



Full wwPDB X-ray Structure Validation Report ⓘ

May 22, 2020 – 01:39 pm BST

PDB ID : 2BFU
Title : X-ray structure of CPMV top component
Authors : Ochoa, W.F.; Chatterji, A.; Lin, T.; Johnson, J.E.
Deposited on : 2004-12-13
Resolution : 4.00 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467
Xtriage (Phenix) : 1.13
EDS : 2.11
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.11

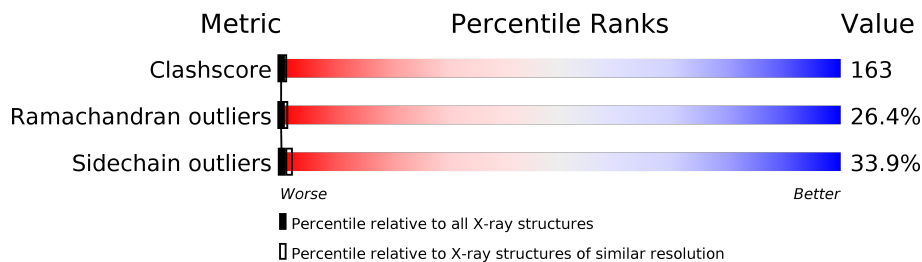
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 4.00 Å.

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



| Metric | Whole archive (#Entries) | Similar resolution (#Entries, resolution range(Å)) |
|-----------------------|-----------------------------|---|
| Clashscore | 141614 | 1148 (4.30-3.70) |
| Ramachandran outliers | 138981 | 1108 (4.30-3.70) |
| Sidechain outliers | 138945 | 1099 (4.30-3.70) |

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for ≥ 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 $\leq 5\%$

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|---|
| 1 | L | 369 | 6% 43% 38% 13% |
| 2 | S | 189 | 8% 43% 40% 9% |

2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 5282 atoms, of which 939 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called COWPEA MOSAIC VIRUS, LARGE (L) SUBUNIT.

| Mol | Chain | Residues | Atoms | | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|-----|----|---------|---------|-------|
| | | | Total | C | H | N | O | S | | | |
| 1 | L | 369 | 3500 | 1822 | 634 | 480 | 542 | 22 | 0 | 0 | 0 |


- Molecule 2 is a protein called COWPEA MOSAIC VIRUS, SMALL (S) SUBUNIT.

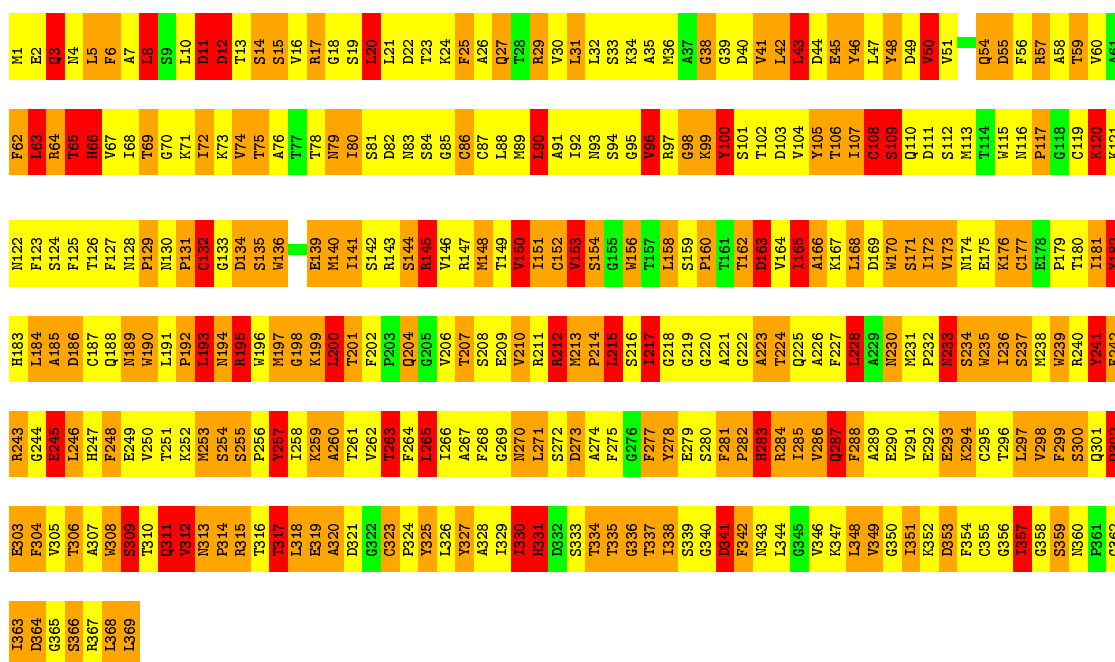
| Mol | Chain | Residues | Atoms | | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|-----|---|---------|---------|-------|
| | | | Total | C | H | N | O | S | | | |
| 2 | S | 189 | 1782 | 944 | 305 | 247 | 277 | 9 | 0 | 0 | 0 |

3 Residue-property plots


These plots are drawn for all protein, RNA and DNA 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. 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. 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.

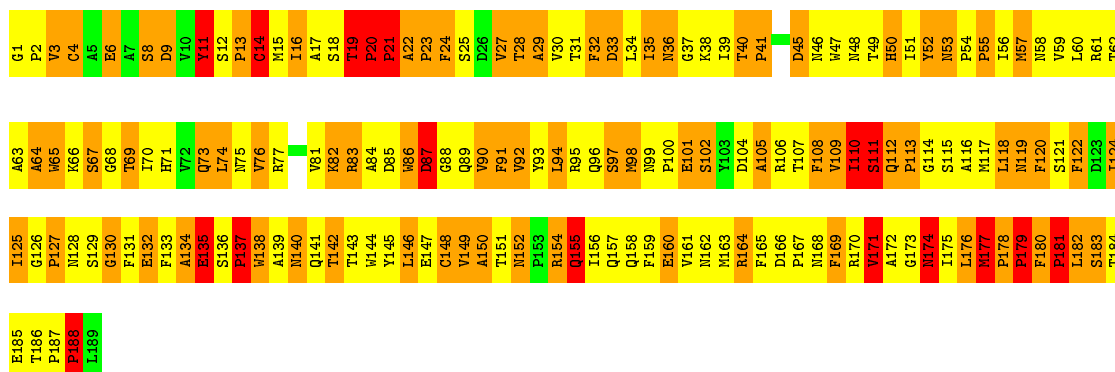
- Molecule 1: COWPEA MOSAIC VIRUS, LARGE (L) SUBUNIT

Chain L: 



- Molecule 2: COWPEA MOSAIC VIRUS, SMALL (S) SUBUNIT

Chain S: 



4 Data and refinement statistics

| Property | Value | Source |
|---|---|------------------|
| Space group | I 2 3 | Depositor |
| Cell constants a, b, c, α , β , γ | 311.41Å 311.41Å 311.41Å 90.00° 90.00° 90.00° | Depositor |
| Resolution (Å) | 30.00 – 4.00 56.85 – 4.00 | Depositor EDS |
| % Data completeness (in resolution range) | 94.0 (30.00-4.00) 92.8 (56.85-4.00) | Depositor EDS |
| R_{merge} | 0.11 | Depositor |
| R_{sym} | (Not available) | Depositor |
| $\langle I/\sigma(I) \rangle$ ¹ | 8.45 (at 4.01Å) | Xtrriage |
| Refinement program | X-PLOR 3.8 | Depositor |
| R, R_{free} | 0.230 , (Not available) 0.499 , (Not available) | Depositor DCC |
| R_{free} test set | No test flags present. | wwPDB-VP |
| Wilson B-factor (Å ²) | 100.2 | Xtrriage |
| Anisotropy | 0.000 | Xtrriage |
| Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²) | 0.12 , -2.4 | EDS |
| L-test for twinning ² | $\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$ | Xtrriage |
| Estimated twinning fraction | 0.027 for -l,-k,-h | Xtrriage |
| F_o, F_c correlation | 0.51 | EDS |
| Total number of atoms | 5282 | wwPDB-VP |
| Average B, all atoms (Å ²) | 12.0 | wwPDB-VP |

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.68% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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 | L | 1.23 | 7/2933 (0.2%) | 1.50 | 36/3983 (0.9%) |
| 2 | S | 1.21 | 6/1524 (0.4%) | 1.46 | 16/2089 (0.8%) |
| All | All | 1.22 | 13/4457 (0.3%) | 1.49 | 52/6072 (0.9%) |

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 | L | 0 | 6 |
| 2 | S | 0 | 1 |
| All | All | 0 | 7 |

All (13) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|-------|-------|-------------|----------|
| 1 | L | 245 | GLU | CB-CG | 7.86 | 1.67 | 1.52 |
| 1 | L | 108 | CYS | CB-SG | 7.32 | 1.94 | 1.82 |
| 1 | L | 235 | TRP | CB-CG | 7.30 | 1.63 | 1.50 |
| 1 | L | 132 | CYS | CB-SG | 7.29 | 1.94 | 1.82 |
| 2 | S | 132 | GLU | CB-CG | 6.83 | 1.65 | 1.52 |
| 2 | S | 101 | GLU | CB-CG | 6.58 | 1.64 | 1.52 |
| 1 | L | 29 | ARG | CG-CD | 6.42 | 1.68 | 1.51 |
| 2 | S | 20 | PRO | CA-C | 6.31 | 1.65 | 1.52 |
| 2 | S | 132 | GLU | CG-CD | 6.16 | 1.61 | 1.51 |
| 1 | L | 286 | VAL | CA-CB | 6.11 | 1.67 | 1.54 |
| 2 | S | 11 | TYR | CB-CG | 5.72 | 1.60 | 1.51 |
| 2 | S | 86 | TRP | CB-CG | 5.55 | 1.60 | 1.50 |
| 1 | L | 308 | TRP | CB-CG | -5.15 | 1.41 | 1.50 |

All (52) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 2 | S | 20 | PRO | N-CA-C | 9.67 | 137.23 | 112.10 |
| 2 | S | 177 | MET | N-CA-C | 8.96 | 135.18 | 111.00 |
| 2 | S | 19 | THR | C-N-CD | -8.24 | 102.47 | 120.60 |
| 1 | L | 168 | LEU | CA-CB-CG | -8.15 | 96.55 | 115.30 |
| 1 | L | 153 | VAL | N-CA-C | -7.82 | 89.89 | 111.00 |
| 1 | L | 16 | VAL | N-CA-C | 7.68 | 131.74 | 111.00 |
| 2 | S | 22 | ALA | C-N-CD | -7.61 | 103.85 | 120.60 |
| 1 | L | 302 | GLN | N-CA-C | -7.36 | 91.13 | 111.00 |
| 2 | S | 8 | SER | N-CA-C | 7.34 | 130.82 | 111.00 |
| 1 | L | 5 | LEU | CA-CB-CG | 7.28 | 132.03 | 115.30 |
| 1 | L | 200 | LEU | CA-CB-CG | 7.11 | 131.65 | 115.30 |
| 1 | L | 15 | SER | N-CA-C | -7.09 | 91.85 | 111.00 |
| 1 | L | 29 | ARG | NE-CZ-NH1 | 7.06 | 123.83 | 120.30 |
| 1 | L | 90 | LEU | CA-CB-CG | 6.78 | 130.89 | 115.30 |
| 1 | L | 255 | SER | N-CA-C | 6.76 | 129.26 | 111.00 |
| 1 | L | 309 | SER | N-CA-C | 6.71 | 129.12 | 111.00 |
| 1 | L | 100 | TYR | N-CA-C | 6.63 | 128.90 | 111.00 |
| 1 | L | 233 | ASN | N-CA-C | 6.52 | 128.61 | 111.00 |
| 2 | S | 19 | THR | C-N-CA | 6.42 | 148.97 | 122.00 |
| 1 | L | 132 | CYS | CA-CB-SG | 6.35 | 125.44 | 114.00 |
| 1 | L | 307 | ALA | N-CA-C | 6.17 | 127.66 | 111.00 |
| 1 | L | 193 | LEU | CA-CB-CG | 6.09 | 129.32 | 115.30 |
| 1 | L | 228 | LEU | CA-CB-CG | 6.04 | 129.19 | 115.30 |
| 1 | L | 212 | ARG | NE-CZ-NH2 | -5.99 | 117.31 | 120.30 |
| 2 | S | 4 | CYS | CA-CB-SG | 5.95 | 124.71 | 114.00 |
| 2 | S | 183 | SER | N-CA-C | -5.90 | 95.07 | 111.00 |
| 1 | L | 42 | LEU | CA-CB-CG | -5.88 | 101.78 | 115.30 |
| 1 | L | 223 | ALA | N-CA-C | -5.83 | 95.27 | 111.00 |
| 1 | L | 145 | ARG | N-CA-C | 5.81 | 126.70 | 111.00 |
| 1 | L | 300 | SER | N-CA-C | 5.80 | 126.65 | 111.00 |
| 2 | S | 101 | GLU | N-CA-C | -5.78 | 95.41 | 111.00 |
| 1 | L | 265 | LEU | CA-CB-CG | 5.72 | 128.47 | 115.30 |
| 1 | L | 283 | HIS | N-CA-C | 5.67 | 126.30 | 111.00 |
| 1 | L | 228 | LEU | N-CA-C | 5.63 | 126.20 | 111.00 |
| 1 | L | 234 | SER | N-CA-C | 5.61 | 126.14 | 111.00 |
| 1 | L | 12 | ASP | N-CA-C | 5.57 | 126.05 | 111.00 |
| 2 | S | 1 | GLY | N-CA-C | -5.48 | 99.41 | 113.10 |
| 1 | L | 330 | ILE | CG1-CB-CG2 | 5.45 | 123.40 | 111.40 |
| 2 | S | 137 | PRO | N-CA-C | 5.29 | 125.86 | 112.10 |
| 1 | L | 317 | THR | N-CA-C | 5.27 | 125.24 | 111.00 |
| 1 | L | 341 | ASP | CB-CG-OD2 | 5.23 | 123.00 | 118.30 |
| 2 | S | 14 | CYS | CA-CB-SG | 5.19 | 123.35 | 114.00 |
| 1 | L | 163 | ASP | CB-CG-OD1 | 5.18 | 122.97 | 118.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|----------|-------|-------------|----------|
| 2 | S | 4 | CYS | N-CA-C | -5.17 | 97.05 | 111.00 |
| 1 | L | 109 | SER | N-CA-C | 5.14 | 124.87 | 111.00 |
| 1 | L | 212 | ARG | N-CA-C | 5.13 | 124.86 | 111.00 |
| 1 | L | 368 | LEU | N-CA-C | -5.11 | 97.19 | 111.00 |
| 1 | L | 63 | LEU | CA-CB-CG | 5.08 | 126.99 | 115.30 |
| 1 | L | 98 | GLY | N-CA-C | -5.08 | 100.41 | 113.10 |
| 2 | S | 142 | THR | N-CA-C | -5.08 | 97.30 | 111.00 |
| 2 | S | 176 | LEU | CA-C-N | -5.05 | 106.09 | 117.20 |
| 2 | S | 25 | SER | N-CA-C | 5.01 | 124.52 | 111.00 |

There are no chirality outliers.

All (7) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 1 | L | 105 | TYR | Sidechain |
| 1 | L | 182 | TYR | Sidechain |
| 1 | L | 241 | TYR | Sidechain |
| 1 | L | 257 | TYR | Sidechain |
| 1 | L | 299 | PHE | Sidechain |
| 1 | L | 48 | TYR | Sidechain |
| 2 | S | 52 | TYR | Sidechain |

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 | L | 2866 | 634 | 2813 | 956 | 29 |
| 2 | S | 1477 | 305 | 1413 | 488 | 0 |
| All | All | 4343 | 939 | 4226 | 1394 | 29 |

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 163.

