



## Full wwPDB EM Validation Report ⓘ

Sep 24, 2025 – 04:56 am BST

PDB ID : 6F0X / pdb\_00006f0x  
EMDB ID : EMD-4166  
Title : Cryo-EM structure of TRIP13 in complex with ATP gamma S, p31comet, C-Mad2 and Cdc20  
Authors : Alfieri, C.; Chang, L.; Barford, D.  
Deposited on : 2017-11-20  
Resolution : 4.60 Å(reported)

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>  
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

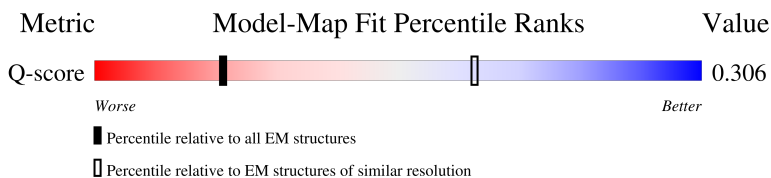
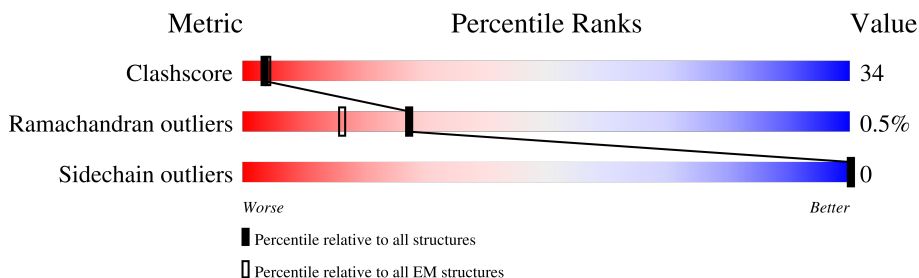
EMDB validation analysis : 0.0.1.dev129  
Mogul : 1.8.4, CSD as541be (2020)  
MolProbity : 4-5-2 with Phenix2.0  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)  
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)  
MapQ : 1.9.13  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.46

# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:  
*ELECTRON MICROSCOPY*

The reported resolution of this entry is 4.60 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



| Metric                | Whole archive<br>(#Entries) | EM structures<br>(#Entries) | Similar EM resolution<br>(#Entries, resolution range(Å)) |
|-----------------------|-----------------------------|-----------------------------|----------------------------------------------------------|
| Clashscore            | 210492                      | 15764                       | -                                                        |
| Ramachandran outliers | 207382                      | 16835                       | -                                                        |
| Sidechain outliers    | 206894                      | 16415                       | -                                                        |
| Q-score               | -                           | 25397                       | 2407 ( 4.10 - 5.10 )                                     |

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion  $< 40\%$ ). The numeric value is given above the bar.

| Mol | Chain | Length | Quality of chain                                                         |
|-----|-------|--------|--------------------------------------------------------------------------|
| 1   | A     | 432    | <div> <div>15%</div> <div>33%</div> <div>38%</div> <div>29%</div> </div> |
| 1   | B     | 432    | <div> <div>27%</div> <div>41%</div> <div>51%</div> <div>8%</div> </div>  |
| 1   | C     | 432    | <div> <div>25%</div> <div>44%</div> <div>47%</div> <div>8%</div> </div>  |
| 1   | D     | 432    | <div> <div>12%</div> <div>36%</div> <div>55%</div> <div>8%</div> </div>  |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1   | E     | 432    |                  |
| 1   | F     | 432    |                  |
| 2   | P     | 274    |                  |
| 3   | Q     | 499    |                  |
| 4   | Z     | 205    |                  |

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

| Mol | Type | Chain | Res | Chirality | Geometry | Clashes | Electron density |
|-----|------|-------|-----|-----------|----------|---------|------------------|
| 5   | AGS  | A     | 901 | -         | -        | X       | -                |
| 5   | AGS  | B     | 901 | -         | -        | X       | -                |
| 5   | AGS  | C     | 901 | -         | -        | X       | -                |
| 5   | AGS  | D     | 901 | -         | -        | X       | -                |
| 5   | AGS  | E     | 901 | -         | -        | X       | -                |

## 2 Entry composition

There are 5 unique types of molecules in this entry. The entry contains 20450 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 Pachytene checkpoint protein 2 homolog.

| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 1   | A     | 308      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2410  | 1549 | 410 | 444 | 7 |         |       |
| 1   | B     | 398      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 3097  | 1977 | 536 | 576 | 8 |         |       |
| 1   | C     | 398      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 3077  | 1964 | 534 | 570 | 9 |         |       |
| 1   | D     | 398      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 3118  | 1991 | 539 | 580 | 8 |         |       |
| 1   | E     | 398      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 3071  | 1962 | 530 | 571 | 8 |         |       |
| 1   | F     | 282      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2241  | 1441 | 382 | 411 | 7 |         |       |

There are 6 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment  | Reference  |
|-------|---------|----------|--------|----------|------------|
| A     | 253     | GLN      | GLU    | conflict | UNP Q15645 |
| B     | 253     | GLN      | GLU    | conflict | UNP Q15645 |
| C     | 253     | GLN      | GLU    | conflict | UNP Q15645 |
| D     | 253     | GLN      | GLU    | conflict | UNP Q15645 |
| E     | 253     | GLN      | GLU    | conflict | UNP Q15645 |
| F     | 253     | GLN      | GLU    | conflict | UNP Q15645 |

- Molecule 2 is a protein called MAD2L1-binding protein.

| Mol | Chain | Residues | Atoms |      |     |     |    | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| 2   | P     | 194      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 1563  | 1009 | 271 | 270 | 13 |         |       |

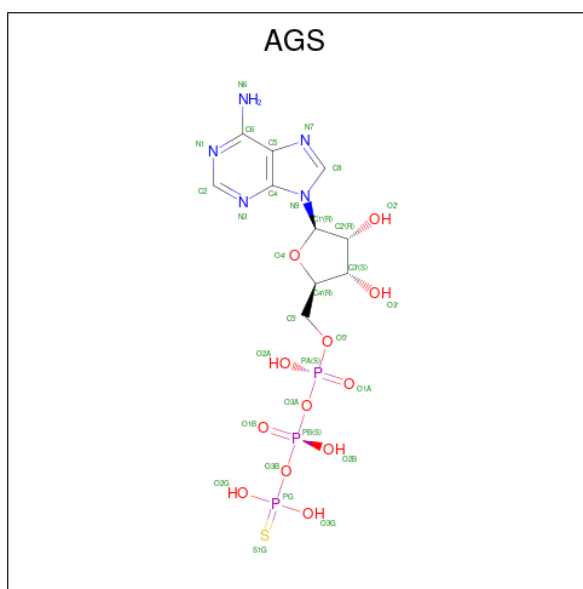
- Molecule 3 is a protein called Cell division cycle protein 20 homolog.

| Mol | Chain | Residues | Atoms |    |    |    | AltConf | Trace |
|-----|-------|----------|-------|----|----|----|---------|-------|
| 3   | Q     | 9        | Total | C  | N  | O  | 0       | 0     |
|     |       |          | 70    | 46 | 14 | 10 |         |       |

- Molecule 4 is a protein called Mitotic spindle assembly checkpoint protein MAD2A.

| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 4   | Z     | 204      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 1648  | 1054 | 270 | 320 | 4 |         |       |

- Molecule 5 is PHOSPHOTHIOPHOSPHORIC ACID-ADENYLATE ESTER (CCD ID: AGS) (formula:  $C_{10}H_{16}N_5O_{12}P_3S$ ).

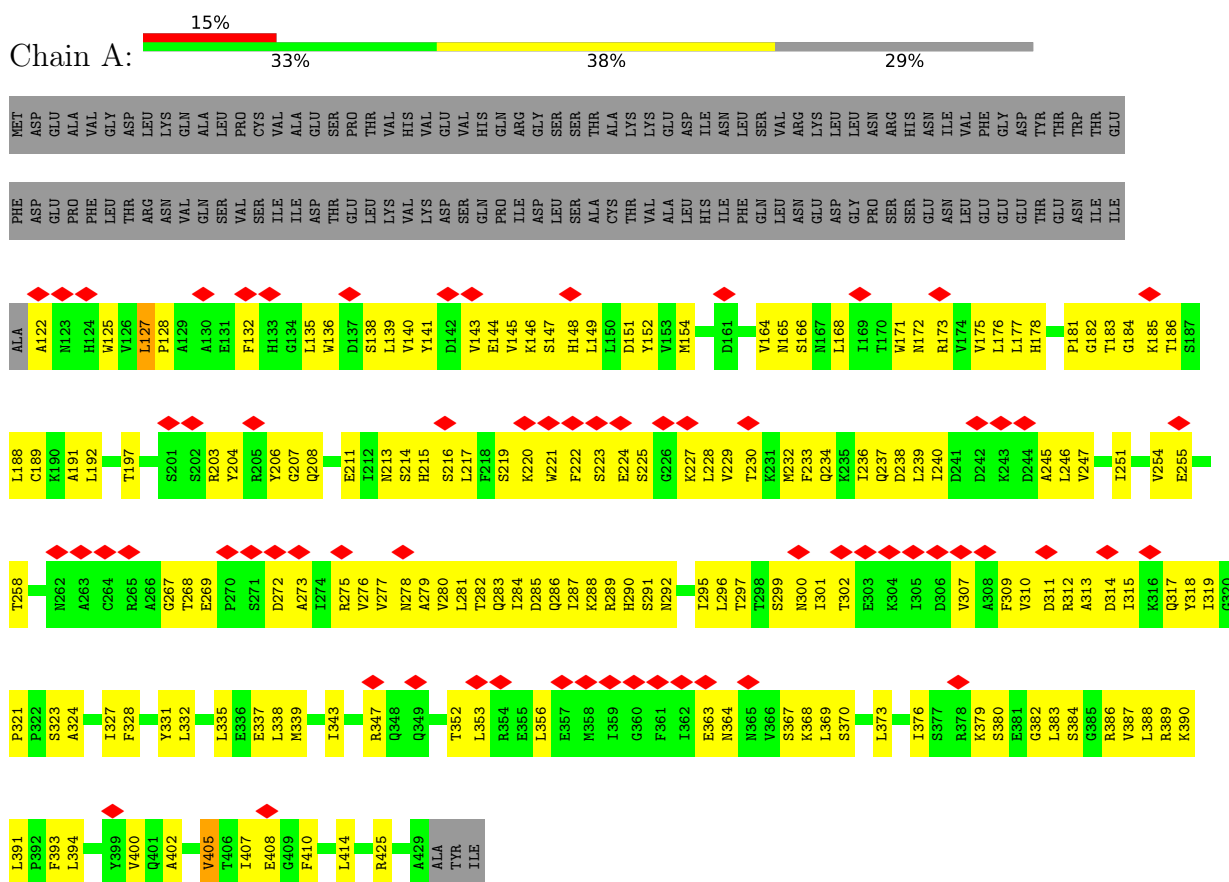


| Mol | Chain | Residues | Atoms |    |   |    |   |   | AltConf |
|-----|-------|----------|-------|----|---|----|---|---|---------|
| 5   | A     | 1        | Total | C  | N | O  | P | S | 0       |
|     |       |          | 31    | 10 | 5 | 12 | 3 | 1 |         |
| 5   | B     | 1        | Total | C  | N | O  | P | S | 0       |
|     |       |          | 31    | 10 | 5 | 12 | 3 | 1 |         |
| 5   | C     | 1        | Total | C  | N | O  | P | S | 0       |
|     |       |          | 31    | 10 | 5 | 12 | 3 | 1 |         |
| 5   | D     | 1        | Total | C  | N | O  | P | S | 0       |
|     |       |          | 31    | 10 | 5 | 12 | 3 | 1 |         |
| 5   | E     | 1        | Total | C  | N | O  | P | S | 0       |
|     |       |          | 31    | 10 | 5 | 12 | 3 | 1 |         |

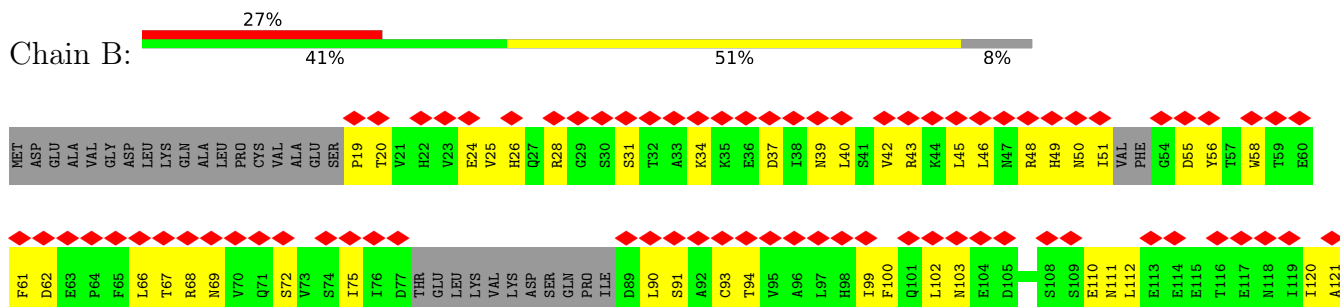
### 3 Residue-property plots [i](#)

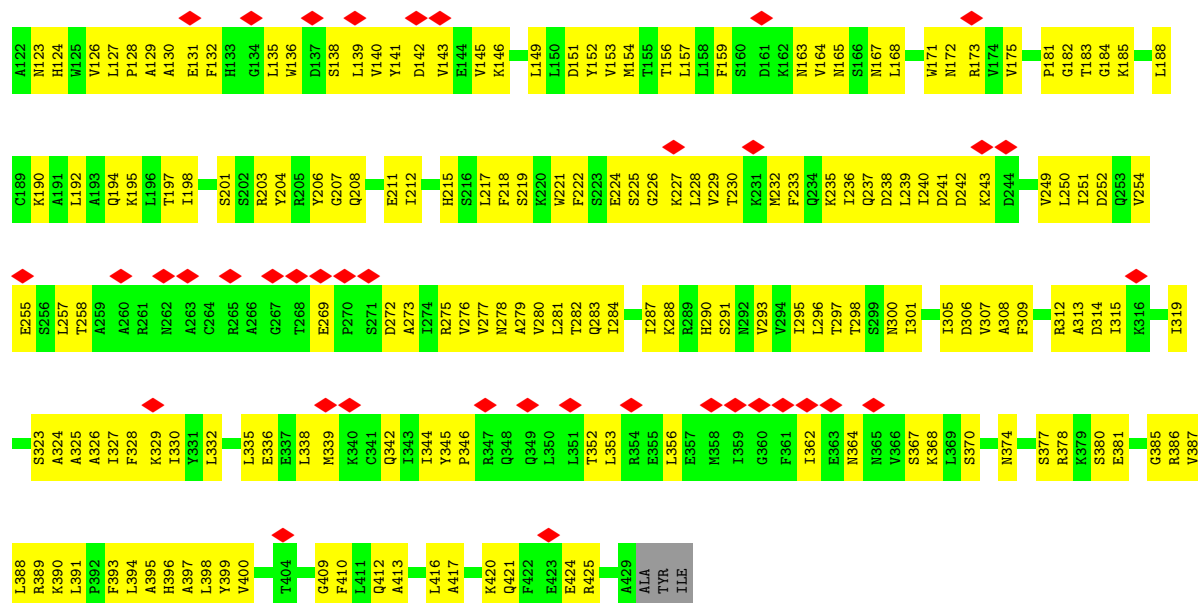
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: Pachytene checkpoint protein 2 homolog

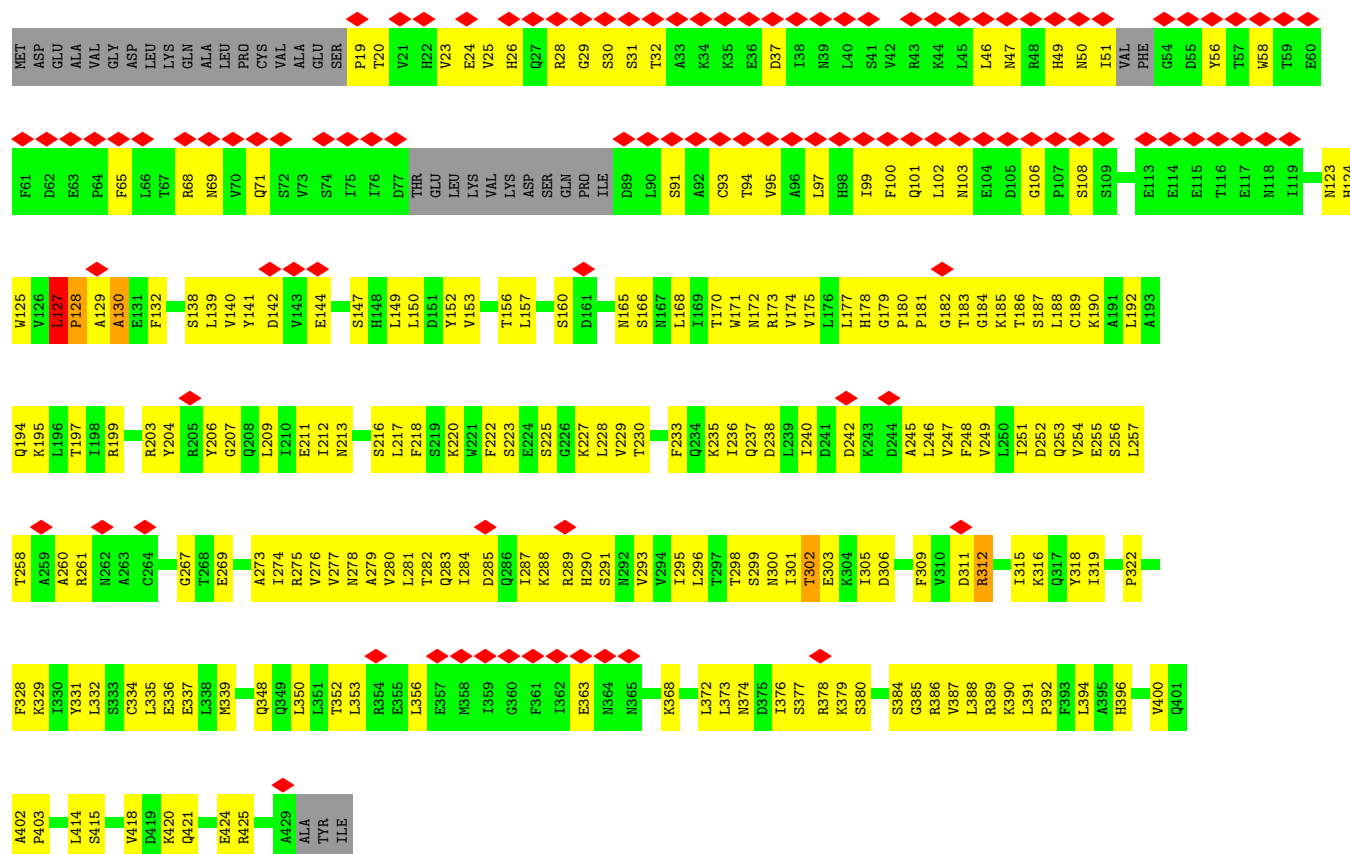


- Molecule 1: Pachytene checkpoint protein 2 homolog



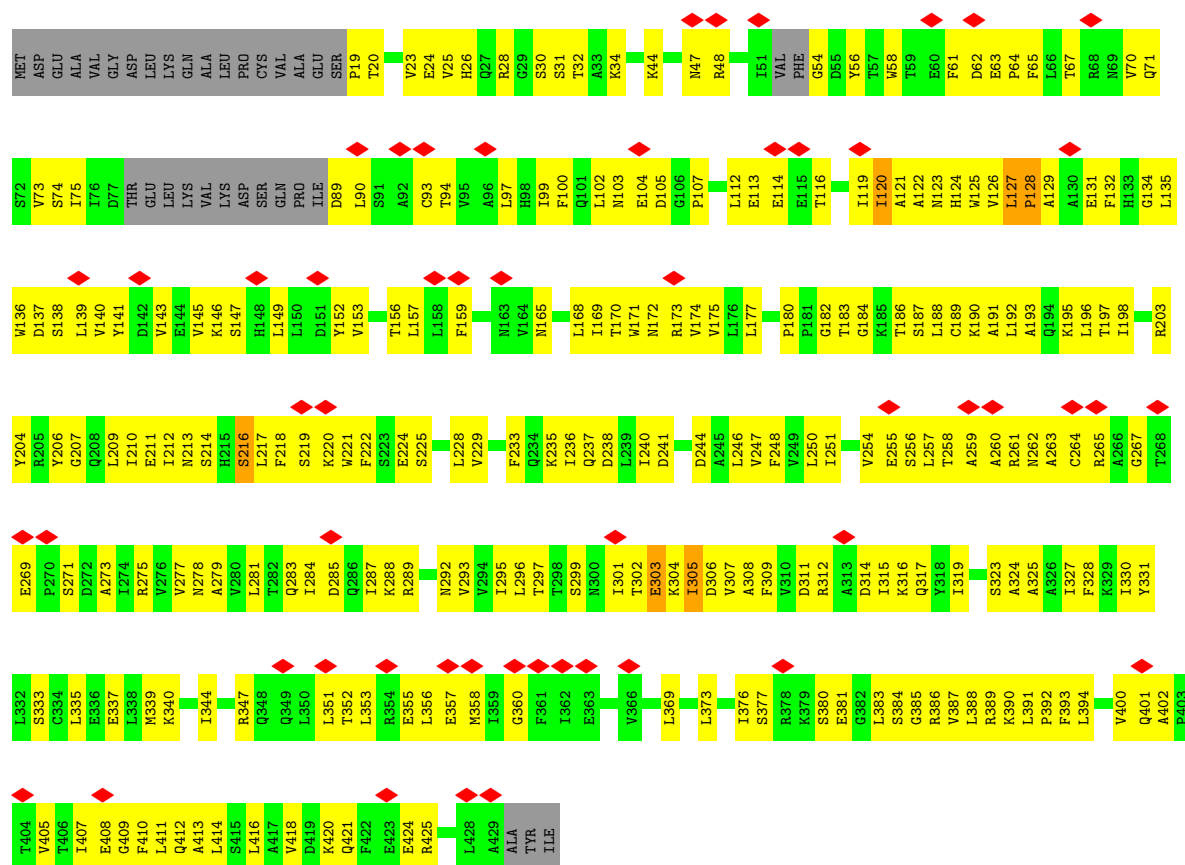


• Molecule 1: Pachytene checkpoint protein 2 homolog

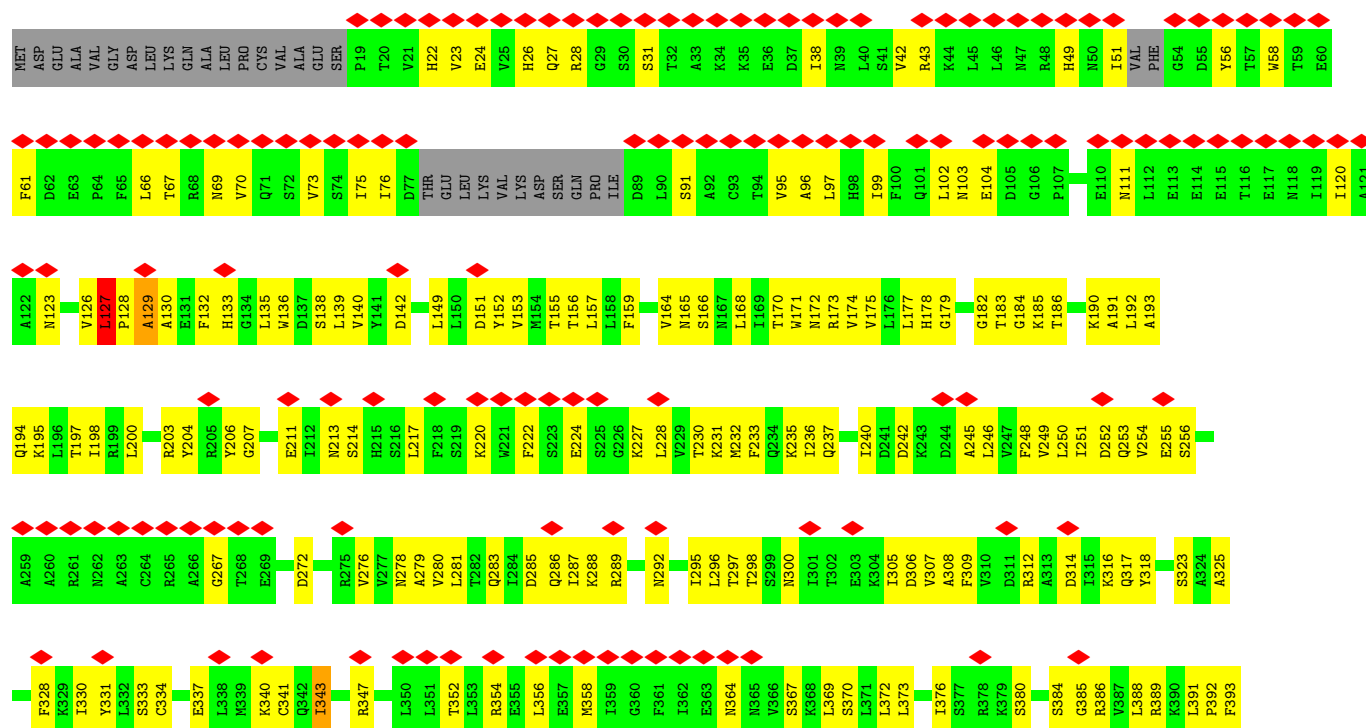


• Molecule 1: Pachytene checkpoint protein 2 homolog





• Molecule 1: Pachytene checkpoint protein 2 homolog









|      |      |      |      |      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| V193 | N194 | S195 | M196 | V197 | A198 | Y199 | K200 | I201 | P202 | V203 | N204 | D205 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|

## 4 Experimental information

| Property                             | Value                                   | Source    |
|--------------------------------------|-----------------------------------------|-----------|
| EM reconstruction method             | SINGLE PARTICLE                         | Depositor |
| Imposed symmetry                     | POINT, C1                               | Depositor |
| Number of particles used             | 354157                                  | 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 ( $e^-/\text{\AA}^2$ ) | 40                                      | Depositor |
| Minimum defocus (nm)                 | Not provided                            |           |
| Maximum defocus (nm)                 | Not provided                            |           |
| Magnification                        | Not provided                            |           |
| Image detector                       | GATAN K2 SUMMIT (4k x 4k)               | Depositor |
| Maximum map value                    | 0.334                                   | Depositor |
| Minimum map value                    | -0.185                                  | Depositor |
| Average map value                    | 0.003                                   | Depositor |
| Map value standard deviation         | 0.017                                   | Depositor |
| Recommended contour level            | 0.0765                                  | Depositor |
| Map size (Å)                         | 200.2, 200.2, 200.2                     | wwPDB     |
| Map dimensions                       | 140, 140, 140                           | wwPDB     |
| Map angles (°)                       | 90.0, 90.0, 90.0                        | wwPDB     |
| Pixel spacing (Å)                    | 1.43, 1.43, 1.43                        | Depositor |

## 5 Model quality

### 5.1 Standard geometry

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

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

| Mol | Chain | Bond lengths |         | Bond angles |                |
|-----|-------|--------------|---------|-------------|----------------|
|     |       | RMSZ         | # Z  >5 | RMSZ        | # Z  >5        |
| 1   | A     | 0.33         | 0/2453  | 0.56        | 0/3328         |
| 1   | B     | 0.34         | 0/3149  | 0.51        | 0/4272         |
| 1   | C     | 0.37         | 0/3128  | 0.57        | 1/4244 (0.0%)  |
| 1   | D     | 0.38         | 0/3170  | 0.58        | 1/4296 (0.0%)  |
| 1   | E     | 0.30         | 0/3121  | 0.53        | 0/4235         |
| 1   | F     | 0.27         | 0/2274  | 0.52        | 0/3076         |
| 2   | P     | 0.32         | 0/1603  | 0.52        | 0/2169         |
| 3   | Q     | 0.22         | 0/70    | 0.45        | 0/91           |
| 4   | Z     | 0.28         | 0/1676  | 0.47        | 0/2271         |
| All | All   | 0.33         | 0/20644 | 0.54        | 2/27982 (0.0%) |

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

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 1   | A     | 0                   | 2                   |
| 1   | C     | 0                   | 2                   |
| 1   | D     | 0                   | 3                   |
| 1   | E     | 0                   | 2                   |
| 1   | F     | 0                   | 1                   |
| All | All   | 0                   | 10                  |

There are no bond length outliers.

All (2) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms  | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|--------|-------|-------------|----------|
| 1   | C     | 130 | ALA  | CA-C-O | -5.05 | 113.28      | 120.51   |
| 1   | D     | 269 | GLU  | N-CA-C | -5.01 | 106.48      | 113.45   |

There are no chirality outliers.

All (10) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group   |
|-----|-------|-----|------|---------|
| 1   | A     | 127 | LEU  | Peptide |
| 1   | A     | 405 | VAL  | Peptide |
| 1   | C     | 127 | LEU  | Peptide |
| 1   | C     | 312 | ARG  | Peptide |
| 1   | D     | 120 | ILE  | Peptide |
| 1   | D     | 127 | LEU  | Peptide |
| 1   | D     | 216 | SER  | Peptide |
| 1   | E     | 127 | LEU  | Peptide |
| 1   | E     | 343 | ILE  | Peptide |
| 1   | F     | 127 | LEU  | Peptide |

## 5.2 Too-close contacts ⓘ

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 1   | A     | 2410  | 0        | 2453     | 181     | 0            |
| 1   | B     | 3097  | 0        | 3089     | 223     | 0            |
| 1   | C     | 3077  | 0        | 3063     | 243     | 0            |
| 1   | D     | 3118  | 0        | 3146     | 287     | 0            |
| 1   | E     | 3071  | 0        | 3050     | 190     | 0            |
| 1   | F     | 2241  | 0        | 2319     | 182     | 0            |
| 2   | P     | 1563  | 0        | 1560     | 88      | 0            |
| 3   | Q     | 70    | 0        | 86       | 13      | 0            |
| 4   | Z     | 1648  | 0        | 1665     | 138     | 0            |
| 5   | A     | 31    | 0        | 12       | 11      | 0            |
| 5   | B     | 31    | 0        | 12       | 11      | 0            |
| 5   | C     | 31    | 0        | 12       | 11      | 0            |
| 5   | D     | 31    | 0        | 12       | 9       | 0            |
| 5   | E     | 31    | 0        | 12       | 10      | 0            |
| All | All   | 20450 | 0        | 20491    | 1408    | 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 34.

