1:BI:95:ASP:CB   | 1:DO:65:GLU:HB3   | 2.12                     | 0.79              |
| 1:BI:99:THR:N    | 1:DK:10:TYR:CA    | 2.44                     | 0.79              |
| 1:BI:145:ASN:O   | 1:DP:19:PHE:CE1   | 2.36                     | 0.79              |
| 1:CN:77:THR:O    | 1:CW:13:ASN:ND2   | 2.15                     | 0.79              |
| 1:DD:203:ASN:ND2 | 1:DD:213:PHE:O    | 2.15                     | 0.79              |
| 1:AP:3:ASN:C     | 1:CW:74:MET:HG3   | 2.01                     | 0.79              |
| 1:BU:13:ASN:CB   | 1:DH:77:THR:OG1   | 2.29                     | 0.79              |
| 1:AP:105:ARG:HA  | 1:CS:13:ASN:O     | 1.39                     | 0.79              |
| 1:AM:97:ALA:N    | 1:CN:8:VAL:N      | 2.30                     | 0.79              |
| 1:AM:103:TYR:HD2 | 1:CN:16:LYS:HG2   | 0.79                     | 0.79              |
| 1:AP:96:THR:CG2  | 1:CZ:65:GLU:HB2   | 2.13                     | 0.79              |
| 1:AP:141:GLN:O   | 1:CR:145:ASN:C    | 1.96                     | 0.79              |
| 1:AS:145:ASN:N   | 1:CW:143:LEU:O    | 2.16                     | 0.79              |
| 1:BF:162:ARG:NH1 | 1:BF:329:GLU:OE2  | 2.16                     | 0.79              |
| 1:CQ:171:CYS:SG  | 1:CQ:340:SER:OG   | 2.41                     | 0.79              |
| 1:DM:252:THR:OG1 | 1:DM:253:GLN:NE2  | 2.15                     | 0.79              |
| 1:AS:81:SER:O    | 1:AS:134:ARG:NH2  | 2.16                     | 0.79              |
| 1:BI:92:ARG:CD   | 1:DK:6:LEU:CD2    | 2.57                     | 0.79              |
| 1:BU:105:ARG:CD  | 1:DP:15:LYS:HA    | 1.78                     | 0.79              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:DC:13:ASN:OD1   | 1:DC:15:LYS:NZ    | 2.16                     | 0.79              |
| 1:AP:103:TYR:C    | 1:CS:16:LYS:HD3   | 2.04                     | 0.79              |
| 1:AS:44:GLN:CG    | 1:CS:101:ALA:O    | 2.31                     | 0.79              |
| 1:AW:7:PHE:HE1    | 1:BK:97:ALA:CA    | 1.95                     | 0.79              |
| 1:AW:94:SER:OG    | 1:BQ:65:GLU:CD    | 2.21                     | 0.79              |
| 1:BI:105:ARG:HG2  | 1:DK:14:GLY:N     | 1.98                     | 0.79              |
| 1:BI:105:ARG:N    | 1:DK:14:GLY:N     | 2.31                     | 0.79              |
| 1:DA:292:ASP:OD1  | 1:DA:345:THR:OG1  | 2.00                     | 0.79              |
| 1:DC:88:ARG:NH1   | 1:DD:64:VAL:O     | 2.16                     | 0.79              |
| 1:AM:7:PHE:CE1    | 1:CN:108:GLU:OE2  | 2.36                     | 0.78              |
| 1:AP:12:GLN:NE2   | 1:CS:102:ASN:HD22 | 1.79                     | 0.78              |
| 1:AP:108:GLU:CA   | 1:CS:7:PHE:HE1    | 1.94                     | 0.78              |
| 1:AP:315:LEU:HG   | 1:CN:318:ASP:HA   | 1.63                     | 0.78              |
| 1:BB:237:ILE:HD13 | 1:BB:294:VAL:HG22 | 1.65                     | 0.78              |
| 1:BF:74:MET:HE1   | 1:DK:6:LEU:HG     | 1.50                     | 0.78              |
| 1:CP:135:THR:OG1  | 1:CP:163:LYS:O    | 2.00                     | 0.78              |
| 1:CU:308:ARG:NH1  | 1:CU:329:GLU:OE2  | 2.16                     | 0.78              |
| 1:AK:145:ASN:ND2  | 1:BN:145:ASN:HB2  | 1.93                     | 0.78              |
| 1:AP:100:THR:N    | 1:CW:307:LEU:CD1  | 2.24                     | 0.78              |
| 1:AM:99:THR:HG21  | 1:CR:308:ARG:CD   | 2.13                     | 0.78              |
| 1:AP:3:ASN:C      | 1:CW:74:MET:CG    | 2.52                     | 0.78              |
| 1:AW:6:LEU:CD1    | 1:BK:92:ARG:NE    | 2.38                     | 0.78              |
| 1:BU:3:ASN:OD1    | 1:DP:115:LYS:NZ   | 2.13                     | 0.78              |
| 1:DM:249:GLN:OE1  | 1:DM:258:ARG:NH1  | 2.17                     | 0.78              |
| 1:AH:162:ARG:NH1  | 1:AH:329:GLU:OE2  | 2.16                     | 0.78              |
| 1:BI:146:SER:C    | 1:DH:79:ILE:CG2   | 2.45                     | 0.78              |
| 1:AP:99:THR:OG1   | 1:CW:329:GLU:OE1  | 2.02                     | 0.78              |
| 1:AP:145:ASN:OD1  | 1:CR:145:ASN:CG   | 2.15                     | 0.78              |
| 1:AP:147:ALA:O    | 1:CR:143:LEU:CA   | 2.24                     | 0.78              |
| 1:AW:16:LYS:CG    | 1:BK:103:TYR:HD2  | 1.95                     | 0.78              |
| 1:BU:16:LYS:HB2   | 1:DP:101:ALA:CB   | 2.12                     | 0.78              |
| 1:AD:237:ILE:HD13 | 1:AD:294:VAL:HG22 | 1.65                     | 0.78              |
| 1:AY:313:THR:OG1  | 1:AY:325:MET:O    | 2.01                     | 0.78              |
| 1:BU:8:VAL:CG1    | 1:DP:95:ASP:HB3   | 2.12                     | 0.78              |
| 1:AM:100:THR:HG21 | 1:CN:11:ASP:CG    | 2.04                     | 0.78              |
| 1:AM:101:ALA:O    | 1:CR:44:GLN:NE2   | 2.17                     | 0.78              |
| 1:AP:98:ASN:ND2   | 1:CS:7:PHE:HE2    | 1.80                     | 0.78              |
| 1:AY:230:SER:OG   | 1:AY:339:ALA:O    | 2.02                     | 0.78              |
| 1:BI:95:ASP:HB2   | 1:DO:65:GLU:HB3   | 1.64                     | 0.78              |
| 1:BQ:81:SER:O     | 1:BQ:134:ARG:NH2  | 2.16                     | 0.78              |
| 1:DL:111:TYR:OH   | 1:DN:52:ASP:OD2   | 2.02                     | 0.78              |

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| Atom-1            | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 1:AH:222:THR:OG1  | 1:AH:275:ASP:OD2 | 2.02                     | 0.78              |
| 1:BO:95:ASP:O     | 1:BO:99:THR:OG1  | 2.01                     | 0.78              |
| 1:BU:92:ARG:NE    | 1:DP:6:LEU:HA    | 1.92                     | 0.78              |
| 1:DK:102:ASN:ND2  | 1:DK:108:GLU:OE1 | 2.16                     | 0.78              |
| 1:AP:3:ASN:N      | 1:CW:56:SER:HG   | 1.82                     | 0.78              |
| 1:AP:4:PRO:O      | 1:CW:74:MET:CG   | 2.21                     | 0.78              |
| 1:AW:14:GLY:O     | 1:BK:103:TYR:CZ  | 2.36                     | 0.78              |
| 1:BI:144:THR:HA   | 1:DH:143:LEU:HG  | 1.66                     | 0.78              |
| 1:AA:313:THR:OG1  | 1:AA:325:MET:O   | 2.01                     | 0.77              |
| 1:AS:73:GLU:HG2   | 1:CS:3:ASN:CB    | 2.14                     | 0.77              |
| 1:BS:207:PRO:O    | 1:BS:210:ASN:ND2 | 2.18                     | 0.77              |
| 1:CZ:254:GLY:O    | 1:CZ:257:LYS:NZ  | 2.16                     | 0.77              |
| 1:AM:93:VAL:HG12  | 1:CN:8:VAL:CG2   | 2.08                     | 0.77              |
| 1:BI:143:LEU:HB3  | 1:DP:17:LEU:HD21 | 1.66                     | 0.77              |
| 1:BX:292:ASP:OD1  | 1:BX:345:THR:OG1 | 2.01                     | 0.77              |
| 1:AP:108:GLU:CG   | 1:CS:11:ASP:O    | 2.32                     | 0.77              |
| 1:BU:5:THR:CB     | 1:DH:73:GLU:O    | 2.08                     | 0.77              |
| 1:AA:230:SER:OG   | 1:AA:339:ALA:O   | 2.02                     | 0.77              |
| 1:AK:142:TYR:CA   | 1:BN:144:THR:HA  | 2.13                     | 0.77              |
| 1:BU:92:ARG:NE    | 1:DP:6:LEU:CA    | 2.48                     | 0.77              |
| 1:AK:74:MET:HB2   | 1:BK:6:LEU:O     | 1.83                     | 0.77              |
| 1:AS:144:THR:OG1  | 1:CW:142:TYR:C   | 2.23                     | 0.77              |
| 1:AW:6:LEU:HD13   | 1:BK:92:ARG:NH1  | 1.97                     | 0.77              |
| 1:AK:258:ARG:O    | 1:AW:257:LYS:NZ  | 2.18                     | 0.77              |
| 1:BI:322:GLU:O    | 1:DK:7:PHE:HD2   | 1.62                     | 0.77              |
| 1:BH:203:ASN:HA   | 1:BH:214:ASP:HB2 | 1.65                     | 0.77              |
| 1:BM:162:ARG:NH1  | 1:BM:329:GLU:OE2 | 2.18                     | 0.77              |
| 1:BU:13:ASN:H     | 1:DP:105:ARG:NH1 | 1.75                     | 0.77              |
| 1:AH:65:GLU:HG2   | 1:BK:94:SER:OG   | 1.85                     | 0.77              |
| 1:AJ:203:ASN:HA   | 1:AJ:214:ASP:HB2 | 1.65                     | 0.77              |
| 1:AK:148:ALA:HA   | 1:BN:143:LEU:CD1 | 2.10                     | 0.77              |
| 1:AM:96:THR:N     | 1:CN:8:VAL:N     | 2.33                     | 0.77              |
| 1:AP:144:THR:HG21 | 1:CR:141:GLN:NE2 | 1.87                     | 0.77              |
| 1:AW:99:THR:CB    | 1:BN:308:ARG:HD3 | 2.15                     | 0.77              |
| 1:BI:103:TYR:CA   | 1:DK:15:LYS:HG3  | 2.03                     | 0.77              |
| 1:BU:12:GLN:CG    | 1:DP:97:ALA:CA   | 2.63                     | 0.77              |
| 1:DC:100:THR:HG22 | 1:DC:101:ALA:H   | 1.50                     | 0.77              |
| 1:CX:249:GLN:OE1  | 1:CX:258:ARG:NH1 | 2.18                     | 0.77              |
| 1:DO:105:ARG:NH2  | 1:DO:108:GLU:OE1 | 2.18                     | 0.77              |
| 1:BF:222:THR:OG1  | 1:BF:275:ASP:OD2 | 2.02                     | 0.76              |
| 1:AZ:20:ALA:O     | 1:AZ:21:ASN:ND2  | 2.18                     | 0.76              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BX:215:GLU:HA   | 1:BX:248:LEU:HD11 | 1.67                     | 0.76              |
| 1:AU:207:PRO:O    | 1:AU:210:ASN:ND2  | 2.18                     | 0.76              |
| 1:AK:71:ASP:OD2   | 1:BK:6:LEU:HD13   | 1.84                     | 0.76              |
| 1:AP:105:ARG:HG2  | 1:CS:15:LYS:CB    | 2.14                     | 0.76              |
| 1:AW:100:THR:HG22 | 1:BN:84:THR:HG21  | 0.81                     | 0.76              |
| 1:BS:81:SER:O     | 1:BS:134:ARG:NH2  | 2.18                     | 0.76              |
| 1:CO:254:GLY:O    | 1:CO:257:LYS:NZ   | 2.18                     | 0.76              |
| 1:AD:88:ARG:NH2   | 1:AE:67:SER:O     | 2.19                     | 0.76              |
| 1:AH:68:ARG:O     | 1:AK:88:ARG:NH2   | 2.19                     | 0.76              |
| 1:AQ:95:ASP:O     | 1:AQ:99:THR:OG1   | 2.01                     | 0.76              |
| 1:AW:3:ASN:N      | 1:BN:75:LYS:CG    | 2.44                     | 0.76              |
| 1:CE:308:ARG:NH2  | 1:CE:327:GLU:OE1  | 2.19                     | 0.76              |
| 1:AP:12:GLN:NE2   | 1:CS:102:ASN:ND2  | 2.32                     | 0.76              |
| 1:BI:74:MET:CE    | 1:DP:4:PRO:HB2    | 2.15                     | 0.76              |
| 1:AA:81:SER:O     | 1:AA:134:ARG:NH2  | 2.19                     | 0.76              |
| 1:AP:108:GLU:CA   | 1:CS:7:PHE:CE1    | 2.69                     | 0.76              |
| 1:AS:143:LEU:H    | 1:CW:144:THR:H    | 1.30                     | 0.76              |
| 1:AW:14:GLY:O     | 1:BK:103:TYR:OH   | 2.04                     | 0.76              |
| 1:BI:92:ARG:HH21  | 1:DK:6:LEU:CD2    | 1.93                     | 0.76              |
| 1:AX:81:SER:O     | 1:AX:134:ARG:NH2  | 2.19                     | 0.76              |
| 1:BU:5:THR:OG1    | 1:DH:74:MET:HE3   | 1.85                     | 0.76              |
| 1:BU:94:SER:CB    | 1:DP:8:VAL:C      | 2.54                     | 0.76              |
| 1:AG:222:THR:OG1  | 1:AG:275:ASP:OD2  | 2.04                     | 0.76              |
| 1:BF:68:ARG:O     | 1:BI:88:ARG:NH2   | 2.19                     | 0.76              |
| 1:BV:81:SER:O     | 1:BV:134:ARG:NH2  | 2.19                     | 0.76              |
| 1:AP:8:VAL:HG12   | 1:CS:94:SER:OG    | 1.86                     | 0.76              |
| 1:AO:162:ARG:NH1  | 1:AO:329:GLU:OE2  | 2.18                     | 0.75              |
| 1:AY:81:SER:O     | 1:AY:134:ARG:NH2  | 2.19                     | 0.75              |
| 1:BU:12:GLN:CB    | 1:DP:97:ALA:CA    | 2.48                     | 0.75              |
| 1:CC:3:ASN:OD1    | 1:CC:5:THR:OG1    | 2.02                     | 0.75              |
| 1:AG:290:PRO:O    | 1:AG:291:THR:HG22 | 1.86                     | 0.75              |
| 1:BI:143:LEU:HD22 | 1:DP:15:LYS:O     | 1.87                     | 0.75              |
| 1:AM:103:TYR:HD2  | 1:CN:16:LYS:CD    | 2.00                     | 0.75              |
| 1:AW:16:LYS:CB    | 1:BK:103:TYR:CD2  | 2.66                     | 0.75              |
| 1:AW:94:SER:CB    | 1:BQ:65:GLU:OE2   | 2.35                     | 0.75              |
| 1:BB:83:VAL:O     | 1:BB:164:THR:OG1  | 2.02                     | 0.75              |
| 1:BI:144:THR:C    | 1:DP:19:PHE:HZ    | 1.89                     | 0.75              |
| 1:CF:65:GLU:OE2   | 1:CJ:162:ARG:NH1  | 2.18                     | 0.75              |
| 1:DB:136:ASP:OD1  | 1:DF:10:TYR:OH    | 2.02                     | 0.75              |
| 1:BB:88:ARG:NH2   | 1:BC:67:SER:O     | 2.19                     | 0.75              |
| 1:BI:72:GLY:HA2   | 1:DP:3:ASN:ND2    | 1.97                     | 0.75              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AB:20:ALA:O     | 1:AB:21:ASN:ND2   | 2.18                     | 0.75              |
| 1:AK:143:LEU:CD2  | 1:BN:145:ASN:OD1  | 2.34                     | 0.75              |
| 1:AU:81:SER:O     | 1:AU:134:ARG:NH2  | 2.18                     | 0.75              |
| 1:BI:147:ALA:HB1  | 1:DH:79:ILE:CB    | 2.10                     | 0.75              |
| 1:AP:94:SER:HB3   | 1:CS:8:VAL:HA     | 1.69                     | 0.75              |
| 1:AW:100:THR:HG21 | 1:BN:84:THR:CG2   | 2.14                     | 0.75              |
| 1:AF:162:ARG:NH1  | 1:AF:329:GLU:OE2  | 2.20                     | 0.75              |
| 1:BU:8:VAL:HG22   | 1:DP:94:SER:CB    | 2.16                     | 0.75              |
| 1:BU:92:ARG:O     | 1:DP:6:LEU:C      | 2.25                     | 0.75              |
| 1:BU:94:SER:N     | 1:DP:8:VAL:HA     | 2.02                     | 0.75              |
| 1:CX:308:ARG:NH1  | 1:CX:327:GLU:OE1  | 2.20                     | 0.75              |
| 1:AK:146:SER:CB   | 1:BN:141:GLN:H    | 1.99                     | 0.74              |
| 1:AS:75:LYS:O     | 1:CW:153:ALA:CA   | 2.19                     | 0.74              |
| 1:AW:16:LYS:CD    | 1:BK:101:ALA:C    | 2.56                     | 0.74              |
| 1:BI:92:ARG:HD2   | 1:DK:6:LEU:CA     | 2.16                     | 0.74              |
| 1:BU:12:GLN:CD    | 1:DP:97:ALA:CA    | 2.51                     | 0.74              |
| 1:AP:108:GLU:CG   | 1:CS:12:GLN:CA    | 2.44                     | 0.74              |
| 1:BI:258:ARG:O    | 1:BU:257:LYS:NZ   | 2.18                     | 0.74              |
| 1:BL:162:ARG:NH1  | 1:BL:329:GLU:OE2  | 2.19                     | 0.74              |
| 1:BU:4:PRO:CA     | 1:DH:74:MET:HA    | 2.14                     | 0.74              |
| 1:BU:12:GLN:HB2   | 1:DP:97:ALA:CB    | 2.16                     | 0.74              |
| 1:BY:28:PRO:O     | 1:BY:122:ARG:NH2  | 2.21                     | 0.74              |
| 1:CV:81:SER:O     | 1:CV:134:ARG:NH2  | 2.19                     | 0.74              |
| 1:AP:94:SER:O     | 1:CS:7:PHE:HD2    | 1.68                     | 0.74              |
| 1:AW:7:PHE:CB     | 1:BK:93:VAL:CG1   | 2.59                     | 0.74              |
| 1:AW:101:ALA:O    | 1:BN:42:ILE:HB    | 1.87                     | 0.74              |
| 1:BE:290:PRO:O    | 1:BE:291:THR:HG22 | 1.86                     | 0.74              |
| 1:BU:5:THR:OG1    | 1:DH:74:MET:HE2   | 1.86                     | 0.74              |
| 1:DD:143:LEU:O    | 1:DD:144:THR:OG1  | 2.05                     | 0.74              |
| 1:AN:162:ARG:NH1  | 1:AN:329:GLU:OE2  | 2.19                     | 0.74              |
| 1:BD:162:ARG:NH1  | 1:BD:329:GLU:OE2  | 2.20                     | 0.74              |
| 1:BI:73:GLU:OE2   | 1:DP:3:ASN:CA     | 2.36                     | 0.74              |
| 1:BI:103:TYR:N    | 1:DK:15:LYS:CB    | 2.45                     | 0.74              |
| 1:BI:322:GLU:C    | 1:DK:7:PHE:HB3    | 2.05                     | 0.74              |
| 1:CP:12:GLN:O     | 1:CT:145:ASN:ND2  | 2.20                     | 0.74              |
| 1:AM:97:ALA:CB    | 1:CN:9:SER:N      | 2.50                     | 0.74              |
| 1:AS:143:LEU:CD2  | 1:CW:142:TYR:HA   | 1.82                     | 0.74              |
| 1:AJ:202:GLN:O    | 1:AJ:349:LYS:NZ   | 2.21                     | 0.74              |
| 1:AW:100:THR:CB   | 1:BN:44:GLN:O     | 2.34                     | 0.74              |
| 1:BU:96:THR:O     | 1:DH:307:LEU:HD21 | 1.87                     | 0.74              |
| 1:AM:14:GLY:CA    | 1:CN:105:ARG:HH11 | 1.99                     | 0.74              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AP:320:SER:C    | 1:CZ:65:GLU:OE2   | 2.16                     | 0.74              |
| 1:AW:7:PHE:HE1    | 1:BK:97:ALA:C     | 1.91                     | 0.74              |
| 1:BI:91:VAL:HG12  | 1:DK:7:PHE:HD1    | 1.53                     | 0.74              |
| 1:BI:102:ASN:C    | 1:DK:15:LYS:CG    | 2.54                     | 0.74              |
| 1:BN:171:CYS:HG   | 1:BN:340:SER:HG   | 1.33                     | 0.74              |
| 1:DC:90:VAL:HG21  | 1:DD:71:ASP:HB2   | 1.70                     | 0.74              |
| 1:BI:96:THR:N     | 1:DK:8:VAL:HG11   | 2.01                     | 0.73              |
| 1:BZ:90:VAL:HG21  | 1:CA:71:ASP:HB3   | 1.67                     | 0.73              |
| 1:AS:50:GLN:HA    | 1:AS:79:ILE:HD13  | 1.70                     | 0.73              |
| 1:AW:7:PHE:HB3    | 1:BK:93:VAL:HA    | 1.68                     | 0.73              |
| 1:BU:15:LYS:HA    | 1:DP:100:THR:HB   | 1.69                     | 0.73              |
| 1:CL:105:ARG:O    | 1:CP:50:GLN:NE2   | 2.21                     | 0.73              |
| 1:AK:142:TYR:HB2  | 1:BN:146:SER:CB   | 2.18                     | 0.73              |
| 1:BH:202:GLN:O    | 1:BH:349:LYS:NZ   | 2.21                     | 0.73              |
| 1:BR:81:SER:O     | 1:BR:134:ARG:NH2  | 2.22                     | 0.73              |
| 1:AP:17:LEU:CD2   | 1:CW:145:ASN:HD22 | 1.91                     | 0.73              |
| 1:BF:313:THR:HG21 | 1:DK:319:GLY:HA2  | 1.71                     | 0.73              |
| 1:BG:162:ARG:NH1  | 1:BG:329:GLU:OE2  | 2.22                     | 0.73              |
| 1:BO:81:SER:O     | 1:BO:134:ARG:NH2  | 2.22                     | 0.73              |
| 1:BZ:249:GLN:OE1  | 1:BZ:258:ARG:NH1  | 2.22                     | 0.73              |
| 1:AK:81:SER:O     | 1:AK:134:ARG:NH2  | 2.22                     | 0.73              |
| 1:AT:81:SER:O     | 1:AT:134:ARG:NH2  | 2.22                     | 0.73              |
| 1:AW:100:THR:CB   | 1:BN:45:THR:HA    | 2.17                     | 0.73              |
| 1:BI:102:ASN:C    | 1:DK:15:LYS:CB    | 2.56                     | 0.73              |
| 1:BI:143:LEU:O    | 1:DH:143:LEU:HA   | 1.88                     | 0.73              |
| 1:BR:259:ILE:HD11 | 1:BU:259:ILE:HD13 | 1.71                     | 0.73              |
| 1:BU:94:SER:N     | 1:DP:7:PHE:O      | 2.22                     | 0.73              |
| 1:BQ:50:GLN:HA    | 1:BQ:79:ILE:HD13  | 1.70                     | 0.73              |
| 1:AK:144:THR:O    | 1:BN:143:LEU:HD23 | 1.89                     | 0.73              |
| 1:AP:147:ALA:N    | 1:CR:142:TYR:O    | 2.22                     | 0.73              |
| 1:AQ:81:SER:O     | 1:AQ:134:ARG:NH2  | 2.22                     | 0.73              |
| 1:BU:13:ASN:CG    | 1:DH:77:THR:OG1   | 2.27                     | 0.73              |
| 1:BU:99:THR:HB    | 1:DH:307:LEU:CG   | 2.19                     | 0.73              |
| 1:CP:105:ARG:NH1  | 1:CQ:13:ASN:O     | 2.21                     | 0.73              |
| 1:AO:260:PHE:O    | 1:AO:263:THR:OG1  | 2.07                     | 0.73              |
| 1:BI:92:ARG:NE    | 1:DK:6:LEU:CD2    | 2.17                     | 0.73              |
| 1:BM:260:PHE:O    | 1:BM:263:THR:OG1  | 2.07                     | 0.73              |
| 1:AM:215:GLU:HG3  | 1:AM:248:LEU:HD22 | 1.70                     | 0.73              |
| 1:AW:99:THR:CA    | 1:BN:308:ARG:CG   | 2.37                     | 0.73              |
| 1:BI:144:THR:HG22 | 1:DH:143:LEU:CD2  | 2.13                     | 0.73              |
| 1:DD:95:ASP:OD2   | 1:DQ:308:ARG:NH2  | 2.22                     | 0.73              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AI:162:ARG:NH1  | 1:AI:329:GLU:OE2  | 2.22                     | 0.72              |
| 1:AJ:46:ILE:O     | 1:AV:18:SER:OG    | 2.07                     | 0.72              |
| 1:AP:96:THR:CG2   | 1:CZ:65:GLU:CA    | 2.67                     | 0.72              |
| 1:BI:92:ARG:HH21  | 1:DK:6:LEU:HD23   | 1.50                     | 0.72              |
| 1:BI:315:LEU:HD21 | 1:DP:318:ASP:OD1  | 1.87                     | 0.72              |
| 1:CW:74:MET:SD    | 1:CW:75:LYS:NZ    | 2.62                     | 0.72              |
| 1:DP:58:ASP:O     | 1:DP:61:ASN:ND2   | 2.22                     | 0.72              |
| 1:CN:218:ILE:O    | 1:CN:222:THR:HG23 | 1.88                     | 0.72              |
| 1:AM:7:PHE:CZ     | 1:CN:108:GLU:CD   | 2.62                     | 0.72              |
| 1:AP:4:PRO:O      | 1:CS:92:ARG:CZ    | 2.37                     | 0.72              |
| 1:BI:103:TYR:HE1  | 1:DM:145:ASN:OD1  | 1.69                     | 0.72              |
| 1:BK:215:GLU:HG3  | 1:BK:248:LEU:HD22 | 1.70                     | 0.72              |
| 1:BU:92:ARG:CB    | 1:DP:6:LEU:O      | 2.37                     | 0.72              |
| 1:BU:94:SER:HB2   | 1:DP:8:VAL:C      | 2.08                     | 0.72              |
| 1:AP:96:THR:HG21  | 1:CZ:64:VAL:HG13  | 1.72                     | 0.72              |
| 1:BI:81:SER:O     | 1:BI:134:ARG:NH2  | 2.22                     | 0.72              |
| 1:BI:144:THR:HA   | 1:DH:143:LEU:CG   | 2.19                     | 0.72              |
| 1:BU:19:PHE:CD2   | 1:DP:16:LYS:NZ    | 2.56                     | 0.72              |
| 1:AS:45:THR:CG2   | 1:CS:99:THR:CB    | 2.67                     | 0.72              |
| 1:BH:46:ILE:O     | 1:BT:18:SER:OG    | 2.07                     | 0.72              |
| 1:DF:30:ASP:OD2   | 1:DF:287:ARG:NH2  | 2.22                     | 0.72              |
| 1:AS:145:ASN:CG   | 1:CW:145:ASN:HD21 | 1.92                     | 0.72              |
| 1:BI:145:ASN:N    | 1:DP:17:LEU:HD12  | 2.05                     | 0.72              |
| 1:CH:306:VAL:HG22 | 1:CH:330:VAL:HG12 | 1.72                     | 0.72              |
| 1:AG:252:THR:OG1  | 1:AG:254:GLY:O    | 2.03                     | 0.72              |
| 1:AD:83:VAL:O     | 1:AD:164:THR:OG1  | 2.02                     | 0.72              |
| 1:AM:108:GLU:OE2  | 1:CN:12:GLN:NE2   | 2.22                     | 0.72              |
| 1:AP:141:GLN:HE22 | 1:CR:143:LEU:CB   | 1.85                     | 0.72              |
| 1:DP:273:ILE:HG22 | 1:DP:283:ILE:HD11 | 1.70                     | 0.72              |
| 1:AM:317:LYS:HG2  | 1:CV:68:ARG:CD    | 1.97                     | 0.72              |
| 1:AS:143:LEU:HD22 | 1:CW:142:TYR:HA   | 1.71                     | 0.72              |
| 1:AW:7:PHE:CE1    | 1:BK:97:ALA:CA    | 2.72                     | 0.72              |
| 1:BE:222:THR:OG1  | 1:BE:275:ASP:OD2  | 2.04                     | 0.72              |
| 1:BF:146:SER:N    | 1:DM:144:THR:OG1  | 2.23                     | 0.72              |
| 1:BI:145:ASN:CA   | 1:DP:19:PHE:HZ    | 1.89                     | 0.72              |
| 1:BU:7:PHE:CD2    | 1:DP:93:VAL:HG12  | 2.23                     | 0.72              |
| 1:CY:33:PHE:O     | 1:CY:37:THR:HG23  | 1.90                     | 0.72              |
| 1:AM:93:VAL:CG1   | 1:CN:8:VAL:CG2    | 2.64                     | 0.72              |
| 1:BR:152:VAL:HG22 | 1:BR:155:LEU:HD12 | 1.71                     | 0.72              |
| 1:CO:114:GLU:OE1  | 1:CO:114:GLU:N    | 2.22                     | 0.72              |
| 1:CQ:192:ASP:OD1  | 1:CQ:193:THR:N    | 2.22                     | 0.72              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AC:81:SER:O     | 1:AC:134:ARG:NH2  | 2.24                     | 0.71              |
| 1:BI:9:SER:OG     | 1:DK:95:ASP:C     | 2.28                     | 0.71              |
| 1:BI:74:MET:HE2   | 1:DP:4:PRO:HB2    | 1.70                     | 0.71              |
| 1:BU:94:SER:HB3   | 1:DP:8:VAL:HA     | 1.66                     | 0.71              |
| 1:AW:93:VAL:HG13  | 1:BK:7:PHE:HD2    | 1.55                     | 0.71              |
| 1:BD:101:ALA:O    | 1:BO:44:GLN:NE2   | 2.23                     | 0.71              |
| 1:BI:13:ASN:HB2   | 1:DM:76:PRO:HG2   | 1.65                     | 0.71              |
| 1:BI:275:ASP:OD1  | 1:BI:279:GLN:N    | 2.24                     | 0.71              |
| 1:BN:81:SER:O     | 1:BN:134:ARG:NH2  | 2.23                     | 0.71              |
| 1:BW:237:ILE:HG22 | 1:BW:294:VAL:HG22 | 1.72                     | 0.71              |
| 1:CK:134:ARG:NH1  | 1:CK:140:ASP:OD2  | 2.23                     | 0.71              |
| 1:CP:237:ILE:HD13 | 1:CP:294:VAL:HG22 | 1.72                     | 0.71              |
| 1:DF:143:LEU:O    | 1:DF:144:THR:OG1  | 2.07                     | 0.71              |
| 1:AT:152:VAL:HG22 | 1:AT:155:LEU:HD12 | 1.71                     | 0.71              |
| 1:AX:222:THR:OG1  | 1:AX:275:ASP:OD1  | 2.06                     | 0.71              |
| 1:BI:146:SER:C    | 1:DH:143:LEU:HD11 | 2.05                     | 0.71              |
| 1:CM:212:GLY:N    | 1:CM:346:ALA:O    | 2.23                     | 0.71              |
| 1:DC:29:GLN:N     | 1:DC:29:GLN:OE1   | 2.22                     | 0.71              |
| 1:AF:101:ALA:O    | 1:AQ:44:GLN:NE2   | 2.23                     | 0.71              |
| 1:AP:12:GLN:O     | 1:CW:77:THR:HG21  | 1.80                     | 0.71              |
| 1:BI:12:GLN:C     | 1:DK:96:THR:CG2   | 2.59                     | 0.71              |
| 1:AO:127:ILE:O    | 1:AO:130:SER:OG   | 2.08                     | 0.71              |
| 1:BI:13:ASN:N     | 1:DK:96:THR:HG21  | 2.05                     | 0.71              |
| 1:BU:93:VAL:HG13  | 1:DP:7:PHE:HD1    | 1.54                     | 0.71              |
| 1:BZ:52:ASP:OD1   | 1:BZ:53:ALA:N     | 2.23                     | 0.71              |
| 1:AK:275:ASP:OD1  | 1:AK:279:GLN:N    | 2.24                     | 0.71              |
| 1:AS:40:GLU:OE1   | 1:AS:333:ARG:NH1  | 2.23                     | 0.71              |
| 1:BI:102:ASN:ND2  | 1:DK:12:GLN:N     | 2.32                     | 0.71              |
| 1:BI:144:THR:HG23 | 1:DH:143:LEU:CG   | 2.19                     | 0.71              |
| 1:CA:154:GLY:O    | 1:CA:159:HIS:NE2  | 2.23                     | 0.71              |
| 1:CG:85:GLN:NE2   | 1:CO:61:ASN:O     | 2.23                     | 0.71              |
| 1:DB:51:THR:OG1   | 1:DF:24:SER:O     | 2.05                     | 0.71              |
| 1:AK:143:LEU:HD22 | 1:BN:145:ASN:CG   | 2.10                     | 0.71              |
| 1:BL:306:VAL:HG22 | 1:BL:330:VAL:HG22 | 1.72                     | 0.71              |
| 1:BQ:40:GLU:OE1   | 1:BQ:333:ARG:NH1  | 2.23                     | 0.71              |
| 1:CK:81:SER:O     | 1:CK:134:ARG:NH2  | 2.23                     | 0.71              |
| 1:DB:267:ILE:HD12 | 1:DF:262:ASN:HB3  | 1.72                     | 0.71              |
| 1:BA:81:SER:O     | 1:BA:134:ARG:NH2  | 2.23                     | 0.71              |
| 1:BI:99:THR:HB    | 1:DK:10:TYR:CE2   | 2.25                     | 0.71              |
| 1:CC:143:LEU:O    | 1:CC:144:THR:OG1  | 2.05                     | 0.71              |
| 1:AP:8:VAL:HG12   | 1:CS:94:SER:CB    | 2.20                     | 0.71              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AW:100:THR:OG1  | 1:BN:44:GLN:C     | 2.28                     | 0.71              |
| 1:BI:74:MET:CE    | 1:DP:4:PRO:CA     | 2.67                     | 0.71              |
| 1:BT:114:GLU:N    | 1:BT:114:GLU:OE1  | 2.24                     | 0.71              |
| 1:BU:8:VAL:CB     | 1:DP:96:THR:OG1   | 2.39                     | 0.71              |
| 1:CR:83:VAL:HG21  | 1:CR:136:ASP:HB3  | 1.73                     | 0.71              |
| 1:AM:14:GLY:N     | 1:CN:105:ARG:HH12 | 1.87                     | 0.70              |
| 1:AP:9:SER:H      | 1:CS:96:THR:CB    | 2.00                     | 0.70              |
| 1:AP:81:SER:O     | 1:AP:134:ARG:NH2  | 2.23                     | 0.70              |
| 1:AV:114:GLU:OE1  | 1:AV:114:GLU:N    | 2.24                     | 0.70              |
| 1:CE:192:ASP:OD1  | 1:CE:193:THR:N    | 2.24                     | 0.70              |
| 1:DA:217:ASP:HB3  | 1:DA:343:LEU:HD11 | 1.72                     | 0.70              |
| 1:AK:74:MET:CB    | 1:BK:6:LEU:C      | 2.54                     | 0.70              |
| 1:AP:96:THR:HG23  | 1:CZ:65:GLU:N     | 1.91                     | 0.70              |
| 1:BE:190:ASP:OD2  | 1:BE:196:VAL:HG22 | 1.92                     | 0.70              |
| 1:CI:192:ASP:OD1  | 1:CI:193:THR:N    | 2.23                     | 0.70              |
| 1:CW:253:GLN:OE1  | 1:CW:253:GLN:N    | 2.24                     | 0.70              |
| 1:AA:254:GLY:O    | 1:AB:257:LYS:NZ   | 2.21                     | 0.70              |
| 1:AK:145:ASN:OD1  | 1:BN:142:TYR:HA   | 1.22                     | 0.70              |
| 1:AP:108:GLU:HG2  | 1:CS:11:ASP:O     | 1.90                     | 0.70              |
| 1:AS:76:PRO:CD    | 1:CS:10:TYR:HB3   | 2.15                     | 0.70              |
| 1:AT:259:ILE:HD11 | 1:AW:259:ILE:HD13 | 1.71                     | 0.70              |
| 1:BU:12:GLN:CD    | 1:DP:100:THR:OG1  | 2.29                     | 0.70              |
| 1:DF:51:THR:O     | 1:DF:77:THR:OG1   | 2.08                     | 0.70              |
| 1:BI:144:THR:CA   | 1:DH:143:LEU:HG   | 2.21                     | 0.70              |
| 1:AA:203:ASN:HA   | 1:AA:214:ASP:HB2  | 1.73                     | 0.70              |
| 1:AP:3:ASN:O      | 1:CW:75:LYS:HG2   | 1.91                     | 0.70              |
| 1:AY:203:ASN:HA   | 1:AY:214:ASP:HB2  | 1.73                     | 0.70              |
| 1:CP:143:LEU:O    | 1:CP:144:THR:OG1  | 2.07                     | 0.70              |
| 1:AG:190:ASP:OD2  | 1:AG:196:VAL:HG22 | 1.91                     | 0.70              |
| 1:BI:72:GLY:C     | 1:DP:3:ASN:ND2    | 2.44                     | 0.70              |
| 1:BP:83:VAL:O     | 1:BP:164:THR:OG1  | 2.06                     | 0.70              |
| 1:CW:200:VAL:O    | 1:CW:202:GLN:NE2  | 2.25                     | 0.70              |
| 1:AS:76:PRO:HG2   | 1:CS:10:TYR:CA    | 2.14                     | 0.70              |
| 1:BW:203:ASN:ND2  | 1:BW:346:ALA:O    | 2.25                     | 0.70              |
| 1:AP:142:TYR:HA   | 1:CR:145:ASN:O    | 1.37                     | 0.70              |
| 1:AR:83:VAL:O     | 1:AR:164:THR:OG1  | 2.06                     | 0.70              |
| 1:AW:6:LEU:CD2    | 1:BK:92:ARG:HH11  | 1.77                     | 0.70              |
| 1:BE:252:THR:OG1  | 1:BE:254:GLY:O    | 2.03                     | 0.70              |
| 1:BI:102:ASN:C    | 1:DK:13:ASN:C     | 2.51                     | 0.70              |
| 1:AN:306:VAL:HG22 | 1:AN:330:VAL:HG22 | 1.72                     | 0.70              |
| 1:AP:104:GLY:HA2  | 1:CS:15:LYS:HG3   | 1.64                     | 0.70              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:BL:15:LYS:O    | 1:BO:145:ASN:ND2  | 2.25                     | 0.70              |
| 1:AN:15:LYS:O    | 1:AQ:145:ASN:ND2  | 2.25                     | 0.69              |
| 1:AV:251:ASN:O   | 1:AV:253:GLN:NE2  | 2.25                     | 0.69              |
| 1:BU:94:SER:H    | 1:DP:8:VAL:HA     | 1.56                     | 0.69              |
| 1:AP:12:GLN:C    | 1:CS:105:ARG:NH1  | 2.43                     | 0.69              |
| 1:BI:77:THR:O    | 1:DP:13:ASN:ND2   | 2.25                     | 0.69              |
| 1:BU:12:GLN:CB   | 1:DP:97:ALA:CB    | 2.70                     | 0.69              |
| 1:CU:192:ASP:OD1 | 1:CU:193:THR:N    | 2.25                     | 0.69              |
| 1:DM:317:LYS:NZ  | 1:DP:316:ALA:O    | 2.24                     | 0.69              |
| 1:BI:319:GLY:N   | 1:DO:68:ARG:HD2   | 2.06                     | 0.69              |
| 1:BM:230:SER:OG  | 1:BM:339:ALA:O    | 2.09                     | 0.69              |
| 1:CF:33:PHE:O    | 1:CF:37:THR:HG23  | 1.91                     | 0.69              |
| 1:DD:296:PHE:O   | 1:DD:340:SER:OG   | 2.09                     | 0.69              |
| 1:DJ:130:SER:OG  | 1:DJ:132:GLN:OE1  | 2.09                     | 0.69              |
| 1:AP:94:SER:O    | 1:CS:7:PHE:HB3    | 1.92                     | 0.69              |
| 1:AW:99:THR:HA   | 1:BN:308:ARG:CD   | 2.21                     | 0.69              |
| 1:BF:146:SER:OG  | 1:DM:143:LEU:O    | 2.11                     | 0.69              |
| 1:BI:13:ASN:CG   | 1:DM:76:PRO:HG3   | 2.13                     | 0.69              |
| 1:BI:145:ASN:HA  | 1:DP:19:PHE:CE1   | 2.07                     | 0.69              |
| 1:CU:105:ARG:NH1 | 1:CY:14:GLY:O     | 2.25                     | 0.69              |
| 1:DB:245:PHE:CZ  | 1:DB:273:ILE:HD11 | 2.28                     | 0.69              |
| 1:AM:108:GLU:CD  | 1:CN:12:GLN:NE2   | 2.40                     | 0.69              |
| 1:AO:230:SER:OG  | 1:AO:339:ALA:O    | 2.09                     | 0.69              |
| 1:AZ:250:GLU:OE1 | 1:AZ:258:ARG:NH2  | 2.26                     | 0.69              |
| 1:BI:109:LEU:CB  | 1:DK:9:SER:OG     | 2.34                     | 0.69              |
| 1:CK:56:SER:OG   | 1:CZ:122:ARG:NH1  | 2.25                     | 0.69              |
| 1:AT:238:ASN:ND2 | 1:AT:290:PRO:O    | 2.26                     | 0.69              |
| 1:BU:3:ASN:CB    | 1:DP:115:LYS:HZ2  | 1.90                     | 0.69              |
| 1:CO:64:VAL:HG12 | 1:CO:65:GLU:H     | 1.56                     | 0.69              |
| 1:AK:43:ASN:O    | 1:BK:100:THR:HG22 | 1.93                     | 0.69              |
| 1:BI:92:ARG:CA   | 1:DK:7:PHE:HB2    | 2.23                     | 0.69              |
| 1:BU:15:LYS:N    | 1:DP:102:ASN:OD1  | 2.26                     | 0.69              |
| 1:CW:81:SER:O    | 1:CW:134:ARG:NH2  | 2.26                     | 0.69              |
| 1:BI:17:LEU:HD12 | 1:DM:144:THR:N    | 2.06                     | 0.69              |
| 1:DD:65:GLU:N    | 1:DD:65:GLU:OE1   | 2.26                     | 0.69              |
| 1:DG:52:ASP:OD1  | 1:DG:53:ALA:N     | 2.25                     | 0.69              |
| 1:BU:4:PRO:HA    | 1:DH:74:MET:HB2   | 0.71                     | 0.69              |
| 1:BI:92:ARG:HD2  | 1:DK:6:LEU:CG     | 2.23                     | 0.68              |
| 1:BR:238:ASN:ND2 | 1:BR:290:PRO:O    | 2.26                     | 0.68              |
| 1:DC:31:THR:O    | 1:DC:34:VAL:HG22  | 1.93                     | 0.68              |
| 1:DJ:95:ASP:OD1  | 1:DJ:320:SER:OG   | 2.11                     | 0.68              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:DM:102:ASN:O    | 1:DN:16:LYS:NZ    | 2.23                     | 0.68              |
| 1:DQ:52:ASP:OD1   | 1:DQ:53:ALA:N     | 2.26                     | 0.68              |
| 1:AM:6:LEU:CD1    | 1:CR:71:ASP:CB    | 2.70                     | 0.68              |
| 1:AM:92:ARG:NH1   | 1:CR:156:ASN:CG   | 2.46                     | 0.68              |
| 1:AR:162:ARG:NH1  | 1:AR:329:GLU:OE2  | 2.26                     | 0.68              |
| 1:AS:65:GLU:CG    | 1:CN:320:SER:OG   | 2.40                     | 0.68              |
| 1:BP:162:ARG:NH1  | 1:BP:329:GLU:OE2  | 2.26                     | 0.68              |
| 1:CA:102:ASN:OD1  | 1:CA:103:TYR:N    | 2.26                     | 0.68              |
| 1:DC:199:LYS:NZ   | 1:DC:220:ASP:OD2  | 2.25                     | 0.68              |
| 1:DJ:85:GLN:NE2   | 1:DJ:162:ARG:O    | 2.26                     | 0.68              |
| 1:AP:12:GLN:HB3   | 1:CS:105:ARG:HH11 | 1.56                     | 0.68              |
| 1:AP:108:GLU:HG3  | 1:CS:11:ASP:O     | 1.94                     | 0.68              |
| 1:AS:75:LYS:HA    | 1:CW:152:VAL:CG2  | 2.21                     | 0.68              |
| 1:AT:251:ASN:O    | 1:AT:252:THR:OG1  | 2.11                     | 0.68              |
| 1:BI:109:LEU:CD1  | 1:DK:7:PHE:CE1    | 2.69                     | 0.68              |
| 1:AM:99:THR:CG2   | 1:CR:308:ARG:HD2  | 2.23                     | 0.68              |
| 1:AP:96:THR:HG22  | 1:CZ:65:GLU:HB2   | 1.76                     | 0.68              |
| 1:AW:99:THR:CA    | 1:BN:308:ARG:CD   | 2.71                     | 0.68              |
| 1:AS:316:ALA:N    | 1:CS:320:SER:OG   | 2.26                     | 0.68              |
| 1:AW:19:PHE:CD2   | 1:BK:16:LYS:CD    | 2.45                     | 0.68              |
| 1:BI:314:GLU:HG3  | 1:DM:316:ALA:HB1  | 1.76                     | 0.68              |
| 1:BW:40:GLU:N     | 1:BW:40:GLU:OE1   | 2.27                     | 0.68              |
| 1:AP:144:THR:CB   | 1:CR:141:GLN:CB   | 2.72                     | 0.68              |
| 1:BT:251:ASN:O    | 1:BT:253:GLN:NE2  | 2.25                     | 0.68              |
| 1:BU:92:ARG:NE    | 1:DP:5:THR:C      | 2.44                     | 0.68              |
| 1:BU:96:THR:HG1   | 1:DP:9:SER:CB     | 2.06                     | 0.68              |
| 1:BU:318:ASP:HA   | 1:DH:314:GLU:C    | 2.12                     | 0.68              |
| 1:CA:155:LEU:O    | 1:CA:158:THR:OG1  | 2.12                     | 0.68              |
| 1:AK:143:LEU:H    | 1:BN:146:SER:H    | 1.42                     | 0.68              |
| 1:AW:14:GLY:HA2   | 1:BK:103:TYR:CD1  | 2.29                     | 0.68              |
| 1:BF:306:VAL:HG12 | 1:BF:330:VAL:HG22 | 1.76                     | 0.68              |
| 1:BI:92:ARG:CD    | 1:DK:6:LEU:CG     | 2.72                     | 0.68              |
| 1:BL:251:ASN:O    | 1:BO:255:SER:OG   | 2.12                     | 0.68              |
| 1:DJ:292:ASP:OD1  | 1:DJ:345:THR:OG1  | 2.09                     | 0.68              |
| 1:DN:15:LYS:O     | 1:DP:145:ASN:ND2  | 2.27                     | 0.68              |
| 1:AK:145:ASN:HB3  | 1:BK:17:LEU:HD11  | 1.75                     | 0.68              |
| 1:BG:249:GLN:OE1  | 1:BG:249:GLN:N    | 2.27                     | 0.68              |
| 1:BI:105:ARG:HG2  | 1:DK:13:ASN:CA    | 2.03                     | 0.68              |
| 1:BI:322:GLU:HG3  | 1:DK:7:PHE:O      | 1.93                     | 0.68              |
| 1:BZ:88:ARG:NH2   | 1:BZ:327:GLU:OE1  | 2.26                     | 0.68              |
| 1:CZ:253:GLN:OE1  | 1:CZ:253:GLN:N    | 2.26                     | 0.68              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BB:162:ARG:NH1  | 1:BB:329:GLU:OE2  | 2.27                     | 0.68              |
| 1:DM:143:LEU:O    | 1:DM:144:THR:OG1  | 2.11                     | 0.68              |
| 1:AB:250:GLU:OE1  | 1:AB:258:ARG:NH2  | 2.26                     | 0.68              |
| 1:AI:249:GLN:N    | 1:AI:249:GLN:OE1  | 2.27                     | 0.68              |
| 1:AK:74:MET:N     | 1:BK:6:LEU:N      | 2.38                     | 0.68              |
| 1:AK:146:SER:HB2  | 1:BN:141:GLN:N    | 2.07                     | 0.68              |
| 1:AM:123:ASP:OD1  | 1:AP:58:ASP:N     | 2.27                     | 0.68              |
| 1:BE:111:TYR:OH   | 1:BK:52:ASP:OD2   | 2.07                     | 0.68              |
| 1:CK:145:ASN:ND2  | 1:CZ:13:ASN:OD1   | 2.27                     | 0.68              |
| 1:AP:98:ASN:ND2   | 1:CS:7:PHE:CE2    | 2.62                     | 0.67              |
| 1:BI:109:LEU:CD1  | 1:DK:7:PHE:CE2    | 2.75                     | 0.67              |
| 1:AJ:215:GLU:OE1  | 1:AJ:256:ARG:NH2  | 2.28                     | 0.67              |
| 1:BR:251:ASN:O    | 1:BR:252:THR:OG1  | 2.11                     | 0.67              |
| 1:BX:203:ASN:N    | 1:BX:214:ASP:OD2  | 2.27                     | 0.67              |
| 1:CM:305:MET:SD   | 1:CM:333:ARG:NH2  | 2.67                     | 0.67              |
| 1:CU:28:PRO:O     | 1:CU:122:ARG:NH2  | 2.27                     | 0.67              |
| 1:DC:296:PHE:O    | 1:DC:340:SER:OG   | 2.04                     | 0.67              |
| 1:DJ:33:PHE:O     | 1:DJ:37:THR:OG1   | 2.05                     | 0.67              |
| 1:AK:143:LEU:O    | 1:BN:145:ASN:HB3  | 1.94                     | 0.67              |
| 1:CQ:5:THR:OG1    | 1:CT:72:GLY:O     | 2.03                     | 0.67              |
| 1:DD:105:ARG:NH2  | 1:DD:108:GLU:OE1  | 2.27                     | 0.67              |
| 1:AP:7:PHE:CZ     | 1:CW:75:LYS:CG    | 2.68                     | 0.67              |
| 1:BF:65:GLU:OE2   | 1:DP:99:THR:HG21  | 1.94                     | 0.67              |
| 1:CS:192:ASP:OD1  | 1:CS:193:THR:N    | 2.28                     | 0.67              |
| 1:AH:81:SER:O     | 1:AH:134:ARG:NH2  | 2.28                     | 0.67              |
| 1:AL:34:VAL:HG23  | 1:AL:125:GLU:OE1  | 1.95                     | 0.67              |
| 1:BV:222:THR:OG1  | 1:BV:275:ASP:OD1  | 2.06                     | 0.67              |
| 1:CA:143:LEU:O    | 1:CA:144:THR:OG1  | 2.12                     | 0.67              |
| 1:CJ:202:GLN:NE2  | 1:CJ:217:ASP:OD1  | 2.27                     | 0.67              |
| 1:CN:96:THR:O     | 1:CN:100:THR:HG23 | 1.93                     | 0.67              |
| 1:DC:90:VAL:HG21  | 1:DD:71:ASP:CB    | 2.24                     | 0.67              |
| 1:AD:162:ARG:NH1  | 1:AD:329:GLU:OE2  | 2.27                     | 0.67              |
| 1:AW:201:ALA:HB1  | 1:AW:214:ASP:HB3  | 1.77                     | 0.67              |
| 1:BU:92:ARG:CB    | 1:DP:6:LEU:C      | 2.61                     | 0.67              |
| 1:CL:81:SER:O     | 1:CL:134:ARG:NH2  | 2.28                     | 0.67              |
| 1:DE:202:GLN:NE2  | 1:DE:214:ASP:OD1  | 2.28                     | 0.67              |
| 1:AN:251:ASN:O    | 1:AQ:255:SER:OG   | 2.12                     | 0.67              |
| 1:AP:144:THR:HG23 | 1:CR:141:GLN:HE21 | 1.49                     | 0.67              |
| 1:AW:162:ARG:NH1  | 1:AW:329:GLU:OE2  | 2.28                     | 0.67              |
| 1:BW:168:GLN:HB3  | 1:BW:180:VAL:HG21 | 1.77                     | 0.67              |
| 1:AM:81:SER:O     | 1:AM:134:ARG:NH2  | 2.28                     | 0.67              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AP:230:SER:OG   | 1:AP:339:ALA:O    | 2.11                     | 0.67              |
| 1:BJ:34:VAL:HG23  | 1:BJ:125:GLU:OE1  | 1.95                     | 0.67              |
| 1:CA:83:VAL:HG11  | 1:CA:164:THR:HA   | 1.76                     | 0.67              |
| 1:AK:142:TYR:HB3  | 1:BN:146:SER:OG   | 1.95                     | 0.67              |
| 1:BD:83:VAL:O     | 1:BD:164:THR:HG22 | 1.95                     | 0.67              |
| 1:BH:215:GLU:OE1  | 1:BH:256:ARG:NH2  | 2.28                     | 0.67              |
| 1:BK:81:SER:O     | 1:BK:134:ARG:NH2  | 2.28                     | 0.67              |
| 1:CO:314:GLU:OE2  | 1:CO:317:LYS:N    | 2.28                     | 0.67              |
| 1:CW:250:GLU:OE1  | 1:CW:258:ARG:NH2  | 2.25                     | 0.67              |
| 1:AO:222:THR:OG1  | 1:AO:275:ASP:OD2  | 2.07                     | 0.66              |
| 1:AS:73:GLU:CD    | 1:CS:4:PRO:HA     | 2.09                     | 0.66              |
| 1:AZ:31:THR:O     | 1:AZ:35:SER:OG    | 2.09                     | 0.66              |
| 1:BF:81:SER:O     | 1:BF:134:ARG:NH2  | 2.28                     | 0.66              |
| 1:BJ:213:PHE:O    | 1:BJ:244:ILE:HG21 | 1.95                     | 0.66              |
| 1:CJ:3:ASN:ND2    | 1:CP:73:GLU:OE1   | 2.28                     | 0.66              |
| 1:CT:144:THR:OG1  | 1:CU:143:LEU:O    | 2.09                     | 0.66              |
| 1:AP:105:ARG:CB   | 1:CS:13:ASN:C     | 2.30                     | 0.66              |
| 1:BI:145:ASN:HA   | 1:DP:19:PHE:CD2   | 2.08                     | 0.66              |
| 1:CK:82:ASN:ND2   | 1:CK:332:LEU:O    | 2.27                     | 0.66              |
| 1:AM:7:PHE:CE2    | 1:CN:108:GLU:CG   | 2.78                     | 0.66              |
| 1:AW:16:LYS:HA    | 1:BK:103:TYR:HE2  | 0.50                     | 0.66              |
| 1:CO:33:PHE:O     | 1:CO:37:THR:HG23  | 1.95                     | 0.66              |
| 1:AL:213:PHE:O    | 1:AL:244:ILE:HG21 | 1.95                     | 0.66              |
| 1:AP:13:ASN:HB2   | 1:CS:105:ARG:HH22 | 1.60                     | 0.66              |
| 1:AP:320:SER:CA   | 1:CZ:65:GLU:CG    | 2.59                     | 0.66              |
| 1:BK:123:ASP:OD1  | 1:BN:58:ASP:N     | 2.27                     | 0.66              |
| 1:CD:52:ASP:OD1   | 1:CD:53:ALA:N     | 2.29                     | 0.66              |
| 1:AH:306:VAL:HG12 | 1:AH:330:VAL:HG22 | 1.76                     | 0.66              |
| 1:BU:162:ARG:NH1  | 1:BU:329:GLU:OE2  | 2.28                     | 0.66              |
| 1:AP:92:ARG:NH2   | 1:CW:156:ASN:OD1  | 2.29                     | 0.66              |
| 1:AW:7:PHE:HB3    | 1:BK:93:VAL:CA    | 2.25                     | 0.66              |
| 1:BI:145:ASN:C    | 1:DP:19:PHE:CE1   | 2.69                     | 0.66              |
| 1:BI:318:ASP:C    | 1:DO:68:ARG:HD2   | 2.15                     | 0.66              |
| 1:AM:101:ALA:HB3  | 1:CR:44:GLN:NE2   | 2.10                     | 0.66              |
| 1:AP:94:SER:O     | 1:CS:7:PHE:CB     | 2.44                     | 0.66              |
| 1:AS:78:VAL:HG23  | 1:CW:147:ALA:O    | 1.96                     | 0.66              |
| 1:BI:94:SER:OG    | 1:DM:153:ALA:N    | 2.27                     | 0.66              |
| 1:AK:141:GLN:O    | 1:AK:144:THR:OG1  | 2.13                     | 0.66              |
| 1:AK:249:GLN:NE2  | 1:AK:257:LYS:O    | 2.29                     | 0.66              |
| 1:AP:108:GLU:CG   | 1:CS:11:ASP:C     | 2.63                     | 0.66              |
| 1:AW:99:THR:HG22  | 1:BN:307:LEU:HB3  | 1.78                     | 0.66              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CJ:33:PHE:O     | 1:CJ:37:THR:HG23  | 1.95                     | 0.66              |
| 1:AM:322:GLU:N    | 1:CV:67:SER:CB    | 2.58                     | 0.66              |
| 1:BF:290:PRO:O    | 1:BF:291:THR:OG1  | 2.13                     | 0.66              |
| 1:BU:100:THR:HG23 | 1:DH:307:LEU:HG   | 1.78                     | 0.66              |
| 1:BW:136:ASP:OD1  | 1:BW:162:ARG:NH2  | 2.29                     | 0.66              |
| 1:CT:171:CYS:SG   | 1:CT:340:SER:OG   | 2.52                     | 0.66              |
| 1:AB:67:SER:OG    | 1:AF:88:ARG:NH2   | 2.29                     | 0.65              |
| 1:AP:144:THR:HB   | 1:CR:141:GLN:HG3  | 1.71                     | 0.65              |
| 1:AW:7:PHE:CB     | 1:BK:93:VAL:HA    | 2.25                     | 0.65              |
| 1:BI:145:ASN:N    | 1:DH:143:LEU:HG   | 2.11                     | 0.65              |
| 1:BU:8:VAL:CG1    | 1:DP:95:ASP:CB    | 2.71                     | 0.65              |
| 1:CK:222:THR:HG22 | 1:CK:281:TYR:CE2  | 2.31                     | 0.65              |
| 1:AF:83:VAL:O     | 1:AF:164:THR:HG22 | 1.95                     | 0.65              |
| 1:AP:94:SER:O     | 1:CS:7:PHE:CG     | 2.49                     | 0.65              |
| 1:AY:305:MET:O    | 1:AY:331:GLY:N    | 2.29                     | 0.65              |
| 1:BA:162:ARG:NH1  | 1:BA:329:GLU:OE2  | 2.29                     | 0.65              |
| 1:CW:252:THR:OG1  | 1:CW:255:SER:O    | 2.04                     | 0.65              |
| 1:AC:162:ARG:NH1  | 1:AC:329:GLU:OE2  | 2.29                     | 0.65              |
| 1:AP:92:ARG:CZ    | 1:CS:5:THR:C      | 2.61                     | 0.65              |
| 1:AR:90:VAL:HG11  | 1:AU:69:ALA:CB    | 2.26                     | 0.65              |
| 1:AW:100:THR:HB   | 1:BN:42:ILE:HD12  | 1.77                     | 0.65              |
| 1:BU:93:VAL:HG13  | 1:DP:7:PHE:CD1    | 2.31                     | 0.65              |
| 1:BU:201:ALA:HB1  | 1:BU:214:ASP:HB3  | 1.77                     | 0.65              |
| 1:CF:214:ASP:O    | 1:CF:218:ILE:HD12 | 1.96                     | 0.65              |
| 1:CS:231:GLU:OE1  | 1:CS:231:GLU:N    | 2.30                     | 0.65              |
| 1:DG:93:VAL:HG11  | 1:DG:109:LEU:HD13 | 1.77                     | 0.65              |
| 1:AA:305:MET:O    | 1:AA:331:GLY:N    | 2.29                     | 0.65              |
| 1:AC:248:LEU:O    | 1:AC:256:ARG:NH2  | 2.30                     | 0.65              |
| 1:BI:99:THR:HG22  | 1:DM:45:THR:HG21  | 1.77                     | 0.65              |
| 1:BP:90:VAL:HG11  | 1:BS:69:ALA:CB    | 2.26                     | 0.65              |
| 1:AW:99:THR:CB    | 1:BN:308:ARG:CD   | 2.72                     | 0.65              |
| 1:BI:322:GLU:CG   | 1:DK:7:PHE:CD2    | 2.64                     | 0.65              |
| 1:CA:143:LEU:N    | 1:CA:146:SER:OG   | 2.28                     | 0.65              |
| 1:CS:17:LEU:HD22  | 1:CW:143:LEU:HD22 | 1.78                     | 0.65              |
| 1:AI:213:PHE:HD1  | 1:AI:214:ASP:H    | 1.43                     | 0.65              |
| 1:AM:14:GLY:H     | 1:CN:105:ARG:HH12 | 1.40                     | 0.65              |
| 1:AM:92:ARG:HH12  | 1:CR:156:ASN:ND2  | 1.88                     | 0.65              |
| 1:AP:92:ARG:CB    | 1:CS:6:LEU:HA     | 2.26                     | 0.65              |
| 1:BA:248:LEU:O    | 1:BA:256:ARG:NH2  | 2.30                     | 0.65              |
| 1:CH:230:SER:OG   | 1:CH:339:ALA:O    | 2.13                     | 0.65              |
| 1:CP:91:VAL:HG21  | 1:CP:112:GLN:HB3  | 1.79                     | 0.65              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AM:314:GLU:OE2  | 1:CR:315:LEU:HD22 | 1.97                     | 0.65              |
| 1:BJ:254:GLY:O    | 1:BJ:255:SER:OG   | 2.14                     | 0.65              |
| 1:AS:73:GLU:CG    | 1:CS:3:ASN:O      | 2.29                     | 0.65              |
| 1:AS:76:PRO:CB    | 1:CS:10:TYR:O     | 2.44                     | 0.65              |
| 1:BI:141:GLN:O    | 1:BI:144:THR:OG1  | 2.13                     | 0.65              |
| 1:AP:7:PHE:CA     | 1:CS:92:ARG:NH1   | 2.48                     | 0.65              |
| 1:AZ:67:SER:OG    | 1:BD:88:ARG:NH2   | 2.29                     | 0.65              |
| 1:BU:14:GLY:N     | 1:DP:105:ARG:NH1  | 2.36                     | 0.65              |
| 1:CK:218:ILE:O    | 1:CK:222:THR:HG23 | 1.96                     | 0.65              |
| 1:CM:213:PHE:CZ   | 1:CM:218:ILE:HD11 | 2.32                     | 0.65              |
| 1:CS:254:GLY:O    | 1:CS:257:LYS:NZ   | 2.29                     | 0.65              |
| 1:AP:8:VAL:HG13   | 1:CS:94:SER:OG    | 1.94                     | 0.65              |
| 1:BH:64:VAL:O     | 1:BT:88:ARG:NH1   | 2.30                     | 0.65              |
| 1:BJ:162:ARG:NH2  | 1:BJ:329:GLU:OE2  | 2.30                     | 0.65              |
| 1:CE:182:ASP:OD1  | 1:CE:183:LYS:N    | 2.29                     | 0.65              |
| 1:DG:54:LEU:HD13  | 1:DI:27:SER:OG    | 1.96                     | 0.65              |
| 1:AE:155:LEU:O    | 1:AE:156:ASN:ND2  | 2.30                     | 0.64              |
| 1:AJ:64:VAL:O     | 1:AV:88:ARG:NH1   | 2.30                     | 0.64              |
| 1:AP:320:SER:CA   | 1:CZ:65:GLU:HG2   | 2.23                     | 0.64              |
| 1:BI:148:ALA:N    | 1:DH:79:ILE:HG12  | 1.87                     | 0.64              |
| 1:BR:214:ASP:O    | 1:BR:215:GLU:HB2  | 1.97                     | 0.64              |
| 1:CD:88:ARG:NH2   | 1:CD:325:MET:SD   | 2.69                     | 0.64              |
| 1:AQ:190:ASP:O    | 1:AQ:194:GLY:N    | 2.30                     | 0.64              |
| 1:AT:85:GLN:OE1   | 1:AT:164:THR:OG1  | 2.15                     | 0.64              |
| 1:BI:13:ASN:OD1   | 1:DM:76:PRO:HG3   | 1.97                     | 0.64              |
| 1:CG:98:ASN:OD1   | 1:CG:99:THR:N     | 2.29                     | 0.64              |
| 1:AP:94:SER:C     | 1:CS:7:PHE:HB3    | 2.17                     | 0.64              |
| 1:BM:222:THR:OG1  | 1:BM:275:ASP:OD2  | 2.07                     | 0.64              |
| 1:CS:252:THR:OG1  | 1:CS:255:SER:O    | 2.09                     | 0.64              |
| 1:DP:230:SER:OG   | 1:DP:339:ALA:O    | 2.15                     | 0.64              |
| 1:AM:16:LYS:NZ    | 1:CN:19:PHE:HD2   | 1.92                     | 0.64              |
| 1:AW:7:PHE:HE1    | 1:BK:97:ALA:O     | 1.74                     | 0.64              |
| 1:BR:85:GLN:OE1   | 1:BR:164:THR:OG1  | 2.15                     | 0.64              |
| 1:CC:48:SER:OG    | 1:CC:80:LYS:O     | 2.07                     | 0.64              |
| 1:CK:254:GLY:O    | 1:CK:257:LYS:NZ   | 2.28                     | 0.64              |
| 1:CO:99:THR:O     | 1:CO:107:ARG:NH1  | 2.30                     | 0.64              |
| 1:DB:237:ILE:CG2  | 1:DB:283:ILE:HD11 | 2.27                     | 0.64              |
| 1:DE:315:LEU:HD12 | 1:DE:323:LYS:HG2  | 1.79                     | 0.64              |
| 1:DN:310:PRO:HB2  | 1:DN:326:ILE:HD11 | 1.79                     | 0.64              |
| 1:AP:96:THR:HA    | 1:CW:308:ARG:HH22 | 1.62                     | 0.64              |
| 1:BG:213:PHE:HD1  | 1:BG:214:ASP:H    | 1.43                     | 0.64              |