All (1394) 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:L:308:TRP:HB3 | 1:L:323:CYS:SG | 1.61 | 1.39 |
| 2:S:89:GLN:HA | 2:S:111:SER:HA | 1.19 | 1.16 |
| 2:S:54:PRO:HB2 | 2:S:57:MET:HB3 | 1.27 | 1.15 |
| 2:S:36:ASN:HB2 | 2:S:61:ARG:HA | 1.16 | 1.13 |
| 1:L:73:LYS:HB2 | 1:L:126:THR:HG22 | 1.30 | 1.13 |
| 1:L:120:LYS:HG2 | 1:L:121:LYS:HG2 | 1.14 | 1.12 |
| 1:L:96:VAL:HA | 2:S:176:LEU:HB2 | 1.27 | 1.11 |
| 1:L:256:PRO:HB3 | 1:L:290:GLU:HA | 1.18 | 1.11 |
| 1:L:261:THR:HA | 1:L:286:VAL:HB | 1.26 | 1.11 |
| 2:S:112:GLN:HB2 | 2:S:113:PRO:HD2 | 1.27 | 1.10 |
| 1:L:60:VAL:HB | 1:L:64:ARG:HD2 | 1.12 | 1.09 |
| 2:S:14:CYS:HA | 2:S:57:MET:SD | 1.93 | 1.08 |
| 1:L:241:TYR:HA | 1:L:309:SER:HA | 1.25 | 1.08 |
| 1:L:250:VAL:HG13 | 1:L:295:CYS:HB2 | 1.14 | 1.08 |
| 2:S:94:LEU:HB3 | 2:S:146:LEU:HG | 1.29 | 1.07 |
| 1:L:267:ALA:HB3 | 1:L:327:TYR:HE1 | 1.15 | 1.07 |
| 1:L:193:LEU:HB2 | 1:L:232:PRO:HA | 1.27 | 1.07 |
| 1:L:215:LEU:HB2 | 1:L:325:TYR:HB2 | 1.33 | 1.06 |
| 1:L:255:SER:HB3 | 1:L:258:ILE:HB | 1.37 | 1.06 |
| 1:L:351:ILE:HD13 | 1:L:354:PHE:HB3 | 1.33 | 1.06 |
| 1:L:239:TRP:HA | 1:L:358:GLY:O | 1.55 | 1.06 |
| 2:S:13:PRO:HB3 | 2:S:162:ASN:ND2 | 1.70 | 1.05 |
| 1:L:258:ILE:HG12 | 1:L:336:GLY:HA2 | 1.39 | 1.04 |
| 2:S:27:VAL:HG13 | 2:S:151:THR:HA | 1.38 | 1.04 |
| 1:L:273:ASP:HA | 1:L:278:TYR:HE2 | 1.21 | 1.02 |
| 1:L:267:ALA:HB3 | 1:L:327:TYR:CE1 | 1.93 | 1.02 |
| 1:L:248:PHE:HA | 1:L:347:LYS:O | 1.59 | 1.01 |
| 1:L:93:ASN:HA | 1:L:110:GLN:HB2 | 1.43 | 1.00 |
| 2:S:91:PHE:H | 2:S:149:VAL:HG21 | 1.24 | 1.00 |
| 1:L:143:ARG:HB3 | 2:S:137:PRO:HB2 | 1.43 | 1.00 |
| 2:S:95:ARG:HE | 2:S:98:MET:HG2 | 1.26 | 1.00 |
| 1:L:120:LYS:HE2 | 1:L:121:LYS:H | 1.22 | 0.99 |
| 1:L:318:LEU:HA | 1:L:321:ASP:HB2 | 1.45 | 0.99 |
| 1:L:266:ILE:HG12 | 1:L:304:PHE:CE1 | 1.98 | 0.99 |
| 1:L:93:ASN:HA | 1:L:110:GLN:CB | 1.91 | 0.99 |
| 1:L:266:ILE:HG23 | 1:L:324:PRO:HB2 | 1.46 | 0.98 |
| 1:L:48:TYR:CE2 | 1:L:62:PHE:HE2 | 1.81 | 0.98 |
| 1:L:74:VAL:HG13 | 1:L:170:TRP:CD1 | 1.99 | 0.98 |
| 1:L:250:VAL:CG1 | 1:L:295:CYS:HB2 | 1.94 | 0.97 |
| 1:L:210:VAL:HG11 | 1:L:278:TYR:CE2 | 2.00 | 0.97 |
| 1:L:308:TRP:CB | 1:L:323:CYS:SG | 2.52 | 0.97 |
| 1:L:297:LEU:HD12 | 1:L:299:PHE:HE1 | 1.27 | 0.97 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:L:25:PHE:HA | 1:L:56:PHE:HB2 | 1.47 | 0.97 |
| 1:L:200:LEU:HB3 | 1:L:211:ARG:HD2 | 1.46 | 0.96 |
| 1:L:242:PHE:HB3 | 1:L:310:THR:OG1 | 1.65 | 0.95 |
| 1:L:242:PHE:CZ | 1:L:246:LEU:HD21 | 2.01 | 0.94 |
| 1:L:88:LEU:HB3 | 1:L:115:TRP:CE2 | 2.01 | 0.94 |
| 1:L:338:ILE:HG22 | 1:L:339:SER:H | 1.30 | 0.94 |
| 2:S:106:ARG:HH11 | 2:S:106:ARG:HG2 | 1.31 | 0.94 |
| 1:L:314:PRO:HG3 | 1:L:365:GLY:HA3 | 1.49 | 0.94 |
| 2:S:89:GLN:CA | 2:S:111:SER:HA | 1.97 | 0.94 |
| 2:S:73:GLN:HB2 | 2:S:118:LEU:O | 1.66 | 0.94 |
| 1:L:44:ASP:HA | 1:L:148:MET:O | 1.66 | 0.94 |
| 1:L:68:ILE:HB | 1:L:136:TRP:CZ3 | 2.02 | 0.94 |
| 1:L:73:LYS:HE2 | 1:L:173:VAL:HG13 | 1.50 | 0.94 |
| 2:S:149:VAL:HG12 | 2:S:150:ALA:H | 1.31 | 0.94 |
| 1:L:212:ARG:O | 1:L:327:TYR:HA | 1.68 | 0.93 |
| 2:S:33:ASP:HA | 2:S:145:TYR:HD2 | 1.31 | 0.93 |
| 1:L:227:PHE:CD2 | 2:S:181:PRO:HA | 2.04 | 0.93 |
| 1:L:219:GLY:HA2 | 1:L:234:SER:OG | 1.67 | 0.93 |
| 1:L:80:ILE:HD12 | 1:L:156:TRP:CH2 | 2.04 | 0.92 |
| 1:L:20:LEU:HG | 1:L:73:LYS:HE2 | 1.51 | 0.92 |
| 2:S:13:PRO:HB3 | 2:S:162:ASN:HD22 | 1.27 | 0.92 |
| 2:S:96:GLN:HA | 2:S:143:THR:O | 1.67 | 0.92 |
| 2:S:20:PRO:HB3 | 2:S:21:PRO:HD2 | 1.52 | 0.91 |
| 1:L:213:MET:SD | 1:L:326:LEU:O | 2.28 | 0.91 |
| 2:S:16:ILE:HB | 2:S:52:TYR:HE2 | 1.35 | 0.91 |
| 2:S:74:LEU:HB3 | 2:S:118:LEU:HD23 | 1.53 | 0.91 |
| 2:S:86:TRP:CZ2 | 2:S:88:GLY:HA3 | 2.05 | 0.91 |
| 1:L:168:LEU:HG | 1:L:170:TRP:HE1 | 1.35 | 0.91 |
| 1:L:239:TRP:HB2 | 1:L:357:ILE:O | 1.71 | 0.90 |
| 2:S:65:TRP:HB2 | 2:S:172:ALA:HB3 | 1.50 | 0.90 |
| 1:L:191:LEU:HB3 | 1:L:351:ILE:H | 1.36 | 0.90 |
| 1:L:140:MET:O | 1:L:140:MET:SD | 2.30 | 0.90 |
| 1:L:199:LYS:HG3 | 1:L:343:ASN:HD21 | 1.36 | 0.90 |
| 1:L:268:PHE:CE1 | 1:L:324:PRO:HG3 | 2.07 | 0.90 |
| 2:S:177:MET:HB3 | 2:S:180:PHE:CZ | 2.06 | 0.90 |
| 2:S:89:GLN:O | 2:S:90:VAL:HG23 | 1.72 | 0.90 |
| 1:L:212:ARG:O | 1:L:213:MET:SD | 2.30 | 0.89 |
| 2:S:109:VAL:HG22 | 2:S:110:ILE:H | 1.36 | 0.89 |
| 1:L:226:ALA:HA | 2:S:181:PRO:HB3 | 1.52 | 0.89 |
| 1:L:249:GLU:HA | 1:L:296:THR:HA | 1.52 | 0.89 |
| 2:S:34:LEU:HB2 | 2:S:145:TYR:CA | 2.02 | 0.89 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:L:243:ARG:HB3 | 1:L:355:CYS:HB3 | 1.54 | 0.89 |
| 1:L:273:ASP:HA | 1:L:278:TYR:CE2 | 2.08 | 0.88 |
| 1:L:25:PHE:HA | 1:L:56:PHE:CB | 2.04 | 0.88 |
| 2:S:34:LEU:HD21 | 2:S:146:LEU:HD12 | 1.56 | 0.88 |
| 1:L:195:ARG:HH21 | 1:L:217:ILE:HA | 1.39 | 0.87 |
| 1:L:182:TYR:HD1 | 1:L:235:TRP:CZ3 | 1.93 | 0.87 |
| 1:L:215:LEU:HD12 | 1:L:326:LEU:H | 1.40 | 0.87 |
| 2:S:36:ASN:HB2 | 2:S:61:ARG:CA | 2.02 | 0.87 |
| 1:L:187:CYS:SG | 1:L:355:CYS:HA | 2.15 | 0.86 |
| 1:L:165:ILE:H | 1:L:165:ILE:HD13 | 1.39 | 0.86 |
| 2:S:32:PHE:HB3 | 2:S:41:PRO:HD3 | 1.56 | 0.85 |
| 2:S:71:HIS:HA | 2:S:120:PHE:O | 1.75 | 0.85 |
| 1:L:96:VAL:HA | 2:S:176:LEU:CB | 2.05 | 0.85 |
| 1:L:95:GLY:H | 1:L:146:VAL:HG22 | 1.41 | 0.85 |
| 2:S:93:TYR:HA | 2:S:106:ARG:O | 1.77 | 0.85 |
| 2:S:34:LEU:N | 2:S:145:TYR:HA | 1.91 | 0.85 |
| 1:L:258:ILE:HG22 | 1:L:342:PHE:CD1 | 2.11 | 0.85 |
| 2:S:68:GLY:HA3 | 2:S:169:PHE:HA | 1.59 | 0.85 |
| 1:L:303:GLU:HG2 | 1:L:304:PHE:H | 1.42 | 0.85 |
| 2:S:36:ASN:CB | 2:S:61:ARG:HA | 2.04 | 0.85 |
| 1:L:60:VAL:CB | 1:L:64:ARG:HD2 | 2.04 | 0.84 |
| 1:L:106:THR:HG23 | 1:L:228:LEU:HD13 | 1.57 | 0.84 |
| 1:L:60:VAL:HB | 1:L:64:ARG:CD | 2.02 | 0.84 |
| 1:L:248:PHE:HB3 | 1:L:347:LYS:H | 1.42 | 0.84 |
| 1:L:269:GLY:HA3 | 1:L:325:TYR:CZ | 2.11 | 0.84 |
| 2:S:68:GLY:HA3 | 2:S:169:PHE:CG | 2.12 | 0.84 |
| 1:L:48:TYR:CE2 | 1:L:62:PHE:CE2 | 2.65 | 0.84 |
| 1:L:265:LEU:HD22 | 1:L:283:HIS:HA | 1.58 | 0.84 |
| 2:S:54:PRO:HB2 | 2:S:57:MET:CB | 2.07 | 0.84 |
| 1:L:235:TRP:CE3 | 2:S:171:VAL:HG12 | 2.11 | 0.84 |
| 2:S:35:ILE:HD12 | 2:S:36:ASN:H | 1.38 | 0.84 |
| 1:L:215:LEU:HD12 | 1:L:326:LEU:N | 1.93 | 0.84 |
| 1:L:351:ILE:HD13 | 1:L:354:PHE:CB | 2.07 | 0.84 |
| 1:L:263:THR:HA | 1:L:285:ILE:HB | 1.60 | 0.83 |
| 1:L:250:VAL:HG13 | 1:L:295:CYS:CB | 2.05 | 0.83 |
| 1:L:60:VAL:O | 1:L:64:ARG:HB2 | 1.77 | 0.83 |
| 1:L:183:HIS:NE2 | 1:L:185:ALA:HB3 | 1.93 | 0.83 |
| 1:L:91:ALA:CB | 1:L:107:ILE:HB | 2.08 | 0.83 |
| 1:L:265:LEU:H | 1:L:326:LEU:HG | 1.43 | 0.83 |
| 1:L:204:GLN:HE22 | 1:L:258:ILE:HD13 | 1.43 | 0.82 |
| 1:L:143:ARG:CB | 2:S:137:PRO:HB2 | 2.09 | 0.82 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:L:199:LYS:HG3 | 1:L:343:ASN:ND2 | 1.94 | 0.82 |
| 1:L:264:PHE:CE1 | 1:L:285:ILE:HA | 2.13 | 0.82 |
| 1:L:120:LYS:HE2 | 1:L:121:LYS:N | 1.95 | 0.82 |
| 1:L:243:ARG:HA | 1:L:308:TRP:CH2 | 2.15 | 0.82 |
| 1:L:240:ARG:NH1 | 1:L:309:SER:OG | 2.13 | 0.82 |
| 1:L:314:PRO:HG3 | 1:L:365:GLY:CA | 2.10 | 0.82 |
| 2:S:57:MET:HG2 | 2:S:61:ARG:HH21 | 1.43 | 0.82 |
| 1:L:246:LEU:HG | 1:L:351:ILE:HD12 | 1.62 | 0.82 |
| 1:L:23:THR:HG21 | 1:L:172:ILE:HG22 | 1.59 | 0.81 |
| 1:L:17:ARG:HH22 | 1:L:20:LEU:HD22 | 1.45 | 0.81 |
| 1:L:308:TRP:HB3 | 1:L:323:CYS:HG | 1.40 | 0.81 |
| 1:L:193:LEU:CB | 1:L:232:PRO:HA | 2.08 | 0.81 |
| 1:L:204:GLN:HG2 | 1:L:340:GLY:O | 1.81 | 0.81 |
| 2:S:96:GLN:HB3 | 2:S:142:THR:OG1 | 1.80 | 0.81 |
| 1:L:252:LYS:NZ | 1:L:256:PRO:HG3 | 1.94 | 0.81 |
| 2:S:135:GLU:HA | 2:S:141:GLN:HB3 | 1.63 | 0.81 |
| 1:L:86:CYS:SG | 1:L:117:PRO:HB2 | 2.22 | 0.80 |
| 2:S:141:GLN:HG3 | 2:S:142:THR:H | 1.44 | 0.80 |
| 2:S:53:ASN:HA | 2:S:61:ARG:HH22 | 1.44 | 0.80 |
| 2:S:12:SER:HB3 | 2:S:56:ILE:HD11 | 1.60 | 0.80 |
| 1:L:98:GLY:O | 1:L:100:TYR:HD1 | 1.65 | 0.80 |
| 1:L:219:GLY:C | 1:L:233:ASN:HB3 | 2.02 | 0.80 |
| 1:L:241:TYR:CA | 1:L:309:SER:HA | 2.11 | 0.80 |
| 1:L:258:ILE:HG12 | 1:L:336:GLY:CA | 2.11 | 0.80 |
| 1:L:54:GLN:HG2 | 1:L:56:PHE:HE1 | 1.45 | 0.80 |
| 1:L:256:PRO:HB3 | 1:L:290:GLU:CA | 2.07 | 0.80 |
| 1:L:92:ILE:HD12 | 1:L:125:PHE:HE2 | 1.46 | 0.79 |
| 1:L:120:LYS:CG | 1:L:121:LYS:HG2 | 2.04 | 0.79 |
| 1:L:242:PHE:CZ | 1:L:246:LEU:HD11 | 2.17 | 0.79 |
| 1:L:262:VAL:HG13 | 1:L:328:ALA:HB1 | 1.64 | 0.79 |
| 1:L:311:GLN:HE21 | 1:L:312:VAL:H | 1.31 | 0.79 |
| 1:L:22:ASP:HA | 1:L:57:ARG:HG2 | 1.64 | 0.79 |
| 1:L:113:MET:SD | 1:L:123:PHE:CD2 | 2.75 | 0.79 |
| 1:L:248:PHE:HB2 | 1:L:297:LEU:HD23 | 1.62 | 0.79 |
| 2:S:13:PRO:HA | 2:S:162:ASN:HA | 1.63 | 0.79 |
| 1:L:32:LEU:H | 1:L:165:ILE:HG22 | 1.46 | 0.79 |
| 1:L:182:TYR:HD1 | 1:L:235:TRP:CE3 | 2.01 | 0.79 |
| 1:L:270:ASN:HA | 1:L:318:LEU:HG | 1.63 | 0.79 |
| 1:L:134:ASP:CB | 1:L:177:CYS:SG | 2.71 | 0.79 |
| 1:L:195:ARG:H | 1:L:232:PRO:CB | 1.95 | 0.79 |
| 1:L:89:MET:SD | 1:L:108:CYS:SG | 2.81 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------|--------------------------|-------------------|
| 1:L:278:TYR:CG | 1:L:329:ILE:HG12 | 2.17 | 0.78 |
| 2:S:73:GLN:HG3 | 2:S:162:ASN:HB2 | 1.65 | 0.78 |
| 1:L:325:TYR:CE1 | 1:L:327:TYR:HB3 | 2.17 | 0.78 |
| 1:L:187:CYS:HA | 1:L:354:PHE:O | 1.83 | 0.78 |
| 1:L:236:ILE:O | 1:L:236:ILE:HG22 | 1.83 | 0.78 |
| 2:S:69:THR:HB | 2:S:166:ASP:CB | 2.14 | 0.78 |
| 1:L:193:LEU:HB2 | 1:L:232:PRO:CA | 2.13 | 0.78 |
| 2:S:164:ARG:NH2 | 2:S:166:ASP:HA | 1.98 | 0.78 |
| 2:S:94:LEU:HB3 | 2:S:146:LEU:CG | 2.13 | 0.78 |
| 1:L:96:VAL:HG13 | 2:S:176:LEU:HD12 | 1.66 | 0.78 |
| 2:S:94:LEU:HA | 2:S:146:LEU:HA | 1.64 | 0.78 |
| 1:L:219:GLY:O | 1:L:233:ASN:HB3 | 1.83 | 0.78 |
| 2:S:27:VAL:CG1 | 2:S:151:THR:HA | 2.13 | 0.78 |
| 1:L:100:TYR:O | 2:S:178:PRO:HA | 1.84 | 0.77 |
| 1:L:91:ALA:HB2 | 1:L:107:ILE:HB | 1.66 | 0.77 |
| 1:L:198:GLY:HA2 | 1:L:346:VAL:HG23 | 1.67 | 0.77 |
| 2:S:74:LEU:HB3 | 2:S:118:LEU:CD2 | 2.15 | 0.77 |
| 2:S:90:VAL:HG22 | 2:S:149:VAL:HB | 1.66 | 0.77 |
| 1:L:230:ASN:ND2 | 1:L:233:ASN:HB2 | 1.99 | 0.77 |
| 2:S:27:VAL:HG11 | 2:S:151:THR:HG23 | 1.66 | 0.77 |
| 1:L:188:GLN:O | 1:L:353:ASP:HA | 1.84 | 0.77 |
| 1:L:65:THR:O | 1:L:66:HIS:HB2 | 1.85 | 0.77 |
| 2:S:91:PHE:CD1 | 2:S:93:TYR:HE2 | 2.02 | 0.77 |
| 1:L:71:LYS:HB3 | 1:L:126:THR:O | 1.85 | 0.77 |
| 1:L:241:TYR:HB3 | 1:L:308:TRP:C | 2.05 | 0.77 |
| 1:L:96:VAL:CA | 2:S:176:LEU:HB2 | 2.12 | 0.76 |
| 1:L:242:PHE:CE2 | 1:L:246:LEU:HD21 | 2.20 | 0.76 |
| 1:L:262:VAL:H | 1:L:286:VAL:CG2 | 1.99 | 0.76 |
| 2:S:68:GLY:CA | 2:S:169:PHE:HA | 2.15 | 0.76 |
| 2:S:95:ARG:NE | 2:S:98:MET:HA | 2.00 | 0.76 |
| 2:S:74:LEU:HD22 | 2:S:118:LEU:HD23 | 1.66 | 0.76 |
| 2:S:95:ARG:CZ | 2:S:98:MET:HA | 2.16 | 0.76 |
| 1:L:252:LYS:HB3 | 1:L:293:GLU:CB | 2.15 | 0.76 |
| 1:L:149:THR:O | 1:L:150:VAL:HG13 | 1.86 | 0.76 |
| 1:L:134:ASP:HB2 | 1:L:177:CYS:SG | 2.26 | 0.76 |
| 2:S:29:ALA:HA | 2:S:150:ALA:HB3 | 1.66 | 0.76 |
| 1:L:186:ASP:HB2 | 1:L:356:GLY:O | 1.85 | 0.76 |
| 1:L:143:ARG:HB3 | 2:S:137:PRO:CB | 2.15 | 0.75 |
| 1:L:22:ASP:HA | 1:L:57:ARG:CG | 2.15 | 0.75 |
| 1:L:251:THR:HA | 1:L:293:GLU:O | 1.85 | 0.75 |
| 2:S:134:ALA:HA | 2:S:143:THR:OG1 | 1.86 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:L:20:LEU:HB3 | 1:L:73:LYS:NZ | 2.00 | 0.75 |
| 1:L:269:GLY:HA3 | 1:L:325:TYR:OH | 1.86 | 0.75 |
| 2:S:132:GLU:O | 2:S:133:PHE:HB2 | 1.85 | 0.75 |
| 2:S:63:ALA:HB3 | 2:S:66:LYS:HE3 | 1.67 | 0.75 |
| 2:S:57:MET:O | 2:S:60:LEU:HB2 | 1.86 | 0.75 |
| 1:L:256:PRO:HB2 | 1:L:290:GLU:OE2 | 1.86 | 0.75 |
| 2:S:125:ILE:HG13 | 2:S:126:GLY:H | 1.52 | 0.75 |
| 2:S:76:VAL:HG12 | 2:S:158:GLN:O | 1.87 | 0.75 |
| 2:S:16:ILE:HB | 2:S:52:TYR:CE2 | 2.21 | 0.75 |
| 1:L:244:GLY:O | 1:L:246:LEU:HD12 | 1.86 | 0.75 |
| 1:L:145:ARG:CZ | 2:S:137:PRO:HG2 | 2.17 | 0.75 |
| 2:S:89:GLN:HA | 2:S:111:SER:CA | 2.11 | 0.75 |
| 1:L:247:HIS:HB2 | 1:L:297:LEU:HB3 | 1.67 | 0.75 |
| 1:L:314:PRO:CG | 1:L:365:GLY:HA3 | 2.17 | 0.75 |
| 2:S:69:THR:HB | 2:S:166:ASP:HB2 | 1.67 | 0.75 |
| 1:L:210:VAL:HG13 | 1:L:328:ALA:O | 1.87 | 0.74 |
| 1:L:311:GLN:NE2 | 1:L:312:VAL:H | 1.85 | 0.74 |
| 2:S:178:PRO:HB2 | 2:S:179:PRO:HD3 | 1.69 | 0.74 |
| 1:L:200:LEU:HD12 | 1:L:202:PHE:CZ | 2.22 | 0.74 |
| 1:L:250:VAL:O | 1:L:295:CYS:N | 2.20 | 0.74 |
| 1:L:255:SER:CB | 1:L:258:ILE:HB | 2.16 | 0.74 |
| 2:S:32:PHE:CE2 | 2:S:148:CYS:SG | 2.79 | 0.74 |
| 2:S:32:PHE:CZ | 2:S:148:CYS:SG | 2.79 | 0.74 |
| 1:L:288:PHE:HD2 | 1:L:342:PHE:CZ | 2.06 | 0.74 |
| 2:S:19:THR:HA | 2:S:47:TRP:CZ3 | 2.23 | 0.74 |
| 1:L:70:GLY:HA3 | 1:L:173:VAL:O | 1.87 | 0.74 |
| 1:L:244:GLY:HA2 | 1:L:301:GLN:HE22 | 1.52 | 0.74 |
| 2:S:143:THR:HG22 | 2:S:144:TRP:H | 1.53 | 0.74 |
| 1:L:182:TYR:CD1 | 1:L:235:TRP:CE3 | 2.76 | 0.74 |
| 2:S:58:ASN:HA | 2:S:61:ARG:HB2 | 1.69 | 0.74 |
| 2:S:91:PHE:N | 2:S:149:VAL:HG21 | 2.02 | 0.74 |
| 1:L:130:ASN:OD1 | 1:L:132:CYS:SG | 2.44 | 0.73 |
| 1:L:197:MET:SD | 1:L:347:LYS:HA | 2.28 | 0.73 |
| 1:L:256:PRO:CB | 1:L:290:GLU:HA | 2.10 | 0.73 |
| 2:S:30:VAL:HG13 | 2:S:148:CYS:SG | 2.28 | 0.73 |
| 1:L:210:VAL:HB | 1:L:273:ASP:HB2 | 1.70 | 0.73 |
| 1:L:252:LYS:HZ1 | 1:L:256:PRO:HG3 | 1.50 | 0.73 |
| 1:L:104:VAL:HG21 | 1:L:153:VAL:HG22 | 1.69 | 0.73 |
| 2:S:90:VAL:HB | 2:S:110:ILE:HG21 | 1.71 | 0.73 |
| 1:L:23:THR:HG22 | 1:L:171:SER:HB2 | 1.70 | 0.73 |
| 1:L:78:THR:O | 1:L:79:ASN:HB2 | 1.86 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:S:20:PRO:HB3 | 2:S:21:PRO:CD | 2.18 | 0.73 |
| 2:S:126:GLY:HA3 | 2:S:131:PHE:C | 2.09 | 0.72 |
| 1:L:355:CYS:SG | 1:L:357:ILE:HD11 | 2.28 | 0.72 |
| 1:L:33:SER:HB3 | 1:L:36:MET:SD | 2.28 | 0.72 |
| 1:L:68:ILE:HB | 1:L:136:TRP:CH2 | 2.23 | 0.72 |
| 1:L:218:GLY:H | 1:L:233:ASN:HD21 | 1.37 | 0.72 |
| 1:L:88:LEU:HD23 | 1:L:115:TRP:CZ2 | 2.24 | 0.72 |
| 1:L:5:LEU:HA | 1:L:8:LEU:HB2 | 1.70 | 0.72 |
| 1:L:230:ASN:HB2 | 1:L:232:PRO:HD2 | 1.72 | 0.72 |
| 2:S:127:PRO:HD2 | 2:S:132:GLU:HA | 1.69 | 0.72 |
| 2:S:130:GLY:O | 2:S:131:PHE:HD2 | 1.72 | 0.72 |
| 2:S:19:THR:HB | 2:S:156:ILE:O | 1.89 | 0.72 |
| 2:S:71:HIS:CD2 | 2:S:164:ARG:HD3 | 2.24 | 0.72 |
| 1:L:36:MET:HE1 | 1:L:40:ASP:HB3 | 1.72 | 0.72 |
| 2:S:106:ARG:CD | 2:S:107:THR:H | 2.02 | 0.71 |
| 1:L:357:ILE:N | 1:L:357:ILE:HD12 | 2.05 | 0.71 |
| 2:S:34:LEU:H | 2:S:145:TYR:HA | 1.54 | 0.71 |
| 2:S:94:LEU:HB2 | 2:S:145:TYR:O | 1.91 | 0.71 |
| 1:L:46:TYR:OH | 1:L:145:ARG:HB3 | 1.90 | 0.71 |
| 1:L:134:ASP:HB3 | 1:L:177:CYS:SG | 2.31 | 0.71 |
| 1:L:215:LEU:HD21 | 1:L:248:PHE:HZ | 1.55 | 0.71 |
| 1:L:32:LEU:N | 1:L:165:ILE:HG22 | 2.05 | 0.71 |
| 1:L:25:PHE:CE2 | 1:L:171:SER:HA | 2.26 | 0.71 |
| 1:L:4:ASN:OD1 | 1:L:6:PHE:CD1 | 2.44 | 0.71 |
| 1:L:32:LEU:HD13 | 1:L:164:VAL:O | 1.91 | 0.71 |
| 1:L:73:LYS:CE | 1:L:173:VAL:HG13 | 2.21 | 0.71 |
| 1:L:183:HIS:CD2 | 1:L:185:ALA:HB3 | 2.26 | 0.70 |
| 1:L:200:LEU:HD12 | 1:L:202:PHE:HZ | 1.55 | 0.70 |
| 1:L:218:GLY:N | 1:L:233:ASN:HD21 | 1.89 | 0.70 |