All (1408) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:390:LYS:HZ3  | 1:A:393:PHE:HB3  | 1.12                     | 1.08              |
| 1:E:173:ARG:NH1  | 1:E:288:LYS:O    | 1.88                     | 1.06              |
| 1:B:24:GLU:OE2   | 1:B:195:LYS:NZ   | 1.90                     | 1.04              |
| 1:C:390:LYS:HZ2  | 1:D:172:ASN:N    | 1.56                     | 1.03              |
| 1:D:103:ASN:OD1  | 2:P:229:LYS:NZ   | 1.95                     | 0.99              |
| 1:D:182:GLY:HA2  | 1:D:386:ARG:HH21 | 1.26                     | 0.99              |
| 1:D:244:ASP:OD2  | 2:P:233:ARG:NH1  | 1.98                     | 0.96              |
| 4:Z:192:LYS:NZ   | 4:Z:194:ASN:OD1  | 1.99                     | 0.94              |
| 1:D:302:THR:HG23 | 1:D:305:ILE:HG12 | 1.47                     | 0.94              |
| 1:E:306:ASP:OD2  | 1:E:309:PHE:N    | 2.00                     | 0.93              |
| 1:A:122:ALA:HA   | 1:A:211:GLU:O    | 1.70                     | 0.92              |
| 1:A:185:LYS:NZ   | 1:A:300:ASN:OD1  | 2.01                     | 0.92              |
| 1:D:306:ASP:OD2  | 1:D:309:PHE:N    | 2.03                     | 0.92              |
| 1:E:127:LEU:O    | 1:E:129:ALA:N    | 2.03                     | 0.91              |
| 1:D:123:ASN:HB2  | 1:D:211:GLU:HB3  | 1.53                     | 0.91              |
| 1:A:390:LYS:NZ   | 1:A:393:PHE:HB3  | 1.85                     | 0.91              |
| 1:B:172:ASN:N    | 1:B:314:ASP:OD2  | 2.04                     | 0.91              |
| 1:C:379:LYS:NZ   | 1:C:415:SER:OG   | 2.04                     | 0.90              |
| 1:F:173:ARG:NH1  | 1:F:288:LYS:O    | 2.04                     | 0.90              |
| 1:A:390:LYS:HZ1  | 1:A:394:LEU:HG   | 1.35                     | 0.90              |
| 1:E:28:ARG:NH1   | 1:E:67:THR:O     | 2.04                     | 0.89              |
| 1:E:334:CYS:SG   | 1:E:389:ARG:NH1  | 2.45                     | 0.89              |
| 1:B:173:ARG:NH1  | 1:B:288:LYS:O    | 2.06                     | 0.88              |
| 1:A:206:TYR:O    | 1:A:245:ALA:HA   | 1.73                     | 0.88              |
| 1:B:306:ASP:OD2  | 1:B:309:PHE:N    | 2.07                     | 0.88              |
| 2:P:218:HIS:HB3  | 2:P:221:CYS:HB3  | 1.55                     | 0.87              |
| 1:E:157:LEU:HB3  | 1:E:203:ARG:HH12 | 1.40                     | 0.86              |
| 1:B:111:ASN:O    | 1:B:235:LYS:NZ   | 2.08                     | 0.85              |
| 4:Z:117:ARG:NH1  | 4:Z:189:THR:O    | 2.09                     | 0.85              |
| 1:B:157:LEU:HB2  | 1:B:203:ARG:NH1  | 1.90                     | 0.85              |
| 1:D:401:GLN:NE2  | 1:E:151:ASP:OD2  | 2.09                     | 0.84              |
| 4:Z:107:ASP:OD2  | 4:Z:117:ARG:NH2  | 2.10                     | 0.84              |
| 1:B:151:ASP:HA   | 1:B:154:MET:HB3  | 1.58                     | 0.84              |
| 1:F:255:GLU:OE2  | 1:F:299:SER:OG   | 1.93                     | 0.84              |
| 1:C:128:PRO:HG3  | 1:C:197:THR:HG21 | 1.60                     | 0.83              |
| 1:C:179:GLY:H    | 1:C:185:LYS:HZ2  | 1.22                     | 0.83              |
| 1:E:58:TRP:HB2   | 1:E:73:VAL:HB    | 1.60                     | 0.83              |
| 1:B:157:LEU:HB2  | 1:B:203:ARG:HH11 | 1.42                     | 0.82              |
| 2:P:193:ALA:O    | 2:P:197:ALA:N    | 2.11                     | 0.82              |
| 1:D:261:ARG:HH12 | 1:D:278:ASN:N    | 1.76                     | 0.82              |
| 1:A:390:LYS:HZ3  | 1:A:393:PHE:CB   | 1.93                     | 0.82              |
| 1:E:103:ASN:H    | 1:E:129:ALA:HA   | 1.42                     | 0.82              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:31:SER:OG    | 1:E:69:ASN:ND2   | 2.13                     | 0.82              |
| 1:D:184:GLY:HA2  | 5:D:901:AGS:H5'1 | 1.61                     | 0.82              |
| 5:E:901:AGS:S1G  | 5:E:901:AGS:O1A  | 2.38                     | 0.82              |
| 4:Z:98:GLU:OE2   | 4:Z:100:TRP:NE1  | 2.11                     | 0.81              |
| 1:F:338:LEU:HD13 | 1:F:344:ILE:HD12 | 1.61                     | 0.81              |
| 1:E:308:ALA:O    | 1:E:312:ARG:N    | 2.13                     | 0.81              |
| 4:Z:129:ARG:HG2  | 4:Z:133:ARG:HE   | 1.46                     | 0.81              |
| 1:D:136:TRP:O    | 1:D:146:LYS:NZ   | 2.13                     | 0.81              |
| 1:C:303:GLU:OE1  | 1:D:262:ASN:ND2  | 2.14                     | 0.80              |
| 1:E:24:GLU:OE2   | 1:E:195:LYS:NZ   | 2.12                     | 0.80              |
| 1:D:48:ARG:HH12  | 1:D:62:ASP:HB2   | 1.47                     | 0.80              |
| 1:D:218:PHE:HZ   | 1:E:222:PHE:HD1  | 1.28                     | 0.80              |
| 1:E:142:ASP:OD2  | 1:E:323:SER:OG   | 2.00                     | 0.80              |
| 1:A:272:ASP:OD2  | 4:Z:7:ARG:NE     | 2.15                     | 0.79              |
| 1:C:389:ARG:NH1  | 1:D:168:LEU:O    | 2.15                     | 0.79              |
| 1:E:183:THR:H    | 1:E:185:LYS:NZ   | 1.81                     | 0.79              |
| 1:C:123:ASN:HB2  | 1:C:211:GLU:HB3  | 1.63                     | 0.79              |
| 1:D:267:GLY:O    | 1:D:271:SER:N    | 2.16                     | 0.79              |
| 4:Z:48:LYS:HB3   | 4:Z:53:LEU:HD12  | 1.65                     | 0.78              |
| 1:F:208:GLN:HG3  | 1:F:239:LEU:HD22 | 1.66                     | 0.78              |
| 1:A:390:LYS:NZ   | 1:A:394:LEU:HG   | 1.98                     | 0.78              |
| 1:D:390:LYS:HZ3  | 1:E:172:ASN:HB2  | 1.49                     | 0.78              |
| 1:C:177:LEU:HB2  | 1:C:298:THR:HG22 | 1.66                     | 0.78              |
| 1:C:127:LEU:O    | 1:C:129:ALA:N    | 2.16                     | 0.78              |
| 1:B:120:ILE:HG21 | 1:C:227:LYS:NZ   | 1.99                     | 0.77              |
| 1:A:165:ASN:N    | 1:F:337:GLU:OE2  | 2.14                     | 0.77              |
| 1:C:373:LEU:HA   | 1:C:376:ILE:HD12 | 1.65                     | 0.77              |
| 1:B:249:VAL:HB   | 1:B:295:ILE:HG12 | 1.65                     | 0.77              |
| 1:C:285:ASP:OD2  | 1:C:312:ARG:NH2  | 2.17                     | 0.77              |
| 1:E:369:LEU:HD21 | 1:E:408:GLU:HG3  | 1.67                     | 0.77              |
| 1:D:287:ILE:HD11 | 1:D:295:ILE:HD11 | 1.67                     | 0.77              |
| 1:F:332:LEU:HD22 | 1:F:350:LEU:HB3  | 1.67                     | 0.77              |
| 5:E:901:AGS:O2A  | 5:E:901:AGS:O1B  | 2.00                     | 0.76              |
| 1:F:127:LEU:HD12 | 1:F:207:GLY:HA3  | 1.68                     | 0.76              |
| 1:E:31:SER:HG    | 1:E:69:ASN:ND2   | 1.84                     | 0.76              |
| 1:E:183:THR:H    | 1:E:185:LYS:HZ3  | 1.32                     | 0.76              |
| 1:B:306:ASP:OD1  | 1:B:307:VAL:N    | 2.19                     | 0.76              |
| 4:Z:126:ASP:OD1  | 4:Z:129:ARG:NH1  | 2.19                     | 0.76              |
| 1:A:309:PHE:HD1  | 1:A:312:ARG:HH21 | 1.32                     | 0.76              |
| 1:B:120:ILE:HG21 | 1:C:227:LYS:HZ2  | 1.48                     | 0.76              |
| 1:A:376:ILE:HA   | 1:A:379:LYS:HE2  | 1.67                     | 0.75              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:Z:105:GLU:O    | 4:Z:191:HIS:HA   | 1.86                     | 0.75              |
| 5:B:901:AGS:O1A  | 5:B:901:AGS:O1B  | 1.99                     | 0.75              |
| 1:E:220:LYS:NZ   | 1:E:256:SER:OG   | 2.17                     | 0.75              |
| 1:F:391:LEU:HB3  | 1:F:414:LEU:HD11 | 1.68                     | 0.75              |
| 1:A:234:GLN:NE2  | 1:A:238:ASP:OD2  | 2.19                     | 0.75              |
| 1:D:173:ARG:NH1  | 1:D:288:LYS:O    | 2.19                     | 0.74              |
| 1:C:182:GLY:HA2  | 1:C:386:ARG:HE   | 1.52                     | 0.74              |
| 1:E:278:ASN:OD1  | 1:E:279:ALA:N    | 2.21                     | 0.74              |
| 4:Z:87:VAL:HG22  | 4:Z:99:ARG:HG3   | 1.69                     | 0.74              |
| 1:D:263:ALA:HB1  | 1:D:265:ARG:HH12 | 1.52                     | 0.74              |
| 1:D:157:LEU:HB3  | 1:D:203:ARG:NH1  | 2.03                     | 0.74              |
| 1:F:175:VAL:O    | 1:F:297:THR:OG1  | 2.06                     | 0.74              |
| 1:C:185:LYS:HE2  | 1:C:298:THR:HB   | 1.70                     | 0.74              |
| 1:F:400:VAL:HG12 | 1:F:402:ALA:H    | 1.51                     | 0.73              |
| 5:A:901:AGS:H5'1 | 5:A:901:AGS:H8   | 1.70                     | 0.73              |
| 2:P:157:ASN:OD1  | 2:P:160:SER:N    | 2.21                     | 0.73              |
| 4:Z:49:TYR:O     | 4:Z:129:ARG:NH2  | 2.21                     | 0.73              |
| 1:A:281:LEU:HD13 | 1:A:312:ARG:HH22 | 1.53                     | 0.73              |
| 1:B:425:ARG:HE   | 1:C:316:LYS:NZ   | 1.86                     | 0.73              |
| 1:C:166:SER:O    | 1:C:170:THR:OG1  | 2.07                     | 0.73              |
| 1:C:281:LEU:HD22 | 1:C:312:ARG:NH1  | 2.04                     | 0.73              |
| 1:D:209:LEU:HD11 | 1:D:250:LEU:HB2  | 1.70                     | 0.73              |
| 4:Z:88:ILE:HB    | 4:Z:98:GLU:HB3   | 1.69                     | 0.73              |
| 1:E:185:LYS:NZ   | 5:E:901:AGS:O3B  | 2.22                     | 0.73              |
| 1:D:306:ASP:OD1  | 1:D:307:VAL:N    | 2.21                     | 0.72              |
| 1:E:135:LEU:O    | 1:E:138:SER:OG   | 2.07                     | 0.72              |
| 1:C:19:PRO:HG2   | 1:C:94:THR:HG23  | 1.70                     | 0.72              |
| 1:C:184:GLY:HA2  | 5:C:901:AGS:H5'1 | 1.70                     | 0.72              |
| 1:F:299:SER:OG   | 1:F:301:ILE:O    | 2.07                     | 0.72              |
| 4:Z:110:ALA:HA   | 4:Z:113:ASP:HB2  | 1.71                     | 0.72              |
| 1:B:48:ARG:NH1   | 1:B:62:ASP:HB2   | 2.05                     | 0.72              |
| 1:D:264:CYS:H    | 1:D:265:ARG:NH1  | 1.87                     | 0.72              |
| 1:E:421:GLN:NE2  | 1:E:424:GLU:OE2  | 2.23                     | 0.72              |
| 1:A:389:ARG:NH1  | 1:B:168:LEU:HA   | 2.06                     | 0.71              |
| 1:B:278:ASN:OD1  | 1:B:279:ALA:N    | 2.23                     | 0.71              |
| 1:E:340:LYS:HA   | 1:E:347:ARG:HH22 | 1.55                     | 0.71              |
| 1:E:386:ARG:NH2  | 5:E:901:AGS:O1A  | 2.23                     | 0.71              |
| 1:F:151:ASP:OD1  | 1:F:152:TYR:N    | 2.24                     | 0.71              |
| 1:E:200:LEU:HB3  | 1:E:204:TYR:HD2  | 1.55                     | 0.71              |
| 2:P:77:LEU:HG    | 2:P:81:MET:HE2   | 1.71                     | 0.71              |
| 1:D:251:ILE:HB   | 1:D:297:THR:HG22 | 1.71                     | 0.71              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:151:ASP:OD2  | 1:F:401:GLN:NE2  | 2.24                     | 0.71              |
| 1:A:299:SER:OG   | 1:A:301:ILE:O    | 2.07                     | 0.71              |
| 1:D:182:GLY:HA2  | 1:D:386:ARG:NH2  | 2.04                     | 0.70              |
| 1:D:420:LYS:HG2  | 1:D:424:GLU:OE2  | 1.90                     | 0.70              |
| 1:F:125:TRP:HB2  | 1:F:209:LEU:HB3  | 1.73                     | 0.70              |
| 1:F:127:LEU:O    | 1:F:129:ALA:N    | 2.20                     | 0.70              |
| 1:B:141:TYR:OH   | 1:B:183:THR:O    | 2.08                     | 0.70              |
| 1:B:252:ASP:O    | 1:B:298:THR:OG1  | 2.09                     | 0.70              |
| 1:E:249:VAL:HB   | 1:E:295:ILE:HG12 | 1.74                     | 0.70              |
| 2:P:96:HIS:NE2   | 4:Z:33:TYR:OH    | 2.24                     | 0.70              |
| 1:C:222:PHE:HB2  | 4:Z:3:LEU:HB2    | 1.71                     | 0.70              |
| 4:Z:135:ILE:O    | 4:Z:138:THR:OG1  | 2.07                     | 0.70              |
| 1:B:131:GLU:CD   | 1:C:289:ARG:HH12 | 2.00                     | 0.70              |
| 1:C:179:GLY:N    | 1:C:185:LYS:HZ2  | 1.89                     | 0.70              |
| 1:D:275:ARG:HA   | 1:D:278:ASN:HD21 | 1.57                     | 0.70              |
| 1:C:31:SER:OG    | 1:C:69:ASN:ND2   | 2.23                     | 0.70              |
| 1:C:173:ARG:NH1  | 1:C:290:HIS:O    | 2.24                     | 0.70              |
| 2:P:228:PRO:HA   | 2:P:263:PHE:HA   | 1.73                     | 0.70              |
| 4:Z:188:THR:HG1  | 4:Z:191:HIS:H    | 1.37                     | 0.70              |
| 1:B:215:HIS:HA   | 1:C:275:ARG:HH21 | 1.56                     | 0.69              |
| 1:D:424:GLU:HB3  | 1:E:316:LYS:HD2  | 1.73                     | 0.69              |
| 2:P:214:MET:HG2  | 2:P:264:GLN:HA   | 1.75                     | 0.69              |
| 1:D:306:ASP:CG   | 1:D:308:ALA:H    | 2.01                     | 0.69              |
| 1:F:123:ASN:H    | 1:F:211:GLU:HB3  | 1.55                     | 0.69              |
| 4:Z:75:TRP:HB3   | 4:Z:80:SER:HB2   | 1.74                     | 0.69              |
| 1:D:214:SER:O    | 1:D:217:LEU:N    | 2.25                     | 0.69              |
| 1:F:374:ASN:O    | 1:F:378:ARG:N    | 2.25                     | 0.69              |
| 1:E:373:LEU:HA   | 1:E:376:ILE:HD12 | 1.74                     | 0.69              |
| 1:C:144:GLU:HB3  | 1:C:147:SER:HB2  | 1.74                     | 0.69              |
| 2:P:93:GLN:HE22  | 4:Z:34:GLN:HG2   | 1.58                     | 0.69              |
| 1:C:261:ARG:HH22 | 1:C:278:ASN:HB3  | 1.57                     | 0.69              |
| 1:A:280:VAL:O    | 1:A:283:GLN:HB2  | 1.93                     | 0.68              |
| 2:P:173:ALA:CB   | 2:P:249:ARG:HH12 | 2.05                     | 0.68              |
| 1:D:260:ALA:HB1  | 1:D:263:ALA:HB3  | 1.75                     | 0.68              |
| 1:F:376:ILE:O    | 1:F:380:SER:OG   | 2.10                     | 0.68              |
| 1:C:233:PHE:HA   | 1:C:236:ILE:HD12 | 1.75                     | 0.68              |
| 1:C:237:GLN:HA   | 1:C:240:ILE:HD12 | 1.75                     | 0.68              |
| 1:A:255:GLU:HA   | 1:A:258:THR:HG22 | 1.74                     | 0.68              |
| 1:A:277:VAL:O    | 1:A:280:VAL:HB   | 1.93                     | 0.68              |
| 5:A:901:AGS:O2G  | 5:A:901:AGS:O1B  | 2.10                     | 0.68              |
| 1:B:192:LEU:HD23 | 1:B:296:LEU:HD11 | 1.75                     | 0.68              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:Z:33:TYR:HD1   | 4:Z:43:PHE:HD2   | 1.41                     | 0.68              |
| 1:A:189:CYS:HB3  | 1:A:296:LEU:HD13 | 1.75                     | 0.68              |
| 1:B:301:ILE:HG12 | 1:C:261:ARG:HG2  | 1.74                     | 0.68              |
| 1:B:182:GLY:HA2  | 1:B:386:ARG:HH21 | 1.58                     | 0.68              |
| 1:D:207:GLY:HA2  | 1:D:246:LEU:H    | 1.59                     | 0.68              |
| 1:A:184:GLY:O    | 1:A:188:LEU:N    | 2.23                     | 0.67              |
| 1:A:175:VAL:HG22 | 1:A:315:ILE:HD12 | 1.76                     | 0.67              |
| 1:A:281:LEU:HD23 | 1:A:284:ILE:HD12 | 1.76                     | 0.67              |
| 1:E:333:SER:OG   | 1:E:389:ARG:NH2  | 2.26                     | 0.67              |
| 1:F:322:PRO:HB2  | 1:F:326:ALA:HB3  | 1.77                     | 0.67              |
| 1:D:32:THR:HG22  | 2:P:228:PRO:HG3  | 1.77                     | 0.67              |
| 1:E:356:LEU:HD11 | 1:E:370:SER:HB3  | 1.75                     | 0.67              |
| 1:A:400:VAL:HG11 | 1:A:405:VAL:HG12 | 1.76                     | 0.67              |
| 1:B:31:SER:OG    | 1:B:69:ASN:ND2   | 2.24                     | 0.67              |
| 1:C:28:ARG:HE    | 1:C:71:GLN:HB2   | 1.60                     | 0.67              |
| 1:F:152:TYR:HE1  | 1:F:315:ILE:HB   | 1.60                     | 0.67              |
| 1:B:374:ASN:HD21 | 1:B:378:ARG:HH21 | 1.43                     | 0.66              |
| 1:B:386:ARG:NH2  | 5:B:901:AGS:O3A  | 2.27                     | 0.66              |
| 1:C:25:VAL:HB    | 1:C:99:ILE:HA    | 1.77                     | 0.66              |
| 1:F:130:ALA:HA   | 1:F:133:HIS:HB2  | 1.76                     | 0.66              |
| 1:A:400:VAL:HG12 | 1:A:402:ALA:H    | 1.59                     | 0.66              |
| 1:D:28:ARG:HB2   | 1:D:71:GLN:HB2   | 1.78                     | 0.66              |
| 1:D:263:ALA:HB1  | 1:D:265:ARG:NH1  | 2.10                     | 0.66              |
| 1:E:104:GLU:OE1  | 1:F:289:ARG:NH1  | 2.28                     | 0.66              |
| 1:B:233:PHE:HA   | 1:B:236:ILE:HD12 | 1.76                     | 0.66              |
| 1:D:369:LEU:HD22 | 1:D:408:GLU:HG2  | 1.77                     | 0.66              |
| 1:D:390:LYS:NZ   | 1:E:172:ASN:HB2  | 2.11                     | 0.66              |
| 1:E:177:LEU:HG   | 1:E:317:GLN:HB3  | 1.78                     | 0.66              |
| 1:B:142:ASP:OD2  | 1:B:323:SER:OG   | 2.05                     | 0.66              |
| 1:C:29:GLY:HA2   | 1:C:101:GLN:HE21 | 1.59                     | 0.66              |
| 1:E:157:LEU:HD22 | 1:E:203:ARG:HH11 | 1.60                     | 0.66              |
| 1:C:420:LYS:HG2  | 1:C:424:GLU:OE2  | 1.96                     | 0.66              |
| 1:B:390:LYS:HG2  | 1:C:171:TRP:HA   | 1.77                     | 0.65              |
| 1:F:249:VAL:HB   | 1:F:295:ILE:HA   | 1.78                     | 0.65              |
| 1:D:323:SER:HA   | 1:D:381:GLU:OE2  | 1.96                     | 0.65              |
| 2:P:152:ILE:HG12 | 2:P:213:VAL:HG22 | 1.77                     | 0.65              |
| 5:A:901:AGS:S1G  | 5:A:901:AGS:O1A  | 2.55                     | 0.65              |
| 1:E:393:PHE:CE2  | 1:F:169:ILE:HG22 | 2.30                     | 0.65              |
| 1:D:28:ARG:HG2   | 1:D:30:SER:H     | 1.61                     | 0.65              |
| 1:C:425:ARG:HG2  | 1:D:316:LYS:NZ   | 2.11                     | 0.65              |
| 1:C:337:GLU:OE2  | 1:D:165:ASN:N    | 2.24                     | 0.65              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:344:ILE:HG21 | 1:D:407:ILE:HB   | 1.78                     | 0.65              |
| 1:E:393:PHE:CE1  | 1:F:171:TRP:HB3  | 2.32                     | 0.65              |
| 1:F:128:PRO:HD3  | 1:F:197:THR:HG21 | 1.78                     | 0.65              |
| 1:F:229:VAL:HG21 | 1:F:276:VAL:HG13 | 1.79                     | 0.65              |
| 4:Z:21:ALA:HB1   | 4:Z:69:VAL:HG13  | 1.79                     | 0.65              |
| 1:F:385:GLY:HA2  | 1:F:388:LEU:HD12 | 1.78                     | 0.65              |
| 1:A:125:TRP:CZ3  | 1:A:211:GLU:HB2  | 2.32                     | 0.65              |
| 1:B:281:LEU:HD22 | 1:B:312:ARG:HD2  | 1.79                     | 0.64              |
| 1:D:113:GLU:HB2  | 1:D:116:THR:HA   | 1.79                     | 0.64              |
| 1:F:205:ARG:H    | 1:F:244:ASP:HB3  | 1.62                     | 0.64              |
| 1:D:127:LEU:HD21 | 1:D:209:LEU:HB2  | 1.78                     | 0.64              |
| 1:F:214:SER:HB3  | 1:F:253:GLN:HE21 | 1.62                     | 0.64              |
| 1:B:206:TYR:OH   | 1:B:242:ASP:OD2  | 2.13                     | 0.64              |
| 1:C:142:ASP:OD1  | 1:C:329:LYS:NZ   | 2.29                     | 0.64              |
| 1:D:54:GLY:HA2   | 1:D:89:ASP:HB2   | 1.78                     | 0.64              |
| 1:F:373:LEU:O    | 1:F:377:SER:N    | 2.30                     | 0.64              |
| 4:Z:113:ASP:OD2  | 4:Z:117:ARG:NH2  | 2.30                     | 0.64              |
| 1:A:125:TRP:HZ3  | 1:A:211:GLU:HB2  | 1.62                     | 0.64              |
| 1:C:213:ASN:O    | 1:C:216:SER:OG   | 2.07                     | 0.64              |
| 1:F:370:SER:O    | 1:F:373:LEU:HB3  | 1.98                     | 0.64              |
| 1:A:389:ARG:HH12 | 1:B:168:LEU:HD23 | 1.63                     | 0.64              |
| 1:C:139:LEU:HD11 | 1:C:188:LEU:HB2  | 1.79                     | 0.64              |
| 1:E:142:ASP:OD2  | 1:E:325:ALA:HB3  | 1.98                     | 0.64              |
| 1:B:211:GLU:HA   | 1:B:250:LEU:HB3  | 1.79                     | 0.64              |
| 1:D:172:ASN:N    | 1:D:314:ASP:OD2  | 2.30                     | 0.64              |
| 1:C:157:LEU:HB3  | 1:C:203:ARG:NH1  | 2.12                     | 0.64              |
| 1:D:264:CYS:H    | 1:D:265:ARG:HH12 | 1.45                     | 0.64              |
| 1:D:390:LYS:HG2  | 1:E:171:TRP:HA   | 1.80                     | 0.64              |
| 5:C:901:AGS:O2G  | 5:C:901:AGS:O2B  | 2.13                     | 0.63              |
| 1:E:306:ASP:CG   | 1:E:308:ALA:H    | 2.06                     | 0.63              |
| 1:D:134:GLY:HA2  | 1:D:137:ASP:OD2  | 1.99                     | 0.63              |
| 1:E:165:ASN:HB3  | 1:E:168:LEU:HD12 | 1.79                     | 0.63              |
| 3:Q:132:ARG:HE   | 4:Z:154:LEU:HD21 | 1.60                     | 0.63              |
| 4:Z:107:ASP:OD1  | 4:Z:109:THR:OG1  | 2.17                     | 0.63              |
| 4:Z:119:LYS:NZ   | 4:Z:187:THR:HG23 | 2.13                     | 0.63              |
| 1:C:175:VAL:N    | 1:C:295:ILE:O    | 2.31                     | 0.63              |
| 1:D:264:CYS:N    | 1:D:265:ARG:NH1  | 2.47                     | 0.63              |
| 1:B:255:GLU:OE2  | 1:B:301:ILE:HD13 | 1.99                     | 0.63              |
| 1:E:157:LEU:HB3  | 1:E:203:ARG:NH1  | 2.13                     | 0.63              |
| 2:P:153:LEU:HD22 | 2:P:161:PRO:HB3  | 1.80                     | 0.63              |
| 1:B:173:ARG:HD3  | 1:B:293:VAL:O    | 1.99                     | 0.63              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:401:GLN:HE21 | 1:F:151:ASP:HB3  | 1.64                     | 0.63              |
| 1:B:172:ASN:HD21 | 1:B:313:ALA:HA   | 1.64                     | 0.63              |
| 1:C:390:LYS:HZ2  | 1:D:172:ASN:H    | 1.43                     | 0.63              |
| 4:Z:41:GLU:N     | 4:Z:41:GLU:OE1   | 2.31                     | 0.63              |
| 1:B:173:ARG:NH1  | 1:B:290:HIS:H    | 1.97                     | 0.62              |
| 1:C:425:ARG:HG2  | 1:D:316:LYS:HZ1  | 1.63                     | 0.62              |
| 1:E:285:ASP:OD1  | 1:E:312:ARG:NH2  | 2.31                     | 0.62              |
| 4:Z:90:ASN:ND2   | 4:Z:93:SER:OG    | 2.32                     | 0.62              |
| 1:C:175:VAL:HB   | 1:C:296:LEU:HD23 | 1.81                     | 0.62              |
| 1:C:207:GLY:HA2  | 1:C:246:LEU:H    | 1.64                     | 0.62              |
| 1:C:258:THR:HA   | 1:C:277:VAL:HG22 | 1.81                     | 0.62              |
| 1:C:386:ARG:NH2  | 5:C:901:AGS:H5'2 | 2.14                     | 0.62              |
| 1:D:247:VAL:HB   | 1:D:293:VAL:HG22 | 1.79                     | 0.62              |
| 1:F:180:PRO:O    | 1:F:183:THR:OG1  | 2.17                     | 0.62              |
| 3:Q:136:LYS:HZ1  | 4:Z:64:TYR:CB    | 2.13                     | 0.62              |
| 1:A:376:ILE:O    | 1:A:380:SER:OG   | 2.14                     | 0.62              |
| 5:D:901:AGS:O2G  | 5:D:901:AGS:O1B  | 2.17                     | 0.62              |
| 3:Q:136:LYS:HZ1  | 4:Z:64:TYR:HB2   | 1.62                     | 0.62              |
| 1:B:328:PHE:HE2  | 1:B:352:THR:HA   | 1.64                     | 0.62              |
| 1:C:374:ASN:HD21 | 1:C:378:ARG:HH21 | 1.48                     | 0.62              |
| 1:B:238:ASP:HA   | 1:B:241:ASP:OD2  | 2.00                     | 0.62              |
| 1:D:48:ARG:NH1   | 1:D:62:ASP:HB2   | 2.14                     | 0.62              |
| 1:B:254:VAL:HG21 | 1:B:297:THR:HB   | 1.81                     | 0.62              |
| 1:D:157:LEU:HD11 | 1:D:204:TYR:HE2  | 1.64                     | 0.62              |
| 1:B:182:GLY:HA2  | 1:B:386:ARG:HE   | 1.65                     | 0.62              |
| 4:Z:34:GLN:HE22  | 4:Z:136:THR:HG23 | 1.64                     | 0.62              |
| 1:D:209:LEU:HD21 | 1:D:250:LEU:HD22 | 1.82                     | 0.62              |
| 1:A:314:ASP:HA   | 1:F:390:LYS:HZ2  | 1.65                     | 0.61              |
| 1:E:306:ASP:OD1  | 1:E:307:VAL:N    | 2.33                     | 0.61              |
| 1:E:389:ARG:CZ   | 1:F:168:LEU:HD22 | 2.30                     | 0.61              |
| 2:P:199:ALA:O    | 4:Z:184:ARG:NH2  | 2.27                     | 0.61              |
| 4:Z:85:VAL:HG22  | 4:Z:101:GLN:HA   | 1.82                     | 0.61              |
| 1:D:153:VAL:O    | 1:D:156:THR:HB   | 2.00                     | 0.61              |
| 1:D:184:GLY:O    | 1:D:188:LEU:N    | 2.32                     | 0.61              |
| 1:E:136:TRP:HA   | 1:E:191:ALA:HB1  | 1.81                     | 0.61              |
| 4:Z:186:PHE:CZ   | 4:Z:193:VAL:HB   | 2.34                     | 0.61              |
| 1:C:185:LYS:NZ   | 1:C:299:SER:O    | 2.34                     | 0.61              |
| 1:D:24:GLU:OE1   | 1:D:74:SER:OG    | 2.14                     | 0.61              |
| 1:D:220:LYS:HG2  | 1:E:222:PHE:O    | 2.00                     | 0.61              |
| 1:F:122:ALA:N    | 1:F:211:GLU:O    | 2.32                     | 0.61              |
| 4:Z:64:TYR:HE2   | 4:Z:153:LEU:HD12 | 1.65                     | 0.61              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:405:VAL:HB   | 1:A:410:PHE:HB2  | 1.82                     | 0.61              |
| 1:B:329:LYS:HA   | 1:B:332:LEU:HD12 | 1.82                     | 0.61              |
| 4:Z:134:GLN:HE22 | 4:Z:184:ARG:H    | 1.47                     | 0.61              |
| 1:A:172:ASN:N    | 1:A:314:ASP:OD2  | 2.34                     | 0.61              |
| 4:Z:83:LYS:HB2   | 4:Z:156:TYR:HB3  | 1.82                     | 0.61              |
| 1:A:286:GLN:O    | 1:A:289:ARG:HB2  | 2.00                     | 0.61              |
| 1:C:103:ASN:N    | 1:C:129:ALA:HA   | 2.16                     | 0.61              |
| 1:D:278:ASN:OD1  | 1:D:279:ALA:N    | 2.29                     | 0.61              |
| 1:D:156:THR:HG23 | 1:D:171:TRP:CH2  | 2.36                     | 0.61              |
| 1:E:206:TYR:O    | 1:E:245:ALA:HA   | 2.00                     | 0.61              |
| 1:E:227:LYS:O    | 1:E:230:THR:OG1  | 2.17                     | 0.61              |
| 1:E:407:ILE:HD12 | 1:E:410:PHE:HB3  | 1.81                     | 0.61              |
| 1:B:390:LYS:HE2  | 1:C:172:ASN:N    | 2.15                     | 0.61              |
| 1:B:39:ASN:OD1   | 1:B:43:ARG:NE    | 2.34                     | 0.61              |
| 1:B:218:PHE:HB2  | 1:C:275:ARG:HH22 | 1.66                     | 0.61              |
| 1:B:324:ALA:HA   | 1:B:327:ILE:HD12 | 1.81                     | 0.61              |
| 1:C:46:LEU:O     | 1:C:50:ASN:N     | 2.34                     | 0.61              |
| 1:E:364:ASN:N    | 1:E:367:SER:OG   | 2.31                     | 0.61              |
| 2:P:58:VAL:O     | 2:P:246:SER:N    | 2.34                     | 0.61              |
| 1:D:26:HIS:CE1   | 1:D:71:GLN:HB3   | 2.36                     | 0.61              |
| 4:Z:20:VAL:O     | 4:Z:23:PHE:HB3   | 2.00                     | 0.61              |
| 1:B:242:ASP:OD1  | 1:B:243:LYS:N    | 2.34                     | 0.60              |
| 1:E:397:ALA:HB1  | 1:F:151:ASP:OD2  | 2.01                     | 0.60              |
| 1:B:218:PHE:CB   | 1:C:275:ARG:HH12 | 2.15                     | 0.60              |
| 1:C:227:LYS:O    | 1:C:230:THR:OG1  | 2.17                     | 0.60              |
| 1:D:217:LEU:HG   | 1:D:228:LEU:HD22 | 1.82                     | 0.60              |
| 1:E:252:ASP:OD1  | 1:E:253:GLN:N    | 2.34                     | 0.60              |
| 1:F:328:PHE:O    | 1:F:332:LEU:HG   | 2.00                     | 0.60              |
| 1:A:207:GLY:HA2  | 1:A:245:ALA:HB1  | 1.83                     | 0.60              |
| 2:P:149:ARG:NH2  | 2:P:166:GLU:OE2  | 2.33                     | 0.60              |
| 1:A:175:VAL:O    | 1:A:297:THR:OG1  | 2.13                     | 0.60              |
| 5:A:901:AGS:O1A  | 1:B:312:ARG:NH1  | 2.31                     | 0.60              |
| 1:F:253:GLN:HB3  | 1:F:300:ASN:HD22 | 1.66                     | 0.60              |
| 1:D:383:LEU:HD23 | 1:D:425:ARG:NH1  | 2.16                     | 0.60              |
| 1:E:102:LEU:HD22 | 1:E:130:ALA:HA   | 1.82                     | 0.60              |
| 1:B:420:LYS:O    | 1:B:424:GLU:HG3  | 2.01                     | 0.60              |
| 1:F:288:LYS:NZ   | 1:F:312:ARG:HD2  | 2.16                     | 0.60              |
| 4:Z:26:PHE:HA    | 4:Z:29:ASN:HD22  | 1.67                     | 0.60              |
| 1:B:328:PHE:CE2  | 1:B:332:LEU:HD11 | 2.36                     | 0.60              |
| 1:D:214:SER:OG   | 1:E:278:ASN:ND2  | 2.34                     | 0.60              |
| 1:F:238:ASP:HA   | 1:F:241:ASP:OD2  | 2.02                     | 0.60              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:125:TRP:HE3  | 1:C:209:LEU:HD23 | 1.67                     | 0.60              |
| 1:C:128:PRO:HG3  | 1:C:197:THR:CG2  | 2.32                     | 0.60              |
| 1:D:173:ARG:NH1  | 1:D:288:LYS:C    | 2.60                     | 0.60              |
| 3:Q:136:LYS:NZ   | 4:Z:64:TYR:HB2   | 2.16                     | 0.60              |
| 1:B:19:PRO:HB2   | 1:B:93:CYS:HA    | 1.83                     | 0.60              |
| 4:Z:119:LYS:HZ1  | 4:Z:187:THR:HG23 | 1.66                     | 0.60              |
| 1:B:102:LEU:HB3  | 1:B:130:ALA:HB2  | 1.84                     | 0.60              |
| 1:B:221:TRP:HZ3  | 4:Z:8:GLU:H      | 1.50                     | 0.60              |
| 1:C:26:HIS:CE1   | 1:C:102:LEU:HD12 | 2.37                     | 0.60              |
| 4:Z:134:GLN:NE2  | 4:Z:184:ARG:H    | 1.99                     | 0.60              |
| 1:C:139:LEU:HD12 | 1:C:188:LEU:HD13 | 1.84                     | 0.59              |
| 1:F:164:VAL:HG12 | 1:F:169:ILE:HD12 | 1.84                     | 0.59              |
| 1:C:385:GLY:HA2  | 1:C:388:LEU:HD12 | 1.84                     | 0.59              |
| 1:D:189:CYS:HB3  | 1:D:296:LEU:HD13 | 1.84                     | 0.59              |
| 1:E:66:LEU:O     | 1:E:70:VAL:N     | 2.34                     | 0.59              |
| 1:E:376:ILE:O    | 1:E:380:SER:OG   | 2.14                     | 0.59              |
| 1:A:178:HIS:HB2  | 1:A:302:THR:HG22 | 1.84                     | 0.59              |
| 1:B:110:GLU:O    | 1:B:235:LYS:NZ   | 2.31                     | 0.59              |
| 1:F:122:ALA:CA   | 1:F:211:GLU:O    | 2.50                     | 0.59              |
| 1:F:212:ILE:HB   | 1:F:251:ILE:HG12 | 1.83                     | 0.59              |
| 1:D:121:ALA:HB1  | 1:D:213:ASN:HB3  | 1.84                     | 0.59              |
| 1:E:103:ASN:O    | 1:E:130:ALA:N    | 2.31                     | 0.59              |
| 1:A:335:LEU:HA   | 1:A:338:LEU:HD12 | 1.85                     | 0.59              |