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| Atom-1            | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 1:BM:127:ILE:O    | 1:BM:130:SER:OG  | 2.08                     | 0.64              |
| 1:BZ:29:GLN:OE1   | 1:BZ:29:GLN:N    | 2.30                     | 0.64              |
| 1:CG:157:ASP:O    | 1:CG:158:THR:OG1 | 2.12                     | 0.64              |
| 1:CN:182:ASP:OD1  | 1:CN:183:LYS:N   | 2.30                     | 0.64              |
| 1:DJ:275:ASP:OD1  | 1:DJ:279:GLN:N   | 2.31                     | 0.64              |
| 1:AL:162:ARG:NH2  | 1:AL:329:GLU:OE2 | 2.30                     | 0.64              |
| 1:AM:322:GLU:N    | 1:CV:67:SER:HB2  | 1.97                     | 0.64              |
| 1:AP:105:ARG:HB3  | 1:CS:12:GLN:CG   | 2.28                     | 0.64              |
| 1:CI:88:ARG:NH1   | 1:CM:67:SER:OG   | 2.31                     | 0.64              |
| 1:DD:211:ILE:O    | 1:DD:241:HIS:NE2 | 2.29                     | 0.64              |
| 1:DF:26:LEU:HD12  | 1:DF:26:LEU:O    | 1.97                     | 0.64              |
| 1:DL:296:PHE:O    | 1:DL:340:SER:OG  | 2.14                     | 0.64              |
| 1:BI:144:THR:C    | 1:DP:17:LEU:CD1  | 2.66                     | 0.64              |
| 1:BL:127:ILE:O    | 1:BL:130:SER:OG  | 2.11                     | 0.64              |
| 1:CA:102:ASN:ND2  | 1:CT:14:GLY:O    | 2.30                     | 0.64              |
| 1:CW:220:ASP:OD1  | 1:CW:221:MET:N   | 2.31                     | 0.64              |
| 1:CZ:199:LYS:NZ   | 1:CZ:220:ASP:OD2 | 2.31                     | 0.64              |
| 1:DB:298:ARG:NH2  | 1:DB:301:ASP:OD1 | 2.31                     | 0.64              |
| 1:AM:101:ALA:CB   | 1:CR:44:GLN:NE2  | 2.60                     | 0.64              |
| 1:AP:16:LYS:HZ1   | 1:CS:19:PHE:HD2  | 1.43                     | 0.64              |
| 1:AP:146:SER:O    | 1:CR:79:ILE:HG21 | 1.98                     | 0.64              |
| 1:BI:320:SER:HB2  | 1:DM:153:ALA:HB1 | 1.80                     | 0.64              |
| 1:BN:230:SER:OG   | 1:BN:339:ALA:O   | 2.11                     | 0.64              |
| 1:AM:6:LEU:CD1    | 1:CR:71:ASP:CG   | 2.67                     | 0.64              |
| 1:AP:96:THR:HG23  | 1:CZ:65:GLU:CA   | 2.26                     | 0.64              |
| 1:BC:155:LEU:O    | 1:BC:156:ASN:ND2 | 2.31                     | 0.64              |
| 1:BO:190:ASP:O    | 1:BO:194:GLY:N   | 2.30                     | 0.64              |
| 1:BY:250:GLU:OE2  | 1:BY:258:ARG:NH2 | 2.31                     | 0.64              |
| 1:DL:123:ASP:OD2  | 1:DN:61:ASN:ND2  | 2.31                     | 0.64              |
| 1:AS:156:ASN:ND2  | 1:CS:92:ARG:HD3  | 2.13                     | 0.64              |
| 1:BI:99:THR:HB    | 1:DK:10:TYR:CD2  | 2.33                     | 0.64              |
| 1:CR:198:VAL:HG22 | 1:CR:342:VAL:HB  | 1.80                     | 0.64              |
| 1:AH:290:PRO:O    | 1:AH:291:THR:OG1 | 2.13                     | 0.63              |
| 1:AP:105:ARG:HG2  | 1:CS:15:LYS:CG   | 2.28                     | 0.63              |
| 1:BS:10:TYR:OH    | 1:BV:162:ARG:NH2 | 2.31                     | 0.63              |
| 1:CP:98:ASN:OD1   | 1:CP:107:ARG:NH1 | 2.30                     | 0.63              |
| 1:AS:45:THR:HG23  | 1:CS:99:THR:OG1  | 1.98                     | 0.63              |
| 1:AB:44:GLN:NE2   | 1:AN:101:ALA:O   | 2.31                     | 0.63              |
| 1:AP:108:GLU:CB   | 1:CS:7:PHE:CZ    | 2.62                     | 0.63              |
| 1:BI:249:GLN:NE2  | 1:BI:257:LYS:O   | 2.29                     | 0.63              |
| 1:CU:52:ASP:OD1   | 1:CU:53:ALA:N    | 2.31                     | 0.63              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:DL:81:SER:OG    | 1:DL:134:ARG:NH2  | 2.31                     | 0.63              |
| 1:AF:298:ARG:NH1  | 1:AF:301:ASP:OD1  | 2.32                     | 0.63              |
| 1:AM:6:LEU:CD1    | 1:CR:71:ASP:HB2   | 2.26                     | 0.63              |
| 1:AM:16:LYS:HZ1   | 1:CN:19:PHE:HB3   | 1.64                     | 0.63              |
| 1:AS:213:PHE:HE2  | 1:AS:294:VAL:HG21 | 1.63                     | 0.63              |
| 1:AT:214:ASP:O    | 1:AT:215:GLU:HB2  | 1.97                     | 0.63              |
| 1:AW:108:GLU:HB3  | 1:BK:7:PHE:CE2    | 2.33                     | 0.63              |
| 1:CI:224:GLN:O    | 1:CI:227:THR:OG1  | 2.15                     | 0.63              |
| 1:DO:262:ASN:HB3  | 1:DQ:267:ILE:HD12 | 1.81                     | 0.63              |
| 1:AZ:44:GLN:NE2   | 1:BL:101:ALA:O    | 2.31                     | 0.63              |
| 1:CA:105:ARG:NE   | 1:CA:108:GLU:OE1  | 2.30                     | 0.63              |
| 1:CI:37:THR:OG1   | 1:CI:304:GLN:NE2  | 2.32                     | 0.63              |
| 1:DD:199:LYS:NZ   | 1:DD:220:ASP:OD2  | 2.31                     | 0.63              |
| 1:AP:105:ARG:HB3  | 1:CS:12:GLN:HG2   | 1.77                     | 0.63              |
| 1:AS:44:GLN:HG2   | 1:CS:101:ALA:CA   | 2.28                     | 0.63              |
| 1:BW:81:SER:O     | 1:BW:134:ARG:NH2  | 2.31                     | 0.63              |
| 1:DD:315:LEU:HD23 | 1:DD:316:ALA:N    | 2.14                     | 0.63              |
| 1:AD:230:SER:OG   | 1:AD:339:ALA:O    | 2.17                     | 0.63              |
| 1:AM:16:LYS:HG2   | 1:CN:102:ASN:C    | 2.18                     | 0.63              |
| 1:AS:73:GLU:HA    | 1:CS:3:ASN:OD1    | 1.99                     | 0.63              |
| 1:CD:137:VAL:HG23 | 1:CD:138:LEU:HD12 | 1.81                     | 0.63              |
| 1:DB:64:VAL:HG12  | 1:DF:160:ALA:HB1  | 1.81                     | 0.63              |
| 1:AB:83:VAL:O     | 1:AB:164:THR:HG22 | 1.99                     | 0.63              |
| 1:AM:206:ASN:O    | 1:AM:349:LYS:N    | 2.32                     | 0.63              |
| 1:AP:4:PRO:CD     | 1:CW:74:MET:SD    | 2.86                     | 0.63              |
| 1:BI:145:ASN:N    | 1:DP:19:PHE:HZ    | 1.90                     | 0.63              |
| 1:BO:162:ARG:NH1  | 1:BO:329:GLU:OE2  | 2.32                     | 0.63              |
| 1:CF:65:GLU:OE1   | 1:CF:65:GLU:N     | 2.32                     | 0.63              |
| 1:CP:275:ASP:OD1  | 1:CP:279:GLN:N    | 2.32                     | 0.63              |
| 1:CQ:198:VAL:HG23 | 1:CQ:342:VAL:HB   | 1.81                     | 0.63              |
| 1:AS:213:PHE:CE2  | 1:AS:294:VAL:HG21 | 2.34                     | 0.63              |
| 1:BI:71:ASP:C     | 1:DP:4:PRO:O      | 2.34                     | 0.63              |
| 1:BI:102:ASN:OD1  | 1:DK:12:GLN:N     | 2.18                     | 0.63              |
| 1:BK:206:ASN:O    | 1:BK:349:LYS:N    | 2.32                     | 0.63              |
| 1:BU:96:THR:H     | 1:DH:308:ARG:NH1  | 1.96                     | 0.63              |
| 1:CK:222:THR:HG22 | 1:CK:281:TYR:HE2  | 1.63                     | 0.63              |
| 1:DB:123:ASP:OD1  | 1:DC:58:ASP:N     | 2.32                     | 0.63              |
| 1:DB:245:PHE:HZ   | 1:DB:273:ILE:HD11 | 1.64                     | 0.63              |
| 1:DD:308:ARG:NE   | 1:DD:329:GLU:OE2  | 2.32                     | 0.63              |
| 1:AP:107:ARG:N    | 1:CS:13:ASN:OD1   | 2.30                     | 0.62              |
| 1:AV:252:THR:HG1  | 1:AV:255:SER:HG   | 1.40                     | 0.62              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BG:222:THR:OG1  | 1:BG:275:ASP:OD1  | 2.08                     | 0.62              |
| 1:BQ:213:PHE:HE2  | 1:BQ:294:VAL:HG21 | 1.63                     | 0.62              |
| 1:CE:308:ARG:NH1  | 1:CE:329:GLU:OE2  | 2.32                     | 0.62              |
| 1:AS:78:VAL:C     | 1:CW:147:ALA:O    | 2.37                     | 0.62              |
| 1:AW:136:ASP:OD1  | 1:AW:137:VAL:N    | 2.32                     | 0.62              |
| 1:BD:298:ARG:NH1  | 1:BD:301:ASP:OD1  | 2.32                     | 0.62              |
| 1:BQ:213:PHE:CE2  | 1:BQ:294:VAL:HG21 | 2.34                     | 0.62              |
| 1:CD:105:ARG:NH2  | 1:CL:50:GLN:OE1   | 2.32                     | 0.62              |
| 1:CD:334:HIS:NE2  | 1:CD:336:ASN:O    | 2.31                     | 0.62              |
| 1:CP:132:GLN:NE2  | 1:CT:60:ASN:OD1   | 2.32                     | 0.62              |
| 1:AB:31:THR:O     | 1:AB:35:SER:OG    | 2.09                     | 0.62              |
| 1:AM:171:CYS:HG   | 1:AM:340:SER:HG   | 1.32                     | 0.62              |
| 1:AP:3:ASN:C      | 1:CW:75:LYS:CG    | 2.23                     | 0.62              |
| 1:AS:144:THR:OG1  | 1:CW:142:TYR:O    | 2.17                     | 0.62              |
| 1:BU:16:LYS:HB2   | 1:DP:101:ALA:HB3  | 1.80                     | 0.62              |
| 1:BU:103:TYR:CD1  | 1:DP:16:LYS:HB3   | 2.34                     | 0.62              |
| 1:BU:318:ASP:C    | 1:DH:315:LEU:HD23 | 2.20                     | 0.62              |
| 1:BF:307:LEU:O    | 1:DK:99:THR:OG1   | 2.17                     | 0.62              |
| 1:DE:95:ASP:O     | 1:DN:308:ARG:NH1  | 2.32                     | 0.62              |
| 1:AF:145:ASN:O    | 1:AF:145:ASN:ND2  | 2.32                     | 0.62              |
| 1:AL:254:GLY:O    | 1:AL:255:SER:OG   | 2.14                     | 0.62              |
| 1:BI:145:ASN:OD1  | 1:DH:142:TYR:CE2  | 2.53                     | 0.62              |
| 1:BU:6:LEU:HB3    | 1:DH:74:MET:HE1   | 1.82                     | 0.62              |
| 1:CC:33:PHE:O     | 1:CC:37:THR:HG23  | 1.98                     | 0.62              |
| 1:DD:306:VAL:HG23 | 1:DD:330:VAL:HG12 | 1.82                     | 0.62              |
| 1:AD:275:ASP:OD1  | 1:AD:279:GLN:N    | 2.33                     | 0.62              |
| 1:AQ:162:ARG:NH1  | 1:AQ:329:GLU:OE2  | 2.32                     | 0.62              |
| 1:AZ:83:VAL:O     | 1:AZ:164:THR:HG22 | 1.99                     | 0.62              |
| 1:BD:145:ASN:ND2  | 1:BD:145:ASN:O    | 2.32                     | 0.62              |
| 1:BU:319:GLY:HA2  | 1:DH:313:THR:HG21 | 1.78                     | 0.62              |
| 1:CF:52:ASP:OD1   | 1:CF:53:ALA:N     | 2.32                     | 0.62              |
| 1:DE:82:ASN:ND2   | 1:DE:332:LEU:O    | 2.33                     | 0.62              |
| 1:AA:222:THR:OG1  | 1:AA:275:ASP:OD2  | 2.11                     | 0.62              |
| 1:AU:10:TYR:OH    | 1:AX:162:ARG:NH2  | 2.31                     | 0.62              |
| 1:BI:136:ASP:OD1  | 1:BI:137:VAL:N    | 2.32                     | 0.62              |
| 1:BU:136:ASP:OD1  | 1:BU:137:VAL:N    | 2.32                     | 0.62              |
| 1:CJ:230:SER:OG   | 1:CJ:339:ALA:O    | 2.10                     | 0.62              |
| 1:CS:237:ILE:HG23 | 1:CS:238:ASN:H    | 1.65                     | 0.62              |
| 1:BH:69:ALA:HB2   | 1:BT:90:VAL:HG11  | 1.82                     | 0.62              |
| 1:BI:103:TYR:OH   | 1:DM:142:TYR:HA   | 1.99                     | 0.62              |
| 1:AP:144:THR:OG1  | 1:CR:141:GLN:CG   | 2.48                     | 0.62              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AS:69:ALA:HB1   | 1:CS:5:THR:HG23   | 1.82                     | 0.62              |
| 1:BI:147:ALA:N    | 1:DH:143:LEU:HD13 | 2.11                     | 0.62              |
| 1:BU:5:THR:CA     | 1:DH:74:MET:HB3   | 2.23                     | 0.62              |
| 1:AG:111:TYR:OH   | 1:AM:52:ASP:OD2   | 2.07                     | 0.62              |
| 1:AK:136:ASP:OD1  | 1:AK:137:VAL:N    | 2.32                     | 0.62              |
| 1:AS:75:LYS:CA    | 1:CW:152:VAL:HG23 | 2.22                     | 0.62              |
| 1:AS:80:LYS:HA    | 1:CW:147:ALA:HA   | 1.82                     | 0.62              |
| 1:AW:7:PHE:CD1    | 1:BK:93:VAL:HG13  | 2.34                     | 0.62              |
| 1:CV:314:GLU:OE2  | 1:CV:324:TRP:NE1  | 2.33                     | 0.62              |
| 1:DG:90:VAL:HG11  | 1:DK:69:ALA:HB2   | 1.80                     | 0.62              |
| 1:DP:52:ASP:OD1   | 1:DP:53:ALA:N     | 2.33                     | 0.62              |
| 1:AF:85:GLN:HB2   | 1:AF:164:THR:HG23 | 1.82                     | 0.61              |
| 1:AI:222:THR:OG1  | 1:AI:275:ASP:OD1  | 2.08                     | 0.61              |
| 1:CT:90:VAL:HG11  | 1:CX:70:GLU:O     | 2.00                     | 0.61              |
| 1:CU:40:GLU:OE1   | 1:CU:333:ARG:NH2  | 2.33                     | 0.61              |
| 1:DA:241:HIS:NE2  | 1:DA:291:THR:O    | 2.33                     | 0.61              |
| 1:DA:252:THR:HG22 | 1:DA:253:GLN:H    | 1.65                     | 0.61              |
| 1:DD:80:LYS:O     | 1:DD:81:SER:OG    | 2.15                     | 0.61              |
| 1:DM:272:SER:O    | 1:DM:273:ILE:HD13 | 2.00                     | 0.61              |
| 1:AP:108:GLU:HG2  | 1:CS:12:GLN:N     | 2.14                     | 0.61              |
| 1:AS:146:SER:O    | 1:CW:79:ILE:CB    | 2.47                     | 0.61              |
| 1:BI:140:ASP:O    | 1:DH:144:THR:HB   | 2.00                     | 0.61              |
| 1:CK:96:THR:HG22  | 1:CK:97:ALA:H     | 1.65                     | 0.61              |
| 1:CR:83:VAL:HG21  | 1:CR:136:ASP:CB   | 2.30                     | 0.61              |
| 1:AP:215:GLU:HG2  | 1:AP:216:ALA:H    | 1.65                     | 0.61              |
| 1:AW:27:SER:O     | 1:AW:29:GLN:NE2   | 2.33                     | 0.61              |
| 1:BU:8:VAL:HG23   | 1:DP:96:THR:HB    | 1.83                     | 0.61              |
| 1:CH:196:VAL:N    | 1:CH:224:GLN:OE1  | 2.32                     | 0.61              |
| 1:CL:315:LEU:HD12 | 1:CL:323:LYS:HG2  | 1.81                     | 0.61              |
| 1:CQ:320:SER:OG   | 1:CT:327:GLU:OE2  | 2.04                     | 0.61              |
| 1:CY:317:LYS:NZ   | 1:CY:319:GLY:O    | 2.33                     | 0.61              |
| 1:DJ:30:ASP:OD1   | 1:DJ:287:ARG:NH1  | 2.33                     | 0.61              |
| 1:DP:203:ASN:ND2  | 1:DP:210:ASN:O    | 2.33                     | 0.61              |
| 1:AA:215:GLU:HB2  | 1:AA:248:LEU:HD12 | 1.83                     | 0.61              |
| 1:AS:144:THR:C    | 1:CW:143:LEU:O    | 2.27                     | 0.61              |
| 1:AS:145:ASN:HB3  | 1:CW:145:ASN:ND2  | 2.15                     | 0.61              |
| 1:BB:275:ASP:OD1  | 1:BB:279:GLN:N    | 2.33                     | 0.61              |
| 1:BU:92:ARG:CA    | 1:DP:6:LEU:O      | 2.49                     | 0.61              |
| 1:CI:148:ALA:O    | 1:CI:152:VAL:HG22 | 2.00                     | 0.61              |
| 1:CL:99:THR:O     | 1:CL:100:THR:OG1  | 2.19                     | 0.61              |
| 1:AK:143:LEU:N    | 1:BN:146:SER:N    | 2.28                     | 0.61              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AM:6:LEU:HD12   | 1:CR:71:ASP:CG    | 2.21                     | 0.61              |
| 1:AN:127:ILE:O    | 1:AN:130:SER:OG   | 2.11                     | 0.61              |
| 1:AP:144:THR:CG2  | 1:CR:138:LEU:HD22 | 2.31                     | 0.61              |
| 1:AW:99:THR:HA    | 1:BN:308:ARG:HG3  | 0.67                     | 0.61              |
| 1:BL:203:ASN:O    | 1:BL:349:LYS:NZ   | 2.31                     | 0.61              |
| 1:CD:137:VAL:HG23 | 1:CD:138:LEU:CD1  | 2.29                     | 0.61              |
| 1:AE:213:PHE:CE1  | 1:AE:294:VAL:HG21 | 2.36                     | 0.61              |
| 1:AM:7:PHE:CE2    | 1:CN:108:GLU:HG2  | 2.36                     | 0.61              |
| 1:BK:171:CYS:SG   | 1:BK:340:SER:OG   | 2.51                     | 0.61              |
| 1:BS:82:ASN:ND2   | 1:BS:164:THR:O    | 2.33                     | 0.61              |
| 1:BW:308:ARG:NH2  | 1:BW:327:GLU:OE1  | 2.32                     | 0.61              |
| 1:CF:320:SER:OG   | 1:CK:65:GLU:O     | 2.19                     | 0.61              |
| 1:CN:157:ASP:O    | 1:CN:158:THR:OG1  | 2.15                     | 0.61              |
| 1:DD:287:ARG:NH1  | 1:DE:226:TYR:O    | 2.34                     | 0.61              |
| 1:AY:215:GLU:HB2  | 1:AY:248:LEU:HD12 | 1.83                     | 0.61              |
| 1:CF:82:ASN:ND2   | 1:CF:332:LEU:O    | 2.34                     | 0.61              |
| 1:CW:158:THR:O    | 1:CW:159:HIS:ND1  | 2.33                     | 0.61              |
| 1:DH:226:TYR:O    | 1:DP:287:ARG:NE   | 2.27                     | 0.61              |
| 1:DK:92:ARG:HE    | 1:DM:74:MET:HE1   | 1.65                     | 0.61              |
| 1:BU:7:PHE:CE1    | 1:DP:97:ALA:HB3   | 2.35                     | 0.61              |
| 1:CY:8:VAL:HG13   | 1:CY:9:SER:H      | 1.65                     | 0.61              |
| 1:CZ:176:LEU:CD2  | 1:CZ:181:VAL:HG13 | 2.30                     | 0.61              |
| 1:AB:202:GLN:O    | 1:AB:349:LYS:NZ   | 2.32                     | 0.61              |
| 1:AN:31:THR:O     | 1:AN:35:SER:OG    | 2.12                     | 0.61              |
| 1:AW:14:GLY:C     | 1:BK:103:TYR:OH   | 2.34                     | 0.61              |
| 1:BA:222:THR:HG22 | 1:BA:279:GLN:OE1  | 2.01                     | 0.61              |
| 1:BC:65:GLU:O     | 1:BV:94:SER:OG    | 2.18                     | 0.61              |
| 1:BG:290:PRO:O    | 1:BG:291:THR:OG1  | 2.15                     | 0.61              |
| 1:DI:305:MET:O    | 1:DI:331:GLY:N    | 2.34                     | 0.61              |
| 1:AQ:203:ASN:HA   | 1:AQ:214:ASP:HB2  | 1.83                     | 0.60              |
| 1:AR:92:ARG:NH2   | 1:AU:71:ASP:OD1   | 2.34                     | 0.60              |
| 1:AS:71:ASP:OD1   | 1:CS:4:PRO:CD     | 2.47                     | 0.60              |
| 1:BU:27:SER:O     | 1:BU:29:GLN:NE2   | 2.33                     | 0.60              |
| 1:BU:105:ARG:HG3  | 1:DP:16:LYS:HD3   | 1.82                     | 0.60              |
| 1:BY:254:GLY:O    | 1:BY:257:LYS:NZ   | 2.33                     | 0.60              |
| 1:AE:65:GLU:O     | 1:AX:94:SER:OG    | 2.18                     | 0.60              |
| 1:AI:255:SER:OG   | 1:AL:250:GLU:OE2  | 2.18                     | 0.60              |
| 1:AJ:69:ALA:HB2   | 1:AV:90:VAL:HG11  | 1.82                     | 0.60              |
| 1:AM:215:GLU:HG3  | 1:AM:248:LEU:CD2  | 2.31                     | 0.60              |
| 1:BG:89:LYS:NZ    | 1:BG:123:ASP:OD2  | 2.34                     | 0.60              |
| 1:BI:11:ASP:N     | 1:DK:94:SER:O     | 2.34                     | 0.60              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CL:34:VAL:HG21  | 1:CL:125:GLU:OE1  | 2.01                     | 0.60              |
| 1:CP:44:GLN:N     | 1:CP:44:GLN:OE1   | 2.33                     | 0.60              |
| 1:DH:24:SER:O     | 1:DJ:51:THR:OG1   | 2.19                     | 0.60              |
| 1:AS:141:GLN:HA   | 1:CW:141:GLN:HE21 | 1.66                     | 0.60              |
| 1:AZ:51:THR:OG1   | 1:BD:24:SER:O     | 2.09                     | 0.60              |
| 1:BC:213:PHE:CE1  | 1:BC:294:VAL:HG21 | 2.36                     | 0.60              |
| 1:BI:145:ASN:N    | 1:DP:19:PHE:CE2   | 2.62                     | 0.60              |
| 1:BU:92:ARG:HB3   | 1:DP:6:LEU:N      | 2.15                     | 0.60              |
| 1:CE:213:PHE:CD1  | 1:CE:218:ILE:HD11 | 2.37                     | 0.60              |
| 1:CL:334:HIS:NE2  | 1:CL:336:ASN:O    | 2.34                     | 0.60              |
| 1:CQ:213:PHE:CE1  | 1:CQ:345:THR:HG22 | 2.36                     | 0.60              |
| 1:AU:82:ASN:ND2   | 1:AU:164:THR:O    | 2.33                     | 0.60              |
| 1:BI:108:GLU:CA   | 1:DK:11:ASP:OD1   | 2.49                     | 0.60              |
| 1:BK:215:GLU:HG3  | 1:BK:248:LEU:CD2  | 2.31                     | 0.60              |
| 1:BO:203:ASN:HA   | 1:BO:214:ASP:HB2  | 1.83                     | 0.60              |
| 1:BY:262:ASN:ND2  | 1:BZ:265:GLN:O    | 2.32                     | 0.60              |
| 1:CB:146:SER:O    | 1:CB:149:ASP:N    | 2.30                     | 0.60              |
| 1:CZ:42:ILE:HD12  | 1:CZ:305:MET:HB3  | 1.83                     | 0.60              |
| 1:DE:6:LEU:HD21   | 1:DL:92:ARG:NH2   | 2.17                     | 0.60              |
| 1:AK:143:LEU:CD2  | 1:BN:145:ASN:CG   | 2.66                     | 0.60              |
| 1:AM:319:GLY:O    | 1:CV:68:ARG:NE    | 2.32                     | 0.60              |
| 1:BE:52:ASP:OD1   | 1:BE:53:ALA:N     | 2.35                     | 0.60              |
| 1:BU:100:THR:HG23 | 1:DH:307:LEU:CG   | 2.32                     | 0.60              |
| 1:CE:82:ASN:OD1   | 1:CE:83:VAL:N     | 2.34                     | 0.60              |
| 1:CP:213:PHE:CE1  | 1:CP:294:VAL:HG21 | 2.36                     | 0.60              |
| 1:AB:215:GLU:OE1  | 1:AB:256:ARG:NH2  | 2.35                     | 0.60              |
| 1:AI:89:LYS:NZ    | 1:AI:123:ASP:OD2  | 2.34                     | 0.60              |
| 1:AT:82:ASN:ND2   | 1:AT:164:THR:O    | 2.35                     | 0.60              |
| 1:AW:19:PHE:CD2   | 1:BK:16:LYS:HD3   | 2.33                     | 0.60              |
| 1:BD:85:GLN:HB2   | 1:BD:164:THR:HG23 | 1.82                     | 0.60              |
| 1:DI:258:ARG:NH1  | 1:DI:267:ILE:O    | 2.34                     | 0.60              |
| 1:DQ:51:THR:O     | 1:DQ:77:THR:OG1   | 2.19                     | 0.60              |
| 1:AB:85:GLN:HB2   | 1:AB:164:THR:HG23 | 1.84                     | 0.60              |
| 1:AS:73:GLU:CG    | 1:CS:4:PRO:HA     | 2.32                     | 0.60              |
| 1:BE:213:PHE:CD1  | 1:BE:218:ILE:HD11 | 2.36                     | 0.60              |
| 1:BI:144:THR:C    | 1:DH:143:LEU:HG   | 2.21                     | 0.60              |
| 1:BN:215:GLU:HG2  | 1:BN:216:ALA:H    | 1.65                     | 0.60              |
| 1:BR:82:ASN:ND2   | 1:BR:164:THR:O    | 2.35                     | 0.60              |
| 1:BT:252:THR:OG1  | 1:BT:255:SER:OG   | 2.14                     | 0.60              |
| 1:BU:94:SER:HB3   | 1:DP:8:VAL:C      | 2.20                     | 0.60              |
| 1:CO:157:ASP:O    | 1:CO:158:THR:OG1  | 2.13                     | 0.60              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:DG:84:THR:OG1   | 1:DG:329:GLU:OE2  | 2.10                     | 0.60              |
| 1:DQ:82:ASN:ND2   | 1:DQ:332:LEU:O    | 2.34                     | 0.60              |
| 1:AN:203:ASN:O    | 1:AN:349:LYS:NZ   | 2.31                     | 0.60              |
| 1:AW:16:LYS:HD3   | 1:BK:101:ALA:O    | 1.98                     | 0.60              |
| 1:BI:74:MET:HG3   | 1:DP:4:PRO:HB2    | 1.84                     | 0.60              |
| 1:BP:92:ARG:NH2   | 1:BS:71:ASP:OD1   | 2.34                     | 0.60              |
| 1:BU:13:ASN:CB    | 1:DP:105:ARG:CZ   | 2.53                     | 0.60              |
| 1:CO:64:VAL:HG12  | 1:CO:65:GLU:N     | 2.17                     | 0.60              |
| 1:CV:71:ASP:OD1   | 1:CV:72:GLY:N     | 2.35                     | 0.60              |
| 1:DH:256:ARG:NH1  | 1:DJ:254:GLY:O    | 2.33                     | 0.60              |
| 1:DK:249:GLN:OE1  | 1:DK:258:ARG:NH2  | 2.34                     | 0.60              |
| 1:DP:182:ASP:OD1  | 1:DP:183:LYS:N    | 2.35                     | 0.60              |
| 1:AP:8:VAL:HB     | 1:CS:96:THR:HG21  | 0.61                     | 0.60              |
| 1:AS:72:GLY:CA    | 1:CS:3:ASN:O      | 2.49                     | 0.60              |
| 1:AW:100:THR:CG2  | 1:BN:45:THR:HA    | 2.32                     | 0.60              |
| 1:AW:316:ALA:HB1  | 1:BN:316:ALA:HB2  | 1.84                     | 0.60              |
| 1:BB:230:SER:OG   | 1:BB:339:ALA:O    | 2.17                     | 0.60              |
| 1:BI:320:SER:N    | 1:DO:66:GLY:O     | 2.33                     | 0.60              |
| 1:DE:315:LEU:HD11 | 1:DE:325:MET:SD   | 2.42                     | 0.60              |
| 1:AP:94:SER:HB3   | 1:CS:8:VAL:CA     | 2.32                     | 0.60              |
| 1:BU:92:ARG:O     | 1:DP:7:PHE:HB2    | 1.92                     | 0.60              |
| 1:DJ:18:SER:OG    | 1:DL:46:ILE:O     | 2.19                     | 0.60              |
| 1:AG:213:PHE:CD1  | 1:AG:218:ILE:HD11 | 2.36                     | 0.59              |
| 1:DD:197:THR:HG21 | 1:DD:338:TYR:HA   | 1.83                     | 0.59              |
| 1:AM:100:THR:CB   | 1:CN:11:ASP:OD1   | 2.50                     | 0.59              |
| 1:AS:190:ASP:O    | 1:AS:194:GLY:N    | 2.35                     | 0.59              |
| 1:BG:136:ASP:OD1  | 1:BG:137:VAL:N    | 2.35                     | 0.59              |
| 1:BI:145:ASN:CB   | 1:DP:19:PHE:CD2   | 2.84                     | 0.59              |
| 1:BT:27:SER:O     | 1:BT:29:GLN:NE2   | 2.35                     | 0.59              |
| 1:CQ:70:GLU:OE1   | 1:CQ:70:GLU:N     | 2.35                     | 0.59              |
| 1:DN:101:ALA:O    | 1:DO:44:GLN:NE2   | 2.35                     | 0.59              |
| 1:AS:76:PRO:N     | 1:CW:153:ALA:HA   | 1.90                     | 0.59              |
| 1:BI:69:ALA:O     | 1:BU:323:LYS:NZ   | 2.26                     | 0.59              |
| 1:CE:52:ASP:OD1   | 1:CE:53:ALA:N     | 2.35                     | 0.59              |
| 1:CE:67:SER:OG    | 1:CU:88:ARG:NH1   | 2.33                     | 0.59              |
| 1:CG:127:ILE:O    | 1:CG:130:SER:OG   | 2.16                     | 0.59              |
| 1:CQ:82:ASN:OD1   | 1:CQ:83:VAL:N     | 2.34                     | 0.59              |
| 1:CR:81:SER:O     | 1:CR:134:ARG:NH2  | 2.35                     | 0.59              |
| 1:CU:170:LEU:HD23 | 1:CU:334:HIS:HB2  | 1.83                     | 0.59              |
| 1:DN:287:ARG:NH2  | 1:DP:226:TYR:O    | 2.35                     | 0.59              |
| 1:AP:4:PRO:O      | 1:CS:92:ARG:NE    | 2.35                     | 0.59              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AS:76:PRO:CD    | 1:CS:10:TYR:CB    | 2.76                     | 0.59              |
| 1:AV:27:SER:O     | 1:AV:29:GLN:NE2   | 2.35                     | 0.59              |
| 1:BD:252:THR:OG1  | 1:BD:255:SER:OG   | 2.20                     | 0.59              |
| 1:BU:8:VAL:HG12   | 1:DP:95:ASP:HB2   | 1.78                     | 0.59              |
| 1:CU:322:GLU:N    | 1:CU:322:GLU:OE1  | 2.35                     | 0.59              |
| 1:DA:336:ASN:ND2  | 1:DE:24:SER:OG    | 2.36                     | 0.59              |
| 1:AF:252:THR:OG1  | 1:AF:255:SER:OG   | 2.20                     | 0.59              |
| 1:AZ:85:GLN:HB2   | 1:AZ:164:THR:HG23 | 1.84                     | 0.59              |
| 1:BI:316:ALA:HB2  | 1:DM:317:LYS:O    | 2.03                     | 0.59              |
| 1:BU:14:GLY:HA3   | 1:DP:102:ASN:HD21 | 0.43                     | 0.59              |
| 1:BZ:88:ARG:NH1   | 1:BZ:327:GLU:OE2  | 2.36                     | 0.59              |
| 1:CJ:95:ASP:OD1   | 1:CP:308:ARG:NH2  | 2.36                     | 0.59              |
| 1:CL:250:GLU:OE2  | 1:CL:258:ARG:NH2  | 2.35                     | 0.59              |
| 1:CQ:215:GLU:OE1  | 1:CQ:215:GLU:N    | 2.36                     | 0.59              |
| 1:CX:33:PHE:O     | 1:CX:37:THR:HG23  | 2.02                     | 0.59              |
| 1:DB:237:ILE:HG22 | 1:DB:283:ILE:HD11 | 1.83                     | 0.59              |
| 1:DE:85:GLN:HB2   | 1:DE:164:THR:HG23 | 1.84                     | 0.59              |
| 1:BI:105:ARG:CG   | 1:DK:14:GLY:N     | 2.66                     | 0.59              |
| 1:CD:54:LEU:HD12  | 1:CH:119:GLU:HG3  | 1.83                     | 0.59              |
| 1:CS:17:LEU:HD22  | 1:CW:143:LEU:CD2  | 2.31                     | 0.59              |
| 1:AI:23:ILE:HG23  | 1:AO:50:GLN:HB2   | 1.84                     | 0.59              |
| 1:AP:105:ARG:HG2  | 1:CS:15:LYS:HG2   | 1.83                     | 0.59              |
| 1:AP:109:LEU:N    | 1:CS:7:PHE:CE1    | 2.71                     | 0.59              |
| 1:AZ:215:GLU:OE1  | 1:AZ:256:ARG:NH2  | 2.35                     | 0.59              |
| 1:BK:162:ARG:NH1  | 1:BK:329:GLU:OE2  | 2.36                     | 0.59              |
| 1:BY:136:ASP:OD1  | 1:BY:137:VAL:N    | 2.35                     | 0.59              |
| 1:AC:222:THR:HG22 | 1:AC:279:GLN:OE1  | 2.01                     | 0.59              |
| 1:AE:84:THR:OG1   | 1:AE:162:ARG:NH1  | 2.36                     | 0.59              |
| 1:AK:142:TYR:C    | 1:BN:143:LEU:O    | 2.41                     | 0.59              |
| 1:AW:4:PRO:HD2    | 1:BN:75:LYS:O     | 2.01                     | 0.59              |
| 1:BD:250:GLU:OE1  | 1:BD:258:ARG:NH2  | 2.35                     | 0.59              |
| 1:DF:192:ASP:OD1  | 1:DF:193:THR:N    | 2.35                     | 0.59              |
| 1:DO:197:THR:HG23 | 1:DO:198:VAL:HG23 | 1.84                     | 0.59              |
| 1:AA:34:VAL:HG23  | 1:AA:125:GLU:OE1  | 2.03                     | 0.59              |
| 1:AG:52:ASP:OD1   | 1:AG:53:ALA:N     | 2.34                     | 0.59              |
| 1:AK:145:ASN:HB3  | 1:BK:17:LEU:HD13  | 1.84                     | 0.59              |
| 1:AM:96:THR:H     | 1:CN:8:VAL:N      | 2.01                     | 0.59              |
| 1:AP:9:SER:H      | 1:CS:96:THR:CG2   | 2.14                     | 0.59              |
| 1:AP:104:GLY:O    | 1:CS:15:LYS:HG3   | 1.59                     | 0.59              |
| 1:BG:255:SER:OG   | 1:BJ:250:GLU:OE2  | 2.18                     | 0.59              |
| 1:BI:74:MET:SD    | 1:DP:7:PHE:CB     | 2.75                     | 0.59              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BI:96:THR:H     | 1:DM:152:VAL:CG2  | 2.16                     | 0.59              |
| 1:BI:103:TYR:N    | 1:DK:13:ASN:O     | 2.36                     | 0.59              |
| 1:BT:214:ASP:HB3  | 1:BT:217:ASP:HB2  | 1.83                     | 0.59              |
| 1:BU:4:PRO:CB     | 1:DH:74:MET:HB2   | 2.30                     | 0.59              |
| 1:BW:82:ASN:ND2   | 1:BW:332:LEU:O    | 2.36                     | 0.59              |
| 1:DL:136:ASP:OD1  | 1:DL:137:VAL:N    | 2.36                     | 0.59              |
| 1:DL:275:ASP:OD1  | 1:DL:279:GLN:N    | 2.36                     | 0.59              |
| 1:AP:150:PRO:HD3  | 1:CR:143:LEU:HB2  | 1.84                     | 0.59              |
| 1:BC:84:THR:OG1   | 1:BC:162:ARG:NH1  | 2.36                     | 0.59              |
| 1:BF:74:MET:HE2   | 1:DK:6:LEU:HG     | 1.76                     | 0.59              |
| 1:BI:91:VAL:CG1   | 1:DK:7:PHE:HD1    | 2.15                     | 0.59              |
| 1:BU:92:ARG:O     | 1:DP:7:PHE:CA     | 2.50                     | 0.59              |
| 1:CA:190:ASP:O    | 1:CA:194:GLY:N    | 2.35                     | 0.59              |
| 1:CD:298:ARG:O    | 1:CD:299:SER:OG   | 2.15                     | 0.59              |
| 1:CY:206:ASN:O    | 1:CY:349:LYS:N    | 2.35                     | 0.59              |
| 1:DD:122:ARG:NH1  | 1:DE:55:ALA:O     | 2.36                     | 0.59              |
| 1:BI:92:ARG:HG3   | 1:DK:6:LEU:CB     | 2.28                     | 0.58              |
| 1:BU:12:GLN:NE2   | 1:DP:100:THR:OG1  | 2.36                     | 0.58              |
| 1:BU:36:MET:O     | 1:BU:299:SER:OG   | 2.21                     | 0.58              |
| 1:DI:254:GLY:O    | 1:DI:257:LYS:NZ   | 2.35                     | 0.58              |
| 1:AM:92:ARG:HH11  | 1:CR:156:ASN:CG   | 2.03                     | 0.58              |
| 1:AY:34:VAL:HG23  | 1:AY:125:GLU:OE1  | 2.03                     | 0.58              |
| 1:BE:132:GLN:HA   | 1:BE:180:VAL:HG12 | 1.84                     | 0.58              |
| 1:DL:303:THR:OG1  | 1:DL:333:ARG:NH1  | 2.35                     | 0.58              |
| 1:AM:318:ASP:N    | 1:CV:68:ARG:NE    | 2.51                     | 0.58              |
| 1:BF:144:THR:C    | 1:DM:144:THR:HB   | 2.24                     | 0.58              |
| 1:BJ:186:ASN:OD1  | 1:BJ:200:VAL:HG23 | 2.03                     | 0.58              |
| 1:CD:237:ILE:HD13 | 1:CD:294:VAL:HG22 | 1.85                     | 0.58              |
| 1:CP:163:LYS:NZ   | 1:CP:179:GLY:O    | 2.30                     | 0.58              |
| 1:CW:25:VAL:HG12  | 1:CW:25:VAL:O     | 2.02                     | 0.58              |
| 1:DF:167:PHE:HA   | 1:DF:170:LEU:HA   | 1.86                     | 0.58              |
| 1:AF:250:GLU:OE1  | 1:AF:258:ARG:NH2  | 2.35                     | 0.58              |
| 1:AV:214:ASP:HB3  | 1:AV:217:ASP:HB2  | 1.83                     | 0.58              |
| 1:AW:100:THR:CG2  | 1:BN:84:THR:OG1   | 2.52                     | 0.58              |
| 1:BG:23:ILE:HG23  | 1:BM:50:GLN:HB2   | 1.84                     | 0.58              |
| 1:BG:298:ARG:O    | 1:BG:299:SER:OG   | 2.17                     | 0.58              |
| 1:BU:318:ASP:HA   | 1:DH:315:LEU:HA   | 1.85                     | 0.58              |
| 1:CP:111:TYR:OH   | 1:CT:52:ASP:OD2   | 2.20                     | 0.58              |
| 1:CU:82:ASN:OD1   | 1:CU:83:VAL:N     | 2.37                     | 0.58              |
| 1:CZ:304:GLN:O    | 1:CZ:306:VAL:HG13 | 2.03                     | 0.58              |
| 1:AJ:214:ASP:HB3  | 1:AJ:217:ASP:OD2  | 2.04                     | 0.58              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AZ:202:GLN:O    | 1:AZ:349:LYS:NZ   | 2.32                     | 0.58              |
| 1:DO:89:LYS:HG2   | 1:DO:120:ILE:HD13 | 1.86                     | 0.58              |
| 1:AB:136:ASP:OD1  | 1:AB:137:VAL:N    | 2.36                     | 0.58              |
| 1:AD:306:VAL:HG12 | 1:AD:330:VAL:HG12 | 1.86                     | 0.58              |
| 1:AM:93:VAL:O     | 1:CN:8:VAL:HG11   | 2.03                     | 0.58              |
| 1:AP:92:ARG:NH1   | 1:CS:6:LEU:CA     | 2.53                     | 0.58              |
| 1:AS:73:GLU:HG2   | 1:CS:3:ASN:HB3    | 1.84                     | 0.58              |
| 1:AV:306:VAL:HG13 | 1:AV:330:VAL:HG12 | 1.86                     | 0.58              |
| 1:AY:127:ILE:O    | 1:AY:130:SER:OG   | 2.12                     | 0.58              |
| 1:BR:162:ARG:NH1  | 1:BR:329:GLU:OE2  | 2.37                     | 0.58              |
| 1:CD:246:ALA:O    | 1:CD:258:ARG:NH1  | 2.36                     | 0.58              |
| 1:CH:250:GLU:OE2  | 1:CH:258:ARG:NH2  | 2.36                     | 0.58              |
| 1:CM:157:ASP:O    | 1:CM:158:THR:OG1  | 2.16                     | 0.58              |
| 1:CP:5:THR:OG1    | 1:CT:156:ASN:ND2  | 2.37                     | 0.58              |
| 1:DL:25:VAL:O     | 1:DL:25:VAL:HG23  | 2.04                     | 0.58              |
| 1:DO:45:THR:OG1   | 1:DO:162:ARG:NH2  | 2.37                     | 0.58              |
| 1:AI:136:ASP:OD1  | 1:AI:137:VAL:N    | 2.35                     | 0.58              |
| 1:AZ:136:ASP:OD1  | 1:AZ:137:VAL:N    | 2.36                     | 0.58              |
| 1:BI:148:ALA:HB2  | 1:DH:79:ILE:HD11  | 1.86                     | 0.58              |
| 1:CA:78:VAL:O     | 1:CA:78:VAL:HG12  | 2.03                     | 0.58              |
| 1:CM:70:GLU:OE1   | 1:CM:70:GLU:N     | 2.37                     | 0.58              |
| 1:DE:144:THR:O    | 1:DE:145:ASN:ND2  | 2.37                     | 0.58              |
| 1:DQ:132:GLN:OE1  | 1:DQ:163:LYS:NZ   | 2.25                     | 0.58              |
| 1:AM:162:ARG:NH1  | 1:AM:329:GLU:OE2  | 2.36                     | 0.58              |
| 1:AW:108:GLU:CD   | 1:BK:12:GLN:HG2   | 2.18                     | 0.58              |
| 1:BZ:30:ASP:O     | 1:BZ:31:THR:OG1   | 2.19                     | 0.58              |
| 1:CA:44:GLN:HG2   | 1:CA:45:THR:H     | 1.68                     | 0.58              |
| 1:DA:131:GLY:HA3  | 1:DA:180:VAL:HG22 | 1.84                     | 0.58              |
| 1:DD:262:ASN:C    | 1:DE:267:ILE:HD11 | 2.23                     | 0.58              |
| 1:DJ:122:ARG:NH1  | 1:DL:55:ALA:O     | 2.35                     | 0.58              |
| 1:DM:88:ARG:NH1   | 1:DO:65:GLU:O     | 2.37                     | 0.58              |
| 1:BN:240:ALA:O    | 1:BN:243:LYS:NZ   | 2.36                     | 0.58              |
| 1:CM:8:VAL:O      | 1:CM:9:SER:OG     | 2.19                     | 0.58              |
| 1:CZ:218:ILE:O    | 1:CZ:222:THR:HG23 | 2.04                     | 0.58              |
| 1:DH:128:LEU:HD22 | 1:DH:332:LEU:HD13 | 1.85                     | 0.58              |
| 1:AP:8:VAL:HB     | 1:CS:96:THR:HG22  | 1.68                     | 0.58              |
| 1:AS:73:GLU:CG    | 1:CS:3:ASN:CB     | 2.82                     | 0.58              |
| 1:BI:144:THR:C    | 1:DP:19:PHE:CE2   | 2.77                     | 0.58              |
| 1:BX:261:GLU:OE1  | 1:BX:262:ASN:N    | 2.37                     | 0.58              |
| 1:CN:250:GLU:OE1  | 1:CN:258:ARG:NH2  | 2.35                     | 0.58              |
| 1:CO:52:ASP:OD1   | 1:CO:53:ALA:N     | 2.37                     | 0.58              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:DC:86:ILE:HD11  | 1:DD:63:HIS:O     | 2.04                     | 0.58              |
| 1:AS:74:MET:CB    | 1:CW:154:GLY:O    | 1.69                     | 0.57              |
| 1:AW:7:PHE:HB2    | 1:BK:93:VAL:CG2   | 2.27                     | 0.57              |
| 1:BI:13:ASN:CB    | 1:DM:76:PRO:HG2   | 2.29                     | 0.57              |
| 1:BI:94:SER:OG    | 1:DM:152:VAL:HG23 | 2.03                     | 0.57              |
| 1:BI:103:TYR:C    | 1:DK:14:GLY:O     | 2.42                     | 0.57              |
| 1:CE:237:ILE:HG13 | 1:CE:285:VAL:HG12 | 1.86                     | 0.57              |
| 1:CL:249:GLN:OE1  | 1:CL:258:ARG:NE   | 2.37                     | 0.57              |
| 1:AP:17:LEU:HD22  | 1:CW:145:ASN:HB2  | 1.63                     | 0.57              |
| 1:AR:250:GLU:OE2  | 1:AR:258:ARG:NH2  | 2.36                     | 0.57              |
| 1:BQ:190:ASP:O    | 1:BQ:194:GLY:N    | 2.35                     | 0.57              |
| 1:BU:100:THR:HG23 | 1:DH:307:LEU:CB   | 2.34                     | 0.57              |
| 1:BV:60:ASN:O     | 1:BV:60:ASN:ND2   | 2.37                     | 0.57              |
| 1:CC:159:HIS:ND1  | 1:CC:159:HIS:O    | 2.37                     | 0.57              |
| 1:CI:275:ASP:OD1  | 1:CI:279:GLN:N    | 2.37                     | 0.57              |
| 1:CL:30:ASP:O     | 1:CL:31:THR:OG1   | 2.19                     | 0.57              |
| 1:CW:83:VAL:HG22  | 1:CW:84:THR:H     | 1.70                     | 0.57              |
| 1:DG:214:ASP:OD2  | 1:DG:244:ILE:HG22 | 2.04                     | 0.57              |
| 1:DH:208:THR:O    | 1:DH:208:THR:HG22 | 2.05                     | 0.57              |
| 1:AP:8:VAL:CG1    | 1:CS:94:SER:CB    | 2.81                     | 0.57              |
| 1:BH:214:ASP:HB3  | 1:BH:217:ASP:OD2  | 2.04                     | 0.57              |
| 1:BI:17:LEU:H     | 1:DM:143:LEU:HD11 | 1.68                     | 0.57              |
| 1:BI:312:ARG:O    | 1:DP:317:LYS:NZ   | 2.36                     | 0.57              |
| 1:CE:329:GLU:OE2  | 1:CY:96:THR:OG1   | 2.16                     | 0.57              |
| 1:CI:235:ILE:HG23 | 1:CI:296:PHE:CE1  | 2.39                     | 0.57              |
| 1:DE:71:ASP:OD2   | 1:DO:5:THR:HG21   | 2.03                     | 0.57              |
| 1:AG:132:GLN:HA   | 1:AG:180:VAL:HG12 | 1.84                     | 0.57              |
| 1:AL:186:ASN:OD1  | 1:AL:200:VAL:HG23 | 2.03                     | 0.57              |
| 1:AP:12:GLN:HE22  | 1:CS:102:ASN:HD22 | 1.40                     | 0.57              |
| 1:AP:240:ALA:O    | 1:AP:243:LYS:NZ   | 2.36                     | 0.57              |
| 1:AS:71:ASP:CG    | 1:CS:4:PRO:CD     | 2.72                     | 0.57              |
| 1:AT:162:ARG:NH1  | 1:AT:329:GLU:OE2  | 2.37                     | 0.57              |
| 1:AW:103:TYR:N    | 1:BN:44:GLN:HG2   | 1.95                     | 0.57              |
| 1:BI:101:ALA:O    | 1:DK:15:LYS:HA    | 2.04                     | 0.57              |
| 1:CE:303:THR:OG1  | 1:CE:333:ARG:NH1  | 2.37                     | 0.57              |
| 1:DH:198:VAL:HG12 | 1:DH:342:VAL:HG22 | 1.87                     | 0.57              |
| 1:DQ:89:LYS:NZ    | 1:DQ:123:ASP:OD2  | 2.27                     | 0.57              |
| 1:AN:105:ARG:NH2  | 1:AN:108:GLU:OE2  | 2.38                     | 0.57              |
| 1:BU:8:VAL:HB     | 1:DP:96:THR:OG1   | 2.04                     | 0.57              |
| 1:BW:265:GLN:OE1  | 1:BW:266:PHE:CE2  | 2.58                     | 0.57              |
| 1:BX:26:LEU:HD11  | 1:CC:229:GLY:O    | 2.04                     | 0.57              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AM:16:LYS:HZ1   | 1:CN:19:PHE:CB    | 2.17                     | 0.57              |
| 1:AN:33:PHE:CE1   | 1:AN:37:THR:HG21  | 2.40                     | 0.57              |
| 1:BL:31:THR:O     | 1:BL:35:SER:OG    | 2.12                     | 0.57              |
| 1:BU:102:ASN:N    | 1:DH:43:ASN:HB3   | 2.19                     | 0.57              |
| 1:CL:157:ASP:OD1  | 1:CZ:321:TYR:OH   | 2.21                     | 0.57              |
| 1:DN:298:ARG:NE   | 1:DN:301:ASP:OD1  | 2.37                     | 0.57              |
| 1:AL:74:MET:SD    | 1:AX:91:VAL:HG23  | 2.45                     | 0.57              |
| 1:AM:14:GLY:CA    | 1:CN:105:ARG:NH1  | 2.61                     | 0.57              |
| 1:AM:97:ALA:HB3   | 1:CN:9:SER:HB2    | 1.65                     | 0.57              |
| 1:AS:222:THR:HB   | 1:AS:279:GLN:OE1  | 2.04                     | 0.57              |
| 1:BF:65:GLU:CD    | 1:DP:95:ASP:O     | 2.43                     | 0.57              |
| 1:BJ:48:SER:OG    | 1:BJ:143:LEU:HD11 | 2.05                     | 0.57              |
| 1:BL:33:PHE:CE1   | 1:BL:37:THR:HG21  | 2.40                     | 0.57              |
| 1:BP:250:GLU:OE2  | 1:BP:258:ARG:NH2  | 2.36                     | 0.57              |
| 1:DH:116:LYS:O    | 1:DH:120:ILE:HD12 | 2.05                     | 0.57              |
| 1:AB:51:THR:OG1   | 1:AF:24:SER:O     | 2.09                     | 0.57              |
| 1:AH:237:ILE:CD1  | 1:AH:294:VAL:HG22 | 2.35                     | 0.57              |
| 1:AL:54:LEU:HD12  | 1:AX:27:SER:HB2   | 1.87                     | 0.57              |
| 1:AV:98:ASN:ND2   | 1:AV:98:ASN:O     | 2.38                     | 0.57              |
| 1:AX:196:VAL:N    | 1:AX:224:GLN:OE1  | 2.38                     | 0.57              |
| 1:BL:105:ARG:NH2  | 1:BL:108:GLU:OE2  | 2.38                     | 0.57              |
| 1:BN:215:GLU:HG2  | 1:BN:216:ALA:N    | 2.20                     | 0.57              |
| 1:CA:224:GLN:O    | 1:CA:227:THR:OG1  | 2.23                     | 0.57              |
| 1:CL:308:ARG:NH2  | 1:CL:329:GLU:OE1  | 2.38                     | 0.57              |
| 1:CQ:314:GLU:OE1  | 1:CQ:324:TRP:NE1  | 2.38                     | 0.57              |
| 1:DJ:231:GLU:OE2  | 1:DJ:298:ARG:NE   | 2.37                     | 0.57              |
| 1:AK:308:ARG:NH2  | 1:BK:96:THR:HG1   | 2.00                     | 0.57              |
| 1:AM:97:ALA:HB2   | 1:CN:9:SER:C      | 2.24                     | 0.57              |
| 1:AP:215:GLU:HG2  | 1:AP:216:ALA:N    | 2.20                     | 0.57              |
| 1:BF:237:ILE:CD1  | 1:BF:294:VAL:HG22 | 2.35                     | 0.57              |
| 1:BQ:222:THR:HB   | 1:BQ:279:GLN:OE1  | 2.04                     | 0.57              |
| 1:BU:100:THR:HG23 | 1:DH:307:LEU:HA   | 1.87                     | 0.57              |
| 1:CB:240:ALA:O    | 1:CB:243:LYS:NZ   | 2.37                     | 0.57              |
| 1:CE:157:ASP:O    | 1:CE:158:THR:OG1  | 2.15                     | 0.57              |
| 1:CK:132:GLN:NE2  | 1:CK:164:THR:O    | 2.38                     | 0.57              |
| 1:CY:308:ARG:NH1  | 1:CY:327:GLU:OE1  | 2.37                     | 0.57              |
| 1:DD:58:ASP:O     | 1:DD:61:ASN:ND2   | 2.37                     | 0.57              |
| 1:DK:52:ASP:OD1   | 1:DK:53:ALA:N     | 2.37                     | 0.57              |
| 1:DM:65:GLU:N     | 1:DM:65:GLU:OE1   | 2.38                     | 0.57              |
| 1:AW:15:LYS:N     | 1:BK:103:TYR:CZ   | 2.73                     | 0.57              |
| 1:BI:12:GLN:N     | 1:DK:94:SER:O     | 2.29                     | 0.57              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CO:253:GLN:OE1  | 1:CO:253:GLN:N    | 2.37                     | 0.57              |
| 1:CZ:222:THR:HG22 | 1:CZ:281:TYR:HE2  | 1.69                     | 0.57              |
| 1:DG:334:HIS:NE2  | 1:DG:336:ASN:O    | 2.38                     | 0.57              |
| 1:DP:8:VAL:O      | 1:DP:8:VAL:HG13   | 2.05                     | 0.57              |
| 1:AP:8:VAL:HG12   | 1:CS:94:SER:HB2   | 1.87                     | 0.56              |
| 1:AS:79:ILE:O     | 1:CW:147:ALA:N    | 2.38                     | 0.56              |
| 1:AW:7:PHE:CG     | 1:BK:93:VAL:CG1   | 2.77                     | 0.56              |
| 1:BB:306:VAL:HG12 | 1:BB:330:VAL:HG12 | 1.86                     | 0.56              |
| 1:BF:40:GLU:OE1   | 1:BF:333:ARG:NH1  | 2.38                     | 0.56              |
| 1:BI:146:SER:O    | 1:DH:79:ILE:HG21  | 1.82                     | 0.56              |
| 1:BU:99:THR:OG1   | 1:DH:307:LEU:HD23 | 2.04                     | 0.56              |
| 1:BZ:105:ARG:NH2  | 1:BZ:108:GLU:OE2  | 2.38                     | 0.56              |
| 1:CW:122:ARG:NH2  | 1:CZ:58:ASP:OD1   | 2.37                     | 0.56              |
| 1:CZ:222:THR:HG22 | 1:CZ:281:TYR:CE2  | 2.39                     | 0.56              |
| 1:DA:158:THR:HG23 | 1:DA:158:THR:O    | 2.05                     | 0.56              |
| 1:DD:192:ASP:OD1  | 1:DD:193:THR:N    | 2.37                     | 0.56              |
| 1:DO:87:LEU:HB3   | 1:DO:120:ILE:HD11 | 1.86                     | 0.56              |
| 1:DO:237:ILE:HG21 | 1:DO:285:VAL:HG22 | 1.87                     | 0.56              |
| 1:AA:127:ILE:O    | 1:AA:130:SER:OG   | 2.12                     | 0.56              |
| 1:AL:48:SER:OG    | 1:AL:143:LEU:HD11 | 2.05                     | 0.56              |
| 1:AY:254:GLY:O    | 1:AZ:257:LYS:NZ   | 2.21                     | 0.56              |
| 1:BF:65:GLU:OE2   | 1:DP:99:THR:CG2   | 2.53                     | 0.56              |
| 1:BI:145:ASN:O    | 1:DH:48:SER:OG    | 2.24                     | 0.56              |
| 1:BT:306:VAL:HG13 | 1:BT:330:VAL:HG12 | 1.86                     | 0.56              |
| 1:CL:208:THR:O    | 1:CL:208:THR:HG22 | 2.06                     | 0.56              |
| 1:DA:66:GLY:O     | 1:DE:88:ARG:NH1   | 2.37                     | 0.56              |
| 1:AG:241:HIS:NE2  | 1:AG:291:THR:O    | 2.37                     | 0.56              |
| 1:AI:290:PRO:O    | 1:AI:291:THR:OG1  | 2.15                     | 0.56              |
| 1:AM:314:GLU:OE2  | 1:CR:315:LEU:CD2  | 2.52                     | 0.56              |
| 1:AW:36:MET:O     | 1:AW:299:SER:OG   | 2.21                     | 0.56              |
| 1:BI:92:ARG:NE    | 1:DK:6:LEU:CG     | 2.69                     | 0.56              |
| 1:BI:322:GLU:C    | 1:DK:7:PHE:CD2    | 2.74                     | 0.56              |
| 1:BU:96:THR:OG1   | 1:DP:9:SER:OG     | 1.87                     | 0.56              |
| 1:CB:307:LEU:HD23 | 1:CB:329:GLU:CD   | 2.26                     | 0.56              |
| 1:CY:25:VAL:O     | 1:CY:25:VAL:HG13  | 2.06                     | 0.56              |
| 1:DD:237:ILE:HG21 | 1:DD:285:VAL:HG22 | 1.87                     | 0.56              |
| 1:DI:168:GLN:NE2  | 1:DI:295:TYR:OH   | 2.38                     | 0.56              |
| 1:AK:69:ALA:O     | 1:AW:323:LYS:NZ   | 2.26                     | 0.56              |
| 1:AP:320:SER:HA   | 1:CZ:65:GLU:CD    | 2.08                     | 0.56              |
| 1:BI:320:SER:OG   | 1:DO:64:VAL:HB    | 2.05                     | 0.56              |
| 1:BJ:74:MET:SD    | 1:BV:91:VAL:HG23  | 2.45                     | 0.56              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BX:95:ASP:O     | 1:BX:96:THR:OG1   | 2.16                     | 0.56              |
| 1:CT:6:LEU:O      | 1:CT:8:VAL:HG13   | 2.05                     | 0.56              |
| 1:AI:298:ARG:O    | 1:AI:299:SER:OG   | 2.17                     | 0.56              |
| 1:AP:7:PHE:C      | 1:CS:92:ARG:NH2   | 2.58                     | 0.56              |
| 1:AP:8:VAL:C      | 1:CS:96:THR:CB    | 2.73                     | 0.56              |
| 1:BB:88:ARG:NH2   | 1:BC:67:SER:OG    | 2.37                     | 0.56              |
| 1:BJ:54:LEU:HD12  | 1:BV:27:SER:HB2   | 1.87                     | 0.56              |
| 1:BN:171:CYS:SG   | 1:BN:340:SER:OG   | 2.53                     | 0.56              |
| 1:CK:114:GLU:OE2  | 1:CK:312:ARG:NH2  | 2.39                     | 0.56              |
| 1:DC:91:VAL:HG12  | 1:DC:324:TRP:O    | 2.06                     | 0.56              |
| 1:DD:23:ILE:HD11  | 1:DE:52:ASP:HB2   | 1.87                     | 0.56              |
| 1:DE:52:ASP:OD1   | 1:DE:53:ALA:N     | 2.39                     | 0.56              |
| 1:DF:258:ARG:NH1  | 1:DF:267:ILE:O    | 2.38                     | 0.56              |
| 1:AM:101:ALA:C    | 1:CR:44:GLN:NE2   | 2.58                     | 0.56              |
| 1:BF:215:GLU:O    | 1:BF:215:GLU:HG2  | 2.06                     | 0.56              |
| 1:BI:320:SER:O    | 1:DM:153:ALA:HB1  | 2.01                     | 0.56              |
| 1:BX:49:TRP:NE1   | 1:BX:334:HIS:O    | 2.38                     | 0.56              |
| 1:CI:263:THR:O    | 1:CI:263:THR:HG22 | 2.06                     | 0.56              |
| 1:CU:8:VAL:HG13   | 1:CU:8:VAL:O      | 2.06                     | 0.56              |
| 1:CY:246:ALA:O    | 1:CY:258:ARG:NH1  | 2.36                     | 0.56              |
| 1:AD:88:ARG:NH2   | 1:AE:67:SER:OG    | 2.37                     | 0.56              |
| 1:AE:220:ASP:OD1  | 1:AE:221:MET:N    | 2.39                     | 0.56              |
| 1:AL:9:SER:OG     | 1:AO:65:GLU:OE1   | 2.23                     | 0.56              |
| 1:AP:79:ILE:CD1   | 1:CR:147:ALA:HB3  | 2.19                     | 0.56              |
| 1:AW:99:THR:N     | 1:BN:308:ARG:HG3  | 2.18                     | 0.56              |
| 1:AX:60:ASN:ND2   | 1:AX:60:ASN:O     | 2.37                     | 0.56              |
| 1:BL:39:LYS:HD3   | 1:BL:306:VAL:HG21 | 1.87                     | 0.56              |
| 1:BW:252:THR:HG23 | 1:BW:252:THR:O    | 2.05                     | 0.56              |
| 1:CD:290:PRO:O    | 1:CD:291:THR:HG22 | 2.05                     | 0.56              |
| 1:CW:83:VAL:O     | 1:CW:164:THR:HG22 | 2.06                     | 0.56              |
| 1:DB:59:GLY:O     | 1:DB:61:ASN:ND2   | 2.39                     | 0.56              |
| 1:DE:33:PHE:O     | 1:DE:37:THR:OG1   | 2.24                     | 0.56              |
| 1:DP:31:THR:OG1   | 1:DP:125:GLU:OE1  | 2.24                     | 0.56              |
| 1:AY:290:PRO:O    | 1:AY:291:THR:HG22 | 2.06                     | 0.56              |
| 1:CE:8:VAL:HG13   | 1:CE:8:VAL:O      | 2.06                     | 0.56              |
| 1:CR:86:ILE:HG21  | 1:CR:88:ARG:NH2   | 2.20                     | 0.56              |
| 1:CV:202:GLN:N    | 1:CV:217:ASP:OD2  | 2.39                     | 0.56              |
| 1:DK:82:ASN:ND2   | 1:DK:332:LEU:O    | 2.39                     | 0.56              |
| 1:AA:290:PRO:O    | 1:AA:291:THR:HG22 | 2.06                     | 0.56              |
| 1:AH:215:GLU:HG2  | 1:AH:215:GLU:O    | 2.06                     | 0.56              |
| 1:AW:105:ARG:HD3  | 1:BK:15:LYS:CG    | 2.10                     | 0.56              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BE:241:HIS:NE2  | 1:BE:291:THR:O    | 2.37                     | 0.56              |
| 1:BT:98:ASN:O     | 1:BT:98:ASN:ND2   | 2.38                     | 0.56              |
| 1:BU:92:ARG:CD    | 1:DP:5:THR:O      | 2.54                     | 0.56              |
| 1:BU:94:SER:HB3   | 1:DP:8:VAL:CA     | 2.21                     | 0.56              |
| 1:CM:192:ASP:OD1  | 1:CM:193:THR:N    | 2.39                     | 0.56              |
| 1:DJ:196:VAL:HG23 | 1:DJ:196:VAL:O    | 2.06                     | 0.56              |
| 1:AN:39:LYS:HD3   | 1:AN:306:VAL:HG21 | 1.87                     | 0.56              |
| 1:AW:100:THR:CG2  | 1:BN:84:THR:CB    | 2.84                     | 0.56              |
| 1:BA:190:ASP:OD1  | 1:BA:192:ASP:N    | 2.39                     | 0.56              |
| 1:BD:253:GLN:N    | 1:BD:253:GLN:OE1  | 2.38                     | 0.56              |
| 1:BE:260:PHE:O    | 1:BE:263:THR:OG1  | 2.21                     | 0.56              |
| 1:BI:93:VAL:HG12  | 1:DK:6:LEU:HD13   | 1.87                     | 0.56              |
| 1:BJ:9:SER:OG     | 1:BM:65:GLU:OE1   | 2.23                     | 0.56              |
| 1:BS:103:TYR:O    | 1:BV:50:GLN:NE2   | 2.39                     | 0.56              |
| 1:BU:92:ARG:C     | 1:DP:7:PHE:HB3    | 2.16                     | 0.56              |
| 1:BW:147:ALA:O    | 1:BW:149:ASP:N    | 2.39                     | 0.56              |
| 1:CF:153:ALA:O    | 1:CF:158:THR:HG21 | 2.05                     | 0.56              |
| 1:DD:215:GLU:O    | 1:DD:217:ASP:N    | 2.38                     | 0.56              |
| 1:DE:144:THR:HG22 | 1:DE:145:ASN:HD22 | 1.70                     | 0.56              |
| 1:BI:13:ASN:CG    | 1:DM:76:PRO:CG    | 2.72                     | 0.55              |
| 1:BI:144:THR:HG23 | 1:DH:143:LEU:HD23 | 0.58                     | 0.55              |
| 1:BU:94:SER:HB3   | 1:DP:9:SER:N      | 2.21                     | 0.55              |
| 1:CS:238:ASN:ND2  | 1:CS:239:PRO:O    | 2.36                     | 0.55              |
| 1:DO:138:LEU:HD23 | 1:DO:138:LEU:H    | 1.71                     | 0.55              |
| 1:DQ:210:ASN:OD1  | 1:DQ:211:ILE:N    | 2.39                     | 0.55              |
| 1:AK:145:ASN:CB   | 1:BN:142:TYR:O    | 2.40                     | 0.55              |
| 1:AP:44:GLN:NE2   | 1:CN:101:ALA:O    | 2.39                     | 0.55              |
| 1:BG:127:ILE:O    | 1:BG:130:SER:OG   | 2.22                     | 0.55              |
| 1:CK:192:ASP:OD1  | 1:CK:193:THR:N    | 2.39                     | 0.55              |
| 1:CQ:157:ASP:O    | 1:CQ:158:THR:OG1  | 2.19                     | 0.55              |
| 1:CX:83:VAL:O     | 1:CX:164:THR:HG22 | 2.06                     | 0.55              |
| 1:AC:190:ASP:OD1  | 1:AC:192:ASP:N    | 2.39                     | 0.55              |
| 1:AW:4:PRO:HD3    | 1:BN:76:PRO:N     | 2.20                     | 0.55              |
| 1:AW:6:LEU:HA     | 1:BK:92:ARG:O     | 2.06                     | 0.55              |
| 1:BI:100:THR:H    | 1:DK:10:TYR:HA    | 1.72                     | 0.55              |
| 1:BI:262:ASN:O    | 1:BI:262:ASN:ND2  | 2.40                     | 0.55              |
| 1:BN:125:GLU:OE2  | 1:BN:286:ASN:ND2  | 2.39                     | 0.55              |
| 1:BY:214:ASP:OD2  | 1:BY:217:ASP:N    | 2.39                     | 0.55              |
| 1:CG:267:ILE:HD12 | 1:CK:262:ASN:HB3  | 1.88                     | 0.55              |
| 1:CI:31:THR:HG23  | 1:CI:31:THR:O     | 2.06                     | 0.55              |
| 1:CV:63:HIS:NE2   | 1:CV:70:GLU:OE2   | 2.39                     | 0.55              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AM:100:THR:HG22 | 1:CR:44:GLN:HA    | 1.88                     | 0.55              |
| 1:BN:275:ASP:OD1  | 1:BN:279:GLN:N    | 2.39                     | 0.55              |
| 1:BU:103:TYR:CZ   | 1:DP:16:LYS:O     | 2.59                     | 0.55              |
| 1:BZ:200:VAL:HG12 | 1:BZ:344:PHE:HB2  | 1.88                     | 0.55              |
| 1:CQ:124:LEU:HD13 | 1:CQ:330:VAL:HG21 | 1.88                     | 0.55              |
| 1:DB:23:ILE:HG22  | 1:DC:50:GLN:HG3   | 1.88                     | 0.55              |
| 1:DN:290:PRO:O    | 1:DN:291:THR:OG1  | 2.21                     | 0.55              |
| 1:AH:40:GLU:OE1   | 1:AH:333:ARG:NH1  | 2.38                     | 0.55              |
| 1:BC:220:ASP:OD1  | 1:BC:221:MET:N    | 2.39                     | 0.55              |
| 1:DA:48:SER:OG    | 1:DA:80:LYS:O     | 2.19                     | 0.55              |
| 1:DC:131:GLY:O    | 1:DC:180:VAL:HG23 | 2.06                     | 0.55              |
| 1:DG:108:GLU:OE1  | 1:DG:108:GLU:N    | 2.39                     | 0.55              |
| 1:AO:92:ARG:NH1   | 1:AR:71:ASP:OD2   | 2.40                     | 0.55              |
| 1:AO:262:ASN:OD1  | 1:AR:267:ILE:HD12 | 2.06                     | 0.55              |
| 1:AP:318:ASP:O    | 1:CZ:68:ARG:HA    | 2.06                     | 0.55              |
| 1:BI:17:LEU:CD1   | 1:DM:143:LEU:C    | 2.66                     | 0.55              |
| 1:BI:143:LEU:CA   | 1:DP:17:LEU:HD11  | 2.33                     | 0.55              |
| 1:BI:314:GLU:HG3  | 1:DM:316:ALA:CB   | 2.36                     | 0.55              |
| 1:BS:215:GLU:HG3  | 1:BS:248:LEU:CD2  | 2.37                     | 0.55              |
| 1:CB:33:PHE:O     | 1:CB:37:THR:HG23  | 2.06                     | 0.55              |
| 1:CQ:45:THR:OG1   | 1:CQ:162:ARG:NH2  | 2.40                     | 0.55              |
| 1:DB:64:VAL:HG12  | 1:DF:160:ALA:CB   | 2.37                     | 0.55              |
| 1:AH:298:ARG:O    | 1:AH:299:SER:OG   | 2.16                     | 0.55              |
| 1:AI:71:ASP:OD2   | 1:AL:92:ARG:NE    | 2.40                     | 0.55              |
| 1:AI:127:ILE:O    | 1:AI:130:SER:OG   | 2.22                     | 0.55              |
| 1:AK:44:GLN:NE2   | 1:BK:101:ALA:O    | 2.39                     | 0.55              |
| 1:BM:262:ASN:OD1  | 1:BP:267:ILE:HD12 | 2.06                     | 0.55              |
| 1:CK:215:GLU:OE1  | 1:CK:248:LEU:HD13 | 2.07                     | 0.55              |
| 1:CX:82:ASN:OD1   | 1:CX:83:VAL:N     | 2.39                     | 0.55              |
| 1:AP:108:GLU:HB3  | 1:CS:7:PHE:HE1    | 1.50                     | 0.55              |
| 1:AR:275:ASP:OD1  | 1:AR:279:GLN:N    | 2.39                     | 0.55              |
| 1:BA:127:ILE:O    | 1:BA:130:SER:OG   | 2.16                     | 0.55              |
| 1:BK:131:GLY:O    | 1:BK:181:VAL:HG23 | 2.07                     | 0.55              |
| 1:CE:57:VAL:HG21  | 1:CU:122:ARG:HE   | 1.72                     | 0.55              |
| 1:CF:202:GLN:N    | 1:CF:217:ASP:OD2  | 2.40                     | 0.55              |
| 1:CI:196:VAL:HG23 | 1:CI:196:VAL:O    | 2.07                     | 0.55              |
| 1:CS:93:VAL:HG13  | 1:CS:321:TYR:OH   | 2.06                     | 0.55              |
| 1:CU:303:THR:OG1  | 1:CU:333:ARG:NH1  | 2.40                     | 0.55              |
| 1:DO:8:VAL:HG12   | 1:DO:9:SER:N      | 2.22                     | 0.55              |
| 1:AK:262:ASN:O    | 1:AK:262:ASN:ND2  | 2.40                     | 0.55              |
| 1:BC:145:ASN:O    | 1:BC:145:ASN:ND2  | 2.40                     | 0.55              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BI:144:THR:HA   | 1:DH:143:LEU:CA   | 2.37                     | 0.55              |
| 1:BW:192:ASP:OD1  | 1:BW:193:THR:N    | 2.36                     | 0.55              |
| 1:DD:169:PHE:O    | 1:DD:173:HIS:ND1  | 2.39                     | 0.55              |
| 1:DE:96:THR:OG1   | 1:DP:65:GLU:OE2   | 2.16                     | 0.55              |
| 1:AE:145:ASN:ND2  | 1:AE:145:ASN:O    | 2.40                     | 0.55              |
| 1:AF:253:GLN:OE1  | 1:AF:253:GLN:N    | 2.38                     | 0.55              |
| 1:AM:131:GLY:O    | 1:AM:181:VAL:HG23 | 2.07                     | 0.55              |
| 1:AP:92:ARG:HD3   | 1:CS:5:THR:HG22   | 1.89                     | 0.55              |
| 1:AU:215:GLU:HG3  | 1:AU:248:LEU:CD2  | 2.37                     | 0.55              |
| 1:BI:93:VAL:HG12  | 1:DK:6:LEU:CD1    | 2.37                     | 0.55              |
| 1:BY:64:VAL:HG13  | 1:CC:160:ALA:HA   | 1.89                     | 0.55              |
| 1:BY:82:ASN:ND2   | 1:BY:332:LEU:O    | 2.36                     | 0.55              |
| 1:CC:167:PHE:N    | 1:CC:169:PHE:O    | 2.35                     | 0.55              |
| 1:CE:308:ARG:NH1  | 1:CY:96:THR:OG1   | 2.39                     | 0.55              |
| 1:CF:97:ALA:O     | 1:CF:100:THR:OG1  | 2.25                     | 0.55              |
| 1:CR:264:LYS:O    | 1:CV:270:VAL:HG13 | 2.06                     | 0.55              |
| 1:CS:134:ARG:O    | 1:CS:135:THR:OG1  | 2.17                     | 0.55              |
| 1:CT:203:ASN:ND2  | 1:CT:212:GLY:O    | 2.40                     | 0.55              |
| 1:CV:31:THR:HB    | 1:CV:34:VAL:HG12  | 1.89                     | 0.55              |
| 1:CY:195:ALA:HB2  | 1:CY:227:THR:HG23 | 1.89                     | 0.55              |
| 1:CZ:206:ASN:ND2  | 1:CZ:215:GLU:OE2  | 2.40                     | 0.55              |
| 1:DG:198:VAL:HG22 | 1:DG:342:VAL:HG12 | 1.89                     | 0.55              |
| 1:DH:226:TYR:OH   | 1:DP:285:VAL:O    | 2.25                     | 0.55              |
| 1:DN:257:LYS:O    | 1:DN:272:SER:OG   | 2.25                     | 0.55              |
| 1:BC:206:ASN:OD1  | 1:BC:214:ASP:HB3  | 2.07                     | 0.54              |
| 1:BL:74:MET:N     | 1:BL:74:MET:SD    | 2.80                     | 0.54              |
| 1:BU:3:ASN:CA     | 1:DP:115:LYS:NZ   | 2.70                     | 0.54              |
| 1:BX:33:PHE:O     | 1:BX:37:THR:HG23  | 2.06                     | 0.54              |
| 1:CM:97:ALA:O     | 1:CM:100:THR:OG1  | 2.24                     | 0.54              |
| 1:CW:50:GLN:N     | 1:CW:50:GLN:OE1   | 2.40                     | 0.54              |
| 1:DB:144:THR:O    | 1:DB:148:ALA:N    | 2.40                     | 0.54              |
| 1:DG:266:PHE:CE2  | 1:DK:248:LEU:HD23 | 2.42                     | 0.54              |
| 1:AP:108:GLU:O    | 1:CS:7:PHE:HE1    | 1.88                     | 0.54              |
| 1:AP:125:GLU:OE2  | 1:AP:286:ASN:ND2  | 2.39                     | 0.54              |
| 1:AS:213:PHE:HE1  | 1:AS:218:ILE:HD11 | 1.71                     | 0.54              |
| 1:BB:96:THR:O     | 1:BB:99:THR:OG1   | 2.25                     | 0.54              |
| 1:BF:250:GLU:OE2  | 1:BL:251:ASN:ND2  | 2.40                     | 0.54              |
| 1:BI:103:TYR:OH   | 1:DM:142:TYR:CA   | 2.55                     | 0.54              |
| 1:BP:249:GLN:OE1  | 1:BP:249:GLN:N    | 2.40                     | 0.54              |
| 1:BU:7:PHE:CE2    | 1:DP:97:ALA:CB    | 2.84                     | 0.54              |
| 1:BX:85:GLN:HB2   | 1:BX:164:THR:HG23 | 1.89                     | 0.54              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CD:102:ASN:OD1  | 1:CD:105:ARG:NH1  | 2.41                     | 0.54              |
| 1:CN:237:ILE:HD11 | 1:CN:241:HIS:CB   | 2.37                     | 0.54              |
| 1:DH:192:ASP:OD1  | 1:DH:193:THR:N    | 2.41                     | 0.54              |
| 1:AP:100:THR:CB   | 1:CW:307:LEU:HD13 | 2.31                     | 0.54              |
| 1:AP:275:ASP:OD1  | 1:AP:279:GLN:N    | 2.39                     | 0.54              |
| 1:BQ:220:ASP:OD1  | 1:BQ:221:MET:N    | 2.40                     | 0.54              |
| 1:BX:124:LEU:HD11 | 1:BX:128:LEU:HD11 | 1.89                     | 0.54              |
| 1:DD:192:ASP:OD1  | 1:DD:193:THR:HG22 | 2.07                     | 0.54              |
| 1:DN:44:GLN:O     | 1:DN:307:LEU:HD21 | 2.07                     | 0.54              |
| 1:AF:196:VAL:N    | 1:AF:224:GLN:OE1  | 2.39                     | 0.54              |
| 1:AP:88:ARG:NH2   | 1:AS:64:VAL:O     | 2.39                     | 0.54              |
| 1:AP:139:ALA:C    | 1:CR:144:THR:HG23 | 2.26                     | 0.54              |
| 1:AS:143:LEU:HG   | 1:CW:144:THR:H    | 1.71                     | 0.54              |
| 1:BQ:70:GLU:N     | 1:BQ:70:GLU:OE2   | 2.41                     | 0.54              |
| 1:CI:257:LYS:NZ   | 1:CI:278:GLY:O    | 2.37                     | 0.54              |
| 1:CO:30:ASP:OD1   | 1:CO:31:THR:N     | 2.39                     | 0.54              |
| 1:CW:246:ALA:O    | 1:CW:258:ARG:NH1  | 2.40                     | 0.54              |
| 1:DG:306:VAL:HG12 | 1:DG:330:VAL:HG12 | 1.87                     | 0.54              |
| 1:AJ:271:ASN:OD1  | 1:AJ:272:SER:N    | 2.41                     | 0.54              |
| 1:AR:249:GLN:OE1  | 1:AR:249:GLN:N    | 2.41                     | 0.54              |
| 1:AS:220:ASP:OD1  | 1:AS:221:MET:N    | 2.40                     | 0.54              |
| 1:AY:218:ILE:O    | 1:AY:222:THR:HG23 | 2.08                     | 0.54              |
| 1:BG:71:ASP:OD2   | 1:BJ:92:ARG:NE    | 2.40                     | 0.54              |
| 1:CC:54:LEU:HD22  | 1:CC:75:LYS:HB3   | 1.89                     | 0.54              |
| 1:CD:196:VAL:N    | 1:CD:224:GLN:OE1  | 2.39                     | 0.54              |
| 1:CT:82:ASN:ND2   | 1:CT:164:THR:O    | 2.41                     | 0.54              |
| 1:DA:132:GLN:O    | 1:DA:166:ALA:N    | 2.40                     | 0.54              |
| 1:DB:171:CYS:SG   | 1:DB:342:VAL:HG23 | 2.46                     | 0.54              |
| 1:DG:49:TRP:NE1   | 1:DG:334:HIS:O    | 2.41                     | 0.54              |
| 1:DH:108:GLU:N    | 1:DH:108:GLU:OE1  | 2.41                     | 0.54              |
| 1:DJ:136:ASP:OD1  | 1:DJ:137:VAL:N    | 2.40                     | 0.54              |
| 1:AD:96:THR:O     | 1:AD:99:THR:OG1   | 2.25                     | 0.54              |
| 1:AO:254:GLY:O    | 1:AO:255:SER:OG   | 2.15                     | 0.54              |
| 1:AW:3:ASN:N      | 1:BN:75:LYS:HG3   | 2.20                     | 0.54              |
| 1:BA:60:ASN:ND2   | 1:BA:60:ASN:O     | 2.41                     | 0.54              |
| 1:BI:97:ALA:HB1   | 1:DK:11:ASP:N     | 2.23                     | 0.54              |
| 1:BI:109:LEU:HD13 | 1:DK:7:PHE:CD2    | 2.42                     | 0.54              |
| 1:BM:92:ARG:NH1   | 1:BP:71:ASP:OD2   | 2.40                     | 0.54              |
| 1:BX:82:ASN:OD1   | 1:BX:165:GLY:N    | 2.41                     | 0.54              |
| 1:BY:334:HIS:NE2  | 1:BY:336:ASN:O    | 2.41                     | 0.54              |
| 1:CB:144:THR:HG23 | 1:CB:144:THR:O    | 2.08                     | 0.54              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CZ:97:ALA:O     | 1:CZ:100:THR:OG1  | 2.25                     | 0.54              |
| 1:DO:6:LEU:O      | 1:DO:8:VAL:HG23   | 2.08                     | 0.54              |
| 1:AN:74:MET:N     | 1:AN:74:MET:SD    | 2.80                     | 0.54              |
| 1:AP:7:PHE:CE1    | 1:CW:75:LYS:O     | 2.59                     | 0.54              |
| 1:AP:148:ALA:CA   | 1:CR:143:LEU:HA   | 2.38                     | 0.54              |
| 1:AS:70:GLU:N     | 1:AS:70:GLU:OE2   | 2.41                     | 0.54              |
| 1:BD:196:VAL:N    | 1:BD:224:GLN:OE1  | 2.39                     | 0.54              |
| 1:BI:7:PHE:HZ     | 1:DM:69:ALA:HB1   | 1.72                     | 0.54              |
| 1:BT:317:LYS:NZ   | 1:BT:319:GLY:O    | 2.30                     | 0.54              |
| 1:DI:83:VAL:HG11  | 1:DI:136:ASP:OD2  | 2.08                     | 0.54              |
| 1:AM:16:LYS:HZ2   | 1:CN:19:PHE:HD2   | 1.48                     | 0.54              |
| 1:AW:7:PHE:HB3    | 1:BK:93:VAL:CB    | 2.37                     | 0.54              |
| 1:AW:100:THR:HG21 | 1:BN:84:THR:OG1   | 2.07                     | 0.54              |
| 1:BQ:143:LEU:HD12 | 1:BQ:144:THR:N    | 2.22                     | 0.54              |
| 1:BU:14:GLY:C     | 1:DP:102:ASN:OD1  | 2.46                     | 0.54              |
| 1:CP:64:VAL:HG12  | 1:CP:64:VAL:O     | 2.07                     | 0.54              |
| 1:DQ:8:VAL:HG22   | 1:DQ:9:SER:H      | 1.73                     | 0.54              |
| 1:AW:3:ASN:N      | 1:BN:76:PRO:O     | 2.36                     | 0.54              |
| 1:BI:320:SER:HB2  | 1:DM:153:ALA:CB   | 2.33                     | 0.54              |
| 1:BQ:213:PHE:HE1  | 1:BQ:218:ILE:HD11 | 1.72                     | 0.54              |
| 1:BV:196:VAL:N    | 1:BV:224:GLN:OE1  | 2.38                     | 0.54              |
| 1:CT:124:LEU:HD13 | 1:CT:330:VAL:HG21 | 1.90                     | 0.54              |
| 1:DD:124:LEU:HD11 | 1:DD:330:VAL:CG2  | 2.38                     | 0.54              |
| 1:DH:291:THR:O    | 1:DH:291:THR:HG22 | 2.08                     | 0.54              |
| 1:AA:162:ARG:NH1  | 1:AA:329:GLU:OE2  | 2.40                     | 0.54              |
| 1:AM:93:VAL:O     | 1:CN:8:VAL:CG1    | 2.54                     | 0.54              |
| 1:AW:104:GLY:CA   | 1:BK:16:LYS:CE    | 2.54                     | 0.54              |
| 1:AX:105:ARG:NH2  | 1:AX:108:GLU:OE2  | 2.41                     | 0.54              |
| 1:BI:72:GLY:C     | 1:DP:3:ASN:CG     | 2.67                     | 0.54              |
| 1:BI:214:ASP:HB3  | 1:BI:217:ASP:HB2  | 1.90                     | 0.54              |
| 1:BN:88:ARG:NH2   | 1:BQ:64:VAL:O     | 2.39                     | 0.54              |
| 1:BP:275:ASP:OD1  | 1:BP:279:GLN:N    | 2.39                     | 0.54              |
| 1:DP:306:VAL:HA   | 1:DP:330:VAL:HG12 | 1.89                     | 0.54              |
| 1:AE:206:ASN:OD1  | 1:AE:214:ASP:HB3  | 2.08                     | 0.53              |
| 1:AS:44:GLN:HE21  | 1:CS:102:ASN:N    | 2.05                     | 0.53              |
| 1:AS:45:THR:CG2   | 1:CS:99:THR:OG1   | 2.57                     | 0.53              |
| 1:AY:162:ARG:NH1  | 1:AY:329:GLU:OE2  | 2.40                     | 0.53              |
| 1:BR:231:GLU:OE1  | 1:BR:298:ARG:NH1  | 2.41                     | 0.53              |
| 1:BV:105:ARG:NH2  | 1:BV:108:GLU:OE2  | 2.41                     | 0.53              |
| 1:BX:82:ASN:ND2   | 1:BX:332:LEU:O    | 2.38                     | 0.53              |
| 1:BZ:171:CYS:SG   | 1:BZ:342:VAL:HG21 | 2.49                     | 0.53              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CF:87:LEU:HB2   | 1:CF:120:ILE:HD11 | 1.90                     | 0.53              |
| 1:CN:97:ALA:O     | 1:CN:100:THR:OG1  | 2.25                     | 0.53              |
| 1:CO:83:VAL:HG12  | 1:CO:84:THR:N     | 2.23                     | 0.53              |
| 1:CV:97:ALA:O     | 1:CV:100:THR:OG1  | 2.26                     | 0.53              |
| 1:DD:332:LEU:HD23 | 1:DD:332:LEU:H    | 1.73                     | 0.53              |
| 1:DL:64:VAL:O     | 1:DL:67:SER:OG    | 2.26                     | 0.53              |
| 1:DL:200:VAL:HG22 | 1:DL:344:PHE:HB2  | 1.89                     | 0.53              |
| 1:AA:218:ILE:O    | 1:AA:222:THR:HG23 | 2.08                     | 0.53              |
| 1:AP:100:THR:HG22 | 1:CW:44:GLN:CG    | 2.37                     | 0.53              |
| 1:AS:144:THR:CB   | 1:CW:142:TYR:C    | 2.74                     | 0.53              |
| 1:BI:213:PHE:HB3  | 1:BI:345:THR:HG22 | 1.90                     | 0.53              |
| 1:CA:118:LYS:HB2  | 1:CB:54:LEU:HD21  | 1.88                     | 0.53              |
| 1:CE:275:ASP:OD1  | 1:CE:279:GLN:N    | 2.40                     | 0.53              |
| 1:CG:99:THR:N     | 1:CG:108:GLU:OE2  | 2.42                     | 0.53              |
| 1:CP:122:ARG:NH1  | 1:CT:55:ALA:O     | 2.39                     | 0.53              |
| 1:CU:70:GLU:N     | 1:CU:70:GLU:OE1   | 2.41                     | 0.53              |
| 1:CV:249:GLN:OE1  | 1:CV:258:ARG:NH1  | 2.41                     | 0.53              |
| 1:AG:213:PHE:HB2  | 1:AG:218:ILE:HD11 | 1.90                     | 0.53              |
| 1:AH:250:GLU:OE2  | 1:AN:251:ASN:ND2  | 2.40                     | 0.53              |
| 1:AM:93:VAL:CG1   | 1:CN:8:VAL:HG23   | 2.38                     | 0.53              |
| 1:AP:13:ASN:HB2   | 1:CS:105:ARG:NH2  | 2.22                     | 0.53              |
| 1:AP:105:ARG:NH1  | 1:AP:107:ARG:O    | 2.41                     | 0.53              |
| 1:CA:44:GLN:O     | 1:CA:46:ILE:HG22  | 2.07                     | 0.53              |
| 1:CJ:254:GLY:O    | 1:CY:257:LYS:NZ   | 2.38                     | 0.53              |
| 1:CK:215:GLU:HG3  | 1:CK:248:LEU:HD13 | 1.90                     | 0.53              |
| 1:AC:60:ASN:O     | 1:AC:60:ASN:ND2   | 2.41                     | 0.53              |
| 1:AJ:30:ASP:O     | 1:AJ:31:THR:OG1   | 2.25                     | 0.53              |
| 1:AK:308:ARG:HH22 | 1:BK:96:THR:HG1   | 1.51                     | 0.53              |
| 1:AM:14:GLY:HA3   | 1:CN:105:ARG:HH11 | 1.72                     | 0.53              |
| 1:AM:97:ALA:HB3   | 1:CN:9:SER:CB     | 2.30                     | 0.53              |
| 1:AQ:88:ARG:NH1   | 1:AQ:327:GLU:OE2  | 2.42                     | 0.53              |
| 1:BF:298:ARG:O    | 1:BF:299:SER:OG   | 2.16                     | 0.53              |
| 1:BN:105:ARG:NH1  | 1:BN:107:ARG:O    | 2.41                     | 0.53              |
| 1:BO:88:ARG:NH1   | 1:BO:327:GLU:OE2  | 2.42                     | 0.53              |
| 1:BW:315:LEU:HD23 | 1:BY:318:ASP:OD2  | 2.08                     | 0.53              |
| 1:CC:199:LYS:NZ   | 1:CC:220:ASP:OD2  | 2.38                     | 0.53              |
| 1:CU:182:ASP:OD1  | 1:CU:183:LYS:N    | 2.42                     | 0.53              |
| 1:DD:224:GLN:O    | 1:DD:227:THR:OG1  | 2.26                     | 0.53              |
| 1:DH:214:ASP:OD1  | 1:DH:215:GLU:N    | 2.38                     | 0.53              |
| 1:DJ:269:GLU:OE1  | 1:DL:258:ARG:N    | 2.41                     | 0.53              |
| 1:AK:142:TYR:N    | 1:BN:144:THR:CA   | 2.52                     | 0.53              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AP:12:GLN:CA    | 1:CS:105:ARG:NH1  | 2.71                     | 0.53              |
| 1:AP:108:GLU:CG   | 1:CS:12:GLN:N     | 2.69                     | 0.53              |
| 1:BI:95:ASP:C     | 1:DK:10:TYR:CG    | 2.72                     | 0.53              |
| 1:BU:5:THR:N      | 1:DH:73:GLU:C     | 2.62                     | 0.53              |
| 1:CL:33:PHE:O     | 1:CL:37:THR:HG23  | 2.08                     | 0.53              |
| 1:CJ:208:THR:HG22 | 1:CJ:348:GLY:O    | 2.09                     | 0.53              |
| 1:CL:122:ARG:NH1  | 1:CP:55:ALA:O     | 2.42                     | 0.53              |
| 1:CU:45:THR:OG1   | 1:CU:162:ARG:NH2  | 2.42                     | 0.53              |
| 1:CY:275:ASP:OD1  | 1:CY:279:GLN:N    | 2.41                     | 0.53              |
| 1:DG:70:GLU:O     | 1:DI:90:VAL:HG11  | 2.09                     | 0.53              |
| 1:DK:17:LEU:O     | 1:DK:17:LEU:HD23  | 2.08                     | 0.53              |
| 1:AK:213:PHE:HB3  | 1:AK:345:THR:HG22 | 1.91                     | 0.53              |
| 1:BB:290:PRO:O    | 1:BB:291:THR:HG22 | 2.09                     | 0.53              |
| 1:BF:308:ARG:HG2  | 1:DK:99:THR:HG21  | 1.91                     | 0.53              |
| 1:BO:60:ASN:ND2   | 1:BO:60:ASN:O     | 2.41                     | 0.53              |
| 1:BW:54:LEU:HD23  | 1:BW:55:ALA:O     | 2.09                     | 0.53              |
| 1:BX:131:GLY:CA   | 1:BX:180:VAL:HG13 | 2.39                     | 0.53              |
| 1:BX:215:GLU:OE2  | 1:BX:256:ARG:NH1  | 2.41                     | 0.53              |
| 1:BX:241:HIS:NE2  | 1:BX:291:THR:O    | 2.40                     | 0.53              |
| 1:CT:288:TRP:CZ3  | 1:CX:57:VAL:HG11  | 2.44                     | 0.53              |
| 1:CU:308:ARG:NH2  | 1:CU:327:GLU:OE1  | 2.41                     | 0.53              |
| 1:AQ:60:ASN:O     | 1:AQ:60:ASN:ND2   | 2.41                     | 0.53              |
| 1:AR:90:VAL:HG11  | 1:AU:69:ALA:HB2   | 1.91                     | 0.53              |
| 1:AW:108:GLU:HB2  | 1:BK:7:PHE:HE2    | 1.63                     | 0.53              |
| 1:BW:25:VAL:HG23  | 1:BW:25:VAL:O     | 2.09                     | 0.53              |
| 1:CE:125:GLU:OE2  | 1:CE:286:ASN:ND2  | 2.42                     | 0.53              |
| 1:CG:255:SER:OG   | 1:CK:250:GLU:O    | 2.16                     | 0.53              |
| 1:CS:218:ILE:O    | 1:CS:222:THR:HG23 | 2.09                     | 0.53              |
| 1:DL:298:ARG:O    | 1:DL:299:SER:OG   | 2.20                     | 0.53              |
| 1:AD:290:PRO:O    | 1:AD:291:THR:HG22 | 2.09                     | 0.53              |
| 1:AK:214:ASP:HB3  | 1:AK:217:ASP:HB2  | 1.90                     | 0.53              |
| 1:AP:79:ILE:HD11  | 1:CN:13:ASN:HB2   | 1.91                     | 0.53              |
| 1:BF:25:VAL:HG13  | 1:BL:53:ALA:HA    | 1.91                     | 0.53              |
| 1:BI:320:SER:O    | 1:DM:153:ALA:HB2  | 2.01                     | 0.53              |
| 1:BL:230:SER:OG   | 1:BL:339:ALA:O    | 2.17                     | 0.53              |
| 1:CF:237:ILE:HD11 | 1:CF:241:HIS:CB   | 2.39                     | 0.53              |
| 1:CL:298:ARG:NH1  | 1:CL:301:ASP:OD1  | 2.42                     | 0.53              |
| 1:CM:82:ASN:OD1   | 1:CM:83:VAL:N     | 2.38                     | 0.53              |
| 1:CO:258:ARG:NH2  | 1:CO:267:ILE:O    | 2.42                     | 0.53              |
| 1:CY:31:THR:HB    | 1:CY:34:VAL:HG12  | 1.91                     | 0.53              |
| 1:AO:203:ASN:O    | 1:AO:349:LYS:NZ   | 2.40                     | 0.53              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AT:231:GLU:OE1  | 1:AT:298:ARG:NH1  | 2.41                     | 0.53              |
| 1:BH:144:THR:HG22 | 1:BP:144:THR:HA   | 1.91                     | 0.53              |
| 1:BL:33:PHE:HE1   | 1:BL:37:THR:HG21  | 1.73                     | 0.53              |
| 1:BS:33:PHE:N     | 1:BS:125:GLU:OE2  | 2.42                     | 0.53              |
| 1:CK:255:SER:OG   | 1:CZ:250:GLU:O    | 2.23                     | 0.53              |
| 1:CW:88:ARG:NE    | 1:CW:327:GLU:OE2  | 2.38                     | 0.53              |
| 1:DN:157:ASP:O    | 1:DN:158:THR:OG1  | 2.22                     | 0.53              |
| 1:AG:125:GLU:OE2  | 1:AG:286:ASN:ND2  | 2.38                     | 0.52              |
| 1:AU:33:PHE:N     | 1:AU:125:GLU:OE2  | 2.42                     | 0.52              |
| 1:BR:249:GLN:OE1  | 1:BR:249:GLN:N    | 2.42                     | 0.52              |
| 1:BX:69:ALA:HB1   | 1:CB:90:VAL:HG21  | 1.90                     | 0.52              |
| 1:CN:237:ILE:HD11 | 1:CN:241:HIS:HB2  | 1.90                     | 0.52              |
| 1:CQ:224:GLN:O    | 1:CQ:227:THR:OG1  | 2.27                     | 0.52              |
| 1:DA:186:ASN:OD1  | 1:DA:187:GLY:N    | 2.42                     | 0.52              |
| 1:AP:16:LYS:HZ2   | 1:CS:19:PHE:HD2   | 1.46                     | 0.52              |
| 1:AP:79:ILE:CD1   | 1:CR:147:ALA:HB2  | 2.00                     | 0.52              |
| 1:AV:317:LYS:NZ   | 1:AV:319:GLY:O    | 2.30                     | 0.52              |
| 1:BU:231:GLU:OE1  | 1:BU:298:ARG:NH2  | 2.42                     | 0.52              |
| 1:CT:196:VAL:N    | 1:CT:224:GLN:OE1  | 2.42                     | 0.52              |
| 1:BI:298:ARG:NH1  | 1:BI:301:ASP:OD1  | 2.42                     | 0.52              |
| 1:BT:95:ASP:O     | 1:BT:99:THR:OG1   | 2.28                     | 0.52              |
| 1:BV:215:GLU:O    | 1:BV:216:ALA:HB3  | 2.10                     | 0.52              |
| 1:BZ:240:ALA:O    | 1:BZ:243:LYS:NZ   | 2.39                     | 0.52              |
| 1:CA:237:ILE:HG22 | 1:CA:285:VAL:HA   | 1.91                     | 0.52              |
| 1:CG:180:VAL:HG22 | 1:CG:181:VAL:H    | 1.74                     | 0.52              |
| 1:CU:262:ASN:OD1  | 1:CU:263:THR:N    | 2.42                     | 0.52              |
| 1:AF:230:SER:OG   | 1:AF:339:ALA:O    | 2.22                     | 0.52              |
| 1:AN:206:ASN:O    | 1:AN:349:LYS:N    | 2.43                     | 0.52              |
| 1:AP:94:SER:OG    | 1:CZ:65:GLU:HB3   | 2.09                     | 0.52              |
| 1:BE:213:PHE:HB2  | 1:BE:218:ILE:HD11 | 1.90                     | 0.52              |
| 1:BI:145:ASN:O    | 1:DP:19:PHE:CD1   | 2.63                     | 0.52              |
| 1:BU:105:ARG:NE   | 1:DP:14:GLY:O     | 2.34                     | 0.52              |
| 1:BY:182:ASP:OD2  | 1:BY:185:LYS:NZ   | 2.40                     | 0.52              |
| 1:CC:134:ARG:NH1  | 1:CC:168:GLN:OE1  | 2.43                     | 0.52              |
| 1:CE:263:THR:HG22 | 1:CE:263:THR:O    | 2.10                     | 0.52              |
| 1:CJ:205:SER:OG   | 1:CJ:214:ASP:OD2  | 2.28                     | 0.52              |
| 1:CO:26:LEU:HD12  | 1:CS:336:ASN:HB3  | 1.90                     | 0.52              |
| 1:CO:240:ALA:H    | 1:CS:223:LEU:HD11 | 1.74                     | 0.52              |
| 1:CP:236:MET:O    | 1:CP:294:VAL:HG13 | 2.10                     | 0.52              |
| 1:CU:96:THR:HG22  | 1:CU:96:THR:O     | 2.10                     | 0.52              |
| 1:DD:74:MET:N     | 1:DD:74:MET:SD    | 2.82                     | 0.52              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:DE:13:ASN:ND2   | 1:DN:77:THR:O     | 2.43                     | 0.52              |
| 1:AM:103:TYR:HB3  | 1:CN:16:LYS:HE3   | 1.91                     | 0.52              |
| 1:BH:271:ASN:OD1  | 1:BH:272:SER:N    | 2.41                     | 0.52              |
| 1:BI:96:THR:OG1   | 1:DM:152:VAL:CB   | 2.57                     | 0.52              |
| 1:CM:213:PHE:CE1  | 1:CM:218:ILE:HD11 | 2.44                     | 0.52              |
| 1:DG:298:ARG:O    | 1:DG:299:SER:OG   | 2.23                     | 0.52              |
| 1:AH:25:VAL:HG13  | 1:AN:53:ALA:HA    | 1.91                     | 0.52              |
| 1:AJ:36:MET:O     | 1:AJ:37:THR:OG1   | 2.27                     | 0.52              |
| 1:BL:206:ASN:O    | 1:BL:349:LYS:N    | 2.43                     | 0.52              |
| 1:BU:222:THR:OG1  | 1:BU:275:ASP:OD1  | 2.12                     | 0.52              |
| 1:CN:83:VAL:O     | 1:CN:164:THR:HG22 | 2.10                     | 0.52              |
| 1:DH:298:ARG:O    | 1:DH:299:SER:OG   | 2.19                     | 0.52              |
| 1:AP:99:THR:OG1   | 1:CW:307:LEU:HD22 | 1.95                     | 0.52              |
| 1:AS:142:TYR:CG   | 1:CW:144:THR:O    | 2.62                     | 0.52              |
| 1:AV:190:ASP:OD1  | 1:AV:192:ASP:N    | 2.43                     | 0.52              |
| 1:BK:190:ASP:OD1  | 1:BK:192:ASP:N    | 2.43                     | 0.52              |
| 1:CE:124:LEU:HD13 | 1:CE:330:VAL:HG21 | 1.91                     | 0.52              |
| 1:DB:203:ASN:ND2  | 1:DB:210:ASN:O    | 2.43                     | 0.52              |
| 1:AK:298:ARG:NH1  | 1:AK:301:ASP:OD1  | 2.42                     | 0.52              |
| 1:AM:190:ASP:OD1  | 1:AM:192:ASP:N    | 2.43                     | 0.52              |
| 1:AP:3:ASN:N      | 1:CW:56:SER:OG    | 2.41                     | 0.52              |
| 1:AS:44:GLN:CG    | 1:CS:101:ALA:N    | 2.64                     | 0.52              |
| 1:AU:220:ASP:OD1  | 1:AU:221:MET:N    | 2.43                     | 0.52              |
| 1:BA:101:ALA:O    | 1:BJ:44:GLN:NE2   | 2.43                     | 0.52              |
| 1:BP:90:VAL:HG11  | 1:BS:69:ALA:HB2   | 1.91                     | 0.52              |
| 1:BX:186:ASN:OD1  | 1:BX:200:VAL:N    | 2.39                     | 0.52              |
| 1:CS:250:GLU:OE2  | 1:CW:256:ARG:NH1  | 2.43                     | 0.52              |
| 1:DB:177:ALA:N    | 1:DB:180:VAL:O    | 2.39                     | 0.52              |
| 1:DD:94:SER:OG    | 1:DD:95:ASP:N     | 2.42                     | 0.52              |
| 1:DI:187:GLY:N    | 1:DI:198:VAL:O    | 2.37                     | 0.52              |
| 1:DI:306:VAL:HG12 | 1:DI:330:VAL:HG12 | 1.91                     | 0.52              |
| 1:AC:96:THR:O     | 1:AC:99:THR:OG1   | 2.28                     | 0.52              |
| 1:AJ:144:THR:HG22 | 1:AR:144:THR:HA   | 1.91                     | 0.52              |
| 1:AM:100:THR:HA   | 1:CR:43:ASN:O     | 2.10                     | 0.52              |
| 1:AN:33:PHE:HE1   | 1:AN:37:THR:HG21  | 1.73                     | 0.52              |
| 1:AT:249:GLN:N    | 1:AT:249:GLN:OE1  | 2.42                     | 0.52              |
| 1:AV:213:PHE:O    | 1:AV:214:ASP:HB2  | 2.10                     | 0.52              |
| 1:BI:144:THR:C    | 1:DP:17:LEU:HD12  | 2.29                     | 0.52              |
| 1:BI:145:ASN:CA   | 1:DP:19:PHE:CE1   | 2.76                     | 0.52              |
| 1:BT:190:ASP:OD1  | 1:BT:192:ASP:N    | 2.43                     | 0.52              |
| 1:CA:88:ARG:NE    | 1:CA:327:GLU:OE1  | 2.38                     | 0.52              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CD:315:LEU:HD13 | 1:CD:324:TRP:HA   | 1.92                     | 0.52              |
| 1:CF:198:VAL:HG22 | 1:CF:342:VAL:HB   | 1.92                     | 0.52              |
| 1:CG:33:PHE:O     | 1:CG:37:THR:HG23  | 2.09                     | 0.52              |
| 1:CU:224:GLN:O    | 1:CU:227:THR:OG1  | 2.28                     | 0.52              |
| 1:CU:263:THR:O    | 1:CU:263:THR:HG22 | 2.10                     | 0.52              |
| 1:CV:82:ASN:ND2   | 1:CV:332:LEU:O    | 2.43                     | 0.52              |
| 1:DG:138:LEU:HD13 | 1:DG:141:GLN:H    | 1.74                     | 0.52              |
| 1:AK:315:LEU:HD22 | 1:BK:317:LYS:HG2  | 1.92                     | 0.52              |
| 1:AW:105:ARG:CG   | 1:BK:15:LYS:HA    | 2.14                     | 0.52              |
| 1:BI:145:ASN:HB3  | 1:DP:19:PHE:CD2   | 2.42                     | 0.52              |
| 1:CF:249:GLN:OE1  | 1:CF:258:ARG:NH1  | 2.43                     | 0.52              |
| 1:CK:231:GLU:O    | 1:CK:232:ALA:HB3  | 2.10                     | 0.52              |
| 1:DB:9:SER:O      | 1:DB:15:LYS:NZ    | 2.32                     | 0.52              |
| 1:DC:172:ALA:O    | 1:DC:198:VAL:HG21 | 2.10                     | 0.52              |
| 1:DD:170:LEU:HD12 | 1:DD:170:LEU:O    | 2.09                     | 0.52              |
| 1:DJ:124:LEU:HA   | 1:DJ:127:ILE:HG22 | 1.91                     | 0.52              |
| 1:DQ:83:VAL:O     | 1:DQ:164:THR:HG22 | 2.10                     | 0.52              |
| 1:BI:144:THR:N    | 1:DP:17:LEU:HD11  | 2.21                     | 0.51              |
| 1:BX:132:GLN:OE1  | 1:BX:164:THR:N    | 2.42                     | 0.51              |
| 1:CH:30:ASP:O     | 1:CH:31:THR:OG1   | 2.27                     | 0.51              |
| 1:CT:5:THR:C      | 1:CT:6:LEU:HD23   | 2.30                     | 0.51              |
| 1:DA:95:ASP:O     | 1:DA:96:THR:OG1   | 2.16                     | 0.51              |
| 1:DL:31:THR:HG22  | 1:DL:125:GLU:OE1  | 2.10                     | 0.51              |
| 1:AI:215:GLU:HG2  | 1:AI:248:LEU:CD2  | 2.41                     | 0.51              |
| 1:AU:103:TYR:O    | 1:AX:50:GLN:NE2   | 2.39                     | 0.51              |
| 1:AW:231:GLU:OE1  | 1:AW:298:ARG:NH2  | 2.42                     | 0.51              |
| 1:BR:220:ASP:OD1  | 1:BR:221:MET:N    | 2.44                     | 0.51              |
| 1:CI:291:THR:O    | 1:CI:291:THR:HG22 | 2.09                     | 0.51              |
| 1:DL:291:THR:HG22 | 1:DL:291:THR:O    | 2.09                     | 0.51              |
| 1:AK:145:ASN:OD1  | 1:BN:142:TYR:HD1  | 1.91                     | 0.51              |
| 1:AM:103:TYR:CD2  | 1:CN:16:LYS:CD    | 2.86                     | 0.51              |
| 1:AN:142:TYR:O    | 1:AN:145:ASN:ND2  | 2.43                     | 0.51              |
| 1:AP:4:PRO:O      | 1:CW:74:MET:HG3   | 2.05                     | 0.51              |
| 1:AP:13:ASN:H     | 1:CS:105:ARG:NH1  | 1.88                     | 0.51              |
| 1:AT:213:PHE:CZ   | 1:AT:294:VAL:HG21 | 2.46                     | 0.51              |
| 1:AV:95:ASP:O     | 1:AV:99:THR:OG1   | 2.28                     | 0.51              |
| 1:BR:213:PHE:CZ   | 1:BR:294:VAL:HG21 | 2.45                     | 0.51              |
| 1:BS:220:ASP:OD1  | 1:BS:221:MET:N    | 2.43                     | 0.51              |
| 1:BU:6:LEU:H      | 1:DH:74:MET:CE    | 2.05                     | 0.51              |
| 1:BU:104:GLY:HA3  | 1:DP:16:LYS:HE2   | 1.92                     | 0.51              |
| 1:BX:267:ILE:HD12 | 1:CB:262:ASN:HB3  | 1.90                     | 0.51              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CE:197:THR:HG21 | 1:CE:338:TYR:HA   | 1.92                     | 0.51              |
| 1:CG:290:PRO:O    | 1:CG:291:THR:HG22 | 2.10                     | 0.51              |
| 1:CQ:307:LEU:HD22 | 1:CQ:329:GLU:OE1  | 2.10                     | 0.51              |
| 1:AC:101:ALA:O    | 1:AL:44:GLN:NE2   | 2.43                     | 0.51              |
| 1:AP:6:LEU:HD21   | 1:CS:93:VAL:O     | 2.02                     | 0.51              |
| 1:AX:215:GLU:O    | 1:AX:216:ALA:HB3  | 2.10                     | 0.51              |
| 1:BG:215:GLU:HG2  | 1:BG:248:LEU:CD2  | 2.41                     | 0.51              |
| 1:BI:9:SER:O      | 1:DK:94:SER:O     | 2.07                     | 0.51              |
| 1:BT:248:LEU:O    | 1:BT:256:ARG:NH2  | 2.43                     | 0.51              |
| 1:CT:172:ALA:O    | 1:CT:198:VAL:HG21 | 2.11                     | 0.51              |
| 1:DC:246:ALA:O    | 1:DC:258:ARG:NH1  | 2.42                     | 0.51              |
| 1:AK:145:ASN:OD1  | 1:BN:142:TYR:CD1  | 2.63                     | 0.51              |
| 1:AS:296:PHE:O    | 1:AS:341:GLY:N    | 2.40                     | 0.51              |
| 1:AW:222:THR:OG1  | 1:AW:275:ASP:OD1  | 2.12                     | 0.51              |
| 1:BI:146:SER:N    | 1:DH:143:LEU:CD1  | 2.73                     | 0.51              |
| 1:BW:161:ALA:O    | 1:BW:162:ARG:HG2  | 2.11                     | 0.51              |
| 1:CY:8:VAL:HG13   | 1:CY:9:SER:N      | 2.26                     | 0.51              |
| 1:AO:192:ASP:OD1  | 1:AO:193:THR:N    | 2.44                     | 0.51              |
| 1:AY:256:ARG:NE   | 1:AZ:250:GLU:OE2  | 2.40                     | 0.51              |
| 1:BE:234:ILE:HG23 | 1:BE:284:ILE:HD12 | 1.92                     | 0.51              |
| 1:BI:94:SER:CB    | 1:DM:153:ALA:H    | 2.22                     | 0.51              |
| 1:BK:196:VAL:N    | 1:BK:224:GLN:OE1  | 2.43                     | 0.51              |
| 1:BU:16:LYS:CD    | 1:DP:102:ASN:OD1  | 2.58                     | 0.51              |
| 1:CG:203:ASN:OD1  | 1:CG:206:ASN:N    | 2.44                     | 0.51              |
| 1:CL:49:TRP:NE1   | 1:CL:334:HIS:O    | 2.43                     | 0.51              |
| 1:DC:30:ASP:N     | 1:DC:30:ASP:OD1   | 2.42                     | 0.51              |
| 1:AP:6:LEU:HA     | 1:CS:93:VAL:HA    | 1.92                     | 0.51              |
| 1:AS:73:GLU:CG    | 1:CS:3:ASN:CG     | 2.77                     | 0.51              |
| 1:AS:146:SER:O    | 1:CW:79:ILE:HB    | 2.11                     | 0.51              |
| 1:AS:154:GLY:O    | 1:CW:71:ASP:HA    | 2.11                     | 0.51              |
| 1:AS:315:LEU:HA   | 1:CS:320:SER:CB   | 2.37                     | 0.51              |
| 1:AT:220:ASP:OD1  | 1:AT:221:MET:N    | 2.44                     | 0.51              |
| 1:BI:103:TYR:CZ   | 1:DM:145:ASN:OD1  | 2.64                     | 0.51              |
| 1:BK:201:ALA:N    | 1:BK:344:PHE:O    | 2.43                     | 0.51              |
| 1:BL:224:GLN:O    | 1:BL:227:THR:OG1  | 2.26                     | 0.51              |
| 1:BN:137:VAL:O    | 1:BN:137:VAL:HG22 | 2.11                     | 0.51              |
| 1:BY:92:ARG:NH1   | 1:BZ:71:ASP:OD2   | 2.44                     | 0.51              |
| 1:BY:315:LEU:HG   | 1:BY:316:ALA:H    | 1.75                     | 0.51              |
| 1:CO:250:GLU:OE2  | 1:CS:256:ARG:NH1  | 2.44                     | 0.51              |
| 1:CQ:25:VAL:HG23  | 1:CQ:25:VAL:O     | 2.11                     | 0.51              |
| 1:CQ:203:ASN:ND2  | 1:CQ:212:GLY:O    | 2.43                     | 0.51              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CV:82:ASN:OD1   | 1:CV:83:VAL:N     | 2.43                     | 0.51              |
| 1:DD:187:GLY:H    | 1:DD:198:VAL:HG13 | 1.75                     | 0.51              |
| 1:DK:248:LEU:O    | 1:DK:256:ARG:NH2  | 2.43                     | 0.51              |
| 1:AD:214:ASP:HB3  | 1:AD:217:ASP:OD1  | 2.11                     | 0.51              |
| 1:AG:136:ASP:OD1  | 1:AG:137:VAL:N    | 2.44                     | 0.51              |
| 1:AM:201:ALA:N    | 1:AM:344:PHE:O    | 2.43                     | 0.51              |
| 1:AP:92:ARG:CB    | 1:CS:6:LEU:CA     | 2.86                     | 0.51              |
| 1:AS:44:GLN:NE2   | 1:CS:102:ASN:CA   | 2.54                     | 0.51              |
| 1:AV:248:LEU:O    | 1:AV:256:ARG:NH2  | 2.43                     | 0.51              |
| 1:BI:145:ASN:OD1  | 1:DH:142:TYR:HE2  | 1.94                     | 0.51              |
| 1:BI:146:SER:N    | 1:DH:143:LEU:HD11 | 2.26                     | 0.51              |
| 1:BK:205:SER:OG   | 1:BK:214:ASP:OD1  | 2.26                     | 0.51              |
| 1:BK:224:GLN:O    | 1:BK:227:THR:OG1  | 2.27                     | 0.51              |
| 1:BL:142:TYR:O    | 1:BL:145:ASN:ND2  | 2.43                     | 0.51              |
| 1:CA:41:SER:OG    | 1:CA:42:ILE:N     | 2.44                     | 0.51              |
| 1:CA:74:MET:SD    | 1:CA:74:MET:N     | 2.84                     | 0.51              |
| 1:CD:218:ILE:O    | 1:CD:222:THR:HG23 | 2.10                     | 0.51              |
| 1:DF:292:ASP:O    | 1:DF:345:THR:HG23 | 2.10                     | 0.51              |
| 1:DJ:290:PRO:O    | 1:DJ:291:THR:OG1  | 2.22                     | 0.51              |
| 1:AF:238:ASN:OD1  | 1:AF:240:ALA:N    | 2.39                     | 0.51              |
| 1:AG:234:ILE:HG23 | 1:AG:284:ILE:HD12 | 1.92                     | 0.51              |
| 1:AY:114:GLU:OE1  | 1:AY:114:GLU:N    | 2.44                     | 0.51              |
| 1:BF:234:ILE:HG23 | 1:BF:284:ILE:HD12 | 1.93                     | 0.51              |
| 1:BI:108:GLU:N    | 1:DK:11:ASP:OD1   | 2.43                     | 0.51              |
| 1:BI:147:ALA:HB2  | 1:DH:79:ILE:HB    | 1.79                     | 0.51              |
| 1:CG:149:ASP:N    | 1:CG:149:ASP:OD1  | 2.44                     | 0.51              |
| 1:CH:253:GLN:NE2  | 1:CX:251:ASN:OD1  | 2.44                     | 0.51              |
| 1:DA:34:VAL:HG23  | 1:DA:125:GLU:OE1  | 2.11                     | 0.51              |
| 1:DO:64:VAL:HG12  | 1:DO:65:GLU:H     | 1.76                     | 0.51              |
| 1:AA:114:GLU:OE1  | 1:AA:114:GLU:N    | 2.44                     | 0.51              |
| 1:AB:143:LEU:HB3  | 1:AQ:144:THR:HG23 | 1.93                     | 0.51              |
| 1:AC:27:SER:OG    | 1:AD:192:ASP:OD2  | 2.27                     | 0.51              |
| 1:AP:96:THR:HG21  | 1:CZ:64:VAL:HG12  | 1.92                     | 0.51              |
| 1:AP:141:GLN:HB3  | 1:CR:143:LEU:O    | 1.98                     | 0.51              |
| 1:AQ:214:ASP:HB3  | 1:AQ:217:ASP:OD2  | 2.11                     | 0.51              |
| 1:AX:34:VAL:HG23  | 1:AX:125:GLU:OE1  | 2.11                     | 0.51              |
| 1:BA:8:VAL:HG22   | 1:BA:9:SER:H      | 1.76                     | 0.51              |
| 1:BI:103:TYR:OH   | 1:DM:143:LEU:N    | 2.44                     | 0.51              |
| 1:BJ:50:GLN:NE2   | 1:BV:103:TYR:O    | 2.44                     | 0.51              |
| 1:BK:27:SER:OG    | 1:BN:192:ASP:OD2  | 2.29                     | 0.51              |
| 1:BW:184:THR:HG23 | 1:BW:185:LYS:H    | 1.75                     | 0.51              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AC:8:VAL:HG22   | 1:AC:9:SER:H      | 1.76                     | 0.50              |
| 1:AP:7:PHE:CD2    | 1:CS:112:GLN:NE2  | 2.79                     | 0.50              |
| 1:AP:92:ARG:NH2   | 1:CS:6:LEU:H      | 1.92                     | 0.50              |
| 1:AW:3:ASN:N      | 1:BN:75:LYS:HG2   | 2.24                     | 0.50              |
| 1:AW:105:ARG:HB2  | 1:BN:44:GLN:HE22  | 1.76                     | 0.50              |
| 1:BB:214:ASP:HB3  | 1:BB:217:ASP:OD1  | 2.11                     | 0.50              |
| 1:BD:190:ASP:OD1  | 1:BD:192:ASP:N    | 2.45                     | 0.50              |
| 1:BI:99:THR:HG22  | 1:DM:45:THR:CG2   | 2.39                     | 0.50              |
| 1:BI:144:THR:HA   | 1:DH:143:LEU:HA   | 1.93                     | 0.50              |
| 1:BI:147:ALA:HB2  | 1:DH:79:ILE:CG2   | 2.40                     | 0.50              |
| 1:BU:13:ASN:ND2   | 1:DH:77:THR:N     | 2.58                     | 0.50              |
| 1:BY:27:SER:OG    | 1:BY:29:GLN:OE1   | 2.06                     | 0.50              |
| 1:CH:52:ASP:OD1   | 1:CH:53:ALA:N     | 2.45                     | 0.50              |
| 1:CJ:40:GLU:OE1   | 1:CJ:333:ARG:NH1  | 2.43                     | 0.50              |
| 1:CR:55:ALA:O     | 1:CR:56:SER:OG    | 2.25                     | 0.50              |
| 1:DJ:203:ASN:OD1  | 1:DJ:204:ALA:N    | 2.43                     | 0.50              |
| 1:AH:70:GLU:O     | 1:AK:90:VAL:HG11  | 2.11                     | 0.50              |
| 1:AP:5:THR:HG21   | 1:CW:74:MET:CB    | 2.05                     | 0.50              |
| 1:BA:306:VAL:HG13 | 1:BA:330:VAL:HG22 | 1.93                     | 0.50              |
| 1:BI:96:THR:N     | 1:DM:152:VAL:HG21 | 2.26                     | 0.50              |
| 1:BO:49:TRP:NE1   | 1:BO:334:HIS:O    | 2.45                     | 0.50              |
| 1:BU:92:ARG:CG    | 1:DP:6:LEU:O      | 2.59                     | 0.50              |
| 1:BW:315:LEU:HD22 | 1:BW:323:LYS:O    | 2.11                     | 0.50              |
| 1:CF:58:ASP:OD1   | 1:CF:59:GLY:N     | 2.45                     | 0.50              |
| 1:CG:83:VAL:HG12  | 1:CG:84:THR:N     | 2.26                     | 0.50              |
| 1:CN:88:ARG:NH2   | 1:CR:67:SER:O     | 2.44                     | 0.50              |
| 1:CO:192:ASP:OD1  | 1:CO:193:THR:N    | 2.44                     | 0.50              |
| 1:CS:197:THR:HG23 | 1:CS:198:VAL:HG23 | 1.93                     | 0.50              |
| 1:DF:168:GLN:NE2  | 1:DF:176:LEU:HD13 | 2.25                     | 0.50              |
| 1:AL:50:GLN:NE2   | 1:AX:103:TYR:O    | 2.44                     | 0.50              |
| 1:AP:5:THR:HG23   | 1:CW:74:MET:CA    | 2.40                     | 0.50              |
| 1:AP:137:VAL:O    | 1:AP:137:VAL:HG22 | 2.11                     | 0.50              |
| 1:AP:141:GLN:HE22 | 1:CR:143:LEU:H    | 1.60                     | 0.50              |
| 1:AQ:49:TRP:NE1   | 1:AQ:334:HIS:O    | 2.45                     | 0.50              |
| 1:BI:91:VAL:HG12  | 1:DK:7:PHE:CD1    | 2.40                     | 0.50              |
| 1:CE:135:THR:HG22 | 1:CE:163:LYS:HB2  | 1.93                     | 0.50              |
| 1:CE:224:GLN:O    | 1:CE:227:THR:OG1  | 2.29                     | 0.50              |
| 1:CK:180:VAL:HG22 | 1:CK:181:VAL:H    | 1.77                     | 0.50              |
| 1:CL:240:ALA:O    | 1:CL:243:LYS:NZ   | 2.44                     | 0.50              |
| 1:CZ:131:GLY:O    | 1:CZ:181:VAL:HG21 | 2.12                     | 0.50              |
| 1:DE:144:THR:HG22 | 1:DE:145:ASN:ND2  | 2.26                     | 0.50              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AD:212:GLY:O    | 1:AD:213:PHE:HB2  | 2.12                     | 0.50              |
| 1:AI:152:VAL:O    | 1:AI:152:VAL:HG12 | 2.11                     | 0.50              |
| 1:AI:218:ILE:O    | 1:AI:222:THR:HG23 | 2.11                     | 0.50              |
| 1:AP:96:THR:HG21  | 1:CZ:64:VAL:CA    | 2.41                     | 0.50              |
| 1:AQ:137:VAL:O    | 1:AQ:137:VAL:HG13 | 2.12                     | 0.50              |
| 1:AW:103:TYR:N    | 1:BN:44:GLN:CG    | 2.66                     | 0.50              |
| 1:AZ:143:LEU:HB3  | 1:BO:144:THR:HG23 | 1.93                     | 0.50              |
| 1:BE:125:GLU:OE2  | 1:BE:286:ASN:ND2  | 2.38                     | 0.50              |
| 1:BI:147:ALA:CA   | 1:DH:143:LEU:CD1  | 2.86                     | 0.50              |
| 1:BM:305:MET:N    | 1:BM:305:MET:SD   | 2.85                     | 0.50              |
| 1:BU:12:GLN:HB2   | 1:DP:97:ALA:HB2   | 1.93                     | 0.50              |
| 1:BU:13:ASN:CB    | 1:DP:105:ARG:NH1  | 2.74                     | 0.50              |
| 1:BX:54:LEU:HD22  | 1:CB:27:SER:OG    | 2.11                     | 0.50              |
| 1:BY:57:VAL:HG11  | 1:CC:126:LYS:HD3  | 1.93                     | 0.50              |
| 1:CG:180:VAL:HG22 | 1:CG:181:VAL:N    | 2.26                     | 0.50              |
| 1:CL:224:GLN:O    | 1:CL:227:THR:OG1  | 2.30                     | 0.50              |
| 1:CR:33:PHE:O     | 1:CR:37:THR:HG23  | 2.11                     | 0.50              |
| 1:CV:25:VAL:O     | 1:CV:25:VAL:HG13  | 2.12                     | 0.50              |
| 1:CW:214:ASP:O    | 1:CW:215:GLU:HG2  | 2.11                     | 0.50              |
| 1:CW:233:ASP:OD1  | 1:CW:234:ILE:N    | 2.44                     | 0.50              |
| 1:DG:238:ASN:ND2  | 1:DG:289:MET:O    | 2.44                     | 0.50              |
| 1:DM:263:THR:HG22 | 1:DM:265:GLN:H    | 1.77                     | 0.50              |
| 1:DQ:184:THR:O    | 1:DQ:184:THR:HG22 | 2.12                     | 0.50              |
| 1:AM:7:PHE:N      | 1:CR:74:MET:SD    | 2.85                     | 0.50              |
| 1:AS:154:GLY:C    | 1:CW:71:ASP:HA    | 2.32                     | 0.50              |
| 1:AT:152:VAL:HG13 | 1:AT:155:LEU:HB2  | 1.94                     | 0.50              |
| 1:BM:27:SER:O     | 1:BM:29:GLN:NE2   | 2.44                     | 0.50              |
| 1:BO:137:VAL:HG13 | 1:BO:137:VAL:O    | 2.12                     | 0.50              |
| 1:BP:81:SER:O     | 1:BP:134:ARG:NH2  | 2.45                     | 0.50              |
| 1:BV:34:VAL:HG23  | 1:BV:125:GLU:OE1  | 2.11                     | 0.50              |
| 1:BW:291:THR:O    | 1:BW:291:THR:HG22 | 2.11                     | 0.50              |
| 1:CB:164:THR:HG21 | 1:CB:331:GLY:HA2  | 1.93                     | 0.50              |
| 1:CU:275:ASP:OD1  | 1:CU:279:GLN:N    | 2.44                     | 0.50              |
| 1:CV:96:THR:O     | 1:CV:100:THR:HG23 | 2.10                     | 0.50              |
| 1:CY:64:VAL:HG21  | 1:CY:67:SER:OG    | 2.12                     | 0.50              |
| 1:DA:52:ASP:OD2   | 1:DE:111:TYR:OH   | 2.27                     | 0.50              |
| 1:DQ:233:ASP:OD1  | 1:DQ:233:ASP:N    | 2.44                     | 0.50              |
| 1:AR:81:SER:O     | 1:AR:134:ARG:NH2  | 2.45                     | 0.50              |
| 1:AS:74:MET:HB3   | 1:CW:154:GLY:O    | 1.62                     | 0.50              |
| 1:BM:192:ASP:OD1  | 1:BM:193:THR:N    | 2.44                     | 0.50              |
| 1:BO:214:ASP:HB3  | 1:BO:217:ASP:OD2  | 2.11                     | 0.50              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BY:64:VAL:O     | 1:BY:64:VAL:HG12  | 2.12                     | 0.50              |
| 1:CE:25:VAL:HG23  | 1:CE:25:VAL:O     | 2.12                     | 0.50              |
| 1:CG:144:THR:OG1  | 1:CG:146:SER:OG   | 2.24                     | 0.50              |
| 1:CH:215:GLU:HB2  | 1:CH:248:LEU:HD21 | 1.94                     | 0.50              |
| 1:CL:96:THR:HG22  | 1:CL:96:THR:O     | 2.12                     | 0.50              |
| 1:CQ:286:ASN:OD1  | 1:CQ:287:ARG:N    | 2.44                     | 0.50              |
| 1:CW:237:ILE:HD11 | 1:CW:241:HIS:HB3  | 1.92                     | 0.50              |
| 1:DD:137:VAL:O    | 1:DD:137:VAL:HG12 | 2.12                     | 0.50              |
| 1:DM:323:LYS:NZ   | 1:DO:71:ASP:OD1   | 2.43                     | 0.50              |
| 1:AW:7:PHE:CZ     | 1:BK:97:ALA:O     | 2.64                     | 0.50              |
| 1:BB:212:GLY:O    | 1:BB:213:PHE:HB2  | 2.12                     | 0.50              |
| 1:BG:152:VAL:HG12 | 1:BG:152:VAL:O    | 2.11                     | 0.50              |
| 1:BI:72:GLY:N     | 1:DP:5:THR:HA     | 2.26                     | 0.50              |
| 1:BI:96:THR:N     | 1:DM:152:VAL:CG2  | 2.74                     | 0.50              |
| 1:BO:231:GLU:OE1  | 1:BO:298:ARG:NH2  | 2.45                     | 0.50              |
| 1:BP:254:GLY:O    | 1:BP:255:SER:OG   | 2.28                     | 0.50              |
| 1:BR:152:VAL:HG13 | 1:BR:155:LEU:HB2  | 1.94                     | 0.50              |
| 1:BY:23:ILE:HG22  | 1:BZ:50:GLN:HG3   | 1.92                     | 0.50              |
| 1:CF:87:LEU:CB    | 1:CF:120:ILE:HD11 | 2.41                     | 0.50              |
| 1:CJ:73:GLU:O     | 1:CY:116:LYS:NZ   | 2.45                     | 0.50              |
| 1:CJ:339:ALA:HB2  | 1:CY:26:LEU:HD12  | 1.93                     | 0.50              |
| 1:CL:70:GLU:OE2   | 1:CL:70:GLU:N     | 2.39                     | 0.50              |
| 1:CM:291:THR:HG22 | 1:CM:291:THR:O    | 2.12                     | 0.50              |
| 1:CS:45:THR:OG1   | 1:CS:84:THR:OG1   | 2.25                     | 0.50              |
| 1:DN:136:ASP:OD1  | 1:DN:137:VAL:N    | 2.45                     | 0.50              |
| 1:AB:196:VAL:N    | 1:AB:224:GLN:OE1  | 2.44                     | 0.50              |
| 1:AM:27:SER:OG    | 1:AP:192:ASP:OD2  | 2.29                     | 0.50              |
| 1:AM:205:SER:OG   | 1:AM:214:ASP:OD1  | 2.26                     | 0.50              |
| 1:AS:30:ASP:OD2   | 1:AS:30:ASP:N     | 2.45                     | 0.50              |
| 1:AW:101:ALA:H    | 1:BN:42:ILE:CB    | 2.23                     | 0.50              |
| 1:BF:144:THR:O    | 1:DM:144:THR:HB   | 2.11                     | 0.50              |
| 1:BU:318:ASP:CA   | 1:DH:315:LEU:HD23 | 2.33                     | 0.50              |
| 1:CH:50:GLN:NE2   | 1:CH:77:THR:OG1   | 2.44                     | 0.50              |
| 1:CR:25:VAL:HG13  | 1:CR:25:VAL:O     | 2.11                     | 0.50              |
| 1:AP:147:ALA:N    | 1:CR:142:TYR:HB3  | 2.27                     | 0.50              |
| 1:AP:215:GLU:O    | 1:AP:216:ALA:HB3  | 2.12                     | 0.50              |
| 1:AT:15:LYS:NZ    | 1:AW:141:GLN:O    | 2.32                     | 0.50              |
| 1:BD:271:ASN:OD1  | 1:BD:272:SER:N    | 2.45                     | 0.50              |
| 1:BU:249:GLN:O    | 1:BU:256:ARG:NH1  | 2.45                     | 0.50              |
| 1:CA:149:ASP:N    | 1:CA:150:PRO:HD3  | 2.27                     | 0.50              |
| 1:CC:203:ASN:ND2  | 1:CC:346:ALA:O    | 2.42                     | 0.50              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CD:134:ARG:NE   | 1:CD:136:ASP:OD2  | 2.44                     | 0.50              |
| 1:CQ:255:SER:O    | 1:CQ:274:THR:HG21 | 2.12                     | 0.50              |
| 1:CQ:291:THR:O    | 1:CQ:291:THR:HG22 | 2.11                     | 0.50              |
| 1:DP:83:VAL:O     | 1:DP:164:THR:OG1  | 2.18                     | 0.50              |
| 1:AB:30:ASP:O     | 1:AB:31:THR:OG1   | 2.28                     | 0.49              |
| 1:AC:127:ILE:O    | 1:AC:130:SER:OG   | 2.16                     | 0.49              |
| 1:AC:142:TYR:O    | 1:AC:145:ASN:ND2  | 2.45                     | 0.49              |
| 1:AM:6:LEU:HD11   | 1:CN:92:ARG:NH1   | 2.23                     | 0.49              |
| 1:AN:224:GLN:O    | 1:AN:227:THR:OG1  | 2.26                     | 0.49              |
| 1:BE:136:ASP:OD1  | 1:BE:137:VAL:N    | 2.44                     | 0.49              |
| 1:BF:70:GLU:O     | 1:BI:90:VAL:HG11  | 2.11                     | 0.49              |
| 1:BT:213:PHE:O    | 1:BT:214:ASP:HB2  | 2.10                     | 0.49              |
| 1:BT:250:GLU:OE1  | 1:BT:258:ARG:NH2  | 2.43                     | 0.49              |
| 1:BU:5:THR:N      | 1:DH:73:GLU:O     | 2.41                     | 0.49              |
| 1:CK:30:ASP:OD1   | 1:CK:30:ASP:N     | 2.45                     | 0.49              |
| 1:DJ:257:LYS:NZ   | 1:DJ:274:THR:OG1  | 2.45                     | 0.49              |
| 1:DO:305:MET:N    | 1:DO:331:GLY:O    | 2.44                     | 0.49              |
| 1:AO:8:VAL:HG23   | 1:AU:65:GLU:OE1   | 2.12                     | 0.49              |
| 1:AO:27:SER:O     | 1:AO:29:GLN:NE2   | 2.44                     | 0.49              |
| 1:AP:102:ASN:O    | 1:CS:16:LYS:HB2   | 2.06                     | 0.49              |
| 1:AW:249:GLN:O    | 1:AW:256:ARG:NH1  | 2.45                     | 0.49              |
| 1:BH:30:ASP:O     | 1:BH:31:THR:OG1   | 2.25                     | 0.49              |
| 1:BI:95:ASP:HB3   | 1:DO:65:GLU:HB3   | 1.93                     | 0.49              |
| 1:BM:8:VAL:HG23   | 1:BS:65:GLU:OE1   | 2.11                     | 0.49              |
| 1:BN:215:GLU:O    | 1:BN:216:ALA:HB3  | 2.12                     | 0.49              |
| 1:BX:172:ALA:O    | 1:BX:198:VAL:HG21 | 2.12                     | 0.49              |
| 1:CM:90:VAL:HG11  | 1:CQ:70:GLU:O     | 2.12                     | 0.49              |
| 1:CM:136:ASP:OD1  | 1:CM:137:VAL:N    | 2.46                     | 0.49              |
| 1:CU:49:TRP:NE1   | 1:CU:334:HIS:O    | 2.46                     | 0.49              |
| 1:DD:216:ALA:HB2  | 1:DD:248:LEU:HD21 | 1.93                     | 0.49              |
| 1:DL:171:CYS:SG   | 1:DL:172:ALA:N    | 2.86                     | 0.49              |
| 1:DN:8:VAL:HG13   | 1:DN:8:VAL:O      | 2.12                     | 0.49              |
| 1:DN:40:GLU:OE1   | 1:DN:333:ARG:NH1  | 2.45                     | 0.49              |
| 1:AF:190:ASP:OD1  | 1:AF:192:ASP:N    | 2.45                     | 0.49              |
| 1:AH:234:ILE:HG23 | 1:AH:284:ILE:HD12 | 1.93                     | 0.49              |
| 1:AM:102:ASN:HA   | 1:CN:14:GLY:O     | 2.12                     | 0.49              |
| 1:BI:7:PHE:HZ     | 1:DM:69:ALA:CB    | 2.24                     | 0.49              |
| 1:BI:92:ARG:HD2   | 1:DK:6:LEU:HD23   | 1.69                     | 0.49              |
| 1:BY:317:LYS:HG2  | 1:BY:318:ASP:H    | 1.78                     | 0.49              |
| 1:CC:167:PHE:CD2  | 1:CC:181:VAL:HG23 | 2.48                     | 0.49              |
| 1:CF:77:THR:O     | 1:CL:13:ASN:ND2   | 2.41                     | 0.49              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CN:190:ASP:O    | 1:CN:194:GLY:N    | 2.41                     | 0.49              |
| 1:DA:128:LEU:HB3  | 1:DA:332:LEU:HD11 | 1.93                     | 0.49              |
| 1:DI:97:ALA:O     | 1:DI:100:THR:OG1  | 2.30                     | 0.49              |
| 1:AF:271:ASN:OD1  | 1:AF:272:SER:N    | 2.45                     | 0.49              |
| 1:AP:101:ALA:CB   | 1:CW:43:ASN:N     | 2.60                     | 0.49              |
| 1:BA:96:THR:O     | 1:BA:99:THR:OG1   | 2.28                     | 0.49              |
| 1:BG:30:ASP:O     | 1:BG:31:THR:OG1   | 2.28                     | 0.49              |
| 1:BI:49:TRP:NE1   | 1:BI:334:HIS:O    | 2.45                     | 0.49              |
| 1:BI:143:LEU:O    | 1:DP:17:LEU:HD13  | 2.09                     | 0.49              |
| 1:BM:213:PHE:HB3  | 1:BM:244:ILE:HG21 | 1.95                     | 0.49              |
| 1:BN:190:ASP:O    | 1:BN:194:GLY:N    | 2.43                     | 0.49              |
| 1:BU:93:VAL:CA    | 1:DP:7:PHE:O      | 2.56                     | 0.49              |
| 1:BW:71:ASP:OD1   | 1:BW:72:GLY:N     | 2.43                     | 0.49              |
| 1:CB:46:ILE:HD13  | 1:CB:142:TYR:HD1  | 1.77                     | 0.49              |
| 1:CG:200:VAL:HG21 | 1:CG:343:LEU:HA   | 1.94                     | 0.49              |
| 1:CK:96:THR:O     | 1:CK:97:ALA:HB3   | 2.13                     | 0.49              |
| 1:CQ:8:VAL:O      | 1:CQ:8:VAL:HG13   | 2.12                     | 0.49              |
| 1:CU:199:LYS:NZ   | 1:CU:220:ASP:OD2  | 2.25                     | 0.49              |
| 1:CW:158:THR:O    | 1:CW:158:THR:HG22 | 2.12                     | 0.49              |
| 1:DB:334:HIS:NE2  | 1:DB:336:ASN:O    | 2.46                     | 0.49              |
| 1:DD:190:ASP:O    | 1:DD:194:GLY:N    | 2.45                     | 0.49              |
| 1:DF:84:THR:HG22  | 1:DF:85:GLN:H     | 1.76                     | 0.49              |
| 1:AH:65:GLU:OE2   | 1:BK:97:ALA:N     | 2.45                     | 0.49              |
| 1:AM:92:ARG:NH1   | 1:CR:156:ASN:HD21 | 1.74                     | 0.49              |
| 1:AM:101:ALA:H    | 1:CR:44:GLN:CD    | 2.02                     | 0.49              |
| 1:AM:101:ALA:C    | 1:CR:44:GLN:HE22  | 2.13                     | 0.49              |
| 1:AO:305:MET:SD   | 1:AO:305:MET:N    | 2.85                     | 0.49              |
| 1:AP:14:GLY:H     | 1:CS:105:ARG:CZ   | 2.25                     | 0.49              |
| 1:AW:104:GLY:HA2  | 1:BK:16:LYS:CE    | 2.13                     | 0.49              |
| 1:AW:215:GLU:HG2  | 1:AW:244:ILE:HG23 | 1.94                     | 0.49              |
| 1:BG:218:ILE:O    | 1:BG:222:THR:HG23 | 2.12                     | 0.49              |
| 1:BU:12:GLN:CB    | 1:DP:97:ALA:HB2   | 2.42                     | 0.49              |
| 1:CH:129:LEU:HD13 | 1:CH:289:MET:HG2  | 1.94                     | 0.49              |
| 1:CO:103:TYR:O    | 1:CS:50:GLN:NE2   | 2.45                     | 0.49              |
| 1:CO:116:LYS:NZ   | 1:CS:73:GLU:O     | 2.39                     | 0.49              |
| 1:CO:136:ASP:OD1  | 1:CO:137:VAL:N    | 2.43                     | 0.49              |
| 1:DJ:45:THR:OG1   | 1:DJ:162:ARG:NH2  | 2.46                     | 0.49              |
| 1:DL:141:GLN:O    | 1:DL:144:THR:HG22 | 2.13                     | 0.49              |
| 1:AK:223:LEU:O    | 1:AK:227:THR:OG1  | 2.24                     | 0.49              |
| 1:AM:224:GLN:O    | 1:AM:227:THR:OG1  | 2.27                     | 0.49              |
| 1:AP:215:GLU:OE1  | 1:AP:256:ARG:NH2  | 2.41                     | 0.49              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AQ:231:GLU:OE1  | 1:AQ:298:ARG:NH2  | 2.45                     | 0.49              |
| 1:AW:100:THR:HG21 | 1:BN:45:THR:HA    | 1.92                     | 0.49              |
| 1:BT:131:GLY:O    | 1:BT:180:VAL:HG23 | 2.12                     | 0.49              |
| 1:BU:318:ASP:C    | 1:DH:314:GLU:O    | 2.50                     | 0.49              |
| 1:BW:144:THR:O    | 1:BW:146:SER:N    | 2.46                     | 0.49              |
| 1:CG:98:ASN:O     | 1:CG:99:THR:OG1   | 2.27                     | 0.49              |
| 1:CJ:275:ASP:OD1  | 1:CJ:279:GLN:N    | 2.43                     | 0.49              |
| 1:CL:52:ASP:OD1   | 1:CL:53:ALA:N     | 2.45                     | 0.49              |
| 1:CL:315:LEU:HD11 | 1:CL:325:MET:HB2  | 1.93                     | 0.49              |
| 1:CS:123:ASP:O    | 1:CS:127:ILE:HD12 | 2.12                     | 0.49              |
| 1:DH:46:ILE:O     | 1:DP:18:SER:OG    | 2.30                     | 0.49              |
| 1:AO:213:PHE:HB3  | 1:AO:244:ILE:HG21 | 1.95                     | 0.49              |
| 1:AS:145:ASN:CA   | 1:CW:143:LEU:O    | 2.60                     | 0.49              |
| 1:AV:131:GLY:O    | 1:AV:180:VAL:HG23 | 2.12                     | 0.49              |
| 1:AZ:78:VAL:HG12  | 1:AZ:79:ILE:H     | 1.77                     | 0.49              |
| 1:BI:320:SER:H    | 1:DO:66:GLY:C     | 2.15                     | 0.49              |
| 1:CA:44:GLN:O     | 1:CA:46:ILE:N     | 2.45                     | 0.49              |
| 1:CB:105:ARG:NH2  | 1:CM:13:ASN:O     | 2.44                     | 0.49              |
| 1:CM:206:ASN:ND2  | 1:CM:214:ASP:OD1  | 2.45                     | 0.49              |
| 1:CV:213:PHE:CZ   | 1:CV:294:VAL:HG21 | 2.48                     | 0.49              |
| 1:DI:82:ASN:ND2   | 1:DI:332:LEU:O    | 2.44                     | 0.49              |
| 1:AC:306:VAL:HG13 | 1:AC:330:VAL:HG22 | 1.93                     | 0.49              |
| 1:BB:49:TRP:NE1   | 1:BB:334:HIS:O    | 2.46                     | 0.49              |
| 1:BN:254:GLY:O    | 1:BN:255:SER:OG   | 2.24                     | 0.49              |
| 1:CE:218:ILE:H    | 1:CE:218:ILE:HD12 | 1.78                     | 0.49              |
| 1:CI:322:GLU:OE2  | 1:CI:324:TRP:NE1  | 2.45                     | 0.49              |
| 1:CQ:213:PHE:HE1  | 1:CQ:345:THR:HG22 | 1.78                     | 0.49              |
| 1:CU:42:ILE:HD13  | 1:CU:305:MET:SD   | 2.52                     | 0.49              |
| 1:DD:30:ASP:O     | 1:DD:31:THR:OG1   | 2.27                     | 0.49              |
| 1:DG:50:GLN:O     | 1:DI:23:ILE:HD12  | 2.12                     | 0.49              |
| 1:DK:223:LEU:HG   | 1:DK:277:LEU:HD11 | 1.95                     | 0.49              |
| 1:DM:67:SER:OG    | 1:DM:70:GLU:OE2   | 2.27                     | 0.49              |
| 1:AD:132:GLN:HA   | 1:AD:180:VAL:HG12 | 1.94                     | 0.49              |
| 1:AP:16:LYS:NZ    | 1:CS:103:TYR:HB2  | 2.27                     | 0.49              |
| 1:AT:30:ASP:N     | 1:AT:30:ASP:OD1   | 2.46                     | 0.49              |
| 1:AW:102:ASN:C    | 1:BN:43:ASN:CB    | 2.63                     | 0.49              |
| 1:AZ:196:VAL:N    | 1:AZ:224:GLN:OE1  | 2.44                     | 0.49              |
| 1:BI:192:ASP:OD1  | 1:BI:193:THR:N    | 2.44                     | 0.49              |
| 1:BN:25:VAL:HG13  | 1:BQ:53:ALA:HB1   | 1.95                     | 0.49              |
| 1:BU:6:LEU:HG     | 1:DP:94:SER:HA    | 1.95                     | 0.49              |
| 1:BU:92:ARG:HG2   | 1:DP:6:LEU:C      | 2.33                     | 0.49              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BX:131:GLY:HA2  | 1:BX:180:VAL:HG13 | 1.95                     | 0.49              |
| 1:BZ:233:ASP:C    | 1:BZ:234:ILE:HD12 | 2.33                     | 0.49              |
| 1:CE:272:SER:HG   | 1:CE:280:SER:HG   | 1.58                     | 0.49              |
| 1:CJ:336:ASN:O    | 1:CJ:339:ALA:N    | 2.46                     | 0.49              |
| 1:CW:211:ILE:HG23 | 1:CW:211:ILE:O    | 2.13                     | 0.49              |
| 1:CZ:157:ASP:O    | 1:CZ:158:THR:OG1  | 2.22                     | 0.49              |
| 1:DE:223:LEU:HA   | 1:DE:277:LEU:HD11 | 1.95                     | 0.49              |
| 1:DK:305:MET:O    | 1:DK:331:GLY:N    | 2.43                     | 0.49              |
| 1:DN:90:VAL:HG21  | 1:DP:70:GLU:O     | 2.13                     | 0.49              |
| 1:AB:206:ASN:ND2  | 1:AB:210:ASN:OD1  | 2.43                     | 0.49              |
| 1:AG:122:ARG:NH1  | 1:AM:192:ASP:OD1  | 2.46                     | 0.49              |
| 1:AK:49:TRP:NE1   | 1:AK:334:HIS:O    | 2.45                     | 0.49              |
| 1:AP:13:ASN:CB    | 1:CS:105:ARG:HH22 | 2.26                     | 0.49              |
| 1:BA:27:SER:OG    | 1:BB:192:ASP:OD2  | 2.27                     | 0.49              |
| 1:BA:142:TYR:O    | 1:BA:145:ASN:ND2  | 2.46                     | 0.49              |
| 1:BD:238:ASN:OD1  | 1:BD:240:ALA:N    | 2.39                     | 0.49              |
| 1:BI:92:ARG:NH1   | 1:DK:6:LEU:HD21   | 2.27                     | 0.49              |
| 1:BX:152:VAL:HG23 | 1:BX:152:VAL:O    | 2.13                     | 0.49              |
| 1:CC:176:LEU:HD23 | 1:CC:176:LEU:H    | 1.78                     | 0.49              |
| 1:CO:125:GLU:OE2  | 1:CO:129:LEU:HD12 | 2.13                     | 0.49              |
| 1:CY:85:GLN:HB2   | 1:CY:164:THR:HG23 | 1.94                     | 0.49              |
| 1:DO:64:VAL:HG12  | 1:DO:65:GLU:N     | 2.27                     | 0.49              |
| 1:AD:49:TRP:NE1   | 1:AD:334:HIS:O    | 2.46                     | 0.48              |
| 1:AM:94:SER:OG    | 1:CV:65:GLU:HB2   | 2.12                     | 0.48              |
| 1:BI:91:VAL:HG21  | 1:BI:113:LEU:HD23 | 1.95                     | 0.48              |
| 1:BU:96:THR:O     | 1:DH:307:LEU:CD2  | 2.57                     | 0.48              |
| 1:BX:171:CYS:SG   | 1:BX:172:ALA:N    | 2.83                     | 0.48              |
| 1:CC:304:GLN:OE1  | 1:CC:304:GLN:N    | 2.41                     | 0.48              |
| 1:CD:132:GLN:NE2  | 1:CD:164:THR:O    | 2.46                     | 0.48              |
| 1:CE:105:ARG:NH2  | 1:CE:108:GLU:OE1  | 2.46                     | 0.48              |
| 1:CJ:190:ASP:O    | 1:CJ:194:GLY:N    | 2.41                     | 0.48              |
| 1:CK:112:GLN:OE1  | 1:CK:112:GLN:N    | 2.41                     | 0.48              |
| 1:CS:269:GLU:OE2  | 1:CW:278:GLY:N    | 2.43                     | 0.48              |
| 1:CT:30:ASP:N     | 1:CT:30:ASP:OD1   | 2.46                     | 0.48              |
| 1:CU:98:ASN:ND2   | 1:CU:108:GLU:OE1  | 2.42                     | 0.48              |
| 1:DK:11:ASP:OD1   | 1:DK:12:GLN:N     | 2.44                     | 0.48              |
| 1:DK:237:ILE:HD11 | 1:DK:241:HIS:O    | 2.13                     | 0.48              |
| 1:AM:36:MET:O     | 1:AM:299:SER:OG   | 2.31                     | 0.48              |
| 1:AV:250:GLU:OE1  | 1:AV:258:ARG:NH2  | 2.43                     | 0.48              |
| 1:BI:94:SER:OG    | 1:DM:152:VAL:CG2  | 2.61                     | 0.48              |
| 1:BI:109:LEU:HD12 | 1:DK:7:PHE:CD1    | 2.43                     | 0.48              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BI:147:ALA:H    | 1:DH:143:LEU:HD11 | 0.41                     | 0.48              |
| 1:BN:182:ASP:OD1  | 1:BN:183:LYS:N    | 2.47                     | 0.48              |
| 1:BQ:296:PHE:O    | 1:BQ:341:GLY:N    | 2.40                     | 0.48              |
| 1:BS:305:MET:O    | 1:BS:331:GLY:N    | 2.45                     | 0.48              |
| 1:BU:215:GLU:HG2  | 1:BU:244:ILE:HG23 | 1.94                     | 0.48              |
| 1:BX:132:GLN:NE2  | 1:BX:164:THR:OG1  | 2.46                     | 0.48              |
| 1:BZ:33:PHE:O     | 1:BZ:37:THR:HG23  | 2.13                     | 0.48              |
| 1:CF:88:ARG:NH1   | 1:CF:327:GLU:OE2  | 2.42                     | 0.48              |
| 1:CN:33:PHE:O     | 1:CN:37:THR:HG23  | 2.13                     | 0.48              |
| 1:CQ:213:PHE:CD1  | 1:CQ:345:THR:HG22 | 2.48                     | 0.48              |
| 1:CS:240:ALA:O    | 1:CS:243:LYS:NZ   | 2.45                     | 0.48              |
| 1:DG:90:VAL:HG22  | 1:DG:325:MET:HB2  | 1.94                     | 0.48              |
| 1:DI:196:VAL:HG23 | 1:DI:196:VAL:O    | 2.12                     | 0.48              |
| 1:AI:30:ASP:O     | 1:AI:31:THR:OG1   | 2.28                     | 0.48              |
| 1:AK:143:LEU:CD1  | 1:BN:147:ALA:O    | 2.50                     | 0.48              |
| 1:AM:196:VAL:N    | 1:AM:224:GLN:OE1  | 2.43                     | 0.48              |
| 1:AP:14:GLY:H     | 1:CS:105:ARG:NH1  | 2.11                     | 0.48              |
| 1:AP:182:ASP:OD1  | 1:AP:183:LYS:N    | 2.47                     | 0.48              |
| 1:AP:271:ASN:OD1  | 1:AP:272:SER:N    | 2.46                     | 0.48              |
| 1:AP:316:ALA:HB2  | 1:CN:316:ALA:HB1  | 1.95                     | 0.48              |
| 1:AS:143:LEU:C    | 1:CW:143:LEU:HD23 | 2.20                     | 0.48              |
| 1:BF:234:ILE:CG2  | 1:BF:284:ILE:HD12 | 2.44                     | 0.48              |
| 1:BW:52:ASP:OD1   | 1:BW:52:ASP:N     | 2.46                     | 0.48              |
| 1:BZ:180:VAL:HG22 | 1:BZ:181:VAL:N    | 2.28                     | 0.48              |
| 1:BZ:196:VAL:O    | 1:BZ:196:VAL:HG22 | 2.13                     | 0.48              |
| 1:CD:206:ASN:O    | 1:CD:349:LYS:N    | 2.45                     | 0.48              |
| 1:CG:91:VAL:O     | 1:CG:91:VAL:HG12  | 2.13                     | 0.48              |
| 1:CI:203:ASN:OD1  | 1:CI:348:GLY:N    | 2.45                     | 0.48              |
| 1:CR:33:PHE:CD2   | 1:CR:129:LEU:HD21 | 2.48                     | 0.48              |
| 1:DA:62:ALA:HB3   | 1:DE:161:ALA:HB1  | 1.95                     | 0.48              |
| 1:DB:92:ARG:NH2   | 1:DB:94:SER:OG    | 2.45                     | 0.48              |
| 1:DJ:8:VAL:O      | 1:DJ:8:VAL:HG13   | 2.13                     | 0.48              |
| 1:AB:78:VAL:HG12  | 1:AB:79:ILE:H     | 1.77                     | 0.48              |
| 1:AK:91:VAL:HG21  | 1:AK:113:LEU:HD23 | 1.95                     | 0.48              |
| 1:AP:14:GLY:N     | 1:CS:105:ARG:NH1  | 2.61                     | 0.48              |
| 1:BQ:203:ASN:ND2  | 1:BQ:210:ASN:OD1  | 2.47                     | 0.48              |
| 1:BU:5:THR:N      | 1:DH:74:MET:N     | 2.42                     | 0.48              |
| 1:BX:182:ASP:OD1  | 1:BX:183:LYS:N    | 2.46                     | 0.48              |
| 1:BZ:334:HIS:NE2  | 1:BZ:336:ASN:O    | 2.46                     | 0.48              |
| 1:CA:64:VAL:HG12  | 1:CA:65:GLU:N     | 2.28                     | 0.48              |
| 1:CF:8:VAL:HG11   | 1:CW:108:GLU:OE2  | 2.12                     | 0.48              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CN:275:ASP:OD1  | 1:CN:279:GLN:N    | 2.46                     | 0.48              |
| 1:CQ:92:ARG:NE    | 1:CU:71:ASP:OD1   | 2.47                     | 0.48              |
| 1:CZ:93:VAL:HG21  | 1:CZ:109:LEU:HD13 | 1.95                     | 0.48              |
| 1:CZ:172:ALA:HB3  | 1:CZ:198:VAL:HG23 | 1.95                     | 0.48              |
| 1:DA:250:GLU:OE2  | 1:DA:258:ARG:NH1  | 2.46                     | 0.48              |
| 1:DK:262:ASN:HA   | 1:DM:267:ILE:HD11 | 1.94                     | 0.48              |
| 1:DL:125:GLU:OE2  | 1:DL:286:ASN:ND2  | 2.45                     | 0.48              |
| 1:DO:213:PHE:CD1  | 1:DO:218:ILE:HD11 | 2.48                     | 0.48              |
| 1:AJ:50:GLN:NE2   | 1:AV:103:TYR:O    | 2.46                     | 0.48              |
| 1:AP:144:THR:O    | 1:CR:141:GLN:C    | 2.49                     | 0.48              |
| 1:AR:336:ASN:OD1  | 1:AR:338:TYR:N    | 2.43                     | 0.48              |
| 1:AU:162:ARG:NH1  | 1:AU:329:GLU:OE2  | 2.47                     | 0.48              |
| 1:AW:108:GLU:HB2  | 1:BK:7:PHE:CD2    | 2.43                     | 0.48              |
| 1:BE:30:ASP:OD2   | 1:BE:287:ARG:NH2  | 2.45                     | 0.48              |
| 1:BI:99:THR:CB    | 1:DK:10:TYR:CE2   | 2.54                     | 0.48              |
| 1:BK:180:VAL:HG22 | 1:BK:181:VAL:H    | 1.79                     | 0.48              |
| 1:BR:30:ASP:OD1   | 1:BR:30:ASP:N     | 2.46                     | 0.48              |
| 1:BZ:213:PHE:CD2  | 1:BZ:244:ILE:HG21 | 2.48                     | 0.48              |
| 1:CA:135:THR:HG22 | 1:CA:135:THR:O    | 2.12                     | 0.48              |
| 1:CI:82:ASN:ND2   | 1:CI:332:LEU:O    | 2.41                     | 0.48              |
| 1:CK:308:ARG:NH2  | 1:CK:327:GLU:OE1  | 2.46                     | 0.48              |
| 1:CQ:316:ALA:HB1  | 1:CT:316:ALA:HB2  | 1.94                     | 0.48              |
| 1:CV:213:PHE:HE1  | 1:CV:343:LEU:HD23 | 1.77                     | 0.48              |
| 1:CV:250:GLU:OE2  | 1:CY:256:ARG:NE   | 2.47                     | 0.48              |
| 1:DC:180:VAL:HG22 | 1:DC:181:VAL:N    | 2.29                     | 0.48              |
| 1:DP:273:ILE:CG2  | 1:DP:283:ILE:HD11 | 2.42                     | 0.48              |
| 1:DQ:95:ASP:O     | 1:DQ:99:THR:OG1   | 2.20                     | 0.48              |
| 1:AA:60:ASN:O     | 1:AA:60:ASN:ND2   | 2.47                     | 0.48              |
| 1:DB:235:ILE:O    | 1:DB:283:ILE:HD12 | 2.13                     | 0.48              |
| 1:DC:128:LEU:CD2  | 1:DC:332:LEU:HD21 | 2.43                     | 0.48              |
| 1:DL:95:ASP:O     | 1:DL:99:THR:OG1   | 2.30                     | 0.48              |
| 1:DM:29:GLN:NE2   | 1:DM:31:THR:OG1   | 2.47                     | 0.48              |
| 1:DN:235:ILE:HD11 | 1:DN:281:TYR:HD1  | 1.78                     | 0.48              |
| 1:AH:234:ILE:CG2  | 1:AH:284:ILE:HD12 | 2.44                     | 0.48              |
| 1:AI:49:TRP:NE1   | 1:AI:334:HIS:O    | 2.47                     | 0.48              |
| 1:BN:142:TYR:O    | 1:BN:145:ASN:ND2  | 2.44                     | 0.48              |
| 1:BR:34:VAL:HG23  | 1:BR:125:GLU:OE1  | 2.14                     | 0.48              |
| 1:BU:8:VAL:CB     | 1:DP:95:ASP:HB3   | 2.43                     | 0.48              |
| 1:CD:137:VAL:HG22 | 1:CD:162:ARG:NH1  | 2.28                     | 0.48              |
| 1:CR:87:LEU:CB    | 1:CR:120:ILE:HD11 | 2.43                     | 0.48              |
| 1:CZ:88:ARG:NE    | 1:CZ:327:GLU:OE2  | 2.47                     | 0.48              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:DB:317:LYS:O    | 1:DB:318:ASP:HB2  | 2.14                     | 0.48              |
| 1:DD:305:MET:N    | 1:DD:331:GLY:O    | 2.45                     | 0.48              |
| 1:DG:275:ASP:OD1  | 1:DG:279:GLN:N    | 2.47                     | 0.48              |
| 1:DQ:134:ARG:NE   | 1:DQ:142:TYR:OH   | 2.46                     | 0.48              |
| 1:AJ:136:ASP:OD1  | 1:AJ:137:VAL:N    | 2.46                     | 0.48              |
| 1:AN:90:VAL:HG11  | 1:AQ:70:GLU:O     | 2.14                     | 0.48              |
| 1:AP:7:PHE:HD2    | 1:CS:112:GLN:NE2  | 2.12                     | 0.48              |
| 1:AP:79:ILE:HG21  | 1:CR:147:ALA:HB2  | 1.96                     | 0.48              |
| 1:AP:94:SER:O     | 1:CS:7:PHE:C      | 2.52                     | 0.48              |
| 1:AY:271:ASN:OD1  | 1:AY:272:SER:N    | 2.47                     | 0.48              |
| 1:BH:50:GLN:NE2   | 1:BT:103:TYR:O    | 2.46                     | 0.48              |
| 1:BI:99:THR:HB    | 1:DK:10:TYR:CG    | 2.49                     | 0.48              |