| 1:L:245:GLU:C | 1:L:351:ILE:HG13 | 2.11 | 0.70 |
| 1:L:261:THR:OG1 | 1:L:287:GLN:HG3 | 1.92 | 0.70 |
| 2:S:68:GLY:HA3 | 2:S:169:PHE:CD1 | 2.26 | 0.70 |
| 1:L:29:ARG:HA | 1:L:166:ALA:O | 1.91 | 0.70 |
| 1:L:246:LEU:HG | 1:L:351:ILE:CD1 | 2.21 | 0.70 |
| 2:S:52:TYR:C | 2:S:54:PRO:HD3 | 2.11 | 0.70 |
| 1:L:214:PRO:HA | 1:L:325:TYR:CG | 2.27 | 0.70 |
| 2:S:30:VAL:HG23 | 2:S:41:PRO:HG3 | 1.73 | 0.70 |
| 1:L:245:GLU:OE2 | 1:L:298:VAL:HG22 | 1.91 | 0.70 |
| 2:S:74:LEU:HA | 2:S:160:GLU:O | 1.90 | 0.70 |
| 2:S:34:LEU:HB2 | 2:S:145:TYR:HA | 1.72 | 0.70 |
| 1:L:93:ASN:HB2 | 2:S:176:LEU:HD21 | 1.73 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:L:187:CYS:SG | 1:L:355:CYS:CA | 2.79 | 0.70 |
| 1:L:264:PHE:HB3 | 1:L:326:LEU:HD11 | 1.74 | 0.70 |
| 1:L:23:THR:HA | 1:L:58:ALA:HB2 | 1.74 | 0.70 |
| 1:L:151:ILE:HG12 | 1:L:152:CYS:N | 2.05 | 0.70 |
| 1:L:105:TYR:CD2 | 1:L:196:TRP:HB3 | 2.26 | 0.70 |
| 1:L:245:GLU:HG3 | 1:L:245:GLU:O | 1.91 | 0.70 |
| 1:L:209:GLU:O | 1:L:210:VAL:HG23 | 1.92 | 0.70 |
| 1:L:325:TYR:HE1 | 1:L:327:TYR:HB3 | 1.55 | 0.70 |
| 1:L:338:ILE:HG22 | 1:L:339:SER:N | 2.07 | 0.70 |
| 1:L:200:LEU:CB | 1:L:211:ARG:HD2 | 2.22 | 0.69 |
| 1:L:108:CYS:SG | 1:L:109:SER:N | 2.65 | 0.69 |
| 1:L:93:ASN:CA | 1:L:110:GLN:HB2 | 2.21 | 0.69 |
| 2:S:112:GLN:CB | 2:S:113:PRO:HD2 | 2.07 | 0.69 |
| 2:S:55:PRO:O | 2:S:59:VAL:HG23 | 1.93 | 0.69 |
| 1:L:17:ARG:HH12 | 1:L:20:LEU:CD1 | 2.06 | 0.69 |
| 2:S:107:THR:HG22 | 2:S:108:PHE:N | 2.07 | 0.69 |
| 1:L:219:GLY:HA2 | 1:L:234:SER:HG | 1.56 | 0.69 |
| 1:L:264:PHE:CD1 | 1:L:285:ILE:HA | 2.28 | 0.69 |
| 2:S:91:PHE:H | 2:S:149:VAL:CG2 | 2.04 | 0.69 |
| 2:S:91:PHE:HA | 2:S:108:PHE:O | 1.93 | 0.69 |
| 1:L:195:ARG:H | 1:L:232:PRO:HB3 | 1.57 | 0.69 |
| 2:S:95:ARG:HG2 | 2:S:98:MET:HG3 | 1.74 | 0.69 |
| 1:L:261:THR:HG23 | 1:L:286:VAL:O | 1.92 | 0.69 |
| 1:L:271:LEU:HD11 | 1:L:275:PHE:CD2 | 2.28 | 0.69 |
| 2:S:178:PRO:HB2 | 2:S:179:PRO:CD | 2.23 | 0.69 |
| 1:L:86:CYS:H | 1:L:116:ASN:ND2 | 1.92 | 0.68 |
| 1:L:286:VAL:HG12 | 1:L:287:GLN:H | 1.57 | 0.68 |
| 1:L:73:LYS:HA | 1:L:126:THR:HA | 1.75 | 0.68 |
| 1:L:96:VAL:CG1 | 2:S:176:LEU:HB2 | 2.23 | 0.68 |
| 1:L:141:ILE:HA | 1:L:144:SER:HB2 | 1.75 | 0.68 |
| 2:S:95:ARG:NE | 2:S:98:MET:HG2 | 2.05 | 0.68 |
| 1:L:68:ILE:HG22 | 1:L:69:THR:H | 1.58 | 0.68 |
| 2:S:122:PHE:O | 2:S:122:PHE:CD2 | 2.46 | 0.68 |
| 2:S:156:ILE:HG22 | 2:S:156:ILE:O | 1.94 | 0.68 |
| 2:S:33:ASP:HB3 | 2:S:39:ILE:HA | 1.74 | 0.68 |
| 1:L:139:GLU:HA | 1:L:142:SER:OG | 1.94 | 0.68 |
| 1:L:262:VAL:H | 1:L:286:VAL:HG23 | 1.56 | 0.68 |
| 2:S:109:VAL:CG2 | 2:S:110:ILE:H | 2.07 | 0.68 |
| 1:L:291:VAL:HG23 | 1:L:292:GLU:H | 1.57 | 0.68 |
| 1:L:113:MET:CG | 1:L:123:PHE:CE2 | 2.77 | 0.68 |
| 1:L:212:ARG:H | 1:L:212:ARG:HD3 | 1.58 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:L:202:PHE:HE2 | 1:L:211:ARG:HG2 | 1.58 | 0.68 |
| 1:L:261:THR:HG23 | 1:L:285:ILE:HG12 | 1.74 | 0.68 |
| 1:L:261:THR:CA | 1:L:286:VAL:HB | 2.15 | 0.68 |
| 2:S:54:PRO:HD2 | 2:S:57:MET:HG2 | 1.76 | 0.68 |
| 1:L:264:PHE:HE1 | 1:L:285:ILE:HA | 1.58 | 0.67 |
| 1:L:261:THR:HG22 | 1:L:285:ILE:HD11 | 1.76 | 0.67 |
| 2:S:86:TRP:CE2 | 2:S:113:PRO:HA | 2.28 | 0.67 |
| 2:S:127:PRO:HD2 | 2:S:132:GLU:CA | 2.24 | 0.67 |
| 2:S:48:ASN:ND2 | 2:S:50:HIS:ND1 | 2.42 | 0.67 |
| 1:L:285:ILE:HG13 | 1:L:286:VAL:H | 1.58 | 0.67 |
| 1:L:31:LEU:HB2 | 1:L:42:LEU:HB3 | 1.75 | 0.67 |
| 1:L:258:ILE:HD11 | 1:L:340:GLY:HA3 | 1.76 | 0.67 |
| 2:S:106:ARG:NH1 | 2:S:106:ARG:HG2 | 1.98 | 0.67 |
| 2:S:21:PRO:C | 2:S:24:PHE:HB2 | 2.15 | 0.67 |
| 1:L:23:THR:HG22 | 1:L:171:SER:CB | 2.25 | 0.67 |
| 1:L:266:ILE:CG2 | 1:L:324:PRO:HB2 | 2.23 | 0.67 |
| 2:S:55:PRO:HG2 | 2:S:56:ILE:H | 1.60 | 0.67 |
| 1:L:364:ASP:HB3 | 2:S:182:LEU:HD13 | 1.75 | 0.67 |
| 1:L:312:VAL:HG22 | 1:L:316:THR:OG1 | 1.95 | 0.67 |
| 1:L:30:VAL:HG23 | 1:L:30:VAL:O | 1.93 | 0.67 |
| 1:L:186:ASP:HB2 | 1:L:356:GLY:C | 2.14 | 0.67 |
| 2:S:34:LEU:CD2 | 2:S:146:LEU:HD12 | 2.23 | 0.67 |
| 1:L:356:GLY:O | 1:L:357:ILE:HG13 | 1.94 | 0.67 |
| 1:L:74:VAL:HA | 1:L:169:ASP:O | 1.95 | 0.67 |
| 2:S:29:ALA:HA | 2:S:150:ALA:CB | 2.25 | 0.66 |
| 2:S:75:ASN:ND2 | 2:S:117:MET:HB3 | 2.09 | 0.66 |
| 1:L:184:LEU:HD21 | 2:S:165:PHE:CE1 | 2.30 | 0.66 |
| 1:L:25:PHE:CA | 1:L:56:PHE:HB2 | 2.24 | 0.66 |
| 2:S:56:ILE:HD12 | 2:S:57:MET:N | 2.10 | 0.66 |
| 1:L:21:LEU:C | 1:L:23:THR:H | 1.98 | 0.66 |
| 1:L:262:VAL:C | 1:L:285:ILE:HG13 | 2.15 | 0.66 |
| 1:L:314:PRO:O | 1:L:315:ARG:HG3 | 1.96 | 0.66 |
| 2:S:22:ALA:HA | 2:S:23:PRO:O | 1.95 | 0.66 |
| 1:L:265:LEU:C | 1:L:266:ILE:HD12 | 2.15 | 0.66 |
| 1:L:310:THR:O | 1:L:311:GLN:HB3 | 1.94 | 0.66 |
| 1:L:289:ALA:HB3 | 1:L:292:GLU:HB2 | 1.77 | 0.66 |
| 2:S:122:PHE:O | 2:S:122:PHE:HD2 | 1.79 | 0.66 |
| 1:L:140:MET:SD | 2:S:65:TRP:CH2 | 2.89 | 0.66 |
| 1:L:266:ILE:HG21 | 1:L:304:PHE:CD1 | 2.30 | 0.66 |
| 2:S:141:GLN:HG3 | 2:S:142:THR:O | 1.95 | 0.66 |
| 1:L:92:ILE:HG21 | 1:L:127:PHE:CE2 | 2.30 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:L:91:ALA:HB3 | 1:L:149:THR:HG23 | 1.77 | 0.66 |
| 2:S:106:ARG:HG3 | 2:S:107:THR:N | 2.11 | 0.66 |
| 1:L:67:VAL:HG13 | 1:L:136:TRP:H | 1.60 | 0.66 |
| 1:L:347:LYS:HG3 | 1:L:348:LEU:N | 2.09 | 0.66 |
| 1:L:367:ARG:O | 1:L:369:LEU:N | 2.29 | 0.65 |
| 1:L:73:LYS:O | 1:L:170:TRP:HB3 | 1.96 | 0.65 |
| 1:L:68:ILE:HD12 | 1:L:68:ILE:N | 2.11 | 0.65 |
| 1:L:100:TYR:HB3 | 2:S:176:LEU:O | 1.96 | 0.65 |
| 1:L:113:MET:HG2 | 1:L:123:PHE:CE2 | 2.31 | 0.65 |
| 1:L:119:CYS:SG | 1:L:293:GLU:OE1 | 2.55 | 0.65 |
| 1:L:91:ALA:HB1 | 1:L:107:ILE:HB | 1.77 | 0.65 |
| 2:S:33:ASP:HA | 2:S:145:TYR:CD2 | 2.23 | 0.65 |
| 1:L:103:ASP:O | 1:L:107:ILE:HG13 | 1.96 | 0.65 |
| 1:L:258:ILE:HG23 | 1:L:335:THR:O | 1.96 | 0.65 |
| 1:L:262:VAL:O | 1:L:264:PHE:CE1 | 2.50 | 0.65 |
| 1:L:267:ALA:O | 1:L:324:PRO:HB3 | 1.94 | 0.65 |
| 1:L:72:ILE:N | 1:L:172:ILE:HD12 | 2.10 | 0.65 |
| 2:S:92:VAL:HG22 | 2:S:146:LEU:HD21 | 1.78 | 0.65 |
| 2:S:40:THR:HG23 | 2:S:49:THR:HG21 | 1.77 | 0.65 |
| 1:L:210:VAL:O | 1:L:212:ARG:HD3 | 1.96 | 0.65 |
| 1:L:195:ARG:HH21 | 1:L:217:ILE:CA | 2.07 | 0.65 |
| 1:L:86:CYS:O | 1:L:116:ASN:HA | 1.97 | 0.65 |
| 1:L:32:LEU:O | 1:L:163:ASP:HA | 1.97 | 0.65 |
| 1:L:105:TYR:HB2 | 1:L:196:TRP:CD1 | 2.32 | 0.65 |
| 1:L:33:SER:OG | 1:L:34:LYS:N | 2.30 | 0.65 |
| 1:L:73:LYS:HB3 | 1:L:173:VAL:HG22 | 1.77 | 0.65 |
| 1:L:3:GLN:O | 1:L:5:LEU:HD23 | 1.96 | 0.65 |
| 1:L:78:THR:HG23 | 1:L:79:ASN:N | 2.11 | 0.65 |
| 1:L:85:GLY:O | 1:L:156:TRP:HA | 1.96 | 0.65 |
| 1:L:86:CYS:HB3 | 1:L:156:TRP:N | 2.12 | 0.65 |
| 1:L:193:LEU:HD23 | 1:L:232:PRO:O | 1.97 | 0.65 |
| 1:L:218:GLY:H | 1:L:233:ASN:ND2 | 1.95 | 0.65 |
| 1:L:153:VAL:HG21 | 1:L:196:TRP:CH2 | 2.32 | 0.65 |
| 1:L:169:ASP:C | 1:L:170:TRP:HD1 | 2.00 | 0.65 |
| 1:L:265:LEU:N | 1:L:326:LEU:HG | 2.12 | 0.65 |
| 1:L:227:PHE:CD1 | 1:L:366:SER:HB2 | 2.32 | 0.65 |
| 2:S:126:GLY:HA3 | 2:S:131:PHE:CA | 2.26 | 0.65 |
| 1:L:199:LYS:O | 1:L:200:LEU:HD23 | 1.96 | 0.64 |
| 2:S:53:ASN:HD21 | 2:S:182:LEU:HB2 | 1.61 | 0.64 |
| 1:L:210:VAL:HG21 | 1:L:278:TYR:CD2 | 2.33 | 0.64 |
| 2:S:171:VAL:HG13 | 2:S:172:ALA:N | 2.11 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:L:93:ASN:HA | 1:L:110:GLN:CG | 2.28 | 0.64 |
| 1:L:195:ARG:H | 1:L:232:PRO:HB2 | 1.59 | 0.64 |
| 1:L:71:LYS:HE2 | 1:L:126:THR:OG1 | 1.97 | 0.64 |
| 1:L:139:GLU:O | 1:L:140:MET:HB2 | 1.97 | 0.64 |
| 1:L:15:SER:CB | 1:L:68:ILE:HA | 2.26 | 0.64 |
| 1:L:183:HIS:CE1 | 1:L:185:ALA:H | 2.16 | 0.64 |
| 1:L:338:ILE:CG2 | 1:L:339:SER:H | 2.01 | 0.64 |
| 1:L:90:LEU:HD13 | 1:L:149:THR:O | 1.97 | 0.64 |
| 1:L:187:CYS:SG | 1:L:355:CYS:CB | 2.86 | 0.64 |
| 1:L:191:LEU:HD12 | 1:L:192:PRO:N | 2.13 | 0.64 |
| 1:L:215:LEU:HB2 | 1:L:325:TYR:CB | 2.21 | 0.64 |
| 2:S:149:VAL:HG12 | 2:S:150:ALA:N | 2.10 | 0.64 |
| 1:L:197:MET:C | 1:L:346:VAL:HB | 2.18 | 0.64 |
| 1:L:231:MET:HB2 | 2:S:174:ASN:HB2 | 1.80 | 0.64 |
| 1:L:44:ASP:CB | 1:L:149:THR:HG22 | 2.28 | 0.64 |
| 2:S:91:PHE:CD1 | 2:S:93:TYR:CE2 | 2.85 | 0.64 |
| 1:L:148:MET:SD | 1:L:148:MET:C | 2.76 | 0.64 |
| 1:L:171:SER:O | 1:L:172:ILE:HB | 1.96 | 0.64 |
| 1:L:71:LYS:HD3 | 1:L:175:GLU:HB2 | 1.79 | 0.64 |
| 1:L:176:LYS:O | 1:L:176:LYS:HG2 | 1.98 | 0.64 |
| 1:L:31:LEU:O | 1:L:42:LEU:HD13 | 1.97 | 0.64 |
| 2:S:106:ARG:CG | 2:S:107:THR:N | 2.61 | 0.64 |
| 2:S:109:VAL:HG22 | 2:S:110:ILE:N | 2.11 | 0.64 |
| 1:L:214:PRO:HA | 1:L:325:TYR:CD2 | 2.33 | 0.64 |
| 1:L:218:GLY:N | 1:L:233:ASN:ND2 | 2.46 | 0.64 |
| 1:L:245:GLU:CG | 1:L:245:GLU:O | 2.45 | 0.64 |
| 2:S:15:MET:HB2 | 2:S:50:HIS:O | 1.97 | 0.64 |
| 1:L:255:SER:O | 1:L:258:ILE:O | 2.16 | 0.63 |
| 1:L:191:LEU:O | 1:L:350:GLY:HA2 | 1.98 | 0.63 |
| 1:L:13:THR:HA | 1:L:65:THR:O | 1.99 | 0.63 |
| 2:S:165:PHE:HA | 2:S:169:PHE:CE2 | 2.33 | 0.63 |
| 2:S:15:MET:HA | 2:S:52:TYR:CD2 | 2.32 | 0.63 |
| 1:L:133:GLY:HA2 | 1:L:179:PRO:HB3 | 1.79 | 0.63 |
| 1:L:278:TYR:CE1 | 1:L:281:PHE:CE2 | 2.86 | 0.63 |
| 2:S:148:CYS:HB2 | 2:S:159:PHE:CE1 | 2.33 | 0.63 |
| 1:L:87:CYS:O | 1:L:152:CYS:HA | 1.98 | 0.63 |
| 1:L:154:SER:HB2 | 1:L:253:MET:HG3 | 1.80 | 0.63 |
| 1:L:214:PRO:HA | 1:L:325:TYR:CD1 | 2.33 | 0.63 |
| 1:L:217:ILE:HG12 | 1:L:242:PHE:CD1 | 2.34 | 0.63 |
| 1:L:87:CYS:SG | 1:L:88:LEU:N | 2.71 | 0.63 |
| 1:L:191:LEU:HG | 1:L:193:LEU:HD12 | 1.81 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:L:226:ALA:HA | 2:S:181:PRO:CB | 2.25 | 0.63 |
| 1:L:62:PHE:HB3 | 1:L:63:LEU:HD12 | 1.80 | 0.63 |
| 1:L:90:LEU:HD22 | 1:L:150:VAL:HG13 | 1.79 | 0.63 |
| 2:S:99:ASN:C | 2:S:101:GLU:H | 2.02 | 0.63 |
| 1:L:191:LEU:HD13 | 1:L:354:PHE:CE2 | 2.33 | 0.63 |
| 2:S:53:ASN:HA | 2:S:61:ARG:NH2 | 2.13 | 0.63 |
| 1:L:262:VAL:O | 1:L:285:ILE:HG13 | 1.98 | 0.63 |
| 1:L:20:LEU:HB3 | 1:L:73:LYS:HZ3 | 1.63 | 0.63 |
| 2:S:74:LEU:HD22 | 2:S:118:LEU:HB3 | 1.80 | 0.63 |
| 2:S:127:PRO:HG2 | 2:S:128:ASN:H | 1.64 | 0.63 |
| 2:S:160:GLU:O | 2:S:160:GLU:HG3 | 1.98 | 0.63 |
| 2:S:31:THR:O | 2:S:31:THR:HG23 | 1.98 | 0.63 |
| 2:S:53:ASN:HA | 2:S:61:ARG:HH12 | 1.64 | 0.63 |
| 2:S:93:TYR:CD1 | 2:S:107:THR:OG1 | 2.52 | 0.62 |
| 1:L:21:LEU:O | 1:L:57:ARG:HB3 | 1.99 | 0.62 |
| 2:S:40:THR:HG23 | 2:S:49:THR:CG2 | 2.29 | 0.62 |
| 1:L:252:LYS:HB3 | 1:L:293:GLU:HB2 | 1.80 | 0.62 |
| 1:L:258:ILE:CD1 | 1:L:340:GLY:HA3 | 2.29 | 0.62 |
| 1:L:204:GLN:OE1 | 1:L:336:GLY:HA3 | 1.99 | 0.62 |
| 1:L:210:VAL:HG13 | 1:L:329:ILE:HG13 | 1.80 | 0.62 |
| 2:S:106:ARG:HD2 | 2:S:107:THR:H | 1.63 | 0.62 |
| 2:S:34:LEU:HB2 | 2:S:145:TYR:C | 2.19 | 0.62 |
| 2:S:28:THR:O | 2:S:29:ALA:HB2 | 1.99 | 0.62 |
| 1:L:128:ASN:HD21 | 1:L:136:TRP:HE1 | 1.47 | 0.62 |
| 1:L:162:THR:OG1 | 1:L:163:ASP:N | 2.32 | 0.62 |
| 1:L:188:GLN:HG3 | 1:L:188:GLN:O | 1.97 | 0.62 |
| 1:L:351:ILE:HG21 | 1:L:354:PHE:HB3 | 1.80 | 0.62 |
| 2:S:110:ILE:HG23 | 2:S:111:SER:H | 1.65 | 0.62 |
| 1:L:260:ALA:HB3 | 1:L:342:PHE:CD2 | 2.34 | 0.62 |
| 1:L:127:PHE:CZ | 1:L:129:PRO:HB3 | 2.34 | 0.62 |
| 1:L:278:TYR:CD1 | 1:L:281:PHE:CE2 | 2.87 | 0.62 |
| 2:S:177:MET:C | 2:S:180:PHE:HZ | 2.02 | 0.62 |
| 1:L:193:LEU:HD22 | 1:L:195:ARG:N | 2.15 | 0.62 |
| 2:S:91:PHE:O | 2:S:93:TYR:CE2 | 2.53 | 0.62 |
| 2:S:29:ALA:HA | 2:S:149:VAL:O | 2.00 | 0.62 |
| 2:S:161:VAL:O | 2:S:162:ASN:ND2 | 2.32 | 0.62 |
| 1:L:120:LYS:HZ2 | 1:L:120:LYS:HB3 | 1.64 | 0.61 |
| 1:L:243:ARG:HH11 | 1:L:243:ARG:HG3 | 1.65 | 0.61 |
| 1:L:278:TYR:CE1 | 1:L:281:PHE:HE2 | 2.18 | 0.61 |
| 1:L:297:LEU:CD1 | 1:L:299:PHE:HE1 | 2.05 | 0.61 |
| 2:S:29:ALA:CA | 2:S:150:ALA:HB3 | 2.29 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:S:177:MET:SD | 2:S:177:MET:N | 2.73 | 0.61 |
| 2:S:34:LEU:O | 2:S:35:ILE:HG23 | 1.99 | 0.61 |
| 2:S:90:VAL:HG13 | 2:S:149:VAL:HG23 | 1.81 | 0.61 |
| 1:L:145:ARG:HD2 | 1:L:145:ARG:H | 1.65 | 0.61 |
| 1:L:71:LYS:HE2 | 1:L:126:THR:CB | 2.31 | 0.61 |
| 2:S:89:GLN:HB2 | 2:S:111:SER:OG | 2.01 | 0.61 |
| 2:S:94:LEU:HD23 | 2:S:94:LEU:H | 1.66 | 0.61 |
| 1:L:297:LEU:O | 1:L:298:VAL:HG23 | 2.01 | 0.61 |
| 1:L:227:PHE:HE2 | 2:S:182:LEU:HB3 | 1.65 | 0.61 |
| 1:L:197:MET:HE2 | 1:L:248:PHE:CD2 | 2.35 | 0.61 |
| 2:S:90:VAL:HG13 | 2:S:149:VAL:CG2 | 2.30 | 0.61 |
| 1:L:130:ASN:CG | 1:L:132:CYS:HG | 2.03 | 0.61 |
| 1:L:134:ASP:O | 1:L:135:SER:O | 2.19 | 0.61 |
| 1:L:258:ILE:CG1 | 1:L:336:GLY:HA2 | 2.22 | 0.61 |
| 1:L:49:ASP:O | 1:L:51:VAL:N | 2.34 | 0.61 |
| 2:S:158:GLN:HG2 | 2:S:159:PHE:N | 2.16 | 0.61 |
| 2:S:14:CYS:CA | 2:S:54:PRO:HG2 | 2.31 | 0.61 |
| 2:S:89:GLN:HG2 | 2:S:90:VAL:H | 1.64 | 0.61 |
| 1:L:19:SER:O | 1:L:21:LEU:N | 2.33 | 0.61 |
| 1:L:261:THR:HG22 | 1:L:285:ILE:CD1 | 2.30 | 0.61 |
| 1:L:266:ILE:HD13 | 1:L:299:PHE:HB3 | 1.83 | 0.61 |
| 1:L:246:LEU:HB2 | 1:L:348:LEU:HD11 | 1.81 | 0.61 |
| 1:L:89:MET:HE3 | 1:L:104:VAL:HB | 1.81 | 0.61 |
| 1:L:182:TYR:N | 1:L:182:TYR:CD1 | 2.69 | 0.61 |
| 1:L:232:PRO:O | 1:L:236:ILE:HG21 | 2.01 | 0.61 |
| 1:L:285:ILE:CG1 | 1:L:286:VAL:N | 2.63 | 0.61 |
| 2:S:75:ASN:ND2 | 2:S:117:MET:SD | 2.74 | 0.61 |
| 2:S:14:CYS:CA | 2:S:57:MET:SD | 2.80 | 0.61 |
| 1:L:199:LYS:HG3 | 1:L:343:ASN:OD1 | 2.00 | 0.60 |
| 1:L:305:VAL:O | 1:L:306:THR:HG23 | 2.01 | 0.60 |
| 1:L:30:VAL:N | 1:L:165:ILE:O | 2.33 | 0.60 |
| 1:L:313:ASN:O | 1:L:315:ARG:N | 2.34 | 0.60 |
| 1:L:330:ILE:O | 1:L:331:HIS:HD2 | 1.84 | 0.60 |
| 1:L:206:VAL:CG1 | 1:L:333:SER:HA | 2.32 | 0.60 |
| 1:L:227:PHE:HB2 | 2:S:180:PHE:O | 2.00 | 0.60 |
| 1:L:255:SER:HB3 | 1:L:258:ILE:CB | 2.24 | 0.60 |
| 1:L:297:LEU:HD12 | 1:L:299:PHE:CE1 | 2.20 | 0.60 |
| 1:L:301:GLN:O | 1:L:305:VAL:HB | 2.01 | 0.60 |
| 1:L:92:ILE:O | 1:L:108:CYS:O | 2.19 | 0.60 |
| 2:S:177:MET:CB | 2:S:180:PHE:CZ | 2.83 | 0.60 |
| 1:L:282:PRO:HA | 1:L:283:HIS:ND1 | 2.17 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:S:112:GLN:HB2 | 2:S:113:PRO:CD | 2.18 | 0.60 |
| 2:S:35:ILE:HD12 | 2:S:36:ASN:N | 2.15 | 0.60 |
| 1:L:101:SER:OG | 1:L:106:THR:HG21 | 2.01 | 0.60 |
| 1:L:204:GLN:NE2 | 1:L:258:ILE:HD13 | 2.16 | 0.60 |
| 1:L:70:GLY:N | 1:L:136:TRP:HZ2 | 1.99 | 0.60 |
| 1:L:286:VAL:HG22 | 1:L:344:LEU:HD11 | 1.84 | 0.60 |
| 2:S:86:TRP:CD1 | 2:S:113:PRO:HD3 | 2.37 | 0.60 |
| 2:S:70:ILE:HD13 | 2:S:163:MET:SD | 2.41 | 0.60 |
| 1:L:75:THR:HG23 | 1:L:122:ASN:ND2 | 2.15 | 0.60 |
| 1:L:217:ILE:HG13 | 1:L:310:THR:HG23 | 1.84 | 0.60 |
| 1:L:270:ASN:HA | 1:L:318:LEU:CG | 2.31 | 0.60 |
| 1:L:88:LEU:HD23 | 1:L:115:TRP:CE2 | 2.36 | 0.60 |
| 1:L:88:LEU:HD23 | 1:L:115:TRP:NE1 | 2.16 | 0.60 |
| 1:L:105:TYR:CD2 | 1:L:105:TYR:O | 2.55 | 0.60 |
| 1:L:262:VAL:H | 1:L:286:VAL:CB | 2.15 | 0.60 |
| 1:L:311:GLN:HG2 | 1:L:360:ASN:ND2 | 2.17 | 0.60 |
| 1:L:75:THR:HG23 | 1:L:122:ASN:CG | 2.22 | 0.60 |
| 1:L:100:TYR:OH | 1:L:147:ARG:NH1 | 2.35 | 0.60 |
| 1:L:31:LEU:O | 1:L:32:LEU:HD12 | 2.01 | 0.60 |
| 1:L:213:MET:O | 1:L:327:TYR:HB3 | 2.02 | 0.60 |