| 5:A:901:AGS:O1B  | 5:A:901:AGS:O2A  | 2.19                     | 0.59              |
| 1:C:217:LEU:HD11 | 1:C:229:VAL:HA   | 1.84                     | 0.59              |
| 1:F:369:LEU:O    | 1:F:373:LEU:N    | 2.17                     | 0.59              |
| 1:A:353:LEU:HD23 | 1:A:356:LEU:HD12 | 1.83                     | 0.59              |
| 1:B:48:ARG:HH11  | 1:B:62:ASP:HB2   | 1.67                     | 0.59              |
| 1:B:185:LYS:NZ   | 1:B:300:ASN:OD1  | 2.33                     | 0.59              |
| 1:D:121:ALA:HB3  | 1:D:216:SER:HB3  | 1.84                     | 0.59              |
| 1:B:143:VAL:HB   | 1:B:145:VAL:HG23 | 1.84                     | 0.59              |
| 1:F:195:LYS:HA   | 1:F:198:ILE:HD12 | 1.85                     | 0.59              |
| 4:Z:90:ASN:OD1   | 4:Z:91:ILE:N     | 2.35                     | 0.59              |
| 1:A:356:LEU:HD11 | 1:A:370:SER:HB3  | 1.84                     | 0.59              |
| 1:D:400:VAL:HG12 | 1:D:402:ALA:H    | 1.67                     | 0.59              |
| 1:D:408:GLU:HG3  | 1:D:411:LEU:HD12 | 1.84                     | 0.59              |
| 4:Z:109:THR:OG1  | 4:Z:113:ASP:OD2  | 2.07                     | 0.59              |
| 1:B:399:TYR:HB2  | 1:B:413:ALA:HB1  | 1.85                     | 0.58              |
| 1:C:328:PHE:HE2  | 1:C:352:THR:HA   | 1.68                     | 0.58              |
| 1:C:390:LYS:HZ3  | 1:D:171:TRP:N    | 2.00                     | 0.58              |
| 1:D:352:THR:H    | 1:D:355:GLU:HB2  | 1.68                     | 0.58              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:F:122:ALA:HA   | 1:F:211:GLU:O    | 2.03                     | 0.58              |
| 1:F:255:GLU:OE2  | 1:F:301:ILE:HB   | 2.03                     | 0.58              |
| 5:B:901:AGS:O2A  | 5:B:901:AGS:S1G  | 2.60                     | 0.58              |
| 1:E:237:GLN:HA   | 1:E:240:ILE:HD12 | 1.86                     | 0.58              |
| 1:F:127:LEU:HD13 | 1:F:197:THR:OG1  | 2.02                     | 0.58              |
| 1:F:228:LEU:O    | 1:F:232:MET:HB2  | 2.03                     | 0.58              |
| 1:A:127:LEU:HB3  | 1:A:128:PRO:HD3  | 1.85                     | 0.58              |
| 1:C:173:ARG:HD3  | 1:C:293:VAL:O    | 2.02                     | 0.58              |
| 2:P:79:HIS:HE1   | 4:Z:137:ALA:HB1  | 1.68                     | 0.58              |
| 1:A:284:ILE:HA   | 1:A:287:ILE:HG12 | 1.84                     | 0.58              |
| 1:D:330:ILE:O    | 1:D:333:SER:OG   | 2.17                     | 0.58              |
| 1:E:194:GLN:O    | 1:E:197:THR:HB   | 2.03                     | 0.58              |
| 1:F:379:LYS:NZ   | 1:F:419:ASP:HA   | 2.18                     | 0.58              |
| 4:Z:134:GLN:HE22 | 4:Z:184:ARG:N    | 2.01                     | 0.58              |
| 4:Z:179:GLU:OE1  | 4:Z:199:TYR:OH   | 2.21                     | 0.58              |
| 1:A:237:GLN:HA   | 1:A:240:ILE:HD12 | 1.86                     | 0.58              |
| 1:B:208:GLN:HG3  | 1:B:239:LEU:HD22 | 1.86                     | 0.58              |
| 1:C:285:ASP:HA   | 1:C:288:LYS:HG3  | 1.85                     | 0.58              |
| 1:C:140:VAL:HG11 | 1:C:329:LYS:HD2  | 1.85                     | 0.58              |
| 1:F:125:TRP:CZ3  | 1:F:211:GLU:HB2  | 2.39                     | 0.58              |
| 4:Z:177:ASN:O    | 4:Z:201:ILE:N    | 2.36                     | 0.58              |
| 1:A:152:TYR:CE2  | 1:A:315:ILE:HD11 | 2.39                     | 0.58              |
| 1:C:204:TYR:CZ   | 1:C:246:LEU:HD13 | 2.39                     | 0.58              |
| 1:C:255:GLU:OE1  | 1:C:255:GLU:N    | 2.32                     | 0.58              |
| 1:D:143:VAL:HB   | 1:D:145:VAL:HG23 | 1.86                     | 0.58              |
| 1:D:302:THR:O    | 1:D:304:LYS:N    | 2.37                     | 0.58              |
| 2:P:149:ARG:NE   | 2:P:166:GLU:OE2  | 2.37                     | 0.58              |
| 1:D:344:ILE:HG12 | 1:D:405:VAL:HG13 | 1.85                     | 0.57              |
| 1:B:58:TRP:HB3   | 1:B:61:PHE:HE1   | 1.69                     | 0.57              |
| 1:D:103:ASN:H    | 1:D:129:ALA:HA   | 1.67                     | 0.57              |
| 1:E:111:ASN:N    | 1:E:235:LYS:NZ   | 2.52                     | 0.57              |
| 2:P:227:ARG:O    | 2:P:264:GLN:N    | 2.37                     | 0.57              |
| 1:B:251:ILE:HB   | 1:B:297:THR:HG22 | 1.85                     | 0.57              |
| 1:D:303:GLU:C    | 1:D:305:ILE:H    | 2.12                     | 0.57              |
| 1:E:251:ILE:HB   | 1:E:297:THR:HG22 | 1.86                     | 0.57              |
| 1:B:364:ASN:O    | 1:B:368:LYS:N    | 2.37                     | 0.57              |
| 1:D:145:VAL:HG21 | 1:D:319:ILE:HD11 | 1.85                     | 0.57              |
| 1:B:120:ILE:HG13 | 1:C:227:LYS:NZ   | 2.19                     | 0.57              |
| 1:C:152:TYR:CG   | 1:C:315:ILE:HD11 | 2.40                     | 0.57              |
| 1:D:324:ALA:HA   | 1:D:327:ILE:HD12 | 1.87                     | 0.57              |
| 1:A:251:ILE:HB   | 1:A:297:THR:HG22 | 1.86                     | 0.57              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:386:ARG:O    | 1:C:390:LYS:HG2  | 2.05                     | 0.57              |
| 5:D:901:AGS:O2A  | 5:D:901:AGS:S1G  | 2.62                     | 0.57              |
| 1:A:149:LEU:O    | 1:A:152:TYR:HB3  | 2.05                     | 0.57              |
| 1:D:141:TYR:CZ   | 1:D:188:LEU:HD22 | 2.39                     | 0.57              |
| 2:P:154:LEU:HD22 | 2:P:163:GLU:OE2  | 2.04                     | 0.57              |
| 4:Z:59:LEU:HD23  | 4:Z:62:ILE:HD12  | 1.86                     | 0.57              |
| 1:D:258:THR:HA   | 1:D:277:VAL:HG21 | 1.87                     | 0.57              |
| 1:D:373:LEU:HA   | 1:D:376:ILE:HD12 | 1.87                     | 0.57              |
| 1:F:253:GLN:HB2  | 1:F:256:SER:HB3  | 1.85                     | 0.57              |
| 4:Z:82:GLN:HA    | 4:Z:104:ILE:HB   | 1.87                     | 0.57              |
| 1:C:127:LEU:HB2  | 1:C:207:GLY:O    | 2.04                     | 0.57              |
| 1:C:336:GLU:OE2  | 1:C:350:LEU:HD12 | 2.05                     | 0.57              |
| 1:D:114:GLU:OE2  | 1:D:228:LEU:HA   | 2.05                     | 0.57              |
| 1:D:217:LEU:HD11 | 1:D:229:VAL:HG22 | 1.87                     | 0.57              |
| 1:E:236:ILE:O    | 1:E:240:ILE:HG13 | 2.05                     | 0.57              |
| 1:A:281:LEU:O    | 1:A:284:ILE:HB   | 2.05                     | 0.56              |
| 1:C:249:VAL:HB   | 1:C:295:ILE:HA   | 1.87                     | 0.56              |
| 1:C:390:LYS:HZ3  | 1:D:170:THR:C    | 2.12                     | 0.56              |
| 1:D:103:ASN:CG   | 2:P:229:LYS:NZ   | 2.62                     | 0.56              |
| 1:F:284:ILE:O    | 1:F:288:LYS:HG3  | 2.05                     | 0.56              |
| 3:Q:130:ILE:HG23 | 4:Z:154:LEU:HD22 | 1.87                     | 0.56              |
| 1:B:185:LYS:N    | 5:B:901:AGS:O2B  | 2.35                     | 0.56              |
| 1:B:218:PHE:CD2  | 1:C:275:ARG:NH1  | 2.73                     | 0.56              |
| 1:D:261:ARG:NH1  | 1:D:278:ASN:N    | 2.52                     | 0.56              |
| 5:E:901:AGS:O1B  | 5:E:901:AGS:O2G  | 2.23                     | 0.56              |
| 1:A:127:LEU:HB3  | 1:A:197:THR:HG21 | 1.87                     | 0.56              |
| 1:A:236:ILE:O    | 1:A:240:ILE:HG13 | 2.05                     | 0.56              |
| 1:B:218:PHE:CE1  | 1:B:276:VAL:HG21 | 2.40                     | 0.56              |
| 5:B:901:AGS:O1B  | 5:B:901:AGS:O2G  | 2.22                     | 0.56              |
| 1:C:279:ALA:O    | 1:C:282:THR:OG1  | 2.17                     | 0.56              |
| 1:D:237:GLN:HA   | 1:D:240:ILE:HD12 | 1.87                     | 0.56              |
| 4:Z:58:ASP:OD2   | 4:Z:61:LEU:N     | 2.28                     | 0.56              |
| 1:A:183:THR:N    | 5:A:901:AGS:O2B  | 2.37                     | 0.56              |
| 1:B:140:VAL:O    | 5:B:901:AGS:N6   | 2.32                     | 0.56              |
| 1:F:143:VAL:C    | 1:F:145:VAL:HG23 | 2.31                     | 0.56              |
| 1:D:352:THR:O    | 1:D:356:LEU:N    | 2.27                     | 0.56              |
| 1:B:222:PHE:HB2  | 4:Z:5:LEU:HD13   | 1.87                     | 0.56              |
| 1:C:174:VAL:HA   | 1:C:295:ILE:HB   | 1.87                     | 0.56              |
| 1:E:157:LEU:HD13 | 1:E:203:ARG:NH1  | 2.20                     | 0.56              |
| 1:B:25:VAL:HB    | 1:B:99:ILE:HA    | 1.87                     | 0.56              |
| 1:C:253:GLN:HB3  | 1:C:255:GLU:OE2  | 2.06                     | 0.56              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:141:TYR:OH   | 1:D:188:LEU:HB2  | 2.06                     | 0.56              |
| 1:B:269:GLU:OE2  | 4:Z:2:ALA:HB3    | 2.06                     | 0.56              |
| 1:C:376:ILE:O    | 1:C:380:SER:OG   | 2.16                     | 0.56              |
| 1:F:123:ASN:ND2  | 1:F:211:GLU:OE1  | 2.37                     | 0.56              |
| 1:A:145:VAL:HA   | 1:A:148:HIS:CG   | 2.40                     | 0.56              |
| 1:C:332:LEU:HD22 | 1:C:350:LEU:HB3  | 1.88                     | 0.56              |
| 1:E:132:PHE:CZ   | 1:E:190:LYS:HD3  | 2.41                     | 0.56              |
| 1:A:279:ALA:O    | 1:A:283:GLN:HG2  | 2.06                     | 0.55              |
| 1:A:364:ASN:OD1  | 1:A:367:SER:N    | 2.29                     | 0.55              |
| 1:B:45:LEU:HD22  | 1:B:66:LEU:HD13  | 1.88                     | 0.55              |
| 1:B:356:LEU:HD11 | 1:B:370:SER:HB3  | 1.88                     | 0.55              |
| 1:F:235:LYS:O    | 1:F:239:LEU:HG   | 2.06                     | 0.55              |
| 1:B:227:LYS:O    | 1:B:230:THR:OG1  | 2.23                     | 0.55              |
| 1:B:420:LYS:HG2  | 1:B:424:GLU:OE2  | 2.05                     | 0.55              |
| 1:D:284:ILE:HA   | 1:D:287:ILE:HG12 | 1.87                     | 0.55              |
| 1:F:387:VAL:O    | 1:F:391:LEU:HG   | 2.06                     | 0.55              |
| 1:B:377:SER:HA   | 1:B:380:SER:HB2  | 1.88                     | 0.55              |
| 1:E:407:ILE:HG13 | 1:E:408:GLU:H    | 1.70                     | 0.55              |
| 1:F:152:TYR:CE1  | 1:F:315:ILE:HB   | 2.42                     | 0.55              |
| 1:F:408:GLU:HA   | 1:F:411:LEU:HD12 | 1.88                     | 0.55              |
| 2:P:173:ALA:HB3  | 2:P:249:ARG:HH12 | 1.71                     | 0.55              |
| 2:P:208:LEU:HD11 | 2:P:273:ARG:HB3  | 1.88                     | 0.55              |
| 4:Z:81:VAL:HA    | 4:Z:157:THR:HA   | 1.87                     | 0.55              |
| 1:C:127:LEU:HD22 | 1:C:207:GLY:N    | 2.20                     | 0.55              |
| 1:C:252:ASP:OD1  | 1:C:253:GLN:HG3  | 2.07                     | 0.55              |
| 1:D:238:ASP:HA   | 1:D:241:ASP:OD2  | 2.07                     | 0.55              |
| 1:E:22:HIS:HA    | 1:E:96:ALA:HB3   | 1.87                     | 0.55              |
| 2:P:168:ASP:HB3  | 2:P:244:THR:HA   | 1.89                     | 0.55              |
| 1:E:24:GLU:CD    | 1:E:195:LYS:HZ2  | 2.07                     | 0.55              |
| 4:Z:39:PRO:HB3   | 4:Z:41:GLU:OE2   | 2.06                     | 0.55              |
| 1:B:128:PRO:HA   | 1:B:194:GLN:HE22 | 1.70                     | 0.55              |
| 1:D:275:ARG:HA   | 1:D:278:ASN:ND2  | 2.21                     | 0.55              |
| 1:F:186:THR:HG22 | 1:F:190:LYS:HE3  | 1.88                     | 0.55              |
| 1:F:328:PHE:HD1  | 1:F:373:LEU:HD13 | 1.69                     | 0.55              |
| 1:F:419:ASP:O    | 1:F:423:GLU:HG3  | 2.06                     | 0.55              |
| 1:A:230:THR:O    | 1:A:234:GLN:CB   | 2.55                     | 0.55              |
| 1:B:335:LEU:HD23 | 1:B:338:LEU:HD12 | 1.89                     | 0.55              |
| 1:D:56:TYR:HD2   | 1:D:58:TRP:CD2   | 2.25                     | 0.55              |
| 1:A:128:PRO:HD3  | 1:A:197:THR:HG21 | 1.87                     | 0.55              |
| 1:A:165:ASN:OD1  | 1:A:166:SER:N    | 2.38                     | 0.55              |
| 1:A:328:PHE:HE2  | 1:A:352:THR:HA   | 1.71                     | 0.55              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:278:ASN:O    | 1:B:282:THR:HG23 | 2.06                     | 0.55              |
| 1:D:186:THR:HG22 | 1:D:190:LYS:HE3  | 1.89                     | 0.55              |
| 1:D:328:PHE:HE2  | 1:D:352:THR:HA   | 1.71                     | 0.55              |
| 1:F:325:ALA:HB1  | 1:F:353:LEU:HD13 | 1.88                     | 0.55              |
| 1:A:314:ASP:HA   | 1:F:390:LYS:NZ   | 2.21                     | 0.55              |
| 1:D:173:ARG:HH12 | 1:D:288:LYS:C    | 2.13                     | 0.55              |
| 2:P:58:VAL:HB    | 2:P:245:LEU:HD23 | 1.88                     | 0.55              |
| 1:A:331:TYR:HB3  | 1:A:373:LEU:HD11 | 1.89                     | 0.55              |
| 1:C:23:VAL:HB    | 1:C:97:LEU:HA    | 1.89                     | 0.55              |
| 1:D:112:LEU:HD12 | 1:D:120:ILE:O    | 2.07                     | 0.55              |
| 1:D:123:ASN:HD21 | 1:E:286:GLN:NE2  | 2.04                     | 0.55              |
| 1:D:233:PHE:HD2  | 1:D:283:GLN:HB3  | 1.72                     | 0.55              |
| 1:E:173:ARG:HD2  | 1:E:288:LYS:HA   | 1.89                     | 0.55              |
| 1:B:124:HIS:NE2  | 1:B:208:GLN:OE1  | 2.38                     | 0.54              |
| 1:C:256:SER:HB2  | 1:D:278:ASN:HD22 | 1.72                     | 0.54              |
| 1:D:263:ALA:CB   | 1:D:265:ARG:NH1  | 2.70                     | 0.54              |
| 1:B:362:ILE:O    | 1:B:367:SER:OG   | 2.14                     | 0.54              |
| 1:B:215:HIS:O    | 1:C:275:ARG:NH2  | 2.41                     | 0.54              |
| 1:C:425:ARG:HA   | 1:D:316:LYS:NZ   | 2.23                     | 0.54              |
| 1:E:213:ASN:HD21 | 1:E:251:ILE:HA   | 1.72                     | 0.54              |
| 1:F:152:TYR:OH   | 1:F:174:VAL:N    | 2.40                     | 0.54              |
| 1:F:251:ILE:O    | 1:F:298:THR:OG1  | 2.19                     | 0.54              |
| 4:Z:188:THR:O    | 4:Z:189:THR:OG1  | 2.22                     | 0.54              |
| 1:A:220:LYS:H    | 1:A:220:LYS:HD2  | 1.73                     | 0.54              |
| 1:A:407:ILE:HG23 | 1:A:408:GLU:OE1  | 2.08                     | 0.54              |
| 1:B:126:VAL:HG12 | 1:B:128:PRO:HD2  | 1.90                     | 0.54              |
| 1:F:204:TYR:CG   | 1:F:246:LEU:HB2  | 2.42                     | 0.54              |
| 2:P:218:HIS:HA   | 2:P:260:TYR:CD1  | 2.42                     | 0.54              |
| 1:E:179:GLY:HA2  | 1:E:318:TYR:CE1  | 2.42                     | 0.54              |
| 1:E:385:GLY:HA2  | 1:E:388:LEU:HB2  | 1.90                     | 0.54              |
| 2:P:218:HIS:HA   | 2:P:260:TYR:CE1  | 2.42                     | 0.54              |
| 1:C:28:ARG:HB3   | 1:C:30:SER:H     | 1.71                     | 0.54              |
| 1:E:120:ILE:HG23 | 1:E:228:LEU:HD11 | 1.89                     | 0.54              |
| 1:E:166:SER:O    | 1:E:170:THR:OG1  | 2.19                     | 0.54              |
| 1:B:123:ASN:HB2  | 1:B:211:GLU:O    | 2.08                     | 0.54              |
| 1:B:173:ARG:NH2  | 1:B:291:SER:HA   | 2.22                     | 0.54              |
| 1:B:396:HIS:NE2  | 1:B:400:VAL:HG11 | 2.22                     | 0.54              |
| 1:E:200:LEU:O    | 1:E:204:TYR:N    | 2.41                     | 0.54              |
| 1:A:383:LEU:O    | 1:A:425:ARG:NH2  | 2.41                     | 0.54              |
| 1:C:235:LYS:HA   | 1:C:238:ASP:OD2  | 2.08                     | 0.54              |
| 1:D:124:HIS:HE1  | 2:P:157:ASN:ND2  | 2.06                     | 0.54              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:Z:188:THR:OG1  | 4:Z:191:HIS:N    | 2.28                     | 0.54              |
| 1:A:220:LYS:HG2  | 1:A:221:TRP:N    | 2.23                     | 0.54              |
| 1:B:217:LEU:HA   | 1:B:228:LEU:HD22 | 1.90                     | 0.54              |
| 1:B:328:PHE:CD2  | 1:B:353:LEU:HG   | 2.43                     | 0.54              |
| 1:D:56:TYR:HB3   | 1:D:58:TRP:CH2   | 2.43                     | 0.54              |
| 1:D:125:TRP:CE2  | 1:D:131:GLU:OE2  | 2.61                     | 0.54              |
| 1:D:340:LYS:HA   | 1:D:347:ARG:HH22 | 1.73                     | 0.54              |
| 1:F:342:GLN:HG2  | 1:F:345:TYR:CD1  | 2.43                     | 0.54              |
| 1:B:391:LEU:O    | 1:B:395:ALA:HB2  | 2.07                     | 0.53              |
| 1:B:425:ARG:NE   | 1:C:316:LYS:NZ   | 2.54                     | 0.53              |
| 1:C:24:GLU:OE2   | 1:C:195:LYS:NZ   | 2.41                     | 0.53              |
| 1:D:389:ARG:NH1  | 1:E:168:LEU:O    | 2.40                     | 0.53              |
| 2:P:201:SER:HB3  | 4:Z:184:ARG:HH21 | 1.73                     | 0.53              |
| 1:A:208:GLN:HG3  | 1:A:239:LEU:HD13 | 1.90                     | 0.53              |
| 1:A:328:PHE:CD2  | 1:A:353:LEU:HG   | 2.43                     | 0.53              |
| 1:B:276:VAL:O    | 1:B:280:VAL:HG23 | 2.09                     | 0.53              |
| 1:D:23:VAL:HA    | 1:D:75:ILE:HG12  | 1.90                     | 0.53              |
| 1:E:140:VAL:O    | 5:E:901:AGS:N6   | 2.41                     | 0.53              |
| 4:Z:35:ARG:NH1   | 4:Z:144:LEU:HA   | 2.23                     | 0.53              |
| 1:C:132:PHE:CZ   | 1:C:190:LYS:HD3  | 2.44                     | 0.53              |
| 1:C:376:ILE:HA   | 1:C:379:LYS:HE2  | 1.90                     | 0.53              |
| 1:E:127:LEU:HB2  | 1:E:207:GLY:C    | 2.33                     | 0.53              |
| 1:A:135:LEU:HG   | 1:A:191:ALA:HB2  | 1.91                     | 0.53              |
| 1:C:152:TYR:CD1  | 1:C:315:ILE:HD11 | 2.44                     | 0.53              |
| 1:F:204:TYR:CE2  | 1:F:246:LEU:HD13 | 2.42                     | 0.53              |
| 4:Z:35:ARG:HH12  | 4:Z:144:LEU:HA   | 1.73                     | 0.53              |
| 1:A:182:GLY:HA2  | 1:A:386:ARG:HH21 | 1.72                     | 0.53              |
| 1:A:215:HIS:NE2  | 1:B:226:GLY:HA2  | 2.24                     | 0.53              |
| 1:A:230:THR:O    | 1:A:234:GLN:HB2  | 2.08                     | 0.53              |
| 1:A:389:ARG:NH1  | 1:B:168:LEU:HD23 | 2.23                     | 0.53              |
| 1:B:306:ASP:CG   | 1:B:308:ALA:H    | 2.16                     | 0.53              |
| 1:C:185:LYS:HZ1  | 1:C:299:SER:H    | 1.55                     | 0.53              |
| 1:D:112:LEU:HD11 | 1:D:122:ALA:HB2  | 1.91                     | 0.53              |
| 1:D:212:ILE:HD12 | 1:D:251:ILE:HD11 | 1.90                     | 0.53              |
| 1:B:385:GLY:HA2  | 1:B:388:LEU:HD12 | 1.91                     | 0.53              |
| 1:D:407:ILE:HG23 | 1:D:408:GLU:OE1  | 2.08                     | 0.53              |
| 1:F:177:LEU:HG   | 1:F:317:GLN:HB3  | 1.89                     | 0.53              |
| 1:F:328:PHE:CZ   | 1:F:332:LEU:HD21 | 2.44                     | 0.53              |
| 1:A:185:LYS:HB2  | 1:A:185:LYS:HZ2  | 1.74                     | 0.53              |
| 1:C:103:ASN:H    | 1:C:129:ALA:HA   | 1.72                     | 0.53              |
| 1:E:132:PHE:CE2  | 1:E:190:LYS:HD3  | 2.44                     | 0.53              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:390:LYS:HE3  | 1:B:314:ASP:HB3  | 1.90                     | 0.53              |
| 1:B:215:HIS:NE2  | 1:C:279:ALA:HB2  | 2.24                     | 0.53              |
| 1:B:390:LYS:HZ3  | 1:C:172:ASN:HB2  | 1.74                     | 0.53              |
| 1:D:217:LEU:HD13 | 1:D:257:LEU:HD21 | 1.91                     | 0.53              |
| 1:E:38:ILE:HB    | 1:E:99:ILE:HD13  | 1.91                     | 0.53              |
| 1:E:330:ILE:HG23 | 1:E:389:ARG:CZ   | 2.39                     | 0.53              |
| 1:F:255:GLU:HG2  | 1:F:301:ILE:HD12 | 1.91                     | 0.53              |
| 1:A:181:PRO:HB3  | 1:A:300:ASN:HB3  | 1.91                     | 0.52              |
| 1:C:363:GLU:OE2  | 1:C:368:LYS:HD2  | 2.10                     | 0.52              |
| 1:E:193:ALA:HA   | 1:E:248:PHE:CZ   | 2.44                     | 0.52              |
| 1:F:204:TYR:HA   | 1:F:244:ASP:HA   | 1.90                     | 0.52              |
| 1:F:283:GLN:O    | 1:F:287:ILE:HG12 | 2.09                     | 0.52              |
| 1:C:186:THR:HG22 | 1:C:190:LYS:HE3  | 1.90                     | 0.52              |
| 1:C:390:LYS:NZ   | 1:D:170:THR:HG22 | 2.25                     | 0.52              |
| 1:D:193:ALA:HA   | 1:D:196:LEU:HD12 | 1.91                     | 0.52              |
| 1:C:47:ASN:HA    | 1:C:50:ASN:HB2   | 1.91                     | 0.52              |
| 1:C:56:TYR:HB3   | 1:C:58:TRP:CH2   | 2.44                     | 0.52              |
| 1:D:220:LYS:HB2  | 1:D:221:TRP:CE3  | 2.44                     | 0.52              |
| 1:F:161:ASP:OD2  | 1:F:162:LYS:HE2  | 2.09                     | 0.52              |
| 1:A:386:ARG:NH2  | 1:B:312:ARG:NH1  | 2.58                     | 0.52              |
| 1:B:390:LYS:HE2  | 1:C:172:ASN:H    | 1.74                     | 0.52              |
| 1:C:403:PRO:HA   | 1:D:159:PHE:HZ   | 1.75                     | 0.52              |
| 1:D:171:TRP:CZ3  | 1:D:173:ARG:HG2  | 2.43                     | 0.52              |
| 3:Q:136:LYS:NZ   | 4:Z:64:TYR:CB    | 2.72                     | 0.52              |
| 4:Z:106:CYS:SG   | 4:Z:191:HIS:NE2  | 2.82                     | 0.52              |
| 1:A:144:GLU:O    | 1:A:147:SER:N    | 2.42                     | 0.52              |
| 1:A:149:LEU:HD21 | 1:A:192:LEU:HD22 | 1.91                     | 0.52              |
| 1:C:285:ASP:OD1  | 1:C:312:ARG:NE   | 2.43                     | 0.52              |
| 1:D:136:TRP:CZ2  | 1:D:146:LYS:HE2  | 2.44                     | 0.52              |
| 4:Z:58:ASP:OD2   | 4:Z:60:GLU:HB2   | 2.10                     | 0.52              |
| 4:Z:187:THR:HA   | 4:Z:192:LYS:HA   | 1.90                     | 0.52              |
| 1:A:164:VAL:HG22 | 1:F:343:ILE:HD13 | 1.92                     | 0.52              |
| 1:A:343:ILE:HD11 | 1:B:164:VAL:HG21 | 1.92                     | 0.52              |
| 1:D:233:PHE:CD1  | 1:D:236:ILE:HD12 | 2.45                     | 0.52              |
| 4:Z:48:LYS:HG3   | 4:Z:49:TYR:CD2   | 2.45                     | 0.52              |
| 1:D:157:LEU:HD21 | 1:D:204:TYR:OH   | 2.10                     | 0.52              |
| 1:B:132:PHE:CZ   | 1:B:190:LYS:HD3  | 2.44                     | 0.52              |
| 1:E:102:LEU:HB3  | 1:E:130:ALA:HA   | 1.92                     | 0.52              |
| 1:E:236:ILE:HG22 | 1:E:240:ILE:HD11 | 1.92                     | 0.52              |
| 1:E:385:GLY:HA3  | 5:E:901:AGS:C8   | 2.40                     | 0.52              |
| 1:F:172:ASN:N    | 1:F:314:ASP:OD2  | 2.43                     | 0.52              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:P:59:VAL:HA    | 2:P:246:SER:OG   | 2.09                     | 0.52              |
| 1:B:272:ASP:OD1  | 1:B:275:ARG:NH1  | 2.41                     | 0.52              |
| 1:D:89:ASP:OD2   | 1:D:90:LEU:HG    | 2.09                     | 0.52              |
| 1:D:302:THR:O    | 1:D:305:ILE:N    | 2.42                     | 0.52              |
| 1:D:420:LYS:O    | 1:D:424:GLU:HG3  | 2.09                     | 0.52              |
| 1:E:127:LEU:HD22 | 1:E:207:GLY:HA3  | 1.92                     | 0.52              |
| 1:E:254:VAL:HG21 | 1:E:297:THR:HB   | 1.92                     | 0.52              |
| 1:F:138:SER:HA   | 1:F:329:LYS:NZ   | 2.24                     | 0.52              |
| 1:F:390:LYS:HE2  | 1:F:394:LEU:HD21 | 1.91                     | 0.52              |
| 1:A:278:ASN:HA   | 1:A:281:LEU:HD12 | 1.92                     | 0.52              |
| 1:E:222:PHE:C    | 1:E:224:GLU:H    | 2.18                     | 0.52              |
| 1:F:165:ASN:HB3  | 1:F:168:LEU:HB2  | 1.93                     | 0.52              |
| 1:A:219:SER:OG   | 1:A:224:GLU:HB3  | 2.09                     | 0.51              |
| 1:D:385:GLY:HA2  | 1:D:388:LEU:HD12 | 1.91                     | 0.51              |
| 4:Z:179:GLU:HB3  | 4:Z:199:TYR:CZ   | 2.45                     | 0.51              |
| 1:A:203:ARG:HG2  | 1:A:204:TYR:CE2  | 2.46                     | 0.51              |
| 1:B:330:ILE:HG23 | 1:B:389:ARG:CZ   | 2.41                     | 0.51              |
| 1:B:409:GLY:HA2  | 1:B:412:GLN:HG2  | 1.91                     | 0.51              |
| 1:A:285:ASP:O    | 1:A:289:ARG:HG3  | 2.10                     | 0.51              |
| 1:A:328:PHE:CE2  | 1:A:332:LEU:HD11 | 2.46                     | 0.51              |
| 1:F:172:ASN:HD21 | 1:F:313:ALA:HA   | 1.75                     | 0.51              |
| 1:B:152:TYR:CD1  | 1:B:315:ILE:HD11 | 2.45                     | 0.51              |
| 1:C:178:HIS:CD2  | 1:C:318:TYR:HD1  | 2.28                     | 0.51              |
| 1:C:186:THR:N    | 5:C:901:AGS:O1B  | 2.43                     | 0.51              |
| 1:D:125:TRP:HE3  | 1:D:209:LEU:HD23 | 1.75                     | 0.51              |
| 1:D:195:LYS:HA   | 1:D:198:ILE:HD12 | 1.93                     | 0.51              |
| 1:A:176:LEU:HB3  | 1:A:315:ILE:O    | 2.10                     | 0.51              |
| 1:A:221:TRP:NE1  | 1:A:224:GLU:HG2  | 2.25                     | 0.51              |
| 1:B:127:LEU:HB2  | 1:B:207:GLY:C    | 2.36                     | 0.51              |
| 1:B:127:LEU:HD22 | 1:B:207:GLY:HA3  | 1.93                     | 0.51              |
| 1:D:123:ASN:HD22 | 1:D:211:GLU:CD   | 2.19                     | 0.51              |
| 1:E:136:TRP:HZ3  | 1:E:192:LEU:HA   | 1.74                     | 0.51              |
| 1:F:384:SER:O    | 1:F:388:LEU:N    | 2.27                     | 0.51              |
| 4:Z:88:ILE:N     | 4:Z:98:GLU:O     | 2.35                     | 0.51              |
| 1:B:328:PHE:CE2  | 1:B:352:THR:HA   | 2.44                     | 0.51              |
| 1:C:178:HIS:HA   | 1:C:185:LYS:NZ   | 2.26                     | 0.51              |
| 1:D:407:ILE:HD12 | 1:D:410:PHE:HB3  | 1.91                     | 0.51              |
| 1:D:425:ARG:HA   | 1:E:316:LYS:NZ   | 2.25                     | 0.51              |
| 1:A:175:VAL:HA   | 1:A:315:ILE:HD12 | 1.92                     | 0.51              |
| 1:A:282:THR:O    | 1:A:286:GLN:N    | 2.29                     | 0.51              |
| 1:E:56:TYR:N     | 1:E:75:ILE:HD12  | 2.26                     | 0.51              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:P:137:HIS:HA   | 2:P:140:ASP:OD2  | 2.11                     | 0.51              |
| 1:A:215:HIS:CG   | 1:B:279:ALA:HB2  | 2.46                     | 0.51              |
| 1:A:240:ILE:HG23 | 1:A:247:VAL:HG21 | 1.92                     | 0.51              |
| 1:D:112:LEU:H    | 1:D:235:LYS:NZ   | 2.09                     | 0.51              |
| 1:D:261:ARG:HH11 | 1:D:277:VAL:HB   | 1.76                     | 0.51              |
| 1:E:213:ASN:ND2  | 1:E:252:ASP:O    | 2.44                     | 0.51              |
| 1:A:152:TYR:OH   | 1:A:314:ASP:O    | 2.21                     | 0.51              |
| 1:B:100:PHE:HE2  | 1:B:102:LEU:HD21 | 1.74                     | 0.51              |
| 1:F:132:PHE:HE2  | 1:F:190:LYS:HD3  | 1.75                     | 0.51              |
| 1:F:173:ARG:HD3  | 1:F:293:VAL:O    | 2.11                     | 0.51              |
| 1:B:103:ASN:ND2  | 1:B:128:PRO:HG2  | 2.26                     | 0.51              |
| 1:B:269:GLU:OE2  | 1:C:269:GLU:HA   | 2.10                     | 0.51              |
| 1:D:127:LEU:HD12 | 1:D:207:GLY:HA3  | 1.93                     | 0.51              |
| 1:D:152:TYR:CD1  | 1:D:315:ILE:HD11 | 2.46                     | 0.51              |
| 1:F:213:ASN:ND2  | 1:F:215:HIS:HB2  | 2.25                     | 0.50              |
| 1:B:328:PHE:O    | 1:B:332:LEU:HG   | 2.12                     | 0.50              |
| 1:F:407:ILE:O    | 1:F:411:LEU:HG   | 2.10                     | 0.50              |
| 2:P:185:ALA:HA   | 2:P:188:ARG:NH1  | 2.27                     | 0.50              |
| 4:Z:134:GLN:O    | 4:Z:138:THR:HG23 | 2.10                     | 0.50              |
| 1:C:186:THR:H    | 5:C:901:AGS:PB   | 2.34                     | 0.50              |
| 1:D:235:LYS:O    | 1:D:238:ASP:HB3  | 2.12                     | 0.50              |
| 1:D:391:LEU:O    | 1:D:394:LEU:N    | 2.45                     | 0.50              |
| 1:E:255:GLU:OE2  | 1:E:300:ASN:ND2  | 2.44                     | 0.50              |
| 1:C:261:ARG:NH1  | 1:C:274:ILE:HG23 | 2.26                     | 0.50              |
| 1:D:44:LYS:HA    | 1:D:47:ASN:HD22  | 1.77                     | 0.50              |
| 1:E:227:LYS:HZ2  | 1:E:231:LYS:HE3  | 1.76                     | 0.50              |
| 1:E:272:ASP:O    | 1:E:276:VAL:HG23 | 2.12                     | 0.50              |
| 1:F:145:VAL:HA   | 1:F:148:HIS:HB2  | 1.93                     | 0.50              |
| 1:A:143:VAL:HB   | 1:A:145:VAL:HG23 | 1.92                     | 0.50              |
| 1:A:335:LEU:O    | 1:A:339:MET:HG3  | 2.12                     | 0.50              |
| 1:C:396:HIS:O    | 1:C:400:VAL:HB   | 2.12                     | 0.50              |
| 1:D:218:PHE:CZ   | 1:E:222:PHE:HD1  | 2.19                     | 0.50              |
| 1:E:393:PHE:HE2  | 1:F:169:ILE:HG22 | 1.72                     | 0.50              |
| 4:Z:181:VAL:C    | 4:Z:196:MET:HG3  | 2.36                     | 0.50              |
| 1:D:177:LEU:HG   | 1:D:317:GLN:HB3  | 1.94                     | 0.50              |
| 1:D:251:ILE:HG21 | 1:D:254:VAL:HG22 | 1.94                     | 0.50              |
| 2:P:141:PHE:HZ   | 2:P:217:GLY:HA3  | 1.76                     | 0.50              |
| 2:P:148:PRO:HB3  | 2:P:257:TRP:CE3  | 2.47                     | 0.50              |
| 1:C:186:THR:HB   | 5:C:901:AGS:O2A  | 2.11                     | 0.50              |
| 1:D:63:GLU:HG2   | 1:D:65:PHE:H     | 1.76                     | 0.50              |
| 1:D:413:ALA:HA   | 1:D:416:LEU:HD12 | 1.92                     | 0.50              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:178:HIS:HA   | 1:C:185:LYS:HZ2  | 1.76                     | 0.50              |
| 1:D:285:ASP:O    | 1:D:288:LYS:HG2  | 2.11                     | 0.50              |
| 1:E:157:LEU:HD22 | 1:E:203:ARG:NH1  | 2.24                     | 0.50              |
| 2:P:253:ARG:HD2  | 2:P:256:ALA:HB2  | 1.93                     | 0.50              |
| 4:Z:185:SER:HB2  | 4:Z:192:LYS:NZ   | 2.26                     | 0.50              |
| 1:C:178:HIS:O    | 1:C:319:ILE:N    | 2.43                     | 0.50              |
