# Full wwPDB EM Validation Report ⓘ

Nov 19, 2026 – 04:15 pm GMT

| | | |
|---|---|---|
| PDB ID | : | 29YF / pdb_000029yf |
| EMDB ID | : | EMD-57446 |
| Title | : | Vaccinia virus portal complex |
| Authors | : | Arragain, B.; Bauer, L.W.; Schur, F.K.M. |
| Deposited on | : | 2026-04-14 |
| Resolution | : | 6.70 Å(reported) |
| Based on initial model | : | . |

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

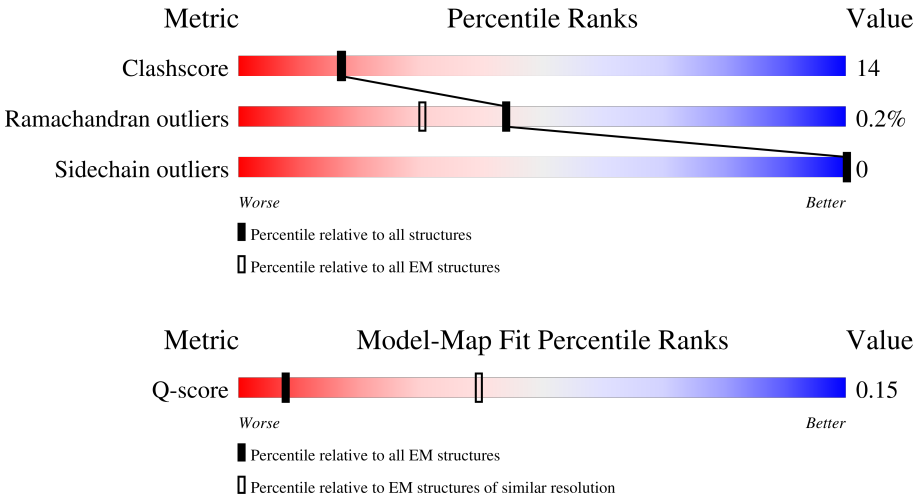
| | | |
|---|---|---|
| EMDB validation analysis | : | 0.0.1.dev133 |
| MolProbity | : | 4-5-2 with Phenix2.2 |
| Percentile statistics | : | 20250101.v01 (using entries in the PDB archive January 1st 2025) |
| EM percentile statistics | : | 202505.v01 (Using data in the EMDB archive up until May 2025) |
| MapQ | : | 1.9.13 |
| Ideal geometry (proteins) | : | Engh & Huber (2001) |
| Ideal geometry (DNA, RNA) | : | Parkinson et al. (1996) |
| Validation Pipeline (wwPDB-VP) | : | 2.51 |

# 1 Overall quality at a glance

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

The reported resolution of this entry is 6.70 Å.

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







| Metric | Whole archive (#Entries) | EM structures (#Entries) | Similar EM resolution (#Entries, resolution range(Å)) |
|---|---|---|---|
| Clashscore | 229148 | 23984 | - |
| Ramachandran outliers | 224038 | 23583 | - |
| Sidechain outliers | 223484 | 23102 | - |
| Q-score | - | 25397 | 523 ( 6.20 - 7.20 ) |

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=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 <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 1 | D | 273 | 62% 35% |
| 1 | L | 273 | 63% 35% |
| 1 | T | 273 | 63% 35% |
| 1 | b | 273 | 63% 35% |

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| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 1 | j | 273 | 63% 34% |
| 1 | r | 273 | 62% 35% |
| 2 | F | 350 | 59% 21% 19% |
| 2 | G | 350 | 56% 20% 23% |
| 2 | N | 350 | 59% 22% 19% |
| 2 | O | 350 | 56% 21% 23% |
| 2 | V | 350 | 59% 21% 19% |
| 2 | W | 350 | 55% 22% 23% |
| 2 | d | 350 | 60% 21% 19% |
| 2 | e | 350 | 55% 21% 23% |
| 2 | l | 350 | 59% 21% 19% |
| 2 | m | 350 | 55% 22% 23% |
| 2 | t | 350 | 59% 21% 19% |
| 2 | u | 350 | 54% 22% 23% |
| 3 | E | 567 | 69% 30% |
| 3 | M | 567 | 70% 29% |
| 3 | U | 567 | 69% 30% |
| 3 | c | 567 | 69% 30% |
| 3 | k | 567 | 71% 28% |
| 3 | s | 567 | 70% 29% |
| 4 | A | 614 | 8% 75% 20% 5% |
| 4 | B | 614 | 5% 74% 20% 5% |
| 4 | C | 614 | 19% 75% 19% 5% |
| 4 | I | 614 | 9% 75% 20% 5% |
| 4 | J | 614 | 5% 74% 20% 5% |

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| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 4 | K | 614 | 18% 75% 19% 5% |
| 4 | Q | 614 | 9% 75% 20% 5% |
| 4 | R | 614 | 6% 74% 20% 5% |
| 4 | S | 614 | 18% 75% 19% 5% |
| 4 | Y | 614 | 8% 76% 19% 5% |
| 4 | Z | 614 | 5% 74% 20% 5% |
| 4 | a | 614 | 19% 76% 19% 5% |
| 4 | g | 614 | 9% 75% 19% 5% |
| 4 | h | 614 | 5% 73% 21% 5% |
| 4 | i | 614 | 18% 76% 19% 5% |
| 4 | o | 614 | 9% 75% 19% 5% |
| 4 | p | 614 | 6% 75% 20% 5% |
| 4 | q | 614 | 18% 75% 19% 5% |
| 5 | H | 281 | 6% 8% 88% |
| 5 | P | 281 | 5% 8% 88% |
| 5 | X | 281 | 6% 8% 88% |
| 5 | f | 281 | 6% 8% 88% |
| 5 | n | 281 | 5% 8% 88% |
| 5 | v | 281 | 6% 8% 88% |

# 2 Entry composition (i)

There are 5 unique types of molecules in this entry. The entry contains 155064 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Protein OPG070.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 1 | D | 269 | Total | C | N | O | S | 0 | 0 |
| | | | 2237 | 1476 | 356 | 400 | 5 | | |
| 1 | L | 269 | Total | C | N | O | S | 0 | 0 |
| | | | 2237 | 1476 | 356 | 400 | 5 | | |
| 1 | T | 269 | Total | C | N | O | S | 0 | 0 |
| | | | 2237 | 1476 | 356 | 400 | 5 | | |
| 1 | b | 269 | Total | C | N | O | S | 0 | 0 |
| | | | 2237 | 1476 | 356 | 400 | 5 | | |
| 1 | j | 269 | Total | C | N | O | S | 0 | 0 |
| | | | 2237 | 1476 | 356 | 400 | 5 | | |
| 1 | r | 269 | Total | C | N | O | S | 0 | 0 |
| | | | 2237 | 1476 | 356 | 400 | 5 | | |