| 2:S:34:LEU:HD13 | 2:S:146:LEU:HB2 | 1.84 | 0.60 |
| 1:L:82:ASP:OD1 | 1:L:83:ASN:ND2 | 2.35 | 0.59 |
| 2:S:92:VAL:O | 2:S:107:THR:HA | 2.02 | 0.59 |
| 1:L:193:LEU:HD23 | 1:L:232:PRO:HB2 | 1.83 | 0.59 |
| 1:L:210:VAL:HG22 | 1:L:329:ILE:HA | 1.83 | 0.59 |
| 1:L:88:LEU:HB3 | 1:L:115:TRP:CZ2 | 2.37 | 0.59 |
| 1:L:285:ILE:CG1 | 1:L:286:VAL:H | 2.15 | 0.59 |
| 2:S:92:VAL:HG22 | 2:S:146:LEU:CD2 | 2.33 | 0.59 |
| 1:L:17:ARG:O | 1:L:17:ARG:HG3 | 2.01 | 0.59 |
| 1:L:250:VAL:HG21 | 1:L:344:LEU:HG | 1.84 | 0.59 |
| 1:L:181:ILE:HD13 | 2:S:170:ARG:NH1 | 2.17 | 0.59 |
| 1:L:73:LYS:CB | 1:L:173:VAL:HG22 | 2.33 | 0.59 |
| 1:L:266:ILE:HA | 1:L:325:TYR:O | 2.01 | 0.59 |
| 1:L:278:TYR:C | 1:L:280:SER:H | 2.05 | 0.59 |
| 1:L:317:THR:OG1 | 1:L:318:LEU:N | 2.36 | 0.59 |
| 2:S:57:MET:HG2 | 2:S:61:ARG:NH2 | 2.15 | 0.59 |
| 2:S:95:ARG:HE | 2:S:98:MET:CG | 2.10 | 0.59 |
| 1:L:23:THR:CG2 | 1:L:172:ILE:HG22 | 2.31 | 0.59 |
| 1:L:272:SER:O | 1:L:274:ALA:N | 2.35 | 0.59 |
| 1:L:46:TYR:CD1 | 1:L:147:ARG:HG2 | 2.37 | 0.59 |
| 1:L:238:MET:O | 1:L:239:TRP:O | 2.21 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:S:35:ILE:HB | 2:S:66:LYS:NZ | 2.18 | 0.59 |
| 1:L:95:GLY:N | 1:L:146:VAL:HG22 | 2.15 | 0.59 |
| 1:L:288:PHE:HD2 | 1:L:342:PHE:CE2 | 2.21 | 0.59 |
| 1:L:15:SER:OG | 1:L:68:ILE:HA | 2.03 | 0.59 |
| 2:S:18:SER:O | 2:S:20:PRO:HD3 | 2.03 | 0.59 |
| 1:L:192:PRO:O | 1:L:193:LEU:HB3 | 2.02 | 0.59 |
| 1:L:199:LYS:HA | 1:L:343:ASN:OD1 | 2.02 | 0.59 |
| 1:L:311:GLN:NE2 | 1:L:312:VAL:N | 2.49 | 0.59 |
| 1:L:119:CYS:O | 1:L:120:LYS:NZ | 2.29 | 0.59 |
| 2:S:83:ARG:HH11 | 2:S:83:ARG:HG3 | 1.68 | 0.58 |
| 1:L:120:LYS:NZ | 1:L:120:LYS:HB3 | 2.17 | 0.58 |
| 1:L:210:VAL:HG12 | 1:L:210:VAL:O | 2.02 | 0.58 |
| 1:L:271:LEU:HD21 | 1:L:275:PHE:HD2 | 1.68 | 0.58 |
| 2:S:107:THR:CG2 | 2:S:108:PHE:N | 2.66 | 0.58 |
| 2:S:64:ALA:HB3 | 2:S:173:GLY:HA2 | 1.85 | 0.58 |
| 2:S:14:CYS:HA | 2:S:54:PRO:HG2 | 1.84 | 0.58 |
| 1:L:113:MET:HG3 | 1:L:124:SER:O | 2.03 | 0.58 |
| 1:L:195:ARG:NH2 | 1:L:217:ILE:HA | 2.15 | 0.58 |
| 2:S:96:GLN:HB3 | 2:S:142:THR:CG2 | 2.33 | 0.58 |
| 2:S:53:ASN:CA | 2:S:61:ARG:HH22 | 2.15 | 0.58 |
| 2:S:81:VAL:HG23 | 2:S:81:VAL:O | 2.02 | 0.58 |
| 1:L:44:ASP:HB2 | 1:L:149:THR:HG22 | 1.85 | 0.58 |
| 1:L:227:PHE:CD2 | 2:S:181:PRO:CA | 2.84 | 0.58 |
| 1:L:240:ARG:NH1 | 1:L:241:TYR:CD1 | 2.71 | 0.58 |
| 1:L:250:VAL:CG2 | 1:L:251:THR:N | 2.66 | 0.58 |
| 1:L:283:HIS:ND1 | 1:L:283:HIS:N | 2.52 | 0.58 |
| 2:S:69:THR:CB | 2:S:166:ASP:HB2 | 2.33 | 0.58 |
| 1:L:198:GLY:HA2 | 1:L:346:VAL:CG2 | 2.34 | 0.58 |
| 2:S:125:ILE:HD12 | 2:S:130:GLY:O | 2.03 | 0.58 |
| 1:L:246:LEU:H | 1:L:246:LEU:HD12 | 1.69 | 0.58 |
| 1:L:241:TYR:HA | 1:L:310:THR:H | 1.68 | 0.58 |
| 2:S:106:ARG:NH1 | 2:S:106:ARG:CG | 2.64 | 0.58 |
| 2:S:57:MET:CG | 2:S:61:ARG:HH21 | 2.15 | 0.58 |
| 2:S:70:ILE:O | 2:S:71:HIS:ND1 | 2.37 | 0.58 |
| 1:L:215:LEU:CB | 1:L:325:TYR:HB2 | 2.21 | 0.58 |
| 1:L:240:ARG:HD2 | 1:L:241:TYR:CD1 | 2.39 | 0.58 |
| 1:L:247:HIS:HB2 | 1:L:298:VAL:N | 2.18 | 0.57 |
| 1:L:266:ILE:HD13 | 1:L:303:GLU:OE2 | 2.03 | 0.57 |
| 2:S:92:VAL:HB | 2:S:108:PHE:HB2 | 1.86 | 0.57 |
| 1:L:140:MET:SD | 2:S:65:TRP:HH2 | 2.27 | 0.57 |
| 1:L:20:LEU:HD12 | 1:L:172:ILE:O | 2.05 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:L:238:MET:O | 1:L:359:SER:HA | 2.05 | 0.57 |
| 1:L:4:ASN:C | 1:L:6:PHE:H | 2.04 | 0.57 |
| 2:S:74:LEU:HD23 | 2:S:74:LEU:C | 2.24 | 0.57 |
| 1:L:17:ARG:HH12 | 1:L:20:LEU:HD13 | 1.69 | 0.57 |
| 1:L:264:PHE:O | 1:L:265:LEU:HB3 | 2.05 | 0.57 |
| 1:L:305:VAL:HG22 | 1:L:305:VAL:O | 2.04 | 0.57 |
| 1:L:199:LYS:HG3 | 1:L:343:ASN:CG | 2.23 | 0.57 |
| 1:L:278:TYR:CD1 | 1:L:281:PHE:HE2 | 2.22 | 0.57 |
| 1:L:243:ARG:HH22 | 1:L:305:VAL:HG23 | 1.70 | 0.57 |
| 1:L:270:ASN:HB3 | 1:L:321:ASP:HB3 | 1.85 | 0.57 |
| 2:S:70:ILE:HA | 2:S:164:ARG:O | 2.04 | 0.57 |
| 2:S:86:TRP:CG | 2:S:87:ASP:N | 2.72 | 0.57 |
| 1:L:165:ILE:H | 1:L:165:ILE:CD1 | 2.12 | 0.57 |
| 2:S:71:HIS:CA | 2:S:120:PHE:O | 2.50 | 0.57 |
| 2:S:89:GLN:HG2 | 2:S:90:VAL:N | 2.20 | 0.57 |
| 2:S:106:ARG:CG | 2:S:107:THR:H | 2.16 | 0.57 |
| 1:L:143:ARG:CA | 2:S:137:PRO:HB2 | 2.34 | 0.57 |
| 1:L:15:SER:HA | 1:L:68:ILE:HA | 1.87 | 0.57 |
| 1:L:227:PHE:CE2 | 2:S:182:LEU:N | 2.72 | 0.57 |
| 1:L:193:LEU:O | 1:L:232:PRO:HB3 | 2.05 | 0.57 |
| 1:L:250:VAL:CG2 | 1:L:344:LEU:HG | 2.35 | 0.57 |
| 1:L:42:LEU:O | 1:L:43:LEU:HB2 | 2.03 | 0.57 |
| 1:L:73:LYS:CB | 1:L:126:THR:HG22 | 2.21 | 0.57 |
| 1:L:210:VAL:HB | 1:L:273:ASP:CB | 2.35 | 0.57 |
| 2:S:94:LEU:CB | 2:S:146:LEU:HG | 2.20 | 0.57 |
| 2:S:86:TRP:CD1 | 2:S:87:ASP:N | 2.73 | 0.56 |
| 1:L:268:PHE:N | 1:L:327:TYR:CE1 | 2.73 | 0.56 |
| 1:L:262:VAL:H | 1:L:286:VAL:HB | 1.69 | 0.56 |
| 1:L:170:TRP:N | 1:L:170:TRP:CD1 | 2.73 | 0.56 |
| 1:L:230:ASN:HD21 | 1:L:233:ASN:HB2 | 1.67 | 0.56 |
| 1:L:184:LEU:HG | 1:L:235:TRP:CZ2 | 2.40 | 0.56 |
| 1:L:54:GLN:HG2 | 1:L:56:PHE:CE1 | 2.34 | 0.56 |
| 1:L:94:SER:O | 2:S:176:LEU:HG | 2.06 | 0.56 |
| 2:S:138:TRP:HE3 | 2:S:139:ALA:N | 2.02 | 0.56 |
| 2:S:96:GLN:HG2 | 2:S:142:THR:HG23 | 1.86 | 0.56 |
| 2:S:95:ARG:HG3 | 2:S:96:GLN:N | 2.20 | 0.56 |
| 1:L:113:MET:HE2 | 1:L:125:PHE:HB2 | 1.87 | 0.56 |
| 1:L:19:SER:O | 1:L:22:ASP:N | 2.39 | 0.56 |
| 1:L:243:ARG:HH22 | 1:L:305:VAL:CG2 | 2.19 | 0.56 |
| 1:L:311:GLN:HE22 | 1:L:363:ILE:HD12 | 1.71 | 0.56 |
| 1:L:362:GLY:O | 1:L:363:ILE:HG13 | 2.05 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:S:34:LEU:C | 2:S:35:ILE:HG13 | 2.25 | 0.56 |
| 1:L:89:MET:CA | 1:L:115:TRP:CZ3 | 2.88 | 0.56 |
| 1:L:70:GLY:N | 1:L:136:TRP:CZ2 | 2.73 | 0.56 |
| 1:L:202:PHE:HB2 | 1:L:342:PHE:HB3 | 1.88 | 0.56 |
| 2:S:127:PRO:HD3 | 2:S:132:GLU:HB3 | 1.88 | 0.56 |
| 2:S:60:LEU:HD21 | 2:S:70:ILE:HD11 | 1.87 | 0.56 |
| 2:S:81:VAL:HB | 2:S:85:ASP:O | 2.05 | 0.56 |
| 1:L:120:LYS:O | 1:L:121:LYS:HD3 | 2.06 | 0.56 |
| 1:L:242:PHE:HZ | 1:L:246:LEU:HD11 | 1.68 | 0.56 |
| 1:L:263:THR:N | 1:L:285:ILE:HD12 | 2.20 | 0.56 |
| 1:L:17:ARG:NH2 | 1:L:20:LEU:HD22 | 2.16 | 0.56 |
| 1:L:240:ARG:NH1 | 1:L:241:TYR:CE1 | 2.73 | 0.56 |
| 1:L:244:GLY:HA2 | 1:L:301:GLN:NE2 | 2.21 | 0.56 |
| 2:S:71:HIS:CE1 | 2:S:121:SER:HG | 2.19 | 0.56 |
| 2:S:19:THR:CB | 2:S:156:ILE:O | 2.53 | 0.56 |
| 1:L:169:ASP:C | 1:L:170:TRP:CD1 | 2.78 | 0.56 |
| 2:S:107:THR:CG2 | 2:S:108:PHE:H | 2.18 | 0.56 |
| 1:L:227:PHE:CZ | 2:S:182:LEU:HD22 | 2.41 | 0.56 |
| 2:S:86:TRP:HH2 | 2:S:156:ILE:HD11 | 1.70 | 0.56 |
| 1:L:184:LEU:HD21 | 2:S:165:PHE:HE1 | 1.69 | 0.56 |
| 1:L:220:GLY:HA2 | 1:L:230:ASN:HD21 | 1.71 | 0.56 |
| 1:L:336:GLY:O | 1:L:338:ILE:HD12 | 2.06 | 0.56 |
| 1:L:142:SER:C | 1:L:144:SER:H | 2.07 | 0.56 |
| 1:L:264:PHE:CB | 1:L:297:LEU:HD11 | 2.35 | 0.56 |
| 1:L:29:ARG:HD3 | 1:L:165:ILE:HD11 | 1.87 | 0.56 |
| 1:L:363:ILE:O | 1:L:364:ASP:HB2 | 2.06 | 0.56 |
| 1:L:89:MET:CE | 1:L:104:VAL:HB | 2.36 | 0.56 |
| 2:S:21:PRO:O | 2:S:24:PHE:HB2 | 2.06 | 0.56 |
| 2:S:91:PHE:CD1 | 2:S:149:VAL:HG21 | 2.41 | 0.56 |
| 1:L:127:PHE:CE1 | 1:L:129:PRO:HD3 | 2.42 | 0.55 |
| 1:L:128:ASN:ND2 | 1:L:136:TRP:HE1 | 2.04 | 0.55 |
| 2:S:130:GLY:C | 2:S:131:PHE:HD2 | 2.08 | 0.55 |
| 1:L:156:TRP:H | 1:L:156:TRP:HD1 | 1.54 | 0.55 |
| 1:L:74:VAL:HG13 | 1:L:169:ASP:O | 2.05 | 0.55 |
| 1:L:183:HIS:NE2 | 1:L:185:ALA:CB | 2.69 | 0.55 |
| 1:L:235:TRP:CZ3 | 2:S:171:VAL:HG12 | 2.41 | 0.55 |
| 1:L:29:ARG:HG3 | 1:L:167:LYS:HE2 | 1.88 | 0.55 |
| 1:L:67:VAL:C | 1:L:68:ILE:HD12 | 2.26 | 0.55 |
| 2:S:125:ILE:CG1 | 2:S:126:GLY:H | 2.19 | 0.55 |
| 1:L:140:MET:HA | 2:S:138:TRP:HD1 | 1.71 | 0.55 |
| 2:S:62:THR:HG22 | 2:S:177:MET:HE2 | 1.86 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:L:141:ILE:HG22 | 1:L:146:VAL:HG21 | 1.89 | 0.55 |
| 1:L:188:GLN:O | 1:L:354:PHE:N | 2.36 | 0.55 |
| 1:L:188:GLN:C | 1:L:353:ASP:HA | 2.26 | 0.55 |
| 2:S:96:GLN:CA | 2:S:143:THR:O | 2.50 | 0.55 |
| 1:L:130:ASN:CG | 1:L:132:CYS:SG | 2.85 | 0.55 |
| 1:L:143:ARG:O | 2:S:137:PRO:HD2 | 2.06 | 0.55 |
| 1:L:202:PHE:HD1 | 1:L:342:PHE:HB3 | 1.70 | 0.55 |
| 1:L:221:ALA:O | 1:L:228:LEU:N | 2.39 | 0.55 |
| 2:S:45:ASP:C | 2:S:47:TRP:HD1 | 2.09 | 0.55 |
| 1:L:195:ARG:O | 1:L:197:MET:SD | 2.65 | 0.55 |
| 1:L:250:VAL:HG22 | 1:L:251:THR:N | 2.20 | 0.55 |
| 1:L:71:LYS:HE2 | 1:L:126:THR:HB | 1.89 | 0.55 |
| 1:L:108:CYS:O | 1:L:110:GLN:N | 2.40 | 0.55 |
| 1:L:262:VAL:O | 1:L:286:VAL:HG23 | 2.07 | 0.55 |
| 2:S:166:ASP:HB3 | 2:S:167:PRO:CD | 2.36 | 0.55 |
| 1:L:200:LEU:O | 1:L:202:PHE:CD2 | 2.60 | 0.55 |
| 1:L:21:LEU:C | 1:L:23:THR:N | 2.58 | 0.55 |
| 1:L:40:ASP:O | 1:L:42:LEU:HG | 2.06 | 0.55 |
| 2:S:68:GLY:HA3 | 2:S:169:PHE:CA | 2.33 | 0.55 |
| 1:L:17:ARG:HH12 | 1:L:20:LEU:HD11 | 1.70 | 0.55 |
| 1:L:86:CYS:HA | 1:L:253:MET:O | 2.07 | 0.55 |
| 1:L:92:ILE:HG21 | 1:L:127:PHE:CD2 | 2.42 | 0.55 |
| 1:L:98:GLY:O | 1:L:100:TYR:N | 2.39 | 0.55 |
| 2:S:127:PRO:CD | 2:S:132:GLU:HB3 | 2.37 | 0.55 |
| 2:S:149:VAL:CG1 | 2:S:150:ALA:H | 2.11 | 0.55 |
| 2:S:64:ALA:H | 2:S:173:GLY:HA2 | 1.72 | 0.55 |
| 1:L:216:SER:OG | 1:L:367:ARG:NH1 | 2.41 | 0.54 |
| 1:L:330:ILE:O | 1:L:331:HIS:CD2 | 2.61 | 0.54 |
| 2:S:33:ASP:OD2 | 2:S:39:ILE:HG22 | 2.07 | 0.54 |
| 1:L:210:VAL:HG21 | 1:L:278:TYR:HD2 | 1.73 | 0.54 |
| 1:L:27:GLN:N | 1:L:54:GLN:OE1 | 2.40 | 0.54 |
| 1:L:245:GLU:O | 1:L:351:ILE:HG13 | 2.06 | 0.54 |
| 2:S:95:ARG:HD3 | 2:S:104:ASP:HA | 1.89 | 0.54 |
| 1:L:220:GLY:HA3 | 1:L:228:LEU:O | 2.08 | 0.54 |
| 1:L:261:THR:CG2 | 1:L:285:ILE:HG12 | 2.37 | 0.54 |
| 2:S:71:HIS:NE2 | 2:S:166:ASP:OD1 | 2.39 | 0.54 |
| 1:L:17:ARG:NH2 | 1:L:19:SER:HA | 2.22 | 0.54 |
| 2:S:35:ILE:CG1 | 2:S:144:TRP:HB2 | 2.38 | 0.54 |
| 2:S:63:ALA:O | 2:S:66:LYS:HD2 | 2.07 | 0.54 |
| 1:L:318:LEU:HD23 | 1:L:319:GLU:OE2 | 2.08 | 0.54 |
| 2:S:55:PRO:HG2 | 2:S:56:ILE:HG13 | 1.90 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:L:202:PHE:HB2 | 1:L:342:PHE:CB | 2.38 | 0.54 |
| 1:L:318:LEU:C | 1:L:320:ALA:H | 2.11 | 0.54 |
| 2:S:89:GLN:CG | 2:S:90:VAL:H | 2.20 | 0.54 |
| 1:L:23:THR:HG22 | 1:L:171:SER:OG | 2.08 | 0.54 |
| 1:L:193:LEU:CD2 | 1:L:232:PRO:HB2 | 2.38 | 0.54 |
| 1:L:193:LEU:HD13 | 1:L:194:ASN:H | 1.73 | 0.54 |
| 1:L:27:GLN:HB2 | 1:L:54:GLN:OE1 | 2.07 | 0.54 |
| 1:L:72:ILE:N | 1:L:127:PHE:O | 2.41 | 0.54 |
| 2:S:93:TYR:HB3 | 2:S:104:ASP:CG | 2.27 | 0.54 |
| 1:L:252:LYS:C | 1:L:254:SER:H | 2.09 | 0.54 |
| 1:L:299:PHE:HD2 | 1:L:303:GLU:OE1 | 1.91 | 0.54 |
| 1:L:248:PHE:CA | 1:L:347:LYS:O | 2.45 | 0.54 |
| 1:L:46:TYR:CB | 1:L:49:ASP:HB3 | 2.37 | 0.54 |
| 1:L:72:ILE:HB | 1:L:127:PHE:O | 2.08 | 0.54 |
| 1:L:20:LEU:CG | 1:L:73:LYS:HE2 | 2.31 | 0.54 |
| 1:L:89:MET:HA | 1:L:115:TRP:CZ3 | 2.43 | 0.53 |
| 1:L:187:CYS:HA | 1:L:355:CYS:HA | 1.89 | 0.53 |
| 1:L:191:LEU:CD1 | 1:L:193:LEU:HD12 | 2.38 | 0.53 |
| 1:L:240:ARG:HD2 | 1:L:241:TYR:CE1 | 2.43 | 0.53 |
| 1:L:199:LYS:C | 1:L:200:LEU:HD23 | 2.28 | 0.53 |
| 1:L:202:PHE:O | 1:L:342:PHE:N | 2.41 | 0.53 |
| 1:L:234:SER:HB3 | 2:S:59:VAL:CG2 | 2.38 | 0.53 |
| 2:S:54:PRO:HD2 | 2:S:61:ARG:NH2 | 2.24 | 0.53 |
| 1:L:74:VAL:CG1 | 1:L:170:TRP:CD1 | 2.84 | 0.53 |
| 1:L:206:VAL:HG11 | 1:L:333:SER:HA | 1.90 | 0.53 |
| 1:L:184:LEU:HG | 1:L:235:TRP:HZ2 | 1.72 | 0.53 |
| 1:L:314:PRO:CD | 1:L:365:GLY:HA3 | 2.39 | 0.53 |
| 1:L:91:ALA:O | 1:L:148:MET:HB2 | 2.07 | 0.53 |
| 2:S:122:PHE:CE2 | 2:S:124:ILE:HG12 | 2.43 | 0.53 |
| 2:S:130:GLY:C | 2:S:131:PHE:CD2 | 2.82 | 0.53 |
| 2:S:19:THR:OG1 | 2:S:156:ILE:HG22 | 2.09 | 0.53 |
| 2:S:86:TRP:NE1 | 2:S:88:GLY:N | 2.57 | 0.53 |
| 1:L:310:THR:HG22 | 1:L:310:THR:O | 2.08 | 0.53 |
| 2:S:171:VAL:HG22 | 2:S:172:ALA:H | 1.74 | 0.53 |
| 2:S:14:CYS:O | 2:S:52:TYR:HB2 | 2.08 | 0.53 |
| 1:L:300:SER:O | 1:L:304:PHE:HD2 | 1.91 | 0.53 |
| 2:S:74:LEU:CD2 | 2:S:118:LEU:HD23 | 2.37 | 0.53 |
| 2:S:152:ASN:HB3 | 2:S:155:GLN:HE21 | 1.73 | 0.53 |
| 1:L:245:GLU:HB3 | 1:L:352:LYS:HB3 | 1.91 | 0.53 |
| 1:L:286:VAL:HG12 | 1:L:287:GLN:N | 2.24 | 0.53 |
| 1:L:309:SER:O | 1:L:311:GLN:N | 2.42 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:L:351:ILE:HG21 | 1:L:354:PHE:HD2 | 1.73 | 0.53 |
| 2:S:141:GLN:CG | 2:S:142:THR:H | 2.14 | 0.53 |
| 1:L:193:LEU:HD21 | 1:L:195:ARG:HB2 | 1.91 | 0.53 |
| 1:L:30:VAL:O | 1:L:30:VAL:CG2 | 2.57 | 0.53 |
| 1:L:197:MET:HG2 | 1:L:346:VAL:CG1 | 2.39 | 0.53 |
| 1:L:300:SER:OG | 1:L:301:GLN:N | 2.40 | 0.53 |
| 2:S:69:THR:OG1 | 2:S:168:ASN:HB2 | 2.09 | 0.53 |
| 1:L:100:TYR:HA | 2:S:178:PRO:HB3 | 1.89 | 0.53 |
| 1:L:72:ILE:CA | 1:L:172:ILE:HD12 | 2.39 | 0.53 |
| 1:L:197:MET:HE2 | 1:L:248:PHE:HD2 | 1.73 | 0.53 |
| 1:L:262:VAL:HG22 | 1:L:330:ILE:HA | 1.90 | 0.53 |
| 1:L:212:ARG:C | 1:L:327:TYR:HA | 2.29 | 0.53 |
| 2:S:58:ASN:O | 2:S:62:THR:N | 2.39 | 0.53 |
| 1:L:91:ALA:O | 1:L:148:MET:HA | 2.09 | 0.53 |
| 1:L:201:THR:O | 1:L:211:ARG:NH2 | 2.42 | 0.53 |
| 1:L:214:PRO:HG3 | 1:L:367:ARG:NE | 2.24 | 0.53 |
| 2:S:110:ILE:HG23 | 2:S:111:SER:N | 2.23 | 0.53 |
| 1:L:269:GLY:O | 1:L:318:LEU:HD12 | 2.09 | 0.52 |
| 1:L:95:GLY:C | 1:L:96:VAL:HG22 | 2.30 | 0.52 |
| 2:S:74:LEU:CB | 2:S:118:LEU:HD23 | 2.31 | 0.52 |
| 2:S:133:PHE:O | 2:S:141:GLN:HG2 | 2.09 | 0.52 |
| 2:S:50:HIS:HB3 | 2:S:52:TYR:OH | 2.09 | 0.52 |
| 2:S:67:SER:O | 2:S:169:PHE:HA | 2.08 | 0.52 |
| 1:L:74:VAL:HG22 | 1:L:170:TRP:CD2 | 2.44 | 0.52 |
| 2:S:107:THR:HG22 | 2:S:108:PHE:H | 1.72 | 0.52 |
| 2:S:109:VAL:O | 2:S:110:ILE:HG22 | 2.08 | 0.52 |
| 1:L:47:LEU:HD21 | 1:L:146:VAL:HB | 1.91 | 0.52 |
| 1:L:193:LEU:HD22 | 1:L:194:ASN:N | 2.25 | 0.52 |
| 1:L:198:GLY:HA2 | 1:L:346:VAL:N | 2.23 | 0.52 |
| 1:L:195:ARG:N | 1:L:232:PRO:HB2 | 2.24 | 0.52 |
| 1:L:338:ILE:CG2 | 1:L:339:SER:N | 2.71 | 0.52 |
| 1:L:54:GLN:O | 1:L:56:PHE:HD1 | 1.92 | 0.52 |
| 1:L:354:PHE:CD1 | 1:L:354:PHE:O | 2.62 | 0.52 |
| 1:L:104:VAL:HG21 | 1:L:153:VAL:CG2 | 2.38 | 0.52 |
| 1:L:176:LYS:HD2 | 1:L:176:LYS:H | 1.75 | 0.52 |
| 1:L:248:PHE:O | 1:L:296:THR:C | 2.48 | 0.52 |
| 1:L:234:SER:HB3 | 2:S:59:VAL:HG22 | 1.91 | 0.52 |
| 2:S:69:THR:O | 2:S:169:PHE:CE2 | 2.63 | 0.52 |
| 2:S:112:GLN:CB | 2:S:113:PRO:CD | 2.85 | 0.52 |
| 2:S:22:ALA:CB | 2:S:154:ARG:NH1 | 2.73 | 0.52 |
| 2:S:122:PHE:CD2 | 2:S:124:ILE:HG12 | 2.45 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:L:10:LEU:HD13 | 1:L:10:LEU:C | 2.30 | 0.52 |
| 1:L:88:LEU:HD23 | 1:L:115:TRP:HE1 | 1.73 | 0.52 |
| 1:L:120:LYS:CE | 1:L:121:LYS:H | 2.10 | 0.52 |
| 1:L:168:LEU:HG | 1:L:170:TRP:NE1 | 2.15 | 0.52 |
| 1:L:212:ARG:CB | 1:L:327:TYR:HB2 | 2.40 | 0.52 |
| 1:L:311:GLN:CG | 1:L:360:ASN:ND2 | 2.73 | 0.52 |
| 2:S:37:GLY:O | 2:S:39:ILE:HG23 | 2.09 | 0.52 |
| 2:S:45:ASP:HA | 2:S:47:TRP:CD1 | 2.45 | 0.52 |
| 2:S:86:TRP:CZ2 | 2:S:88:GLY:CA | 2.88 | 0.52 |
| 1:L:92:ILE:O | 1:L:110:GLN:HB3 | 2.10 | 0.52 |
| 1:L:47:LEU:HG | 1:L:141:ILE:HB | 1.93 | 0.51 |
| 1:L:257:TYR:N | 1:L:259:LYS:HZ1 | 2.08 | 0.51 |