| 1:D:124:HIS:HD2  | 1:D:210:ILE:HD11 | 1.77                     | 0.50              |
| 1:E:287:ILE:HD11 | 1:E:295:ILE:HD11 | 1.94                     | 0.50              |
| 4:Z:119:LYS:HD2  | 4:Z:189:THR:HG23 | 1.93                     | 0.50              |
| 1:A:272:ASP:HA   | 1:A:275:ARG:HD3  | 1.94                     | 0.49              |
| 1:A:282:THR:HA   | 1:A:285:ASP:HB2  | 1.94                     | 0.49              |
| 1:B:255:GLU:CD   | 1:B:301:ILE:HD13 | 2.37                     | 0.49              |
| 1:D:265:ARG:H    | 1:D:265:ARG:HD2  | 1.76                     | 0.49              |
| 1:F:288:LYS:HZ1  | 1:F:312:ARG:HD2  | 1.75                     | 0.49              |
| 2:P:173:ALA:N    | 2:P:249:ARG:HH12 | 2.10                     | 0.49              |
| 1:A:337:GLU:HB2  | 1:B:168:LEU:HD13 | 1.94                     | 0.49              |
| 1:A:363:GLU:OE2  | 1:A:368:LYS:HB2  | 2.12                     | 0.49              |
| 1:B:323:SER:HA   | 1:B:381:GLU:OE2  | 2.12                     | 0.49              |
| 1:C:28:ARG:NH1   | 1:C:68:ARG:O     | 2.45                     | 0.49              |
| 1:C:278:ASN:HA   | 1:C:281:LEU:HD12 | 1.94                     | 0.49              |
| 1:D:273:ALA:O    | 1:D:277:VAL:HG23 | 2.12                     | 0.49              |
| 1:F:213:ASN:HD21 | 1:F:215:HIS:CD2  | 2.29                     | 0.49              |
| 1:A:390:LYS:HZ1  | 1:A:394:LEU:CG   | 2.14                     | 0.49              |
| 1:B:26:HIS:HB3   | 1:B:72:SER:H     | 1.77                     | 0.49              |
| 1:B:339:MET:C    | 1:B:342:GLN:H    | 2.20                     | 0.49              |
| 1:C:185:LYS:NZ   | 1:C:299:SER:H    | 2.09                     | 0.49              |
| 1:C:284:ILE:O    | 1:C:287:ILE:HG13 | 2.11                     | 0.49              |
| 1:F:150:LEU:HD22 | 1:F:199:ARG:NH1  | 2.27                     | 0.49              |
| 1:F:164:VAL:O    | 1:F:166:SER:N    | 2.45                     | 0.49              |
| 4:Z:35:ARG:HD2   | 4:Z:139:VAL:HG23 | 1.92                     | 0.49              |
| 1:B:136:TRP:CZ2  | 1:B:146:LYS:HB3  | 2.47                     | 0.49              |
| 1:B:222:PHE:C    | 1:B:224:GLU:H    | 2.20                     | 0.49              |
| 1:D:261:ARG:HH12 | 1:D:278:ASN:CA   | 2.25                     | 0.49              |
| 1:E:51:ILE:O     | 1:E:91:SER:OG    | 2.30                     | 0.49              |
| 2:P:146:LEU:HD11 | 2:P:174:PRO:HD3  | 1.93                     | 0.49              |
| 4:Z:91:ILE:HD11  | 4:Z:148:SER:HB2  | 1.94                     | 0.49              |
| 2:P:148:PRO:O    | 2:P:169:LEU:N    | 2.36                     | 0.49              |
| 4:Z:109:THR:O    | 4:Z:113:ASP:N    | 2.43                     | 0.49              |
| 1:B:215:HIS:CA   | 1:C:275:ARG:HH21 | 2.23                     | 0.49              |
| 1:B:233:PHE:CD2  | 1:B:283:GLN:HG3  | 2.48                     | 0.49              |
| 1:F:295:ILE:HG22 | 1:F:297:THR:HG23 | 1.94                     | 0.49              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:Z:75:TRP:O     | 4:Z:80:SER:N     | 2.27                     | 0.49              |
| 1:D:425:ARG:CG   | 1:E:316:LYS:HZ2  | 2.25                     | 0.49              |
| 1:E:43:ARG:HG2   | 1:E:95:VAL:HG11  | 1.94                     | 0.49              |
| 1:E:49:HIS:CD2   | 1:E:58:TRP:HE1   | 2.30                     | 0.49              |
| 1:A:384:SER:OG   | 1:A:387:VAL:N    | 2.30                     | 0.49              |
| 5:B:901:AGS:S1G  | 1:C:312:ARG:NH2  | 2.86                     | 0.49              |
| 1:C:206:TYR:O    | 1:C:245:ALA:HA   | 2.13                     | 0.49              |
| 1:D:351:LEU:HD22 | 1:D:355:GLU:HB3  | 1.95                     | 0.49              |
| 4:Z:11:ILE:HD11  | 4:Z:117:ARG:HB2  | 1.95                     | 0.49              |
| 4:Z:46:VAL:HG13  | 4:Z:55:VAL:HG21  | 1.95                     | 0.49              |
| 1:D:400:VAL:HG12 | 1:D:402:ALA:N    | 2.27                     | 0.49              |
| 1:A:286:GLN:HA   | 1:A:289:ARG:HD2  | 1.95                     | 0.49              |
| 1:D:337:GLU:OE2  | 1:E:164:VAL:HA   | 2.13                     | 0.49              |
| 1:D:425:ARG:HG2  | 1:E:316:LYS:NZ   | 2.28                     | 0.49              |
| 1:F:127:LEU:HD12 | 1:F:207:GLY:CA   | 2.41                     | 0.49              |
| 1:F:155:THR:O    | 1:F:158:LEU:HB3  | 2.12                     | 0.49              |
| 1:B:110:GLU:C    | 1:B:235:LYS:NZ   | 2.71                     | 0.48              |
| 1:B:139:LEU:HA   | 5:B:901:AGS:C2   | 2.43                     | 0.48              |
| 1:B:165:ASN:HD22 | 1:B:168:LEU:HG   | 1.78                     | 0.48              |
| 1:B:273:ALA:O    | 1:B:277:VAL:HG23 | 2.14                     | 0.48              |
| 1:D:206:TYR:CD1  | 2:P:159:LEU:HD13 | 2.48                     | 0.48              |
| 1:F:188:LEU:O    | 1:F:192:LEU:HB2  | 2.12                     | 0.48              |
| 1:D:149:LEU:O    | 1:D:152:TYR:HB3  | 2.13                     | 0.48              |
| 1:D:325:ALA:HA   | 1:D:353:LEU:HD11 | 1.94                     | 0.48              |
| 1:E:328:PHE:HE2  | 1:E:352:THR:HA   | 1.78                     | 0.48              |
| 2:P:252:ILE:HG22 | 2:P:253:ARG:H    | 1.78                     | 0.48              |
| 1:B:218:PHE:CD1  | 1:C:222:PHE:HE2  | 2.31                     | 0.48              |
| 1:C:127:LEU:HB3  | 1:C:128:PRO:HD3  | 1.95                     | 0.48              |
| 1:C:258:THR:C    | 1:C:306:ASP:OD2  | 2.55                     | 0.48              |
| 1:D:225:SER:O    | 1:D:229:VAL:HG23 | 2.13                     | 0.48              |
| 1:E:184:GLY:N    | 5:E:901:AGS:O2B  | 2.46                     | 0.48              |
| 1:E:331:TYR:HB3  | 1:E:373:LEU:HD21 | 1.96                     | 0.48              |
| 1:F:152:TYR:HD2  | 1:F:153:VAL:HG23 | 1.77                     | 0.48              |
| 1:F:252:ASP:HA   | 1:F:298:THR:OG1  | 2.13                     | 0.48              |
| 1:A:141:TYR:H    | 1:A:146:LYS:HZ3  | 1.62                     | 0.48              |
| 1:A:311:ASP:OD1  | 1:F:386:ARG:NE   | 2.47                     | 0.48              |
| 1:A:390:LYS:NZ   | 1:A:394:LEU:H    | 2.11                     | 0.48              |
| 1:D:186:THR:N    | 5:D:901:AGS:O1B  | 2.28                     | 0.48              |
| 1:D:218:PHE:CG   | 1:D:219:SER:N    | 2.82                     | 0.48              |
| 1:D:387:VAL:O    | 1:D:391:LEU:HG   | 2.14                     | 0.48              |
| 2:P:64:VAL:HG13  | 2:P:66:GLN:HA    | 1.95                     | 0.48              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:149:LEU:O    | 1:B:152:TYR:HB3  | 2.13                     | 0.48              |
| 1:B:175:VAL:HG22 | 1:B:315:ILE:HD12 | 1.95                     | 0.48              |
| 1:C:171:TRP:HE1  | 1:C:173:ARG:HG2  | 1.78                     | 0.48              |
| 1:D:58:TRP:N     | 1:D:73:VAL:O     | 2.46                     | 0.48              |
| 1:D:281:LEU:HB3  | 1:D:312:ARG:NH2  | 2.28                     | 0.48              |
| 1:E:227:LYS:NZ   | 1:E:231:LYS:HE3  | 2.29                     | 0.48              |
| 1:B:165:ASN:ND2  | 1:B:168:LEU:HG   | 2.28                     | 0.48              |
| 1:C:194:GLN:O    | 1:C:197:THR:HB   | 2.12                     | 0.48              |
| 1:D:308:ALA:O    | 1:D:311:ASP:HB3  | 2.12                     | 0.48              |
| 1:E:43:ARG:NH1   | 1:E:95:VAL:HB    | 2.29                     | 0.48              |
| 2:P:86:GLN:HB3   | 2:P:271:GLY:HA3  | 1.96                     | 0.48              |
| 2:P:194:ILE:HA   | 2:P:197:ALA:HB3  | 1.94                     | 0.48              |
| 1:A:164:VAL:HG12 | 1:A:165:ASN:O    | 2.14                     | 0.48              |
| 1:C:138:SER:C    | 5:C:901:AGS:H2   | 2.39                     | 0.48              |
| 1:F:247:VAL:HB   | 1:F:293:VAL:HA   | 1.94                     | 0.48              |
| 1:F:249:VAL:O    | 1:F:296:LEU:N    | 2.41                     | 0.48              |
| 4:Z:11:ILE:H     | 4:Z:116:PRO:HB3  | 1.79                     | 0.48              |
| 1:C:103:ASN:HB2  | 1:C:129:ALA:HB2  | 1.96                     | 0.48              |
| 1:D:31:SER:O     | 1:D:32:THR:OG1   | 2.27                     | 0.48              |
| 3:Q:130:ILE:HG22 | 4:Z:170:SER:HB3  | 1.96                     | 0.48              |
| 1:B:39:ASN:O     | 1:B:43:ARG:HG3   | 2.13                     | 0.48              |
| 1:D:390:LYS:O    | 1:D:393:PHE:HB3  | 2.13                     | 0.48              |
| 1:F:255:GLU:CD   | 1:F:305:ILE:HG12 | 2.39                     | 0.48              |
| 1:F:372:LEU:HD23 | 1:F:411:LEU:HB3  | 1.96                     | 0.48              |
| 2:P:58:VAL:HG21  | 2:P:190:LEU:HG   | 1.96                     | 0.48              |
| 4:Z:106:CYS:SG   | 4:Z:107:ASP:N    | 2.85                     | 0.48              |
| 1:B:325:ALA:HA   | 1:B:353:LEU:HD11 | 1.96                     | 0.48              |
| 1:D:140:VAL:O    | 5:D:901:AGS:N6   | 2.45                     | 0.48              |
| 1:D:157:LEU:HB3  | 1:D:203:ARG:HH11 | 1.78                     | 0.48              |
| 1:E:213:ASN:HD22 | 1:E:217:LEU:HD21 | 1.79                     | 0.48              |
| 1:E:341:CYS:C    | 1:E:343:ILE:H    | 2.22                     | 0.48              |
| 1:F:301:ILE:CG2  | 1:F:304:LYS:HB2  | 2.44                     | 0.48              |
| 4:Z:134:GLN:CD   | 4:Z:184:ARG:H    | 2.21                     | 0.48              |
| 1:A:136:TRP:CZ2  | 1:A:146:LYS:HB3  | 2.48                     | 0.47              |
| 1:A:389:ARG:HH12 | 1:B:168:LEU:CD2  | 2.26                     | 0.47              |
| 1:B:136:TRP:HZ2  | 1:B:146:LYS:HB3  | 1.79                     | 0.47              |
| 1:C:400:VAL:HG12 | 1:C:402:ALA:H    | 1.79                     | 0.47              |
| 1:D:139:LEU:HD23 | 5:D:901:AGS:C2   | 2.44                     | 0.47              |
| 1:D:330:ILE:HG23 | 1:D:389:ARG:CZ   | 2.45                     | 0.47              |
| 1:D:414:LEU:O    | 1:D:418:VAL:HG23 | 2.14                     | 0.47              |
| 1:E:200:LEU:HB3  | 1:E:204:TYR:CD2  | 2.44                     | 0.47              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:Z:85:VAL:HA    | 4:Z:100:TRP:O    | 2.14                     | 0.47              |
| 4:Z:129:ARG:HG2  | 4:Z:133:ARG:NE   | 2.24                     | 0.47              |
| 1:B:51:ILE:O     | 1:B:90:LEU:N     | 2.30                     | 0.47              |
| 1:B:364:ASN:OD1  | 1:B:367:SER:N    | 2.46                     | 0.47              |
| 1:E:58:TRP:N     | 1:E:73:VAL:O     | 2.45                     | 0.47              |
| 1:E:127:LEU:C    | 1:E:129:ALA:H    | 2.12                     | 0.47              |
| 1:E:130:ALA:O    | 1:E:132:PHE:N    | 2.46                     | 0.47              |
| 1:A:273:ALA:O    | 1:A:277:VAL:HG23 | 2.15                     | 0.47              |
| 1:E:343:ILE:HG23 | 1:F:158:LEU:HD11 | 1.96                     | 0.47              |
| 1:F:157:LEU:HB3  | 1:F:203:ARG:HH11 | 1.79                     | 0.47              |
| 3:Q:132:ARG:HD3  | 4:Z:152:ASP:OD2  | 2.15                     | 0.47              |
| 4:Z:49:TYR:C     | 4:Z:125:GLN:HE21 | 2.22                     | 0.47              |
| 4:Z:188:THR:N    | 4:Z:191:HIS:O    | 2.47                     | 0.47              |
| 1:A:173:ARG:CZ   | 1:A:291:SER:HA   | 2.43                     | 0.47              |
| 1:B:102:LEU:HD22 | 1:B:130:ALA:HA   | 1.96                     | 0.47              |
| 1:B:110:GLU:C    | 1:B:235:LYS:HZ2  | 2.19                     | 0.47              |
| 1:D:139:LEU:HA   | 5:D:901:AGS:N1   | 2.29                     | 0.47              |
| 1:D:355:GLU:HA   | 1:D:358:MET:HE2  | 1.95                     | 0.47              |
| 1:B:258:THR:HG23 | 1:B:305:ILE:O    | 2.14                     | 0.47              |
| 1:B:412:GLN:O    | 1:B:416:LEU:HG   | 2.14                     | 0.47              |
| 1:F:416:LEU:HA   | 1:F:419:ASP:OD2  | 2.15                     | 0.47              |
| 2:P:127:ALA:O    | 2:P:130:GLU:HB3  | 2.14                     | 0.47              |
| 1:A:281:LEU:O    | 1:A:285:ASP:N    | 2.29                     | 0.47              |
| 1:B:120:ILE:CG2  | 1:C:227:LYS:HZ2  | 2.21                     | 0.47              |
| 1:D:175:VAL:O    | 1:D:297:THR:OG1  | 2.22                     | 0.47              |
| 1:D:299:SER:OG   | 1:D:302:THR:HG21 | 2.14                     | 0.47              |
| 1:E:178:HIS:CE1  | 1:E:318:TYR:HB2  | 2.50                     | 0.47              |
| 1:C:225:SER:O    | 1:C:229:VAL:HG23 | 2.14                     | 0.47              |
| 1:C:247:VAL:HB   | 1:C:293:VAL:HA   | 1.97                     | 0.47              |
| 1:D:124:HIS:CD2  | 1:D:210:ILE:HD11 | 2.50                     | 0.47              |
| 1:E:182:GLY:HA2  | 5:E:901:AGS:S1G  | 2.55                     | 0.47              |
| 1:E:283:GLN:O    | 1:E:287:ILE:HG12 | 2.13                     | 0.47              |
| 2:P:70:CYS:SG    | 2:P:139:GLU:HG2  | 2.54                     | 0.47              |
| 2:P:195:PHE:HZ   | 4:Z:183:LEU:HG   | 1.80                     | 0.47              |
| 4:Z:71:GLN:HE21  | 4:Z:75:TRP:NE1   | 2.12                     | 0.47              |
| 4:Z:76:LEU:HD22  | 4:Z:191:HIS:CD2  | 2.50                     | 0.47              |
| 1:A:276:VAL:O    | 1:A:279:ALA:HB3  | 2.15                     | 0.47              |
| 1:D:295:ILE:HG22 | 1:D:297:THR:HG23 | 1.97                     | 0.47              |
| 1:F:171:TRP:C    | 1:F:314:ASP:OD2  | 2.58                     | 0.47              |
| 1:F:329:LYS:HE3  | 1:F:353:LEU:HD12 | 1.95                     | 0.47              |
| 1:D:353:LEU:HD23 | 1:D:356:LEU:HD12 | 1.95                     | 0.47              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:391:LEU:HB2  | 1:D:392:PRO:HD3  | 1.97                     | 0.47              |
| 1:E:309:PHE:HA   | 1:E:312:ARG:HB2  | 1.96                     | 0.47              |
| 2:P:239:HIS:NE2  | 2:P:242:THR:OG1  | 2.38                     | 0.47              |
| 4:Z:74:ASP:OD2   | 4:Z:75:TRP:CD1   | 2.68                     | 0.47              |
| 1:A:236:ILE:HG22 | 1:A:240:ILE:HD11 | 1.97                     | 0.47              |
| 1:B:393:PHE:CZ   | 1:C:156:THR:HA   | 2.50                     | 0.47              |
| 1:C:223:SER:O    | 1:C:225:SER:N    | 2.48                     | 0.47              |
| 1:D:339:MET:HB3  | 1:D:347:ARG:NH1  | 2.30                     | 0.47              |
| 3:Q:136:LYS:HE3  | 4:Z:60:GLU:HB3   | 1.97                     | 0.47              |
| 1:B:254:VAL:O    | 1:B:257:LEU:N    | 2.44                     | 0.46              |
| 1:B:390:LYS:NZ   | 1:C:312:ARG:O    | 2.48                     | 0.46              |
| 1:D:425:ARG:HA   | 1:E:316:LYS:HZ3  | 1.80                     | 0.46              |
| 1:E:233:PHE:HA   | 1:E:236:ILE:HD12 | 1.96                     | 0.46              |
| 1:B:34:LYS:HB2   | 1:B:37:ASP:OD2   | 2.14                     | 0.46              |
| 1:C:309:PHE:O    | 1:C:312:ARG:N    | 2.48                     | 0.46              |
| 1:D:265:ARG:HB2  | 1:E:267:GLY:H    | 1.81                     | 0.46              |
| 1:E:182:GLY:N    | 1:E:185:LYS:NZ   | 2.63                     | 0.46              |
| 1:A:148:HIS:O    | 1:A:152:TYR:HB2  | 2.15                     | 0.46              |
| 1:A:269:GLU:CB   | 4:Z:7:ARG:HH12   | 2.28                     | 0.46              |
| 1:A:384:SER:O    | 1:A:388:LEU:HG   | 2.15                     | 0.46              |
| 1:B:181:PRO:C    | 1:C:311:ASP:OD2  | 2.58                     | 0.46              |
| 1:B:184:GLY:HA2  | 5:B:901:AGS:PA   | 2.55                     | 0.46              |
| 1:B:218:PHE:HB2  | 1:C:275:ARG:HH12 | 1.80                     | 0.46              |
| 1:B:237:GLN:HA   | 1:B:240:ILE:HD12 | 1.98                     | 0.46              |
| 1:B:396:HIS:CD2  | 1:B:400:VAL:HG21 | 2.50                     | 0.46              |
| 1:D:258:THR:HG23 | 1:D:305:ILE:O    | 2.15                     | 0.46              |
| 1:E:391:LEU:HD22 | 1:E:418:VAL:HG22 | 1.97                     | 0.46              |
| 2:P:154:LEU:O    | 2:P:162:LYS:HB2  | 2.15                     | 0.46              |
| 1:C:56:TYR:HD2   | 1:C:58:TRP:CD2   | 2.33                     | 0.46              |
| 1:C:160:SER:OG   | 1:C:291:SER:OG   | 2.26                     | 0.46              |
| 1:D:287:ILE:C    | 1:D:289:ARG:H    | 2.24                     | 0.46              |
| 1:D:421:GLN:HA   | 1:D:424:GLU:OE1  | 2.16                     | 0.46              |
| 1:F:345:TYR:HB3  | 1:F:404:THR:HG21 | 1.98                     | 0.46              |
| 1:F:396:HIS:NE2  | 1:F:400:VAL:HG11 | 2.31                     | 0.46              |
| 2:P:164:PHE:CE1  | 2:P:239:HIS:HA   | 2.50                     | 0.46              |
| 4:Z:136:THR:O    | 4:Z:139:VAL:HG12 | 2.16                     | 0.46              |
| 1:A:132:PHE:CD1  | 1:A:135:LEU:HD22 | 2.51                     | 0.46              |
| 1:A:369:LEU:HD21 | 1:A:408:GLU:OE2  | 2.16                     | 0.46              |
| 1:C:28:ARG:HH12  | 1:C:68:ARG:C     | 2.24                     | 0.46              |
| 1:C:29:GLY:HA2   | 1:C:101:GLN:NE2  | 2.26                     | 0.46              |
| 1:C:37:ASP:HB3   | 1:C:65:PHE:CZ    | 2.51                     | 0.46              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:421:GLN:HA   | 1:C:424:GLU:OE1  | 2.14                     | 0.46              |
| 1:D:127:LEU:HD23 | 1:D:127:LEU:HA   | 1.66                     | 0.46              |
| 1:E:26:HIS:HD2   | 1:E:27:GLN:H     | 1.63                     | 0.46              |
| 1:E:281:LEU:HD22 | 1:E:312:ARG:NH1  | 2.29                     | 0.46              |
| 1:B:61:PHE:HD2   | 1:B:66:LEU:HB3   | 1.81                     | 0.46              |
| 1:B:182:GLY:CA   | 1:B:386:ARG:HE   | 2.27                     | 0.46              |
| 1:C:258:THR:HG23 | 1:C:258:THR:O    | 2.16                     | 0.46              |
| 1:D:64:PRO:HA    | 1:D:67:THR:HB    | 1.98                     | 0.46              |
| 1:D:259:ALA:HB1  | 1:D:304:LYS:HE2  | 1.97                     | 0.46              |
| 1:D:303:GLU:HA   | 1:D:305:ILE:HG13 | 1.98                     | 0.46              |
| 1:E:149:LEU:O    | 1:E:152:TYR:HB3  | 2.14                     | 0.46              |
| 1:E:186:THR:HG23 | 1:E:250:LEU:HD21 | 1.96                     | 0.46              |
| 1:F:135:LEU:HD12 | 1:F:138:SER:OG   | 2.16                     | 0.46              |
| 1:F:152:TYR:O    | 1:F:156:THR:OG1  | 2.13                     | 0.46              |
| 2:P:57:PRO:HA    | 2:P:244:THR:HB   | 1.98                     | 0.46              |
| 4:Z:100:TRP:CE3  | 4:Z:197:VAL:HB   | 2.50                     | 0.46              |
| 1:B:236:ILE:O    | 1:B:240:ILE:HG13 | 2.16                     | 0.46              |
| 1:E:240:ILE:O    | 1:E:242:ASP:N    | 2.48                     | 0.46              |
| 1:E:372:LEU:O    | 1:E:376:ILE:HG13 | 2.16                     | 0.46              |
| 1:F:191:ALA:O    | 1:F:194:GLN:HB3  | 2.16                     | 0.46              |
| 2:P:56:VAL:HG11  | 2:P:197:ALA:HB2  | 1.98                     | 0.46              |
| 2:P:135:LEU:HA   | 2:P:138:LEU:HD12 | 1.98                     | 0.46              |
| 4:Z:82:GLN:O     | 4:Z:104:ILE:N    | 2.31                     | 0.46              |
| 1:B:173:ARG:NH1  | 1:B:288:LYS:C    | 2.72                     | 0.46              |
| 1:C:182:GLY:O    | 1:C:384:SER:HB2  | 2.15                     | 0.46              |
| 1:F:171:TRP:CZ3  | 1:F:173:ARG:NH1  | 2.84                     | 0.46              |
| 1:F:335:LEU:HB2  | 1:F:350:LEU:HD11 | 1.98                     | 0.46              |
| 1:B:120:ILE:HG13 | 1:C:227:LYS:HZ1  | 1.80                     | 0.46              |
| 1:D:174:VAL:HG22 | 1:D:295:ILE:HD12 | 1.97                     | 0.46              |
| 1:D:212:ILE:HB   | 1:D:251:ILE:HD13 | 1.97                     | 0.46              |
| 1:D:271:SER:C    | 1:D:275:ARG:NH1  | 2.74                     | 0.46              |
| 1:E:255:GLU:OE1  | 1:E:255:GLU:N    | 2.35                     | 0.46              |
| 2:P:124:CYS:HA   | 2:P:272:PHE:CZ   | 2.51                     | 0.46              |
| 4:Z:14:ARG:HB2   | 4:Z:77:TYR:CE1   | 2.51                     | 0.46              |
| 4:Z:188:THR:C    | 4:Z:190:ILE:H    | 2.22                     | 0.46              |
| 1:A:390:LYS:NZ   | 1:A:394:LEU:N    | 2.63                     | 0.46              |
| 1:C:390:LYS:HZ2  | 1:D:171:TRP:C    | 2.17                     | 0.46              |
| 1:D:125:TRP:CZ3  | 1:D:132:PHE:HZ   | 2.34                     | 0.46              |
| 1:D:172:ASN:O    | 1:D:174:VAL:HG23 | 2.16                     | 0.46              |
| 1:D:339:MET:HB3  | 1:D:347:ARG:CZ   | 2.46                     | 0.46              |
| 2:P:76:LEU:HD23  | 2:P:167:LEU:HD22 | 1.98                     | 0.46              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:P:84:ARG:NE    | 2:P:163:GLU:OE2  | 2.49                     | 0.46              |
| 2:P:158:ALA:O    | 2:P:232:TYR:HE1  | 1.99                     | 0.46              |
| 2:P:184:ALA:HA   | 2:P:187:LEU:HD12 | 1.98                     | 0.46              |
| 2:P:214:MET:HE3  | 2:P:264:GLN:HB2  | 1.96                     | 0.46              |
| 3:Q:131:LEU:HA   | 4:Z:168:GLU:O    | 2.16                     | 0.46              |
| 1:C:328:PHE:CE2  | 1:C:332:LEU:HD11 | 2.51                     | 0.45              |
| 1:D:157:LEU:HB3  | 1:D:203:ARG:HH12 | 1.78                     | 0.45              |
| 1:D:220:LYS:HA   | 1:E:222:PHE:HB3  | 1.97                     | 0.45              |
| 2:P:81:MET:HE1   | 2:P:131:LEU:HD11 | 1.98                     | 0.45              |
| 1:A:225:SER:O    | 1:A:228:LEU:HB3  | 2.16                     | 0.45              |
| 1:C:209:LEU:HD12 | 1:C:248:PHE:O    | 2.17                     | 0.45              |
| 1:D:271:SER:C    | 1:D:275:ARG:HH12 | 2.24                     | 0.45              |
| 1:D:281:LEU:HB3  | 1:D:312:ARG:HH22 | 1.81                     | 0.45              |
| 1:D:339:MET:SD   | 1:D:347:ARG:HG3  | 2.57                     | 0.45              |
| 1:E:123:ASN:HB2  | 1:E:211:GLU:O    | 2.16                     | 0.45              |
| 1:E:136:TRP:CZ3  | 1:E:192:LEU:HA   | 2.50                     | 0.45              |
| 1:E:393:PHE:CZ   | 1:F:171:TRP:HB3  | 2.51                     | 0.45              |
| 4:Z:51:LEU:HD22  | 4:Z:129:ARG:HG3  | 1.98                     | 0.45              |
| 1:B:184:GLY:O    | 1:B:188:LEU:N    | 2.40                     | 0.45              |
| 1:B:258:THR:HA   | 1:B:277:VAL:HG22 | 1.97                     | 0.45              |
| 1:C:184:GLY:O    | 1:C:188:LEU:N    | 2.38                     | 0.45              |
| 1:C:187:SER:HG   | 5:C:901:AGS:C5'  | 2.27                     | 0.45              |
| 1:D:100:PHE:HE2  | 1:D:102:LEU:HD21 | 1.81                     | 0.45              |
| 1:D:125:TRP:NE1  | 1:D:131:GLU:OE2  | 2.49                     | 0.45              |
| 1:A:279:ALA:O    | 1:A:282:THR:OG1  | 2.20                     | 0.45              |
| 1:B:112:LEU:H    | 1:B:121:ALA:HB3  | 1.81                     | 0.45              |
| 1:C:149:LEU:O    | 1:C:152:TYR:HB3  | 2.16                     | 0.45              |
| 1:F:127:LEU:HB3  | 1:F:128:PRO:HD3  | 1.97                     | 0.45              |
| 1:F:332:LEU:HA   | 1:F:350:LEU:HD13 | 1.99                     | 0.45              |
| 1:A:224:GLU:OE1  | 1:A:227:LYS:HD3  | 2.17                     | 0.45              |
| 1:A:389:ARG:HE   | 5:A:901:AGS:H2   | 1.81                     | 0.45              |
| 1:B:20:THR:HA    | 1:B:94:THR:OG1   | 2.16                     | 0.45              |
| 1:B:42:VAL:O     | 1:B:46:LEU:HG    | 2.17                     | 0.45              |
| 1:B:281:LEU:HA   | 1:B:284:ILE:HD12 | 1.98                     | 0.45              |
| 1:C:236:ILE:O    | 1:C:240:ILE:HG13 | 2.17                     | 0.45              |
| 1:C:334:CYS:HA   | 1:D:169:ILE:HD11 | 1.99                     | 0.45              |
| 1:C:373:LEU:O    | 1:C:376:ILE:HB   | 2.16                     | 0.45              |
| 1:E:242:ASP:HB3  | 1:E:245:ALA:HB3  | 1.98                     | 0.45              |
| 1:A:140:VAL:HA   | 1:A:146:LYS:NZ   | 2.32                     | 0.45              |
| 1:B:417:ALA:O    | 1:B:420:LYS:HB3  | 2.17                     | 0.45              |
| 1:C:425:ARG:HA   | 1:D:316:LYS:HZ2  | 1.80                     | 0.45              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:182:GLY:O    | 1:D:384:SER:HB2  | 2.17                     | 0.45              |
| 1:E:155:THR:HG22 | 1:E:159:PHE:CE2  | 2.52                     | 0.45              |
| 1:E:391:LEU:HB2  | 1:E:392:PRO:HD3  | 1.98                     | 0.45              |
| 1:B:182:GLY:HA2  | 1:B:386:ARG:NH2  | 2.28                     | 0.45              |
| 1:D:157:LEU:HD13 | 1:D:203:ARG:NH1  | 2.31                     | 0.45              |
| 1:D:401:GLN:HE21 | 1:E:151:ASP:CG   | 2.15                     | 0.45              |
| 2:P:239:HIS:CE1  | 2:P:242:THR:H    | 2.35                     | 0.45              |
| 1:B:386:ARG:HD2  | 1:C:311:ASP:O    | 2.17                     | 0.45              |
| 1:C:108:SER:CB   | 1:C:124:HIS:HB3  | 2.47                     | 0.45              |
| 1:C:391:LEU:HD21 | 1:C:421:GLN:HG3  | 1.99                     | 0.45              |
| 1:C:396:HIS:HE1  | 1:D:159:PHE:CE2  | 2.35                     | 0.45              |
| 1:E:135:LEU:HA   | 1:E:138:SER:HB3  | 1.97                     | 0.45              |
| 1:E:153:VAL:O    | 1:E:156:THR:HB   | 2.17                     | 0.45              |
| 2:P:203:LEU:HD22 | 4:Z:127:GLU:HG2  | 1.99                     | 0.45              |
| 1:A:284:ILE:HG23 | 1:A:295:ILE:HD13 | 1.98                     | 0.45              |
| 1:C:278:ASN:O    | 1:C:282:THR:HG23 | 2.16                     | 0.45              |
| 1:C:339:MET:HE1  | 1:C:348:GLN:HB2  | 1.97                     | 0.45              |
| 1:D:139:LEU:HA   | 5:D:901:AGS:C2   | 2.46                     | 0.45              |
| 1:E:127:LEU:HD12 | 1:E:127:LEU:HA   | 1.75                     | 0.45              |
| 1:E:133:HIS:C    | 1:E:135:LEU:H    | 2.24                     | 0.45              |
| 1:F:210:ILE:O    | 1:F:250:LEU:HB3  | 2.17                     | 0.45              |
| 1:C:24:GLU:HB3   | 1:C:100:PHE:HE1  | 1.82                     | 0.45              |
| 1:C:386:ARG:NH2  | 5:C:901:AGS:S1G  | 2.89                     | 0.45              |
| 1:F:159:PHE:HD1  | 1:F:164:VAL:HG21 | 1.82                     | 0.45              |
| 1:F:330:ILE:HG23 | 1:F:389:ARG:CZ   | 2.47                     | 0.45              |
| 1:A:278:ASN:O    | 1:A:281:LEU:HB2  | 2.17                     | 0.44              |
| 1:B:50:ASN:O     | 1:B:91:SER:OG    | 2.35                     | 0.44              |
| 1:B:201:SER:HA   | 1:B:204:TYR:O    | 2.17                     | 0.44              |
| 1:C:302:THR:HA   | 1:C:305:ILE:HG13 | 1.98                     | 0.44              |
| 1:D:28:ARG:HH11  | 1:D:71:GLN:CD    | 2.25                     | 0.44              |
| 1:D:139:LEU:O    | 1:D:146:LYS:HD2  | 2.17                     | 0.44              |
| 1:D:233:PHE:HA   | 1:D:236:ILE:HB   | 2.00                     | 0.44              |
| 1:D:264:CYS:N    | 1:D:265:ARG:HH11 | 2.14                     | 0.44              |
| 1:F:205:ARG:H    | 1:F:244:ASP:CB   | 2.27                     | 0.44              |
| 1:F:240:ILE:HG21 | 1:F:290:HIS:CG   | 2.52                     | 0.44              |
| 1:F:344:ILE:HA   | 1:F:404:THR:HG23 | 1.98                     | 0.44              |
| 4:Z:41:GLU:HG2   | 4:Z:42:THR:HG23  | 1.99                     | 0.44              |
| 1:A:376:ILE:HD13 | 1:A:414:LEU:HD23 | 1.99                     | 0.44              |
| 1:C:206:TYR:OH   | 1:C:242:ASP:OD2  | 2.24                     | 0.44              |
| 1:C:236:ILE:HG22 | 1:C:240:ILE:HD11 | 2.00                     | 0.44              |
| 1:C:328:PHE:CD2  | 1:C:353:LEU:HG   | 2.52                     | 0.44              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:420:LYS:HE2  | 1:C:424:GLU:OE2  | 2.17                     | 0.44              |
| 1:D:34:LYS:HE3   | 2:P:219:ARG:HG3  | 1.98                     | 0.44              |
| 1:E:139:LEU:HA   | 5:E:901:AGS:N1   | 2.32                     | 0.44              |
| 1:E:174:VAL:O    | 1:E:314:ASP:HB2  | 2.16                     | 0.44              |
| 1:E:280:VAL:HG11 | 1:E:309:PHE:HZ   | 1.82                     | 0.44              |
| 1:F:372:LEU:O    | 1:F:375:ASP:HB2  | 2.17                     | 0.44              |
| 2:P:94:LEU:HD22  | 2:P:97:PHE:HZ    | 1.82                     | 0.44              |
| 1:A:215:HIS:CD2  | 1:B:279:ALA:HB2  | 2.53                     | 0.44              |
| 1:A:269:GLU:HB3  | 4:Z:7:ARG:HH12   | 1.82                     | 0.44              |
| 1:C:31:SER:OG    | 1:C:32:THR:N     | 2.50                     | 0.44              |
| 1:C:153:VAL:O    | 1:C:156:THR:HB   | 2.16                     | 0.44              |
| 1:D:132:PHE:CE1  | 1:D:190:LYS:HD3  | 2.51                     | 0.44              |
| 1:D:180:PRO:O    | 1:D:183:THR:OG1  | 2.28                     | 0.44              |
| 1:D:302:THR:C    | 1:D:304:LYS:N    | 2.75                     | 0.44              |
| 1:D:376:ILE:O    | 1:D:380:SER:N    | 2.51                     | 0.44              |
| 1:F:136:TRP:HA   | 1:F:191:ALA:HB1  | 1.99                     | 0.44              |
| 1:C:255:GLU:HG2  | 1:C:256:SER:N    | 2.33                     | 0.44              |
| 1:D:135:LEU:HD23 | 1:D:191:ALA:HB2  | 1.99                     | 0.44              |
| 1:E:173:ARG:NH1  | 1:E:288:LYS:C    | 2.69                     | 0.44              |
| 1:E:279:ALA:O    | 1:E:283:GLN:HG2  | 2.17                     | 0.44              |
| 1:A:278:ASN:OD1  | 1:A:279:ALA:N    | 2.51                     | 0.44              |
| 1:B:165:ASN:OD1  | 1:B:167:ASN:N    | 2.45                     | 0.44              |
| 1:C:127:LEU:HA   | 1:C:127:LEU:HD12 | 1.75                     | 0.44              |
| 1:C:335:LEU:HB2  | 1:C:350:LEU:HD11 | 2.00                     | 0.44              |
| 1:A:177:LEU:HG   | 1:A:317:GLN:HB3  | 1.99                     | 0.44              |
| 1:A:285:ASP:HA   | 1:A:288:LYS:HG2  | 1.98                     | 0.44              |
| 1:A:339:MET:HB3  | 1:A:347:ARG:NE   | 2.33                     | 0.44              |
| 1:B:194:GLN:O    | 1:B:197:THR:HB   | 2.17                     | 0.44              |
| 1:B:283:GLN:O    | 1:B:287:ILE:HG12 | 2.17                     | 0.44              |
| 1:C:220:LYS:HE2  | 4:Z:4:GLN:CD     | 2.43                     | 0.44              |