| 1:BU:93:VAL:HA    | 1:DP:7:PHE:HB3    | 1.96                     | 0.48              |
| 1:BV:263:THR:OG1  | 1:BV:265:GLN:O    | 2.31                     | 0.48              |
| 1:BX:10:TYR:OH    | 1:CC:162:ARG:NH2  | 2.47                     | 0.48              |
| 1:CA:118:LYS:CB   | 1:CB:54:LEU:HD21  | 2.44                     | 0.48              |
| 1:CB:182:ASP:OD1  | 1:CB:183:LYS:N    | 2.47                     | 0.48              |
| 1:CR:259:ILE:HD11 | 1:CV:259:ILE:HB   | 1.95                     | 0.48              |
| 1:AE:213:PHE:O    | 1:AE:244:ILE:HG21 | 2.14                     | 0.48              |
| 1:AH:202:GLN:NE2  | 1:AH:216:ALA:O    | 2.47                     | 0.48              |
| 1:BB:132:GLN:HA   | 1:BB:180:VAL:HG12 | 1.94                     | 0.48              |
| 1:BY:235:ILE:HG23 | 1:BY:296:PHE:CE1  | 2.49                     | 0.48              |
| 1:DE:305:MET:O    | 1:DE:331:GLY:N    | 2.45                     | 0.48              |
| 1:DH:211:ILE:O    | 1:DH:211:ILE:HG13 | 2.14                     | 0.48              |
| 1:DJ:236:MET:O    | 1:DJ:294:VAL:HG23 | 2.13                     | 0.48              |
| 1:DQ:81:SER:O     | 1:DQ:134:ARG:NH2  | 2.46                     | 0.48              |
| 1:AA:271:ASN:OD1  | 1:AA:272:SER:N    | 2.47                     | 0.48              |
| 1:AT:34:VAL:HG23  | 1:AT:125:GLU:OE1  | 2.14                     | 0.48              |
| 1:AW:213:PHE:HD2  | 1:AW:244:ILE:HD13 | 1.79                     | 0.48              |
| 1:BB:306:VAL:HG12 | 1:BB:330:VAL:CG1  | 2.43                     | 0.48              |
| 1:BE:122:ARG:NH1  | 1:BK:192:ASP:OD1  | 2.46                     | 0.48              |
| 1:BP:90:VAL:HG11  | 1:BS:69:ALA:HB1   | 1.96                     | 0.48              |
| 1:CD:152:VAL:O    | 1:CD:152:VAL:HG22 | 2.14                     | 0.48              |
| 1:CE:213:PHE:HD1  | 1:CE:218:ILE:HD11 | 1.78                     | 0.48              |
| 1:CF:152:VAL:HG12 | 1:CF:152:VAL:O    | 2.14                     | 0.48              |
| 1:CS:45:THR:HG21  | 1:CS:162:ARG:HH12 | 1.79                     | 0.48              |
| 1:DD:176:LEU:H    | 1:DD:176:LEU:HD23 | 1.78                     | 0.48              |
| 1:AF:95:ASP:OD2   | 1:AQ:308:ARG:NH1  | 2.47                     | 0.47              |
| 1:AH:56:SER:OG    | 1:AH:57:VAL:N     | 2.47                     | 0.47              |
| 1:AP:105:ARG:HB2  | 1:CS:12:GLN:CB    | 2.44                     | 0.47              |
| 1:AQ:30:ASP:OD2   | 1:AQ:30:ASP:N     | 2.47                     | 0.47              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AS:65:GLU:CA    | 1:CN:320:SER:OG   | 2.59                     | 0.47              |
| 1:AS:203:ASN:ND2  | 1:AS:210:ASN:OD1  | 2.47                     | 0.47              |
| 1:BX:342:VAL:HG11 | 1:BX:344:PHE:CE1  | 2.50                     | 0.47              |
| 1:BZ:275:ASP:OD1  | 1:BZ:279:GLN:N    | 2.47                     | 0.47              |
| 1:CM:171:CYS:SG   | 1:CM:340:SER:OG   | 2.72                     | 0.47              |
| 1:CP:295:TYR:CD1  | 1:CP:342:VAL:HG22 | 2.49                     | 0.47              |
| 1:CR:122:ARG:NH1  | 1:CV:57:VAL:HG13  | 2.29                     | 0.47              |
| 1:DB:288:TRP:CZ3  | 1:DC:57:VAL:HG11  | 2.49                     | 0.47              |
| 1:DM:12:GLN:O     | 1:DO:145:ASN:ND2  | 2.46                     | 0.47              |
| 1:AK:140:ASP:O    | 1:BN:144:THR:HG21 | 2.13                     | 0.47              |
| 1:AK:142:TYR:C    | 1:BN:144:THR:CA   | 2.60                     | 0.47              |
| 1:AP:76:PRO:HD3   | 1:CR:152:VAL:O    | 2.14                     | 0.47              |
| 1:AT:131:GLY:C    | 1:AT:180:VAL:HG23 | 2.34                     | 0.47              |
| 1:AZ:30:ASP:O     | 1:AZ:31:THR:OG1   | 2.28                     | 0.47              |
| 1:BC:305:MET:O    | 1:BC:331:GLY:N    | 2.46                     | 0.47              |
| 1:BD:95:ASP:OD2   | 1:BO:308:ARG:NH1  | 2.47                     | 0.47              |
| 1:BI:76:PRO:HG3   | 1:DP:13:ASN:HB3   | 1.33                     | 0.47              |
| 1:BI:140:ASP:O    | 1:DH:144:THR:CB   | 2.62                     | 0.47              |
| 1:BL:90:VAL:HG11  | 1:BO:70:GLU:O     | 2.14                     | 0.47              |
| 1:BX:73:GLU:O     | 1:CB:116:LYS:NZ   | 2.41                     | 0.47              |
| 1:BY:156:ASN:OD1  | 1:CC:3:ASN:ND2    | 2.47                     | 0.47              |
| 1:CD:91:VAL:HG12  | 1:CD:324:TRP:HB2  | 1.95                     | 0.47              |
| 1:DH:261:GLU:N    | 1:DH:268:TYR:O    | 2.47                     | 0.47              |
| 1:DP:184:THR:O    | 1:DP:184:THR:HG22 | 2.13                     | 0.47              |
| 1:AE:305:MET:O    | 1:AE:331:GLY:N    | 2.46                     | 0.47              |
| 1:AI:30:ASP:N     | 1:AI:30:ASP:OD1   | 2.47                     | 0.47              |
| 1:AO:235:ILE:N    | 1:AO:282:LYS:O    | 2.45                     | 0.47              |
| 1:AP:99:THR:HB    | 1:CW:307:LEU:HD23 | 0.88                     | 0.47              |
| 1:AW:215:GLU:HG2  | 1:AW:244:ILE:CG2  | 2.44                     | 0.47              |
| 1:BI:141:GLN:OE1  | 1:DH:143:LEU:HB3  | 2.14                     | 0.47              |
| 1:BN:49:TRP:NE1   | 1:BN:334:HIS:O    | 2.47                     | 0.47              |
| 1:BN:271:ASN:OD1  | 1:BN:272:SER:N    | 2.46                     | 0.47              |
| 1:BW:176:LEU:HD23 | 1:BW:176:LEU:O    | 2.14                     | 0.47              |
| 1:BW:199:LYS:NZ   | 1:BW:220:ASP:OD1  | 2.47                     | 0.47              |
| 1:CZ:8:VAL:HG12   | 1:CZ:9:SER:N      | 2.28                     | 0.47              |
| 1:DA:252:THR:HG22 | 1:DA:253:GLN:N    | 2.30                     | 0.47              |
| 1:DE:30:ASP:O     | 1:DE:31:THR:OG1   | 2.30                     | 0.47              |
| 1:DH:158:THR:O    | 1:DH:158:THR:HG22 | 2.14                     | 0.47              |
| 1:DM:37:THR:HG22  | 1:DM:37:THR:O     | 2.14                     | 0.47              |
| 1:DO:30:ASP:O     | 1:DO:31:THR:OG1   | 2.23                     | 0.47              |
| 1:AD:306:VAL:HG12 | 1:AD:330:VAL:CG1  | 2.43                     | 0.47              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AM:6:LEU:HB2    | 1:CR:71:ASP:HB3   | 1.79                     | 0.47              |
| 1:AY:215:GLU:HB2  | 1:AY:248:LEU:CD1  | 2.44                     | 0.47              |
| 1:BB:88:ARG:NH2   | 1:BC:70:GLU:OE2   | 2.45                     | 0.47              |
| 1:BG:215:GLU:HG2  | 1:BG:248:LEU:HD22 | 1.97                     | 0.47              |
| 1:BP:83:VAL:HG22  | 1:BP:84:THR:H     | 1.79                     | 0.47              |
| 1:BQ:224:GLN:O    | 1:BQ:227:THR:OG1  | 2.26                     | 0.47              |
| 1:BU:215:GLU:HG2  | 1:BU:244:ILE:CG2  | 2.45                     | 0.47              |
| 1:BX:334:HIS:NE2  | 1:BX:336:ASN:O    | 2.47                     | 0.47              |
| 1:CI:200:VAL:O    | 1:CI:200:VAL:HG13 | 2.14                     | 0.47              |
| 1:DN:124:LEU:HA   | 1:DN:127:ILE:HG22 | 1.95                     | 0.47              |
| 1:DN:305:MET:N    | 1:DN:305:MET:SD   | 2.88                     | 0.47              |
| 1:DO:197:THR:OG1  | 1:DO:340:SER:O    | 2.31                     | 0.47              |
| 1:AP:4:PRO:C      | 1:CS:92:ARG:HE    | 2.06                     | 0.47              |
| 1:AP:100:THR:HG22 | 1:CW:44:GLN:HG3   | 1.97                     | 0.47              |
| 1:AP:321:TYR:CD2  | 1:CZ:68:ARG:NE    | 2.82                     | 0.47              |
| 1:BC:213:PHE:O    | 1:BC:244:ILE:HG21 | 2.14                     | 0.47              |
| 1:BG:288:TRP:CZ3  | 1:BM:57:VAL:HG11  | 2.49                     | 0.47              |
| 1:BH:157:ASP:OD1  | 1:BH:157:ASP:N    | 2.48                     | 0.47              |
| 1:BI:95:ASP:C     | 1:DK:10:TYR:CE2   | 2.86                     | 0.47              |
| 1:BI:109:LEU:CD1  | 1:DK:7:PHE:CZ     | 2.77                     | 0.47              |
| 1:BU:92:ARG:HG2   | 1:DP:6:LEU:O      | 2.13                     | 0.47              |
| 1:BU:92:ARG:NE    | 1:DP:6:LEU:N      | 2.61                     | 0.47              |
| 1:BX:93:VAL:HG21  | 1:BX:109:LEU:HD23 | 1.95                     | 0.47              |
| 1:CC:30:ASP:O     | 1:CC:31:THR:OG1   | 2.27                     | 0.47              |
| 1:CC:97:ALA:O     | 1:CC:100:THR:OG1  | 2.32                     | 0.47              |
| 1:CG:275:ASP:OD1  | 1:CG:279:GLN:N    | 2.48                     | 0.47              |
| 1:CH:199:LYS:NZ   | 1:CH:220:ASP:OD2  | 2.39                     | 0.47              |
| 1:CL:102:ASN:N    | 1:CL:108:GLU:OE1  | 2.46                     | 0.47              |
| 1:CZ:273:ILE:HG22 | 1:CZ:274:THR:N    | 2.30                     | 0.47              |
| 1:DE:306:VAL:HG23 | 1:DE:306:VAL:O    | 2.14                     | 0.47              |
| 1:DH:326:ILE:HG23 | 1:DH:326:ILE:O    | 2.15                     | 0.47              |
| 1:DO:210:ASN:OD1  | 1:DO:211:ILE:N    | 2.47                     | 0.47              |
| 1:AR:90:VAL:HG11  | 1:AU:69:ALA:HB1   | 1.95                     | 0.47              |
| 1:AX:263:THR:OG1  | 1:AX:265:GLN:O    | 2.32                     | 0.47              |
| 1:BF:28:PRO:O     | 1:BF:122:ARG:NH2  | 2.47                     | 0.47              |
| 1:BF:56:SER:OG    | 1:BF:57:VAL:N     | 2.47                     | 0.47              |
| 1:BF:74:MET:HE3   | 1:DK:6:LEU:CG     | 2.25                     | 0.47              |
| 1:DM:155:LEU:H    | 1:DM:155:LEU:HD23 | 1.80                     | 0.47              |
| 1:AF:95:ASP:OD1   | 1:AF:96:THR:N     | 2.47                     | 0.47              |
| 1:AO:308:ARG:NH1  | 1:AO:327:GLU:OE1  | 2.43                     | 0.47              |
| 1:AP:15:LYS:CB    | 1:CS:103:TYR:HE2  | 2.12                     | 0.47              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AP:25:VAL:HG13  | 1:AS:53:ALA:HB1   | 1.95                     | 0.47              |
| 1:AP:321:TYR:CE2  | 1:CZ:68:ARG:NE    | 2.83                     | 0.47              |
| 1:AW:16:LYS:CG    | 1:BK:103:TYR:CG   | 2.75                     | 0.47              |
| 1:AY:60:ASN:O     | 1:AY:60:ASN:ND2   | 2.47                     | 0.47              |
| 1:BD:95:ASP:OD1   | 1:BD:96:THR:N     | 2.47                     | 0.47              |
| 1:BF:202:GLN:NE2  | 1:BF:216:ALA:O    | 2.47                     | 0.47              |
| 1:BF:202:GLN:NE2  | 1:BF:215:GLU:HB2  | 2.29                     | 0.47              |
| 1:BG:30:ASP:OD1   | 1:BG:30:ASP:N     | 2.47                     | 0.47              |
| 1:BI:100:THR:CB   | 1:DK:12:GLN:HB2   | 2.45                     | 0.47              |
| 1:BP:171:CYS:SG   | 1:BP:340:SER:OG   | 2.62                     | 0.47              |
| 1:BS:162:ARG:NH1  | 1:BS:329:GLU:OE2  | 2.47                     | 0.47              |
| 1:BU:96:THR:N     | 1:DH:308:ARG:NH1  | 2.60                     | 0.47              |
| 1:BW:208:THR:HG22 | 1:BW:208:THR:O    | 2.15                     | 0.47              |
| 1:BY:171:CYS:SG   | 1:BY:342:VAL:HG23 | 2.55                     | 0.47              |
| 1:CA:142:TYR:HA   | 1:CA:146:SER:HA   | 1.97                     | 0.47              |
| 1:CB:83:VAL:O     | 1:CB:164:THR:HG22 | 2.14                     | 0.47              |
| 1:CC:90:VAL:HG12  | 1:CC:325:MET:SD   | 2.55                     | 0.47              |
| 1:CG:42:ILE:O     | 1:CG:307:LEU:HD12 | 2.14                     | 0.47              |
| 1:CG:231:GLU:O    | 1:CG:232:ALA:HB3  | 2.13                     | 0.47              |
| 1:CI:203:ASN:OD1  | 1:CI:204:ALA:N    | 2.46                     | 0.47              |
| 1:CK:25:VAL:HG12  | 1:CK:26:LEU:N     | 2.30                     | 0.47              |
| 1:CL:32:PRO:O     | 1:CL:35:SER:N     | 2.46                     | 0.47              |
| 1:CS:180:VAL:HG22 | 1:CS:181:VAL:N    | 2.30                     | 0.47              |
| 1:CU:113:LEU:HD22 | 1:CU:312:ARG:HG2  | 1.96                     | 0.47              |
| 1:CV:336:ASN:O    | 1:CV:339:ALA:N    | 2.43                     | 0.47              |
| 1:CZ:152:VAL:HG23 | 1:CZ:152:VAL:O    | 2.14                     | 0.47              |
| 1:DB:83:VAL:HG12  | 1:DB:84:THR:N     | 2.30                     | 0.47              |
| 1:DD:124:LEU:HD11 | 1:DD:330:VAL:HG21 | 1.96                     | 0.47              |
| 1:DE:202:GLN:OE1  | 1:DE:202:GLN:N    | 2.46                     | 0.47              |
| 1:DF:130:SER:OG   | 1:DF:131:GLY:N    | 2.47                     | 0.47              |
| 1:DP:70:GLU:OE1   | 1:DP:70:GLU:N     | 2.47                     | 0.47              |
| 1:AA:215:GLU:HB2  | 1:AA:248:LEU:CD1  | 2.44                     | 0.47              |
| 1:AI:288:TRP:CZ3  | 1:AO:57:VAL:HG11  | 2.49                     | 0.47              |
| 1:AJ:25:VAL:HG13  | 1:AJ:26:LEU:N     | 2.30                     | 0.47              |
| 1:AP:306:VAL:HG12 | 1:AP:330:VAL:HG12 | 1.97                     | 0.47              |
| 1:AW:145:ASN:O    | 1:AW:145:ASN:ND2  | 2.48                     | 0.47              |
| 1:BA:180:VAL:HG22 | 1:BA:181:VAL:H    | 1.80                     | 0.47              |
| 1:BI:144:THR:CG2  | 1:DH:143:LEU:CG   | 2.88                     | 0.47              |
| 1:BM:254:GLY:O    | 1:BM:255:SER:OG   | 2.15                     | 0.47              |
| 1:BO:30:ASP:OD2   | 1:BO:30:ASP:N     | 2.47                     | 0.47              |
| 1:CB:91:VAL:HG11  | 1:CB:113:LEU:HD12 | 1.96                     | 0.47              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CX:85:GLN:HB2   | 1:CX:164:THR:HG23 | 1.96                     | 0.47              |
| 1:CY:302:TRP:HE1  | 1:CY:340:SER:HG   | 1.63                     | 0.47              |
| 1:DC:45:THR:O     | 1:DC:84:THR:OG1   | 2.25                     | 0.47              |
| 1:DJ:199:LYS:O    | 1:DJ:343:LEU:HD23 | 2.15                     | 0.47              |
| 1:DK:208:THR:O    | 1:DK:208:THR:HG22 | 2.15                     | 0.47              |
| 1:AH:28:PRO:O     | 1:AH:122:ARG:NH2  | 2.47                     | 0.47              |
| 1:AH:202:GLN:NE2  | 1:AH:215:GLU:HB2  | 2.29                     | 0.47              |
| 1:BH:36:MET:O     | 1:BH:37:THR:OG1   | 2.27                     | 0.47              |
| 1:BI:55:ALA:O     | 1:BU:122:ARG:NH1  | 2.48                     | 0.47              |
| 1:BI:100:THR:OG1  | 1:DK:12:GLN:HB2   | 2.14                     | 0.47              |
| 1:BK:30:ASP:O     | 1:BK:31:THR:OG1   | 2.33                     | 0.47              |
| 1:BL:211:ILE:HG22 | 1:BL:212:GLY:N    | 2.30                     | 0.47              |
| 1:BR:131:GLY:C    | 1:BR:180:VAL:HG23 | 2.34                     | 0.47              |
| 1:BU:92:ARG:CB    | 1:DP:5:THR:C      | 2.84                     | 0.47              |
| 1:BU:92:ARG:HB3   | 1:DP:5:THR:C      | 2.35                     | 0.47              |
| 1:BZ:124:LEU:HD13 | 1:BZ:330:VAL:HG21 | 1.97                     | 0.47              |
| 1:CJ:231:GLU:OE1  | 1:CJ:231:GLU:N    | 2.48                     | 0.47              |
| 1:CL:131:GLY:O    | 1:CL:181:VAL:HG23 | 2.15                     | 0.47              |
| 1:CQ:95:ASP:OD2   | 1:CT:308:ARG:NH2  | 2.48                     | 0.47              |
| 1:CZ:176:LEU:HD23 | 1:CZ:181:VAL:HG13 | 1.95                     | 0.47              |
| 1:DD:42:ILE:HG22  | 1:DD:307:LEU:O    | 2.15                     | 0.47              |
| 1:DK:237:ILE:HD12 | 1:DK:245:PHE:CE2  | 2.49                     | 0.47              |
| 1:DO:9:SER:OG     | 1:DQ:162:ARG:NH1  | 2.47                     | 0.47              |
| 1:AW:105:ARG:HD2  | 1:BK:15:LYS:HA    | 0.79                     | 0.47              |
| 1:BI:13:ASN:HB2   | 1:DM:76:PRO:HB2   | 1.93                     | 0.47              |
| 1:BW:184:THR:HG23 | 1:BW:185:LYS:N    | 2.30                     | 0.47              |
| 1:CI:235:ILE:HG23 | 1:CI:296:PHE:HE1  | 1.80                     | 0.47              |
| 1:CM:328:MET:HG2  | 1:CM:330:VAL:HG13 | 1.96                     | 0.47              |
| 1:CV:136:ASP:OD2  | 1:CV:136:ASP:N    | 2.48                     | 0.47              |
| 1:CV:318:ASP:OD1  | 1:CV:318:ASP:N    | 2.48                     | 0.47              |
| 1:DD:64:VAL:HG12  | 1:DD:65:GLU:N     | 2.29                     | 0.47              |
| 1:DI:168:GLN:OE1  | 1:DI:168:GLN:N    | 2.48                     | 0.47              |
| 1:DK:30:ASP:O     | 1:DK:31:THR:OG1   | 2.32                     | 0.47              |
| 1:DQ:214:ASP:OD1  | 1:DQ:215:GLU:N    | 2.45                     | 0.47              |
| 1:AC:180:VAL:HG22 | 1:AC:181:VAL:H    | 1.80                     | 0.46              |
| 1:AI:215:GLU:HG2  | 1:AI:248:LEU:HD22 | 1.97                     | 0.46              |
| 1:AK:55:ALA:O     | 1:AW:122:ARG:NH1  | 2.48                     | 0.46              |
| 1:AM:180:VAL:HG22 | 1:AM:181:VAL:H    | 1.79                     | 0.46              |
| 1:AR:290:PRO:O    | 1:AR:291:THR:HG22 | 2.16                     | 0.46              |
| 1:AS:73:GLU:HG3   | 1:CS:4:PRO:CA     | 2.32                     | 0.46              |
| 1:AS:77:THR:C     | 1:CW:149:ASP:O    | 2.45                     | 0.46              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AS:78:VAL:O     | 1:CW:147:ALA:O    | 2.33                     | 0.46              |
| 1:AU:305:MET:O    | 1:AU:331:GLY:N    | 2.45                     | 0.46              |
| 1:AW:7:PHE:CB     | 1:BK:93:VAL:CB    | 2.93                     | 0.46              |
| 1:BG:49:TRP:NE1   | 1:BG:334:HIS:O    | 2.47                     | 0.46              |
| 1:BH:222:THR:HG22 | 1:BH:281:TYR:CZ   | 2.50                     | 0.46              |
| 1:BI:223:LEU:O    | 1:BI:227:THR:OG1  | 2.24                     | 0.46              |
| 1:BM:235:ILE:N    | 1:BM:282:LYS:O    | 2.45                     | 0.46              |
| 1:BU:14:GLY:CA    | 1:DP:102:ASN:OD1  | 2.63                     | 0.46              |
| 1:BU:100:THR:HG23 | 1:DH:307:LEU:CA   | 2.44                     | 0.46              |
| 1:CG:303:THR:OG1  | 1:CG:305:MET:SD   | 2.55                     | 0.46              |
| 1:CH:53:ALA:HA    | 1:CX:25:VAL:HG23  | 1.97                     | 0.46              |
| 1:CI:141:GLN:O    | 1:CI:144:THR:HG22 | 2.16                     | 0.46              |
| 1:CO:290:PRO:O    | 1:CO:291:THR:HG22 | 2.15                     | 0.46              |
| 1:CU:235:ILE:HG23 | 1:CU:296:PHE:CE1  | 2.50                     | 0.46              |
| 1:CV:85:GLN:NE2   | 1:CY:61:ASN:O     | 2.47                     | 0.46              |
| 1:CV:308:ARG:NH2  | 1:CV:327:GLU:OE2  | 2.48                     | 0.46              |
| 1:DA:46:ILE:HG12  | 1:DA:83:VAL:HG12  | 1.96                     | 0.46              |
| 1:DF:245:PHE:O    | 1:DF:248:LEU:HD22 | 2.15                     | 0.46              |
| 1:DF:263:THR:HG22 | 1:DF:265:GLN:H    | 1.80                     | 0.46              |
| 1:DH:52:ASP:OD1   | 1:DH:53:ALA:N     | 2.46                     | 0.46              |
| 1:DI:152:VAL:HG12 | 1:DI:159:HIS:CE1  | 2.50                     | 0.46              |
| 1:DM:71:ASP:OD1   | 1:DM:72:GLY:N     | 2.48                     | 0.46              |
| 1:AJ:83:VAL:O     | 1:AJ:164:THR:HG22 | 2.15                     | 0.46              |
| 1:AM:317:LYS:O    | 1:CV:68:ARG:NE    | 2.20                     | 0.46              |
| 1:AP:49:TRP:NE1   | 1:AP:334:HIS:O    | 2.47                     | 0.46              |
| 1:BC:190:ASP:O    | 1:BC:194:GLY:N    | 2.48                     | 0.46              |
| 1:BI:95:ASP:OD1   | 1:BI:96:THR:N     | 2.47                     | 0.46              |
| 1:BI:105:ARG:CA   | 1:DK:14:GLY:N     | 2.71                     | 0.46              |
| 1:BU:145:ASN:O    | 1:BU:145:ASN:ND2  | 2.48                     | 0.46              |
| 1:BW:213:PHE:CD1  | 1:BW:343:LEU:HD23 | 2.49                     | 0.46              |
| 1:CT:315:LEU:HD11 | 1:CT:325:MET:HB2  | 1.96                     | 0.46              |
| 1:CW:57:VAL:HG23  | 1:CW:57:VAL:O     | 2.16                     | 0.46              |
| 1:DC:52:ASP:OD2   | 1:DC:53:ALA:N     | 2.48                     | 0.46              |
| 1:AK:95:ASP:OD1   | 1:AK:96:THR:N     | 2.47                     | 0.46              |
| 1:AK:143:LEU:HD21 | 1:BN:146:SER:C    | 2.33                     | 0.46              |
| 1:AS:145:ASN:HD22 | 1:CW:145:ASN:CG   | 2.12                     | 0.46              |
| 1:AZ:133:ALA:HB1  | 1:AZ:176:LEU:HD22 | 1.97                     | 0.46              |
| 1:BX:54:LEU:HD22  | 1:CB:27:SER:CB    | 2.45                     | 0.46              |
| 1:CB:213:PHE:CD1  | 1:CB:345:THR:HG22 | 2.50                     | 0.46              |
| 1:CE:170:LEU:HD23 | 1:CE:334:HIS:HB2  | 1.96                     | 0.46              |
| 1:CE:313:THR:OG1  | 1:CE:325:MET:O    | 2.32                     | 0.46              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CG:30:ASP:OD2   | 1:CG:30:ASP:N     | 2.47                     | 0.46              |
| 1:CI:157:ASP:O    | 1:CI:158:THR:OG1  | 2.26                     | 0.46              |
| 1:CN:9:SER:N      | 1:CV:65:GLU:OE1   | 2.48                     | 0.46              |
| 1:CP:172:ALA:O    | 1:CP:198:VAL:HG21 | 2.14                     | 0.46              |
| 1:CQ:52:ASP:OD1   | 1:CQ:53:ALA:N     | 2.41                     | 0.46              |
| 1:CV:64:VAL:HG12  | 1:CV:65:GLU:N     | 2.30                     | 0.46              |
| 1:DK:336:ASN:OD1  | 1:DK:338:TYR:N    | 2.48                     | 0.46              |
| 1:AO:213:PHE:CB   | 1:AO:244:ILE:HD13 | 2.46                     | 0.46              |
| 1:AW:14:GLY:CA    | 1:BK:103:TYR:CD1  | 2.91                     | 0.46              |
| 1:BF:74:MET:HE1   | 1:DK:6:LEU:CB     | 2.45                     | 0.46              |
| 1:BH:83:VAL:O     | 1:BH:164:THR:HG22 | 2.15                     | 0.46              |
| 1:BI:243:LYS:O    | 1:BI:247:GLY:N    | 2.46                     | 0.46              |
| 1:CR:152:VAL:O    | 1:CR:152:VAL:HG22 | 2.14                     | 0.46              |
| 1:CS:259:ILE:HD12 | 1:CW:259:ILE:HD11 | 1.96                     | 0.46              |
| 1:DG:54:LEU:HD13  | 1:DI:27:SER:CB    | 2.46                     | 0.46              |
| 1:DI:236:MET:O    | 1:DI:294:VAL:HG13 | 2.15                     | 0.46              |
| 1:AJ:36:MET:HG3   | 1:AJ:37:THR:HG23  | 1.98                     | 0.46              |
| 1:AP:142:TYR:O    | 1:AP:145:ASN:ND2  | 2.44                     | 0.46              |
| 1:AR:83:VAL:HG22  | 1:AR:84:THR:H     | 1.79                     | 0.46              |
| 1:AU:30:ASP:OD1   | 1:AU:288:TRP:NE1  | 2.48                     | 0.46              |
| 1:AY:259:ILE:HG23 | 1:BA:259:ILE:HG12 | 1.96                     | 0.46              |
| 1:BH:25:VAL:HG13  | 1:BH:26:LEU:N     | 2.30                     | 0.46              |
| 1:BP:143:LEU:H    | 1:BP:143:LEU:HD12 | 1.81                     | 0.46              |
| 1:BS:30:ASP:OD1   | 1:BS:288:TRP:NE1  | 2.48                     | 0.46              |
| 1:BZ:131:GLY:O    | 1:BZ:180:VAL:HG23 | 2.16                     | 0.46              |
| 1:CB:85:GLN:HB2   | 1:CB:164:THR:HG23 | 1.98                     | 0.46              |
| 1:CK:25:VAL:HG12  | 1:CK:26:LEU:H     | 1.80                     | 0.46              |
| 1:CQ:303:THR:OG1  | 1:CQ:333:ARG:NH1  | 2.49                     | 0.46              |
| 1:CS:64:VAL:HG12  | 1:CS:65:GLU:N     | 2.30                     | 0.46              |
| 1:DP:192:ASP:OD1  | 1:DP:193:THR:N    | 2.48                     | 0.46              |
| 1:AD:88:ARG:NH2   | 1:AE:70:GLU:OE2   | 2.45                     | 0.46              |
| 1:AP:16:LYS:HE2   | 1:CS:103:TYR:C    | 2.35                     | 0.46              |
| 1:AP:96:THR:CG2   | 1:CZ:64:VAL:HG13  | 2.44                     | 0.46              |
| 1:AS:79:ILE:HG13  | 1:CW:148:ALA:HB1  | 1.26                     | 0.46              |
| 1:BI:8:VAL:HG12   | 1:DK:95:ASP:OD2   | 2.16                     | 0.46              |
| 1:BI:93:VAL:H     | 1:DK:7:PHE:CB     | 1.96                     | 0.46              |
| 1:BL:60:ASN:ND2   | 1:BL:60:ASN:O     | 2.49                     | 0.46              |
| 1:BN:290:PRO:O    | 1:BN:291:THR:HG22 | 2.16                     | 0.46              |
| 1:BT:67:SER:OG    | 1:BT:68:ARG:N     | 2.48                     | 0.46              |
| 1:BU:213:PHE:HD2  | 1:BU:244:ILE:HD13 | 1.79                     | 0.46              |
| 1:BZ:162:ARG:NH1  | 1:BZ:329:GLU:OE2  | 2.48                     | 0.46              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CV:58:ASP:OD1   | 1:CV:59:GLY:N     | 2.48                     | 0.46              |
| 1:DA:88:ARG:NH2   | 1:DF:67:SER:O     | 2.49                     | 0.46              |
| 1:DB:84:THR:OG1   | 1:DB:329:GLU:OE2  | 2.21                     | 0.46              |
| 1:DB:238:ASN:OD1  | 1:DB:239:PRO:HD2  | 2.16                     | 0.46              |
| 1:DF:84:THR:HG22  | 1:DF:85:GLN:N     | 2.30                     | 0.46              |
| 1:DN:213:PHE:CZ   | 1:DN:343:LEU:HD22 | 2.50                     | 0.46              |
| 1:AA:259:ILE:HG23 | 1:AC:259:ILE:HG12 | 1.97                     | 0.46              |
| 1:AD:237:ILE:HD11 | 1:AD:241:HIS:ND1  | 2.31                     | 0.46              |
| 1:AJ:157:ASP:OD1  | 1:AJ:157:ASP:N    | 2.48                     | 0.46              |
| 1:AN:211:ILE:HG22 | 1:AN:212:GLY:N    | 2.30                     | 0.46              |
| 1:AO:196:VAL:N    | 1:AO:224:GLN:OE1  | 2.48                     | 0.46              |
| 1:AP:148:ALA:HA   | 1:CR:143:LEU:O    | 2.16                     | 0.46              |
| 1:AW:49:TRP:NE1   | 1:AW:334:HIS:O    | 2.48                     | 0.46              |
| 1:AZ:206:ASN:ND2  | 1:AZ:210:ASN:OD1  | 2.43                     | 0.46              |
| 1:BH:136:ASP:OD1  | 1:BH:137:VAL:N    | 2.47                     | 0.46              |
| 1:BO:195:ALA:HB2  | 1:BO:227:THR:HG23 | 1.98                     | 0.46              |
| 1:BP:290:PRO:O    | 1:BP:291:THR:HG22 | 2.15                     | 0.46              |
| 1:BQ:30:ASP:OD2   | 1:BQ:30:ASP:N     | 2.45                     | 0.46              |
| 1:BU:102:ASN:OD1  | 1:DP:18:SER:HB3   | 2.16                     | 0.46              |
| 1:CM:294:VAL:HG22 | 1:CM:343:LEU:HB2  | 1.98                     | 0.46              |
| 1:CR:149:ASP:OD2  | 1:CR:149:ASP:N    | 2.49                     | 0.46              |
| 1:CS:200:VAL:O    | 1:CS:200:VAL:HG12 | 2.16                     | 0.46              |
| 1:DC:27:SER:HB3   | 1:DD:54:LEU:HD13  | 1.98                     | 0.46              |
| 1:DG:237:ILE:HD11 | 1:DG:241:HIS:HB3  | 1.98                     | 0.46              |
| 1:DQ:149:ASP:OD2  | 1:DQ:149:ASP:N    | 2.49                     | 0.46              |
| 1:AJ:222:THR:HG22 | 1:AJ:281:TYR:CZ   | 2.50                     | 0.46              |
| 1:AL:213:PHE:HE2  | 1:AL:218:ILE:HA   | 1.81                     | 0.46              |
| 1:AS:45:THR:HG23  | 1:CS:99:THR:CB    | 2.44                     | 0.46              |
| 1:AU:238:ASN:O    | 1:AU:240:ALA:N    | 2.49                     | 0.46              |
| 1:AV:252:THR:CB   | 1:AV:255:SER:HG   | 2.27                     | 0.46              |
| 1:AW:230:SER:OG   | 1:AW:339:ALA:O    | 2.31                     | 0.46              |
| 1:BI:109:LEU:HD21 | 1:DK:7:PHE:CZ     | 2.50                     | 0.46              |
| 1:BT:252:THR:CB   | 1:BT:255:SER:HG   | 2.27                     | 0.46              |
| 1:CI:170:LEU:HD23 | 1:CI:334:HIS:HB2  | 1.98                     | 0.46              |
| 1:CO:93:VAL:HG21  | 1:CO:109:LEU:HD12 | 1.97                     | 0.46              |
| 1:CS:180:VAL:HG22 | 1:CS:181:VAL:H    | 1.81                     | 0.46              |
| 1:CS:183:LYS:O    | 1:CS:184:THR:OG1  | 2.27                     | 0.46              |
| 1:CU:136:ASP:OD1  | 1:CU:137:VAL:N    | 2.49                     | 0.46              |
| 1:AP:290:PRO:O    | 1:AP:291:THR:HG22 | 2.16                     | 0.46              |
| 1:AS:143:LEU:N    | 1:CW:143:LEU:C    | 2.68                     | 0.46              |
| 1:AV:67:SER:OG    | 1:AV:68:ARG:N     | 2.48                     | 0.46              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BU:19:PHE:HD2   | 1:DP:16:LYS:HZ3   | 1.48                     | 0.46              |
| 1:BU:214:ASP:OD2  | 1:BU:215:GLU:N    | 2.49                     | 0.46              |
| 1:BY:105:ARG:NH1  | 1:BZ:50:GLN:OE1   | 2.48                     | 0.46              |
| 1:CA:12:GLN:NE2   | 1:CT:108:GLU:OE2  | 2.49                     | 0.46              |
| 1:CK:238:ASN:ND2  | 1:CK:293:ALA:O    | 2.49                     | 0.46              |
| 1:CQ:263:THR:HG22 | 1:CQ:263:THR:O    | 2.16                     | 0.46              |
| 1:DN:98:ASN:OD1   | 1:DN:107:ARG:NH2  | 2.48                     | 0.46              |
| 1:AG:222:THR:HB   | 1:AG:279:GLN:OE1  | 2.16                     | 0.46              |
| 1:AM:143:LEU:O    | 1:AM:144:THR:OG1  | 2.20                     | 0.46              |
| 1:AO:298:ARG:NE   | 1:AO:301:ASP:OD2  | 2.43                     | 0.46              |
| 1:AP:94:SER:HG    | 1:CZ:65:GLU:HB3   | 1.81                     | 0.46              |
| 1:AP:148:ALA:C    | 1:CR:143:LEU:CA   | 2.76                     | 0.46              |
| 1:AP:254:GLY:O    | 1:AP:255:SER:OG   | 2.24                     | 0.46              |
| 1:AS:33:PHE:O     | 1:AS:37:THR:HG23  | 2.16                     | 0.46              |
| 1:BH:36:MET:HG3   | 1:BH:37:THR:HG23  | 1.98                     | 0.46              |
| 1:BT:214:ASP:HB2  | 1:BT:217:ASP:OD2  | 2.16                     | 0.46              |
| 1:BU:3:ASN:HA     | 1:DP:115:LYS:NZ   | 2.31                     | 0.46              |
| 1:BU:49:TRP:NE1   | 1:BU:334:HIS:O    | 2.48                     | 0.46              |
| 1:BW:237:ILE:HG13 | 1:BW:285:VAL:HG12 | 1.97                     | 0.46              |
| 1:CG:58:ASP:OD2   | 1:CK:122:ARG:NH1  | 2.44                     | 0.46              |
| 1:CN:318:ASP:OD1  | 1:CN:318:ASP:N    | 2.49                     | 0.46              |
| 1:DD:182:ASP:OD1  | 1:DD:183:LYS:N    | 2.49                     | 0.46              |
| 1:DG:30:ASP:O     | 1:DG:31:THR:OG1   | 2.32                     | 0.46              |
| 1:AG:52:ASP:OD2   | 1:AJ:25:VAL:HG23  | 2.16                     | 0.45              |
| 1:AK:271:ASN:OD1  | 1:AK:272:SER:N    | 2.49                     | 0.45              |
| 1:AL:48:SER:OG    | 1:AL:143:LEU:HD21 | 2.16                     | 0.45              |
| 1:AV:162:ARG:NH1  | 1:AV:329:GLU:OE2  | 2.48                     | 0.45              |
| 1:BA:254:GLY:O    | 1:BA:255:SER:OG   | 2.30                     | 0.45              |
| 1:BI:7:PHE:CZ     | 1:DM:69:ALA:O     | 2.70                     | 0.45              |
| 1:BI:144:THR:HA   | 1:DH:143:LEU:HB3  | 1.93                     | 0.45              |
| 1:BM:298:ARG:NE   | 1:BM:301:ASP:OD2  | 2.43                     | 0.45              |
| 1:BQ:193:THR:HG21 | 1:BQ:227:THR:O    | 2.17                     | 0.45              |
| 1:BX:158:THR:O    | 1:BX:158:THR:HG23 | 2.15                     | 0.45              |
| 1:CJ:70:GLU:OE2   | 1:CJ:70:GLU:N     | 2.50                     | 0.45              |
| 1:CN:88:ARG:NE    | 1:CN:327:GLU:OE2  | 2.49                     | 0.45              |
| 1:CN:265:GLN:OE1  | 1:CN:265:GLN:N    | 2.48                     | 0.45              |
| 1:CP:14:GLY:O     | 1:CQ:105:ARG:NH1  | 2.49                     | 0.45              |
| 1:CS:172:ALA:HB2  | 1:CS:198:VAL:HG21 | 1.97                     | 0.45              |
| 1:DA:28:PRO:O     | 1:DA:122:ARG:NH1  | 2.49                     | 0.45              |
| 1:DA:127:ILE:O    | 1:DA:132:GLN:NE2  | 2.49                     | 0.45              |
| 1:DF:168:GLN:O    | 1:DF:169:PHE:HB2  | 2.16                     | 0.45              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:DH:206:ASN:OD1  | 1:DH:207:PRO:HD2  | 2.15                     | 0.45              |
| 1:DL:97:ALA:O     | 1:DL:100:THR:OG1  | 2.33                     | 0.45              |
| 1:DN:272:SER:OG   | 1:DN:272:SER:O    | 2.34                     | 0.45              |
| 1:DO:294:VAL:N    | 1:DO:343:LEU:O    | 2.49                     | 0.45              |
| 1:AD:173:HIS:HB2  | 1:AD:181:VAL:HG13 | 1.99                     | 0.45              |
| 1:AK:192:ASP:OD1  | 1:AK:193:THR:N    | 2.44                     | 0.45              |
| 1:AU:308:ARG:NH1  | 1:AU:327:GLU:OE1  | 2.45                     | 0.45              |
| 1:AY:213:PHE:HE2  | 1:AY:218:ILE:HD11 | 1.81                     | 0.45              |
| 1:AZ:271:ASN:OD1  | 1:AZ:272:SER:N    | 2.49                     | 0.45              |
| 1:BC:238:ASN:O    | 1:BC:240:ALA:N    | 2.49                     | 0.45              |
| 1:BI:102:ASN:C    | 1:DK:14:GLY:N     | 2.69                     | 0.45              |
| 1:BJ:48:SER:OG    | 1:BJ:143:LEU:HD21 | 2.16                     | 0.45              |
| 1:BJ:213:PHE:HE2  | 1:BJ:218:ILE:HA   | 1.81                     | 0.45              |
| 1:BL:213:PHE:CE2  | 1:BL:218:ILE:HD11 | 2.51                     | 0.45              |
| 1:BS:238:ASN:O    | 1:BS:240:ALA:N    | 2.49                     | 0.45              |
| 1:CA:112:GLN:NE2  | 1:CB:74:MET:SD    | 2.85                     | 0.45              |
| 1:CA:215:GLU:O    | 1:CA:217:ASP:N    | 2.49                     | 0.45              |
| 1:CA:259:ILE:HD12 | 1:CB:259:ILE:HD11 | 1.97                     | 0.45              |
| 1:CE:263:THR:O    | 1:CE:264:LYS:HB3  | 2.15                     | 0.45              |
| 1:CU:197:THR:HG21 | 1:CU:338:TYR:HA   | 1.97                     | 0.45              |
| 1:AE:213:PHE:HE1  | 1:AE:294:VAL:HG21 | 1.82                     | 0.45              |
| 1:AP:9:SER:N      | 1:CS:96:THR:CG2   | 2.76                     | 0.45              |
| 1:AQ:195:ALA:HB2  | 1:AQ:227:THR:HG23 | 1.98                     | 0.45              |
| 1:BE:222:THR:HB   | 1:BE:279:GLN:OE1  | 2.16                     | 0.45              |
| 1:BI:203:ASN:ND2  | 1:BI:211:ILE:O    | 2.50                     | 0.45              |
| 1:BI:271:ASN:OD1  | 1:BI:272:SER:N    | 2.49                     | 0.45              |
| 1:BO:215:GLU:HG2  | 1:BO:248:LEU:HD23 | 1.98                     | 0.45              |
| 1:BY:235:ILE:HD12 | 1:BY:281:TYR:HB3  | 1.99                     | 0.45              |
| 1:CA:332:LEU:HD23 | 1:CA:332:LEU:H    | 1.82                     | 0.45              |
| 1:CB:306:VAL:HG23 | 1:CB:306:VAL:O    | 2.16                     | 0.45              |
| 1:CC:198:VAL:HG13 | 1:CC:198:VAL:O    | 2.17                     | 0.45              |
| 1:CH:30:ASP:OD1   | 1:CH:30:ASP:N     | 2.49                     | 0.45              |
| 1:CL:205:SER:O    | 1:CL:206:ASN:ND2  | 2.49                     | 0.45              |
| 1:CP:113:LEU:HD21 | 1:CP:312:ARG:CD   | 2.46                     | 0.45              |
| 1:CU:307:LEU:HD23 | 1:CU:329:GLU:OE1  | 2.16                     | 0.45              |
| 1:DB:90:VAL:HG21  | 1:DC:70:GLU:O     | 2.16                     | 0.45              |
| 1:DD:263:THR:HG22 | 1:DD:265:GLN:H    | 1.80                     | 0.45              |
| 1:DD:315:LEU:HD23 | 1:DD:316:ALA:H    | 1.82                     | 0.45              |
| 1:AE:136:ASP:OD1  | 1:AE:137:VAL:N    | 2.50                     | 0.45              |
| 1:AE:190:ASP:O    | 1:AE:194:GLY:N    | 2.48                     | 0.45              |
| 1:AM:306:VAL:HA   | 1:AM:330:VAL:HG22 | 1.99                     | 0.45              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AN:196:VAL:N    | 1:AN:224:GLN:OE1  | 2.48                     | 0.45              |
| 1:AN:213:PHE:CE2  | 1:AN:218:ILE:HD11 | 2.51                     | 0.45              |
| 1:AU:305:MET:N    | 1:AU:331:GLY:O    | 2.49                     | 0.45              |
| 1:BK:262:ASN:HB3  | 1:BN:267:ILE:HD12 | 1.99                     | 0.45              |
| 1:BM:213:PHE:CB   | 1:BM:244:ILE:HD13 | 2.46                     | 0.45              |
| 1:CE:136:ASP:OD1  | 1:CE:137:VAL:N    | 2.49                     | 0.45              |
| 1:CN:82:ASN:ND2   | 1:CN:332:LEU:O    | 2.43                     | 0.45              |
| 1:CO:180:VAL:HG12 | 1:CO:181:VAL:N    | 2.32                     | 0.45              |
| 1:DO:127:ILE:O    | 1:DO:130:SER:OG   | 2.28                     | 0.45              |
| 1:AE:238:ASN:O    | 1:AE:240:ALA:N    | 2.49                     | 0.45              |
| 1:AP:18:SER:H     | 1:CS:103:TYR:HE1  | 1.63                     | 0.45              |
| 1:BA:167:PHE:HE1  | 1:BA:342:VAL:HG22 | 1.82                     | 0.45              |
| 1:BN:306:VAL:HG12 | 1:BN:330:VAL:HG12 | 1.97                     | 0.45              |
| 1:BX:66:GLY:O     | 1:CB:88:ARG:NH2   | 2.45                     | 0.45              |
| 1:BX:213:PHE:HD2  | 1:BX:244:ILE:HG21 | 1.82                     | 0.45              |
| 1:CB:143:LEU:O    | 1:CB:144:THR:CG2  | 2.61                     | 0.45              |
| 1:CI:8:VAL:O      | 1:CI:8:VAL:HG13   | 2.16                     | 0.45              |
| 1:CK:273:ILE:HG22 | 1:CK:274:THR:N    | 2.31                     | 0.45              |
| 1:CS:240:ALA:HA   | 1:CW:223:LEU:HD11 | 1.97                     | 0.45              |
| 1:CY:131:GLY:O    | 1:CY:180:VAL:HG23 | 2.16                     | 0.45              |
| 1:DB:186:ASN:OD1  | 1:DB:200:VAL:HG23 | 2.16                     | 0.45              |
| 1:DB:275:ASP:OD1  | 1:DB:279:GLN:N    | 2.41                     | 0.45              |
| 1:DD:103:TYR:O    | 1:DE:50:GLN:NE2   | 2.48                     | 0.45              |
| 1:DH:82:ASN:ND2   | 1:DH:332:LEU:O    | 2.41                     | 0.45              |
| 1:DN:299:SER:O    | 1:DN:299:SER:OG   | 2.29                     | 0.45              |
| 1:DQ:33:PHE:O     | 1:DQ:37:THR:OG1   | 2.28                     | 0.45              |
| 1:AA:213:PHE:HE2  | 1:AA:218:ILE:HD11 | 1.81                     | 0.45              |
| 1:AG:250:GLU:OE1  | 1:AM:256:ARG:NE   | 2.46                     | 0.45              |
| 1:AG:253:GLN:OE1  | 1:AG:253:GLN:N    | 2.49                     | 0.45              |
| 1:AM:262:ASN:HB3  | 1:AP:267:ILE:HD12 | 1.99                     | 0.45              |
| 1:AP:5:THR:HA     | 1:CW:74:MET:HE3   | 1.36                     | 0.45              |
| 1:AP:108:GLU:O    | 1:CS:7:PHE:CE1    | 2.66                     | 0.45              |
| 1:AQ:215:GLU:HG2  | 1:AQ:248:LEU:HD23 | 1.98                     | 0.45              |
| 1:AS:71:ASP:OD1   | 1:CS:4:PRO:HD3    | 2.15                     | 0.45              |
| 1:AS:144:THR:CB   | 1:CW:141:GLN:O    | 2.53                     | 0.45              |
| 1:AW:96:THR:HG22  | 1:BN:308:ARG:NH2  | 2.32                     | 0.45              |
| 1:BB:144:THR:HA   | 1:BJ:144:THR:HA   | 1.99                     | 0.45              |
| 1:BB:237:ILE:HD11 | 1:BB:241:HIS:ND1  | 2.31                     | 0.45              |
| 1:BC:132:GLN:HA   | 1:BC:180:VAL:HG12 | 1.98                     | 0.45              |
| 1:BU:238:ASN:ND2  | 1:BU:289:MET:O    | 2.50                     | 0.45              |
| 1:CA:136:ASP:OD1  | 1:CA:137:VAL:N    | 2.49                     | 0.45              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CA:241:HIS:NE2  | 1:CA:291:THR:O    | 2.48                     | 0.45              |
| 1:CA:334:HIS:CD2  | 1:CA:337:PRO:HA   | 2.51                     | 0.45              |
| 1:CC:143:LEU:C    | 1:CC:144:THR:HG1  | 2.11                     | 0.45              |
| 1:CF:237:ILE:HD11 | 1:CF:241:HIS:HB2  | 1.99                     | 0.45              |
| 1:CJ:173:HIS:ND1  | 1:CJ:173:HIS:O    | 2.49                     | 0.45              |
| 1:CO:117:GLY:O    | 1:CO:120:ILE:HG22 | 2.16                     | 0.45              |
| 1:CP:16:LYS:C     | 1:CP:17:LEU:HD12  | 2.36                     | 0.45              |
| 1:CP:27:SER:CB    | 1:CT:54:LEU:HD12  | 2.47                     | 0.45              |
| 1:CS:83:VAL:HG12  | 1:CS:84:THR:N     | 2.31                     | 0.45              |
| 1:DH:85:GLN:NE2   | 1:DH:86:ILE:O     | 2.50                     | 0.45              |
| 1:DJ:305:MET:N    | 1:DJ:305:MET:SD   | 2.90                     | 0.45              |
| 1:DN:222:THR:HG22 | 1:DN:281:TYR:HE1  | 1.82                     | 0.45              |
| 1:DO:77:THR:HG22  | 1:DO:78:VAL:N     | 2.32                     | 0.45              |
| 1:AB:133:ALA:HB1  | 1:AB:176:LEU:HD22 | 1.97                     | 0.45              |
| 1:AC:30:ASP:O     | 1:AC:31:THR:OG1   | 2.31                     | 0.45              |
| 1:AK:145:ASN:CG   | 1:BN:142:TYR:O    | 2.55                     | 0.45              |
| 1:AK:243:LYS:O    | 1:AK:247:GLY:N    | 2.46                     | 0.45              |
| 1:AS:193:THR:HG21 | 1:AS:227:THR:O    | 2.17                     | 0.45              |
| 1:BE:215:GLU:O    | 1:BE:216:ALA:HB3  | 2.17                     | 0.45              |
| 1:BK:204:ALA:O    | 1:BK:205:SER:OG   | 2.35                     | 0.45              |
| 1:BQ:33:PHE:O     | 1:BQ:37:THR:HG23  | 2.16                     | 0.45              |
| 1:BR:15:LYS:NZ    | 1:BU:141:GLN:O    | 2.32                     | 0.45              |
| 1:CB:124:LEU:HD13 | 1:CB:330:VAL:HG21 | 1.97                     | 0.45              |
| 1:CO:220:ASP:OD1  | 1:CO:221:MET:N    | 2.50                     | 0.45              |
| 1:CX:140:ASP:C    | 1:CX:140:ASP:OD1  | 2.55                     | 0.45              |
| 1:CZ:322:GLU:OE2  | 1:CZ:324:TRP:NE1  | 2.48                     | 0.45              |
| 1:AK:203:ASN:ND2  | 1:AK:211:ILE:O    | 2.50                     | 0.45              |
| 1:AP:96:THR:HA    | 1:CW:308:ARG:NH2  | 2.30                     | 0.45              |
| 1:AR:143:LEU:H    | 1:AR:143:LEU:HD12 | 1.81                     | 0.45              |
| 1:AT:131:GLY:O    | 1:AT:181:VAL:HG23 | 2.17                     | 0.45              |
| 1:AV:65:GLU:HG3   | 1:CS:99:THR:HG21  | 1.99                     | 0.45              |
| 1:BE:52:ASP:OD2   | 1:BH:25:VAL:HG23  | 2.16                     | 0.45              |
| 1:BM:334:HIS:HE2  | 1:BM:340:SER:HG   | 1.64                     | 0.45              |
| 1:BU:16:LYS:HD2   | 1:DP:102:ASN:OD1  | 2.17                     | 0.45              |
| 1:CU:291:THR:HG22 | 1:CU:291:THR:O    | 2.17                     | 0.45              |
| 1:CZ:157:ASP:N    | 1:CZ:157:ASP:OD2  | 2.49                     | 0.45              |
| 1:DN:294:VAL:O    | 1:DN:342:VAL:HG13 | 2.17                     | 0.45              |
| 1:AC:254:GLY:O    | 1:AC:255:SER:OG   | 2.31                     | 0.45              |
| 1:AD:144:THR:HA   | 1:AL:144:THR:HA   | 1.99                     | 0.45              |
| 1:AG:215:GLU:O    | 1:AG:216:ALA:HB3  | 2.17                     | 0.45              |
| 1:AJ:17:LEU:O     | 1:AJ:18:SER:OG    | 2.33                     | 0.45              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AM:204:ALA:O    | 1:AM:205:SER:OG   | 2.35                     | 0.45              |
| 1:AV:334:HIS:NE2  | 1:AV:340:SER:OG   | 2.50                     | 0.45              |
| 1:BR:131:GLY:O    | 1:BR:181:VAL:HG23 | 2.17                     | 0.45              |
| 1:BU:230:SER:OG   | 1:BU:339:ALA:O    | 2.31                     | 0.45              |
| 1:BZ:231:GLU:OE1  | 1:BZ:231:GLU:N    | 2.49                     | 0.45              |
| 1:CF:117:GLY:O    | 1:CF:120:ILE:HG22 | 2.17                     | 0.45              |
| 1:CL:101:ALA:O    | 1:CL:102:ASN:HB2  | 2.17                     | 0.45              |
| 1:CM:248:LEU:C    | 1:CM:248:LEU:HD23 | 2.37                     | 0.45              |
| 1:CY:71:ASP:OD1   | 1:CY:71:ASP:N     | 2.49                     | 0.45              |
| 1:CY:82:ASN:ND2   | 1:CY:332:LEU:O    | 2.50                     | 0.45              |
| 1:CY:250:GLU:OE1  | 1:CY:258:ARG:NH2  | 2.49                     | 0.45              |
| 1:DA:65:GLU:OE1   | 1:DD:8:VAL:HG12   | 2.15                     | 0.45              |
| 1:DC:15:LYS:NZ    | 1:DD:46:ILE:HD13  | 2.32                     | 0.45              |
| 1:DD:149:ASP:N    | 1:DD:150:PRO:CD   | 2.80                     | 0.45              |
| 1:DE:330:VAL:HG12 | 1:DE:331:GLY:N    | 2.32                     | 0.45              |
| 1:DJ:224:GLN:O    | 1:DJ:227:THR:OG1  | 2.30                     | 0.45              |
| 1:DM:236:MET:SD   | 1:DM:286:ASN:ND2  | 2.89                     | 0.45              |
| 1:AL:271:ASN:N    | 1:AX:264:LYS:O    | 2.44                     | 0.45              |
| 1:AN:60:ASN:O     | 1:AN:60:ASN:ND2   | 2.49                     | 0.45              |
| 1:AW:101:ALA:H    | 1:BN:42:ILE:CD1   | 2.29                     | 0.45              |
| 1:AW:214:ASP:OD2  | 1:AW:215:GLU:N    | 2.49                     | 0.45              |
| 1:BI:93:VAL:O     | 1:DK:6:LEU:O      | 2.33                     | 0.45              |
| 1:BS:254:GLY:O    | 1:BS:255:SER:OG   | 2.28                     | 0.45              |
| 1:BU:12:GLN:HB2   | 1:DP:97:ALA:N     | 2.30                     | 0.45              |
| 1:BZ:182:ASP:OD1  | 1:BZ:183:LYS:N    | 2.50                     | 0.45              |
| 1:CD:214:ASP:OD1  | 1:CD:244:ILE:HG22 | 2.17                     | 0.45              |
| 1:CF:25:VAL:O     | 1:CF:25:VAL:HG13  | 2.17                     | 0.45              |
| 1:CO:314:GLU:C    | 1:CO:315:LEU:HD12 | 2.38                     | 0.45              |
| 1:CR:318:ASP:OD2  | 1:CR:318:ASP:N    | 2.48                     | 0.45              |
| 1:DC:91:VAL:HG23  | 1:DC:112:GLN:HG3  | 1.98                     | 0.45              |
| 1:DG:176:LEU:HD12 | 1:DG:176:LEU:O    | 2.17                     | 0.45              |
| 1:DH:46:ILE:HD12  | 1:DH:82:ASN:O     | 2.17                     | 0.45              |
| 1:DM:275:ASP:OD1  | 1:DM:279:GLN:N    | 2.50                     | 0.45              |
| 1:DN:215:GLU:OE1  | 1:DN:215:GLU:N    | 2.50                     | 0.45              |
| 1:AC:213:PHE:CE2  | 1:AC:294:VAL:HG21 | 2.53                     | 0.44              |
| 1:AS:145:ASN:CB   | 1:CW:145:ASN:HD21 | 2.30                     | 0.44              |
| 1:AV:214:ASP:HB2  | 1:AV:217:ASP:OD2  | 2.16                     | 0.44              |
| 1:AW:157:ASP:OD1  | 1:AW:157:ASP:N    | 2.50                     | 0.44              |
| 1:BA:171:CYS:SG   | 1:BA:340:SER:OG   | 2.50                     | 0.44              |
| 1:BK:98:ASN:OD1   | 1:BK:109:LEU:N    | 2.50                     | 0.44              |
| 1:BL:271:ASN:OD1  | 1:BL:272:SER:N    | 2.51                     | 0.44              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BT:91:VAL:O     | 1:BT:91:VAL:HG13  | 2.17                     | 0.44              |
| 1:BT:162:ARG:NH1  | 1:BT:329:GLU:OE2  | 2.48                     | 0.44              |
| 1:CA:132:GLN:O    | 1:CA:166:ALA:N    | 2.48                     | 0.44              |
| 1:CG:102:ASN:OD1  | 1:CG:105:ARG:NH2  | 2.49                     | 0.44              |
| 1:CG:184:THR:O    | 1:CG:184:THR:HG22 | 2.17                     | 0.44              |
| 1:CP:152:VAL:HG22 | 1:CP:152:VAL:O    | 2.17                     | 0.44              |
| 1:CQ:10:TYR:OH    | 1:CU:162:ARG:NH1  | 2.49                     | 0.44              |
| 1:CW:224:GLN:O    | 1:CW:227:THR:HG22 | 2.17                     | 0.44              |
| 1:DD:44:GLN:HG2   | 1:DD:45:THR:H     | 1.81                     | 0.44              |
| 1:DG:237:ILE:HD11 | 1:DG:241:HIS:CB   | 2.47                     | 0.44              |
| 1:DN:18:SER:HB2   | 1:DP:42:ILE:HD11  | 1.99                     | 0.44              |
| 1:AC:213:PHE:CE1  | 1:AC:218:ILE:HD11 | 2.52                     | 0.44              |
| 1:AM:6:LEU:N      | 1:CR:74:MET:SD    | 2.90                     | 0.44              |
| 1:AP:190:ASP:O    | 1:AP:194:GLY:N    | 2.43                     | 0.44              |
| 1:AV:34:VAL:HG23  | 1:AV:125:GLU:OE1  | 2.17                     | 0.44              |
| 1:BA:213:PHE:CE1  | 1:BA:218:ILE:HD11 | 2.52                     | 0.44              |
| 1:BX:122:ARG:NH1  | 1:CC:192:ASP:OD1  | 2.49                     | 0.44              |
| 1:DA:197:THR:O    | 1:DA:342:VAL:N    | 2.41                     | 0.44              |
| 1:DD:262:ASN:CA   | 1:DE:267:ILE:HD11 | 2.47                     | 0.44              |
| 1:DE:63:HIS:ND1   | 1:DE:64:VAL:O     | 2.50                     | 0.44              |
| 1:DF:159:HIS:O    | 1:DF:159:HIS:ND1  | 2.47                     | 0.44              |
| 1:DH:171:CYS:SG   | 1:DH:172:ALA:N    | 2.91                     | 0.44              |
| 1:DJ:128:LEU:HD11 | 1:DJ:332:LEU:HB2  | 1.99                     | 0.44              |
| 1:AB:33:PHE:N     | 1:AB:125:GLU:OE2  | 2.48                     | 0.44              |
| 1:AK:313:THR:OG1  | 1:AK:325:MET:O    | 2.36                     | 0.44              |
| 1:AM:13:ASN:OD1   | 1:CR:76:PRO:HB2   | 2.17                     | 0.44              |
| 1:BI:144:THR:N    | 1:DP:17:LEU:CD1   | 2.80                     | 0.44              |
| 1:BX:95:ASP:OD1   | 1:BX:96:THR:N     | 2.45                     | 0.44              |
| 1:BX:101:ALA:HB2  | 1:BX:107:ARG:HB2  | 1.99                     | 0.44              |
| 1:BY:57:VAL:HG11  | 1:CC:126:LYS:CD   | 2.46                     | 0.44              |
| 1:CB:102:ASN:ND2  | 1:CM:12:GLN:OE1   | 2.47                     | 0.44              |
| 1:CD:137:VAL:C    | 1:CD:138:LEU:HD12 | 2.37                     | 0.44              |
| 1:CD:302:TRP:O    | 1:CD:303:THR:HG23 | 2.16                     | 0.44              |
| 1:CF:43:ASN:OD1   | 1:CL:100:THR:OG1  | 2.30                     | 0.44              |
| 1:CZ:238:ASN:OD1  | 1:CZ:239:PRO:HD2  | 2.17                     | 0.44              |
| 1:CZ:290:PRO:O    | 1:CZ:291:THR:HG22 | 2.17                     | 0.44              |
| 1:DE:5:THR:O      | 1:DE:6:LEU:HD22   | 2.18                     | 0.44              |
| 1:DF:198:VAL:HG13 | 1:DF:198:VAL:O    | 2.17                     | 0.44              |
| 1:DP:151:ALA:O    | 1:DP:155:LEU:HD13 | 2.17                     | 0.44              |
| 1:AC:167:PHE:HE1  | 1:AC:342:VAL:HG22 | 1.82                     | 0.44              |
| 1:AE:132:GLN:HA   | 1:AE:180:VAL:HG12 | 1.98                     | 0.44              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AJ:306:VAL:HG23 | 1:AJ:306:VAL:O    | 2.18                     | 0.44              |
| 1:AM:7:PHE:HE2    | 1:CN:108:GLU:HG2  | 1.80                     | 0.44              |
| 1:BA:213:PHE:CE2  | 1:BA:294:VAL:HG21 | 2.53                     | 0.44              |
| 1:BB:173:HIS:HB2  | 1:BB:181:VAL:HG13 | 1.99                     | 0.44              |
| 1:BI:92:ARG:CD    | 1:DK:6:LEU:N      | 2.70                     | 0.44              |
| 1:BR:237:ILE:HG22 | 1:BR:285:VAL:HA   | 1.99                     | 0.44              |
| 1:BX:50:GLN:NE2   | 1:CB:103:TYR:O    | 2.49                     | 0.44              |
| 1:BY:259:ILE:HD12 | 1:BZ:259:ILE:HD11 | 1.98                     | 0.44              |
| 1:BZ:213:PHE:HE1  | 1:BZ:294:VAL:HG21 | 1.82                     | 0.44              |
| 1:CC:166:ALA:C    | 1:CC:167:PHE:CG   | 2.91                     | 0.44              |
| 1:CD:214:ASP:O    | 1:CD:215:GLU:HG2  | 2.17                     | 0.44              |
| 1:CE:294:VAL:HG22 | 1:CE:343:LEU:HB2  | 1.98                     | 0.44              |
| 1:CG:320:SER:O    | 1:CG:320:SER:OG   | 2.30                     | 0.44              |
| 1:CW:96:THR:O     | 1:CW:100:THR:HG23 | 2.18                     | 0.44              |
| 1:DA:87:LEU:O     | 1:DA:120:ILE:HD11 | 2.17                     | 0.44              |
| 1:DF:298:ARG:HG2  | 1:DF:299:SER:H    | 1.82                     | 0.44              |
| 1:DI:237:ILE:HD11 | 1:DI:241:HIS:HB3  | 2.00                     | 0.44              |
| 1:DI:305:MET:N    | 1:DI:331:GLY:O    | 2.46                     | 0.44              |
| 1:DO:123:ASP:OD1  | 1:DQ:57:VAL:HG13  | 2.17                     | 0.44              |
| 1:AB:271:ASN:OD1  | 1:AB:272:SER:N    | 2.49                     | 0.44              |
| 1:AC:30:ASP:N     | 1:AC:30:ASP:OD1   | 2.50                     | 0.44              |
| 1:AE:306:VAL:HG13 | 1:AE:330:VAL:HG12 | 2.00                     | 0.44              |
| 1:AM:30:ASP:O     | 1:AM:31:THR:OG1   | 2.33                     | 0.44              |
| 1:AQ:301:ASP:O    | 1:AQ:334:HIS:ND1  | 2.49                     | 0.44              |
| 1:AV:91:VAL:HG13  | 1:AV:91:VAL:O     | 2.17                     | 0.44              |
| 1:BC:261:GLU:HB2  | 1:BD:259:ILE:HD11 | 2.00                     | 0.44              |
| 1:BI:313:THR:OG1  | 1:BI:325:MET:O    | 2.36                     | 0.44              |
| 1:BU:4:PRO:HB2    | 1:DP:94:SER:OG    | 2.18                     | 0.44              |
| 1:CD:93:VAL:HG21  | 1:CD:108:GLU:O    | 2.18                     | 0.44              |
| 1:CF:273:ILE:HG22 | 1:CF:274:THR:N    | 2.32                     | 0.44              |
| 1:CN:52:ASP:OD1   | 1:CN:53:ALA:N     | 2.49                     | 0.44              |
| 1:CS:171:CYS:SG   | 1:CS:340:SER:OG   | 2.76                     | 0.44              |
| 1:CT:220:ASP:OD1  | 1:CT:221:MET:N    | 2.51                     | 0.44              |
| 1:CW:317:LYS:NZ   | 1:CW:322:GLU:OE1  | 2.46                     | 0.44              |
| 1:DH:328:MET:HG3  | 1:DH:330:VAL:HG23 | 1.99                     | 0.44              |
| 1:DL:246:ALA:HB2  | 1:DN:276:PRO:HG3  | 2.00                     | 0.44              |
| 1:DM:169:PHE:HE1  | 1:DM:176:LEU:HD11 | 1.82                     | 0.44              |
| 1:DM:296:PHE:O    | 1:DM:341:GLY:N    | 2.42                     | 0.44              |
| 1:DP:318:ASP:OD1  | 1:DP:319:GLY:N    | 2.50                     | 0.44              |
| 1:DP:319:GLY:O    | 1:DP:320:SER:OG   | 2.27                     | 0.44              |
| 1:BN:215:GLU:OE1  | 1:BN:256:ARG:NH2  | 2.41                     | 0.44              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BP:183:LYS:NZ   | 1:BP:292:ASP:OD2  | 2.38                     | 0.44              |
| 1:BU:14:GLY:HA3   | 1:DP:102:ASN:OD1  | 2.17                     | 0.44              |
| 1:BU:157:ASP:N    | 1:BU:157:ASP:OD1  | 2.50                     | 0.44              |
| 1:BZ:30:ASP:OD1   | 1:BZ:30:ASP:N     | 2.50                     | 0.44              |
| 1:CA:81:SER:OG    | 1:CA:82:ASN:N     | 2.51                     | 0.44              |
| 1:CD:65:GLU:OE1   | 1:CH:162:ARG:NH1  | 2.51                     | 0.44              |
| 1:CE:162:ARG:NE   | 1:CU:10:TYR:OH    | 2.51                     | 0.44              |
| 1:CF:180:VAL:HG12 | 1:CF:181:VAL:N    | 2.33                     | 0.44              |
| 1:CS:237:ILE:HG23 | 1:CS:238:ASN:N    | 2.30                     | 0.44              |
| 1:CS:273:ILE:HG22 | 1:CS:274:THR:N    | 2.32                     | 0.44              |
| 1:CY:136:ASP:OD2  | 1:CY:142:TYR:OH   | 2.34                     | 0.44              |
| 1:CZ:52:ASP:OD1   | 1:CZ:53:ALA:N     | 2.50                     | 0.44              |
| 1:DA:8:VAL:HG13   | 1:DA:11:ASP:HB2   | 1.99                     | 0.44              |
| 1:DB:266:PHE:HB3  | 1:DC:273:ILE:HG22 | 2.00                     | 0.44              |
| 1:DC:305:MET:SD   | 1:DC:333:ARG:HB2  | 2.57                     | 0.44              |
| 1:DD:100:THR:HG22 | 1:DD:101:ALA:N    | 2.32                     | 0.44              |
| 1:DG:99:THR:HG22  | 1:DG:99:THR:O     | 2.18                     | 0.44              |
| 1:DK:218:ILE:O    | 1:DK:222:THR:HG23 | 2.17                     | 0.44              |
| 1:DM:149:ASP:OD1  | 1:DM:149:ASP:N    | 2.51                     | 0.44              |
| 1:DN:37:THR:OG1   | 1:DN:304:GLN:OE1  | 2.32                     | 0.44              |
| 1:AN:131:GLY:O    | 1:AN:181:VAL:HG23 | 2.17                     | 0.44              |
| 1:AS:156:ASN:HD22 | 1:CS:92:ARG:HD3   | 1.80                     | 0.44              |
| 1:AW:13:ASN:HB3   | 1:BN:77:THR:OG1   | 1.94                     | 0.44              |
| 1:AW:93:VAL:HG13  | 1:BK:7:PHE:CD2    | 2.45                     | 0.44              |
| 1:BP:336:ASN:OD1  | 1:BP:338:TYR:N    | 2.43                     | 0.44              |
| 1:BS:305:MET:N    | 1:BS:331:GLY:O    | 2.49                     | 0.44              |
| 1:BY:207:PRO:HG2  | 1:BY:209:THR:HG22 | 2.00                     | 0.44              |
| 1:CL:67:SER:O     | 1:CL:67:SER:OG    | 2.34                     | 0.44              |
| 1:CL:222:THR:HG21 | 1:CL:275:ASP:OD2  | 2.17                     | 0.44              |
| 1:CP:237:ILE:HD11 | 1:CP:241:HIS:HB2  | 2.00                     | 0.44              |
| 1:CP:315:LEU:HG   | 1:CP:316:ALA:H    | 1.83                     | 0.44              |
| 1:CV:302:TRP:CE3  | 1:CV:332:LEU:HD21 | 2.52                     | 0.44              |
| 1:DA:25:VAL:HG13  | 1:DA:26:LEU:N     | 2.33                     | 0.44              |
| 1:DB:84:THR:HG22  | 1:DB:331:GLY:HA3  | 2.00                     | 0.44              |
| 1:DC:137:VAL:O    | 1:DC:137:VAL:HG12 | 2.18                     | 0.44              |
| 1:DE:94:SER:OG    | 1:DL:7:PHE:O      | 2.25                     | 0.44              |
| 1:DJ:237:ILE:HD11 | 1:DJ:285:VAL:HG22 | 1.98                     | 0.44              |
| 1:AC:171:CYS:SG   | 1:AC:340:SER:OG   | 2.50                     | 0.44              |
| 1:AG:30:ASP:OD2   | 1:AG:287:ARG:NH2  | 2.45                     | 0.44              |
| 1:AH:49:TRP:NE1   | 1:AH:334:HIS:O    | 2.51                     | 0.44              |
| 1:AI:5:THR:OG1    | 1:AO:156:ASN:OD1  | 2.36                     | 0.44              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AJ:275:ASP:OD1  | 1:AJ:279:GLN:N    | 2.43                     | 0.44              |
| 1:AO:46:ILE:HG23  | 1:AO:82:ASN:O     | 2.18                     | 0.44              |
| 1:BM:203:ASN:O    | 1:BM:349:LYS:NZ   | 2.40                     | 0.44              |
| 1:BT:34:VAL:HG23  | 1:BT:125:GLU:OE1  | 2.17                     | 0.44              |
| 1:BU:3:ASN:CA     | 1:DP:115:LYS:HZ2  | 2.31                     | 0.44              |
| 1:CJ:252:THR:OG1  | 1:CJ:256:ARG:O    | 2.36                     | 0.44              |
| 1:CQ:202:GLN:O    | 1:CQ:203:ASN:OD1  | 2.35                     | 0.44              |
| 1:CQ:275:ASP:OD1  | 1:CQ:279:GLN:N    | 2.51                     | 0.44              |
| 1:DB:306:VAL:HG22 | 1:DB:330:VAL:HG23 | 2.00                     | 0.44              |
| 1:DF:188:PRO:O    | 1:DF:196:VAL:HG22 | 2.18                     | 0.44              |
| 1:DJ:93:VAL:HG12  | 1:DJ:94:SER:N     | 2.32                     | 0.44              |
| 1:DK:202:GLN:NE2  | 1:DK:216:ALA:O    | 2.51                     | 0.44              |
| 1:DP:134:ARG:NH2  | 1:DP:142:TYR:OH   | 2.50                     | 0.44              |
| 1:AM:308:ARG:NH1  | 1:AM:327:GLU:OE1  | 2.51                     | 0.44              |
| 1:AP:141:GLN:HE22 | 1:CR:143:LEU:N    | 2.16                     | 0.44              |
| 1:AV:306:VAL:HG13 | 1:AV:330:VAL:CG1  | 2.47                     | 0.44              |
| 1:AW:103:TYR:HB2  | 1:BK:16:LYS:HB3   | 1.82                     | 0.44              |
| 1:BA:30:ASP:OD1   | 1:BA:30:ASP:N     | 2.50                     | 0.44              |
| 1:BA:262:ASN:HB3  | 1:BB:267:ILE:HD12 | 2.00                     | 0.44              |
| 1:BE:253:GLN:OE1  | 1:BE:253:GLN:N    | 2.49                     | 0.44              |
| 1:BI:10:TYR:CD1   | 1:DK:95:ASP:CG    | 2.69                     | 0.44              |
| 1:BI:103:TYR:HH   | 1:DM:142:TYR:HA   | 1.82                     | 0.44              |
| 1:BK:90:VAL:HG11  | 1:BN:70:GLU:O     | 2.18                     | 0.44              |
| 1:BW:137:VAL:HG23 | 1:BW:137:VAL:O    | 2.18                     | 0.44              |
| 1:BW:197:THR:O    | 1:BW:198:VAL:HG13 | 2.18                     | 0.44              |
| 1:CH:149:ASP:OD1  | 1:CH:149:ASP:N    | 2.51                     | 0.44              |
| 1:CN:143:LEU:H    | 1:CN:143:LEU:HD23 | 1.82                     | 0.44              |
| 1:CW:237:ILE:HD11 | 1:CW:241:HIS:CB   | 2.48                     | 0.44              |
| 1:DF:25:VAL:HG13  | 1:DF:25:VAL:O     | 2.17                     | 0.44              |
| 1:DF:64:VAL:HG12  | 1:DF:65:GLU:N     | 2.33                     | 0.44              |
| 1:DO:110:MET:O    | 1:DO:114:GLU:OE1  | 2.35                     | 0.44              |
| 1:AF:305:MET:N    | 1:AF:331:GLY:O    | 2.51                     | 0.43              |
| 1:AM:98:ASN:OD1   | 1:AM:109:LEU:N    | 2.50                     | 0.43              |
| 1:AP:30:ASP:O     | 1:AP:31:THR:OG1   | 2.31                     | 0.43              |
| 1:AS:142:TYR:O    | 1:CW:145:ASN:OD1  | 2.36                     | 0.43              |
| 1:AW:15:LYS:N     | 1:BK:103:TYR:CE1  | 2.77                     | 0.43              |
| 1:AW:100:THR:HG21 | 1:BN:84:THR:HG23  | 1.96                     | 0.43              |
| 1:BF:63:HIS:O     | 1:BI:86:ILE:HD13  | 2.19                     | 0.43              |
| 1:BI:9:SER:HB3    | 1:DK:95:ASP:HA    | 1.37                     | 0.43              |
| 1:BI:95:ASP:HA    | 1:DK:8:VAL:O      | 2.18                     | 0.43              |
| 1:BI:98:ASN:H     | 1:DK:8:VAL:HG12   | 1.82                     | 0.43              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BL:131:GLY:O    | 1:BL:181:VAL:HG23 | 2.17                     | 0.43              |
| 1:BM:46:ILE:HG23  | 1:BM:82:ASN:O     | 2.18                     | 0.43              |
| 1:BX:314:GLU:OE1  | 1:BX:324:TRP:NE1  | 2.50                     | 0.43              |
| 1:BY:52:ASP:OD2   | 1:BY:53:ALA:N     | 2.46                     | 0.43              |
| 1:CH:88:ARG:NE    | 1:CH:327:GLU:OE2  | 2.50                     | 0.43              |
| 1:CQ:200:VAL:O    | 1:CQ:200:VAL:HG13 | 2.18                     | 0.43              |
| 1:CQ:292:ASP:O    | 1:CQ:345:THR:HG23 | 2.18                     | 0.43              |
| 1:CS:290:PRO:O    | 1:CS:291:THR:HG22 | 2.18                     | 0.43              |
| 1:CX:52:ASP:OD1   | 1:CX:53:ALA:N     | 2.50                     | 0.43              |
| 1:CY:105:ARG:NH2  | 1:CY:108:GLU:OE1  | 2.51                     | 0.43              |
| 1:DE:91:VAL:HG13  | 1:DE:91:VAL:O     | 2.16                     | 0.43              |
| 1:DI:237:ILE:HD11 | 1:DI:241:HIS:CB   | 2.48                     | 0.43              |
| 1:AE:261:GLU:HB2  | 1:AF:259:ILE:HD11 | 2.00                     | 0.43              |
| 1:AN:271:ASN:OD1  | 1:AN:272:SER:N    | 2.51                     | 0.43              |
| 1:BD:81:SER:O     | 1:BD:134:ARG:NH2  | 2.52                     | 0.43              |
| 1:BI:12:GLN:HB2   | 1:DK:96:THR:HG23  | 1.04                     | 0.43              |
| 1:BI:96:THR:CA    | 1:DM:152:VAL:CG2  | 2.76                     | 0.43              |
| 1:BI:99:THR:CB    | 1:DK:10:TYR:CG    | 2.77                     | 0.43              |
| 1:BU:3:ASN:OD1    | 1:DH:52:ASP:OD2   | 2.36                     | 0.43              |
| 1:BU:92:ARG:CZ    | 1:DP:6:LEU:N      | 2.79                     | 0.43              |
| 1:BU:108:GLU:OE1  | 1:DP:7:PHE:CZ     | 2.70                     | 0.43              |
| 1:CL:56:SER:OG    | 1:CL:191:PRO:O    | 2.30                     | 0.43              |
| 1:CO:262:ASN:ND2  | 1:CS:265:GLN:O    | 2.47                     | 0.43              |
| 1:CR:87:LEU:HB3   | 1:CR:120:ILE:HD11 | 2.00                     | 0.43              |
| 1:CV:87:LEU:CB    | 1:CV:120:ILE:HD11 | 2.48                     | 0.43              |
| 1:DC:91:VAL:HG13  | 1:DC:91:VAL:O     | 2.18                     | 0.43              |
| 1:DC:100:THR:HG22 | 1:DC:101:ALA:N    | 2.26                     | 0.43              |
| 1:DF:167:PHE:O    | 1:DF:168:GLN:HB2  | 2.18                     | 0.43              |
| 1:AG:140:ASP:HA   | 1:AG:143:LEU:HD12 | 2.00                     | 0.43              |
| 1:AP:6:LEU:HD12   | 1:CS:92:ARG:HB2   | 1.22                     | 0.43              |
| 1:AP:96:THR:CG2   | 1:CZ:64:VAL:CG1   | 2.91                     | 0.43              |
| 1:AT:237:ILE:HG22 | 1:AT:285:VAL:HA   | 1.99                     | 0.43              |
| 1:AX:234:ILE:HG23 | 1:AX:284:ILE:HD12 | 1.99                     | 0.43              |
| 1:AY:21:ASN:O     | 1:AY:21:ASN:ND2   | 2.51                     | 0.43              |
| 1:BD:230:SER:OG   | 1:BD:339:ALA:O    | 2.22                     | 0.43              |
| 1:BE:250:GLU:OE1  | 1:BK:256:ARG:NE   | 2.46                     | 0.43              |
| 1:BI:147:ALA:CB   | 1:DH:79:ILE:HG21  | 2.17                     | 0.43              |
| 1:CD:96:THR:HG21  | 1:CD:108:GLU:OE2  | 2.18                     | 0.43              |
| 1:CH:275:ASP:OD1  | 1:CH:279:GLN:N    | 2.38                     | 0.43              |
| 1:CN:83:VAL:HG12  | 1:CN:84:THR:N     | 2.33                     | 0.43              |
| 1:CO:180:VAL:HG12 | 1:CO:181:VAL:H    | 1.82                     | 0.43              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:DB:26:LEU:HD13  | 1:DC:336:ASN:HD22 | 1.84                     | 0.43              |
| 1:DE:57:VAL:HG23  | 1:DE:57:VAL:O     | 2.18                     | 0.43              |
| 1:DF:257:LYS:NZ   | 1:DF:259:ILE:HD11 | 2.33                     | 0.43              |
| 1:DK:83:VAL:HG21  | 1:DK:162:ARG:HG2  | 2.01                     | 0.43              |
| 1:AA:21:ASN:O     | 1:AA:21:ASN:ND2   | 2.51                     | 0.43              |
| 1:AC:131:GLY:O    | 1:AC:181:VAL:HG23 | 2.18                     | 0.43              |
| 1:AM:210:ASN:OD1  | 1:AM:211:ILE:N    | 2.52                     | 0.43              |
| 1:BI:146:SER:H    | 1:DH:143:LEU:HD12 | 1.82                     | 0.43              |
| 1:BI:209:THR:OG1  | 1:BI:210:ASN:N    | 2.51                     | 0.43              |
| 1:BK:91:VAL:HG13  | 1:BK:91:VAL:O     | 2.19                     | 0.43              |
| 1:BK:306:VAL:HA   | 1:BK:330:VAL:HG22 | 1.99                     | 0.43              |
| 1:BY:156:ASN:O    | 1:BY:159:HIS:NE2  | 2.51                     | 0.43              |
| 1:BZ:43:ASN:OD1   | 1:BZ:44:GLN:N     | 2.50                     | 0.43              |
| 1:CJ:96:THR:O     | 1:CJ:100:THR:HG23 | 2.18                     | 0.43              |
| 1:CM:125:GLU:OE2  | 1:CM:286:ASN:ND2  | 2.48                     | 0.43              |
| 1:CP:290:PRO:O    | 1:CP:291:THR:HG22 | 2.18                     | 0.43              |
| 1:CQ:136:ASP:OD1  | 1:CQ:137:VAL:N    | 2.51                     | 0.43              |
| 1:CS:25:VAL:O     | 1:CS:25:VAL:HG13  | 2.18                     | 0.43              |
| 1:CS:253:GLN:OE1  | 1:CS:253:GLN:N    | 2.42                     | 0.43              |
| 1:CX:164:THR:HG21 | 1:CX:331:GLY:HA2  | 1.99                     | 0.43              |
| 1:DB:52:ASP:HB3   | 1:DB:78:VAL:HG23  | 2.00                     | 0.43              |
| 1:DJ:334:HIS:ND1  | 1:DJ:336:ASN:O    | 2.51                     | 0.43              |
| 1:DL:184:THR:O    | 1:DL:184:THR:HG22 | 2.18                     | 0.43              |
| 1:DO:24:SER:OG    | 1:DQ:335:ARG:O    | 2.24                     | 0.43              |
| 1:DO:259:ILE:HG21 | 1:DQ:259:ILE:HD13 | 2.00                     | 0.43              |
| 1:DP:91:VAL:O     | 1:DP:91:VAL:HG13  | 2.18                     | 0.43              |
| 1:AA:65:GLU:OE1   | 1:AB:162:ARG:NH1  | 2.51                     | 0.43              |
| 1:AC:262:ASN:HB3  | 1:AD:267:ILE:HD12 | 2.00                     | 0.43              |
| 1:AM:322:GLU:H    | 1:CV:67:SER:CB    | 2.30                     | 0.43              |
| 1:AO:64:VAL:HG12  | 1:AO:65:GLU:N     | 2.34                     | 0.43              |
| 1:AP:139:ALA:O    | 1:CR:144:THR:OG1  | 2.37                     | 0.43              |
| 1:AR:254:GLY:O    | 1:AR:255:SER:OG   | 2.28                     | 0.43              |
| 1:BG:5:THR:OG1    | 1:BM:156:ASN:OD1  | 2.36                     | 0.43              |
| 1:BM:196:VAL:N    | 1:BM:224:GLN:OE1  | 2.49                     | 0.43              |
| 1:BY:33:PHE:CZ    | 1:BY:37:THR:HG21  | 2.53                     | 0.43              |
| 1:CA:237:ILE:HG21 | 1:CA:285:VAL:HG22 | 1.99                     | 0.43              |
| 1:CR:117:GLY:O    | 1:CR:120:ILE:HG22 | 2.19                     | 0.43              |
| 1:CV:162:ARG:NH1  | 1:CV:329:GLU:OE2  | 2.51                     | 0.43              |
| 1:CW:147:ALA:HB1  | 1:CW:150:PRO:HG3  | 2.00                     | 0.43              |
| 1:DA:124:LEU:HD11 | 1:DA:128:LEU:HD11 | 2.00                     | 0.43              |
| 1:DJ:83:VAL:HG12  | 1:DJ:84:THR:N     | 2.33                     | 0.43              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:DL:26:LEU:HD22  | 1:DN:336:ASN:HB2  | 2.00                     | 0.43              |
| 1:DO:203:ASN:ND2  | 1:DO:212:GLY:O    | 2.52                     | 0.43              |
| 1:AA:305:MET:N    | 1:AA:331:GLY:O    | 2.47                     | 0.43              |
| 1:AG:56:SER:OG    | 1:AG:57:VAL:N     | 2.52                     | 0.43              |
| 1:AM:100:THR:CG2  | 1:CR:44:GLN:OE1   | 2.65                     | 0.43              |
| 1:AS:79:ILE:HG22  | 1:AS:80:LYS:N     | 2.34                     | 0.43              |
| 1:BF:49:TRP:NE1   | 1:BF:334:HIS:O    | 2.51                     | 0.43              |
| 1:BH:306:VAL:HG23 | 1:BH:306:VAL:O    | 2.18                     | 0.43              |
| 1:BI:146:SER:O    | 1:DH:48:SER:CB    | 2.67                     | 0.43              |
| 1:CF:51:THR:O     | 1:CF:51:THR:HG23  | 2.19                     | 0.43              |
| 1:CH:267:ILE:HD13 | 1:CX:262:ASN:HA   | 2.01                     | 0.43              |
| 1:CI:262:ASN:OD1  | 1:CI:263:THR:N    | 2.52                     | 0.43              |
| 1:CJ:17:LEU:HG    | 1:CJ:18:SER:N     | 2.33                     | 0.43              |
| 1:CY:152:VAL:O    | 1:CY:152:VAL:HG12 | 2.18                     | 0.43              |
| 1:DC:84:THR:HG22  | 1:DC:85:GLN:N     | 2.34                     | 0.43              |
| 1:DF:237:ILE:HD11 | 1:DF:241:HIS:HB3  | 1.99                     | 0.43              |
| 1:DH:203:ASN:ND2  | 1:DH:203:ASN:O    | 2.52                     | 0.43              |
| 1:DI:31:THR:OG1   | 1:DI:31:THR:O     | 2.37                     | 0.43              |
| 1:DK:182:ASP:OD1  | 1:DK:184:THR:OG1  | 2.23                     | 0.43              |
| 1:DK:267:ILE:HG22 | 1:DM:274:THR:HB   | 2.00                     | 0.43              |
| 1:DN:310:PRO:CB   | 1:DN:326:ILE:HD11 | 2.46                     | 0.43              |
| 1:DQ:90:VAL:HG12  | 1:DQ:91:VAL:N     | 2.33                     | 0.43              |
| 1:AD:134:ARG:O    | 1:AD:135:THR:OG1  | 2.32                     | 0.43              |
| 1:AK:209:THR:OG1  | 1:AK:210:ASN:N    | 2.51                     | 0.43              |
| 1:AK:314:GLU:OE1  | 1:AK:314:GLU:HA   | 2.19                     | 0.43              |
| 1:AM:91:VAL:O     | 1:AM:91:VAL:HG13  | 2.19                     | 0.43              |
| 1:AW:105:ARG:HD2  | 1:BK:15:LYS:CB    | 1.80                     | 0.43              |
| 1:BX:79:ILE:HD11  | 1:CM:13:ASN:HB3   | 2.00                     | 0.43              |
| 1:CF:96:THR:O     | 1:CF:100:THR:HG23 | 2.19                     | 0.43              |
| 1:CO:88:ARG:NH2   | 1:CS:68:ARG:O     | 2.52                     | 0.43              |
| 1:DA:145:ASN:O    | 1:DA:149:ASP:N    | 2.46                     | 0.43              |
| 1:DI:64:VAL:O     | 1:DQ:86:ILE:HD11  | 2.18                     | 0.43              |
| 1:DI:164:THR:HG22 | 1:DI:165:GLY:N    | 2.34                     | 0.43              |
| 1:AF:81:SER:O     | 1:AF:134:ARG:NH2  | 2.52                     | 0.43              |
| 1:AM:171:CYS:SG   | 1:AM:340:SER:OG   | 2.51                     | 0.43              |
| 1:AP:147:ALA:H    | 1:CR:142:TYR:HB3  | 1.83                     | 0.43              |
| 1:AS:141:GLN:NE2  | 1:CW:141:GLN:OE1  | 2.49                     | 0.43              |
| 1:AS:224:GLN:O    | 1:AS:227:THR:OG1  | 2.26                     | 0.43              |
| 1:AV:252:THR:OG1  | 1:AV:255:SER:OG   | 2.14                     | 0.43              |
| 1:BA:131:GLY:O    | 1:BA:181:VAL:HG23 | 2.18                     | 0.43              |
| 1:BE:203:ASN:O    | 1:BE:349:LYS:NZ   | 2.48                     | 0.43              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BI:314:GLU:HA   | 1:BI:314:GLU:OE1  | 2.19                     | 0.43              |
| 1:BK:36:MET:O     | 1:BK:299:SER:OG   | 2.31                     | 0.43              |
| 1:BM:64:VAL:HG12  | 1:BM:65:GLU:N     | 2.33                     | 0.43              |
| 1:BM:308:ARG:NH1  | 1:BM:327:GLU:OE1  | 2.43                     | 0.43              |
| 1:BN:30:ASP:O     | 1:BN:31:THR:OG1   | 2.31                     | 0.43              |
| 1:BT:306:VAL:HG13 | 1:BT:330:VAL:CG1  | 2.47                     | 0.43              |
| 1:BU:93:VAL:N     | 1:DP:6:LEU:O      | 2.45                     | 0.43              |
| 1:BW:42:ILE:HG23  | 1:BW:42:ILE:O     | 2.19                     | 0.43              |
| 1:BW:326:ILE:HG23 | 1:BW:326:ILE:O    | 2.19                     | 0.43              |
| 1:BZ:91:VAL:O     | 1:BZ:91:VAL:HG13  | 2.18                     | 0.43              |
| 1:CE:143:LEU:HD13 | 1:CU:17:LEU:HD22  | 1.99                     | 0.43              |
| 1:CQ:310:PRO:HB3  | 1:CQ:326:ILE:HD11 | 2.01                     | 0.43              |
| 1:CT:164:THR:O    | 1:CT:164:THR:HG22 | 2.18                     | 0.43              |
| 1:CV:87:LEU:HB2   | 1:CV:120:ILE:HD11 | 2.01                     | 0.43              |
| 1:CV:211:ILE:O    | 1:CV:211:ILE:HG23 | 2.19                     | 0.43              |
| 1:DH:307:LEU:HD22 | 1:DH:329:GLU:OE1  | 2.19                     | 0.43              |
| 1:DI:186:ASN:OD1  | 1:DI:187:GLY:N    | 2.51                     | 0.43              |
| 1:AK:213:PHE:HE1  | 1:AK:218:ILE:HD11 | 1.84                     | 0.43              |
| 1:AS:146:SER:C    | 1:CW:79:ILE:HB    | 2.39                     | 0.43              |
| 1:BA:25:VAL:O     | 1:BA:25:VAL:HG13  | 2.19                     | 0.43              |
| 1:BJ:271:ASN:N    | 1:BV:264:LYS:O    | 2.44                     | 0.43              |
| 1:BU:96:THR:OG1   | 1:DP:9:SER:CB     | 2.62                     | 0.43              |
| 1:BZ:25:VAL:O     | 1:BZ:26:LEU:HD12  | 2.19                     | 0.43              |
| 1:CE:205:SER:OG   | 1:CE:214:ASP:OD2  | 2.37                     | 0.43              |
| 1:CM:45:THR:HG1   | 1:CM:84:THR:HG1   | 1.63                     | 0.43              |
| 1:CP:64:VAL:O     | 1:CP:65:GLU:HG3   | 2.18                     | 0.43              |
| 1:CT:190:ASP:O    | 1:CT:194:GLY:N    | 2.45                     | 0.43              |
| 1:DA:57:VAL:HG21  | 1:DE:126:LYS:HE3  | 2.01                     | 0.43              |
| 1:DB:167:PHE:HE2  | 1:DB:342:VAL:HG22 | 1.83                     | 0.43              |
| 1:DE:230:SER:OG   | 1:DE:339:ALA:O    | 2.30                     | 0.43              |
| 1:AP:52:ASP:OD1   | 1:AP:53:ALA:N     | 2.52                     | 0.43              |
| 1:AP:76:PRO:HD3   | 1:CR:153:ALA:HA   | 2.00                     | 0.43              |
| 1:AT:210:ASN:C    | 1:AT:211:ILE:HD13 | 2.40                     | 0.43              |
| 1:BF:31:THR:O     | 1:BF:35:SER:OG    | 2.30                     | 0.43              |
| 1:BG:64:VAL:HG12  | 1:BG:65:GLU:H     | 1.83                     | 0.43              |
| 1:BH:17:LEU:O     | 1:BH:18:SER:OG    | 2.33                     | 0.43              |
| 1:BI:91:VAL:CG1   | 1:DK:7:PHE:CD1    | 3.00                     | 0.43              |
| 1:BY:83:VAL:HG12  | 1:BY:84:THR:N     | 2.34                     | 0.43              |
| 1:CZ:315:LEU:N    | 1:CZ:315:LEU:HD12 | 2.34                     | 0.43              |
| 1:DG:83:VAL:HG12  | 1:DG:84:THR:N     | 2.34                     | 0.43              |
| 1:DH:8:VAL:O      | 1:DH:8:VAL:HG13   | 2.18                     | 0.43              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:DH:263:THR:O    | 1:DH:264:LYS:HB3  | 2.19                     | 0.43              |
| 1:DJ:137:VAL:O    | 1:DJ:137:VAL:HG22 | 2.18                     | 0.43              |
| 1:AA:256:ARG:NE   | 1:AB:250:GLU:OE2  | 2.40                     | 0.42              |
| 1:AH:63:HIS:O     | 1:AK:86:ILE:HD13  | 2.19                     | 0.42              |
| 1:AM:90:VAL:HG11  | 1:AP:70:GLU:O     | 2.18                     | 0.42              |
| 1:AR:213:PHE:CE1  | 1:AR:294:VAL:HG22 | 2.54                     | 0.42              |
| 1:BD:334:HIS:NE2  | 1:BD:336:ASN:O    | 2.52                     | 0.42              |
| 1:BI:92:ARG:O     | 1:DK:6:LEU:CD1    | 2.35                     | 0.42              |
| 1:BK:308:ARG:NH1  | 1:BK:327:GLU:OE1  | 2.51                     | 0.42              |
| 1:BS:46:ILE:HD13  | 1:BS:138:LEU:HD11 | 2.00                     | 0.42              |
| 1:BU:286:ASN:OD1  | 1:BU:289:MET:N    | 2.52                     | 0.42              |
| 1:BX:132:GLN:O    | 1:BX:166:ALA:N    | 2.52                     | 0.42              |
| 1:BX:141:GLN:HG3  | 1:BX:144:THR:HG23 | 2.01                     | 0.42              |
| 1:CB:271:ASN:OD1  | 1:CB:272:SER:N    | 2.52                     | 0.42              |
| 1:CE:241:HIS:NE2  | 1:CE:291:THR:O    | 2.52                     | 0.42              |
| 1:CG:177:ALA:HB2  | 1:CG:182:ASP:HB2  | 2.00                     | 0.42              |
| 1:CR:52:ASP:OD1   | 1:CR:53:ALA:N     | 2.50                     | 0.42              |
| 1:CS:275:ASP:OD1  | 1:CS:279:GLN:N    | 2.52                     | 0.42              |
| 1:CX:85:GLN:CB    | 1:CX:164:THR:HG23 | 2.49                     | 0.42              |
| 1:DB:273:ILE:HG22 | 1:DB:274:THR:N    | 2.33                     | 0.42              |
| 1:DD:90:VAL:HG22  | 1:DD:91:VAL:N     | 2.34                     | 0.42              |
| 1:DJ:25:VAL:HG23  | 1:DJ:25:VAL:O     | 2.19                     | 0.42              |
| 1:AD:186:ASN:OD1  | 1:AD:186:ASN:N    | 2.52                     | 0.42              |
| 1:AI:64:VAL:HG11  | 1:AL:157:ASP:O    | 2.19                     | 0.42              |
| 1:AP:143:LEU:HD22 | 1:CR:148:ALA:HB2  | 1.81                     | 0.42              |
| 1:AP:171:CYS:SG   | 1:AP:340:SER:OG   | 2.53                     | 0.42              |
| 1:AW:238:ASN:ND2  | 1:AW:289:MET:O    | 2.50                     | 0.42              |
| 1:AX:273:ILE:HD12 | 1:AX:283:ILE:HD11 | 2.00                     | 0.42              |
| 1:BE:56:SER:OG    | 1:BE:57:VAL:N     | 2.52                     | 0.42              |
| 1:BF:144:THR:OG1  | 1:DM:146:SER:OG   | 2.37                     | 0.42              |
| 1:BI:144:THR:CA   | 1:DH:143:LEU:CG   | 2.91                     | 0.42              |
| 1:BK:143:LEU:O    | 1:BK:144:THR:OG1  | 2.20                     | 0.42              |
| 1:BS:237:ILE:HG22 | 1:BS:285:VAL:HA   | 2.01                     | 0.42              |
| 1:BY:192:ASP:OD2  | 1:CC:27:SER:OG    | 2.27                     | 0.42              |
| 1:CA:213:PHE:HB2  | 1:CA:244:ILE:HG21 | 2.00                     | 0.42              |
| 1:CF:81:SER:OG    | 1:CF:134:ARG:NH2  | 2.51                     | 0.42              |
| 1:CT:138:LEU:N    | 1:CT:138:LEU:HD12 | 2.33                     | 0.42              |
| 1:CU:263:THR:O    | 1:CU:264:LYS:HB3  | 2.19                     | 0.42              |
| 1:CV:33:PHE:O     | 1:CV:37:THR:HG23  | 2.19                     | 0.42              |
| 1:CZ:275:ASP:OD1  | 1:CZ:279:GLN:N    | 2.48                     | 0.42              |
| 1:DD:44:GLN:O     | 1:DD:46:ILE:N     | 2.52                     | 0.42              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:DF:70:GLU:N     | 1:DF:70:GLU:OE2   | 2.51                     | 0.42              |
| 1:DL:198:VAL:HG12 | 1:DL:342:VAL:HG22 | 2.01                     | 0.42              |
| 1:AE:218:ILE:O    | 1:AE:222:THR:HG23 | 2.19                     | 0.42              |
| 1:AG:153:ALA:O    | 1:AG:155:LEU:N    | 2.49                     | 0.42              |
| 1:AI:64:VAL:HG12  | 1:AI:65:GLU:H     | 1.83                     | 0.42              |
| 1:AO:64:VAL:HG12  | 1:AO:65:GLU:H     | 1.85                     | 0.42              |
| 1:AQ:214:ASP:O    | 1:AQ:217:ASP:N    | 2.34                     | 0.42              |
| 1:AV:40:GLU:OE1   | 1:AV:333:ARG:NH2  | 2.53                     | 0.42              |
| 1:AY:65:GLU:OE1   | 1:AZ:162:ARG:NH1  | 2.51                     | 0.42              |
| 1:BC:306:VAL:HG13 | 1:BC:330:VAL:HG12 | 2.00                     | 0.42              |
| 1:BM:64:VAL:HG12  | 1:BM:65:GLU:H     | 1.85                     | 0.42              |
| 1:BQ:250:GLU:OE2  | 1:BT:256:ARG:NH1  | 2.50                     | 0.42              |
| 1:BV:273:ILE:HD12 | 1:BV:283:ILE:HD11 | 2.00                     | 0.42              |
| 1:BX:107:ARG:NH1  | 1:BX:108:GLU:O    | 2.53                     | 0.42              |
| 1:CA:117:GLY:O    | 1:CA:120:ILE:HG22 | 2.20                     | 0.42              |
| 1:CC:64:VAL:HG12  | 1:CC:65:GLU:N     | 2.33                     | 0.42              |
| 1:CJ:293:ALA:HB2  | 1:CJ:344:PHE:HD1  | 1.84                     | 0.42              |
| 1:CK:290:PRO:O    | 1:CK:291:THR:HG22 | 2.19                     | 0.42              |
| 1:CQ:308:ARG:HG2  | 1:CQ:329:GLU:HB2  | 2.02                     | 0.42              |
| 1:CU:25:VAL:HG23  | 1:CU:25:VAL:O     | 2.19                     | 0.42              |
| 1:CU:34:VAL:HG13  | 1:CU:304:GLN:HE22 | 1.84                     | 0.42              |
| 1:DG:58:ASP:OD1   | 1:DG:59:GLY:N     | 2.50                     | 0.42              |
| 1:DN:252:THR:O    | 1:DN:256:ARG:N    | 2.52                     | 0.42              |
| 1:AA:90:VAL:HG11  | 1:AC:70:GLU:O     | 2.19                     | 0.42              |
| 1:AC:25:VAL:HG13  | 1:AC:25:VAL:O     | 2.19                     | 0.42              |
| 1:AL:51:THR:O     | 1:AL:51:THR:OG1   | 2.33                     | 0.42              |
| 1:AU:46:ILE:HD13  | 1:AU:138:LEU:HD11 | 2.00                     | 0.42              |
| 1:AY:152:VAL:O    | 1:AY:152:VAL:HG12 | 2.19                     | 0.42              |
| 1:BE:140:ASP:HA   | 1:BE:143:LEU:HD12 | 2.00                     | 0.42              |
| 1:BI:213:PHE:HE1  | 1:BI:218:ILE:HD11 | 1.84                     | 0.42              |
| 1:BK:210:ASN:OD1  | 1:BK:211:ILE:N    | 2.52                     | 0.42              |
| 1:BT:40:GLU:OE1   | 1:BT:333:ARG:NH2  | 2.53                     | 0.42              |
| 1:BW:95:ASP:OD1   | 1:BW:96:THR:N     | 2.51                     | 0.42              |
| 1:BX:117:GLY:O    | 1:BX:120:ILE:HG22 | 2.20                     | 0.42              |
| 1:BZ:58:ASP:OD1   | 1:BZ:59:GLY:N     | 2.52                     | 0.42              |
| 1:CE:18:SER:O     | 1:CE:18:SER:OG    | 2.35                     | 0.42              |
| 1:CE:87:LEU:HD23  | 1:CE:87:LEU:H     | 1.84                     | 0.42              |
| 1:CE:339:ALA:HA   | 1:CU:26:LEU:HD21  | 2.01                     | 0.42              |
| 1:CF:250:GLU:OE2  | 1:CN:256:ARG:NE   | 2.52                     | 0.42              |
| 1:CM:45:THR:OG1   | 1:CM:84:THR:OG1   | 2.29                     | 0.42              |
| 1:CR:307:LEU:HD23 | 1:CR:329:GLU:OE1  | 2.19                     | 0.42              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CT:156:ASN:C    | 1:CT:156:ASN:OD1  | 2.57                     | 0.42              |
| 1:CX:30:ASP:N     | 1:CX:30:ASP:OD1   | 2.52                     | 0.42              |
| 1:CZ:4:PRO:O      | 1:CZ:5:THR:OG1    | 2.32                     | 0.42              |
| 1:CZ:30:ASP:OD1   | 1:CZ:31:THR:N     | 2.49                     | 0.42              |
| 1:DF:170:LEU:H    | 1:DF:170:LEU:HD12 | 1.83                     | 0.42              |
| 1:DF:315:LEU:HD11 | 1:DF:321:TYR:CE1  | 2.55                     | 0.42              |
| 1:DN:95:ASP:N     | 1:DN:95:ASP:OD2   | 2.52                     | 0.42              |
| 1:AF:334:HIS:NE2  | 1:AF:336:ASN:O    | 2.52                     | 0.42              |
| 1:AP:139:ALA:C    | 1:CR:144:THR:CG2  | 2.88                     | 0.42              |
| 1:AW:286:ASN:OD1  | 1:AW:289:MET:N    | 2.52                     | 0.42              |
| 1:BE:83:VAL:HG22  | 1:BE:84:THR:N     | 2.35                     | 0.42              |
| 1:BI:7:PHE:CZ     | 1:DM:69:ALA:HB1   | 2.52                     | 0.42              |
| 1:BP:206:ASN:ND2  | 1:BP:214:ASP:OD1  | 2.50                     | 0.42              |
| 1:BQ:79:ILE:HG22  | 1:BQ:80:LYS:N     | 2.34                     | 0.42              |
| 1:BQ:250:GLU:OE1  | 1:BQ:258:ARG:NH1  | 2.50                     | 0.42              |
| 1:BV:234:ILE:HG23 | 1:BV:284:ILE:HD12 | 2.00                     | 0.42              |
| 1:BW:181:VAL:HG23 | 1:BW:181:VAL:O    | 2.20                     | 0.42              |
| 1:BW:248:LEU:O    | 1:BW:252:THR:HG22 | 2.20                     | 0.42              |
| 1:BY:221:MET:HG3  | 1:BY:296:PHE:CE2  | 2.54                     | 0.42              |
| 1:CA:83:VAL:HG21  | 1:CA:164:THR:HA   | 2.00                     | 0.42              |
| 1:CE:69:ALA:HB1   | 1:CU:90:VAL:HG11  | 2.02                     | 0.42              |
| 1:CF:11:ASP:OD1   | 1:CF:11:ASP:N     | 2.52                     | 0.42              |
| 1:CK:157:ASP:O    | 1:CK:158:THR:OG1  | 2.30                     | 0.42              |
| 1:DC:90:VAL:HG11  | 1:DD:71:ASP:HB3   | 2.02                     | 0.42              |
| 1:DE:322:GLU:OE2  | 1:DE:324:TRP:NE1  | 2.52                     | 0.42              |
| 1:DQ:137:VAL:HG22 | 1:DQ:137:VAL:O    | 2.19                     | 0.42              |
| 1:AC:213:PHE:HE1  | 1:AC:218:ILE:HD11 | 1.84                     | 0.42              |
| 1:AE:238:ASN:O    | 1:AE:239:PRO:C    | 2.58                     | 0.42              |
| 1:AG:192:ASP:O    | 1:AG:193:THR:OG1  | 2.37                     | 0.42              |
| 1:AL:21:ASN:O     | 1:AL:21:ASN:ND2   | 2.52                     | 0.42              |
| 1:AP:308:ARG:CZ   | 1:CN:95:ASP:OD2   | 2.67                     | 0.42              |
| 1:AR:145:ASN:OD1  | 1:AR:146:SER:N    | 2.53                     | 0.42              |
| 1:AS:44:GLN:HB3   | 1:CS:100:THR:HG21 | 1.62                     | 0.42              |
| 1:AT:234:ILE:HG23 | 1:AT:284:ILE:HD12 | 2.01                     | 0.42              |
| 1:AX:305:MET:N    | 1:AX:305:MET:SD   | 2.93                     | 0.42              |
| 1:BC:136:ASP:OD1  | 1:BC:137:VAL:N    | 2.50                     | 0.42              |
| 1:BI:143:LEU:CD2  | 1:DP:15:LYS:O     | 2.63                     | 0.42              |
| 1:BI:316:ALA:CB   | 1:DM:317:LYS:O    | 2.66                     | 0.42              |
| 1:BS:215:GLU:OE1  | 1:BS:215:GLU:N    | 2.53                     | 0.42              |
| 1:BW:180:VAL:HG13 | 1:BW:185:LYS:HZ2  | 1.84                     | 0.42              |
| 1:CL:248:LEU:O    | 1:CL:256:ARG:NH2  | 2.53                     | 0.42              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CN:231:GLU:OE1  | 1:CN:298:ARG:NH2  | 2.52                     | 0.42              |
| 1:CQ:148:ALA:O    | 1:CQ:152:VAL:HG22 | 2.19                     | 0.42              |
| 1:CX:96:THR:O     | 1:CX:100:THR:HG23 | 2.18                     | 0.42              |
| 1:DC:180:VAL:HG22 | 1:DC:181:VAL:H    | 1.84                     | 0.42              |
| 1:DG:17:LEU:HD13  | 1:DG:19:PHE:CZ    | 2.55                     | 0.42              |
| 1:DI:149:ASP:N    | 1:DI:149:ASP:OD1  | 2.52                     | 0.42              |
| 1:DM:46:ILE:HA    | 1:DM:83:VAL:HG21  | 2.02                     | 0.42              |
| 1:DM:306:VAL:HG23 | 1:DM:306:VAL:O    | 2.19                     | 0.42              |
| 1:AA:49:TRP:NE1   | 1:AA:334:HIS:O    | 2.53                     | 0.42              |
| 1:AM:16:LYS:CG    | 1:CN:102:ASN:C    | 2.83                     | 0.42              |
| 1:AU:237:ILE:HG22 | 1:AU:285:VAL:HA   | 2.01                     | 0.42              |
| 1:BO:127:ILE:O    | 1:BO:130:SER:OG   | 2.22                     | 0.42              |
| 1:BP:243:LYS:O    | 1:BP:247:GLY:N    | 2.51                     | 0.42              |
| 1:CD:57:VAL:HG23  | 1:CH:123:ASP:OD1  | 2.19                     | 0.42              |
| 1:CZ:145:ASN:O    | 1:CZ:146:SER:CB   | 2.68                     | 0.42              |
| 1:DA:24:SER:O     | 1:DF:336:ASN:ND2  | 2.45                     | 0.42              |
| 1:DB:50:GLN:O     | 1:DF:23:ILE:HG22  | 2.20                     | 0.42              |
| 1:DB:315:LEU:HG   | 1:DB:316:ALA:H    | 1.84                     | 0.42              |
| 1:DC:233:ASP:OD2  | 1:DC:233:ASP:N    | 2.53                     | 0.42              |
| 1:DD:96:THR:O     | 1:DD:100:THR:N    | 2.50                     | 0.42              |
| 1:DG:290:PRO:O    | 1:DG:291:THR:HG22 | 2.19                     | 0.42              |
| 1:DK:308:ARG:NH1  | 1:DK:329:GLU:OE2  | 2.49                     | 0.42              |
| 1:DP:40:GLU:OE1   | 1:DP:333:ARG:NH1  | 2.52                     | 0.42              |
| 1:AD:30:ASP:O     | 1:AD:31:THR:OG1   | 2.35                     | 0.42              |
| 1:AK:74:MET:H     | 1:BK:6:LEU:N      | 2.16                     | 0.42              |
| 1:AP:18:SER:N     | 1:CS:103:TYR:HE1  | 2.17                     | 0.42              |
| 1:AP:320:SER:HB2  | 1:CZ:65:GLU:OE1   | 2.09                     | 0.42              |
| 1:AS:76:PRO:CG    | 1:CS:10:TYR:CA    | 2.79                     | 0.42              |
| 1:AV:334:HIS:HE2  | 1:AV:340:SER:HG   | 1.63                     | 0.42              |
| 1:AW:100:THR:HG22 | 1:BN:307:LEU:HB2  | 1.98                     | 0.42              |
| 1:AX:306:VAL:HG22 | 1:AX:330:VAL:HG12 | 2.01                     | 0.42              |
| 1:AY:49:TRP:NE1   | 1:AY:334:HIS:O    | 2.53                     | 0.42              |
| 1:BC:218:ILE:O    | 1:BC:222:THR:HG23 | 2.19                     | 0.42              |
| 1:BI:74:MET:CG    | 1:DP:4:PRO:HB2    | 2.49                     | 0.42              |
| 1:BK:8:VAL:HG22   | 1:BK:9:SER:N      | 2.34                     | 0.42              |
| 1:BO:301:ASP:O    | 1:BO:334:HIS:ND1  | 2.49                     | 0.42              |
| 1:BP:145:ASN:OD1  | 1:BP:146:SER:N    | 2.53                     | 0.42              |
| 1:CC:167:PHE:HA   | 1:CC:170:LEU:HA   | 2.01                     | 0.42              |
| 1:CH:180:VAL:HG12 | 1:CH:181:VAL:N    | 2.35                     | 0.42              |
| 1:CS:139:ALA:O    | 1:CS:141:GLN:NE2  | 2.51                     | 0.42              |
| 1:CS:233:ASP:OD2  | 1:CS:234:ILE:N    | 2.52                     | 0.42              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:DA:165:GLY:O    | 1:DA:332:LEU:HD12 | 2.19                     | 0.42              |
| 1:DM:124:LEU:HA   | 1:DM:127:ILE:HG22 | 2.02                     | 0.42              |
| 1:DO:237:ILE:HG22 | 1:DO:285:VAL:HA   | 2.01                     | 0.42              |
| 1:AR:30:ASP:O     | 1:AR:31:THR:OG1   | 2.32                     | 0.42              |
| 1:AU:64:VAL:HG12  | 1:AU:65:GLU:N     | 2.35                     | 0.42              |
| 1:BE:237:ILE:HD13 | 1:BE:294:VAL:HG22 | 2.02                     | 0.42              |
| 1:BI:13:ASN:OD1   | 1:DM:76:PRO:CG    | 2.65                     | 0.42              |
| 1:BI:101:ALA:HB1  | 1:DK:12:GLN:OE1   | 2.18                     | 0.42              |
| 1:BL:213:PHE:HZ   | 1:BL:245:PHE:CE2  | 2.38                     | 0.42              |
| 1:BM:286:ASN:OD1  | 1:BM:288:TRP:N    | 2.52                     | 0.42              |
| 1:BV:305:MET:N    | 1:BV:305:MET:SD   | 2.93                     | 0.42              |
| 1:BY:241:HIS:NE2  | 1:BY:291:THR:O    | 2.52                     | 0.42              |
| 1:CL:213:PHE:CE1  | 1:CL:244:ILE:HG21 | 2.55                     | 0.42              |
| 1:CM:263:THR:O    | 1:CM:264:LYS:HB3  | 2.19                     | 0.42              |
| 1:CN:180:VAL:HG12 | 1:CN:181:VAL:N    | 2.34                     | 0.42              |
| 1:CR:336:ASN:O    | 1:CR:339:ALA:N    | 2.47                     | 0.42              |
| 1:CZ:214:ASP:N    | 1:CZ:214:ASP:OD1  | 2.53                     | 0.42              |
| 1:DC:93:VAL:HG12  | 1:DC:95:ASP:H     | 1.84                     | 0.42              |
| 1:DD:84:THR:HG21  | 1:DD:307:LEU:HB2  | 2.02                     | 0.42              |
| 1:DN:269:GLU:OE1  | 1:DP:258:ARG:N    | 2.53                     | 0.42              |
| 1:AA:152:VAL:O    | 1:AA:152:VAL:HG12 | 2.19                     | 0.42              |
| 1:AG:83:VAL:HG22  | 1:AG:84:THR:N     | 2.35                     | 0.42              |
| 1:AM:251:ASN:OD1  | 1:AM:251:ASN:N    | 2.52                     | 0.42              |
| 1:AP:16:LYS:HZ1   | 1:CS:19:PHE:HB2   | 1.85                     | 0.42              |
| 1:BB:186:ASN:N    | 1:BB:186:ASN:OD1  | 2.52                     | 0.42              |
| 1:BE:292:ASP:OD1  | 1:BE:345:THR:OG1  | 2.36                     | 0.42              |
| 1:BF:145:ASN:HA   | 1:DM:144:THR:HB   | 2.01                     | 0.42              |
| 1:BI:103:TYR:OH   | 1:DM:142:TYR:HB2  | 2.19                     | 0.42              |
| 1:BQ:136:ASP:OD1  | 1:BQ:137:VAL:N    | 2.51                     | 0.42              |
| 1:BQ:222:THR:HG22 | 1:BQ:281:TYR:CE2  | 2.55                     | 0.42              |
| 1:BU:94:SER:OG    | 1:DH:308:ARG:NH1  | 2.46                     | 0.42              |
| 1:BV:306:VAL:HG22 | 1:BV:330:VAL:HG12 | 2.01                     | 0.42              |
| 1:BY:8:VAL:HG22   | 1:BY:9:SER:H      | 1.85                     | 0.42              |
| 1:CG:76:PRO:O     | 1:CG:77:THR:HG22  | 2.20                     | 0.42              |
| 1:CI:202:GLN:N    | 1:CI:217:ASP:OD2  | 2.47                     | 0.42              |
| 1:CN:230:SER:OG   | 1:CN:231:GLU:N    | 2.52                     | 0.42              |
| 1:CO:225:LEU:O    | 1:CO:230:SER:OG   | 2.34                     | 0.42              |
| 1:CY:57:VAL:HG23  | 1:CY:57:VAL:O     | 2.19                     | 0.42              |
| 1:DB:25:VAL:HG23  | 1:DB:25:VAL:O     | 2.20                     | 0.42              |
| 1:DB:336:ASN:HD22 | 1:DF:26:LEU:HD11  | 1.85                     | 0.42              |
| 1:DI:339:ALA:HB2  | 1:DQ:26:LEU:HD11  | 2.01                     | 0.42              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:DJ:87:LEU:HD23  | 1:DJ:87:LEU:H     | 1.85                     | 0.42              |
| 1:DQ:155:LEU:HD12 | 1:DQ:155:LEU:H    | 1.84                     | 0.42              |
| 1:AM:213:PHE:CZ   | 1:AM:237:ILE:HD11 | 2.55                     | 0.41              |
| 1:AP:104:GLY:O    | 1:CS:13:ASN:O     | 2.38                     | 0.41              |
| 1:AS:145:ASN:CB   | 1:CW:145:ASN:ND2  | 2.81                     | 0.41              |
| 1:AW:7:PHE:CB     | 1:BK:93:VAL:HG22  | 2.31                     | 0.41              |
| 1:AY:90:VAL:HG11  | 1:BA:70:GLU:O     | 2.19                     | 0.41              |
| 1:AZ:83:VAL:HG22  | 1:AZ:84:THR:H     | 1.85                     | 0.41              |
| 1:BC:238:ASN:O    | 1:BC:239:PRO:C    | 2.58                     | 0.41              |
| 1:BI:100:THR:N    | 1:DK:10:TYR:HA    | 2.33                     | 0.41              |
| 1:BJ:259:ILE:O    | 1:BV:261:GLU:HA   | 2.20                     | 0.41              |
| 1:BM:33:PHE:CE1   | 1:BM:37:THR:HG22  | 2.55                     | 0.41              |
| 1:BO:100:THR:OG1  | 1:BO:101:ALA:N    | 2.53                     | 0.41              |
| 1:BR:210:ASN:C    | 1:BR:211:ILE:HD13 | 2.40                     | 0.41              |
| 1:BV:308:ARG:NH1  | 1:BV:327:GLU:OE1  | 2.50                     | 0.41              |
| 1:BX:54:LEU:HD22  | 1:CB:27:SER:HB3   | 2.02                     | 0.41              |
| 1:BX:131:GLY:HA3  | 1:BX:180:VAL:HG13 | 2.01                     | 0.41              |
| 1:BY:134:ARG:NE   | 1:BY:142:TYR:OH   | 2.53                     | 0.41              |
| 1:CA:83:VAL:HG11  | 1:CA:164:THR:CA   | 2.47                     | 0.41              |
| 1:CE:135:THR:HG23 | 1:CE:135:THR:O    | 2.19                     | 0.41              |
| 1:CI:92:ARG:NE    | 1:CM:71:ASP:OD2   | 2.53                     | 0.41              |
| 1:CL:186:ASN:OD1  | 1:CL:200:VAL:HG23 | 2.20                     | 0.41              |
| 1:CP:117:GLY:O    | 1:CP:120:ILE:HG22 | 2.19                     | 0.41              |
| 1:CP:134:ARG:NH1  | 1:CP:137:VAL:HG22 | 2.34                     | 0.41              |
| 1:CX:90:VAL:HG12  | 1:CX:91:VAL:N     | 2.35                     | 0.41              |
| 1:DD:117:GLY:O    | 1:DD:120:ILE:HG22 | 2.20                     | 0.41              |
| 1:DD:131:GLY:N    | 1:DD:168:GLN:OE1  | 2.53                     | 0.41              |
| 1:AM:8:VAL:HG22   | 1:AM:9:SER:N      | 2.34                     | 0.41              |
| 1:AT:180:VAL:HG22 | 1:AT:181:VAL:N    | 2.35                     | 0.41              |
| 1:AU:215:GLU:N    | 1:AU:215:GLU:OE1  | 2.53                     | 0.41              |
| 1:AW:250:GLU:HG2  | 1:AW:256:ARG:HB3  | 2.02                     | 0.41              |
| 1:BF:74:MET:HE1   | 1:BI:92:ARG:O     | 2.20                     | 0.41              |
| 1:BI:146:SER:HA   | 1:DH:48:SER:OG    | 2.20                     | 0.41              |
| 1:BY:235:ILE:HG12 | 1:BY:296:PHE:CD1  | 2.54                     | 0.41              |
| 1:CD:83:VAL:HG22  | 1:CD:84:THR:H     | 1.86                     | 0.41              |
| 1:CK:180:VAL:HG22 | 1:CK:181:VAL:N    | 2.35                     | 0.41              |
| 1:CL:8:VAL:O      | 1:CL:9:SER:OG     | 2.31                     | 0.41              |
| 1:CX:86:ILE:HG22  | 1:CX:87:LEU:N     | 2.36                     | 0.41              |
| 1:CY:215:GLU:O    | 1:CY:216:ALA:HB3  | 2.20                     | 0.41              |
| 1:DC:30:ASP:O     | 1:DC:31:THR:OG1   | 2.34                     | 0.41              |
| 1:DG:239:PRO:O    | 1:DG:240:ALA:HB3  | 2.20                     | 0.41              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AL:213:PHE:CZ   | 1:AL:218:ILE:HG12 | 2.55                     | 0.41              |
| 1:AL:259:ILE:O    | 1:AX:261:GLU:HA   | 2.20                     | 0.41              |
| 1:AM:6:LEU:N      | 1:CR:74:MET:HE2   | 2.35                     | 0.41              |
| 1:AP:6:LEU:HA     | 1:CS:93:VAL:CA    | 2.49                     | 0.41              |
| 1:AU:296:PHE:O    | 1:AU:341:GLY:N    | 2.45                     | 0.41              |
| 1:AY:305:MET:N    | 1:AY:331:GLY:O    | 2.47                     | 0.41              |
| 1:BI:7:PHE:HZ     | 1:DM:69:ALA:O     | 2.03                     | 0.41              |
| 1:BI:146:SER:CA   | 1:DH:143:LEU:HD11 | 2.50                     | 0.41              |
| 1:BJ:51:THR:O     | 1:BJ:51:THR:OG1   | 2.33                     | 0.41              |
| 1:BO:33:PHE:O     | 1:BO:37:THR:HG23  | 2.20                     | 0.41              |
| 1:BP:213:PHE:CE1  | 1:BP:294:VAL:HG22 | 2.54                     | 0.41              |
| 1:BU:6:LEU:HB3    | 1:DH:74:MET:CE    | 2.49                     | 0.41              |
| 1:BU:213:PHE:CD1  | 1:BU:345:THR:HG22 | 2.55                     | 0.41              |
| 1:BY:90:VAL:HG12  | 1:BY:91:VAL:N     | 2.35                     | 0.41              |
| 1:CH:303:THR:HG22 | 1:CH:304:GLN:N    | 2.35                     | 0.41              |
| 1:CN:236:MET:HG3  | 1:CN:289:MET:SD   | 2.61                     | 0.41              |
| 1:CV:237:ILE:HD11 | 1:CV:241:HIS:CB   | 2.49                     | 0.41              |
| 1:DB:184:THR:O    | 1:DB:184:THR:HG22 | 2.21                     | 0.41              |
| 1:DC:91:VAL:HG23  | 1:DC:112:GLN:CG   | 2.50                     | 0.41              |
| 1:DG:94:SER:OG    | 1:DG:95:ASP:N     | 2.53                     | 0.41              |
| 1:DL:90:VAL:HG12  | 1:DL:91:VAL:N     | 2.36                     | 0.41              |
| 1:AK:312:ARG:NE   | 1:AK:312:ARG:HA   | 2.35                     | 0.41              |
| 1:AN:213:PHE:HZ   | 1:AN:245:PHE:CE2  | 2.38                     | 0.41              |
| 1:AO:33:PHE:CE1   | 1:AO:37:THR:HG22  | 2.55                     | 0.41              |
| 1:AP:7:PHE:HE1    | 1:CW:75:LYS:O     | 2.00                     | 0.41              |
| 1:AP:92:ARG:HH11  | 1:CS:6:LEU:HB2    | 1.36                     | 0.41              |
| 1:AQ:33:PHE:O     | 1:AQ:37:THR:HG23  | 2.21                     | 0.41              |
| 1:AQ:100:THR:OG1  | 1:AQ:101:ALA:N    | 2.53                     | 0.41              |
| 1:AS:250:GLU:OE2  | 1:AV:256:ARG:NH1  | 2.50                     | 0.41              |
| 1:AW:13:ASN:O     | 1:BN:79:ILE:HD11  | 2.19                     | 0.41              |
| 1:BD:233:ASP:N    | 1:BD:233:ASP:OD1  | 2.53                     | 0.41              |
| 1:BJ:213:PHE:CZ   | 1:BJ:218:ILE:HG12 | 2.55                     | 0.41              |
| 1:BN:64:VAL:HG12  | 1:BN:65:GLU:N     | 2.35                     | 0.41              |
| 1:BP:305:MET:O    | 1:BP:331:GLY:N    | 2.53                     | 0.41              |
| 1:BR:261:GLU:O    | 1:BR:262:ASN:OD1  | 2.39                     | 0.41              |
| 1:BU:99:THR:HB    | 1:DH:307:LEU:HG   | 2.02                     | 0.41              |
| 1:CG:5:THR:O      | 1:CG:5:THR:HG22   | 2.19                     | 0.41              |
| 1:CG:273:ILE:HG22 | 1:CG:274:THR:N    | 2.35                     | 0.41              |
| 1:CK:200:VAL:O    | 1:CK:200:VAL:HG13 | 2.20                     | 0.41              |
| 1:CK:215:GLU:CG   | 1:CK:248:LEU:HD13 | 2.50                     | 0.41              |
| 1:CK:263:THR:HG21 | 1:CZ:262:ASN:OD1  | 2.21                     | 0.41              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CM:3:ASN:N      | 1:CM:4:PRO:CD     | 2.83                     | 0.41              |
| 1:DQ:144:THR:HG23 | 1:DQ:145:ASN:N    | 2.34                     | 0.41              |
| 1:AD:213:PHE:N    | 1:AD:213:PHE:CD2  | 2.89                     | 0.41              |
| 1:AS:250:GLU:OE1  | 1:AS:258:ARG:NE   | 2.50                     | 0.41              |
| 1:BB:213:PHE:N    | 1:BB:213:PHE:CD2  | 2.89                     | 0.41              |
| 1:BC:196:VAL:N    | 1:BC:224:GLN:OE1  | 2.50                     | 0.41              |
| 1:BG:64:VAL:HG11  | 1:BJ:157:ASP:O    | 2.19                     | 0.41              |
| 1:BI:312:ARG:NE   | 1:BI:312:ARG:HA   | 2.35                     | 0.41              |
| 1:BM:83:VAL:HG12  | 1:BM:134:ARG:HG3  | 2.03                     | 0.41              |
| 1:BQ:164:THR:O    | 1:BQ:164:THR:HG22 | 2.21                     | 0.41              |
| 1:BX:40:GLU:OE1   | 1:BX:333:ARG:NH1  | 2.53                     | 0.41              |
| 1:BX:66:GLY:O     | 1:CB:88:ARG:NH1   | 2.51                     | 0.41              |
| 1:CA:33:PHE:O     | 1:CA:37:THR:HG23  | 2.20                     | 0.41              |
| 1:CA:316:ALA:HB1  | 1:CX:316:ALA:HB2  | 2.02                     | 0.41              |
| 1:CB:91:VAL:HG11  | 1:CB:113:LEU:CD1  | 2.51                     | 0.41              |
| 1:CB:93:VAL:HG22  | 1:CM:7:PHE:CD2    | 2.54                     | 0.41              |
| 1:CE:256:ARG:HA   | 1:CE:274:THR:HG22 | 2.02                     | 0.41              |
| 1:CU:97:ALA:O     | 1:CU:100:THR:OG1  | 2.34                     | 0.41              |
| 1:CU:234:ILE:HD12 | 1:CU:299:SER:HB3  | 2.02                     | 0.41              |
| 1:CV:117:GLY:O    | 1:CV:120:ILE:HG22 | 2.20                     | 0.41              |
| 1:DF:46:ILE:O     | 1:DF:46:ILE:HG23  | 2.21                     | 0.41              |
| 1:DF:315:LEU:HD12 | 1:DF:316:ALA:N    | 2.35                     | 0.41              |
| 1:DG:51:THR:OG1   | 1:DG:336:ASN:ND2  | 2.53                     | 0.41              |
| 1:DH:277:LEU:HD11 | 1:DP:239:PRO:HB3  | 2.03                     | 0.41              |
| 1:DJ:244:ILE:HD12 | 1:DJ:244:ILE:H    | 1.85                     | 0.41              |
| 1:DL:70:GLU:OE2   | 1:DL:70:GLU:N     | 2.52                     | 0.41              |
| 1:DO:54:LEU:HD12  | 1:DO:55:ALA:O     | 2.20                     | 0.41              |
| 1:AP:103:TYR:HB3  | 1:CS:16:LYS:HD2   | 1.65                     | 0.41              |
| 1:AR:206:ASN:ND2  | 1:AR:214:ASP:OD1  | 2.50                     | 0.41              |
| 1:AS:69:ALA:CB    | 1:CS:5:THR:HG23   | 2.48                     | 0.41              |
| 1:AW:99:THR:HA    | 1:BN:308:ARG:CB   | 2.34                     | 0.41              |
| 1:AX:218:ILE:O    | 1:AX:222:THR:HG23 | 2.21                     | 0.41              |
| 1:BA:64:VAL:HG12  | 1:BA:65:GLU:N     | 2.36                     | 0.41              |
| 1:BB:134:ARG:O    | 1:BB:135:THR:OG1  | 2.32                     | 0.41              |
| 1:BI:76:PRO:HB3   | 1:DP:13:ASN:N     | 2.36                     | 0.41              |
| 1:BI:238:ASN:OD1  | 1:BI:240:ALA:N    | 2.42                     | 0.41              |
| 1:BL:196:VAL:N    | 1:BL:224:GLN:OE1  | 2.48                     | 0.41              |
| 1:BN:38:GLY:O     | 1:BN:304:GLN:N    | 2.46                     | 0.41              |
| 1:BP:218:ILE:O    | 1:BP:222:THR:HG23 | 2.21                     | 0.41              |
| 1:CG:223:LEU:C    | 1:CG:223:LEU:HD23 | 2.40                     | 0.41              |
| 1:CK:137:VAL:HG22 | 1:CK:137:VAL:O    | 2.21                     | 0.41              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CK:211:ILE:HG13 | 1:CK:212:GLY:N    | 2.35                     | 0.41              |
| 1:CN:336:ASN:O    | 1:CN:339:ALA:N    | 2.42                     | 0.41              |
| 1:CO:137:VAL:HG22 | 1:CO:137:VAL:O    | 2.20                     | 0.41              |
| 1:CW:88:ARG:NH1   | 1:CZ:64:VAL:O     | 2.46                     | 0.41              |
| 1:CY:213:PHE:O    | 1:CY:214:ASP:C    | 2.59                     | 0.41              |
| 1:CY:214:ASP:O    | 1:CY:215:GLU:C    | 2.58                     | 0.41              |
| 1:DJ:119:GLU:OE2  | 1:DJ:122:ARG:NE   | 2.54                     | 0.41              |
| 1:AA:248:LEU:O    | 1:AA:256:ARG:NH2  | 2.53                     | 0.41              |
| 1:AP:8:VAL:C      | 1:CS:96:THR:OG1   | 2.58                     | 0.41              |
| 1:AS:73:GLU:CG    | 1:CS:3:ASN:CA     | 2.95                     | 0.41              |
| 1:AU:238:ASN:O    | 1:AU:239:PRO:C    | 2.59                     | 0.41              |
| 1:AW:11:ASP:N     | 1:AW:11:ASP:OD1   | 2.54                     | 0.41              |
| 1:AW:100:THR:OG1  | 1:BN:44:GLN:O     | 2.37                     | 0.41              |
| 1:BA:213:PHE:HE1  | 1:BA:218:ILE:HD11 | 1.85                     | 0.41              |
| 1:BK:251:ASN:OD1  | 1:BK:251:ASN:N    | 2.52                     | 0.41              |
| 1:BM:225:LEU:HD22 | 1:BM:230:SER:CB   | 2.50                     | 0.41              |
| 1:BR:180:VAL:HG22 | 1:BR:181:VAL:N    | 2.35                     | 0.41              |
| 1:BU:250:GLU:HG2  | 1:BU:256:ARG:HB3  | 2.01                     | 0.41              |
| 1:BU:261:GLU:HA   | 1:BU:261:GLU:OE1  | 2.21                     | 0.41              |
| 1:BU:334:HIS:NE2  | 1:BU:340:SER:OG   | 2.49                     | 0.41              |
| 1:BW:144:THR:O    | 1:BW:146:SER:OG   | 2.31                     | 0.41              |
| 1:BY:273:ILE:HD12 | 1:BY:283:ILE:HD11 | 2.03                     | 0.41              |
| 1:CI:70:GLU:OE1   | 1:CI:70:GLU:N     | 2.54                     | 0.41              |
| 1:CK:171:CYS:SG   | 1:CK:172:ALA:N    | 2.94                     | 0.41              |
| 1:CM:141:GLN:O    | 1:CM:144:THR:HG22 | 2.21                     | 0.41              |
| 1:CS:17:LEU:O     | 1:CS:18:SER:OG    | 2.38                     | 0.41              |
| 1:CX:253:GLN:OE1  | 1:CX:253:GLN:N    | 2.50                     | 0.41              |
| 1:CY:273:ILE:HG22 | 1:CY:274:THR:N    | 2.36                     | 0.41              |
| 1:CZ:239:PRO:O    | 1:CZ:240:ALA:HB3  | 2.21                     | 0.41              |
| 1:DD:88:ARG:HB2   | 1:DE:63:HIS:NE2   | 2.36                     | 0.41              |
| 1:DH:173:HIS:HB2  | 1:DH:181:VAL:HG13 | 2.03                     | 0.41              |
| 1:DI:69:ALA:HB1   | 1:DQ:90:VAL:HG21  | 2.02                     | 0.41              |
| 1:AE:196:VAL:N    | 1:AE:224:GLN:OE1  | 2.50                     | 0.41              |
| 1:AE:213:PHE:HB2  | 1:AE:217:ASP:HB2  | 2.02                     | 0.41              |
| 1:AG:292:ASP:OD1  | 1:AG:345:THR:OG1  | 2.36                     | 0.41              |
| 1:AP:64:VAL:HG12  | 1:AP:65:GLU:N     | 2.35                     | 0.41              |
| 1:AR:243:LYS:O    | 1:AR:247:GLY:N    | 2.51                     | 0.41              |
| 1:AS:71:ASP:CG    | 1:CS:4:PRO:HD2    | 2.40                     | 0.41              |
| 1:AW:3:ASN:OD1    | 1:BN:52:ASP:OD1   | 2.39                     | 0.41              |
| 1:AZ:46:ILE:O     | 1:BD:18:SER:OG    | 2.39                     | 0.41              |
| 1:BA:30:ASP:O     | 1:BA:31:THR:OG1   | 2.31                     | 0.41              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BA:61:ASN:OD1   | 1:BA:63:HIS:NE2   | 2.54                     | 0.41              |
| 1:BH:211:ILE:HG23 | 1:BH:212:GLY:N    | 2.36                     | 0.41              |
| 1:BI:76:PRO:HB3   | 1:DP:13:ASN:H     | 1.85                     | 0.41              |
| 1:BI:105:ARG:N    | 1:DK:13:ASN:C     | 2.73                     | 0.41              |
| 1:BL:180:VAL:HG12 | 1:BL:181:VAL:N    | 2.35                     | 0.41              |
| 1:BR:234:ILE:HG23 | 1:BR:284:ILE:HD12 | 2.01                     | 0.41              |
| 1:BR:263:THR:O    | 1:BU:249:GLN:NE2  | 2.54                     | 0.41              |
| 1:BW:213:PHE:HD1  | 1:BW:343:LEU:HD23 | 1.85                     | 0.41              |
| 1:BX:198:VAL:O    | 1:BX:198:VAL:HG12 | 2.20                     | 0.41              |
| 1:CD:90:VAL:HG11  | 1:CL:69:ALA:HB2   | 2.01                     | 0.41              |
| 1:CF:203:ASN:ND2  | 1:CF:210:ASN:OD1  | 2.53                     | 0.41              |
| 1:CG:314:GLU:CG   | 1:CG:314:GLU:O    | 2.68                     | 0.41              |
| 1:CK:125:GLU:OE2  | 1:CK:286:ASN:ND2  | 2.53                     | 0.41              |
| 1:CO:177:ALA:N    | 1:CO:180:VAL:O    | 2.40                     | 0.41              |
| 1:CT:210:ASN:OD1  | 1:CT:211:ILE:N    | 2.53                     | 0.41              |
| 1:DD:40:GLU:O     | 1:DD:41:SER:OG    | 2.22                     | 0.41              |
| 1:AC:222:THR:HB   | 1:AC:275:ASP:OD2  | 2.21                     | 0.41              |
| 1:AP:5:THR:HA     | 1:CS:92:ARG:HG2   | 1.55                     | 0.41              |
| 1:AP:92:ARG:CG    | 1:CS:6:LEU:HA     | 2.48                     | 0.41              |
| 1:AR:30:ASP:OD1   | 1:AR:30:ASP:N     | 2.54                     | 0.41              |
| 1:AR:183:LYS:NZ   | 1:AR:292:ASP:OD2  | 2.38                     | 0.41              |
| 1:AS:74:MET:HB3   | 1:CW:155:LEU:HG   | 2.03                     | 0.41              |
| 1:AU:273:ILE:HD12 | 1:AU:283:ILE:HD11 | 2.03                     | 0.41              |
| 1:AW:213:PHE:CD1  | 1:AW:345:THR:HG22 | 2.55                     | 0.41              |
| 1:AX:110:MET:N    | 1:AX:110:MET:SD   | 2.93                     | 0.41              |
| 1:BC:65:GLU:OE2   | 1:BV:96:THR:HG21  | 2.21                     | 0.41              |
| 1:BC:213:PHE:HE1  | 1:BC:294:VAL:HG21 | 1.82                     | 0.41              |
| 1:BF:43:ASN:HB3   | 1:DK:98:ASN:OD1   | 2.21                     | 0.41              |
| 1:BI:103:TYR:OH   | 1:DM:145:ASN:OD1  | 2.37                     | 0.41              |
| 1:BI:146:SER:H    | 1:DH:143:LEU:CD1  | 2.34                     | 0.41              |
| 1:BN:52:ASP:OD1   | 1:BN:53:ALA:N     | 2.52                     | 0.41              |
| 1:BR:254:GLY:O    | 1:BR:255:SER:OG   | 2.33                     | 0.41              |
| 1:BS:273:ILE:HD12 | 1:BS:283:ILE:HD11 | 2.03                     | 0.41              |
| 1:BU:103:TYR:CZ   | 1:DP:16:LYS:CB    | 2.96                     | 0.41              |
| 1:CB:40:GLU:OE1   | 1:CB:333:ARG:NH1  | 2.54                     | 0.41              |
| 1:CB:237:ILE:HD11 | 1:CB:241:HIS:HB2  | 2.01                     | 0.41              |
| 1:CD:96:THR:O     | 1:CD:96:THR:HG22  | 2.21                     | 0.41              |
| 1:CG:88:ARG:NH1   | 1:CO:64:VAL:O     | 2.48                     | 0.41              |
| 1:CI:90:VAL:HG12  | 1:CI:91:VAL:N     | 2.36                     | 0.41              |
| 1:CI:208:THR:O    | 1:CI:208:THR:HG22 | 2.20                     | 0.41              |
| 1:CJ:286:ASN:OD1  | 1:CJ:288:TRP:N    | 2.53                     | 0.41              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CK:70:GLU:O     | 1:CZ:90:VAL:HG11  | 2.21                     | 0.41              |
| 1:CL:73:GLU:HG3   | 1:CL:73:GLU:O     | 2.20                     | 0.41              |
| 1:CR:290:PRO:O    | 1:CR:291:THR:HG22 | 2.21                     | 0.41              |
| 1:CS:18:SER:OG    | 1:CW:46:ILE:O     | 2.39                     | 0.41              |
| 1:CS:30:ASP:N     | 1:CS:30:ASP:OD1   | 2.53                     | 0.41              |
| 1:CU:91:VAL:HG13  | 1:CU:91:VAL:O     | 2.20                     | 0.41              |
| 1:CW:70:GLU:HA    | 1:CW:70:GLU:OE2   | 2.21                     | 0.41              |
| 1:CX:252:THR:HG1  | 1:CX:256:ARG:H    | 1.69                     | 0.41              |
| 1:CY:336:ASN:O    | 1:CY:339:ALA:N    | 2.48                     | 0.41              |
| 1:CZ:203:ASN:O    | 1:CZ:206:ASN:ND2  | 2.51                     | 0.41              |
| 1:CZ:293:ALA:HB2  | 1:CZ:344:PHE:HD1  | 1.85                     | 0.41              |
| 1:CZ:298:ARG:O    | 1:CZ:299:SER:HB3  | 2.21                     | 0.41              |
| 1:DA:23:ILE:HG22  | 1:DF:50:GLN:O     | 2.21                     | 0.41              |
| 1:DA:315:LEU:N    | 1:DA:315:LEU:HD23 | 2.36                     | 0.41              |
| 1:DD:79:ILE:H     | 1:DD:79:ILE:HD12  | 1.85                     | 0.41              |
| 1:DE:326:ILE:HG23 | 1:DE:326:ILE:O    | 2.21                     | 0.41              |
| 1:DG:98:ASN:O     | 1:DG:100:THR:HG23 | 2.21                     | 0.41              |
| 1:DG:152:VAL:O    | 1:DG:152:VAL:HG22 | 2.20                     | 0.41              |
| 1:DH:142:TYR:O    | 1:DH:143:LEU:HB2  | 2.21                     | 0.41              |
| 1:DJ:273:ILE:O    | 1:DJ:281:TYR:N    | 2.54                     | 0.41              |
| 1:DL:231:GLU:N    | 1:DL:231:GLU:OE2  | 2.54                     | 0.41              |
| 1:DO:56:SER:OG    | 1:DO:57:VAL:N     | 2.54                     | 0.41              |
| 1:DO:213:PHE:HD1  | 1:DO:218:ILE:HD11 | 1.86                     | 0.41              |
| 1:DP:31:THR:CG2   | 1:DP:34:VAL:HG22  | 2.51                     | 0.41              |
| 1:AB:46:ILE:O     | 1:AF:18:SER:OG    | 2.39                     | 0.41              |
| 1:AC:64:VAL:HG12  | 1:AC:65:GLU:N     | 2.36                     | 0.41              |
| 1:AO:33:PHE:O     | 1:AO:37:THR:HG23  | 2.21                     | 0.41              |
| 1:AP:108:GLU:CA   | 1:CS:7:PHE:CZ     | 3.02                     | 0.41              |
| 1:AP:143:LEU:HB3  | 1:CR:148:ALA:HA   | 1.34                     | 0.41              |
| 1:AS:222:THR:HG22 | 1:AS:281:TYR:CE2  | 2.55                     | 0.41              |
| 1:AT:263:THR:O    | 1:AW:249:GLN:NE2  | 2.54                     | 0.41              |
| 1:AZ:33:PHE:N     | 1:AZ:125:GLU:OE2  | 2.48                     | 0.41              |
| 1:AZ:78:VAL:HG12  | 1:AZ:79:ILE:N     | 2.36                     | 0.41              |
| 1:AZ:193:THR:HG21 | 1:AZ:227:THR:O    | 2.21                     | 0.41              |
| 1:BA:180:VAL:HG22 | 1:BA:181:VAL:N    | 2.36                     | 0.41              |
| 1:BA:222:THR:HB   | 1:BA:275:ASP:OD2  | 2.20                     | 0.41              |
| 1:BE:64:VAL:HG12  | 1:BE:65:GLU:N     | 2.35                     | 0.41              |
| 1:BI:12:GLN:CA    | 1:DK:96:THR:HG23  | 2.39                     | 0.41              |
| 1:BK:213:PHE:CZ   | 1:BK:237:ILE:HD11 | 2.55                     | 0.41              |
| 1:BU:100:THR:HG22 | 1:DH:42:ILE:H     | 1.16                     | 0.41              |
| 1:CB:95:ASP:O     | 1:CQ:308:ARG:NH2  | 2.54                     | 0.41              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CD:108:GLU:OE2  | 1:CZ:12:GLN:NE2   | 2.54                     | 0.41              |
| 1:CD:213:PHE:O    | 1:CD:213:PHE:CG   | 2.74                     | 0.41              |
| 1:CD:237:ILE:O    | 1:CD:285:VAL:HA   | 2.21                     | 0.41              |
| 1:CN:85:GLN:HB2   | 1:CN:164:THR:HG23 | 2.02                     | 0.41              |
| 1:CU:87:LEU:HD23  | 1:CU:87:LEU:H     | 1.85                     | 0.41              |
| 1:CW:127:ILE:HD11 | 1:CZ:60:ASN:HB3   | 2.02                     | 0.41              |
| 1:DC:231:GLU:N    | 1:DC:231:GLU:OE1  | 2.55                     | 0.41              |
| 1:DG:210:ASN:O    | 1:DG:210:ASN:ND2  | 2.54                     | 0.41              |
| 1:DH:196:VAL:HG12 | 1:DH:198:VAL:O    | 2.21                     | 0.41              |
| 1:DM:117:GLY:O    | 1:DM:120:ILE:HG22 | 2.21                     | 0.41              |
| 1:DM:314:GLU:OE1  | 1:DM:314:GLU:N    | 2.54                     | 0.41              |
| 1:AC:61:ASN:OD1   | 1:AC:63:HIS:NE2   | 2.54                     | 0.40              |
| 1:AE:122:ARG:NH1  | 1:AF:192:ASP:OD1  | 2.48                     | 0.40              |
| 1:AJ:211:ILE:HG23 | 1:AJ:212:GLY:N    | 2.36                     | 0.40              |
| 1:AM:96:THR:OG1   | 1:CR:308:ARG:NH2  | 2.50                     | 0.40              |
| 1:AM:246:ALA:O    | 1:AM:258:ARG:NH1  | 2.49                     | 0.40              |
| 1:AR:305:MET:O    | 1:AR:331:GLY:N    | 2.53                     | 0.40              |
| 1:AS:307:LEU:HD11 | 1:CS:98:ASN:O     | 2.21                     | 0.40              |
| 1:AT:261:GLU:O    | 1:AT:262:ASN:OD1  | 2.39                     | 0.40              |
| 1:BA:136:ASP:OD1  | 1:BA:137:VAL:N    | 2.54                     | 0.40              |
| 1:BB:145:ASN:OD1  | 1:BB:146:SER:N    | 2.53                     | 0.40              |
| 1:BO:237:ILE:CD1  | 1:BO:294:VAL:HG22 | 2.51                     | 0.40              |
| 1:BR:238:ASN:O    | 1:BR:239:PRO:C    | 2.60                     | 0.40              |
| 1:BS:238:ASN:O    | 1:BS:239:PRO:C    | 2.59                     | 0.40              |
| 1:BV:110:MET:N    | 1:BV:110:MET:SD   | 2.94                     | 0.40              |
| 1:BW:168:GLN:NE2  | 1:BW:344:PHE:CZ   | 2.88                     | 0.40              |
| 1:CF:253:GLN:OE1  | 1:CF:253:GLN:N    | 2.44                     | 0.40              |
| 1:CS:21:ASN:OD1   | 1:CS:22:TRP:N     | 2.53                     | 0.40              |
| 1:DF:277:LEU:HD11 | 1:DF:279:GLN:HB2  | 2.03                     | 0.40              |
| 1:DG:177:ALA:N    | 1:DG:180:VAL:O    | 2.49                     | 0.40              |
| 1:DG:296:PHE:N    | 1:DG:341:GLY:O    | 2.54                     | 0.40              |
| 1:DI:21:ASN:O     | 1:DI:21:ASN:ND2   | 2.54                     | 0.40              |
| 1:DJ:293:ALA:O    | 1:DJ:294:VAL:C    | 2.59                     | 0.40              |
| 1:AF:233:ASP:OD1  | 1:AF:233:ASP:N    | 2.53                     | 0.40              |
| 1:AO:83:VAL:HG12  | 1:AO:134:ARG:HG3  | 2.02                     | 0.40              |
| 1:AQ:237:ILE:CD1  | 1:AQ:294:VAL:HG22 | 2.51                     | 0.40              |
| 1:AR:251:ASN:O    | 1:AR:252:THR:HG22 | 2.21                     | 0.40              |
| 1:AS:141:GLN:HA   | 1:CW:141:GLN:NE2  | 2.33                     | 0.40              |
| 1:BK:230:SER:OG   | 1:BK:339:ALA:O    | 2.39                     | 0.40              |
| 1:BS:64:VAL:HG12  | 1:BS:65:GLU:N     | 2.35                     | 0.40              |
| 1:BU:101:ALA:H    | 1:DH:41:SER:C     | 2.24                     | 0.40              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:BV:218:ILE:O    | 1:BV:222:THR:HG23 | 2.21                     | 0.40              |
| 1:BY:266:PHE:O    | 1:BY:266:PHE:CG   | 2.72                     | 0.40              |
| 1:BY:326:ILE:HG22 | 1:BY:327:GLU:N    | 2.35                     | 0.40              |
| 1:CB:52:ASP:OD1   | 1:CB:53:ALA:N     | 2.54                     | 0.40              |
| 1:CC:57:VAL:HG22  | 1:CC:58:ASP:N     | 2.37                     | 0.40              |
| 1:CD:25:VAL:HG23  | 1:CD:25:VAL:O     | 2.21                     | 0.40              |
| 1:CG:136:ASP:OD1  | 1:CG:137:VAL:N    | 2.49                     | 0.40              |
| 1:CN:31:THR:HB    | 1:CN:34:VAL:HG22  | 2.02                     | 0.40              |
| 1:CP:105:ARG:NH2  | 1:CP:108:GLU:OE2  | 2.54                     | 0.40              |
| 1:CP:113:LEU:HD21 | 1:CP:312:ARG:HD3  | 2.03                     | 0.40              |
| 1:CR:82:ASN:OD1   | 1:CR:165:GLY:N    | 2.54                     | 0.40              |
| 1:CT:298:ARG:NH1  | 1:CT:301:ASP:OD1  | 2.52                     | 0.40              |
| 1:CU:279:GLN:OE1  | 1:CU:281:TYR:OH   | 2.39                     | 0.40              |
| 1:CZ:9:SER:O      | 1:CZ:9:SER:OG     | 2.36                     | 0.40              |
| 1:DB:141:GLN:O    | 1:DB:144:THR:OG1  | 2.38                     | 0.40              |
| 1:DD:144:THR:O    | 1:DD:145:ASN:CB   | 2.69                     | 0.40              |
| 1:DH:248:LEU:HD23 | 1:DH:248:LEU:C    | 2.41                     | 0.40              |
| 1:AB:83:VAL:HG22  | 1:AB:84:THR:H     | 1.85                     | 0.40              |
| 1:AG:64:VAL:HG12  | 1:AG:65:GLU:N     | 2.35                     | 0.40              |
| 1:AH:283:ILE:HD12 | 1:AH:283:ILE:N    | 2.36                     | 0.40              |
| 1:AM:299:SER:OG   | 1:AM:299:SER:O    | 2.39                     | 0.40              |
| 1:AO:131:GLY:O    | 1:AO:181:VAL:N    | 2.47                     | 0.40              |
| 1:AP:7:PHE:CE2    | 1:CW:75:LYS:HD2   | 2.57                     | 0.40              |
| 1:AP:79:ILE:HD12  | 1:CR:147:ALA:HB3  | 1.93                     | 0.40              |
| 1:AP:145:ASN:HA   | 1:CR:145:ASN:H    | 1.60                     | 0.40              |
| 1:AS:88:ARG:NE    | 1:AS:327:GLU:OE2  | 2.54                     | 0.40              |
| 1:AS:143:LEU:N    | 1:CW:144:THR:H    | 1.92                     | 0.40              |
| 1:AY:248:LEU:O    | 1:AY:256:ARG:NH2  | 2.53                     | 0.40              |
| 1:BB:219:PHE:O    | 1:BB:222:THR:OG1  | 2.29                     | 0.40              |
| 1:BF:92:ARG:NH2   | 1:BL:74:MET:SD    | 2.94                     | 0.40              |
| 1:BI:144:THR:O    | 1:DP:19:PHE:HZ    | 1.80                     | 0.40              |
| 1:BN:113:LEU:O    | 1:BN:117:GLY:N    | 2.51                     | 0.40              |
| 1:BQ:90:VAL:HG11  | 1:BT:70:GLU:O     | 2.21                     | 0.40              |
| 1:BY:124:LEU:HD13 | 1:BY:330:VAL:HG11 | 2.04                     | 0.40              |
| 1:CA:238:ASN:O    | 1:CA:239:PRO:C    | 2.60                     | 0.40              |
| 1:CB:317:LYS:O    | 1:CB:318:ASP:OD1  | 2.39                     | 0.40              |
| 1:CD:187:GLY:N    | 1:CD:198:VAL:O    | 2.52                     | 0.40              |
| 1:CF:213:PHE:CD1  | 1:CF:218:ILE:HD11 | 2.56                     | 0.40              |
| 1:CM:152:VAL:O    | 1:CM:152:VAL:HG12 | 2.21                     | 0.40              |
| 1:CP:88:ARG:NH1   | 1:CT:65:GLU:O     | 2.54                     | 0.40              |
| 1:CR:87:LEU:HB2   | 1:CR:120:ILE:HD11 | 2.03                     | 0.40              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:CV:259:ILE:HD11 | 1:CY:259:ILE:HB   | 2.02                     | 0.40              |
| 1:CZ:117:GLY:O    | 1:CZ:120:ILE:HG22 | 2.21                     | 0.40              |
| 1:CZ:231:GLU:O    | 1:CZ:232:ALA:HB3  | 2.21                     | 0.40              |
| 1:DD:42:ILE:O     | 1:DD:43:ASN:HB3   | 2.21                     | 0.40              |
| 1:DJ:245:PHE:CD2  | 1:DJ:283:ILE:HD11 | 2.57                     | 0.40              |
| 1:DN:12:GLN:O     | 1:DN:15:LYS:NZ    | 2.54                     | 0.40              |
| 1:DN:25:VAL:HG23  | 1:DN:29:GLN:NE2   | 2.36                     | 0.40              |
| 1:AA:285:VAL:HG11 | 1:AC:277:LEU:HD22 | 2.03                     | 0.40              |
| 1:AO:213:PHE:HB3  | 1:AO:244:ILE:HD13 | 2.03                     | 0.40              |
| 1:AO:225:LEU:HD22 | 1:AO:230:SER:CB   | 2.50                     | 0.40              |
| 1:AP:6:LEU:HA     | 1:CS:93:VAL:N     | 2.37                     | 0.40              |
| 1:AR:218:ILE:O    | 1:AR:222:THR:HG23 | 2.21                     | 0.40              |
| 1:AS:90:VAL:HG11  | 1:AV:70:GLU:O     | 2.21                     | 0.40              |
| 1:AS:164:THR:HG22 | 1:AS:164:THR:O    | 2.21                     | 0.40              |
| 1:AW:11:ASP:O     | 1:BN:76:PRO:HB3   | 2.21                     | 0.40              |
| 1:BB:17:LEU:O     | 1:BB:18:SER:OG    | 2.28                     | 0.40              |
| 1:BF:283:ILE:N    | 1:BF:283:ILE:HD12 | 2.36                     | 0.40              |
| 1:BJ:171:CYS:HG   | 1:BJ:340:SER:HG   | 1.68                     | 0.40              |
| 1:BP:30:ASP:N     | 1:BP:30:ASP:OD1   | 2.54                     | 0.40              |
| 1:BP:251:ASN:O    | 1:BP:252:THR:HG22 | 2.22                     | 0.40              |
| 1:BW:166:ALA:O    | 1:BW:170:LEU:HD23 | 2.22                     | 0.40              |
| 1:BX:322:GLU:N    | 1:BX:322:GLU:OE1  | 2.54                     | 0.40              |
| 1:CA:42:ILE:O     | 1:CA:43:ASN:CB    | 2.70                     | 0.40              |
| 1:CB:64:VAL:HG12  | 1:CB:65:GLU:N     | 2.36                     | 0.40              |
| 1:CE:286:ASN:OD1  | 1:CE:287:ARG:N    | 2.54                     | 0.40              |
| 1:CJ:31:THR:HB    | 1:CJ:34:VAL:HG12  | 2.03                     | 0.40              |
| 1:CL:263:THR:HG22 | 1:CL:265:GLN:H    | 1.85                     | 0.40              |
| 1:CN:33:PHE:CG    | 1:CN:129:LEU:HD21 | 2.56                     | 0.40              |
| 1:CT:81:SER:O     | 1:CT:134:ARG:NH2  | 2.54                     | 0.40              |
| 1:CY:303:THR:OG1  | 1:CY:304:GLN:N    | 2.53                     | 0.40              |
| 1:CZ:162:ARG:O    | 1:CZ:164:THR:HG23 | 2.22                     | 0.40              |
| 1:DB:143:LEU:HD22 | 1:DB:143:LEU:N    | 2.36                     | 0.40              |
| 1:DH:49:TRP:NE1   | 1:DH:334:HIS:O    | 2.54                     | 0.40              |
| 1:DM:47:PHE:CE2   | 1:DM:83:VAL:HG22  | 2.57                     | 0.40              |
| 1:DP:262:ASN:OD1  | 1:DP:263:THR:N    | 2.55                     | 0.40              |
| 1:AA:13:ASN:OD1   | 1:AC:148:ALA:HB2  | 2.21                     | 0.40              |
| 1:AD:143:LEU:HB3  | 1:AL:144:THR:O    | 2.22                     | 0.40              |
| 1:AF:52:ASP:OD1   | 1:AF:53:ALA:N     | 2.48                     | 0.40              |
| 1:AR:186:ASN:OD1  | 1:AR:186:ASN:N    | 2.55                     | 0.40              |
| 1:AS:250:GLU:OE1  | 1:AS:258:ARG:NH1  | 2.50                     | 0.40              |
| 1:AW:6:LEU:HD21   | 1:BK:92:ARG:HH11  | 1.54                     | 0.40              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:AW:104:GLY:HA2  | 1:BK:16:LYS:HE3   | 2.01                     | 0.40              |
| 1:AW:261:GLU:HA   | 1:AW:261:GLU:OE1  | 2.21                     | 0.40              |
| 1:AY:13:ASN:OD1   | 1:BA:148:ALA:HB2  | 2.21                     | 0.40              |
| 1:BG:214:ASP:N    | 1:BG:214:ASP:OD2  | 2.55                     | 0.40              |
| 1:BH:275:ASP:OD1  | 1:BH:279:GLN:N    | 2.43                     | 0.40              |
| 1:BQ:237:ILE:HG22 | 1:BQ:285:VAL:HA   | 2.03                     | 0.40              |
| 1:CA:144:THR:N    | 1:CA:146:SER:OG   | 2.55                     | 0.40              |
| 1:CD:83:VAL:HG22  | 1:CD:84:THR:N     | 2.36                     | 0.40              |
| 1:CN:78:VAL:HG12  | 1:CN:79:ILE:N     | 2.36                     | 0.40              |
| 1:CO:25:VAL:O     | 1:CO:25:VAL:HG13  | 2.20                     | 0.40              |
| 1:CQ:328:MET:HG2  | 1:CQ:330:VAL:HG13 | 2.04                     | 0.40              |
| 1:CR:82:ASN:ND2   | 1:CR:332:LEU:O    | 2.50                     | 0.40              |
| 1:CS:34:VAL:HG13  | 1:CS:39:LYS:HZ3   | 1.86                     | 0.40              |
| 1:CU:141:GLN:O    | 1:CU:144:THR:HG22 | 2.21                     | 0.40              |
| 1:DB:138:LEU:HD23 | 1:DB:141:GLN:O    | 2.22                     | 0.40              |
| 1:DC:90:VAL:O     | 1:DC:90:VAL:HG13  | 2.21                     | 0.40              |
| 1:DD:86:ILE:HA    | 1:DD:329:GLU:HA   | 2.03                     | 0.40              |
| 1:DK:219:PHE:O    | 1:DK:223:LEU:HD13 | 2.21                     | 0.40              |
| 1:DM:238:ASN:ND2  | 1:DM:291:THR:HG22 | 2.36                     | 0.40              |
| 1:DM:270:VAL:O    | 1:DM:270:VAL:HG13 | 2.22                     | 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    | 345/352 (98%) | 327 (95%) | 18 (5%) | 0        | 100         | 100 |
| 1   | AB    | 345/352 (98%) | 319 (92%) | 26 (8%) | 0        | 100         | 100 |
| 1   | AC    | 342/352 (97%) | 320 (94%) | 22 (6%) | 0        | 100         | 100 |
| 1   | AD    | 345/352 (98%) | 321 (93%) | 24 (7%) | 0        | 100         | 100 |