- Molecule 2 is a protein called Protein OPG097.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 2 | F | 285 | Total | C | N | O | S | 0 | 0 |
| | | | 2322 | 1504 | 382 | 420 | 16 | | |
| 2 | G | 268 | Total | C | N | O | S | 0 | 0 |
| | | | 2176 | 1412 | 359 | 391 | 14 | | |
| 2 | N | 285 | Total | C | N | O | S | 0 | 0 |
| | | | 2322 | 1504 | 382 | 420 | 16 | | |
| 2 | O | 268 | Total | C | N | O | S | 0 | 0 |
| | | | 2176 | 1412 | 359 | 391 | 14 | | |
| 2 | V | 285 | Total | C | N | O | S | 0 | 0 |
| | | | 2322 | 1504 | 382 | 420 | 16 | | |
| 2 | W | 268 | Total | C | N | O | S | 0 | 0 |
| | | | 2176 | 1412 | 359 | 391 | 14 | | |
| 2 | d | 285 | Total | C | N | O | S | 0 | 0 |
| | | | 2322 | 1504 | 382 | 420 | 16 | | |
| 2 | e | 268 | Total | C | N | O | S | 0 | 0 |
| | | | 2176 | 1412 | 359 | 391 | 14 | | |
| 2 | l | 285 | Total | C | N | O | S | 0 | 0 |
| | | | 2322 | 1504 | 382 | 420 | 16 | | |

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| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 2 | m | 268 | Total | C | N | O | S | 0 | 0 |
| | | | 2176 | 1412 | 359 | 391 | 14 | | |
| 2 | t | 285 | Total | C | N | O | S | 0 | 0 |
| | | | 2322 | 1504 | 382 | 420 | 16 | | |
| 2 | u | 268 | Total | C | N | O | S | 0 | 0 |
| | | | 2176 | 1412 | 359 | 391 | 14 | | |

- Molecule 3 is a protein called OPG068.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 3 | E | 567 | Total | C | N | O | S | 0 | 0 |
| | | | 4696 | 3052 | 764 | 866 | 14 | | |
| 3 | M | 567 | Total | C | N | O | S | 0 | 0 |
| | | | 4696 | 3052 | 764 | 866 | 14 | | |
| 3 | U | 567 | Total | C | N | O | S | 0 | 0 |
| | | | 4696 | 3052 | 764 | 866 | 14 | | |
| 3 | c | 567 | Total | C | N | O | S | 0 | 0 |
| | | | 4696 | 3052 | 764 | 866 | 14 | | |
| 3 | k | 567 | Total | C | N | O | S | 0 | 0 |
| | | | 4696 | 3052 | 764 | 866 | 14 | | |
| 3 | s | 567 | Total | C | N | O | S | 0 | 0 |
| | | | 4696 | 3052 | 764 | 866 | 14 | | |

- Molecule 4 is a protein called Core protein OPG136.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 4 | B | 581 | Total | C | N | O | S | 0 | 0 |
| | | | 4710 | 3036 | 776 | 874 | 24 | | |
| 4 | A | 581 | Total | C | N | O | S | 0 | 0 |
| | | | 4710 | 3036 | 776 | 874 | 24 | | |
| 4 | C | 581 | Total | C | N | O | S | 0 | 0 |
| | | | 4710 | 3036 | 776 | 874 | 24 | | |
| 4 | J | 581 | Total | C | N | O | S | 0 | 0 |
| | | | 4710 | 3036 | 776 | 874 | 24 | | |
| 4 | I | 581 | Total | C | N | O | S | 0 | 0 |
| | | | 4710 | 3036 | 776 | 874 | 24 | | |
| 4 | K | 581 | Total | C | N | O | S | 0 | 0 |
| | | | 4710 | 3036 | 776 | 874 | 24 | | |
| 4 | R | 581 | Total | C | N | O | S | 0 | 0 |
| | | | 4710 | 3036 | 776 | 874 | 24 | | |
| 4 | Q | 581 | Total | C | N | O | S | 0 | 0 |
| | | | 4710 | 3036 | 776 | 874 | 24 | | |

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| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 4 | S | 581 | Total | C | N | O | S | 0 | 0 |
| | | | 4710 | 3036 | 776 | 874 | 24 | | |
| 4 | Z | 581 | Total | C | N | O | S | 0 | 0 |
| | | | 4710 | 3036 | 776 | 874 | 24 | | |
| 4 | Y | 581 | Total | C | N | O | S | 0 | 0 |
| | | | 4710 | 3036 | 776 | 874 | 24 | | |
| 4 | a | 581 | Total | C | N | O | S | 0 | 0 |
| | | | 4710 | 3036 | 776 | 874 | 24 | | |
| 4 | h | 581 | Total | C | N | O | S | 0 | 0 |
| | | | 4710 | 3036 | 776 | 874 | 24 | | |
| 4 | g | 581 | Total | C | N | O | S | 0 | 0 |
| | | | 4710 | 3036 | 776 | 874 | 24 | | |
| 4 | i | 581 | Total | C | N | O | S | 0 | 0 |
| | | | 4710 | 3036 | 776 | 874 | 24 | | |
| 4 | p | 581 | Total | C | N | O | S | 0 | 0 |
| | | | 4710 | 3036 | 776 | 874 | 24 | | |
| 4 | o | 581 | Total | C | N | O | S | 0 | 0 |
| | | | 4710 | 3036 | 776 | 874 | 24 | | |
| 4 | q | 581 | Total | C | N | O | S | 0 | 0 |
| | | | 4710 | 3036 | 776 | 874 | 24 | | |

- Molecule 5 is a protein called 39kDa core protein OPG130.