| 1:L:33:SER:CB | 1:L:36:MET:SD | 2.97 | 0.51 |
| 2:S:14:CYS:SG | 2:S:57:MET:CE | 2.98 | 0.51 |
| 1:L:88:LEU:HA | 1:L:151:ILE:O | 2.10 | 0.51 |
| 2:S:151:THR:O | 2:S:152:ASN:OD1 | 2.28 | 0.51 |
| 1:L:96:VAL:HG12 | 2:S:176:LEU:HB2 | 1.91 | 0.51 |
| 2:S:31:THR:H | 2:S:41:PRO:HB3 | 1.74 | 0.51 |
| 1:L:265:LEU:O | 1:L:266:ILE:HD12 | 2.10 | 0.51 |
| 1:L:80:ILE:HD12 | 1:L:156:TRP:CZ2 | 2.45 | 0.51 |
| 1:L:242:PHE:HZ | 1:L:246:LEU:CD1 | 2.23 | 0.51 |
| 1:L:251:THR:O | 1:L:253:MET:SD | 2.68 | 0.51 |
| 1:L:42:LEU:O | 1:L:150:VAL:HG23 | 2.11 | 0.51 |
| 2:S:34:LEU:HD22 | 2:S:146:LEU:HB2 | 1.92 | 0.51 |
| 1:L:214:PRO:HG3 | 1:L:367:ARG:CZ | 2.41 | 0.51 |
| 1:L:259:LYS:HA | 1:L:342:PHE:CZ | 2.46 | 0.51 |
| 1:L:264:PHE:HD1 | 1:L:284:ARG:O | 1.93 | 0.51 |
| 1:L:337:THR:C | 1:L:338:ILE:HG13 | 2.31 | 0.51 |
| 1:L:91:ALA:HB3 | 1:L:149:THR:N | 2.26 | 0.51 |
| 2:S:96:GLN:HB3 | 2:S:142:THR:HG23 | 1.92 | 0.51 |
| 1:L:266:ILE:HG12 | 1:L:304:PHE:HE1 | 1.69 | 0.51 |
| 2:S:58:ASN:HA | 2:S:61:ARG:NE | 2.25 | 0.51 |
| 1:L:22:ASP:OD2 | 1:L:57:ARG:HG2 | 2.11 | 0.51 |
| 1:L:32:LEU:O | 1:L:163:ASP:CA | 2.58 | 0.51 |
| 2:S:65:TRP:CD1 | 2:S:172:ALA:HB1 | 2.46 | 0.51 |
| 2:S:96:GLN:O | 2:S:142:THR:OG1 | 2.26 | 0.51 |
| 1:L:25:PHE:HE2 | 1:L:171:SER:HA | 1.74 | 0.51 |
| 1:L:186:ASP:HB3 | 1:L:239:TRP:CE3 | 2.45 | 0.51 |
| 1:L:236:ILE:CG2 | 1:L:236:ILE:O | 2.56 | 0.51 |
| 1:L:127:PHE:CD1 | 1:L:129:PRO:HD3 | 2.45 | 0.51 |
| 1:L:136:TRP:HH2 | 1:L:172:ILE:HG12 | 1.76 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:L:242:PHE:CZ | 1:L:246:LEU:CD2 | 2.85 | 0.51 |
| 1:L:72:ILE:HG22 | 1:L:170:TRP:HE3 | 1.76 | 0.51 |
| 1:L:165:ILE:HD13 | 1:L:165:ILE:N | 2.16 | 0.51 |
| 1:L:278:TYR:HE1 | 1:L:281:PHE:CE2 | 2.29 | 0.51 |
| 1:L:41:VAL:HA | 1:L:151:ILE:HB | 1.93 | 0.51 |
| 2:S:35:ILE:HG13 | 2:S:144:TRP:HB2 | 1.93 | 0.51 |
| 2:S:13:PRO:CA | 2:S:162:ASN:HA | 2.39 | 0.51 |
| 2:S:30:VAL:CG2 | 2:S:41:PRO:HG3 | 2.41 | 0.51 |
| 1:L:31:LEU:HA | 1:L:165:ILE:HB | 1.93 | 0.50 |
| 1:L:242:PHE:HB3 | 1:L:310:THR:HG1 | 1.75 | 0.50 |
| 1:L:284:ARG:NH2 | 1:L:298:VAL:O | 2.43 | 0.50 |
| 1:L:31:LEU:HA | 1:L:165:ILE:CG2 | 2.41 | 0.50 |
| 1:L:136:TRP:CZ2 | 1:L:172:ILE:HD11 | 2.46 | 0.50 |
| 2:S:112:GLN:NE2 | 2:S:113:PRO:HG2 | 2.26 | 0.50 |
| 2:S:29:ALA:N | 2:S:150:ALA:HB3 | 2.26 | 0.50 |
| 1:L:352:LYS:O | 1:L:352:LYS:HD3 | 2.11 | 0.50 |
| 2:S:92:VAL:HB | 2:S:108:PHE:CB | 2.42 | 0.50 |
| 2:S:91:PHE:O | 2:S:91:PHE:HD1 | 1.95 | 0.50 |
| 1:L:194:ASN:OD1 | 1:L:349:VAL:HG22 | 2.12 | 0.50 |
| 1:L:20:LEU:HB3 | 1:L:73:LYS:HZ1 | 1.72 | 0.50 |
| 2:S:126:GLY:HA3 | 2:S:131:PHE:HA | 1.93 | 0.50 |
| 1:L:199:LYS:CG | 1:L:343:ASN:HD21 | 2.14 | 0.50 |
| 1:L:245:GLU:O | 1:L:351:ILE:HA | 2.11 | 0.50 |
| 1:L:313:ASN:HA | 1:L:363:ILE:HG21 | 1.93 | 0.50 |
| 2:S:92:VAL:O | 2:S:107:THR:HG23 | 2.10 | 0.50 |
| 2:S:96:GLN:HB3 | 2:S:142:THR:CB | 2.42 | 0.50 |
| 1:L:284:ARG:HH22 | 1:L:298:VAL:HG12 | 1.76 | 0.50 |
| 1:L:359:SER:OG | 1:L:360:ASN:N | 2.45 | 0.50 |
| 1:L:48:TYR:CZ | 1:L:62:PHE:HE2 | 2.27 | 0.50 |
| 2:S:94:LEU:HD22 | 2:S:146:LEU:HG | 1.93 | 0.50 |
| 2:S:55:PRO:O | 2:S:59:VAL:CG2 | 2.60 | 0.50 |
| 1:L:123:PHE:CD2 | 1:L:124:SER:N | 2.80 | 0.50 |
| 1:L:30:VAL:O | 1:L:165:ILE:CA | 2.60 | 0.50 |
| 1:L:76:ALA:HB2 | 1:L:168:LEU:CD1 | 2.41 | 0.50 |
| 2:S:76:VAL:O | 2:S:115:SER:HA | 2.12 | 0.50 |
| 1:L:264:PHE:HB2 | 1:L:297:LEU:HD11 | 1.94 | 0.50 |
| 1:L:300:SER:O | 1:L:304:PHE:CD2 | 2.64 | 0.50 |
| 1:L:325:TYR:HE1 | 1:L:327:TYR:CB | 2.24 | 0.50 |
| 2:S:90:VAL:O | 2:S:110:ILE:HG22 | 2.12 | 0.50 |
| 1:L:314:PRO:HD3 | 1:L:365:GLY:HA3 | 1.93 | 0.50 |
| 2:S:2:PRO:C | 2:S:4:CYS:H | 2.15 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:L:143:ARG:HB3 | 2:S:137:PRO:C | 2.32 | 0.49 |
| 2:S:143:THR:HG22 | 2:S:144:TRP:N | 2.24 | 0.49 |
| 1:L:199:LYS:CA | 1:L:343:ASN:OD1 | 2.60 | 0.49 |
| 1:L:243:ARG:CG | 1:L:243:ARG:HH11 | 2.25 | 0.49 |
| 1:L:258:ILE:HG22 | 1:L:342:PHE:CE1 | 2.47 | 0.49 |
| 1:L:248:PHE:O | 1:L:296:THR:CA | 2.60 | 0.49 |
| 1:L:71:LYS:O | 1:L:173:VAL:HG23 | 2.12 | 0.49 |
| 2:S:180:PHE:N | 2:S:181:PRO:HD3 | 2.27 | 0.49 |
| 1:L:20:LEU:H | 1:L:20:LEU:HD22 | 1.78 | 0.49 |
| 1:L:210:VAL:CG1 | 1:L:328:ALA:O | 2.60 | 0.49 |
| 1:L:73:LYS:HB2 | 1:L:173:VAL:CG2 | 2.42 | 0.49 |
| 2:S:67:SER:OG | 2:S:170:ARG:HB2 | 2.12 | 0.49 |
| 2:S:86:TRP:CZ2 | 2:S:113:PRO:HA | 2.47 | 0.49 |
| 1:L:184:LEU:O | 1:L:186:ASP:N | 2.45 | 0.49 |
| 1:L:20:LEU:HG | 1:L:73:LYS:CE | 2.35 | 0.49 |
| 1:L:256:PRO:HB3 | 1:L:290:GLU:CG | 2.43 | 0.49 |
| 2:S:158:GLN:CG | 2:S:159:PHE:N | 2.75 | 0.49 |
| 2:S:77:ARG:HB2 | 2:S:158:GLN:HB3 | 1.93 | 0.49 |
| 1:L:237:SER:O | 1:L:238:MET:HG2 | 2.12 | 0.49 |
| 2:S:177:MET:HB3 | 2:S:180:PHE:HZ | 1.69 | 0.49 |
| 2:S:18:SER:OG | 2:S:158:GLN:HB2 | 2.12 | 0.49 |
| 2:S:53:ASN:HA | 2:S:61:ARG:NH1 | 2.27 | 0.49 |
| 2:S:56:ILE:O | 2:S:59:VAL:HB | 2.13 | 0.49 |
| 1:L:140:MET:SD | 2:S:65:TRP:CZ3 | 3.05 | 0.49 |
| 1:L:242:PHE:CE2 | 1:L:246:LEU:HD11 | 2.48 | 0.49 |
| 1:L:195:ARG:HB2 | 1:L:348:LEU:HB2 | 1.93 | 0.49 |
| 1:L:245:GLU:CG | 1:L:352:LYS:HB3 | 2.42 | 0.49 |
| 1:L:210:VAL:CG1 | 1:L:329:ILE:HG13 | 2.42 | 0.49 |
| 1:L:33:SER:HB3 | 1:L:36:MET:CE | 2.42 | 0.49 |
| 2:S:126:GLY:HA3 | 2:S:132:GLU:N | 2.27 | 0.49 |
| 2:S:97:SER:O | 2:S:98:MET:HB2 | 2.12 | 0.49 |
| 2:S:94:LEU:HD21 | 2:S:120:PHE:HZ | 1.77 | 0.49 |
| 1:L:191:LEU:HB2 | 1:L:354:PHE:CD2 | 2.48 | 0.49 |
| 1:L:202:PHE:HE2 | 1:L:211:ARG:CG | 2.24 | 0.49 |
| 1:L:227:PHE:CE2 | 2:S:182:LEU:HD22 | 2.48 | 0.49 |
| 1:L:7:ALA:HA | 1:L:11:ASP:OD2 | 2.13 | 0.49 |
| 1:L:238:MET:C | 1:L:239:TRP:O | 2.50 | 0.49 |
| 2:S:16:ILE:HG22 | 2:S:52:TYR:OH | 2.13 | 0.49 |
| 1:L:151:ILE:CG1 | 1:L:152:CYS:N | 2.75 | 0.48 |
| 1:L:268:PHE:HB3 | 1:L:270:ASN:OD1 | 2.13 | 0.48 |
| 1:L:189:ASN:HA | 1:L:353:ASP:HA | 1.94 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:S:60:LEU:O | 2:S:66:LYS:HE3 | 2.13 | 0.48 |
| 2:S:75:ASN:HA | 2:S:117:MET:HA | 1.94 | 0.48 |
| 2:S:92:VAL:HG13 | 2:S:146:LEU:HD21 | 1.95 | 0.48 |
| 1:L:202:PHE:HB2 | 1:L:342:PHE:CA | 2.42 | 0.48 |
| 1:L:60:VAL:C | 1:L:64:ARG:HB2 | 2.32 | 0.48 |
| 1:L:72:ILE:CB | 1:L:127:PHE:O | 2.61 | 0.48 |
| 2:S:19:THR:HG23 | 2:S:47:TRP:CH2 | 2.48 | 0.48 |
| 1:L:70:GLY:O | 1:L:136:TRP:HZ2 | 1.96 | 0.48 |
| 1:L:153:VAL:HG11 | 1:L:196:TRP:HZ2 | 1.79 | 0.48 |
| 1:L:243:ARG:HH12 | 1:L:305:VAL:HA | 1.79 | 0.48 |
| 1:L:32:LEU:HD13 | 1:L:165:ILE:HA | 1.94 | 0.48 |
| 2:S:19:THR:CA | 2:S:47:TRP:CZ3 | 2.95 | 0.48 |
| 1:L:182:TYR:CD1 | 1:L:235:TRP:CZ3 | 2.85 | 0.48 |
| 1:L:252:LYS:HB3 | 1:L:293:GLU:HB3 | 1.90 | 0.48 |
| 1:L:284:ARG:HG2 | 1:L:284:ARG:HH11 | 1.79 | 0.48 |
| 2:S:92:VAL:CG2 | 2:S:146:LEU:HD21 | 2.43 | 0.48 |
| 1:L:106:THR:HG23 | 1:L:228:LEU:CD1 | 2.36 | 0.48 |
| 1:L:262:VAL:CG2 | 1:L:330:ILE:HA | 2.43 | 0.48 |
| 1:L:197:MET:CE | 1:L:348:LEU:HD22 | 2.44 | 0.48 |
| 1:L:363:ILE:HG22 | 1:L:364:ASP:N | 2.28 | 0.48 |
| 1:L:72:ILE:HA | 1:L:172:ILE:HA | 1.95 | 0.48 |
| 2:S:164:ARG:HH21 | 2:S:166:ASP:HA | 1.77 | 0.48 |
| 2:S:90:VAL:HG12 | 2:S:91:PHE:N | 2.28 | 0.48 |
| 1:L:30:VAL:O | 1:L:165:ILE:O | 2.32 | 0.48 |
| 1:L:220:GLY:HA2 | 1:L:230:ASN:ND2 | 2.28 | 0.48 |
| 1:L:4:ASN:C | 1:L:6:PHE:N | 2.66 | 0.48 |
| 2:S:152:ASN:HD22 | 2:S:155:GLN:NE2 | 2.11 | 0.48 |
| 2:S:95:ARG:HG2 | 2:S:98:MET:CG | 2.41 | 0.48 |
| 1:L:240:ARG:O | 1:L:310:THR:HB | 2.13 | 0.48 |
| 2:S:95:ARG:NH1 | 2:S:102:SER:HB3 | 2.29 | 0.48 |
| 1:L:207:THR:O | 1:L:209:GLU:N | 2.45 | 0.48 |
| 1:L:242:PHE:O | 1:L:308:TRP:CZ2 | 2.67 | 0.48 |
| 1:L:31:LEU:C | 1:L:32:LEU:HD12 | 2.34 | 0.48 |
| 1:L:110:GLN:OE1 | 2:S:174:ASN:HB3 | 2.13 | 0.48 |
| 2:S:75:ASN:HD22 | 2:S:117:MET:HB3 | 1.77 | 0.48 |
| 1:L:13:THR:O | 1:L:65:THR:O | 2.32 | 0.48 |
| 1:L:197:MET:SD | 1:L:197:MET:N | 2.87 | 0.48 |
| 1:L:214:PRO:HA | 1:L:325:TYR:CE2 | 2.49 | 0.48 |
| 1:L:73:LYS:HB3 | 1:L:73:LYS:HE3 | 1.66 | 0.48 |
| 2:S:16:ILE:HG22 | 2:S:16:ILE:O | 2.13 | 0.48 |
| 1:L:148:MET:SD | 1:L:149:THR:N | 2.87 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:L:204:GLN:NE2 | 1:L:340:GLY:C | 2.67 | 0.48 |
| 1:L:299:PHE:HB3 | 1:L:303:GLU:OE2 | 2.14 | 0.48 |
| 1:L:268:PHE:CZ | 1:L:324:PRO:HG3 | 2.47 | 0.48 |
| 2:S:74:LEU:O | 2:S:117:MET:HA | 2.14 | 0.48 |
| 2:S:122:PHE:CG | 2:S:144:TRP:CZ3 | 3.01 | 0.48 |
| 2:S:154:ARG:O | 2:S:155:GLN:NE2 | 2.46 | 0.48 |
| 2:S:90:VAL:CG1 | 2:S:91:PHE:N | 2.77 | 0.48 |
| 1:L:100:TYR:OH | 1:L:147:ARG:HD3 | 2.14 | 0.47 |
| 1:L:214:PRO:HB3 | 1:L:367:ARG:NH2 | 2.28 | 0.47 |
| 2:S:34:LEU:HB2 | 2:S:145:TYR:N | 2.28 | 0.47 |
| 1:L:38:GLY:O | 1:L:152:CYS:SG | 2.67 | 0.47 |
| 1:L:302:GLN:OE1 | 1:L:302:GLN:N | 2.47 | 0.47 |
| 1:L:351:ILE:HG23 | 1:L:352:LYS:N | 2.27 | 0.47 |
| 2:S:77:ARG:O | 2:S:157:GLN:N | 2.47 | 0.47 |
| 2:S:91:PHE:CD1 | 2:S:91:PHE:N | 2.79 | 0.47 |
| 1:L:239:TRP:HB2 | 1:L:357:ILE:C | 2.33 | 0.47 |
| 2:S:155:GLN:O | 2:S:156:ILE:HD13 | 2.15 | 0.47 |
| 2:S:165:PHE:CE1 | 2:S:169:PHE:HB3 | 2.49 | 0.47 |
| 2:S:8:SER:O | 2:S:9:ASP:O | 2.33 | 0.47 |
| 1:L:227:PHE:HE2 | 2:S:182:LEU:N | 2.12 | 0.47 |
| 1:L:256:PRO:CB | 1:L:290:GLU:HG2 | 2.45 | 0.47 |
| 2:S:17:ALA:O | 2:S:158:GLN:HG3 | 2.15 | 0.47 |
| 2:S:58:ASN:CA | 2:S:61:ARG:HB2 | 2.42 | 0.47 |
| 1:L:141:ILE:HD12 | 1:L:142:SER:N | 2.29 | 0.47 |
| 1:L:216:SER:O | 1:L:310:THR:HA | 2.14 | 0.47 |
| 1:L:85:GLY:C | 1:L:86:CYS:SG | 2.91 | 0.47 |
| 1:L:89:MET:HE1 | 1:L:196:TRP:CE3 | 2.50 | 0.47 |
| 1:L:283:HIS:O | 1:L:284:ARG:HB2 | 2.15 | 0.47 |
| 2:S:19:THR:N | 2:S:157:GLN:O | 2.48 | 0.47 |
| 2:S:20:PRO:HB2 | 2:S:24:PHE:CZ | 2.50 | 0.47 |
| 1:L:224:THR:O | 1:L:225:GLN:C | 2.51 | 0.47 |
| 1:L:363:ILE:HG22 | 1:L:364:ASP:H | 1.79 | 0.47 |
| 2:S:167:PRO:C | 2:S:169:PHE:H | 2.17 | 0.47 |
| 1:L:100:TYR:HA | 2:S:178:PRO:CA | 2.44 | 0.47 |
| 1:L:21:LEU:O | 1:L:57:ARG:CB | 2.63 | 0.47 |
| 1:L:30:VAL:O | 1:L:165:ILE:HA | 2.14 | 0.47 |
| 1:L:88:LEU:CD2 | 1:L:115:TRP:HE1 | 2.27 | 0.47 |
| 1:L:88:LEU:CD2 | 1:L:115:TRP:NE1 | 2.77 | 0.47 |
| 1:L:40:ASP:N | 1:L:151:ILE:HG13 | 2.29 | 0.47 |
| 1:L:245:GLU:HB2 | 1:L:300:SER:HB2 | 1.97 | 0.47 |
| 1:L:31:LEU:HB2 | 1:L:42:LEU:CB | 2.44 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:L:39:GLY:CA | 1:L:151:ILE:HD11 | 2.45 | 0.47 |
| 1:L:55:ASP:C | 1:L:56:PHE:CD1 | 2.88 | 0.47 |
| 2:S:122:PHE:HB2 | 2:S:144:TRP:CZ3 | 2.50 | 0.47 |
| 2:S:152:ASN:O | 2:S:155:GLN:HB2 | 2.15 | 0.47 |
| 1:L:107:ILE:O | 1:L:108:CYS:HB3 | 2.14 | 0.47 |
| 1:L:141:ILE:CA | 1:L:144:SER:HB2 | 2.45 | 0.47 |
| 1:L:17:ARG:CG | 1:L:17:ARG:O | 2.62 | 0.47 |
| 1:L:227:PHE:HB3 | 1:L:366:SER:OG | 2.15 | 0.47 |
| 1:L:3:GLN:C | 1:L:5:LEU:H | 2.18 | 0.47 |
| 1:L:46:TYR:HB2 | 1:L:49:ASP:HB3 | 1.96 | 0.47 |
| 1:L:50:VAL:HG13 | 1:L:51:VAL:HG23 | 1.97 | 0.47 |
| 2:S:96:GLN:C | 2:S:145:TYR:HE1 | 2.19 | 0.47 |
| 2:S:184:THR:HG23 | 2:S:185:GLU:H | 1.80 | 0.47 |
| 2:S:35:ILE:HG22 | 2:S:60:LEU:HD22 | 1.97 | 0.47 |
| 2:S:57:MET:C | 2:S:59:VAL:N | 2.66 | 0.47 |
| 1:L:242:PHE:CZ | 1:L:246:LEU:CD1 | 2.93 | 0.46 |
| 1:L:323:CYS:HA | 1:L:324:PRO:HD3 | 1.59 | 0.46 |
| 2:S:13:PRO:O | 2:S:14:CYS:SG | 2.73 | 0.46 |
| 2:S:91:PHE:CD1 | 2:S:149:VAL:CG2 | 2.98 | 0.46 |
| 1:L:284:ARG:HH22 | 1:L:298:VAL:CB | 2.29 | 0.46 |
| 2:S:149:VAL:O | 2:S:150:ALA:HB2 | 2.15 | 0.46 |
| 2:S:82:LYS:O | 2:S:85:ASP:N | 2.48 | 0.46 |
| 1:L:113:MET:HE2 | 1:L:125:PHE:CB | 2.45 | 0.46 |
| 1:L:191:LEU:CG | 1:L:193:LEU:HD12 | 2.46 | 0.46 |
| 1:L:194:ASN:HB3 | 1:L:347:LYS:HE3 | 1.97 | 0.46 |
| 1:L:97:ARG:HH12 | 2:S:38:LYS:HG2 | 1.80 | 0.46 |
| 1:L:249:GLU:HA | 1:L:295:CYS:O | 2.15 | 0.46 |
| 1:L:30:VAL:O | 1:L:165:ILE:C | 2.54 | 0.46 |
| 2:S:177:MET:CB | 2:S:180:PHE:HZ | 2.26 | 0.46 |
| 2:S:75:ASN:OD1 | 2:S:116:ALA:N | 2.49 | 0.46 |
| 1:L:19:SER:C | 1:L:21:LEU:N | 2.69 | 0.46 |
| 1:L:266:ILE:HG23 | 1:L:324:PRO:CB | 2.32 | 0.46 |
| 1:L:278:TYR:CE1 | 1:L:281:PHE:CZ | 3.04 | 0.46 |
| 1:L:98:GLY:O | 1:L:100:TYR:CD1 | 2.56 | 0.46 |
| 2:S:22:ALA:HB2 | 2:S:154:ARG:NH1 | 2.30 | 0.46 |
| 1:L:269:GLY:HA3 | 1:L:325:TYR:HH | 1.80 | 0.46 |
| 1:L:291:VAL:HG23 | 1:L:292:GLU:N | 2.29 | 0.46 |
| 1:L:288:PHE:CD2 | 1:L:342:PHE:CE2 | 3.03 | 0.46 |
| 2:S:135:GLU:CA | 2:S:141:GLN:HB3 | 2.41 | 0.46 |
| 2:S:64:ALA:N | 2:S:173:GLY:HA2 | 2.30 | 0.46 |
| 2:S:75:ASN:HB3 | 2:S:160:GLU:HG2 | 1.96 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:L:68:ILE:HD13 | 1:L:136:TRP:CZ3 | 2.51 | 0.46 |
| 1:L:89:MET:O | 1:L:150:VAL:HA | 2.15 | 0.46 |
| 1:L:278:TYR:HD1 | 1:L:281:PHE:CE2 | 2.32 | 0.46 |
| 1:L:313:ASN:HB2 | 1:L:363:ILE:HG21 | 1.98 | 0.46 |
| 2:S:67:SER:HB2 | 2:S:131:PHE:CD2 | 2.51 | 0.46 |
| 2:S:95:ARG:NE | 2:S:98:MET:CG | 2.74 | 0.46 |
| 1:L:329:ILE:O | 1:L:330:ILE:O | 2.33 | 0.46 |
| 2:S:126:GLY:HA2 | 2:S:132:GLU:HB3 | 1.96 | 0.46 |
| 2:S:186:THR:O | 2:S:188:PRO:HD3 | 2.15 | 0.46 |
| 1:L:206:VAL:O | 1:L:207:THR:C | 2.54 | 0.46 |
| 1:L:258:ILE:O | 1:L:342:PHE:HE1 | 1.99 | 0.46 |
| 1:L:197:MET:SD | 1:L:346:VAL:O | 2.73 | 0.46 |
| 1:L:48:TYR:OH | 1:L:63:LEU:HD23 | 2.14 | 0.46 |
| 1:L:55:ASP:O | 1:L:56:PHE:CG | 2.69 | 0.46 |
| 2:S:73:GLN:HB3 | 2:S:119:ASN:HA | 1.97 | 0.46 |
| 2:S:178:PRO:O | 2:S:180:PHE:CE2 | 2.69 | 0.46 |
| 2:S:35:ILE:HB | 2:S:66:LYS:HZ3 | 1.80 | 0.46 |
| 1:L:198:GLY:HA2 | 1:L:346:VAL:CB | 2.46 | 0.46 |
| 1:L:202:PHE:O | 1:L:341:ASP:HA | 2.15 | 0.46 |
| 1:L:193:LEU:CA | 1:L:232:PRO:HA | 2.46 | 0.46 |
| 1:L:193:LEU:CB | 1:L:236:ILE:HG13 | 2.45 | 0.46 |
| 1:L:258:ILE:HG22 | 1:L:342:PHE:HD1 | 1.72 | 0.46 |
| 1:L:48:TYR:CD2 | 1:L:62:PHE:HE2 | 2.28 | 0.46 |
| 1:L:92:ILE:HD12 | 1:L:125:PHE:CE2 | 2.38 | 0.46 |
| 1:L:184:LEU:HD21 | 2:S:165:PHE:CD1 | 2.51 | 0.46 |
| 2:S:86:TRP:HH2 | 2:S:156:ILE:CD1 | 2.29 | 0.46 |
| 1:L:96:VAL:HA | 2:S:176:LEU:CA | 2.45 | 0.45 |
| 2:S:45:ASP:CA | 2:S:47:TRP:HD1 | 2.29 | 0.45 |
| 1:L:202:PHE:CD1 | 1:L:342:PHE:HB3 | 2.49 | 0.45 |
| 1:L:244:GLY:HA3 | 1:L:351:ILE:HD11 | 1.98 | 0.45 |
| 1:L:27:GLN:OE1 | 1:L:56:PHE:CE2 | 2.70 | 0.45 |
| 2:S:9:ASP:O | 2:S:11:TYR:CE1 | 2.68 | 0.45 |
| 1:L:265:LEU:CD2 | 1:L:283:HIS:HA | 2.40 | 0.45 |
| 1:L:206:VAL:HG13 | 1:L:333:SER:HA | 1.98 | 0.45 |
| 1:L:34:LYS:HG2 | 1:L:35:ALA:N | 2.30 | 0.45 |
| 1:L:193:LEU:HD23 | 1:L:232:PRO:CB | 2.47 | 0.45 |
| 1:L:351:ILE:HG21 | 1:L:354:PHE:CD2 | 2.51 | 0.45 |
| 1:L:364:ASP:HB3 | 2:S:182:LEU:CD1 | 2.44 | 0.45 |
| 2:S:148:CYS:CB | 2:S:159:PHE:CE1 | 2.99 | 0.45 |
| 2:S:178:PRO:CB | 2:S:179:PRO:CD | 2.94 | 0.45 |
| 2:S:136:SER:O | 2:S:138:TRP:N | 2.49 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:S:31:THR:N | 2:S:41:PRO:HB3 | 2.32 | 0.45 |
| 2:S:54:PRO:HB2 | 2:S:57:MET:CG | 2.47 | 0.45 |
| 2:S:69:THR:HB | 2:S:166:ASP:CG | 2.36 | 0.45 |
| 2:S:89:GLN:CG | 2:S:90:VAL:N | 2.79 | 0.45 |
| 1:L:241:TYR:HA | 1:L:310:THR:N | 2.31 | 0.45 |