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| Mol | Chain | Analysed      | Favoured  | Allowed  | Outliers | Percentiles |     |
|-----|-------|---------------|-----------|----------|----------|-------------|-----|
| 1   | AE    | 344/352 (98%) | 308 (90%) | 36 (10%) | 0        | 100         | 100 |
| 1   | AF    | 344/352 (98%) | 318 (92%) | 26 (8%)  | 0        | 100         | 100 |
| 1   | AG    | 345/352 (98%) | 314 (91%) | 31 (9%)  | 0        | 100         | 100 |
| 1   | AH    | 345/352 (98%) | 319 (92%) | 26 (8%)  | 0        | 100         | 100 |
| 1   | AI    | 345/352 (98%) | 324 (94%) | 21 (6%)  | 0        | 100         | 100 |
| 1   | AJ    | 345/352 (98%) | 313 (91%) | 32 (9%)  | 0        | 100         | 100 |
| 1   | AK    | 345/352 (98%) | 317 (92%) | 28 (8%)  | 0        | 100         | 100 |
| 1   | AL    | 345/352 (98%) | 313 (91%) | 32 (9%)  | 0        | 100         | 100 |
| 1   | AM    | 342/352 (97%) | 319 (93%) | 22 (6%)  | 1 (0%)   | 41          | 76  |
| 1   | AN    | 342/352 (97%) | 311 (91%) | 31 (9%)  | 0        | 100         | 100 |
| 1   | AO    | 342/352 (97%) | 315 (92%) | 27 (8%)  | 0        | 100         | 100 |
| 1   | AP    | 345/352 (98%) | 319 (92%) | 26 (8%)  | 0        | 100         | 100 |
| 1   | AQ    | 345/352 (98%) | 321 (93%) | 24 (7%)  | 0        | 100         | 100 |
| 1   | AR    | 345/352 (98%) | 323 (94%) | 22 (6%)  | 0        | 100         | 100 |
| 1   | AS    | 344/352 (98%) | 316 (92%) | 28 (8%)  | 0        | 100         | 100 |
| 1   | AT    | 344/352 (98%) | 309 (90%) | 35 (10%) | 0        | 100         | 100 |
| 1   | AU    | 344/352 (98%) | 300 (87%) | 44 (13%) | 0        | 100         | 100 |
| 1   | AV    | 344/352 (98%) | 320 (93%) | 24 (7%)  | 0        | 100         | 100 |
| 1   | AW    | 344/352 (98%) | 321 (93%) | 23 (7%)  | 0        | 100         | 100 |
| 1   | AX    | 344/352 (98%) | 321 (93%) | 23 (7%)  | 0        | 100         | 100 |
| 1   | AY    | 345/352 (98%) | 327 (95%) | 18 (5%)  | 0        | 100         | 100 |
| 1   | AZ    | 345/352 (98%) | 318 (92%) | 27 (8%)  | 0        | 100         | 100 |
| 1   | BA    | 342/352 (97%) | 320 (94%) | 22 (6%)  | 0        | 100         | 100 |
| 1   | BB    | 345/352 (98%) | 320 (93%) | 25 (7%)  | 0        | 100         | 100 |
| 1   | BC    | 344/352 (98%) | 308 (90%) | 36 (10%) | 0        | 100         | 100 |
| 1   | BD    | 344/352 (98%) | 318 (92%) | 26 (8%)  | 0        | 100         | 100 |
| 1   | BE    | 345/352 (98%) | 314 (91%) | 31 (9%)  | 0        | 100         | 100 |
| 1   | BF    | 345/352 (98%) | 319 (92%) | 26 (8%)  | 0        | 100         | 100 |
| 1   | BG    | 345/352 (98%) | 323 (94%) | 22 (6%)  | 0        | 100         | 100 |
| 1   | BH    | 345/352 (98%) | 314 (91%) | 31 (9%)  | 0        | 100         | 100 |
| 1   | BI    | 345/352 (98%) | 317 (92%) | 28 (8%)  | 0        | 100         | 100 |