| 1:D:25:VAL:HG21  | 1:D:97:LEU:HB3   | 1.98                     | 0.44              |
| 1:D:369:LEU:HD13 | 1:D:408:GLU:CD   | 2.41                     | 0.44              |
| 4:Z:163:VAL:HG12 | 4:Z:164:PRO:O    | 2.18                     | 0.44              |
| 1:A:151:ASP:HA   | 1:A:154:MET:HB3  | 1.98                     | 0.44              |
| 1:D:157:LEU:HD13 | 1:D:203:ARG:HD2  | 2.00                     | 0.44              |
| 1:D:195:LYS:O    | 1:D:198:ILE:HB   | 2.18                     | 0.44              |
| 1:F:172:ASN:ND2  | 1:F:313:ALA:HA   | 2.32                     | 0.44              |
| 4:Z:8:GLU:OE2    | 4:Z:118:GLU:HA   | 2.17                     | 0.44              |
| 1:A:164:VAL:HG22 | 1:F:343:ILE:CD1  | 2.48                     | 0.44              |
| 1:A:185:LYS:N    | 5:A:901:AGS:O2B  | 2.50                     | 0.44              |
| 1:B:152:TYR:CE1  | 1:B:315:ILE:HD11 | 2.52                     | 0.44              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:332:LEU:O    | 1:B:336:GLU:HG2  | 2.17                     | 0.44              |
| 1:B:425:ARG:HE   | 1:C:316:LYS:HZ1  | 1.63                     | 0.44              |
| 1:D:112:LEU:H    | 1:D:235:LYS:HZ1  | 1.66                     | 0.44              |
| 1:E:305:ILE:O    | 1:E:306:ASP:HB2  | 2.17                     | 0.44              |
| 1:F:138:SER:O    | 1:F:329:LYS:NZ   | 2.50                     | 0.44              |
| 1:F:160:SER:OG   | 1:F:291:SER:HA   | 2.18                     | 0.44              |
| 1:F:253:GLN:HB2  | 1:F:256:SER:CB   | 2.47                     | 0.44              |
| 1:F:330:ILE:O    | 1:F:333:SER:OG   | 2.27                     | 0.44              |
| 4:Z:80:SER:HA    | 4:Z:159:LYS:NZ   | 2.33                     | 0.44              |
| 1:A:281:LEU:HA   | 1:A:284:ILE:HD12 | 2.00                     | 0.44              |
| 1:B:28:ARG:NH1   | 1:B:68:ARG:O     | 2.51                     | 0.44              |
| 1:B:184:GLY:HA2  | 5:B:901:AGS:O1A  | 2.18                     | 0.44              |
| 1:B:215:HIS:C    | 1:C:275:ARG:HH21 | 2.26                     | 0.44              |
| 2:P:83:GLN:NE2   | 4:Z:137:ALA:HB2  | 2.33                     | 0.44              |
| 1:A:286:GLN:NE2  | 1:A:289:ARG:NH1  | 2.66                     | 0.43              |
| 1:A:400:VAL:CG1  | 1:A:405:VAL:HG12 | 2.47                     | 0.43              |
| 1:B:56:TYR:HE2   | 1:B:58:TRP:CD1   | 2.36                     | 0.43              |
| 1:B:171:TRP:CZ3  | 1:B:173:ARG:HG2  | 2.53                     | 0.43              |
| 1:E:23:VAL:HB    | 1:E:97:LEU:HD23  | 2.00                     | 0.43              |
| 1:E:26:HIS:CD2   | 1:E:27:GLN:H     | 2.35                     | 0.43              |
| 1:F:352:THR:O    | 1:F:356:LEU:HG   | 2.16                     | 0.43              |
| 1:F:392:PRO:HB3  | 1:F:410:PHE:HZ   | 1.83                     | 0.43              |
| 2:P:191:PHE:HD1  | 2:P:194:ILE:HD12 | 1.82                     | 0.43              |
| 4:Z:23:PHE:CZ    | 4:Z:131:VAL:HG11 | 2.54                     | 0.43              |
| 4:Z:158:ASP:OD1  | 4:Z:159:LYS:N    | 2.51                     | 0.43              |
| 1:B:173:ARG:NH1  | 1:B:290:HIS:N    | 2.66                     | 0.43              |
| 1:C:331:TYR:O    | 1:C:335:LEU:HG   | 2.17                     | 0.43              |
| 1:D:141:TYR:CE2  | 1:D:188:LEU:HD13 | 2.53                     | 0.43              |
| 1:F:328:PHE:CE2  | 1:F:332:LEU:HD11 | 2.54                     | 0.43              |
| 1:A:387:VAL:O    | 1:A:391:LEU:HG   | 2.17                     | 0.43              |
| 1:B:390:LYS:NZ   | 1:C:172:ASN:HB2  | 2.33                     | 0.43              |
| 1:C:138:SER:OG   | 1:C:139:LEU:N    | 2.51                     | 0.43              |
| 1:C:141:TYR:CE1  | 1:C:322:PRO:HA   | 2.53                     | 0.43              |
| 2:P:64:VAL:HG22  | 2:P:66:GLN:N     | 2.32                     | 0.43              |
| 1:A:229:VAL:HG13 | 1:A:233:PHE:CD2  | 2.53                     | 0.43              |
| 1:A:282:THR:O    | 1:A:285:ASP:HB2  | 2.19                     | 0.43              |
| 1:B:212:ILE:HG21 | 1:B:232:MET:SD   | 2.58                     | 0.43              |
| 1:B:225:SER:O    | 1:B:229:VAL:HG23 | 2.18                     | 0.43              |
| 1:B:327:ILE:HA   | 1:B:330:ILE:HD12 | 2.00                     | 0.43              |
| 1:C:20:THR:HA    | 1:C:94:THR:OG1   | 2.18                     | 0.43              |
| 1:C:157:LEU:HB3  | 1:C:203:ARG:HH11 | 1.80                     | 0.43              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:372:LEU:O    | 1:C:376:ILE:HG13 | 2.18                     | 0.43              |
| 1:C:390:LYS:HD3  | 1:D:170:THR:O    | 2.18                     | 0.43              |
| 1:F:284:ILE:HG22 | 1:F:288:LYS:HE3  | 2.00                     | 0.43              |
| 3:Q:136:LYS:NZ   | 4:Z:64:TYR:CG    | 2.86                     | 0.43              |
| 1:A:269:GLU:O    | 4:Z:7:ARG:NH1    | 2.50                     | 0.43              |
| 1:B:425:ARG:NE   | 1:C:316:LYS:HZ1  | 2.16                     | 0.43              |
| 1:C:229:VAL:HG21 | 1:C:276:VAL:HG13 | 2.00                     | 0.43              |
| 1:C:233:PHE:O    | 1:C:236:ILE:HB   | 2.18                     | 0.43              |
| 1:C:281:LEU:HD22 | 1:C:312:ARG:HH11 | 1.78                     | 0.43              |
| 1:F:155:THR:HG23 | 1:F:158:LEU:HD23 | 2.00                     | 0.43              |
| 1:A:214:SER:O    | 1:A:217:LEU:HB3  | 2.17                     | 0.43              |
| 1:B:40:LEU:HD23  | 1:B:43:ARG:HD2   | 2.00                     | 0.43              |
| 1:C:180:PRO:O    | 1:C:183:THR:OG1  | 2.34                     | 0.43              |
| 1:C:189:CYS:HB3  | 1:C:296:LEU:HD13 | 1.99                     | 0.43              |
| 1:D:58:TRP:HB3   | 1:D:61:PHE:HE1   | 1.82                     | 0.43              |
| 1:E:104:GLU:CD   | 1:F:289:ARG:HH12 | 2.26                     | 0.43              |
| 1:E:168:LEU:HD23 | 1:E:168:LEU:HA   | 1.85                     | 0.43              |
| 1:E:200:LEU:HD13 | 1:E:204:TYR:CE2  | 2.53                     | 0.43              |
| 1:E:214:SER:H    | 1:E:217:LEU:HB2  | 1.83                     | 0.43              |
| 1:F:205:ARG:N    | 1:F:244:ASP:HB3  | 2.29                     | 0.43              |
| 1:F:372:LEU:HA   | 1:F:375:ASP:HB2  | 2.01                     | 0.43              |
| 4:Z:90:ASN:O     | 4:Z:94:GLY:HA2   | 2.19                     | 0.43              |
| 1:A:172:ASN:OD1  | 1:A:314:ASP:HB2  | 2.18                     | 0.43              |
| 1:B:301:ILE:HG22 | 1:B:301:ILE:O    | 2.19                     | 0.43              |
| 1:D:24:GLU:CD    | 1:D:195:LYS:HZ1  | 2.25                     | 0.43              |
| 1:D:136:TRP:CE2  | 1:D:146:LYS:HE2  | 2.53                     | 0.43              |
| 1:D:222:PHE:HE1  | 1:D:275:ARG:CZ   | 2.32                     | 0.43              |
| 1:D:303:GLU:C    | 1:D:305:ILE:N    | 2.77                     | 0.43              |
| 1:D:306:ASP:OD2  | 1:D:309:PHE:HB2  | 2.19                     | 0.43              |
| 1:D:306:ASP:OD1  | 1:D:308:ALA:N    | 2.41                     | 0.43              |
| 1:D:377:SER:HA   | 1:D:380:SER:HB2  | 2.01                     | 0.43              |
| 1:E:255:GLU:CD   | 1:E:300:ASN:H    | 2.27                     | 0.43              |
| 1:F:212:ILE:HG12 | 1:F:232:MET:SD   | 2.58                     | 0.43              |
| 1:A:221:TRP:CD1  | 1:A:223:SER:HB3  | 2.54                     | 0.43              |
| 1:B:45:LEU:HG    | 1:B:49:HIS:CD2   | 2.53                     | 0.43              |
| 1:E:174:VAL:N    | 1:E:314:ASP:OD2  | 2.46                     | 0.43              |
| 1:E:182:GLY:HA2  | 1:E:386:ARG:NH2  | 2.34                     | 0.43              |
| 1:F:250:LEU:HA   | 1:F:296:LEU:HB2  | 2.00                     | 0.43              |
| 2:P:91:TYR:HA    | 2:P:94:LEU:HD12  | 2.01                     | 0.43              |
| 1:A:166:SER:HA   | 1:A:171:TRP:HE1  | 1.84                     | 0.43              |
| 1:A:213:ASN:HB3  | 1:A:216:SER:OG   | 2.18                     | 0.43              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:321:PRO:HB2  | 1:A:382:GLY:HA2  | 2.01                     | 0.43              |
| 1:D:323:SER:HA   | 1:D:381:GLU:CD   | 2.43                     | 0.43              |
| 1:F:246:LEU:HG   | 1:F:248:PHE:CE2  | 2.54                     | 0.43              |
| 1:F:368:LYS:O    | 1:F:369:LEU:C    | 2.61                     | 0.43              |
| 2:P:149:ARG:HH21 | 2:P:166:GLU:CD   | 2.25                     | 0.43              |
| 1:D:206:TYR:CE1  | 2:P:159:LEU:HD13 | 2.54                     | 0.43              |
| 1:D:301:ILE:O    | 1:D:302:THR:HG22 | 2.19                     | 0.43              |
| 1:E:192:LEU:HD23 | 1:E:296:LEU:HD11 | 2.01                     | 0.43              |
| 1:E:337:GLU:OE2  | 1:E:341:CYS:SG   | 2.77                     | 0.43              |
| 1:F:148:HIS:O    | 1:F:151:ASP:N    | 2.51                     | 0.43              |
| 1:F:391:LEU:HB2  | 1:F:392:PRO:HD3  | 2.00                     | 0.43              |
| 1:A:139:LEU:HA   | 5:A:901:AGS:N1   | 2.34                     | 0.42              |
| 1:A:310:VAL:O    | 1:A:313:ALA:HB2  | 2.18                     | 0.42              |
| 1:C:23:VAL:HG21  | 1:C:95:VAL:HG13  | 2.01                     | 0.42              |
| 1:D:385:GLY:HA2  | 1:D:388:LEU:HB2  | 2.01                     | 0.42              |
| 1:E:26:HIS:CD2   | 1:E:27:GLN:N     | 2.87                     | 0.42              |
| 1:E:214:SER:HA   | 1:E:217:LEU:HB2  | 2.01                     | 0.42              |
| 2:P:156:GLY:N    | 2:P:162:LYS:HG2  | 2.34                     | 0.42              |
| 1:A:254:VAL:CG2  | 1:A:297:THR:HB   | 2.50                     | 0.42              |
| 1:A:281:LEU:HD13 | 1:A:312:ARG:NH2  | 2.28                     | 0.42              |
| 1:B:391:LEU:O    | 1:B:395:ALA:CB   | 2.66                     | 0.42              |
| 1:D:220:LYS:HB2  | 1:D:221:TRP:CZ3  | 2.54                     | 0.42              |
| 1:E:232:MET:HE3  | 1:E:236:ILE:HD11 | 2.01                     | 0.42              |
| 1:F:185:LYS:HZ3  | 1:F:185:LYS:HB2  | 1.84                     | 0.42              |
| 1:A:151:ASP:OD2  | 1:F:401:GLN:HG2  | 2.20                     | 0.42              |
| 1:A:168:LEU:O    | 1:F:389:ARG:HD3  | 2.19                     | 0.42              |
| 1:A:335:LEU:HD23 | 1:A:338:LEU:HD12 | 2.01                     | 0.42              |
| 1:B:393:PHE:HZ   | 1:C:156:THR:HA   | 1.84                     | 0.42              |
| 1:C:142:ASP:C    | 1:C:144:GLU:H    | 2.27                     | 0.42              |
| 1:C:150:LEU:HD21 | 1:C:199:ARG:HH22 | 1.83                     | 0.42              |
| 1:C:331:TYR:CZ   | 1:C:414:LEU:HD21 | 2.54                     | 0.42              |
| 1:C:386:ARG:HD2  | 1:D:311:ASP:OD1  | 2.19                     | 0.42              |
| 1:D:19:PRO:HB2   | 1:D:93:CYS:HB3   | 2.00                     | 0.42              |
| 1:D:138:SER:HB2  | 1:D:389:ARG:NH2  | 2.35                     | 0.42              |
| 1:D:209:LEU:HD12 | 1:D:248:PHE:O    | 2.19                     | 0.42              |
| 1:D:357:GLU:C    | 1:D:360:GLY:H    | 2.26                     | 0.42              |
| 1:E:354:ARG:O    | 1:E:358:MET:HG3  | 2.19                     | 0.42              |
| 1:F:233:PHE:CD2  | 1:F:283:GLN:HG3  | 2.54                     | 0.42              |
| 1:A:186:THR:OG1  | 5:A:901:AGS:O2G  | 2.33                     | 0.42              |
| 1:B:24:GLU:HG2   | 1:B:198:ILE:HG21 | 2.00                     | 0.42              |
| 1:C:106:GLY:O    | 1:C:125:TRP:CD1  | 2.72                     | 0.42              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:105:ASP:O    | 1:D:107:PRO:HD3  | 2.18                     | 0.42              |
| 1:D:112:LEU:HA   | 1:D:112:LEU:HD23 | 1.77                     | 0.42              |
| 1:D:258:THR:O    | 1:D:258:THR:OG1  | 2.26                     | 0.42              |
| 1:E:24:GLU:HG2   | 1:E:198:ILE:HG21 | 2.01                     | 0.42              |
| 2:P:153:LEU:C    | 2:P:154:LEU:HD12 | 2.44                     | 0.42              |
| 1:B:394:LEU:O    | 1:B:397:ALA:HB3  | 2.20                     | 0.42              |
| 1:C:217:LEU:O    | 1:C:228:LEU:HD11 | 2.19                     | 0.42              |
| 1:C:251:ILE:CG2  | 1:C:254:VAL:HG12 | 2.50                     | 0.42              |
| 1:D:265:ARG:CB   | 1:E:267:GLY:H    | 2.32                     | 0.42              |
| 1:F:345:TYR:CE1  | 1:F:347:ARG:HG3  | 2.54                     | 0.42              |
| 1:F:377:SER:HA   | 1:F:380:SER:HB2  | 2.02                     | 0.42              |
| 1:A:246:LEU:HD12 | 1:A:292:ASN:HB2  | 2.01                     | 0.42              |
| 1:C:207:GLY:HA2  | 1:C:245:ALA:HB1  | 2.01                     | 0.42              |
| 1:C:332:LEU:O    | 1:C:336:GLU:HG2  | 2.19                     | 0.42              |
| 1:F:242:ASP:O    | 1:F:292:ASN:ND2  | 2.50                     | 0.42              |
| 1:F:290:HIS:HB2  | 1:F:293:VAL:HG23 | 2.02                     | 0.42              |
| 1:B:218:PHE:CG   | 1:C:275:ARG:NH1  | 2.79                     | 0.42              |
| 1:B:421:GLN:HA   | 1:B:424:GLU:OE1  | 2.20                     | 0.42              |
| 1:C:25:VAL:HG11  | 1:C:99:ILE:HG12  | 2.01                     | 0.42              |
| 1:C:127:LEU:HD22 | 1:C:207:GLY:CA   | 2.49                     | 0.42              |
| 1:C:165:ASN:ND2  | 1:C:168:LEU:HG   | 2.34                     | 0.42              |
| 1:C:387:VAL:O    | 1:C:391:LEU:HG   | 2.20                     | 0.42              |
| 5:C:901:AGS:O2B  | 5:C:901:AGS:O2A  | 2.37                     | 0.42              |
| 1:E:185:LYS:HB3  | 1:E:298:THR:HG21 | 2.01                     | 0.42              |
| 1:F:255:GLU:C    | 1:F:257:LEU:N    | 2.77                     | 0.42              |
| 1:F:328:PHE:HE2  | 1:F:352:THR:HA   | 1.85                     | 0.42              |
| 4:Z:20:VAL:HG12  | 4:Z:24:PHE:CE2   | 2.55                     | 0.42              |
| 1:A:267:GLY:O    | 1:A:268:THR:OG1  | 2.28                     | 0.42              |
| 1:A:323:SER:O    | 1:A:327:ILE:HG13 | 2.20                     | 0.42              |
| 1:B:145:VAL:HG11 | 1:B:319:ILE:HD11 | 2.01                     | 0.42              |
| 1:B:219:SER:OG   | 1:B:224:GLU:HB3  | 2.20                     | 0.42              |
| 1:B:345:TYR:HB3  | 1:B:346:PRO:HD3  | 2.02                     | 0.42              |
| 1:C:49:HIS:O     | 1:C:51:ILE:HG13  | 2.19                     | 0.42              |
| 1:C:212:ILE:HD13 | 1:C:212:ILE:HA   | 1.90                     | 0.42              |
| 1:C:328:PHE:O    | 1:C:332:LEU:HG   | 2.20                     | 0.42              |
| 1:D:119:ILE:HG13 | 1:D:119:ILE:O    | 2.18                     | 0.42              |
| 1:F:379:LYS:HE3  | 1:F:422:PHE:HB2  | 2.01                     | 0.42              |
| 2:P:149:ARG:CZ   | 2:P:166:GLU:OE2  | 2.67                     | 0.42              |
| 1:A:222:PHE:O    | 1:A:225:SER:OG   | 2.27                     | 0.42              |
| 1:A:373:LEU:HA   | 1:A:376:ILE:HD12 | 2.02                     | 0.42              |
| 1:C:233:PHE:CD1  | 1:C:283:GLN:HB3  | 2.54                     | 0.42              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:218:PHE:HZ   | 1:E:222:PHE:CD1  | 2.19                     | 0.42              |
| 1:F:125:TRP:CH2  | 1:F:211:GLU:HB2  | 2.55                     | 0.42              |
| 1:F:213:ASN:HD21 | 1:F:215:HIS:HD2  | 1.66                     | 0.42              |
| 4:Z:75:TRP:CB    | 4:Z:80:SER:HB2   | 2.45                     | 0.42              |
| 4:Z:107:ASP:HB3  | 4:Z:190:ILE:HG23 | 2.02                     | 0.42              |
| 1:A:287:ILE:HA   | 1:A:290:HIS:HD1  | 1.85                     | 0.42              |
| 5:A:901:AGS:H5'1 | 5:A:901:AGS:C8   | 2.45                     | 0.42              |
| 1:B:165:ASN:CG   | 1:B:167:ASN:H    | 2.27                     | 0.42              |
| 1:B:398:LEU:HD11 | 1:B:420:LYS:HZ3  | 1.84                     | 0.42              |
| 1:C:127:LEU:C    | 1:C:129:ALA:H    | 2.17                     | 0.42              |
| 1:C:390:LYS:HD2  | 1:D:171:TRP:HA   | 2.02                     | 0.42              |
| 1:E:389:ARG:NE   | 1:F:168:LEU:HD22 | 2.35                     | 0.42              |
| 1:F:168:LEU:HB2  | 1:F:169:ILE:HG13 | 2.01                     | 0.42              |
| 2:P:173:ALA:N    | 2:P:249:ARG:NH1  | 2.67                     | 0.42              |
| 2:P:211:THR:O    | 2:P:269:PHE:N    | 2.53                     | 0.42              |
| 4:Z:14:ARG:HB2   | 4:Z:77:TYR:CD1   | 2.55                     | 0.42              |
| 4:Z:90:ASN:HB3   | 4:Z:94:GLY:N     | 2.35                     | 0.42              |
| 1:A:175:VAL:HA   | 1:A:315:ILE:HB   | 2.01                     | 0.41              |
| 1:A:339:MET:HB3  | 1:A:347:ARG:HE   | 1.85                     | 0.41              |
| 1:B:34:LYS:HB2   | 1:B:37:ASP:CG    | 2.45                     | 0.41              |
| 1:D:236:ILE:O    | 1:D:240:ILE:HG13 | 2.20                     | 0.41              |
| 1:D:331:TYR:O    | 1:D:335:LEU:HG   | 2.20                     | 0.41              |
| 1:F:135:LEU:O    | 1:F:138:SER:OG   | 2.27                     | 0.41              |
| 2:P:252:ILE:HG22 | 2:P:253:ARG:N    | 2.35                     | 0.41              |
| 1:A:384:SER:HG   | 1:A:387:VAL:HG23 | 1.84                     | 0.41              |
| 1:B:344:ILE:HD11 | 1:B:410:PHE:CG   | 2.56                     | 0.41              |
| 1:B:387:VAL:O    | 1:B:391:LEU:HG   | 2.20                     | 0.41              |
| 1:C:377:SER:O    | 1:C:380:SER:N    | 2.51                     | 0.41              |
| 1:D:104:GLU:HG3  | 2:P:227:ARG:NH1  | 2.34                     | 0.41              |
| 1:D:128:PRO:HD3  | 1:D:197:THR:HG21 | 2.02                     | 0.41              |
| 1:D:192:LEU:O    | 1:D:196:LEU:HG   | 2.20                     | 0.41              |
| 1:D:409:GLY:O    | 1:D:412:GLN:HG2  | 2.20                     | 0.41              |
| 1:E:42:VAL:HB    | 1:E:97:LEU:HD13  | 2.01                     | 0.41              |
| 1:E:111:ASN:H    | 1:E:235:LYS:NZ   | 2.19                     | 0.41              |
| 2:P:195:PHE:CZ   | 4:Z:183:LEU:HG   | 2.55                     | 0.41              |
| 1:A:127:LEU:HA   | 1:A:127:LEU:HD23 | 1.80                     | 0.41              |
| 1:A:386:ARG:HH22 | 1:B:312:ARG:NH1  | 2.17                     | 0.41              |
| 1:C:353:LEU:HD23 | 1:C:356:LEU:HD12 | 2.02                     | 0.41              |
| 1:D:20:THR:HA    | 1:D:94:THR:OG1   | 2.20                     | 0.41              |
| 1:E:400:VAL:HG12 | 1:E:402:ALA:N    | 2.36                     | 0.41              |
| 2:P:148:PRO:HB3  | 2:P:257:TRP:CD2  | 2.55                     | 0.41              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:213:ASN:O    | 1:A:216:SER:N    | 2.53                     | 0.41              |
| 1:B:135:LEU:O    | 1:B:138:SER:OG   | 2.29                     | 0.41              |
| 1:D:20:THR:HA    | 1:D:94:THR:HG1   | 1.85                     | 0.41              |
| 1:D:70:VAL:HG11  | 1:D:73:VAL:HG23  | 2.02                     | 0.41              |
| 1:D:187:SER:HG   | 5:D:901:AGS:PA   | 2.41                     | 0.41              |
| 1:D:292:ASN:OD1  | 1:D:292:ASN:N    | 2.53                     | 0.41              |
| 1:E:246:LEU:HD12 | 1:E:292:ASN:HB2  | 2.02                     | 0.41              |
| 1:F:325:ALA:O    | 1:F:353:LEU:HD11 | 2.20                     | 0.41              |
| 1:A:171:TRP:C    | 1:A:314:ASP:OD2  | 2.64                     | 0.41              |
| 1:A:278:ASN:O    | 1:A:282:THR:HG23 | 2.21                     | 0.41              |
| 1:B:100:PHE:CG   | 1:B:198:ILE:HG12 | 2.56                     | 0.41              |
| 1:C:91:SER:O     | 1:C:93:CYS:N     | 2.49                     | 0.41              |
| 1:D:126:VAL:HG22 | 2:P:157:ASN:HD22 | 1.84                     | 0.41              |
| 1:D:141:TYR:HE2  | 1:D:188:LEU:HD13 | 1.86                     | 0.41              |
| 1:E:421:GLN:CD   | 1:E:424:GLU:OE2  | 2.63                     | 0.41              |
| 1:F:123:ASN:N    | 1:F:211:GLU:HB3  | 2.31                     | 0.41              |
| 1:F:249:VAL:N    | 1:F:294:VAL:O    | 2.54                     | 0.41              |
| 4:Z:53:LEU:HD23  | 4:Z:53:LEU:HA    | 1.85                     | 0.41              |
| 1:B:183:THR:N    | 5:B:901:AGS:O2B  | 2.51                     | 0.41              |
| 1:C:149:LEU:HD21 | 1:C:192:LEU:HD22 | 2.02                     | 0.41              |
| 1:C:218:PHE:CD2  | 1:D:275:ARG:HD3  | 2.56                     | 0.41              |
| 1:C:258:THR:OG1  | 1:C:306:ASP:OD2  | 2.26                     | 0.41              |
| 1:C:269:GLU:O    | 1:C:273:ALA:N    | 2.30                     | 0.41              |
| 1:D:261:ARG:HH22 | 1:D:278:ASN:HA   | 1.86                     | 0.41              |
| 1:E:24:GLU:CD    | 1:E:76:ILE:HG13  | 2.46                     | 0.41              |
| 1:F:125:TRP:HZ3  | 1:F:211:GLU:HB2  | 1.84                     | 0.41              |
| 1:F:192:LEU:O    | 1:F:196:LEU:HG   | 2.21                     | 0.41              |
| 1:F:290:HIS:HB2  | 1:F:293:VAL:CG2  | 2.51                     | 0.41              |
| 1:F:336:GLU:HG2  | 1:F:350:LEU:HD12 | 2.02                     | 0.41              |
| 3:Q:133:LEU:HG   | 4:Z:167:TRP:CE3  | 2.55                     | 0.41              |
| 4:Z:49:TYR:HD2   | 4:Z:53:LEU:HD11  | 1.85                     | 0.41              |
| 4:Z:72:LEU:O     | 4:Z:76:LEU:HG    | 2.20                     | 0.41              |
| 1:A:318:TYR:O    | 1:A:319:ILE:HD13 | 2.20                     | 0.41              |
| 1:B:129:ALA:H    | 1:B:194:GLN:CD   | 2.27                     | 0.41              |
| 1:B:152:TYR:HD2  | 1:B:153:VAL:HG23 | 1.86                     | 0.41              |
| 1:B:300:ASN:HB2  | 1:B:301:ILE:HD12 | 2.03                     | 0.41              |
| 1:B:324:ALA:O    | 1:B:327:ILE:N    | 2.53                     | 0.41              |
| 1:D:277:VAL:O    | 1:D:281:LEU:HG   | 2.21                     | 0.41              |
| 4:Z:41:GLU:HG2   | 4:Z:42:THR:N     | 2.36                     | 0.41              |
| 1:A:185:LYS:NZ   | 1:A:300:ASN:CG   | 2.74                     | 0.41              |
| 1:A:324:ALA:O    | 1:A:327:ILE:N    | 2.54                     | 0.41              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:120:ILE:HG22 | 1:B:121:ALA:N    | 2.36                     | 0.41              |
| 1:B:239:LEU:HD23 | 1:B:239:LEU:HA   | 1.82                     | 0.41              |
| 1:B:425:ARG:CD   | 1:C:316:LYS:NZ   | 2.84                     | 0.41              |
| 1:C:181:PRO:HA   | 1:C:300:ASN:OD1  | 2.21                     | 0.41              |
| 1:D:25:VAL:HG11  | 1:D:99:ILE:HG12  | 2.03                     | 0.41              |
| 1:D:175:VAL:HG13 | 1:D:315:ILE:HB   | 2.02                     | 0.41              |
| 1:D:369:LEU:HB3  | 1:D:408:GLU:HG2  | 2.03                     | 0.41              |
| 2:P:212:VAL:HG22 | 2:P:268:THR:HA   | 2.02                     | 0.41              |
| 4:Z:175:ILE:HG21 | 4:Z:178:SER:HB3  | 2.02                     | 0.41              |
| 1:A:276:VAL:O    | 1:A:280:VAL:HG23 | 2.21                     | 0.41              |
| 1:A:285:ASP:O    | 1:A:286:GLN:C    | 2.63                     | 0.41              |
| 1:A:307:VAL:C    | 1:A:309:PHE:H    | 2.29                     | 0.41              |
| 1:B:296:LEU:HD23 | 1:B:296:LEU:HA   | 1.83                     | 0.41              |
| 1:B:338:LEU:O    | 1:B:342:GLN:N    | 2.54                     | 0.41              |
| 1:C:246:LEU:HA   | 1:C:246:LEU:HD12 | 1.90                     | 0.41              |
| 1:C:267:GLY:C    | 1:C:269:GLU:H    | 2.28                     | 0.41              |
| 1:C:278:ASN:O    | 1:C:281:LEU:HB2  | 2.20                     | 0.41              |
| 1:D:246:LEU:HD12 | 1:D:246:LEU:HA   | 1.91                     | 0.41              |
| 1:E:126:VAL:HG12 | 1:E:127:LEU:N    | 2.36                     | 0.41              |
| 1:E:384:SER:O    | 1:E:388:LEU:HG   | 2.21                     | 0.41              |
| 1:F:157:LEU:HD13 | 1:F:204:TYR:HE2  | 1.85                     | 0.41              |
| 2:P:63:PRO:O     | 2:P:179:GLN:HB3  | 2.20                     | 0.41              |
| 4:Z:48:LYS:O     | 4:Z:51:LEU:HG    | 2.21                     | 0.41              |
| 4:Z:58:ASP:O     | 4:Z:62:ILE:N     | 2.37                     | 0.41              |
| 4:Z:178:SER:HA   | 4:Z:199:TYR:O    | 2.21                     | 0.41              |
| 1:B:28:ARG:NH2   | 1:B:67:THR:O     | 2.54                     | 0.41              |
| 1:B:152:TYR:O    | 1:B:156:THR:OG1  | 2.28                     | 0.41              |
| 1:C:257:LEU:HD13 | 1:C:280:VAL:HG11 | 2.03                     | 0.41              |
| 1:C:302:THR:OG1  | 1:C:305:ILE:HD12 | 2.21                     | 0.41              |
| 1:C:391:LEU:HD13 | 1:C:418:VAL:HG22 | 2.04                     | 0.41              |
| 1:D:139:LEU:HD13 | 1:D:188:LEU:HA   | 2.03                     | 0.41              |
| 1:D:219:SER:OG   | 1:D:224:GLU:HB2  | 2.20                     | 0.41              |
| 1:D:262:ASN:HD22 | 1:D:262:ASN:C    | 2.28                     | 0.41              |
| 1:D:408:GLU:HG3  | 1:D:411:LEU:CD1  | 2.48                     | 0.41              |
| 1:E:61:PHE:CD2   | 1:E:66:LEU:HB3   | 2.56                     | 0.41              |
| 1:E:127:LEU:C    | 1:E:129:ALA:N    | 2.77                     | 0.41              |
| 1:E:287:ILE:C    | 1:E:289:ARG:H    | 2.29                     | 0.41              |
| 1:F:160:SER:HG   | 1:F:291:SER:HA   | 1.85                     | 0.41              |
| 4:Z:38:TYR:CE2   | 4:Z:151:PHE:HE1  | 2.39                     | 0.41              |
| 4:Z:80:SER:CB    | 4:Z:159:LYS:HZ1  | 2.32                     | 0.41              |
| 1:A:145:VAL:HG22 | 1:A:148:HIS:CE1  | 2.57                     | 0.40              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:46:LEU:O     | 1:B:50:ASN:N     | 2.34                     | 0.40              |
| 1:C:260:ALA:HA   | 1:C:306:ASP:OD1  | 2.21                     | 0.40              |
| 1:D:24:GLU:HB2   | 1:D:74:SER:O     | 2.21                     | 0.40              |
| 1:D:146:LYS:O    | 1:D:147:SER:C    | 2.62                     | 0.40              |
| 1:F:171:TRP:HZ3  | 1:F:173:ARG:NH1  | 2.19                     | 0.40              |
| 1:F:332:LEU:HD13 | 1:F:352:THR:HG22 | 2.03                     | 0.40              |
| 1:F:403:PRO:O    | 1:F:404:THR:OG1  | 2.36                     | 0.40              |
| 3:Q:136:LYS:HG2  | 4:Z:60:GLU:HB3   | 2.03                     | 0.40              |
| 4:Z:38:TYR:CZ    | 4:Z:151:PHE:HE1  | 2.39                     | 0.40              |
| 4:Z:65:LEU:O     | 4:Z:69:VAL:HG23  | 2.21                     | 0.40              |
| 4:Z:75:TRP:O     | 4:Z:79:CYS:N     | 2.55                     | 0.40              |
| 4:Z:86:VAL:HG22  | 4:Z:153:LEU:HD22 | 2.03                     | 0.40              |
| 1:A:255:GLU:OE1  | 1:A:255:GLU:N    | 2.44                     | 0.40              |
| 1:A:393:PHE:HE2  | 1:B:152:TYR:CE1  | 2.38                     | 0.40              |
| 1:B:206:TYR:CZ   | 1:B:242:ASP:OD2  | 2.75                     | 0.40              |
| 1:C:102:LEU:HB3  | 1:C:130:ALA:HB2  | 2.02                     | 0.40              |
| 1:D:56:TYR:HB3   | 1:D:58:TRP:CZ3   | 2.57                     | 0.40              |
| 1:D:103:ASN:CG   | 2:P:229:LYS:HZ2  | 2.24                     | 0.40              |
| 1:D:132:PHE:CZ   | 1:D:190:LYS:HD3  | 2.57                     | 0.40              |
| 1:D:255:GLU:O    | 1:D:256:SER:C    | 2.64                     | 0.40              |
| 1:E:149:LEU:HD11 | 1:E:175:VAL:HG11 | 2.04                     | 0.40              |
| 1:E:278:ASN:OD1  | 1:E:278:ASN:C    | 2.64                     | 0.40              |
| 1:F:379:LYS:CE   | 1:F:419:ASP:HA   | 2.51                     | 0.40              |
| 2:P:216:GLN:HA   | 2:P:262:TRP:HA   | 2.03                     | 0.40              |
| 4:Z:123:ALA:O    | 4:Z:127:GLU:HG3  | 2.20                     | 0.40              |
| 4:Z:170:SER:OG   | 4:Z:171:GLY:N    | 2.51                     | 0.40              |
| 1:B:55:ASP:HA    | 1:B:75:ILE:HG22  | 2.02                     | 0.40              |
| 1:C:220:LYS:HE2  | 4:Z:4:GLN:NE2    | 2.36                     | 0.40              |
| 1:D:275:ARG:CZ   | 1:D:275:ARG:HB2  | 2.50                     | 0.40              |
| 1:E:200:LEU:HA   | 1:E:200:LEU:HD23 | 1.84                     | 0.40              |
| 1:A:135:LEU:O    | 1:A:138:SER:OG   | 2.27                     | 0.40              |
| 1:A:232:MET:O    | 1:A:236:ILE:HG13 | 2.22                     | 0.40              |
| 1:A:233:PHE:HA   | 1:A:236:ILE:HD12 | 2.04                     | 0.40              |
| 1:A:285:ASP:O    | 1:A:288:LYS:HG2  | 2.21                     | 0.40              |
| 1:B:159:PHE:O    | 1:B:163:ASN:N    | 2.54                     | 0.40              |
| 1:B:326:ALA:O    | 1:B:327:ILE:C    | 2.64                     | 0.40              |
| 1:C:28:ARG:HD3   | 1:C:69:ASN:C     | 2.47                     | 0.40              |
| 1:C:138:SER:O    | 5:C:901:AGS:H2   | 2.21                     | 0.40              |
| 1:C:301:ILE:O    | 1:C:303:GLU:N    | 2.54                     | 0.40              |
| 1:D:173:ARG:HD3  | 1:D:293:VAL:O    | 2.21                     | 0.40              |
| 1:E:245:ALA:O    | 1:E:292:ASN:ND2  | 2.55                     | 0.40              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:F:164:VAL:HG12 | 1:F:165:ASN:H    | 1.85                     | 0.40              |
| 1:F:395:ALA:HB2  | 1:F:414:LEU:HD13 | 2.03                     | 0.40              |
| 1:F:409:GLY:HA2  | 1:F:412:GLN:NE2  | 2.37                     | 0.40              |
| 2:P:75:GLU:HG2   | 2:P:191:PHE:HE2  | 1.85                     | 0.40              |
| 1:C:254:VAL:O    | 1:C:257:LEU:HB2  | 2.21                     | 0.40              |
| 1:C:388:LEU:HD23 | 1:C:388:LEU:HA   | 1.86                     | 0.40              |
| 1:C:390:LYS:HB3  | 1:C:394:LEU:HD12 | 2.02                     | 0.40              |
| 1:C:391:LEU:O    | 1:C:392:PRO:C    | 2.61                     | 0.40              |
| 1:D:281:LEU:HD22 | 1:D:312:ARG:NH2  | 2.37                     | 0.40              |
| 1:E:341:CYS:C    | 1:E:343:ILE:N    | 2.80                     | 0.40              |
| 1:F:138:SER:HA   | 1:F:329:LYS:HZ1  | 1.86                     | 0.40              |
| 2:P:207:PRO:O    | 2:P:209:MET:HG3  | 2.21                     | 0.40              |
| 2:P:232:TYR:CG   | 2:P:233:ARG:N    | 2.89                     | 0.40              |