| 1:L:273:ASP:OD1 | 1:L:273:ASP:N | 2.49 | 0.45 |
| 1:L:317:THR:O | 1:L:321:ASP:HA | 2.16 | 0.45 |
| 1:L:191:LEU:O | 1:L:349:VAL:O | 2.35 | 0.45 |
| 1:L:362:GLY:C | 1:L:363:ILE:HG13 | 2.37 | 0.45 |
| 1:L:86:CYS:N | 1:L:116:ASN:ND2 | 2.64 | 0.45 |
| 1:L:130:ASN:ND2 | 1:L:132:CYS:SG | 2.89 | 0.45 |
| 1:L:87:CYS:SG | 1:L:153:VAL:HG23 | 2.57 | 0.45 |
| 1:L:80:ILE:CD1 | 1:L:156:TRP:CH2 | 2.89 | 0.45 |
| 1:L:19:SER:C | 1:L:21:LEU:H | 2.20 | 0.45 |
| 1:L:246:LEU:HB2 | 1:L:348:LEU:CD1 | 2.46 | 0.45 |
| 1:L:31:LEU:CD2 | 1:L:31:LEU:H | 2.29 | 0.45 |
| 1:L:76:ALA:HA | 1:L:167:LYS:O | 2.17 | 0.45 |
| 2:S:83:ARG:HB3 | 2:S:83:ARG:CZ | 2.46 | 0.45 |
| 2:S:86:TRP:CZ2 | 2:S:113:PRO:CA | 3.00 | 0.45 |
| 2:S:39:ILE:C | 2:S:39:ILE:HD12 | 2.37 | 0.45 |
| 1:L:241:TYR:HB3 | 1:L:308:TRP:O | 2.17 | 0.45 |
| 1:L:214:PRO:HA | 1:L:325:TYR:CE1 | 2.52 | 0.45 |
| 1:L:243:ARG:CB | 1:L:355:CYS:HB3 | 2.36 | 0.45 |
| 1:L:72:ILE:HG13 | 1:L:127:PHE:O | 2.17 | 0.45 |
| 2:S:29:ALA:HB1 | 2:S:149:VAL:HA | 1.99 | 0.45 |
| 1:L:262:VAL:N | 1:L:286:VAL:HB | 2.32 | 0.45 |
| 1:L:68:ILE:HD13 | 1:L:136:TRP:HZ3 | 1.81 | 0.45 |
| 1:L:72:ILE:HA | 1:L:172:ILE:HD12 | 1.98 | 0.45 |
| 2:S:118:LEU:HD12 | 2:S:119:ASN:N | 2.32 | 0.45 |
| 2:S:70:ILE:C | 2:S:71:HIS:ND1 | 2.70 | 0.45 |
| 1:L:189:ASN:ND2 | 1:L:189:ASN:N | 2.65 | 0.44 |
| 1:L:286:VAL:CG2 | 1:L:344:LEU:HD11 | 2.47 | 0.44 |
| 2:S:35:ILE:HG12 | 2:S:144:TRP:HB2 | 2.00 | 0.44 |
| 2:S:29:ALA:HB1 | 2:S:147:GLU:OE2 | 2.16 | 0.44 |
| 2:S:56:ILE:HB | 2:S:165:PHE:HB2 | 1.99 | 0.44 |
| 1:L:103:ASP:CG | 1:L:106:THR:OG1 | 2.55 | 0.44 |
| 1:L:130:ASN:HA | 1:L:131:PRO:HD3 | 1.79 | 0.44 |
| 1:L:173:VAL:HB | 1:L:175:GLU:HG3 | 1.99 | 0.44 |
| 1:L:314:PRO:O | 1:L:315:ARG:CG | 2.63 | 0.44 |
| 2:S:94:LEU:O | 2:S:105:ALA:HB3 | 2.17 | 0.44 |
| 2:S:95:ARG:HD2 | 2:S:98:MET:H | 1.83 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:L:73:LYS:O | 1:L:170:TRP:HA | 2.17 | 0.44 |
| 1:L:176:LYS:NZ | 1:L:176:LYS:H | 2.14 | 0.44 |
| 1:L:17:ARG:HH22 | 1:L:20:LEU:H | 1.65 | 0.44 |
| 1:L:248:PHE:O | 1:L:296:THR:HA | 2.16 | 0.44 |
| 1:L:246:LEU:N | 1:L:351:ILE:HG13 | 2.32 | 0.44 |
| 1:L:91:ALA:O | 1:L:148:MET:CA | 2.65 | 0.44 |
| 2:S:108:PHE:HE2 | 2:S:120:PHE:CD2 | 2.36 | 0.44 |
| 2:S:15:MET:C | 2:S:52:TYR:CE2 | 2.91 | 0.44 |
| 1:L:202:PHE:CE2 | 1:L:211:ARG:HG2 | 2.47 | 0.44 |
| 1:L:202:PHE:O | 1:L:341:ASP:CA | 2.65 | 0.44 |
| 1:L:90:LEU:HD12 | 1:L:92:ILE:HG13 | 2.00 | 0.44 |
| 2:S:93:TYR:HD1 | 2:S:107:THR:OG1 | 1.97 | 0.44 |
| 1:L:127:PHE:CZ | 1:L:129:PRO:CB | 3.00 | 0.44 |
| 1:L:70:GLY:O | 1:L:136:TRP:CZ2 | 2.70 | 0.44 |
| 1:L:74:VAL:CG1 | 1:L:169:ASP:O | 2.65 | 0.44 |
| 1:L:174:ASN:ND2 | 1:L:174:ASN:O | 2.48 | 0.44 |
| 1:L:258:ILE:HG12 | 1:L:335:THR:O | 2.18 | 0.44 |
| 1:L:311:GLN:NE2 | 1:L:312:VAL:O | 2.50 | 0.44 |
| 1:L:213:MET:O | 1:L:326:LEU:O | 2.35 | 0.44 |
| 2:S:64:ALA:O | 2:S:133:PHE:CD1 | 2.70 | 0.44 |
| 2:S:165:PHE:HA | 2:S:169:PHE:HE2 | 1.80 | 0.44 |
| 2:S:68:GLY:O | 2:S:169:PHE:CE2 | 2.71 | 0.44 |
| 2:S:86:TRP:CE2 | 2:S:113:PRO:CA | 2.98 | 0.44 |
| 2:S:91:PHE:O | 2:S:93:TYR:CD2 | 2.71 | 0.44 |
| 1:L:59:THR:CG2 | 1:L:60:VAL:N | 2.80 | 0.44 |
| 2:S:127:PRO:HD2 | 2:S:131:PHE:O | 2.18 | 0.44 |
| 1:L:107:ILE:HD12 | 1:L:149:THR:HG21 | 2.00 | 0.44 |
| 1:L:265:LEU:HD11 | 1:L:281:PHE:C | 2.38 | 0.44 |
| 2:S:19:THR:HA | 2:S:20:PRO:HD3 | 1.47 | 0.44 |
| 2:S:20:PRO:CB | 2:S:21:PRO:CD | 2.94 | 0.44 |
| 2:S:68:GLY:O | 2:S:124:ILE:HD12 | 2.17 | 0.44 |
| 2:S:86:TRP:CZ2 | 2:S:112:GLN:O | 2.70 | 0.44 |
| 2:S:95:ARG:CB | 2:S:105:ALA:H | 2.30 | 0.44 |
| 1:L:91:ALA:O | 1:L:148:MET:CB | 2.66 | 0.44 |
| 1:L:243:ARG:HH12 | 1:L:301:GLN:HG2 | 1.83 | 0.44 |
| 1:L:251:THR:HG1 | 1:L:294:LYS:HA | 1.82 | 0.44 |
| 1:L:88:LEU:HD23 | 1:L:115:TRP:HZ2 | 1.76 | 0.44 |
| 2:S:177:MET:C | 2:S:180:PHE:CZ | 2.87 | 0.44 |
| 1:L:154:SER:CB | 1:L:253:MET:HG3 | 2.47 | 0.44 |
| 1:L:264:PHE:CE2 | 1:L:344:LEU:HD21 | 2.53 | 0.44 |
| 1:L:78:THR:HG23 | 1:L:79:ASN:H | 1.78 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:S:86:TRP:HE1 | 2:S:88:GLY:H | 1.64 | 0.44 |
| 1:L:17:ARG:CZ | 1:L:18:GLY:O | 2.66 | 0.43 |
| 1:L:255:SER:HA | 1:L:256:PRO:HD3 | 1.41 | 0.43 |
| 1:L:316:THR:HG22 | 1:L:317:THR:N | 2.33 | 0.43 |
| 1:L:26:ALA:C | 1:L:54:GLN:OE1 | 2.56 | 0.43 |
| 1:L:284:ARG:CB | 1:L:299:PHE:HZ | 2.30 | 0.43 |
| 1:L:49:ASP:O | 1:L:50:VAL:C | 2.57 | 0.43 |
| 2:S:53:ASN:ND2 | 2:S:182:LEU:HB2 | 2.30 | 0.43 |
| 2:S:27:VAL:HG22 | 2:S:151:THR:C | 2.38 | 0.43 |
| 1:L:244:GLY:O | 1:L:246:LEU:CD1 | 2.64 | 0.43 |
| 1:L:304:PHE:HD2 | 1:L:304:PHE:O | 2.02 | 0.43 |
| 1:L:280:SER:O | 1:L:281:PHE:CD1 | 2.71 | 0.43 |
| 1:L:262:VAL:N | 1:L:286:VAL:HG23 | 2.27 | 0.43 |
| 1:L:337:THR:O | 1:L:338:ILE:HG13 | 2.18 | 0.43 |
| 1:L:202:PHE:HB2 | 1:L:342:PHE:C | 2.38 | 0.43 |
| 1:L:311:GLN:HG2 | 1:L:360:ASN:HD21 | 1.83 | 0.43 |
| 2:S:14:CYS:SG | 2:S:57:MET:SD | 3.16 | 0.43 |
| 2:S:48:ASN:O | 2:S:50:HIS:N | 2.51 | 0.43 |
| 2:S:95:ARG:HG3 | 2:S:97:SER:H | 1.82 | 0.43 |
| 1:L:75:THR:CG2 | 1:L:122:ASN:ND2 | 2.79 | 0.43 |
| 1:L:244:GLY:CA | 1:L:351:ILE:HD11 | 2.49 | 0.43 |
| 1:L:261:THR:HG1 | 1:L:287:GLN:HG3 | 1.81 | 0.43 |
| 1:L:367:ARG:C | 1:L:369:LEU:N | 2.71 | 0.43 |
| 1:L:91:ALA:O | 1:L:92:ILE:HG12 | 2.18 | 0.43 |
| 2:S:109:VAL:CG2 | 2:S:110:ILE:N | 2.78 | 0.43 |
| 2:S:110:ILE:HG12 | 2:S:111:SER:N | 2.33 | 0.43 |
| 2:S:39:ILE:H | 2:S:39:ILE:HG13 | 1.61 | 0.43 |
| 2:S:65:TRP:HD1 | 2:S:173:GLY:N | 2.17 | 0.43 |
| 1:L:127:PHE:CZ | 1:L:129:PRO:HD3 | 2.53 | 0.43 |
| 1:L:115:TRP:CH2 | 1:L:150:VAL:HG12 | 2.52 | 0.43 |
| 2:S:122:PHE:O | 2:S:124:ILE:N | 2.51 | 0.43 |
| 2:S:20:PRO:HD3 | 2:S:47:TRP:CE3 | 2.54 | 0.43 |
| 2:S:59:VAL:O | 2:S:63:ALA:HB2 | 2.19 | 0.43 |
| 1:L:195:ARG:HH21 | 1:L:217:ILE:N | 2.16 | 0.43 |
| 1:L:239:TRP:HB2 | 1:L:357:ILE:H | 1.84 | 0.43 |
| 1:L:245:GLU:OE1 | 1:L:246:LEU:O | 2.37 | 0.43 |
| 1:L:252:LYS:HZ2 | 1:L:256:PRO:HG3 | 1.78 | 0.43 |
| 1:L:314:PRO:HG3 | 1:L:365:GLY:HA2 | 1.94 | 0.43 |
| 1:L:71:LYS:HB3 | 1:L:126:THR:HB | 2.01 | 0.43 |
| 2:S:62:THR:HG22 | 2:S:177:MET:CE | 2.48 | 0.43 |
| 2:S:6:GLU:HG3 | 2:S:6:GLU:O | 2.19 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:L:89:MET:HE3 | 1:L:104:VAL:CB | 2.47 | 0.43 |
| 2:S:30:VAL:HG12 | 2:S:148:CYS:O | 2.19 | 0.43 |
| 2:S:151:THR:O | 2:S:151:THR:HG22 | 2.18 | 0.43 |
| 1:L:267:ALA:O | 1:L:268:PHE:CG | 2.72 | 0.43 |
| 1:L:197:MET:SD | 1:L:346:VAL:C | 2.98 | 0.43 |
| 1:L:73:LYS:CB | 1:L:173:VAL:CG2 | 2.97 | 0.43 |
| 2:S:13:PRO:HB2 | 2:S:14:CYS:H | 1.46 | 0.43 |
| 1:L:100:TYR:HA | 2:S:178:PRO:CB | 2.49 | 0.43 |
| 1:L:212:ARG:CA | 1:L:327:TYR:HB2 | 2.49 | 0.42 |
| 1:L:79:ASN:O | 1:L:80:ILE:HB | 2.19 | 0.42 |
| 2:S:106:ARG:HD2 | 2:S:107:THR:N | 2.32 | 0.42 |
| 2:S:114:GLY:HA2 | 2:S:156:ILE:HD11 | 2.01 | 0.42 |
| 1:L:120:LYS:HG2 | 1:L:121:LYS:N | 2.34 | 0.42 |
| 1:L:67:VAL:HG22 | 1:L:136:TRP:C | 2.40 | 0.42 |
| 1:L:214:PRO:HB2 | 1:L:215:LEU:H | 1.46 | 0.42 |
| 1:L:284:ARG:HG2 | 1:L:284:ARG:NH1 | 2.35 | 0.42 |
| 1:L:265:LEU:O | 1:L:326:LEU:HA | 2.19 | 0.42 |
| 1:L:47:LEU:HD22 | 1:L:47:LEU:N | 2.34 | 0.42 |
| 1:L:59:THR:HG22 | 1:L:60:VAL:HG13 | 2.01 | 0.42 |
| 1:L:15:SER:CA | 1:L:68:ILE:HA | 2.49 | 0.42 |
| 1:L:131:PRO:O | 1:L:179:PRO:HA | 2.19 | 0.42 |
| 1:L:195:ARG:HB3 | 1:L:197:MET:CE | 2.48 | 0.42 |
| 1:L:313:ASN:CB | 1:L:363:ILE:HD13 | 2.50 | 0.42 |
| 1:L:13:THR:CA | 1:L:65:THR:O | 2.67 | 0.42 |
| 2:S:128:ASN:O | 2:S:129:SER:C | 2.57 | 0.42 |
| 2:S:63:ALA:O | 2:S:133:PHE:CE1 | 2.71 | 0.42 |
| 2:S:45:ASP:C | 2:S:47:TRP:CD1 | 2.92 | 0.42 |
| 2:S:83:ARG:HH11 | 2:S:83:ARG:CG | 2.31 | 0.42 |
| 2:S:86:TRP:HZ2 | 2:S:112:GLN:O | 2.02 | 0.42 |
| 1:L:231:MET:N | 1:L:232:PRO:HD2 | 2.34 | 0.42 |
| 1:L:260:ALA:O | 1:L:286:VAL:CG1 | 2.67 | 0.42 |
| 1:L:34:LYS:HG3 | 1:L:159:SER:OG | 2.18 | 0.42 |
| 1:L:63:LEU:N | 1:L:63:LEU:HD12 | 2.35 | 0.42 |
| 2:S:84:ALA:C | 2:S:86:TRP:H | 2.23 | 0.42 |
| 1:L:128:ASN:ND2 | 1:L:136:TRP:NE1 | 2.66 | 0.42 |
| 1:L:29:ARG:HB3 | 1:L:165:ILE:CG1 | 2.49 | 0.42 |
| 1:L:168:LEU:HD12 | 1:L:168:LEU:HA | 1.27 | 0.42 |
| 1:L:212:ARG:CZ | 1:L:273:ASP:OD1 | 2.68 | 0.42 |
| 1:L:263:THR:C | 1:L:264:PHE:CD1 | 2.93 | 0.42 |
| 1:L:271:LEU:HD13 | 1:L:278:TYR:CE1 | 2.54 | 0.42 |
| 1:L:86:CYS:H | 1:L:116:ASN:CG | 2.22 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:S:94:LEU:CA | 2:S:146:LEU:HA | 2.41 | 0.42 |
| 1:L:284:ARG:HH12 | 1:L:298:VAL:N | 2.18 | 0.42 |
| 1:L:296:THR:O | 1:L:297:LEU:HD22 | 2.20 | 0.42 |
| 1:L:31:LEU:HD22 | 1:L:31:LEU:N | 2.34 | 0.42 |
| 1:L:278:TYR:CD1 | 1:L:329:ILE:HG12 | 2.55 | 0.42 |
| 1:L:54:GLN:CG | 1:L:56:PHE:HE1 | 2.21 | 0.42 |
| 1:L:86:CYS:H | 1:L:116:ASN:HD21 | 1.67 | 0.42 |
| 1:L:99:LYS:O | 2:S:178:PRO:HB3 | 2.19 | 0.42 |
| 1:L:89:MET:HB3 | 1:L:104:VAL:HG12 | 2.02 | 0.42 |
| 1:L:15:SER:HA | 1:L:68:ILE:HG13 | 2.01 | 0.42 |
| 1:L:17:ARG:HH21 | 1:L:19:SER:HA | 1.85 | 0.42 |
| 1:L:265:LEU:HD22 | 1:L:283:HIS:CA | 2.39 | 0.42 |
| 1:L:75:THR:OG1 | 1:L:122:ASN:ND2 | 2.43 | 0.42 |
| 2:S:117:MET:HB2 | 2:S:118:LEU:H | 1.64 | 0.42 |
| 2:S:68:GLY:HA2 | 2:S:169:PHE:HA | 1.99 | 0.42 |
| 2:S:49:THR:O | 2:S:51:ILE:HG13 | 2.20 | 0.42 |
| 1:L:183:HIS:CE1 | 1:L:185:ALA:CB | 3.02 | 0.42 |
| 1:L:190:TRP:CG | 1:L:191:LEU:N | 2.88 | 0.42 |
| 1:L:240:ARG:HB3 | 1:L:241:TYR:CD2 | 2.55 | 0.42 |
| 1:L:284:ARG:HH22 | 1:L:298:VAL:CG1 | 2.33 | 0.42 |
| 1:L:262:VAL:N | 1:L:286:VAL:CG2 | 2.76 | 0.42 |
| 2:S:120:PHE:CG | 2:S:121:SER:N | 2.88 | 0.42 |
| 2:S:28:THR:O | 2:S:29:ALA:CB | 2.65 | 0.42 |
| 1:L:73:LYS:HE3 | 1:L:172:ILE:O | 2.20 | 0.42 |
| 1:L:183:HIS:CE1 | 1:L:185:ALA:HB3 | 2.53 | 0.42 |
| 1:L:189:ASN:N | 1:L:189:ASN:HD22 | 2.17 | 0.42 |
| 1:L:21:LEU:HA | 1:L:24:LYS:HB2 | 2.02 | 0.42 |
| 1:L:275:PHE:HE1 | 1:L:277:PHE:HD2 | 1.67 | 0.42 |
| 2:S:12:SER:HB3 | 2:S:56:ILE:CD1 | 2.42 | 0.42 |
| 2:S:122:PHE:CD2 | 2:S:144:TRP:CZ2 | 3.08 | 0.42 |
| 2:S:57:MET:O | 2:S:60:LEU:N | 2.53 | 0.42 |
| 1:L:67:VAL:HA | 1:L:136:TRP:O | 2.20 | 0.42 |
| 1:L:231:MET:N | 1:L:232:PRO:CD | 2.83 | 0.42 |
| 2:S:14:CYS:HB3 | 2:S:15:MET:H | 1.64 | 0.42 |
| 2:S:86:TRP:CE2 | 2:S:88:GLY:N | 2.87 | 0.42 |
| 1:L:91:ALA:HB2 | 1:L:149:THR:OG1 | 2.19 | 0.41 |
| 1:L:59:THR:HG22 | 1:L:60:VAL:N | 2.35 | 0.41 |
| 1:L:165:ILE:O | 1:L:166:ALA:O | 2.37 | 0.41 |
| 1:L:189:ASN:HB3 | 1:L:353:ASP:OD1 | 2.20 | 0.41 |
| 1:L:191:LEU:HG | 1:L:193:LEU:CD1 | 2.48 | 0.41 |
| 1:L:197:MET:HE2 | 1:L:248:PHE:CE2 | 2.55 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:L:301:GLN:HG3 | 1:L:305:VAL:HA | 2.02 | 0.41 |
| 1:L:71:LYS:O | 1:L:73:LYS:N | 2.53 | 0.41 |
| 2:S:53:ASN:C | 2:S:61:ARG:HH22 | 2.23 | 0.41 |
| 2:S:69:THR:HG22 | 2:S:71:HIS:HE1 | 1.85 | 0.41 |
| 1:L:190:TRP:C | 1:L:351:ILE:HG22 | 2.41 | 0.41 |
| 1:L:197:MET:SD | 1:L:346:VAL:HG12 | 2.59 | 0.41 |
| 1:L:230:ASN:HD22 | 1:L:233:ASN:HB2 | 1.80 | 0.41 |
| 1:L:252:LYS:HD3 | 1:L:289:ALA:O | 2.20 | 0.41 |
| 2:S:94:LEU:CB | 2:S:145:TYR:O | 2.64 | 0.41 |
| 1:L:120:LYS:O | 1:L:121:LYS:CD | 2.68 | 0.41 |
| 1:L:141:ILE:HG22 | 1:L:146:VAL:CG2 | 2.50 | 0.41 |
| 1:L:246:LEU:HD23 | 1:L:348:LEU:HG | 2.01 | 0.41 |
| 1:L:32:LEU:HB2 | 1:L:164:VAL:O | 2.21 | 0.41 |
| 1:L:242:PHE:O | 1:L:308:TRP:CE2 | 2.73 | 0.41 |
| 1:L:256:PRO:HB3 | 1:L:290:GLU:HG2 | 2.01 | 0.41 |
| 1:L:170:TRP:O | 1:L:171:SER:HB3 | 2.21 | 0.41 |
| 1:L:136:TRP:CH2 | 1:L:172:ILE:HG12 | 2.55 | 0.41 |
| 1:L:245:GLU:CG | 1:L:352:LYS:CB | 2.98 | 0.41 |
| 1:L:31:LEU:HA | 1:L:165:ILE:CB | 2.50 | 0.41 |
| 1:L:84:SER:HB3 | 1:L:158:LEU:HD12 | 2.03 | 0.41 |
| 2:S:122:PHE:HE2 | 2:S:124:ILE:HD13 | 1.85 | 0.41 |
| 2:S:160:GLU:OE1 | 2:S:162:ASN:ND2 | 2.53 | 0.41 |
| 2:S:171:VAL:O | 2:S:172:ALA:HB2 | 2.21 | 0.41 |
| 1:L:97:ARG:N | 2:S:176:LEU:O | 2.54 | 0.41 |
| 1:L:191:LEU:HA | 1:L:192:PRO:HD3 | 1.56 | 0.41 |
| 1:L:325:TYR:HE1 | 1:L:327:TYR:CG | 2.39 | 0.41 |
| 1:L:194:ASN:O | 1:L:347:LYS:HE2 | 2.21 | 0.41 |
| 1:L:189:ASN:HA | 1:L:353:ASP:CA | 2.51 | 0.41 |
| 2:S:125:ILE:CG1 | 2:S:126:GLY:N | 2.83 | 0.41 |
| 2:S:133:PHE:O | 2:S:134:ALA:C | 2.59 | 0.41 |
| 2:S:57:MET:HB2 | 2:S:60:LEU:HD12 | 2.02 | 0.41 |
| 2:S:64:ALA:H | 2:S:173:GLY:CA | 2.32 | 0.41 |
| 1:L:193:LEU:HD23 | 1:L:232:PRO:CA | 2.51 | 0.41 |
| 1:L:250:VAL:CG2 | 1:L:251:THR:H | 2.34 | 0.41 |
| 1:L:312:VAL:HG22 | 1:L:316:THR:CB | 2.51 | 0.41 |
| 2:S:119:ASN:N | 2:S:119:ASN:ND2 | 2.69 | 0.41 |
| 2:S:138:TRP:HE3 | 2:S:138:TRP:C | 2.23 | 0.41 |
| 1:L:136:TRP:CH2 | 1:L:172:ILE:CD1 | 3.04 | 0.41 |
| 1:L:20:LEU:HD11 | 1:L:173:VAL:HA | 2.03 | 0.41 |
| 1:L:366:SER:O | 1:L:367:ARG:C | 2.59 | 0.41 |
| 2:S:148:CYS:O | 2:S:149:VAL:O | 2.38 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:S:21:PRO:O | 2:S:24:PHE:CB | 2.68 | 0.41 |
| 2:S:34:LEU:CB | 2:S:145:TYR:HA | 2.45 | 0.41 |
| 1:L:256:PRO:C | 1:L:259:LYS:HZ1 | 2.23 | 0.40 |
| 1:L:297:LEU:CD1 | 1:L:299:PHE:CE1 | 2.95 | 0.40 |
| 1:L:313:ASN:C | 1:L:313:ASN:OD1 | 2.59 | 0.40 |
| 1:L:313:ASN:OD1 | 1:L:315:ARG:HB2 | 2.21 | 0.40 |
| 1:L:90:LEU:CD1 | 1:L:148:MET:SD | 3.09 | 0.40 |
| 2:S:34:LEU:HB3 | 2:S:144:TRP:HB3 | 2.03 | 0.40 |
| 2:S:87:ASP:O | 2:S:155:GLN:CG | 2.69 | 0.40 |
| 2:S:56:ILE:HD12 | 2:S:56:ILE:C | 2.41 | 0.40 |
| 2:S:34:LEU:CD2 | 2:S:94:LEU:HD13 | 2.52 | 0.40 |
| 1:L:217:ILE:CD1 | 1:L:242:PHE:CD1 | 3.04 | 0.40 |
| 1:L:22:ASP:HA | 1:L:57:ARG:CB | 2.51 | 0.40 |
| 1:L:235:TRP:C | 1:L:237:SER:H | 2.24 | 0.40 |
| 1:L:364:ASP:OD1 | 1:L:365:GLY:N | 2.55 | 0.40 |
| 1:L:91:ALA:HB1 | 1:L:107:ILE:CB | 2.47 | 0.40 |
| 2:S:101:GLU:O | 2:S:102:SER:O | 2.39 | 0.40 |
| 2:S:149:VAL:HG23 | 2:S:149:VAL:H | 1.53 | 0.40 |
| 1:L:105:TYR:OH | 1:L:220:GLY:HA2 | 2.21 | 0.40 |
| 1:L:200:LEU:H | 1:L:343:ASN:CG | 2.25 | 0.40 |
| 1:L:45:GLU:OE1 | 1:L:50:VAL:HG22 | 2.20 | 0.40 |
| 2:S:96:GLN:CB | 2:S:142:THR:OG1 | 2.60 | 0.40 |
| 2:S:166:ASP:O | 2:S:169:PHE:HB2 | 2.21 | 0.40 |
| 1:L:86:CYS:SG | 1:L:156:TRP:CD2 | 3.07 | 0.40 |
| 1:L:195:ARG:HH21 | 1:L:217:ILE:H | 1.69 | 0.40 |
| 1:L:32:LEU:HB2 | 1:L:164:VAL:C | 2.42 | 0.40 |
| 1:L:363:ILE:CG2 | 1:L:364:ASP:H | 2.31 | 0.40 |
| 1:L:313:ASN:HB3 | 1:L:363:ILE:HD13 | 2.04 | 0.40 |
| 1:L:74:VAL:HG22 | 1:L:170:TRP:CG | 2.56 | 0.40 |
| 1:L:90:LEU:CD1 | 1:L:148:MET:HB2 | 2.50 | 0.40 |
| 1:L:95:GLY:O | 1:L:96:VAL:HG22 | 2.22 | 0.40 |
| 2:S:143:THR:O | 2:S:145:TYR:CE1 | 2.74 | 0.40 |
| 1:L:119:CYS:SG | 1:L:293:GLU:CD | 2.99 | 0.40 |
| 1:L:235:TRP:HA | 1:L:238:MET:SD | 2.62 | 0.40 |
| 1:L:304:PHE:CD2 | 1:L:304:PHE:O | 2.75 | 0.40 |
| 1:L:264:PHE:CZ | 1:L:344:LEU:HD21 | 2.56 | 0.40 |
| 1:L:355:CYS:SG | 1:L:355:CYS:O | 2.77 | 0.40 |
| 1:L:88:LEU:HB3 | 1:L:115:TRP:CD2 | 2.54 | 0.40 |
| 2:S:86:TRP:CD2 | 2:S:113:PRO:HA | 2.56 | 0.40 |
| 2:S:12:SER:CB | 2:S:56:ILE:HD11 | 2.42 | 0.40 |