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| Mol | Chain | Analysed      | Favoured  | Allowed  | Outliers | Percentiles |     |
|-----|-------|---------------|-----------|----------|----------|-------------|-----|
| 1   | BJ    | 345/352 (98%) | 313 (91%) | 32 (9%)  | 0        | 100         | 100 |
| 1   | BK    | 342/352 (97%) | 319 (93%) | 22 (6%)  | 1 (0%)   | 41          | 76  |
| 1   | BL    | 342/352 (97%) | 311 (91%) | 31 (9%)  | 0        | 100         | 100 |
| 1   | BM    | 342/352 (97%) | 315 (92%) | 27 (8%)  | 0        | 100         | 100 |
| 1   | BN    | 345/352 (98%) | 318 (92%) | 27 (8%)  | 0        | 100         | 100 |
| 1   | BO    | 345/352 (98%) | 321 (93%) | 24 (7%)  | 0        | 100         | 100 |
| 1   | BP    | 345/352 (98%) | 323 (94%) | 22 (6%)  | 0        | 100         | 100 |
| 1   | BQ    | 344/352 (98%) | 316 (92%) | 28 (8%)  | 0        | 100         | 100 |
| 1   | BR    | 344/352 (98%) | 308 (90%) | 36 (10%) | 0        | 100         | 100 |
| 1   | BS    | 344/352 (98%) | 302 (88%) | 42 (12%) | 0        | 100         | 100 |
| 1   | BT    | 344/352 (98%) | 320 (93%) | 24 (7%)  | 0        | 100         | 100 |
| 1   | BU    | 344/352 (98%) | 319 (93%) | 25 (7%)  | 0        | 100         | 100 |
| 1   | BV    | 344/352 (98%) | 321 (93%) | 23 (7%)  | 0        | 100         | 100 |
| 1   | BW    | 343/352 (97%) | 285 (83%) | 58 (17%) | 0        | 100         | 100 |
| 1   | BX    | 344/352 (98%) | 284 (83%) | 59 (17%) | 1 (0%)   | 41          | 76  |
| 1   | BY    | 345/352 (98%) | 309 (90%) | 36 (10%) | 0        | 100         | 100 |
| 1   | BZ    | 343/352 (97%) | 307 (90%) | 36 (10%) | 0        | 100         | 100 |
| 1   | CA    | 344/352 (98%) | 275 (80%) | 65 (19%) | 4 (1%)   | 13          | 50  |
| 1   | CB    | 344/352 (98%) | 298 (87%) | 46 (13%) | 0        | 100         | 100 |
| 1   | CC    | 345/352 (98%) | 288 (84%) | 56 (16%) | 1 (0%)   | 41          | 76  |
| 1   | CD    | 339/352 (96%) | 305 (90%) | 34 (10%) | 0        | 100         | 100 |
| 1   | CE    | 344/352 (98%) | 322 (94%) | 22 (6%)  | 0        | 100         | 100 |
| 1   | CF    | 340/352 (97%) | 306 (90%) | 34 (10%) | 0        | 100         | 100 |
| 1   | CG    | 345/352 (98%) | 276 (80%) | 68 (20%) | 1 (0%)   | 41          | 76  |
| 1   | CH    | 345/352 (98%) | 314 (91%) | 31 (9%)  | 0        | 100         | 100 |
| 1   | CI    | 344/352 (98%) | 318 (92%) | 26 (8%)  | 0        | 100         | 100 |
| 1   | CJ    | 345/352 (98%) | 315 (91%) | 30 (9%)  | 0        | 100         | 100 |
| 1   | CK    | 345/352 (98%) | 264 (76%) | 81 (24%) | 0        | 100         | 100 |
| 1   | CL    | 341/352 (97%) | 294 (86%) | 47 (14%) | 0        | 100         | 100 |
| 1   | CM    | 344/352 (98%) | 324 (94%) | 20 (6%)  | 0        | 100         | 100 |
| 1   | CN    | 340/352 (97%) | 310 (91%) | 30 (9%)  | 0        | 100         | 100 |