There are no symmetry-related clashes.

## 5.3 Torsion angles

### 5.3.1 Protein backbone

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

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

| Mol | Chain | Analysed        | Favoured   | Allowed   | Outliers | Percentiles |     |
|-----|-------|-----------------|------------|-----------|----------|-------------|-----|
| 1   | A     | 306/432 (71%)   | 251 (82%)  | 55 (18%)  | 0        | 100         | 100 |
| 1   | B     | 392/432 (91%)   | 326 (83%)  | 66 (17%)  | 0        | 100         | 100 |
| 1   | C     | 392/432 (91%)   | 315 (80%)  | 74 (19%)  | 3 (1%)   | 16          | 54  |
| 1   | D     | 392/432 (91%)   | 314 (80%)  | 75 (19%)  | 3 (1%)   | 16          | 54  |
| 1   | E     | 392/432 (91%)   | 316 (81%)  | 73 (19%)  | 3 (1%)   | 16          | 54  |
| 1   | F     | 272/432 (63%)   | 219 (80%)  | 50 (18%)  | 3 (1%)   | 12          | 46  |
| 2   | P     | 186/274 (68%)   | 161 (87%)  | 24 (13%)  | 1 (0%)   | 25          | 64  |
| 3   | Q     | 7/499 (1%)      | 6 (86%)    | 1 (14%)   | 0        | 100         | 100 |
| 4   | Z     | 202/205 (98%)   | 174 (86%)  | 28 (14%)  | 0        | 100         | 100 |
| All | All   | 2541/3570 (71%) | 2082 (82%) | 446 (18%) | 13 (0%)  | 27          | 64  |