All (29) symmetry-related close contacts are listed below. The label for Atom-2 includes the

symmetry operator and encoded unit-cell translations to be applied.

| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|----------------|-------------------------|--------------------------|-------------------|
| 1:L:56:PHE:O | 1:L:60:VAL:CG1[2_555] | 1.34 | 0.86 |
| 1:L:59:THR:CG2 | 1:L:59:THR:CG2[2_555] | 1.38 | 0.82 |
| 1:L:1:MET:N | 1:L:124:SER:OG[2_555] | 1.42 | 0.78 |
| 1:L:1:MET:O | 1:L:122:ASN:ND2[2_555] | 1.50 | 0.70 |
| 1:L:1:MET:H2 | 1:L:124:SER:CA[2_555] | 0.94 | 0.66 |
| 1:L:1:MET:CE | 1:L:123:PHE:CZ[2_555] | 1.55 | 0.65 |
| 1:L:1:MET:CE | 1:L:123:PHE:CE2[2_555] | 1.59 | 0.61 |
| 1:L:10:LEU:CD2 | 1:L:21:LEU:CD1[2_555] | 1.70 | 0.50 |
| 1:L:1:MET:H2 | 1:L:124:SER:CB[2_555] | 1.11 | 0.49 |
| 1:L:12:ASP:OD1 | 1:L:57:ARG:HE[2_555] | 1.18 | 0.42 |
| 1:L:12:ASP:CG | 1:L:57:ARG:NE[2_555] | 1.78 | 0.42 |
| 1:L:1:MET:N | 1:L:124:SER:HG[2_555] | 1.21 | 0.39 |
| 1:L:1:MET:N | 1:L:124:SER:CB[2_555] | 1.82 | 0.38 |
| 1:L:1:MET:CG | 1:L:124:SER:H[2_555] | 1.24 | 0.36 |
| 1:L:14:SER:OG | 1:L:57:ARG:HH22[2_555] | 1.27 | 0.33 |
| 1:L:1:MET:N | 1:L:124:SER:CA[2_555] | 1.87 | 0.33 |
| 1:L:1:MET:O | 1:L:122:ASN:HD21[2_555] | 1.30 | 0.30 |
| 1:L:55:ASP:OD2 | 1:L:64:ARG:HH12[2_555] | 1.32 | 0.28 |
| 1:L:12:ASP:CG | 1:L:57:ARG:HE[2_555] | 1.32 | 0.28 |
| 1:L:14:SER:OG | 1:L:57:ARG:NH2[2_555] | 1.99 | 0.21 |
| 1:L:12:ASP:CB | 1:L:57:ARG:NE[2_555] | 2.01 | 0.19 |
| 1:L:1:MET:CA | 1:L:124:SER:N[2_555] | 2.03 | 0.17 |
| 1:L:1:MET:O | 1:L:122:ASN:HD22[2_555] | 1.47 | 0.13 |
| 1:L:1:MET:N | 1:L:124:SER:N[2_555] | 2.09 | 0.11 |
| 1:L:59:THR:CB | 1:L:59:THR:CG2[2_555] | 2.11 | 0.09 |
| 1:L:12:ASP:OD1 | 1:L:57:ARG:NE[2_555] | 2.12 | 0.08 |
| 1:L:1:MET:CA | 1:L:123:PHE:C[2_555] | 2.13 | 0.07 |
| 1:L:1:MET:CG | 1:L:124:SER:N[2_555] | 2.15 | 0.05 |
| 1:L:55:ASP:OD2 | 1:L:64:ARG:NH1[2_555] | 2.16 | 0.04 |