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| Mol | Chain | Analysed          | Favoured    | Allowed    | Outliers | Percentiles |     |
|-----|-------|-------------------|-------------|------------|----------|-------------|-----|
| 1   | CO    | 339/352 (96%)     | 286 (84%)   | 53 (16%)   | 0        | 100         | 100 |
| 1   | CP    | 343/352 (97%)     | 306 (89%)   | 37 (11%)   | 0        | 100         | 100 |
| 1   | CQ    | 344/352 (98%)     | 313 (91%)   | 31 (9%)    | 0        | 100         | 100 |
| 1   | CR    | 343/352 (97%)     | 307 (90%)   | 36 (10%)   | 0        | 100         | 100 |
| 1   | CS    | 345/352 (98%)     | 298 (86%)   | 47 (14%)   | 0        | 100         | 100 |
| 1   | CT    | 344/352 (98%)     | 312 (91%)   | 32 (9%)    | 0        | 100         | 100 |
| 1   | CU    | 344/352 (98%)     | 319 (93%)   | 25 (7%)    | 0        | 100         | 100 |
| 1   | CV    | 345/352 (98%)     | 323 (94%)   | 22 (6%)    | 0        | 100         | 100 |
| 1   | CW    | 344/352 (98%)     | 284 (83%)   | 60 (17%)   | 0        | 100         | 100 |
| 1   | CX    | 344/352 (98%)     | 328 (95%)   | 16 (5%)    | 0        | 100         | 100 |
| 1   | CY    | 345/352 (98%)     | 311 (90%)   | 34 (10%)   | 0        | 100         | 100 |
| 1   | CZ    | 345/352 (98%)     | 285 (83%)   | 60 (17%)   | 0        | 100         | 100 |
| 1   | DA    | 344/352 (98%)     | 288 (84%)   | 54 (16%)   | 2 (1%)   | 25          | 64  |
| 1   | DB    | 345/352 (98%)     | 317 (92%)   | 28 (8%)    | 0        | 100         | 100 |
| 1   | DC    | 343/352 (97%)     | 307 (90%)   | 36 (10%)   | 0        | 100         | 100 |
| 1   | DD    | 344/352 (98%)     | 290 (84%)   | 51 (15%)   | 3 (1%)   | 17          | 56  |
| 1   | DE    | 344/352 (98%)     | 302 (88%)   | 42 (12%)   | 0        | 100         | 100 |
| 1   | DF    | 345/352 (98%)     | 286 (83%)   | 58 (17%)   | 1 (0%)   | 41          | 76  |
| 1   | DG    | 339/352 (96%)     | 302 (89%)   | 37 (11%)   | 0        | 100         | 100 |
| 1   | DH    | 344/352 (98%)     | 316 (92%)   | 28 (8%)    | 0        | 100         | 100 |
| 1   | DI    | 345/352 (98%)     | 313 (91%)   | 32 (9%)    | 0        | 100         | 100 |
| 1   | DJ    | 344/352 (98%)     | 322 (94%)   | 22 (6%)    | 0        | 100         | 100 |
| 1   | DK    | 341/352 (97%)     | 303 (89%)   | 38 (11%)   | 0        | 100         | 100 |
| 1   | DL    | 344/352 (98%)     | 324 (94%)   | 20 (6%)    | 0        | 100         | 100 |
| 1   | DM    | 343/352 (97%)     | 312 (91%)   | 31 (9%)    | 0        | 100         | 100 |
| 1   | DN    | 344/352 (98%)     | 326 (95%)   | 18 (5%)    | 0        | 100         | 100 |
| 1   | DO    | 344/352 (98%)     | 316 (92%)   | 28 (8%)    | 0        | 100         | 100 |
| 1   | DP    | 344/352 (98%)     | 327 (95%)   | 17 (5%)    | 0        | 100         | 100 |
| 1   | DQ    | 344/352 (98%)     | 319 (93%)   | 25 (7%)    | 0        | 100         | 100 |
| All | All   | 32666/33440 (98%) | 29548 (90%) | 3103 (10%) | 15 (0%)  | 100         | 100 |