All (13) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | C     | 128 | PRO  |
| 1   | E     | 128 | PRO  |
| 1   | F     | 128 | PRO  |
| 1   | E     | 127 | LEU  |
| 1   | C     | 127 | LEU  |
| 1   | C     | 302 | THR  |
| 1   | F     | 165 | ASN  |
| 1   | D     | 303 | GLU  |
| 1   | E     | 129 | ALA  |
| 1   | F     | 127 | LEU  |
| 1   | D     | 305 | ILE  |
| 2   | P     | 250 | PRO  |
| 1   | D     | 128 | PRO  |

### 5.3.2 Protein sidechains ⓘ

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

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

| Mol | Chain | Analysed        | Rotameric   | Outliers | Percentiles |     |
|-----|-------|-----------------|-------------|----------|-------------|-----|
| 1   | A     | 263/385 (68%)   | 263 (100%)  | 0        | 100         | 100 |
| 1   | B     | 334/385 (87%)   | 334 (100%)  | 0        | 100         | 100 |
| 1   | C     | 329/385 (86%)   | 329 (100%)  | 0        | 100         | 100 |
| 1   | D     | 341/385 (89%)   | 341 (100%)  | 0        | 100         | 100 |
| 1   | E     | 327/385 (85%)   | 327 (100%)  | 0        | 100         | 100 |
| 1   | F     | 251/385 (65%)   | 251 (100%)  | 0        | 100         | 100 |
| 2   | P     | 170/240 (71%)   | 170 (100%)  | 0        | 100         | 100 |
| 3   | Q     | 8/411 (2%)      | 8 (100%)    | 0        | 100         | 100 |
| 4   | Z     | 189/190 (100%)  | 189 (100%)  | 0        | 100         | 100 |
| All | All   | 2212/3151 (70%) | 2212 (100%) | 0        | 100         | 100 |

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

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (47) such sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | A     | 124 | HIS  |
| 1   | A     | 178 | HIS  |
| 1   | A     | 194 | GLN  |
| 1   | A     | 237 | GLN  |
| 1   | A     | 286 | GLN  |
| 1   | A     | 349 | GLN  |
| 1   | B     | 49  | HIS  |
| 1   | B     | 69  | ASN  |
| 1   | B     | 98  | HIS  |
| 1   | B     | 148 | HIS  |
| 1   | C     | 69  | ASN  |
| 1   | C     | 98  | HIS  |
| 1   | C     | 101 | GLN  |
| 1   | C     | 123 | ASN  |
| 1   | C     | 178 | HIS  |
| 1   | C     | 194 | GLN  |
| 1   | C     | 283 | GLN  |
| 1   | C     | 374 | ASN  |
| 1   | C     | 396 | HIS  |
| 1   | D     | 47  | ASN  |
| 1   | D     | 49  | HIS  |
| 1   | D     | 101 | GLN  |
| 1   | D     | 124 | HIS  |
| 1   | D     | 133 | HIS  |
| 1   | D     | 178 | HIS  |
| 1   | D     | 262 | ASN  |
| 1   | E     | 26  | HIS  |
| 1   | E     | 69  | ASN  |
| 1   | E     | 101 | GLN  |
| 1   | E     | 133 | HIS  |
| 1   | E     | 172 | ASN  |
| 1   | E     | 178 | HIS  |
| 1   | E     | 253 | GLN  |
| 1   | E     | 286 | GLN  |
| 1   | E     | 290 | HIS  |
| 1   | E     | 300 | ASN  |
| 1   | F     | 215 | HIS  |
| 1   | F     | 253 | GLN  |
| 1   | F     | 412 | GLN  |
| 2   | P     | 79  | HIS  |
| 2   | P     | 93  | GLN  |
| 2   | P     | 126 | GLN  |
| 2   | P     | 179 | GLN  |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 4   | Z     | 29  | ASN  |
| 4   | Z     | 34  | GLN  |
| 4   | Z     | 66  | ASN  |
| 4   | Z     | 125 | GLN  |

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

### 5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

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

5 ligands are modelled in this entry.

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

| Mol | Type | Chain | Res | Link | Bond lengths |      |             | Bond angles |      |             |
|-----|------|-------|-----|------|--------------|------|-------------|-------------|------|-------------|
|     |      |       |     |      | Counts       | RMSZ | $\# Z  > 2$ | Counts      | RMSZ | $\# Z  > 2$ |
| 5   | AGS  | E     | 901 | -    | 26,33,33     | 0.79 | 0           | 26,52,52    | 1.38 | 2 (7%)      |
| 5   | AGS  | B     | 901 | -    | 26,33,33     | 0.74 | 0           | 26,52,52    | 1.33 | 2 (7%)      |
| 5   | AGS  | D     | 901 | -    | 26,33,33     | 0.74 | 0           | 26,52,52    | 1.11 | 2 (7%)      |
| 5   | AGS  | C     | 901 | -    | 26,33,33     | 0.69 | 0           | 26,52,52    | 1.20 | 3 (11%)     |
| 5   | AGS  | A     | 901 | -    | 26,33,33     | 0.80 | 0           | 26,52,52    | 1.35 | 2 (7%)      |

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns.

'-' means no outliers of that kind were identified.

| Mol | Type | Chain | Res | Link | Chirals | Torsions   | Rings   |
|-----|------|-------|-----|------|---------|------------|---------|
| 5   | AGS  | E     | 901 | -    | -       | 3/17/38/38 | 0/3/3/3 |
| 5   | AGS  | B     | 901 | -    | -       | 5/17/38/38 | 0/3/3/3 |
| 5   | AGS  | D     | 901 | -    | -       | 4/17/38/38 | 0/3/3/3 |
| 5   | AGS  | C     | 901 | -    | -       | 5/17/38/38 | 0/3/3/3 |
| 5   | AGS  | A     | 901 | -    | -       | 6/17/38/38 | 0/3/3/3 |

There are no bond length outliers.

All (11) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms      | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 5   | A     | 901 | AGS  | PA-O3A-PB  | -5.83 | 112.82      | 132.83   |
| 5   | E     | 901 | AGS  | PA-O3A-PB  | -5.63 | 113.49      | 132.83   |
| 5   | B     | 901 | AGS  | PA-O3A-PB  | -5.29 | 114.66      | 132.83   |
| 5   | C     | 901 | AGS  | PA-O3A-PB  | -4.43 | 117.63      | 132.83   |
| 5   | D     | 901 | AGS  | PA-O3A-PB  | -3.57 | 120.58      | 132.83   |
| 5   | E     | 901 | AGS  | C5-C6-N6   | 2.36  | 123.94      | 120.35   |
| 5   | B     | 901 | AGS  | C5-C6-N6   | 2.33  | 123.89      | 120.35   |
| 5   | A     | 901 | AGS  | C5-C6-N6   | 2.31  | 123.86      | 120.35   |
| 5   | D     | 901 | AGS  | C5-C6-N6   | 2.26  | 123.79      | 120.35   |
| 5   | C     | 901 | AGS  | C5-C6-N6   | 2.23  | 123.74      | 120.35   |
| 5   | C     | 901 | AGS  | O3G-PG-O3B | 2.03  | 111.40      | 104.64   |

There are no chirality outliers.

All (23) torsion outliers are listed below:

| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 5   | A     | 901 | AGS  | C5'-O5'-PA-O2A  |
| 5   | A     | 901 | AGS  | C5'-O5'-PA-O3A  |
| 5   | B     | 901 | AGS  | C5'-O5'-PA-O1A  |
| 5   | B     | 901 | AGS  | C5'-O5'-PA-O2A  |
| 5   | B     | 901 | AGS  | C5'-O5'-PA-O3A  |
| 5   | C     | 901 | AGS  | C5'-O5'-PA-O1A  |
| 5   | C     | 901 | AGS  | C5'-O5'-PA-O2A  |
| 5   | C     | 901 | AGS  | C5'-O5'-PA-O3A  |
| 5   | D     | 901 | AGS  | C5'-O5'-PA-O2A  |
| 5   | D     | 901 | AGS  | C5'-O5'-PA-O3A  |
| 5   | E     | 901 | AGS  | O4'-C4'-C5'-O5' |
| 5   | B     | 901 | AGS  | O4'-C4'-C5'-O5' |
| 5   | E     | 901 | AGS  | C3'-C4'-C5'-O5' |

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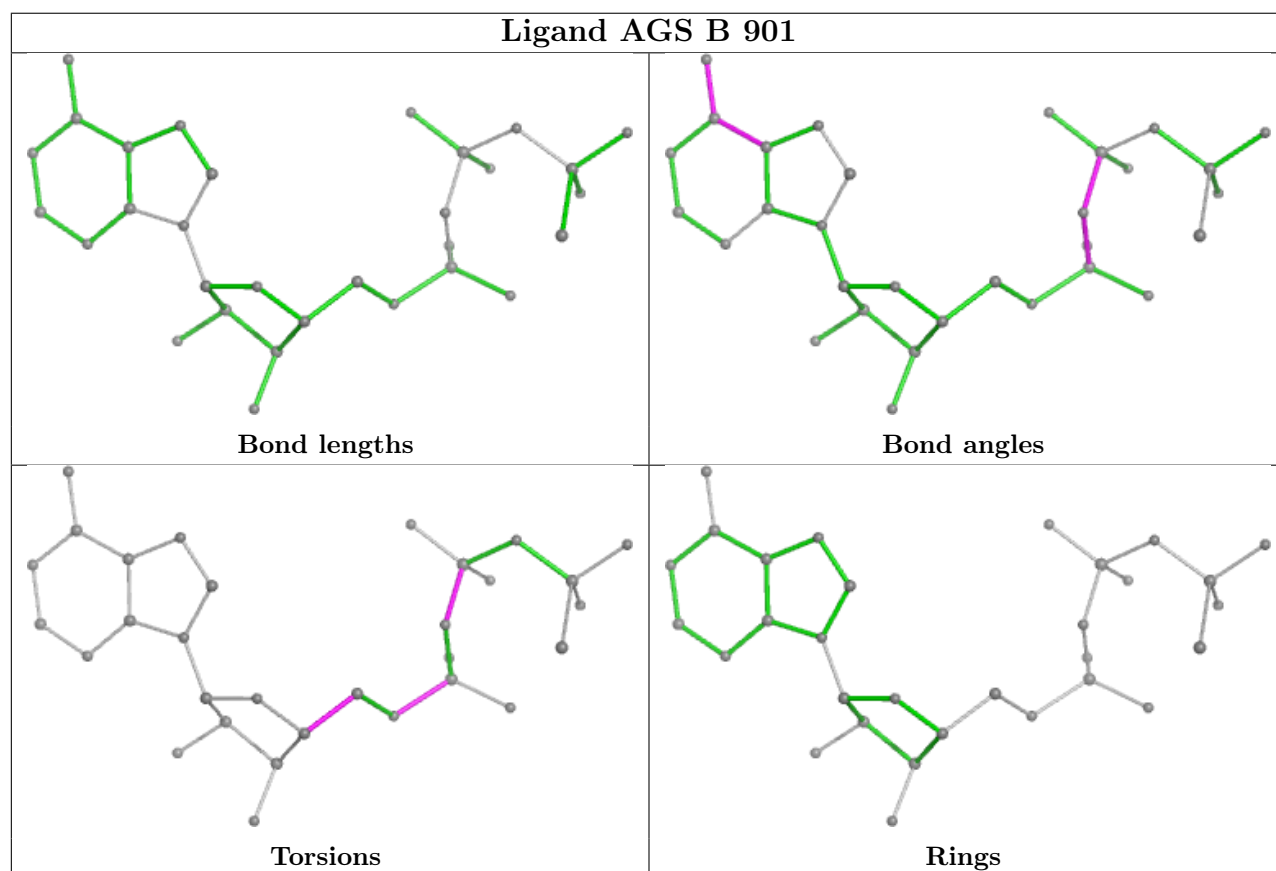
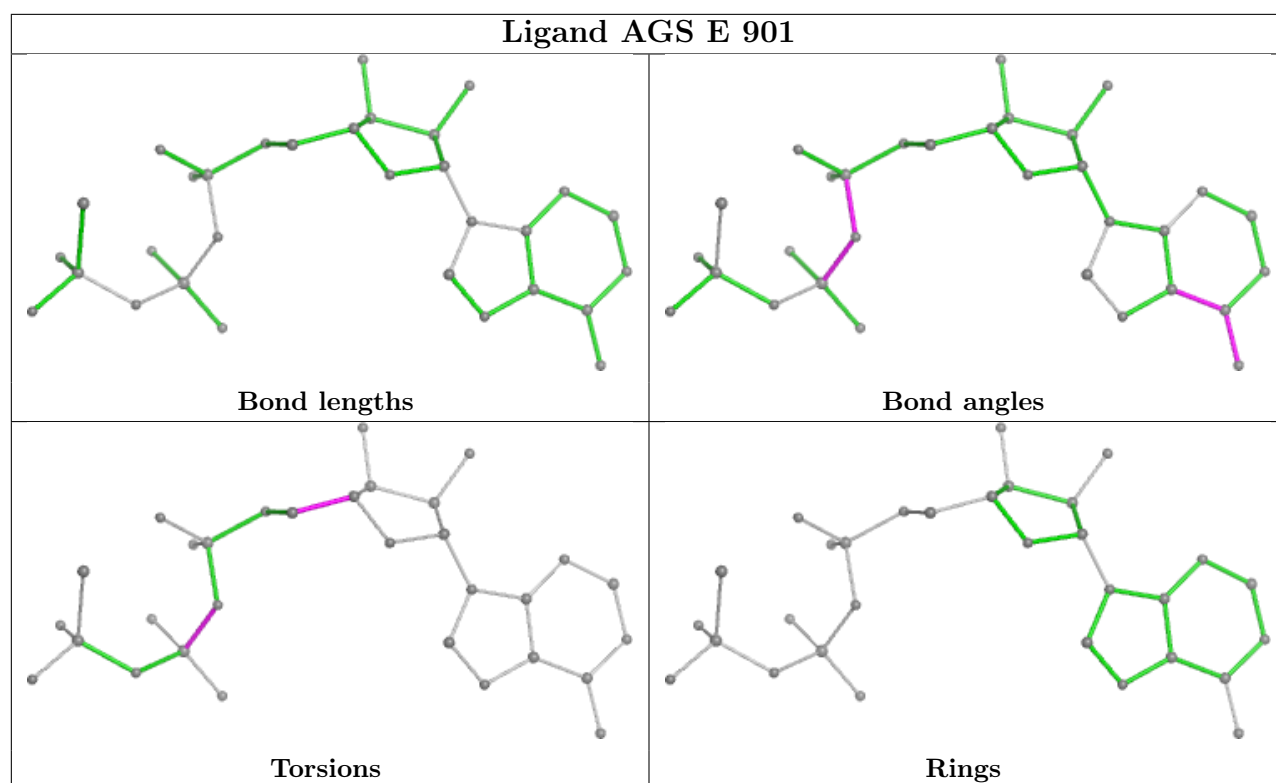
| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 5   | C     | 901 | AGS  | PG-O3B-PB-O1B   |
| 5   | A     | 901 | AGS  | O4'-C4'-C5'-O5' |
| 5   | A     | 901 | AGS  | PG-O3B-PB-O1B   |
| 5   | E     | 901 | AGS  | PA-O3A-PB-O1B   |
| 5   | A     | 901 | AGS  | C5'-O5'-PA-O1A  |
| 5   | D     | 901 | AGS  | C5'-O5'-PA-O1A  |
| 5   | A     | 901 | AGS  | PG-O3B-PB-O2B   |
| 5   | C     | 901 | AGS  | O4'-C4'-C5'-O5' |
| 5   | B     | 901 | AGS  | PA-O3A-PB-O2B   |
| 5   | D     | 901 | AGS  | O4'-C4'-C5'-O5' |

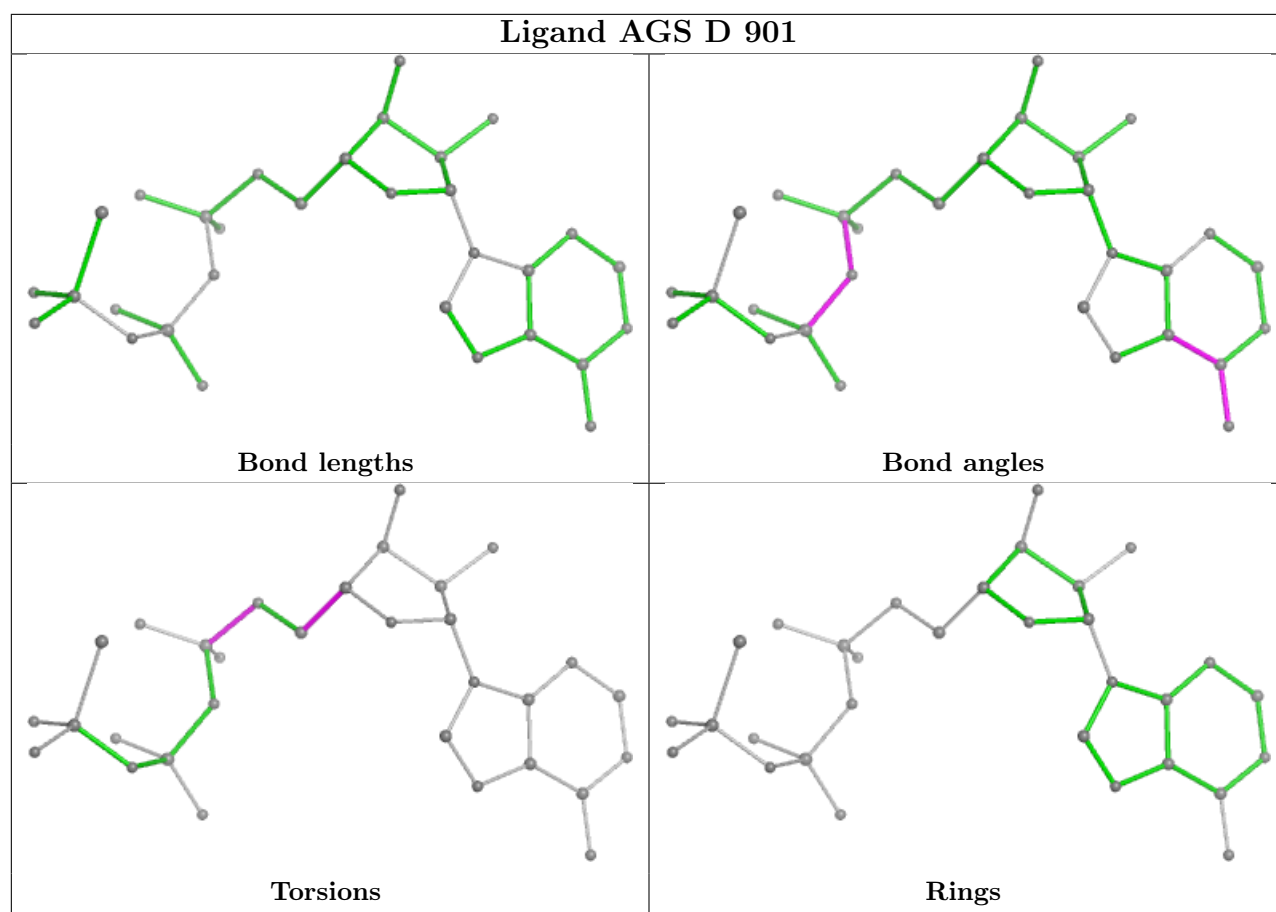
There are no ring outliers.

5 monomers are involved in 52 short contacts:

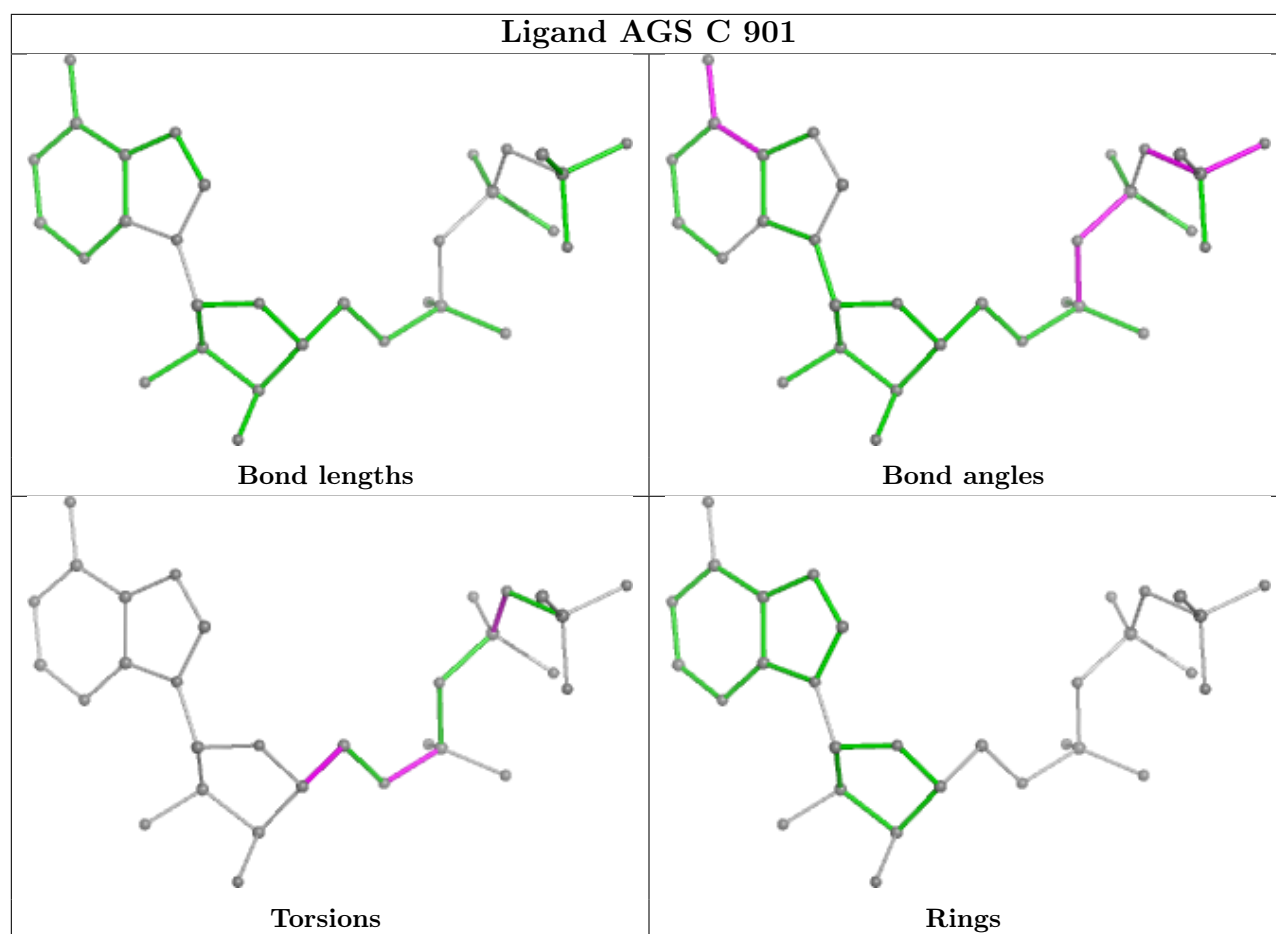
| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|-----|-------|-----|------|---------|--------------|
| 5   | E     | 901 | AGS  | 10      | 0            |
| 5   | B     | 901 | AGS  | 11      | 0            |
| 5   | D     | 901 | AGS  | 9       | 0            |
| 5   | C     | 901 | AGS  | 11      | 0            |
| 5   | A     | 901 | AGS  | 11      | 0            |

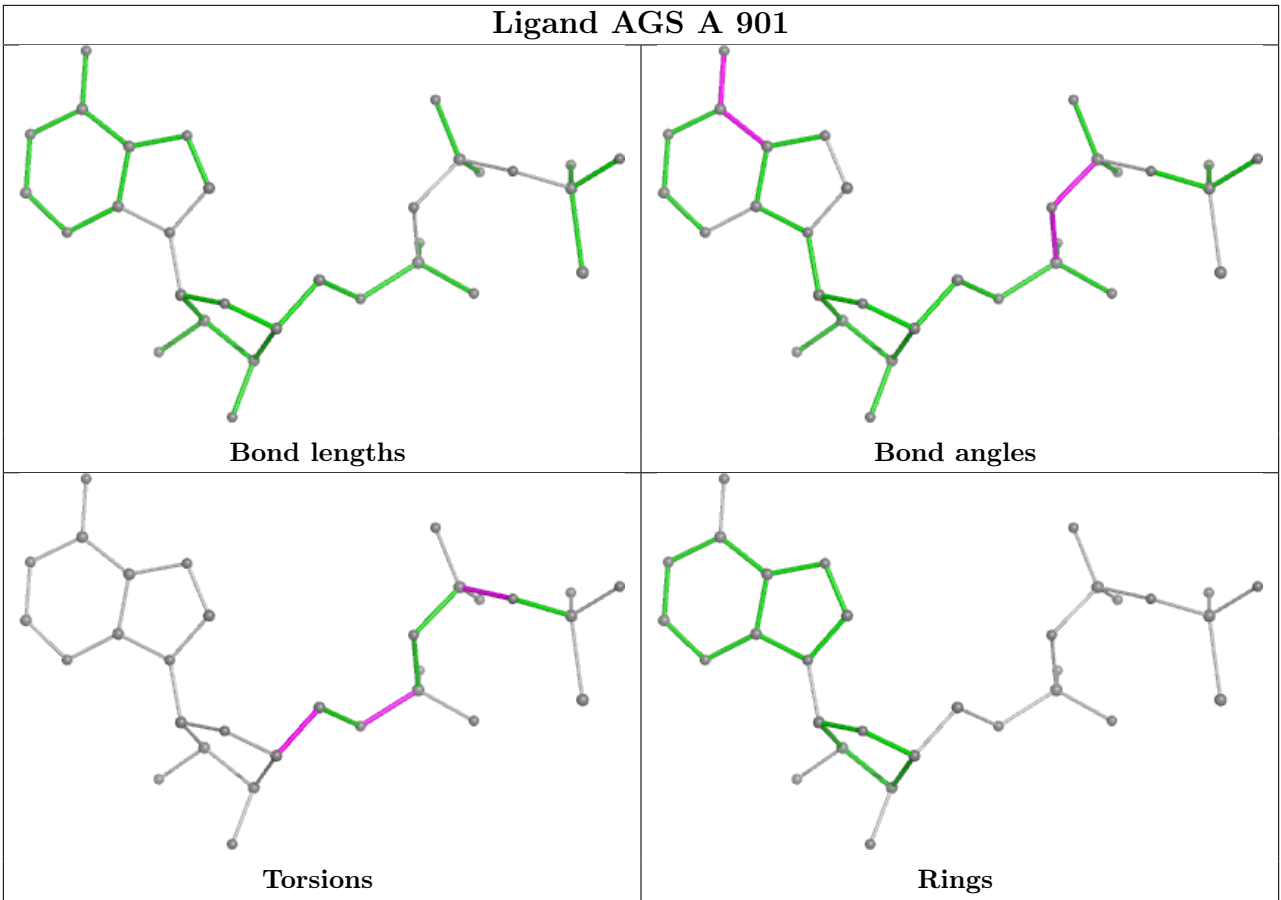
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.