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

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

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|----------------|-----------|-----------|-----------|-------------|---|
| 1 | L | 367/369 (100%) | 174 (47%) | 94 (26%) | 99 (27%) | 0 | 0 |
| 2 | S | 187/189 (99%) | 87 (46%) | 53 (28%) | 47 (25%) | 0 | 1 |
| All | All | 554/558 (99%) | 261 (47%) | 147 (26%) | 146 (26%) | 0 | 1 |

All (146) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | L | 8 | LEU |
| 1 | L | 14 | SER |
| 1 | L | 50 | VAL |
| 1 | L | 55 | ASP |
| 1 | L | 66 | HIS |
| 1 | L | 79 | ASN |
| 1 | L | 80 | ILE |
| 1 | L | 99 | LYS |
| 1 | L | 100 | TYR |
| 1 | L | 108 | CYS |
| 1 | L | 109 | SER |
| 1 | L | 135 | SER |
| 1 | L | 140 | MET |
| 1 | L | 145 | ARG |
| 1 | L | 153 | VAL |
| 1 | L | 166 | ALA |
| 1 | L | 172 | ILE |
| 1 | L | 190 | TRP |
| 1 | L | 193 | LEU |
| 1 | L | 195 | ARG |
| 1 | L | 199 | LYS |
| 1 | L | 201 | THR |
| 1 | L | 210 | VAL |
| 1 | L | 212 | ARG |
| 1 | L | 215 | LEU |
| 1 | L | 217 | ILE |
| 1 | L | 222 | GLY |
| 1 | L | 223 | ALA |
| 1 | L | 273 | ASP |
| 1 | L | 282 | PRO |
| 1 | L | 283 | HIS |
| 1 | L | 284 | ARG |
| 1 | L | 287 | GLN |
| 1 | L | 288 | PHE |
| 1 | L | 298 | VAL |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | L | 315 | ARG |
| 1 | L | 320 | ALA |
| 1 | L | 330 | ILE |
| 1 | L | 363 | ILE |
| 1 | L | 364 | ASP |
| 1 | L | 366 | SER |
| 1 | L | 368 | LEU |
| 2 | S | 6 | GLU |
| 2 | S | 9 | ASP |
| 2 | S | 13 | PRO |
| 2 | S | 14 | CYS |
| 2 | S | 20 | PRO |
| 2 | S | 21 | PRO |
| 2 | S | 23 | PRO |
| 2 | S | 27 | VAL |
| 2 | S | 35 | ILE |
| 2 | S | 87 | ASP |
| 2 | S | 102 | SER |
| 2 | S | 109 | VAL |
| 2 | S | 110 | ILE |
| 2 | S | 113 | PRO |
| 2 | S | 125 | ILE |
| 2 | S | 127 | PRO |
| 2 | S | 137 | PRO |
| 2 | S | 149 | VAL |
| 2 | S | 150 | ALA |
| 1 | L | 11 | ASP |
| 1 | L | 12 | ASP |
| 1 | L | 20 | LEU |
| 1 | L | 38 | GLY |
| 1 | L | 65 | THR |
| 1 | L | 69 | THR |
| 1 | L | 72 | ILE |
| 1 | L | 81 | SER |
| 1 | L | 96 | VAL |
| 1 | L | 107 | ILE |
| 1 | L | 117 | PRO |
| 1 | L | 132 | CYS |
| 1 | L | 171 | SER |
| 1 | L | 194 | ASN |
| 1 | L | 214 | PRO |
| 1 | L | 260 | ALA |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | L | 265 | LEU |
| 1 | L | 331 | HIS |
| 1 | L | 338 | ILE |
| 1 | L | 351 | ILE |
| 2 | S | 29 | ALA |
| 2 | S | 64 | ALA |
| 2 | S | 83 | ARG |
| 2 | S | 90 | VAL |
| 2 | S | 97 | SER |
| 2 | S | 134 | ALA |
| 2 | S | 135 | GLU |
| 2 | S | 140 | ASN |
| 2 | S | 174 | ASN |
| 2 | S | 178 | PRO |
| 1 | L | 3 | GLN |
| 1 | L | 43 | LEU |
| 1 | L | 64 | ARG |
| 1 | L | 120 | LYS |
| 1 | L | 129 | PRO |
| 1 | L | 152 | CYS |
| 1 | L | 154 | SER |
| 1 | L | 192 | PRO |
| 1 | L | 198 | GLY |
| 1 | L | 208 | SER |
| 1 | L | 237 | SER |
| 1 | L | 239 | TRP |
| 1 | L | 279 | GLU |
| 1 | L | 293 | GLU |
| 1 | L | 311 | GLN |
| 1 | L | 312 | VAL |
| 1 | L | 314 | PRO |
| 1 | L | 357 | ILE |
| 2 | S | 55 | PRO |
| 2 | S | 82 | LYS |
| 2 | S | 111 | SER |
| 1 | L | 45 | GLU |
| 1 | L | 162 | THR |
| 1 | L | 185 | ALA |
| 1 | L | 353 | ASP |
| 2 | S | 3 | VAL |
| 2 | S | 171 | VAL |
| 2 | S | 187 | PRO |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | L | 131 | PRO |
| 1 | L | 134 | ASP |
| 1 | L | 204 | GLN |
| 1 | L | 224 | THR |
| 1 | L | 236 | ILE |
| 2 | S | 45 | ASP |
| 2 | S | 105 | ALA |
| 2 | S | 130 | GLY |
| 2 | S | 155 | GLN |
| 1 | L | 160 | PRO |
| 1 | L | 263 | THR |
| 1 | L | 303 | GLU |
| 1 | L | 334 | THR |
| 1 | L | 336 | GLY |
| 2 | S | 98 | MET |
| 2 | S | 100 | PRO |
| 1 | L | 165 | ILE |
| 1 | L | 349 | VAL |
| 2 | S | 41 | PRO |
| 2 | S | 181 | PRO |
| 2 | S | 188 | PRO |
| 1 | L | 285 | ILE |
| 2 | S | 152 | ASN |
| 1 | L | 141 | ILE |
| 1 | L | 150 | VAL |
| 2 | S | 179 | PRO |
| 2 | S | 16 | ILE |

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

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

| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|----------------|-----------|-----------|-------------|---|
| 1 | L | 318/318 (100%) | 209 (66%) | 109 (34%) | 0 | 1 |
| 2 | S | 163/163 (100%) | 109 (67%) | 54 (33%) | 0 | 2 |
| All | All | 481/481 (100%) | 318 (66%) | 163 (34%) | 0 | 1 |

All (163) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | L | 2 | GLU |
| 1 | L | 3 | GLN |
| 1 | L | 6 | PHE |
| 1 | L | 8 | LEU |
| 1 | L | 11 | ASP |
| 1 | L | 17 | ARG |
| 1 | L | 20 | LEU |
| 1 | L | 25 | PHE |
| 1 | L | 27 | GLN |
| 1 | L | 31 | LEU |
| 1 | L | 41 | VAL |
| 1 | L | 43 | LEU |
| 1 | L | 46 | TYR |
| 1 | L | 50 | VAL |
| 1 | L | 54 | GLN |
| 1 | L | 57 | ARG |
| 1 | L | 59 | THR |
| 1 | L | 62 | PHE |
| 1 | L | 63 | LEU |
| 1 | L | 65 | THR |
| 1 | L | 66 | HIS |
| 1 | L | 74 | VAL |
| 1 | L | 75 | THR |
| 1 | L | 86 | CYS |
| 1 | L | 90 | LEU |
| 1 | L | 96 | VAL |
| 1 | L | 102 | THR |
| 1 | L | 106 | THR |
| 1 | L | 108 | CYS |
| 1 | L | 111 | ASP |
| 1 | L | 112 | SER |
| 1 | L | 120 | LYS |
| 1 | L | 136 | TRP |
| 1 | L | 139 | GLU |
| 1 | L | 144 | SER |
| 1 | L | 148 | MET |
| 1 | L | 150 | VAL |
| 1 | L | 151 | ILE |
| 1 | L | 156 | TRP |
| 1 | L | 158 | LEU |
| 1 | L | 160 | PRO |
| 1 | L | 163 | ASP |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | L | 165 | ILE |
| 1 | L | 170 | TRP |
| 1 | L | 173 | VAL |
| 1 | L | 176 | LYS |
| 1 | L | 177 | CYS |
| 1 | L | 180 | THR |
| 1 | L | 181 | ILE |
| 1 | L | 182 | TYR |
| 1 | L | 184 | LEU |
| 1 | L | 186 | ASP |
| 1 | L | 189 | ASN |
| 1 | L | 193 | LEU |
| 1 | L | 195 | ARG |
| 1 | L | 197 | MET |
| 1 | L | 200 | LEU |
| 1 | L | 207 | THR |
| 1 | L | 212 | ARG |
| 1 | L | 213 | MET |
| 1 | L | 215 | LEU |
| 1 | L | 217 | ILE |
| 1 | L | 228 | LEU |
| 1 | L | 230 | ASN |
| 1 | L | 233 | ASN |
| 1 | L | 241 | TYR |
| 1 | L | 242 | PHE |
| 1 | L | 243 | ARG |
| 1 | L | 245 | GLU |
| 1 | L | 246 | LEU |
| 1 | L | 248 | PHE |
| 1 | L | 253 | MET |
| 1 | L | 254 | SER |
| 1 | L | 257 | TYR |
| 1 | L | 259 | LYS |
| 1 | L | 263 | THR |
| 1 | L | 265 | LEU |
| 1 | L | 270 | ASN |
| 1 | L | 271 | LEU |
| 1 | L | 277 | PHE |
| 1 | L | 278 | TYR |
| 1 | L | 281 | PHE |
| 1 | L | 283 | HIS |
| 1 | L | 287 | GLN |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | L | 294 | LYS |
| 1 | L | 297 | LEU |
| 1 | L | 302 | GLN |
| 1 | L | 304 | PHE |
| 1 | L | 306 | THR |
| 1 | L | 309 | SER |
| 1 | L | 311 | GLN |
| 1 | L | 312 | VAL |
| 1 | L | 313 | ASN |
| 1 | L | 317 | THR |
| 1 | L | 318 | LEU |
| 1 | L | 319 | GLU |
| 1 | L | 323 | CYS |
| 1 | L | 325 | TYR |
| 1 | L | 327 | TYR |
| 1 | L | 331 | HIS |
| 1 | L | 334 | THR |
| 1 | L | 335 | THR |
| 1 | L | 337 | THR |
| 1 | L | 341 | ASP |
| 1 | L | 342 | PHE |
| 1 | L | 348 | LEU |
| 1 | L | 357 | ILE |
| 1 | L | 359 | SER |
| 1 | L | 369 | LEU |
| 2 | S | 3 | VAL |
| 2 | S | 11 | TYR |
| 2 | S | 19 | THR |
| 2 | S | 20 | PRO |
| 2 | S | 21 | PRO |
| 2 | S | 24 | PHE |
| 2 | S | 28 | THR |
| 2 | S | 32 | PHE |
| 2 | S | 33 | ASP |
| 2 | S | 36 | ASN |
| 2 | S | 40 | THR |
| 2 | S | 46 | ASN |
| 2 | S | 50 | HIS |
| 2 | S | 53 | ASN |
| 2 | S | 57 | MET |
| 2 | S | 65 | TRP |
| 2 | S | 67 | SER |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 2 | S | 69 | THR |
| 2 | S | 73 | GLN |
| 2 | S | 74 | LEU |
| 2 | S | 76 | VAL |
| 2 | S | 87 | ASP |
| 2 | S | 91 | PHE |
| 2 | S | 92 | VAL |
| 2 | S | 94 | LEU |
| 2 | S | 108 | PHE |
| 2 | S | 110 | ILE |
| 2 | S | 111 | SER |
| 2 | S | 112 | GLN |
| 2 | S | 118 | LEU |
| 2 | S | 119 | ASN |
| 2 | S | 120 | PHE |
| 2 | S | 122 | PHE |
| 2 | S | 124 | ILE |
| 2 | S | 135 | GLU |
| 2 | S | 138 | TRP |
| 2 | S | 140 | ASN |
| 2 | S | 146 | LEU |
| 2 | S | 148 | CYS |
| 2 | S | 154 | ARG |
| 2 | S | 155 | GLN |
| 2 | S | 160 | GLU |
| 2 | S | 164 | ARG |
| 2 | S | 169 | PHE |
| 2 | S | 171 | VAL |
| 2 | S | 174 | ASN |
| 2 | S | 175 | ILE |
| 2 | S | 177 | MET |
| 2 | S | 179 | PRO |
| 2 | S | 180 | PHE |
| 2 | S | 181 | PRO |
| 2 | S | 182 | LEU |
| 2 | S | 183 | SER |
| 2 | S | 188 | PRO |

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (19) such sidechains are listed below:

| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | L | 83 | ASN |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | L | 116 | ASN |
| 1 | L | 128 | ASN |
| 1 | L | 188 | GLN |
| 1 | L | 189 | ASN |
| 1 | L | 204 | GLN |
| 1 | L | 230 | ASN |
| 1 | L | 233 | ASN |
| 1 | L | 247 | HIS |
| 1 | L | 311 | GLN |
| 1 | L | 331 | HIS |
| 1 | L | 360 | ASN |
| 2 | S | 36 | ASN |
| 2 | S | 48 | ASN |
| 2 | S | 119 | ASN |
| 2 | S | 152 | ASN |
| 2 | S | 155 | GLN |
| 2 | S | 158 | GLN |
| 2 | S | 174 | ASN |

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

Unable to reproduce the depositors R factor - this section is therefore empty.

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

Unable to reproduce the depositors R factor - this section is therefore empty.

6.3 Carbohydrates

Unable to reproduce the depositors R factor - this section is therefore empty.

6.4 Ligands

Unable to reproduce the depositors R factor - this section is therefore empty.

6.5 Other polymers

Unable to reproduce the depositors R factor - this section is therefore empty.