All (15) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | CA    | 44  | GLN  |
| 1   | CC    | 168 | GLN  |
| 1   | DD    | 45  | THR  |
| 1   | DD    | 145 | ASN  |
| 1   | AM    | 142 | TYR  |
| 1   | BK    | 142 | TYR  |
| 1   | BX    | 20  | ALA  |
| 1   | CA    | 145 | ASN  |
| 1   | CG    | 204 | ALA  |
| 1   | DD    | 44  | GLN  |
| 1   | CA    | 45  | THR  |
| 1   | DA    | 20  | ALA  |
| 1   | DF    | 168 | GLN  |
| 1   | DA    | 59  | GLY  |
| 1   | CA    | 42  | ILE  |

### 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    | 286/287 (100%) | 279 (98%)  | 7 (2%)   | 49          | 69 |
| 1   | AB    | 286/287 (100%) | 284 (99%)  | 2 (1%)   | 84          | 90 |
| 1   | AC    | 283/287 (99%)  | 282 (100%) | 1 (0%)   | 91          | 94 |
| 1   | AD    | 286/287 (100%) | 281 (98%)  | 5 (2%)   | 60          | 78 |
| 1   | AE    | 285/287 (99%)  | 282 (99%)  | 3 (1%)   | 73          | 84 |
| 1   | AF    | 285/287 (99%)  | 282 (99%)  | 3 (1%)   | 73          | 84 |
| 1   | AG    | 286/287 (100%) | 282 (99%)  | 4 (1%)   | 67          | 80 |
| 1   | AH    | 286/287 (100%) | 285 (100%) | 1 (0%)   | 92          | 95 |
| 1   | AI    | 286/287 (100%) | 283 (99%)  | 3 (1%)   | 76          | 86 |
| 1   | AJ    | 286/287 (100%) | 284 (99%)  | 2 (1%)   | 84          | 90 |
| 1   | AK    | 286/287 (100%) | 282 (99%)  | 4 (1%)   | 67          | 80 |
| 1   | AL    | 286/287 (100%) | 281 (98%)  | 5 (2%)   | 60          | 78 |
| 1   | AM    | 283/287 (99%)  | 280 (99%)  | 3 (1%)   | 73          | 84 |

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| Mol | Chain | Analysed       | Rotameric  | Outliers | Percentiles |     |
|-----|-------|----------------|------------|----------|-------------|-----|
| 1   | AN    | 283/287 (99%)  | 281 (99%)  | 2 (1%)   | 84          | 90  |
| 1   | AO    | 283/287 (99%)  | 278 (98%)  | 5 (2%)   | 59          | 76  |
| 1   | AP    | 286/287 (100%) | 284 (99%)  | 2 (1%)   | 84          | 90  |
| 1   | AQ    | 286/287 (100%) | 280 (98%)  | 6 (2%)   | 53          | 71  |
| 1   | AR    | 286/287 (100%) | 281 (98%)  | 5 (2%)   | 60          | 78  |
| 1   | AS    | 285/287 (99%)  | 282 (99%)  | 3 (1%)   | 73          | 84  |
| 1   | AT    | 285/287 (99%)  | 285 (100%) | 0        | 100         | 100 |
| 1   | AU    | 285/287 (99%)  | 280 (98%)  | 5 (2%)   | 59          | 76  |
| 1   | AV    | 285/287 (99%)  | 282 (99%)  | 3 (1%)   | 73          | 84  |
| 1   | AW    | 285/287 (99%)  | 284 (100%) | 1 (0%)   | 91          | 94  |
| 1   | AX    | 285/287 (99%)  | 281 (99%)  | 4 (1%)   | 67          | 80  |
| 1   | AY    | 286/287 (100%) | 279 (98%)  | 7 (2%)   | 49          | 69  |
| 1   | AZ    | 286/287 (100%) | 284 (99%)  | 2 (1%)   | 84          | 90  |
| 1   | BA    | 283/287 (99%)  | 282 (100%) | 1 (0%)   | 91          | 94  |
| 1   | BB    | 286/287 (100%) | 281 (98%)  | 5 (2%)   | 60          | 78  |
| 1   | BC    | 285/287 (99%)  | 282 (99%)  | 3 (1%)   | 73          | 84  |
| 1   | BD    | 285/287 (99%)  | 282 (99%)  | 3 (1%)   | 73          | 84  |
| 1   | BE    | 286/287 (100%) | 282 (99%)  | 4 (1%)   | 67          | 80  |
| 1   | BF    | 286/287 (100%) | 285 (100%) | 1 (0%)   | 92          | 95  |
| 1   | BG    | 286/287 (100%) | 283 (99%)  | 3 (1%)   | 76          | 86  |
| 1   | BH    | 286/287 (100%) | 284 (99%)  | 2 (1%)   | 84          | 90  |
| 1   | BI    | 286/287 (100%) | 282 (99%)  | 4 (1%)   | 67          | 80  |
| 1   | BJ    | 286/287 (100%) | 281 (98%)  | 5 (2%)   | 60          | 78  |
| 1   | BK    | 283/287 (99%)  | 280 (99%)  | 3 (1%)   | 73          | 84  |
| 1   | BL    | 283/287 (99%)  | 281 (99%)  | 2 (1%)   | 84          | 90  |
| 1   | BM    | 283/287 (99%)  | 278 (98%)  | 5 (2%)   | 59          | 76  |
| 1   | BN    | 286/287 (100%) | 284 (99%)  | 2 (1%)   | 84          | 90  |
| 1   | BO    | 286/287 (100%) | 281 (98%)  | 5 (2%)   | 60          | 78  |
| 1   | BP    | 286/287 (100%) | 281 (98%)  | 5 (2%)   | 60          | 78  |
| 1   | BQ    | 285/287 (99%)  | 282 (99%)  | 3 (1%)   | 73          | 84  |
| 1   | BR    | 285/287 (99%)  | 285 (100%) | 0        | 100         | 100 |

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| Mol | Chain | Analysed       | Rotameric  | Outliers | Percentiles |     |
|-----|-------|----------------|------------|----------|-------------|-----|
| 1   | BS    | 285/287 (99%)  | 280 (98%)  | 5 (2%)   | 59          | 76  |
| 1   | BT    | 285/287 (99%)  | 282 (99%)  | 3 (1%)   | 73          | 84  |
| 1   | BU    | 285/287 (99%)  | 284 (100%) | 1 (0%)   | 91          | 94  |
| 1   | BV    | 285/287 (99%)  | 281 (99%)  | 4 (1%)   | 67          | 80  |
| 1   | BW    | 285/287 (99%)  | 284 (100%) | 1 (0%)   | 91          | 94  |
| 1   | BX    | 285/287 (99%)  | 284 (100%) | 1 (0%)   | 91          | 94  |
| 1   | BY    | 286/287 (100%) | 286 (100%) | 0        | 100         | 100 |
| 1   | BZ    | 284/287 (99%)  | 284 (100%) | 0        | 100         | 100 |
| 1   | CA    | 285/287 (99%)  | 285 (100%) | 0        | 100         | 100 |
| 1   | CB    | 285/287 (99%)  | 285 (100%) | 0        | 100         | 100 |
| 1   | CC    | 286/287 (100%) | 286 (100%) | 0        | 100         | 100 |
| 1   | CD    | 283/287 (99%)  | 283 (100%) | 0        | 100         | 100 |
| 1   | CE    | 285/287 (99%)  | 285 (100%) | 0        | 100         | 100 |
| 1   | CF    | 281/287 (98%)  | 281 (100%) | 0        | 100         | 100 |
| 1   | CG    | 286/287 (100%) | 286 (100%) | 0        | 100         | 100 |
| 1   | CH    | 286/287 (100%) | 284 (99%)  | 2 (1%)   | 84          | 90  |
| 1   | CI    | 285/287 (99%)  | 283 (99%)  | 2 (1%)   | 84          | 90  |
| 1   | CJ    | 286/287 (100%) | 286 (100%) | 0        | 100         | 100 |
| 1   | CK    | 286/287 (100%) | 286 (100%) | 0        | 100         | 100 |
| 1   | CL    | 282/287 (98%)  | 282 (100%) | 0        | 100         | 100 |
| 1   | CM    | 285/287 (99%)  | 283 (99%)  | 2 (1%)   | 84          | 90  |
| 1   | CN    | 281/287 (98%)  | 281 (100%) | 0        | 100         | 100 |
| 1   | CO    | 280/287 (98%)  | 279 (100%) | 1 (0%)   | 91          | 94  |
| 1   | CP    | 284/287 (99%)  | 284 (100%) | 0        | 100         | 100 |
| 1   | CQ    | 285/287 (99%)  | 283 (99%)  | 2 (1%)   | 84          | 90  |
| 1   | CR    | 284/287 (99%)  | 283 (100%) | 1 (0%)   | 91          | 94  |
| 1   | CS    | 286/287 (100%) | 285 (100%) | 1 (0%)   | 92          | 95  |
| 1   | CT    | 285/287 (99%)  | 284 (100%) | 1 (0%)   | 91          | 94  |
| 1   | CU    | 285/287 (99%)  | 283 (99%)  | 2 (1%)   | 84          | 90  |
| 1   | CV    | 286/287 (100%) | 286 (100%) | 0        | 100         | 100 |
| 1   | CW    | 285/287 (99%)  | 285 (100%) | 0        | 100         | 100 |

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| Mol | Chain | Analysed          | Rotameric   | Outliers | Percentiles |     |
|-----|-------|-------------------|-------------|----------|-------------|-----|
| 1   | CX    | 285/287 (99%)     | 285 (100%)  | 0        | 100         | 100 |
| 1   | CY    | 286/287 (100%)    | 286 (100%)  | 0        | 100         | 100 |
| 1   | CZ    | 286/287 (100%)    | 286 (100%)  | 0        | 100         | 100 |
| 1   | DA    | 285/287 (99%)     | 285 (100%)  | 0        | 100         | 100 |
| 1   | DB    | 286/287 (100%)    | 286 (100%)  | 0        | 100         | 100 |
| 1   | DC    | 284/287 (99%)     | 284 (100%)  | 0        | 100         | 100 |
| 1   | DD    | 285/287 (99%)     | 285 (100%)  | 0        | 100         | 100 |
| 1   | DE    | 285/287 (99%)     | 284 (100%)  | 1 (0%)   | 91          | 94  |
| 1   | DF    | 286/287 (100%)    | 285 (100%)  | 1 (0%)   | 92          | 95  |
| 1   | DG    | 283/287 (99%)     | 283 (100%)  | 0        | 100         | 100 |
| 1   | DH    | 285/287 (99%)     | 285 (100%)  | 0        | 100         | 100 |
| 1   | DI    | 286/287 (100%)    | 286 (100%)  | 0        | 100         | 100 |
| 1   | DJ    | 285/287 (99%)     | 285 (100%)  | 0        | 100         | 100 |
| 1   | DK    | 282/287 (98%)     | 282 (100%)  | 0        | 100         | 100 |
| 1   | DL    | 285/287 (99%)     | 285 (100%)  | 0        | 100         | 100 |
| 1   | DM    | 284/287 (99%)     | 284 (100%)  | 0        | 100         | 100 |
| 1   | DN    | 285/287 (99%)     | 285 (100%)  | 0        | 100         | 100 |
| 1   | DO    | 285/287 (99%)     | 285 (100%)  | 0        | 100         | 100 |
| 1   | DP    | 285/287 (99%)     | 285 (100%)  | 0        | 100         | 100 |
| 1   | DQ    | 285/287 (99%)     | 285 (100%)  | 0        | 100         | 100 |
| All | All   | 27068/27265 (99%) | 26893 (99%) | 175 (1%) | 86          | 92  |