5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

The following chains have linkage breaks:

| Mol | Chain | Number of breaks |
|-----|-------|------------------|
| 1   | F     | 1                |

All chain breaks are listed below:

| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|-------|-------|-----------|--------|-----------|--------|--------------|
| 1     | F     | 143:VAL   | C      | 144:GLU   | N      | 3.76         |

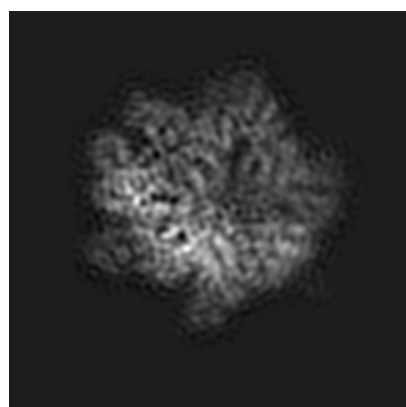
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-4166. These allow visual inspection of the internal detail of the map and identification of artifacts.

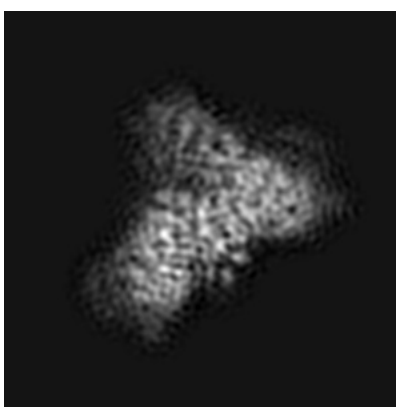
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

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

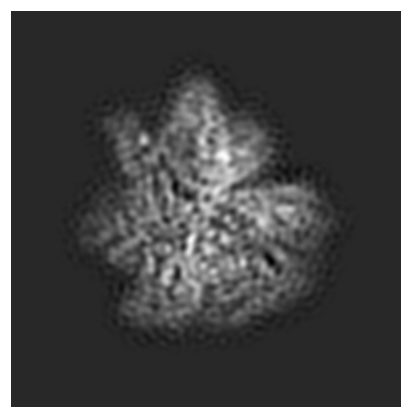
#### 6.1.1 Primary map



X



Y

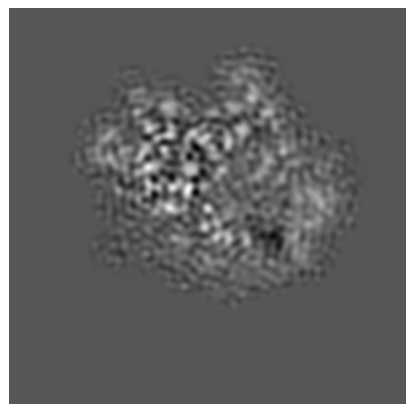


Z

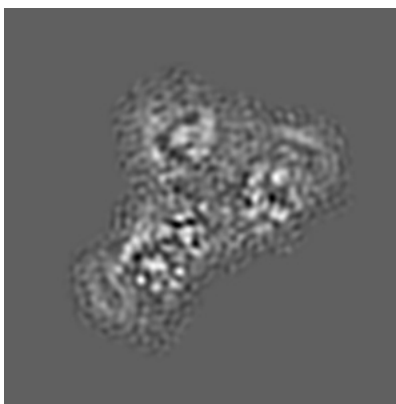
The images above show the map projected in three orthogonal directions.

### 6.2 Central slices [i](#)

#### 6.2.1 Primary map



X Index: 70



Y Index: 70

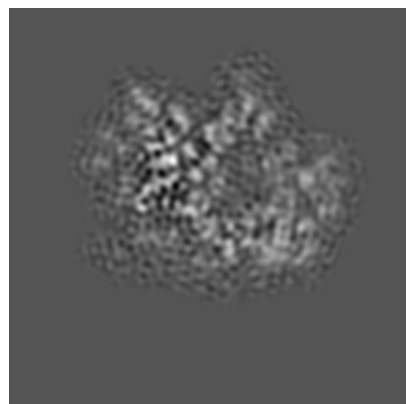


Z Index: 70

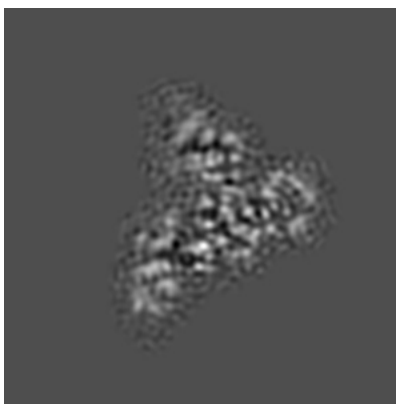
The images above show central slices of the map in three orthogonal directions.

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

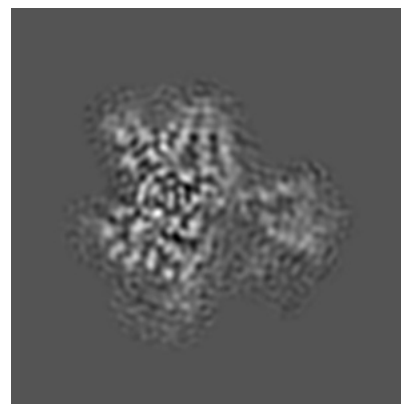
### 6.3.1 Primary map



X Index: 67



Y Index: 52

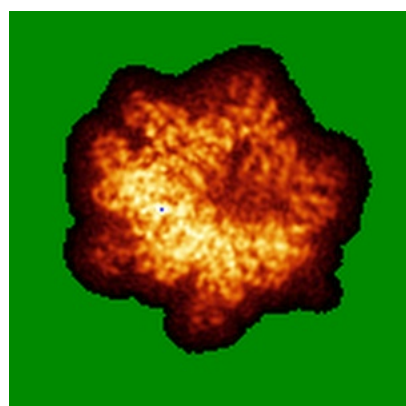


Z Index: 57

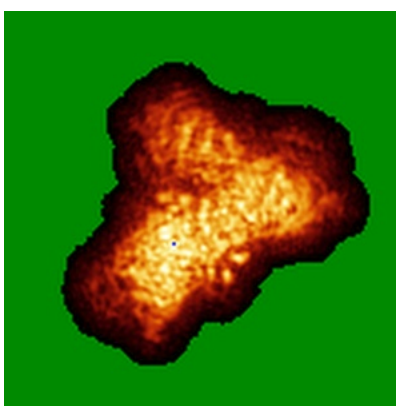
The images above show the largest variance slices of the map in three orthogonal directions.

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

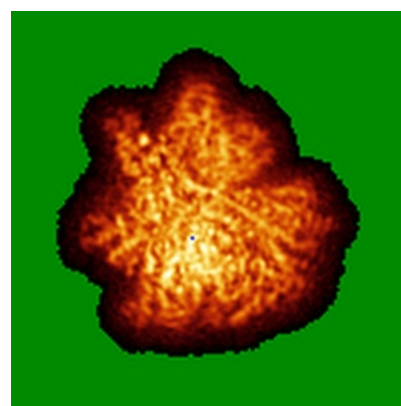
### 6.4.1 Primary map



X



Y

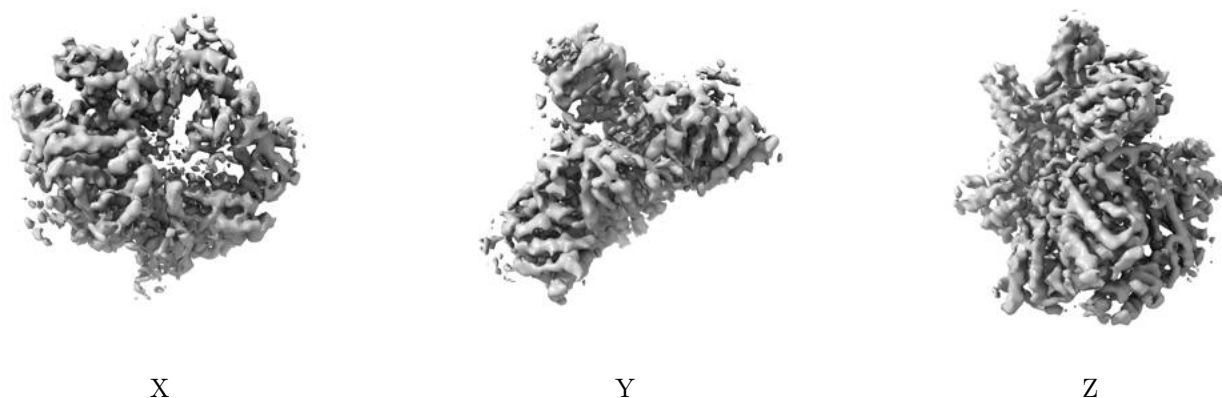


Z

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 0.0765. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

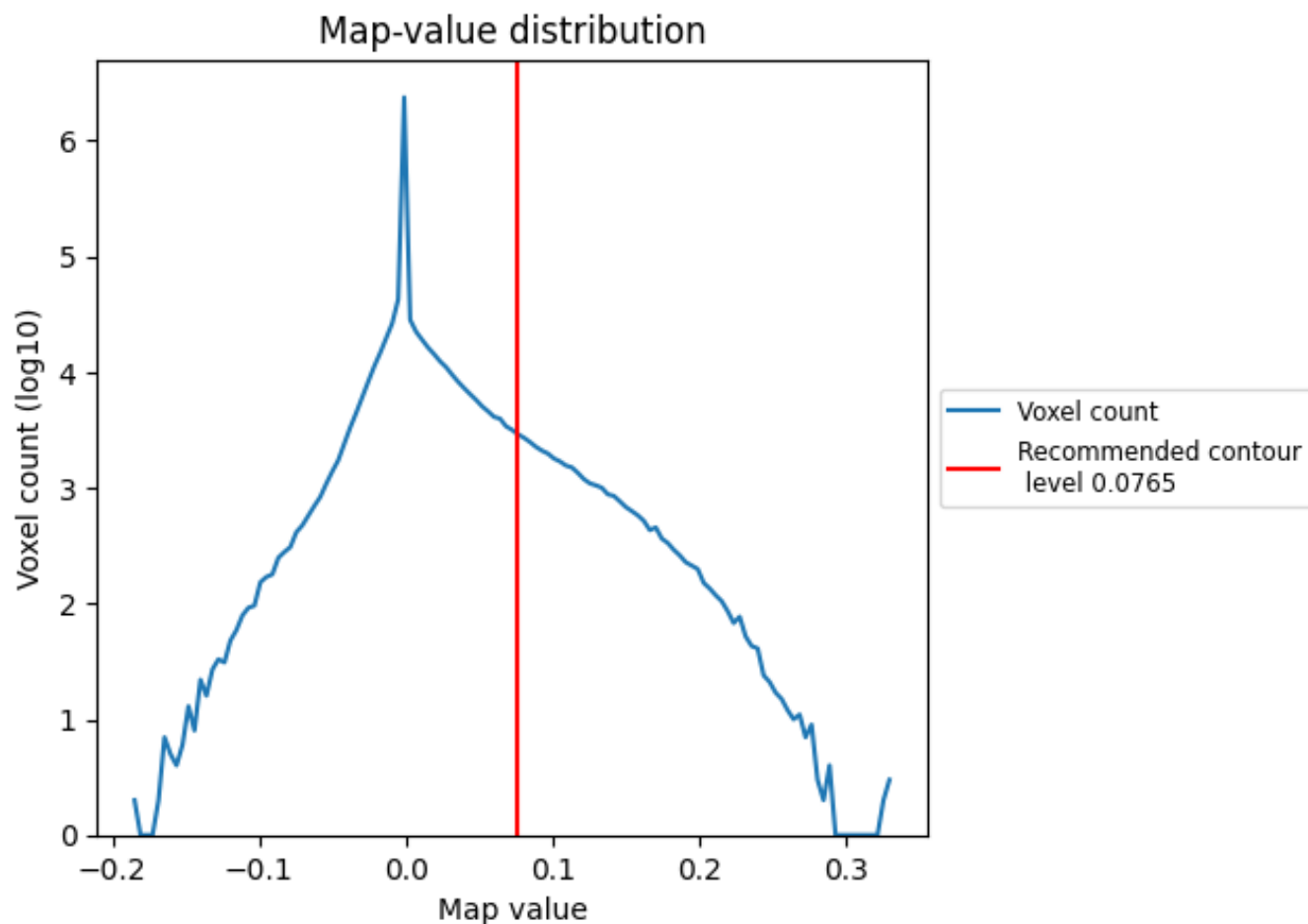
## 6.6 Mask visualisation [i](#)

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

## 7 Map analysis [i](#)

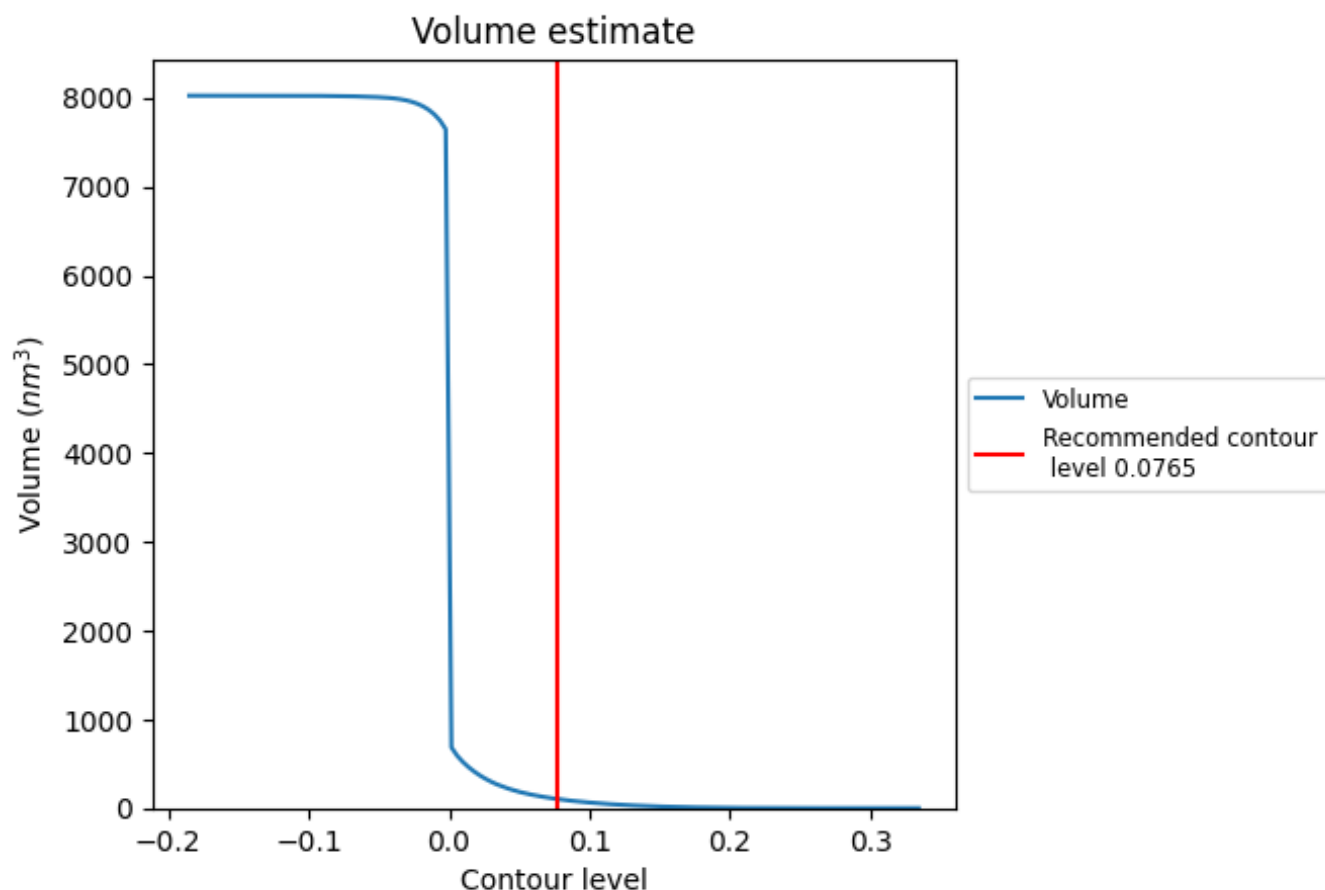
This section contains the results of statistical analysis of the map.

### 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.

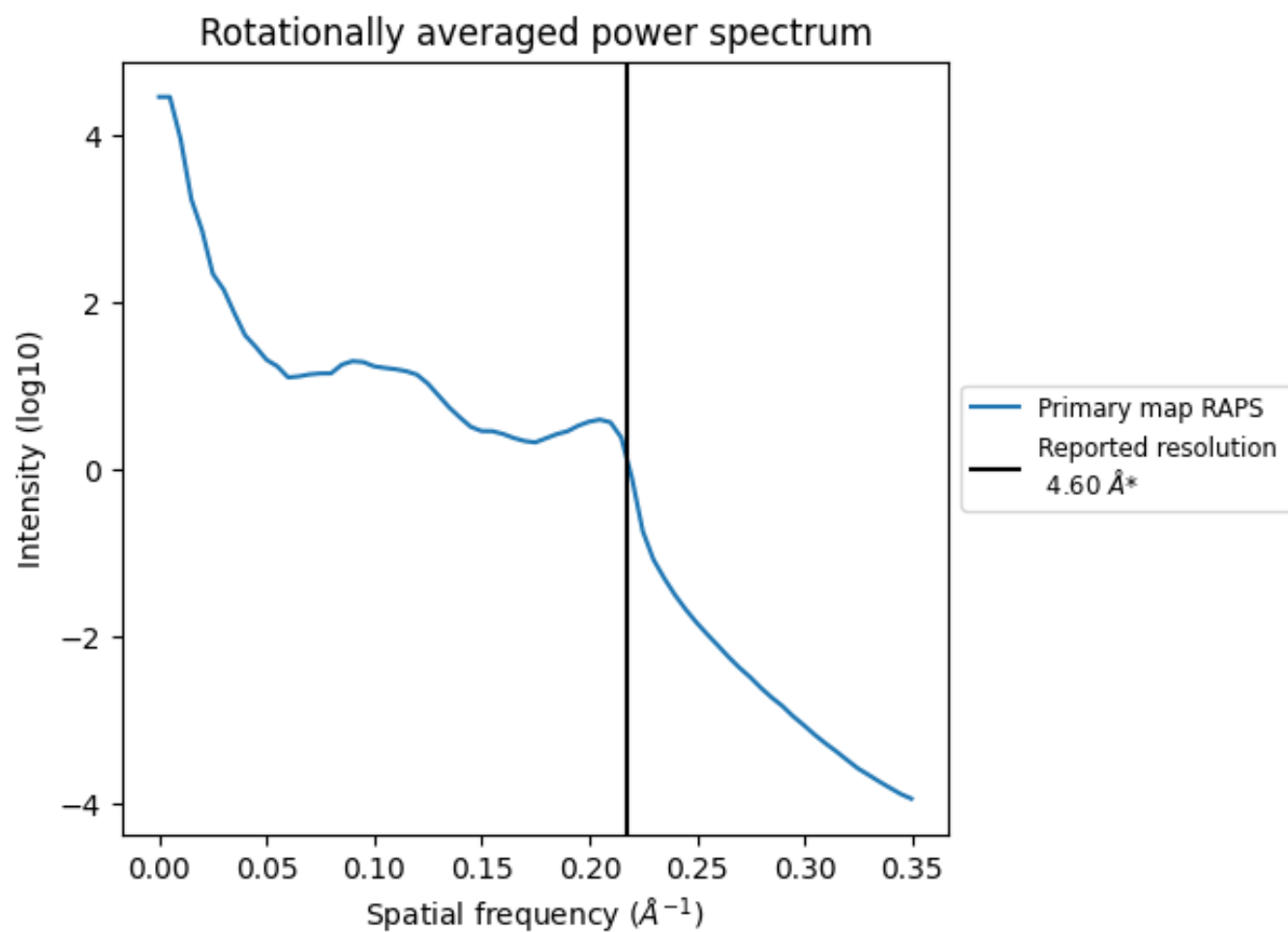
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 104 nm<sup>3</sup>; this corresponds to an approximate mass of 94 kDa.

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

### 7.3 Rotationally averaged power spectrum ⓘ



\*Reported resolution corresponds to spatial frequency of 0.217 Å<sup>-1</sup>



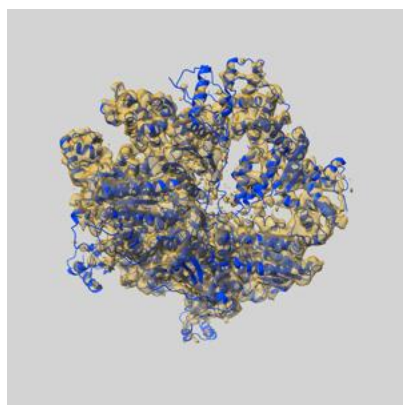
## 8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

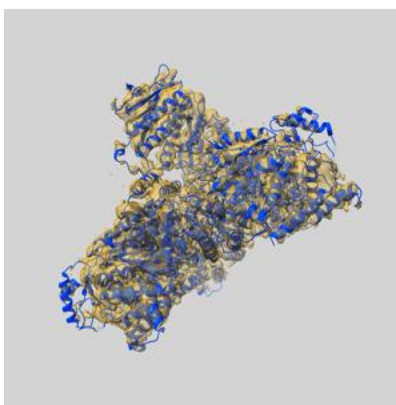
## 9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-4166 and PDB model 6F0X. Per-residue inclusion information can be found in section [3](#) on page [6](#).

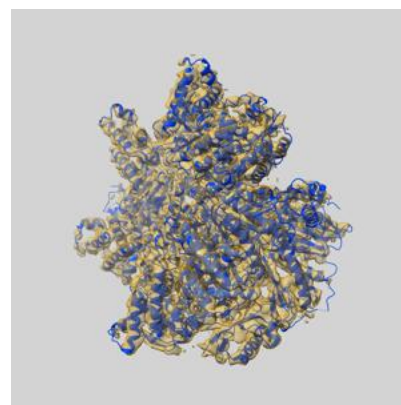
### 9.1 Map-model overlay [i](#)



X



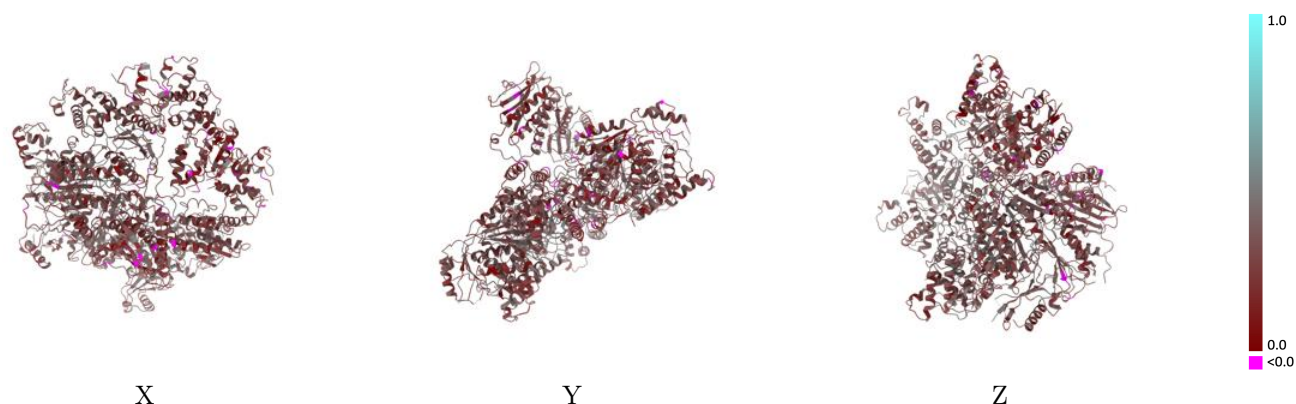
Y



Z

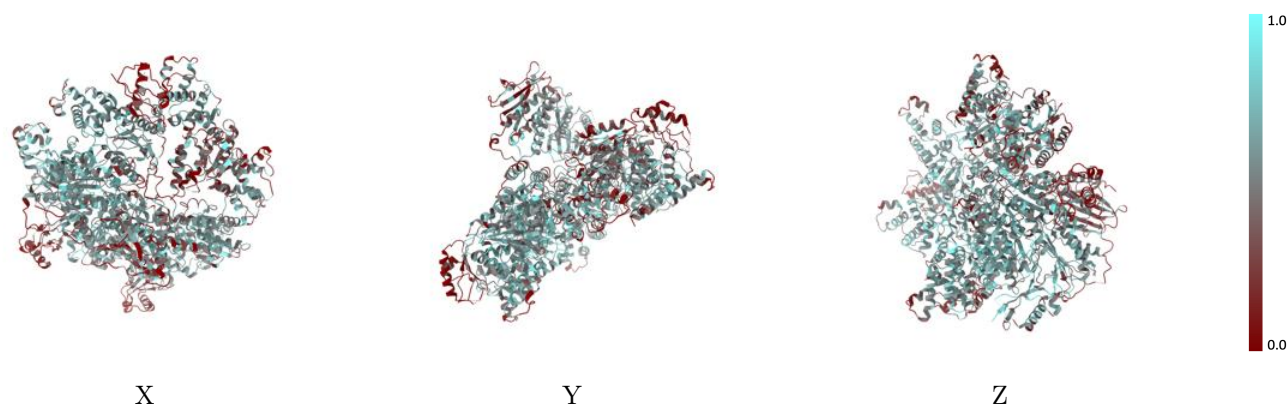
The images above show the 3D surface view of the map at the recommended contour level 0.0765 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



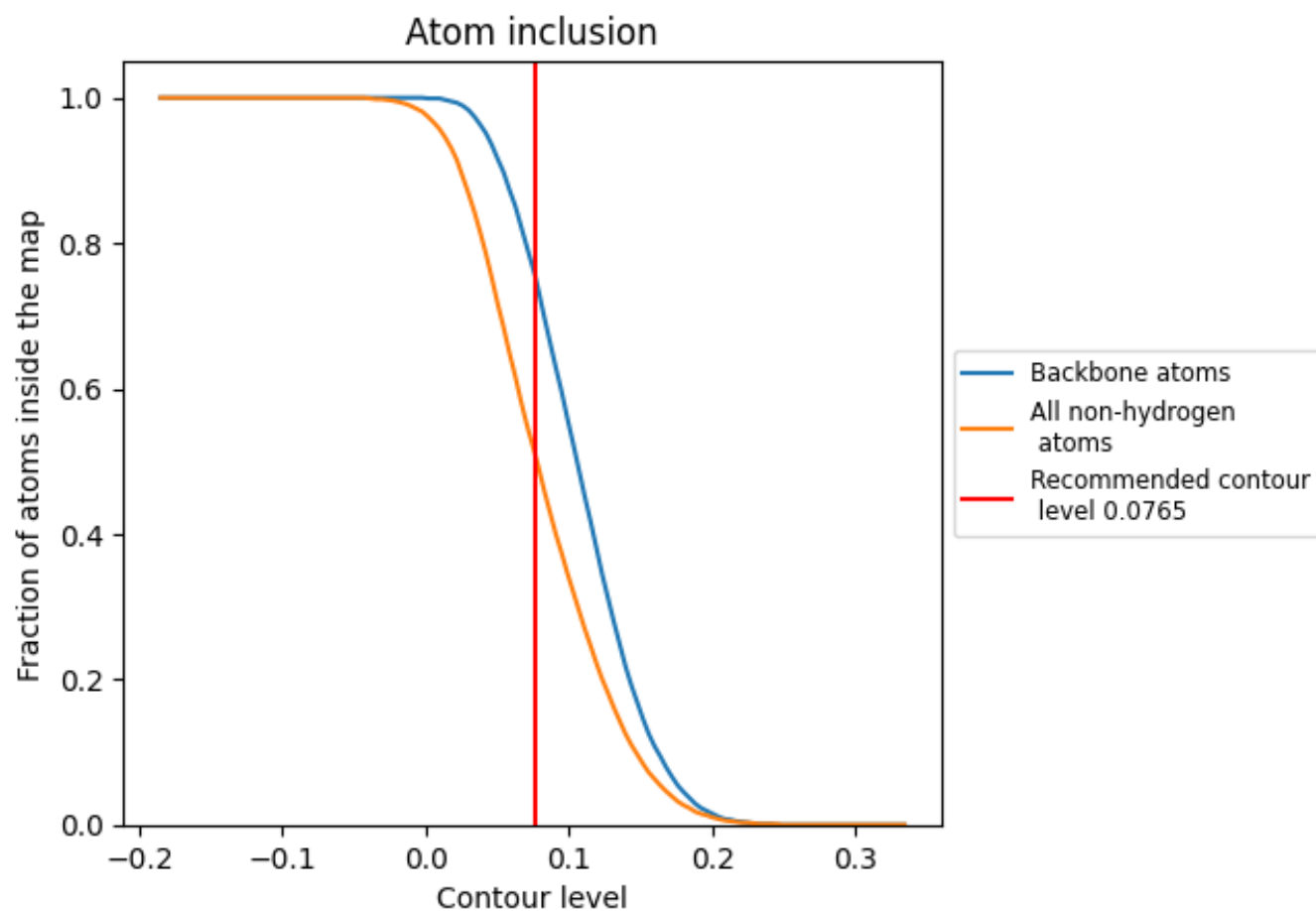
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0765).

## 9.4 Atom inclusion [i](#)



At the recommended contour level, 76% of all backbone atoms, 51% 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 (0.0765) and Q-score for the entire model and for each chain.

| Chain | Atom inclusion     | Q-score            |
|-------|--------------------|--------------------|
| All   | <div></div> 0.5090 | <div></div> 0.3060 |
| A     | <div></div> 0.5440 | <div></div> 0.2900 |
| B     | <div></div> 0.5310 | <div></div> 0.3260 |
| C     | <div></div> 0.5300 | <div></div> 0.3280 |
| D     | <div></div> 0.6170 | <div></div> 0.3420 |
| E     | <div></div> 0.4470 | <div></div> 0.2980 |
| F     | <div></div> 0.3940 | <div></div> 0.2460 |
| P     | <div></div> 0.5520 | <div></div> 0.3090 |
| Q     | <div></div> 0.2940 | <div></div> 0.3500 |
| Z     | <div></div> 0.4150 | <div></div> 0.2650 |

1.0

0.0

<0.0