All (175) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | AA    | 7   | PHE  |
| 1   | AA    | 19  | PHE  |
| 1   | AA    | 155 | LEU  |
| 1   | AA    | 176 | LEU  |
| 1   | AA    | 243 | LYS  |
| 1   | AA    | 291 | THR  |
| 1   | AA    | 313 | THR  |
| 1   | AB    | 21  | ASN  |
| 1   | AB    | 126 | LYS  |
| 1   | AC    | 287 | ARG  |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | AD           | 7          | PHE         |
| 1          | AD           | 19         | PHE         |
| 1          | AD           | 68         | ARG         |
| 1          | AD           | 185        | LYS         |
| 1          | AD           | 186        | ASN         |
| 1          | AE           | 19         | PHE         |
| 1          | AE           | 21         | ASN         |
| 1          | AE           | 143        | LEU         |
| 1          | AF           | 19         | PHE         |
| 1          | AF           | 129        | LEU         |
| 1          | AF           | 145        | ASN         |
| 1          | AG           | 19         | PHE         |
| 1          | AG           | 155        | LEU         |
| 1          | AG           | 210        | ASN         |
| 1          | AG           | 213        | PHE         |
| 1          | AH           | 336        | ASN         |
| 1          | AI           | 26         | LEU         |
| 1          | AI           | 213        | PHE         |
| 1          | AI           | 349        | LYS         |
| 1          | AJ           | 7          | PHE         |
| 1          | AJ           | 60         | ASN         |
| 1          | AK           | 58         | ASP         |
| 1          | AK           | 60         | ASN         |
| 1          | AK           | 213        | PHE         |
| 1          | AK           | 259        | ILE         |
| 1          | AL           | 19         | PHE         |
| 1          | AL           | 60         | ASN         |
| 1          | AL           | 83         | VAL         |
| 1          | AL           | 145        | ASN         |
| 1          | AL           | 167        | PHE         |
| 1          | AM           | 19         | PHE         |
| 1          | AM           | 142        | TYR         |
| 1          | AM           | 213        | PHE         |
| 1          | AN           | 19         | PHE         |
| 1          | AN           | 107        | ARG         |
| 1          | AO           | 13         | ASN         |
| 1          | AO           | 19         | PHE         |
| 1          | AO           | 107        | ARG         |
| 1          | AO           | 213        | PHE         |
| 1          | AO           | 250        | GLU         |
| 1          | AP           | 19         | PHE         |
| 1          | AP           | 213        | PHE         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | AQ           | 19         | PHE         |
| 1          | AQ           | 140        | ASP         |
| 1          | AQ           | 143        | LEU         |
| 1          | AQ           | 210        | ASN         |
| 1          | AQ           | 274        | THR         |
| 1          | AQ           | 282        | LYS         |
| 1          | AR           | 7          | PHE         |
| 1          | AR           | 98         | ASN         |
| 1          | AR           | 186        | ASN         |
| 1          | AR           | 213        | PHE         |
| 1          | AR           | 258        | ARG         |
| 1          | AS           | 19         | PHE         |
| 1          | AS           | 68         | ARG         |
| 1          | AS           | 275        | ASP         |
| 1          | AU           | 19         | PHE         |
| 1          | AU           | 142        | TYR         |
| 1          | AU           | 143        | LEU         |
| 1          | AU           | 213        | PHE         |
| 1          | AU           | 275        | ASP         |
| 1          | AV           | 19         | PHE         |
| 1          | AV           | 141        | GLN         |
| 1          | AV           | 243        | LYS         |
| 1          | AW           | 258        | ARG         |
| 1          | AX           | 7          | PHE         |
| 1          | AX           | 19         | PHE         |
| 1          | AX           | 123        | ASP         |
| 1          | AX           | 223        | LEU         |
| 1          | AY           | 7          | PHE         |
| 1          | AY           | 19         | PHE         |
| 1          | AY           | 155        | LEU         |
| 1          | AY           | 176        | LEU         |
| 1          | AY           | 243        | LYS         |
| 1          | AY           | 291        | THR         |
| 1          | AY           | 313        | THR         |
| 1          | AZ           | 21         | ASN         |
| 1          | AZ           | 126        | LYS         |
| 1          | BA           | 287        | ARG         |
| 1          | BB           | 7          | PHE         |
| 1          | BB           | 19         | PHE         |
| 1          | BB           | 68         | ARG         |
| 1          | BB           | 185        | LYS         |
| 1          | BB           | 186        | ASN         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | BC           | 19         | PHE         |
| 1          | BC           | 21         | ASN         |
| 1          | BC           | 143        | LEU         |
| 1          | BD           | 19         | PHE         |
| 1          | BD           | 129        | LEU         |
| 1          | BD           | 145        | ASN         |
| 1          | BE           | 19         | PHE         |
| 1          | BE           | 155        | LEU         |
| 1          | BE           | 210        | ASN         |
| 1          | BE           | 213        | PHE         |
| 1          | BF           | 336        | ASN         |
| 1          | BG           | 26         | LEU         |
| 1          | BG           | 213        | PHE         |
| 1          | BG           | 349        | LYS         |
| 1          | BH           | 7          | PHE         |
| 1          | BH           | 60         | ASN         |
| 1          | BI           | 58         | ASP         |
| 1          | BI           | 60         | ASN         |
| 1          | BI           | 213        | PHE         |
| 1          | BI           | 259        | ILE         |
| 1          | BJ           | 19         | PHE         |
| 1          | BJ           | 60         | ASN         |
| 1          | BJ           | 83         | VAL         |
| 1          | BJ           | 145        | ASN         |
| 1          | BJ           | 167        | PHE         |
| 1          | BK           | 19         | PHE         |
| 1          | BK           | 142        | TYR         |
| 1          | BK           | 213        | PHE         |
| 1          | BL           | 19         | PHE         |
| 1          | BL           | 107        | ARG         |
| 1          | BM           | 13         | ASN         |
| 1          | BM           | 19         | PHE         |
| 1          | BM           | 107        | ARG         |
| 1          | BM           | 213        | PHE         |
| 1          | BM           | 250        | GLU         |
| 1          | BN           | 19         | PHE         |
| 1          | BN           | 213        | PHE         |
| 1          | BO           | 19         | PHE         |
| 1          | BO           | 143        | LEU         |
| 1          | BO           | 210        | ASN         |
| 1          | BO           | 274        | THR         |
| 1          | BO           | 282        | LYS         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | BP           | 7          | PHE         |
| 1          | BP           | 98         | ASN         |
| 1          | BP           | 186        | ASN         |
| 1          | BP           | 213        | PHE         |
| 1          | BP           | 258        | ARG         |
| 1          | BQ           | 19         | PHE         |
| 1          | BQ           | 68         | ARG         |
| 1          | BQ           | 275        | ASP         |
| 1          | BS           | 19         | PHE         |
| 1          | BS           | 142        | TYR         |
| 1          | BS           | 143        | LEU         |
| 1          | BS           | 213        | PHE         |
| 1          | BS           | 275        | ASP         |
| 1          | BT           | 19         | PHE         |
| 1          | BT           | 141        | GLN         |
| 1          | BT           | 243        | LYS         |
| 1          | BU           | 258        | ARG         |
| 1          | BV           | 7          | PHE         |
| 1          | BV           | 19         | PHE         |
| 1          | BV           | 123        | ASP         |
| 1          | BV           | 223        | LEU         |
| 1          | BW           | 105        | ARG         |
| 1          | BX           | 105        | ARG         |
| 1          | CH           | 107        | ARG         |
| 1          | CH           | 256        | ARG         |
| 1          | CI           | 92         | ARG         |
| 1          | CI           | 122        | ARG         |
| 1          | CM           | 122        | ARG         |
| 1          | CM           | 264        | LYS         |
| 1          | CO           | 68         | ARG         |
| 1          | CQ           | 122        | ARG         |
| 1          | CQ           | 298        | ARG         |
| 1          | CR           | 92         | ARG         |
| 1          | CS           | 107        | ARG         |
| 1          | CT           | 256        | ARG         |
| 1          | CU           | 105        | ARG         |
| 1          | CU           | 298        | ARG         |
| 1          | DE           | 312        | ARG         |
| 1          | DF           | 311        | LYS         |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (169) such sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | AA    | 206 | ASN  |
| 1   | AC    | 145 | ASN  |
| 1   | AD    | 98  | ASN  |
| 1   | AE    | 238 | ASN  |
| 1   | AE    | 251 | ASN  |
| 1   | AF    | 206 | ASN  |
| 1   | AG    | 210 | ASN  |
| 1   | AH    | 156 | ASN  |
| 1   | AH    | 202 | GLN  |
| 1   | AH    | 203 | ASN  |
| 1   | AH    | 206 | ASN  |
| 1   | AH    | 210 | ASN  |
| 1   | AH    | 238 | ASN  |
| 1   | AI    | 253 | GLN  |
| 1   | AJ    | 141 | GLN  |
| 1   | AK    | 206 | ASN  |
| 1   | AK    | 251 | ASN  |
| 1   | AK    | 262 | ASN  |
| 1   | AM    | 262 | ASN  |
| 1   | AO    | 102 | ASN  |
| 1   | AO    | 210 | ASN  |
| 1   | AP    | 12  | GLN  |
| 1   | AP    | 60  | ASN  |
| 1   | AP    | 206 | ASN  |
| 1   | AS    | 44  | GLN  |
| 1   | AS    | 145 | ASN  |
| 1   | AU    | 63  | HIS  |
| 1   | AU    | 210 | ASN  |
| 1   | AV    | 253 | GLN  |
| 1   | AY    | 206 | ASN  |
| 1   | BA    | 145 | ASN  |
| 1   | BA    | 253 | GLN  |
| 1   | BB    | 98  | ASN  |
| 1   | BC    | 12  | GLN  |
| 1   | BC    | 238 | ASN  |
| 1   | BC    | 251 | ASN  |
| 1   | BD    | 206 | ASN  |
| 1   | BE    | 210 | ASN  |
| 1   | BF    | 43  | ASN  |
| 1   | BF    | 156 | ASN  |
| 1   | BF    | 202 | GLN  |
| 1   | BF    | 203 | ASN  |
| 1   | BF    | 206 | ASN  |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | BF           | 210        | ASN         |
| 1          | BF           | 238        | ASN         |
| 1          | BG           | 253        | GLN         |
| 1          | BH           | 141        | GLN         |
| 1          | BI           | 98         | ASN         |
| 1          | BI           | 102        | ASN         |
| 1          | BI           | 251        | ASN         |
| 1          | BI           | 262        | ASN         |
| 1          | BK           | 12         | GLN         |
| 1          | BK           | 262        | ASN         |
| 1          | BL           | 249        | GLN         |
| 1          | BM           | 102        | ASN         |
| 1          | BM           | 210        | ASN         |
| 1          | BN           | 44         | GLN         |
| 1          | BS           | 63         | HIS         |
| 1          | BS           | 210        | ASN         |
| 1          | BT           | 253        | GLN         |
| 1          | BW           | 156        | ASN         |
| 1          | BW           | 203        | ASN         |
| 1          | BW           | 249        | GLN         |
| 1          | BX           | 271        | ASN         |
| 1          | BY           | 50         | GLN         |
| 1          | BZ           | 63         | HIS         |
| 1          | BZ           | 206        | ASN         |
| 1          | CA           | 12         | GLN         |
| 1          | CB           | 145        | ASN         |
| 1          | CC           | 112        | GLN         |
| 1          | CC           | 262        | ASN         |
| 1          | CC           | 279        | GLN         |
| 1          | CD           | 203        | ASN         |
| 1          | CE           | 168        | GLN         |
| 1          | CE           | 279        | GLN         |
| 1          | CE           | 304        | GLN         |
| 1          | CF           | 145        | ASN         |
| 1          | CF           | 238        | ASN         |
| 1          | CG           | 186        | ASN         |
| 1          | CH           | 50         | GLN         |
| 1          | CI           | 249        | GLN         |
| 1          | CI           | 304        | GLN         |
| 1          | CK           | 145        | ASN         |
| 1          | CK           | 173        | HIS         |
| 1          | CL           | 262        | ASN         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | CN           | 12         | GLN         |
| 1          | CN           | 238        | ASN         |
| 1          | CO           | 238        | ASN         |
| 1          | CO           | 251        | ASN         |
| 1          | CP           | 132        | GLN         |
| 1          | CR           | 44         | GLN         |
| 1          | CR           | 61         | ASN         |
| 1          | CR           | 141        | GLN         |
| 1          | CR           | 156        | ASN         |
| 1          | CR           | 279        | GLN         |
| 1          | CS           | 262        | ASN         |
| 1          | CT           | 60         | ASN         |
| 1          | CU           | 102        | ASN         |
| 1          | CU           | 141        | GLN         |
| 1          | CV           | 203        | ASN         |
| 1          | CV           | 265        | GLN         |
| 1          | CW           | 102        | ASN         |
| 1          | CW           | 145        | ASN         |
| 1          | CW           | 279        | GLN         |
| 1          | CX           | 145        | ASN         |
| 1          | CY           | 13         | ASN         |
| 1          | CZ           | 13         | ASN         |
| 1          | CZ           | 251        | ASN         |
| 1          | DA           | 203        | ASN         |
| 1          | DA           | 262        | ASN         |
| 1          | DA           | 336        | ASN         |
| 1          | DB           | 50         | GLN         |
| 1          | DB           | 61         | ASN         |
| 1          | DB           | 168        | GLN         |
| 1          | DC           | 168        | GLN         |
| 1          | DD           | 63         | HIS         |
| 1          | DD           | 202        | GLN         |
| 1          | DD           | 224        | GLN         |
| 1          | DD           | 238        | ASN         |
| 1          | DD           | 334        | HIS         |
| 1          | DE           | 60         | ASN         |
| 1          | DE           | 112        | GLN         |
| 1          | DE           | 145        | ASN         |
| 1          | DF           | 82         | ASN         |
| 1          | DF           | 102        | ASN         |
| 1          | DF           | 112        | GLN         |
| 1          | DF           | 141        | GLN         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | DG           | 82         | ASN         |
| 1          | DG           | 141        | GLN         |
| 1          | DG           | 186        | ASN         |
| 1          | DG           | 210        | ASN         |
| 1          | DH           | 29         | GLN         |
| 1          | DH           | 61         | ASN         |
| 1          | DH           | 186        | ASN         |
| 1          | DH           | 253        | GLN         |
| 1          | DH           | 271        | ASN         |
| 1          | DI           | 21         | ASN         |
| 1          | DI           | 85         | GLN         |
| 1          | DI           | 159        | HIS         |
| 1          | DI           | 206        | ASN         |
| 1          | DI           | 265        | GLN         |
| 1          | DJ           | 168        | GLN         |
| 1          | DJ           | 241        | HIS         |
| 1          | DJ           | 265        | GLN         |
| 1          | DJ           | 336        | ASN         |
| 1          | DK           | 29         | GLN         |
| 1          | DK           | 145        | ASN         |
| 1          | DK           | 159        | HIS         |
| 1          | DK           | 168        | GLN         |
| 1          | DK           | 224        | GLN         |
| 1          | DL           | 132        | GLN         |
| 1          | DL           | 206        | ASN         |
| 1          | DM           | 29         | GLN         |
| 1          | DM           | 253        | GLN         |
| 1          | DM           | 304        | GLN         |
| 1          | DN           | 145        | ASN         |
| 1          | DN           | 156        | ASN         |
| 1          | DN           | 334        | HIS         |
| 1          | DO           | 241        | HIS         |
| 1          | DO           | 253        | GLN         |
| 1          | DP           | 61         | ASN         |
| 1          | DP           | 98         | ASN         |
| 1          | DP           | 156        | ASN         |
| 1          | DP           | 286        | ASN         |
| 1          | DQ           | 61         | ASN         |
| 1          | DQ           | 112        | GLN         |
| 1          | DQ           | 156        | ASN         |
| 1          | DQ           | 203        | ASN         |
| 1          | DQ           | 251        | ASN         |

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

### 5.5 Carbohydrates [i](#)

There are no 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.

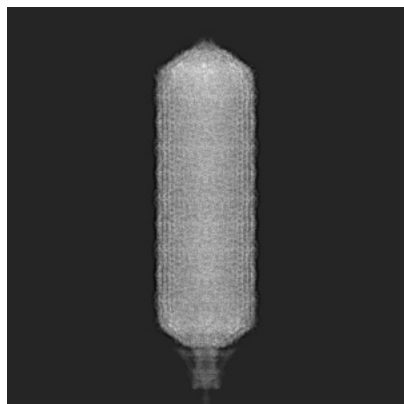
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-14488. These allow visual inspection of the internal detail of the map and identification of artifacts.

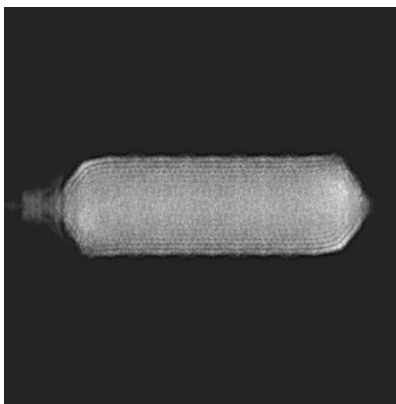
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

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

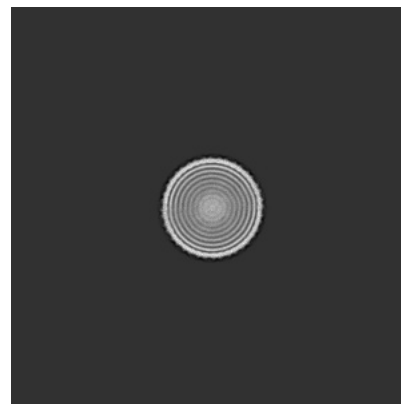
#### 6.1.1 Primary map



X

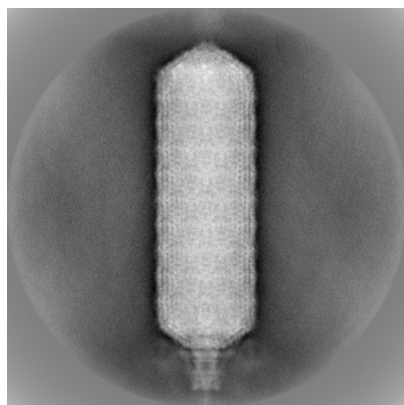


Y

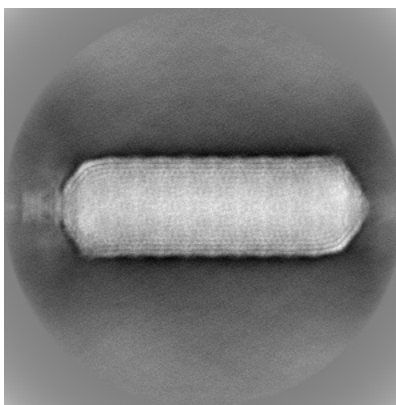


Z

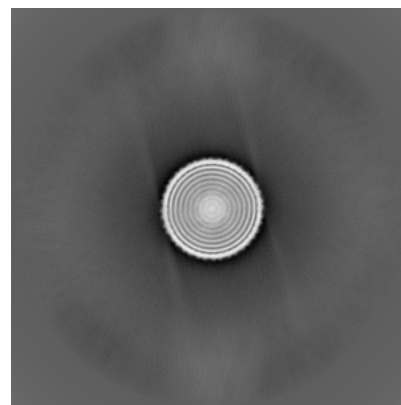
#### 6.1.2 Raw map



X



Y



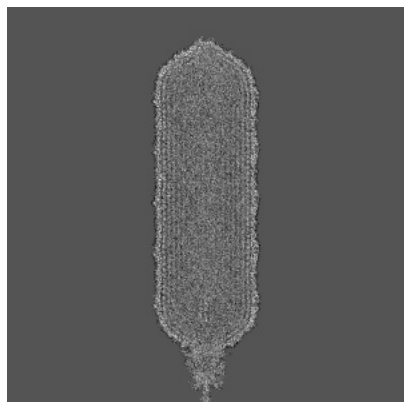
Z

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

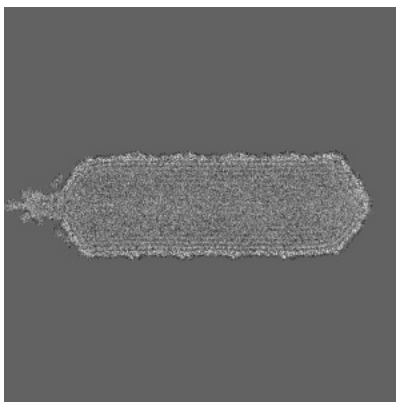


## 6.2 Central slices [i](#)

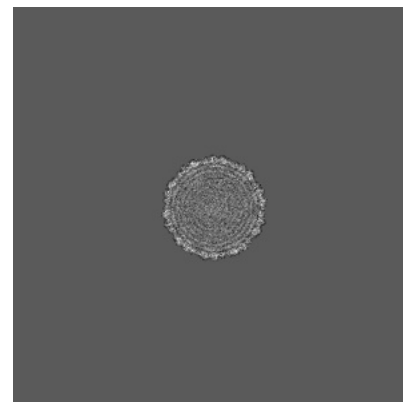
### 6.2.1 Primary map



X Index: 648

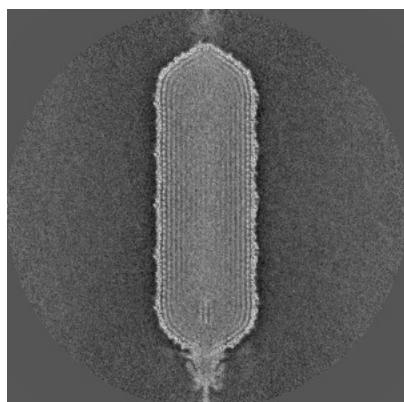


Y Index: 648

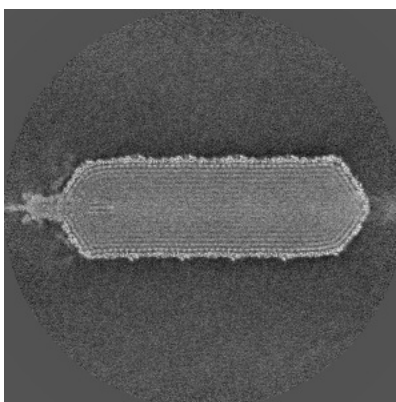


Z Index: 648

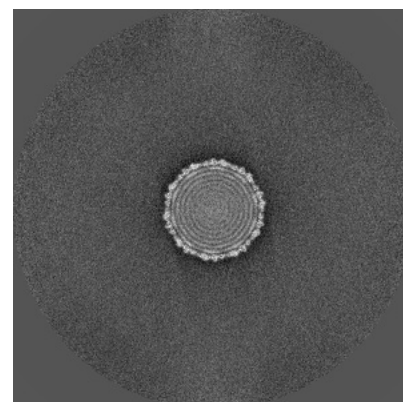
### 6.2.2 Raw map



X Index: 648



Y Index: 648

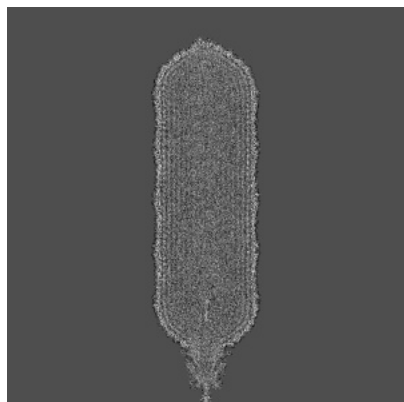


Z Index: 648

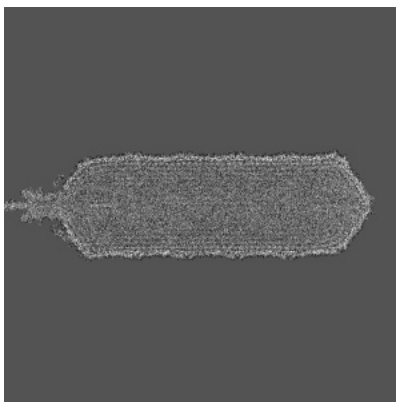
The images above show central slices of the map in three orthogonal directions.

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

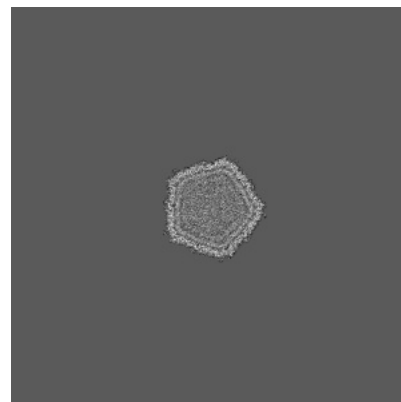
### 6.3.1 Primary map



X Index: 651

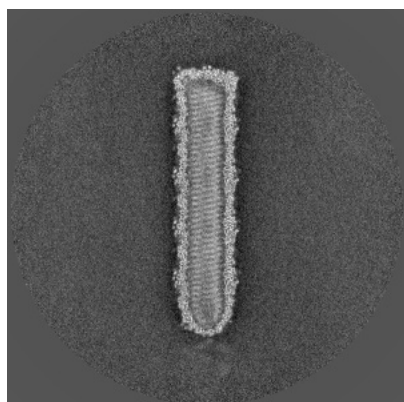


Y Index: 644

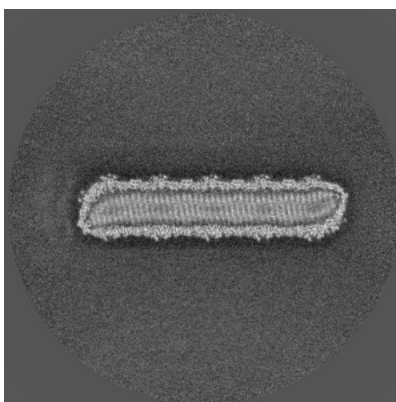


Z Index: 1085

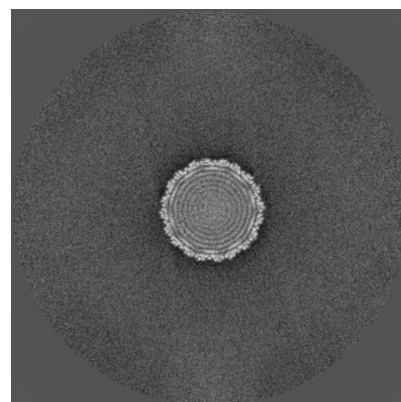
### 6.3.2 Raw map



X Index: 519



Y Index: 511

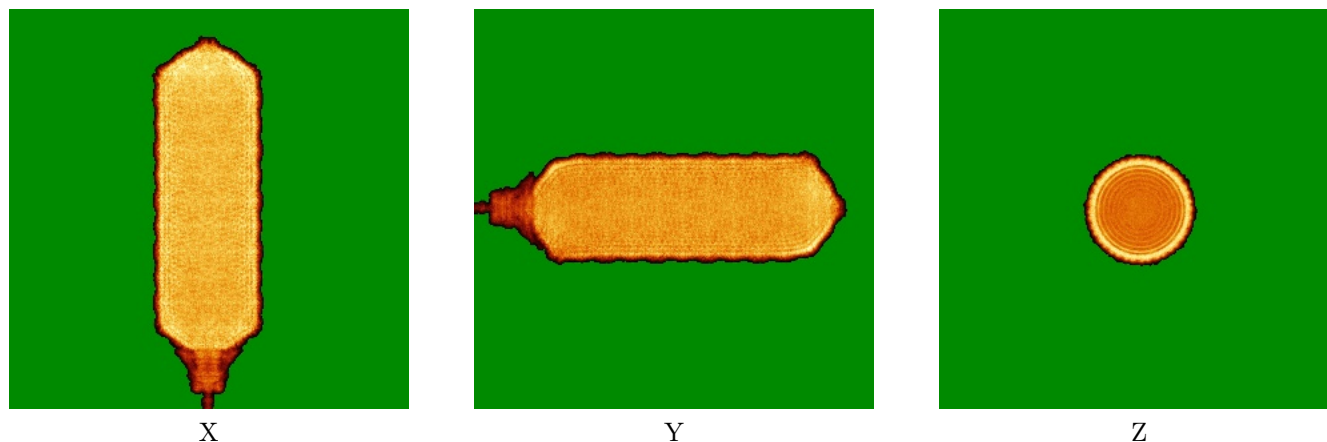


Z Index: 757

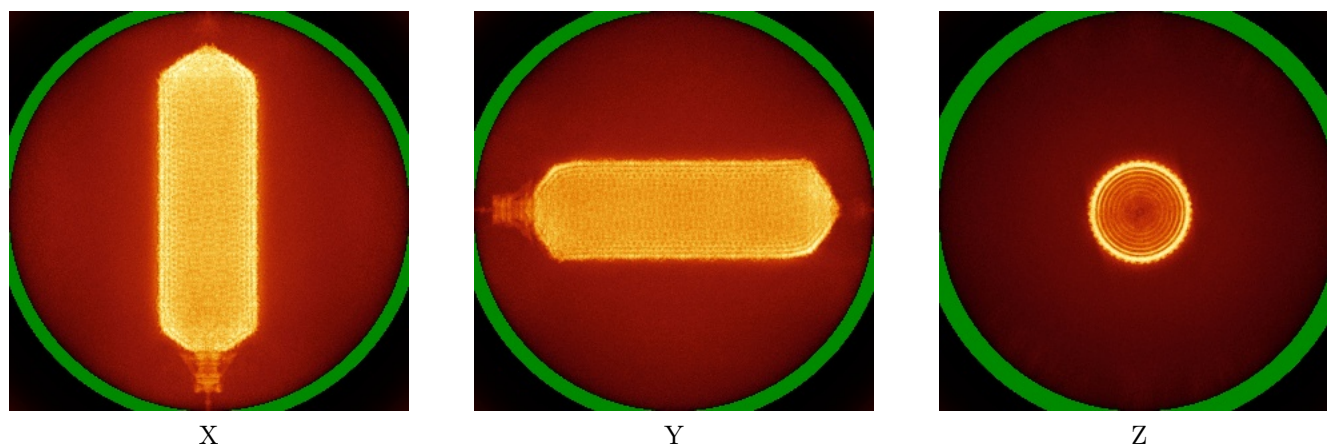
The images above show the largest variance slices of the map in three orthogonal directions.

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

### 6.4.1 Primary map



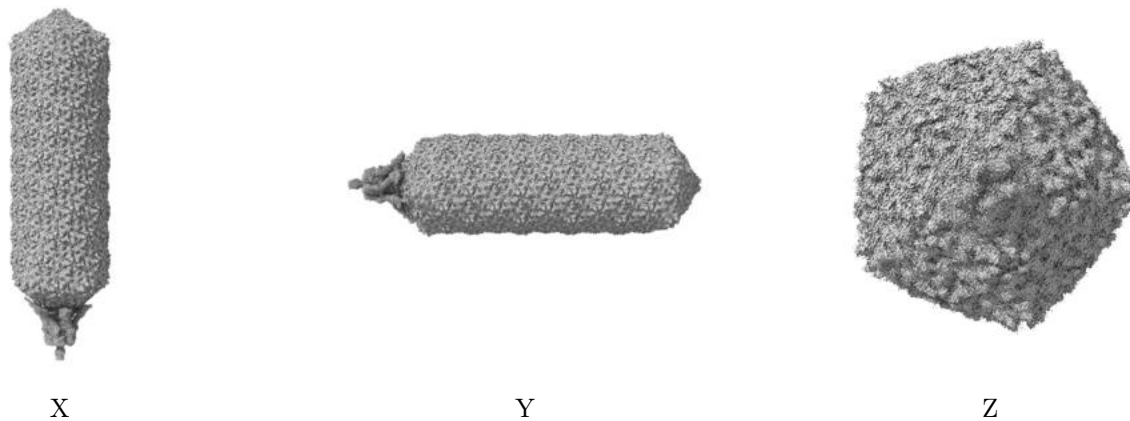
### 6.4.2 Raw map



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

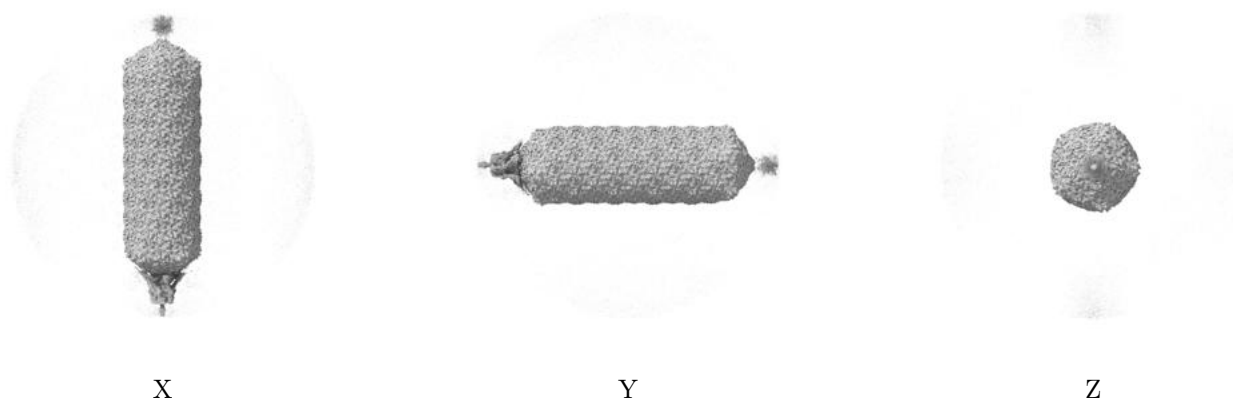
## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.02. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

### 6.5.2 Raw map



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

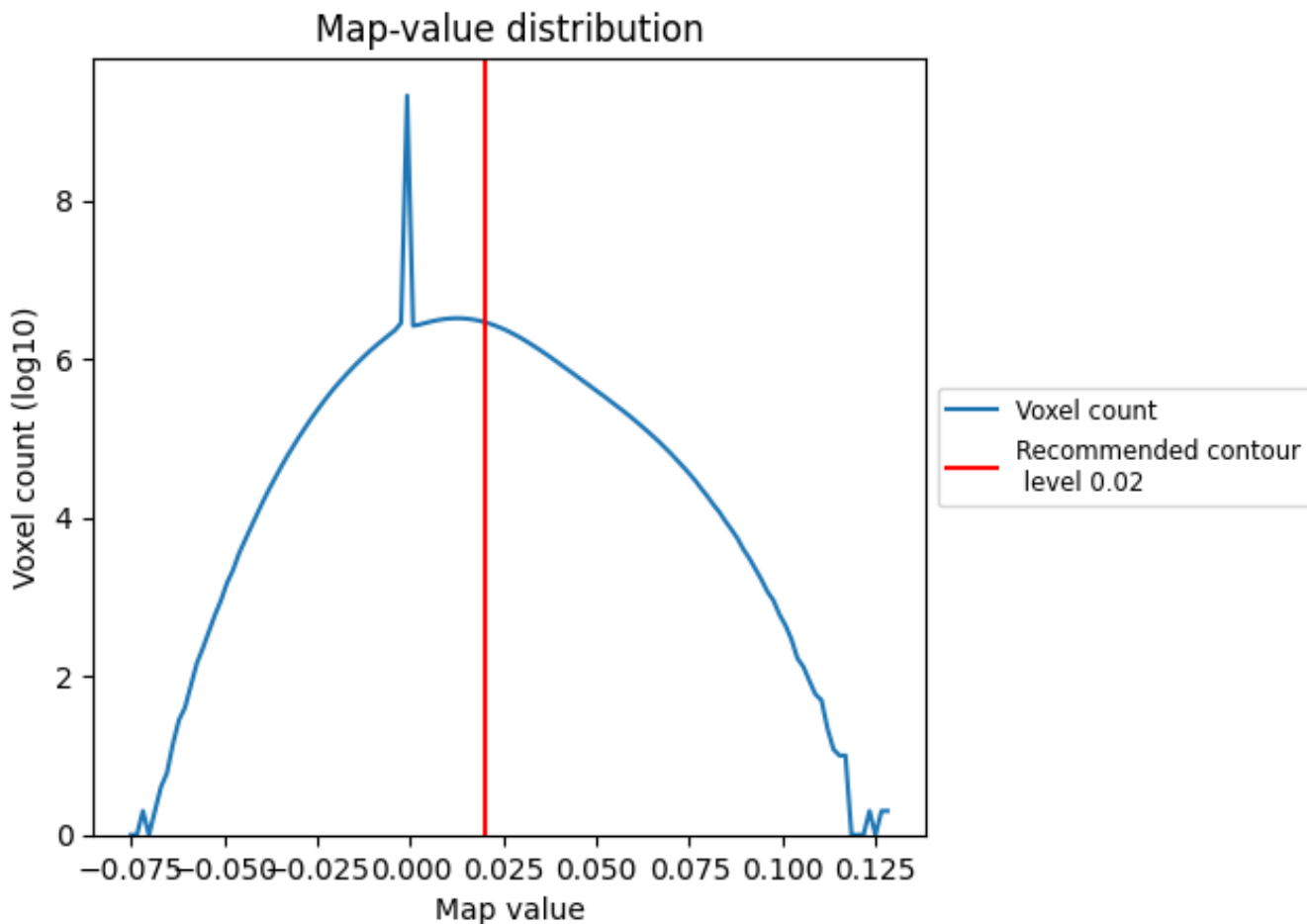
## 6.6 Mask visualisation [i](#)

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

## 7 Map analysis [i](#)

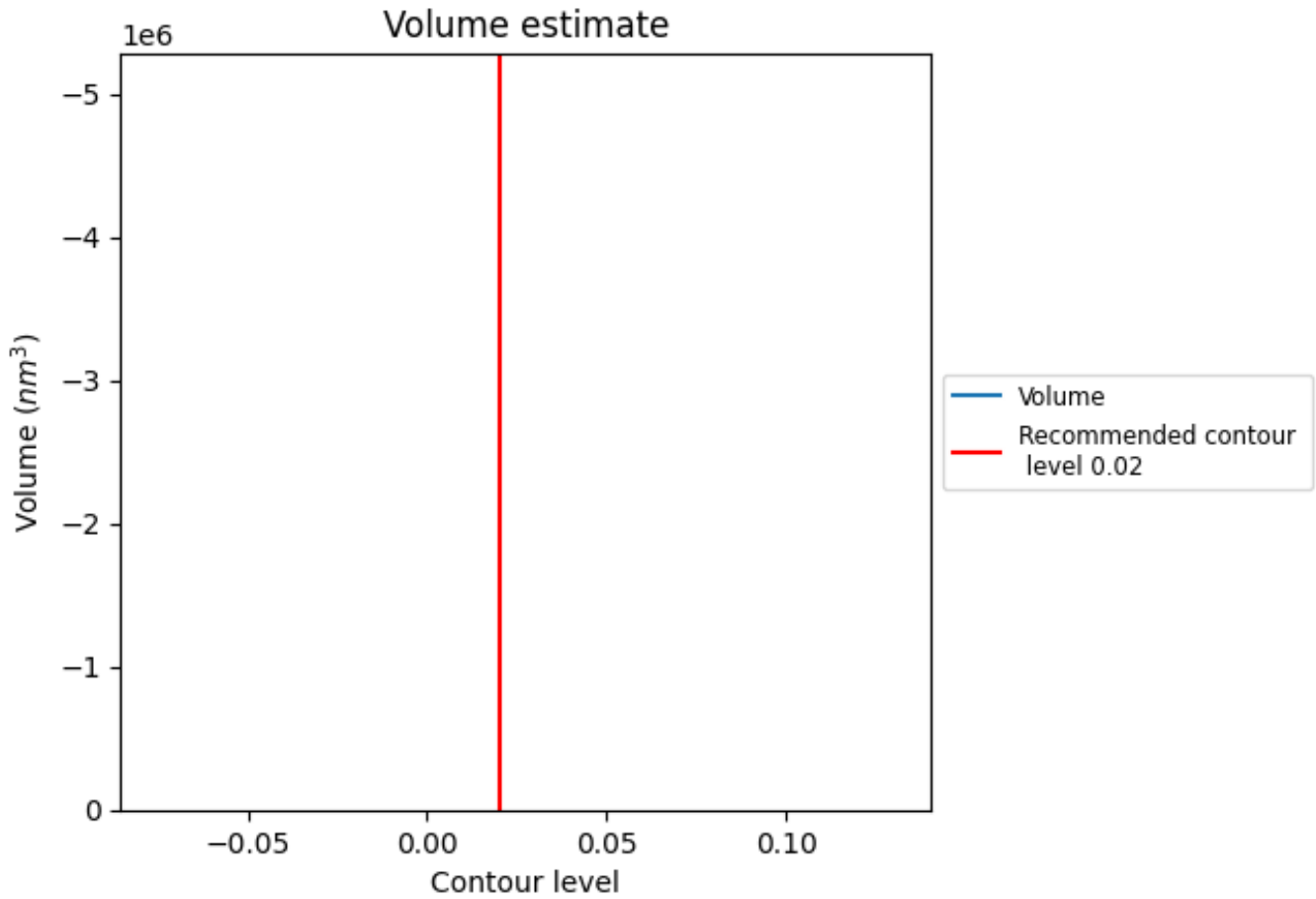
This section contains the results of statistical analysis of the map.

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



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

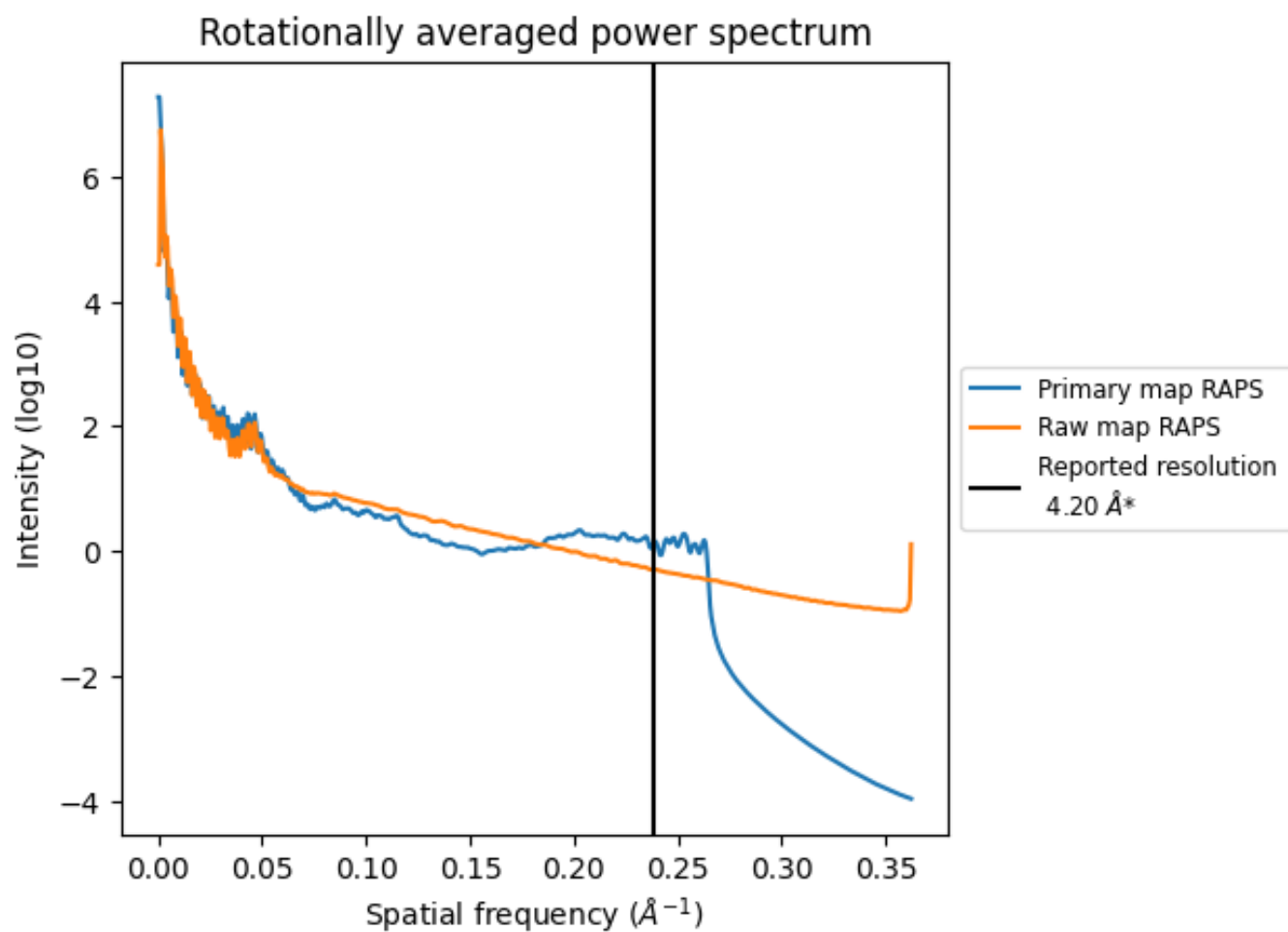
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is  $-11206573 \text{ nm}^3$ ; this corresponds to an approximate mass of  $-10123190 \text{ kDa}$ .

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

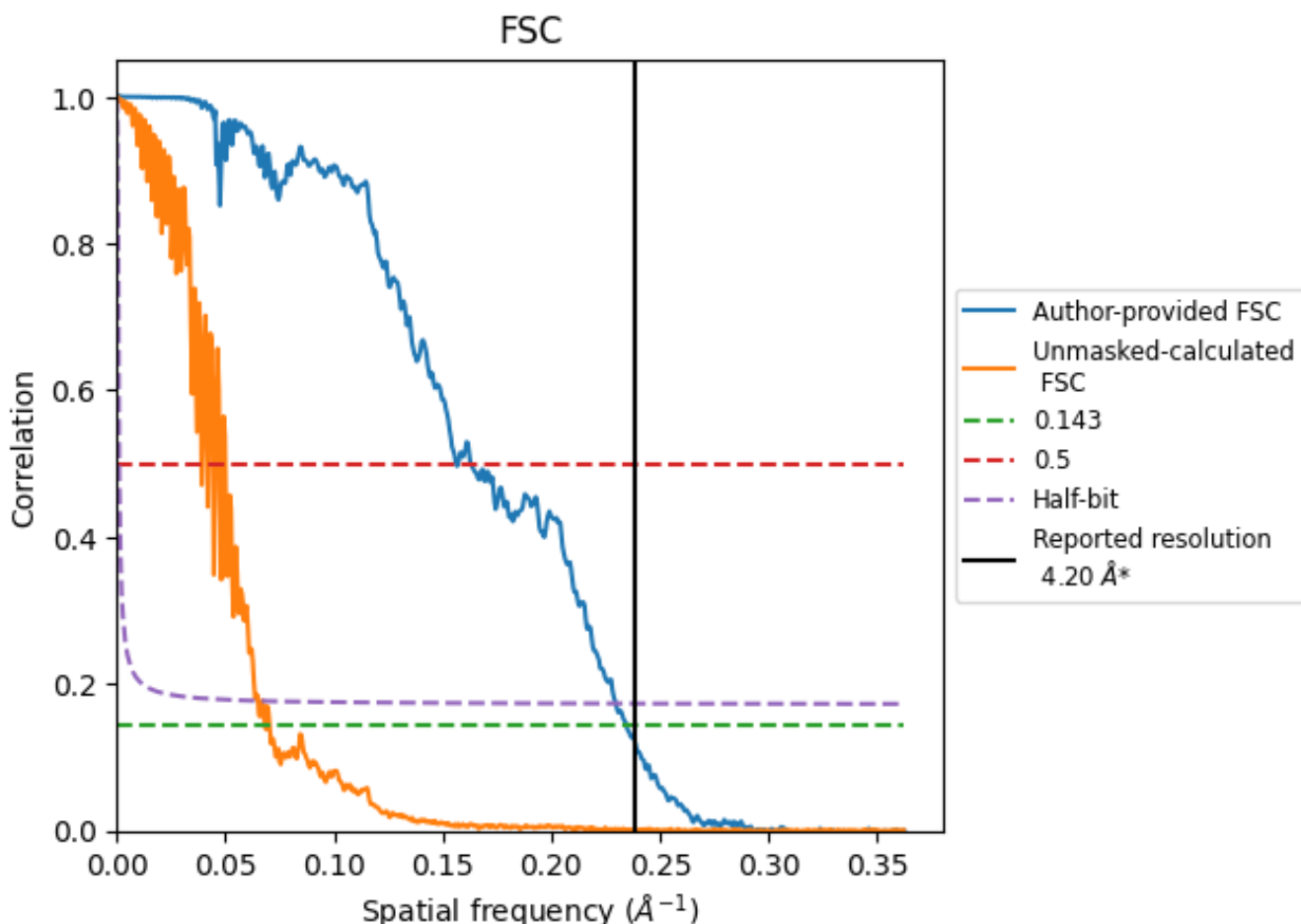


\*Reported resolution corresponds to spatial frequency of 0.238 Å<sup>-1</sup>

## 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 0.238 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        | 4.20                               | -     | -        |
| Author-provided FSC curve | 4.26                               | 6.40  | 4.35     |
| Unmasked-calculated*      | 14.66                              | 25.64 | 15.38    |

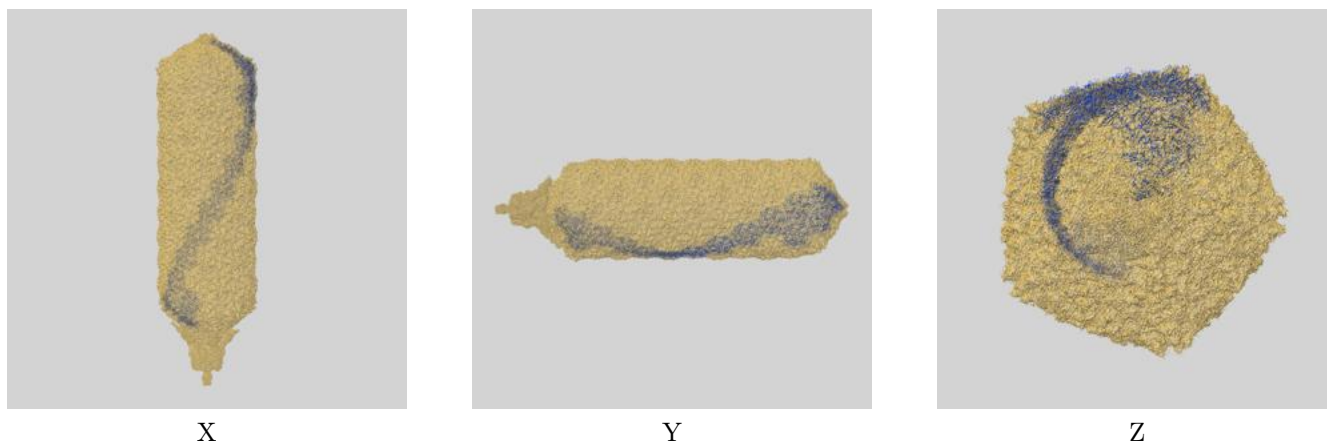
\*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 14.66 differs from the reported value 4.2 by more than 10 %

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

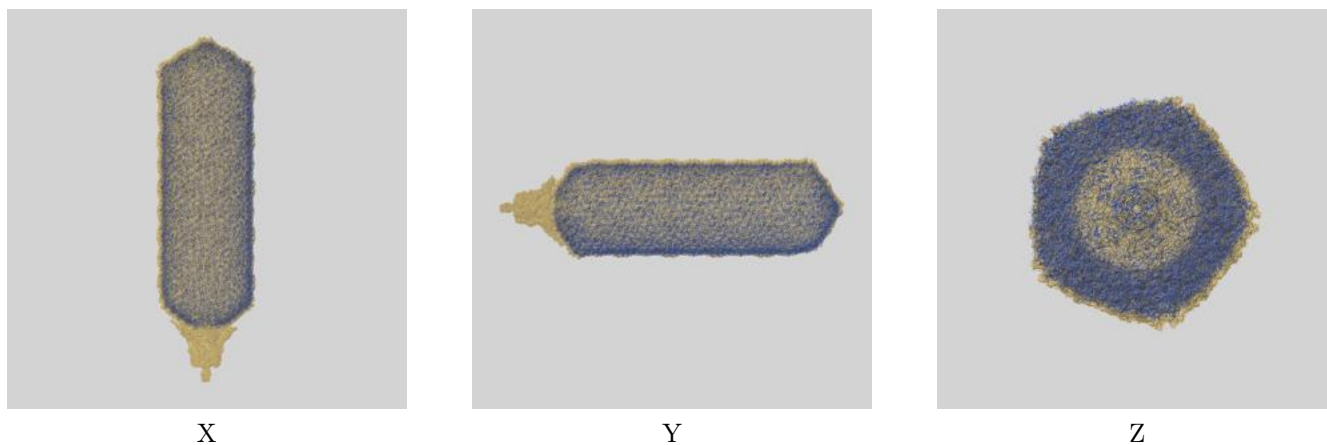
This section contains information regarding the fit between EMDB map EMD-14488 and PDB model 7Z49. Per-residue inclusion information can be found in section 3 on page 12.

### 9.1 Map-model overlays

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

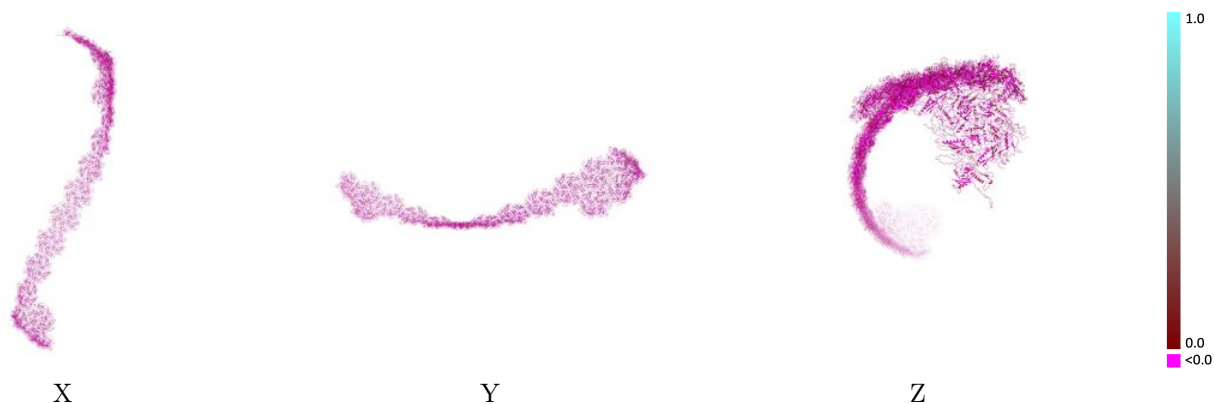


#### 9.1.2 Map-model assembly overlay [i](#)



The images above show the 3D surface view of the map at the recommended contour level 0.02 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 [\(i\)](#)



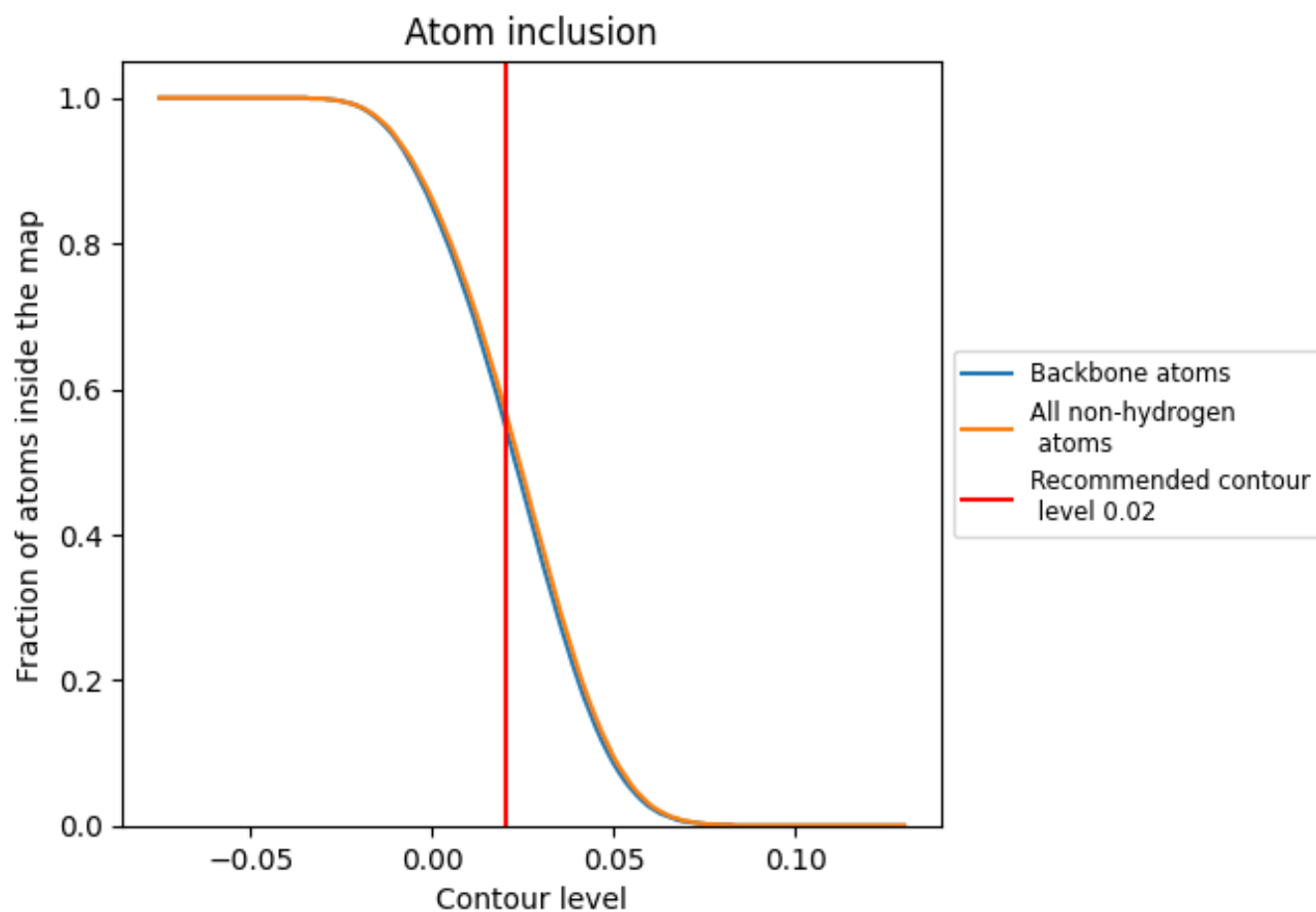
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.02).

## 9.4 Atom inclusion [i](#)



At the recommended contour level, 55% of all backbone atoms, 57% 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 (0.02) and Q-score for the entire model and for each chain.

| Chain | Atom inclusion | Q-score |
|-------|----------------|---------|
| All   | 0.5720         | -0.0070 |
| AA    | 0.5240         | -0.0060 |
| AB    | 0.5190         | -0.0150 |
| AC    | 0.5150         | -0.0170 |
| AD    | 0.4920         | -0.0130 |
| AE    | 0.4760         | -0.0230 |
| AF    | 0.5050         | -0.0110 |
| AG    | 0.5680         | -0.0120 |
| AH    | 0.5080         | -0.0190 |
| AI    | 0.5220         | -0.0230 |
| AJ    | 0.5550         | -0.0040 |
| AK    | 0.5200         | -0.0020 |
| AL    | 0.5250         | -0.0140 |
| AM    | 0.5560         | -0.0160 |
| AN    | 0.4960         | -0.0070 |
| AO    | 0.5180         | -0.0210 |
| AP    | 0.5250         | -0.0010 |
| AQ    | 0.4840         | -0.0120 |
| AR    | 0.4990         | -0.0080 |
| AS    | 0.5300         | -0.0020 |
| AT    | 0.4930         | -0.0240 |
| AU    | 0.5040         | -0.0090 |
| AV    | 0.5310         | -0.0140 |
| AW    | 0.5130         | -0.0090 |
| AX    | 0.5340         | -0.0090 |
| AY    | 0.5410         | 0.0010  |
| AZ    | 0.5990         | -0.0100 |
| BA    | 0.5300         | 0.0060  |
| BB    | 0.5550         | -0.0030 |
| BC    | 0.6090         | -0.0030 |
| BD    | 0.6120         | -0.0160 |
| BE    | 0.5210         | -0.0100 |
| BF    | 0.5660         | -0.0030 |
| BG    | 0.5530         | 0.0040  |
| BH    | 0.5120         | -0.0150 |









































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| Chain | Atom inclusion   | Q-score   |
|-------|--|---|
| BI    |  0.6880   |  0.0030    |
| BJ    |  0.5710   |  -0.0160   |
| BK    |  0.4970   |  -0.0070   |
| BL    |  0.5700   |  0.0160    |
| BM    |  0.5140   |  -0.0080   |
| BN    |  0.4790   |  -0.0010   |
| BO    |  0.6040   |  0.0060    |
| BP    |  0.5370   |  -0.0000   |
| BQ    |  0.4920   |  -0.0190   |
| BR    |  0.5920   |  -0.0110   |
| BS    |  0.5860   |  0.0090    |
| BT    |  0.5440   |  0.0030    |
| BU    |  0.6000   |  -0.0180   |
| BV    |  0.5980   |  -0.0120   |
| BW    |  0.7110   |  0.0030    |
| BX    |  0.6520   |  -0.0060   |
| BY    |  0.6930   |  -0.0120   |
| BZ    |  0.6610   |  -0.0200   |
| CA    |  0.6160   |  0.0030    |
| CB    |  0.6080   |  0.0020    |
| CC    |  0.7110  |  -0.0010  |
| CD    |  0.5670 |  -0.0090 |
| CE    |  0.6340 |  -0.0190 |
| CF    |  0.5400 |  -0.0140 |
| CG    |  0.5540 |  -0.0120 |
| CH    |  0.5750 |  -0.0150 |
| CI    |  0.6890 |  -0.0230 |
| CJ    |  0.5920 |  0.0040  |
| CK    |  0.5450 |  -0.0090 |
| CL    |  0.5380 |  -0.0100 |
| CM    |  0.7350 |  -0.0060 |
| CN    |  0.5220 |  -0.0150 |
| CO    |  0.5460 |  -0.0150 |
| CP    |  0.5510 |  0.0090  |
| CQ    |  0.6450 |  0.0150  |
| CR    |  0.5680 |  0.0000  |
| CS    |  0.5300 |  0.0070  |
| CT    |  0.5880 |  -0.0140 |
| CU    |  0.6000 |  -0.0060 |
| CV    |  0.6070 |  -0.0100 |
| CW    |  0.5240 |  -0.0240 |
| CX    |  0.5770 |  -0.0230 |

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| Chain | Atom inclusion  | Q-score   |
|-------|---|---|
| CY    |  0.6220  |  -0.0080 |
| CZ    |  0.5540  |  -0.0070 |
| DA    |  0.5640  |  -0.0020 |
| DB    |  0.5730  |  -0.0290 |
| DC    |  0.5870  |  -0.0060 |
| DD    |  0.5780  |  -0.0130 |
| DE    |  0.5900  |  -0.0110 |
| DF    |  0.5010  |  -0.0240 |
| DG    |  0.6510  |  -0.0110 |
| DH    |  0.6360  |  -0.0060 |
| DI    |  0.6320  |  0.0100  |
| DJ    |  0.6310  |  -0.0150 |
| DK    |  0.5860  |  0.0050  |
| DL    |  0.6080  |  -0.0020 |
| DM    |  0.6470  |  0.0280  |
| DN    |  0.6650  |  0.0030  |
| DO    |  0.6270  |  -0.0040 |
| DP    |  0.6600  |  -0.0040 |
| DQ    |  0.6590 |  0.0150 |