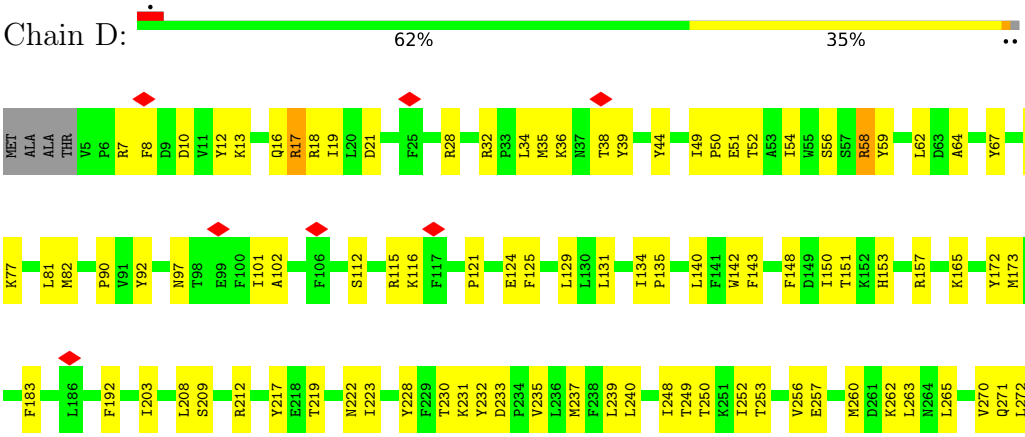
| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 5 | H | 34 | Total | C | N | O | S | 0 | 0 |
| | | | 283 | 172 | 51 | 59 | 1 | | |
| 5 | P | 34 | Total | C | N | O | S | 0 | 0 |
| | | | 283 | 172 | 51 | 59 | 1 | | |
| 5 | X | 34 | Total | C | N | O | S | 0 | 0 |
| | | | 283 | 172 | 51 | 59 | 1 | | |
| 5 | f | 34 | Total | C | N | O | S | 0 | 0 |
| | | | 283 | 172 | 51 | 59 | 1 | | |
| 5 | n | 34 | Total | C | N | O | S | 0 | 0 |
| | | | 283 | 172 | 51 | 59 | 1 | | |
| 5 | v | 34 | Total | C | N | O | S | 0 | 0 |
| | | | 283 | 172 | 51 | 59 | 1 | | |

# 3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

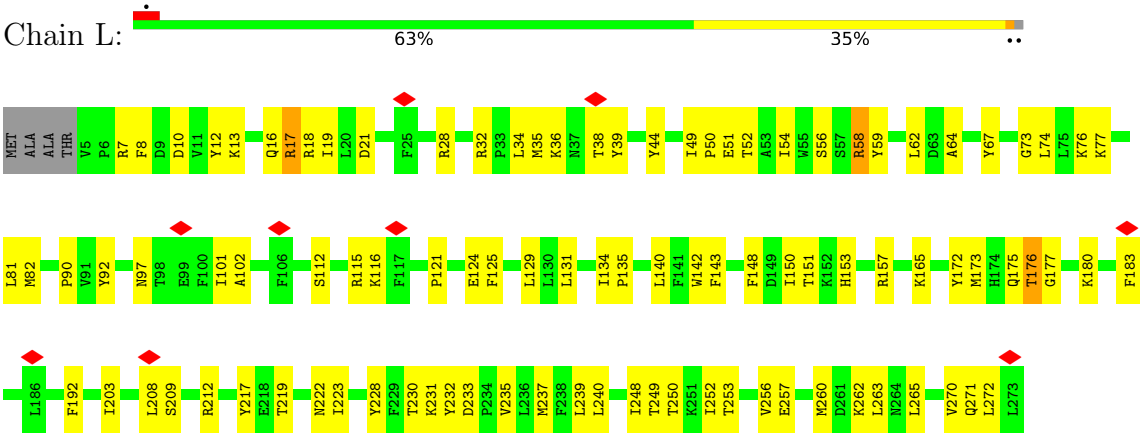
• Molecule 1: Protein OPG070

Chain D:



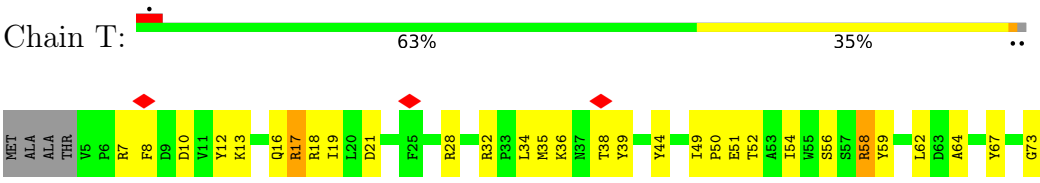

• Molecule 1: Protein OPG070

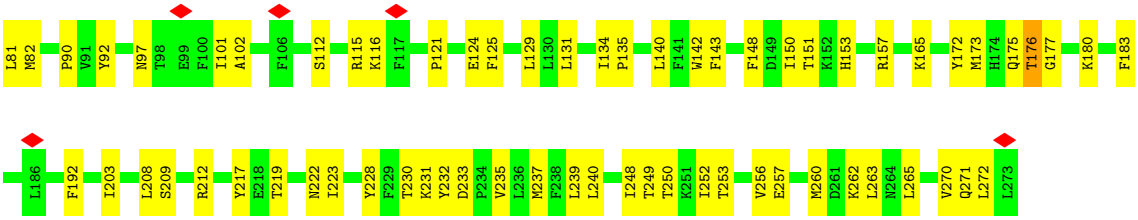
Chain L:




• Molecule 1: Protein OPG070

Chain T:

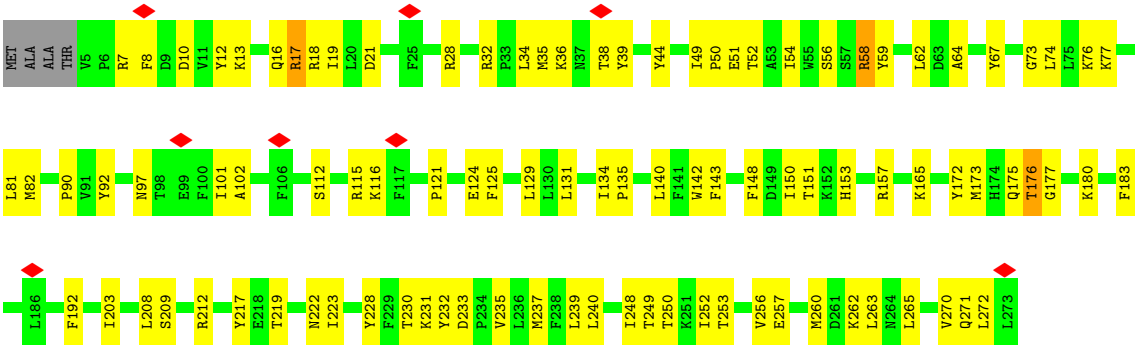





• Molecule 1: Protein OPG070

Chain b:

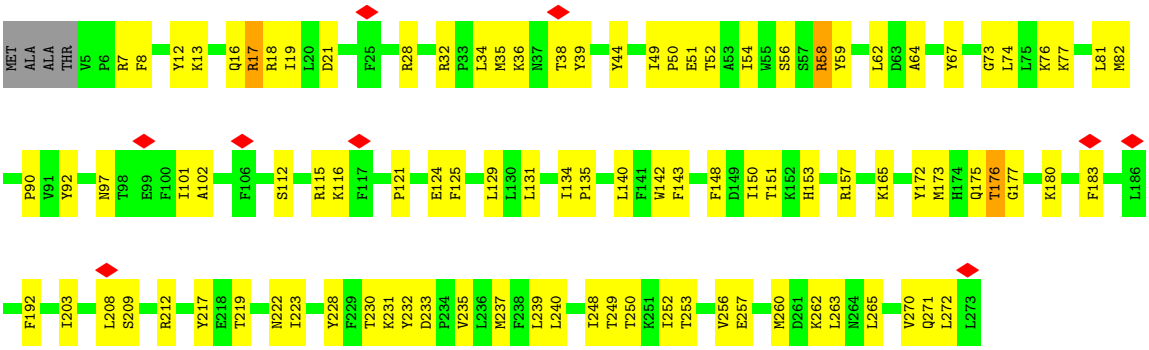



• Molecule 1: Protein OPG070

Chain j:

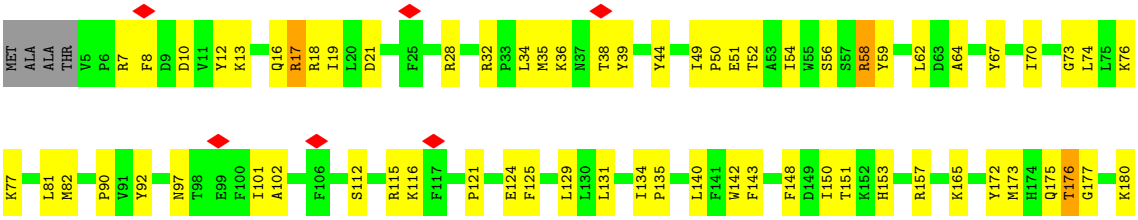


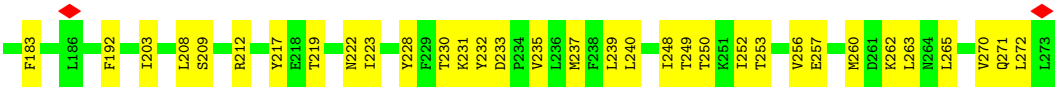




• Molecule 1: Protein OPG070

Chain r:



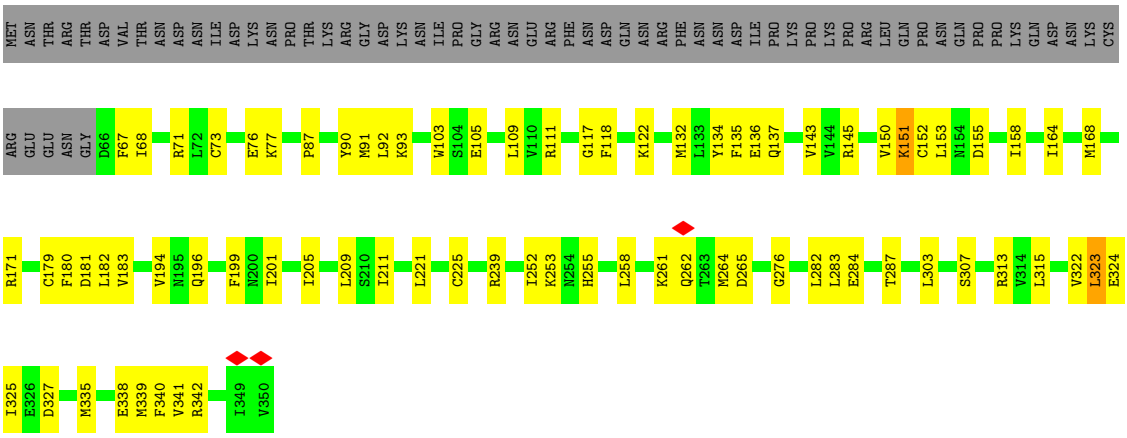






• Molecule 2: Protein OPG097

Chain F:

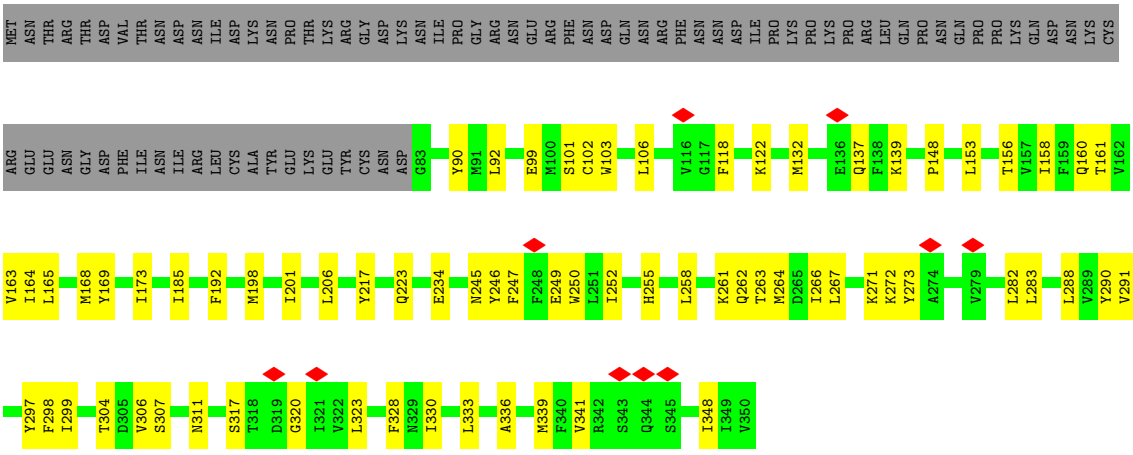



• Molecule 2: Protein OPG097

Chain G:

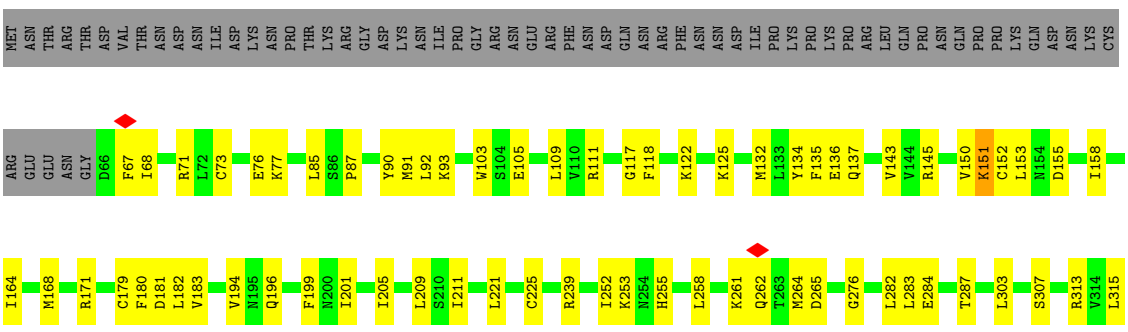



• Molecule 2: Protein OPG097

Chain N:



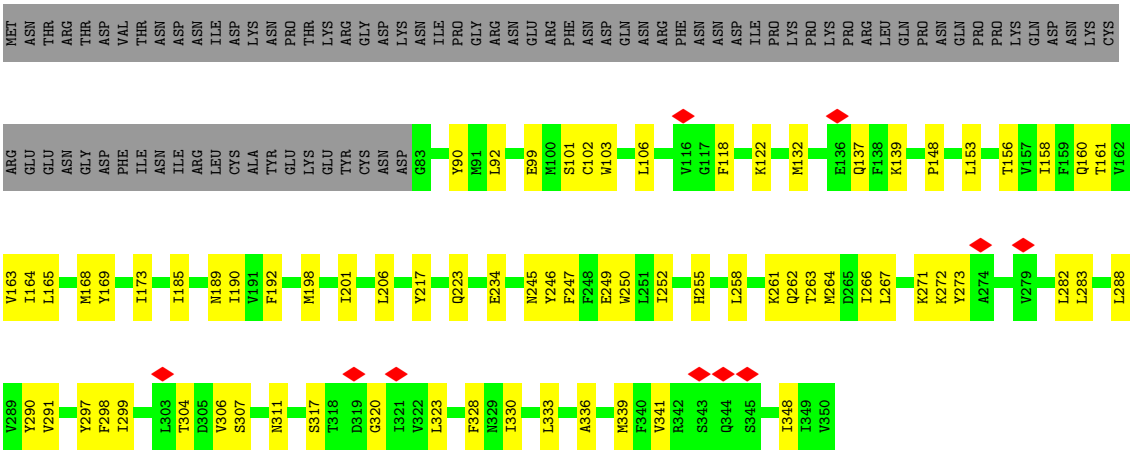






• Molecule 2: Protein OPG097

Chain O:

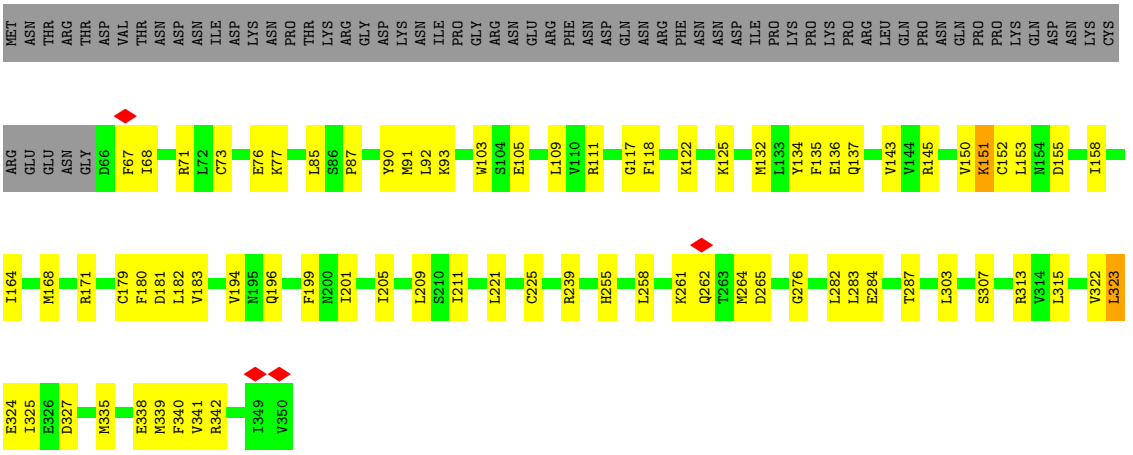



• Molecule 2: Protein OPG097

Chain V:

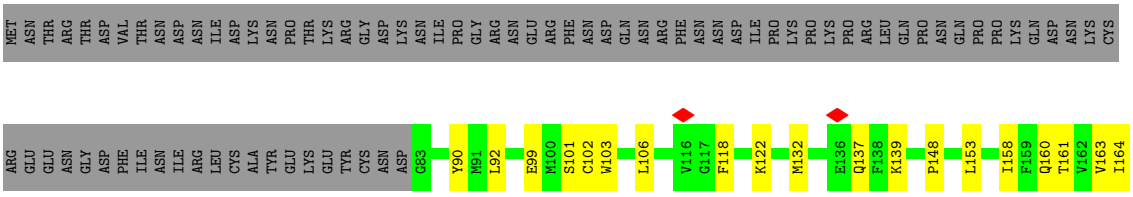


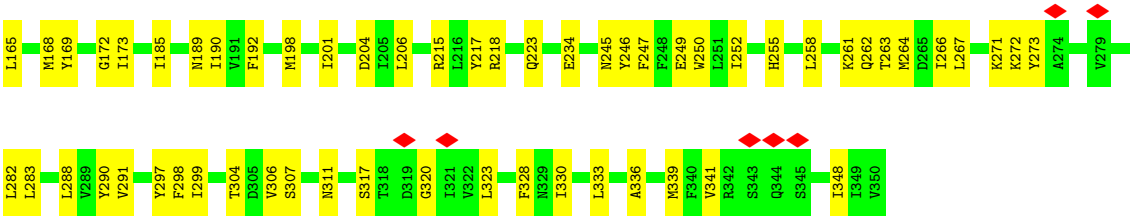




• Molecule 2: Protein OPG097

Chain W:



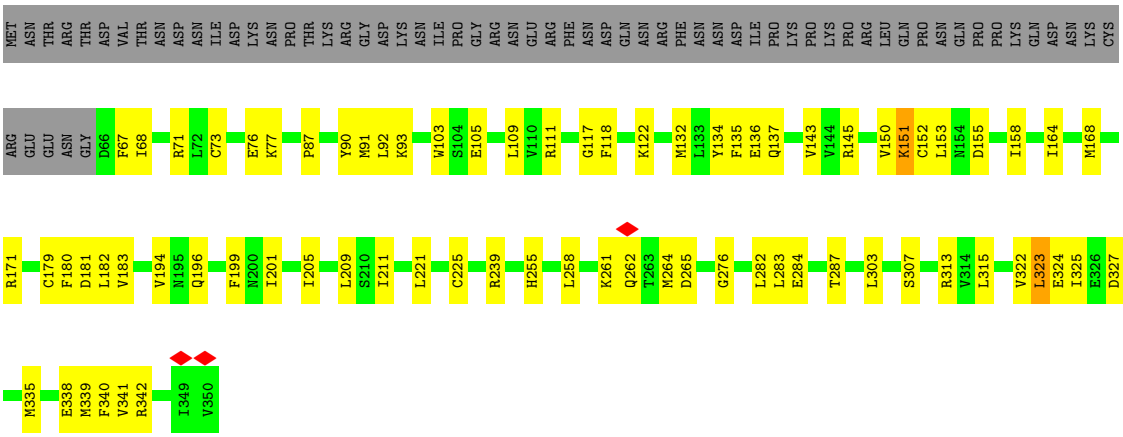






• Molecule 2: Protein OPG097

Chain d:

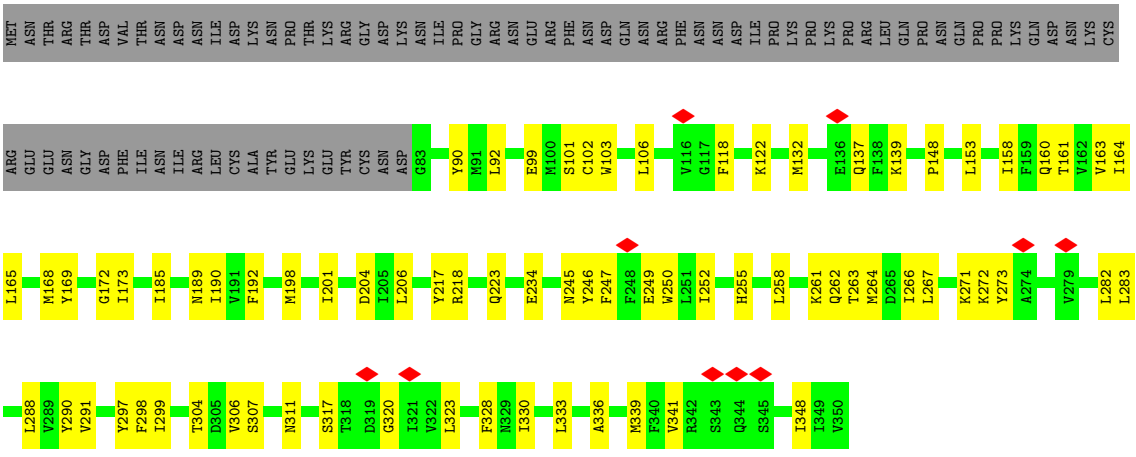



• Molecule 2: Protein OPG097

Chain e:

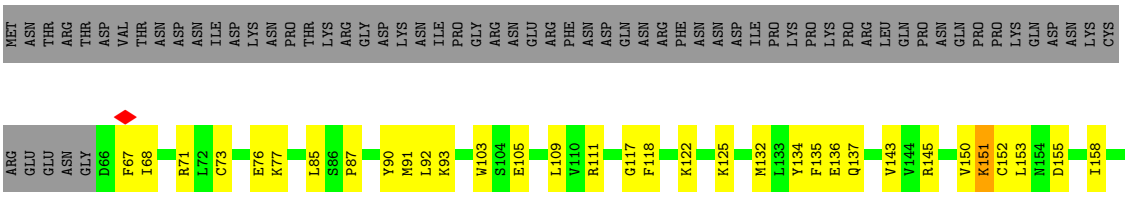


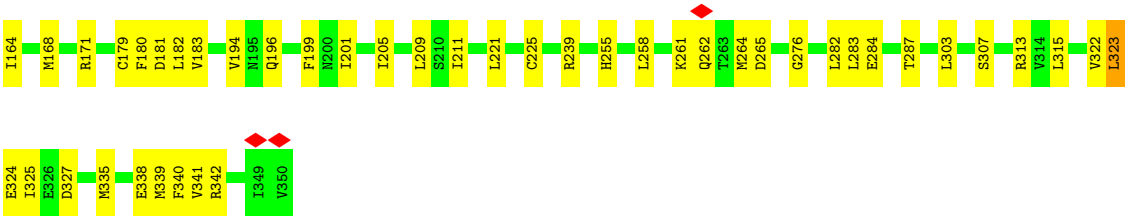




• Molecule 2: Protein OPG097

Chain l:

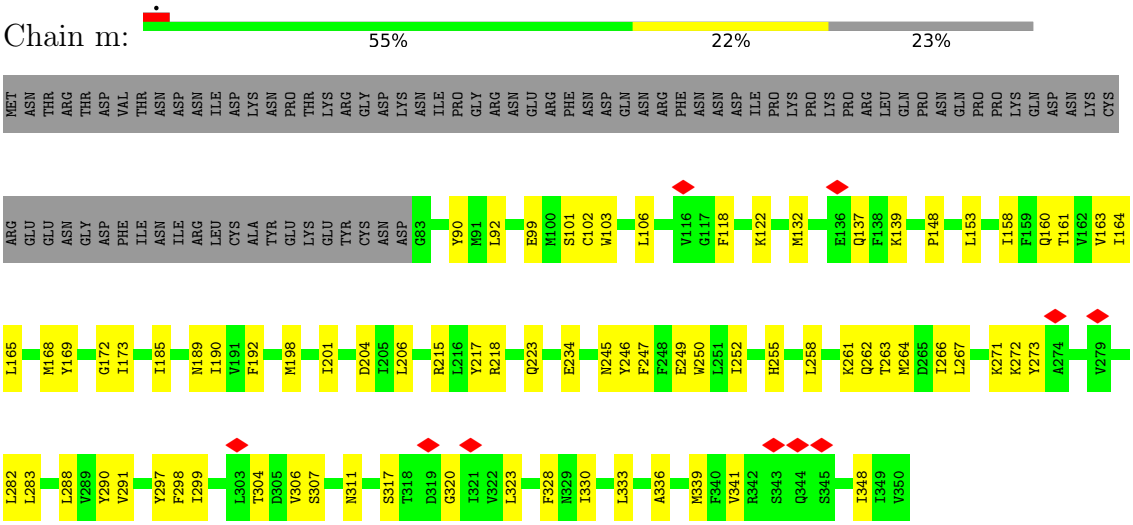




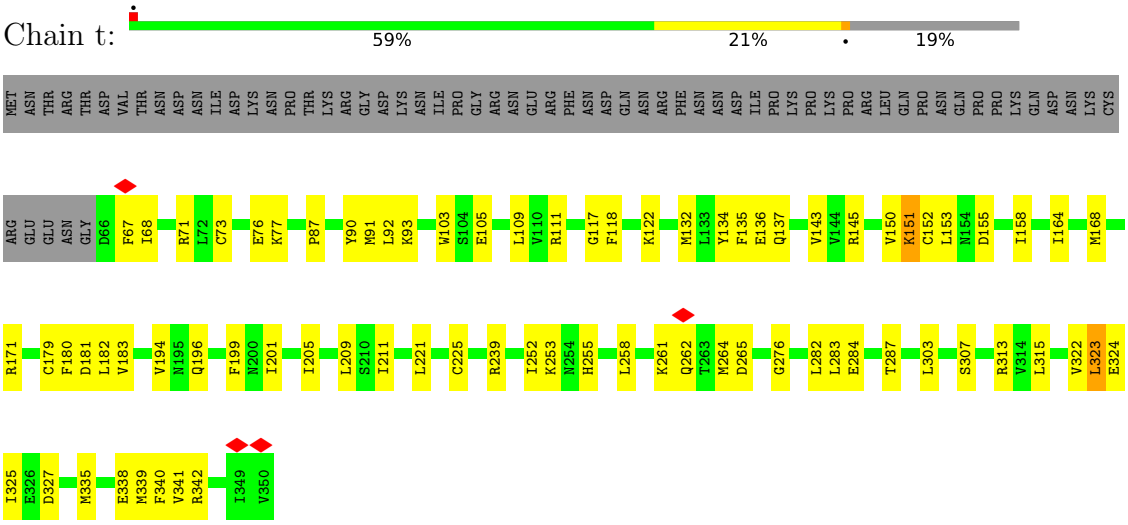

• Molecule 2: Protein OPG097

Chain m:



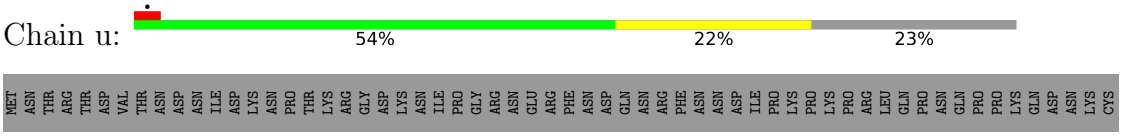

• Molecule 2: Protein OPG097

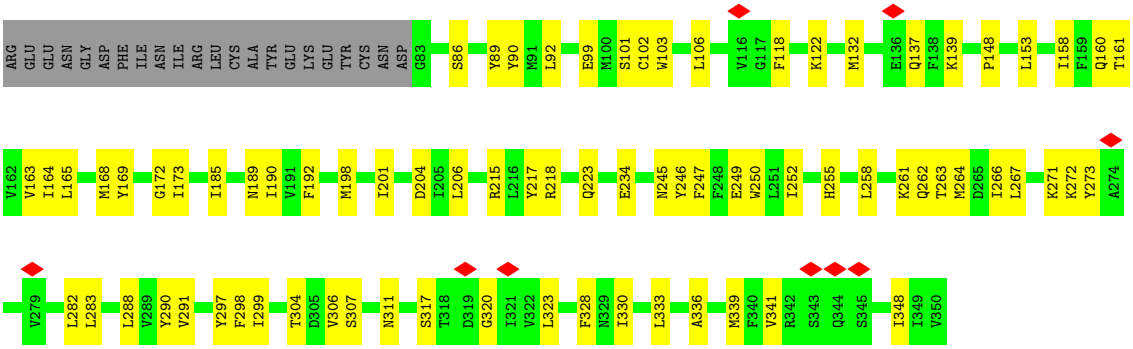
Chain t:




• Molecule 2: Protein OPG097

Chain u:





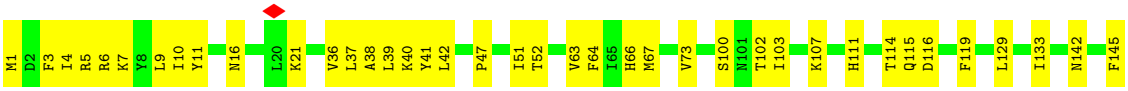


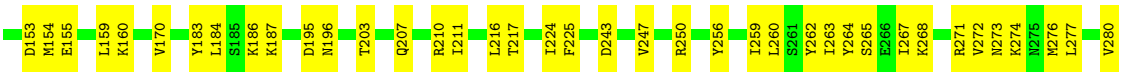


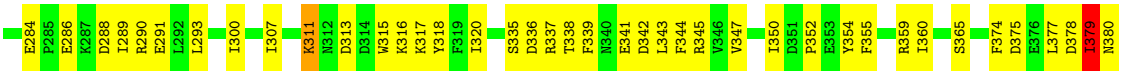
• Molecule 3: OPG068

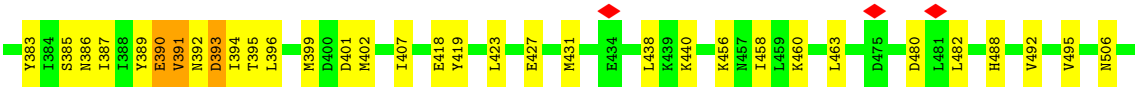
Chain E:

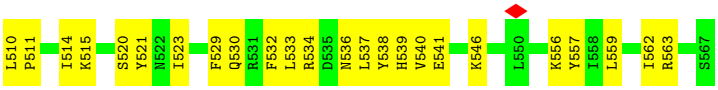






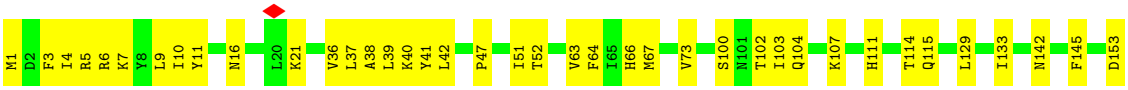




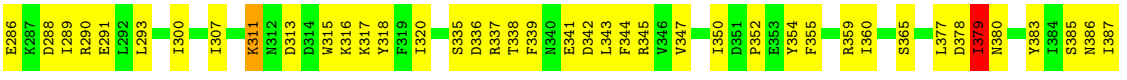
• Molecule 3: OPG068

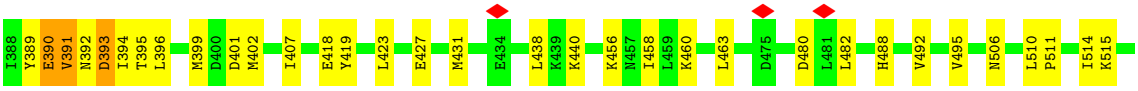
Chain M:

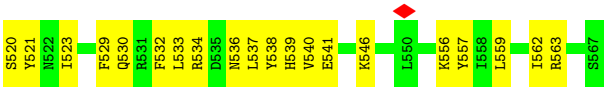






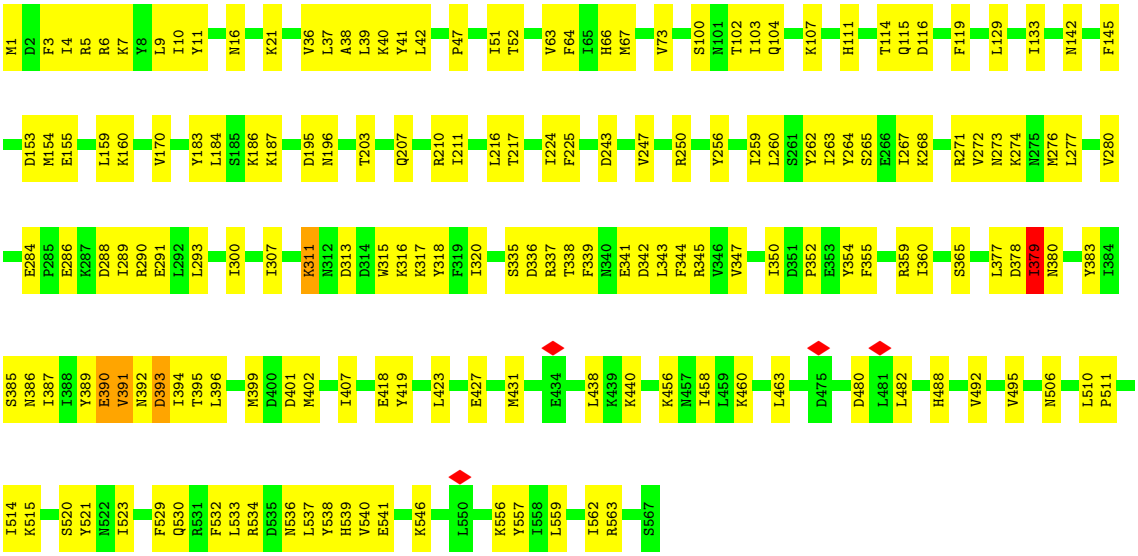





• Molecule 3: OPG068

Chain U:

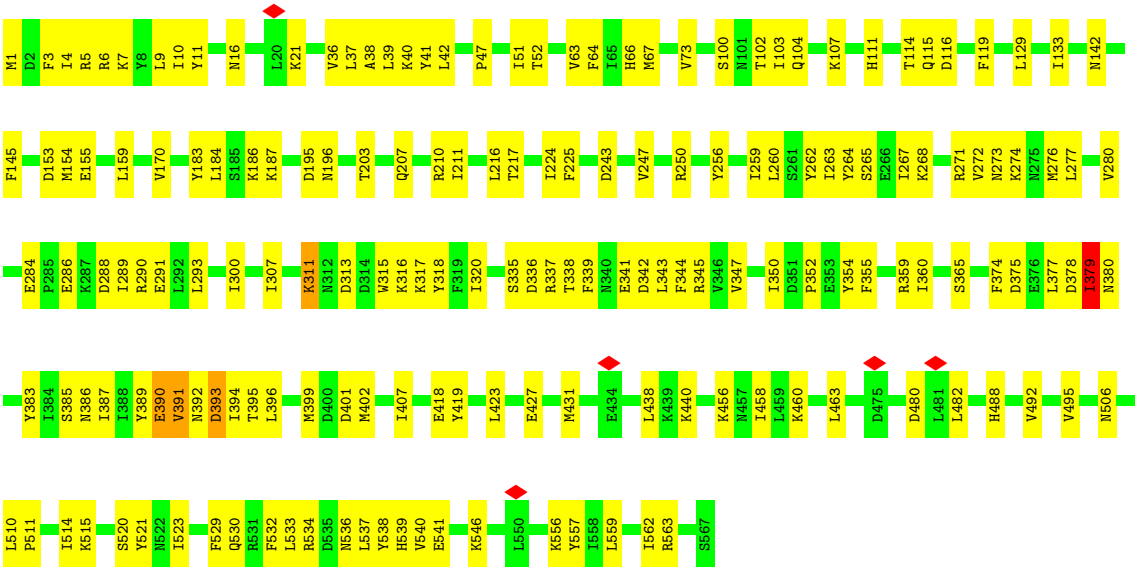



• Molecule 3: OPG068

Chain c:

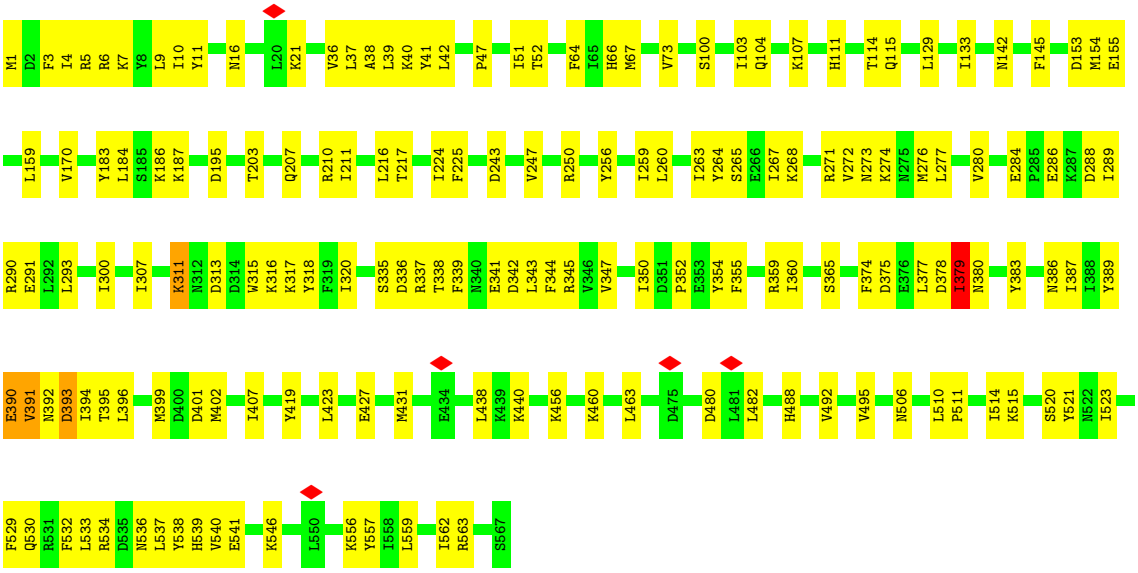



• Molecule 3: OPG068

Chain k:

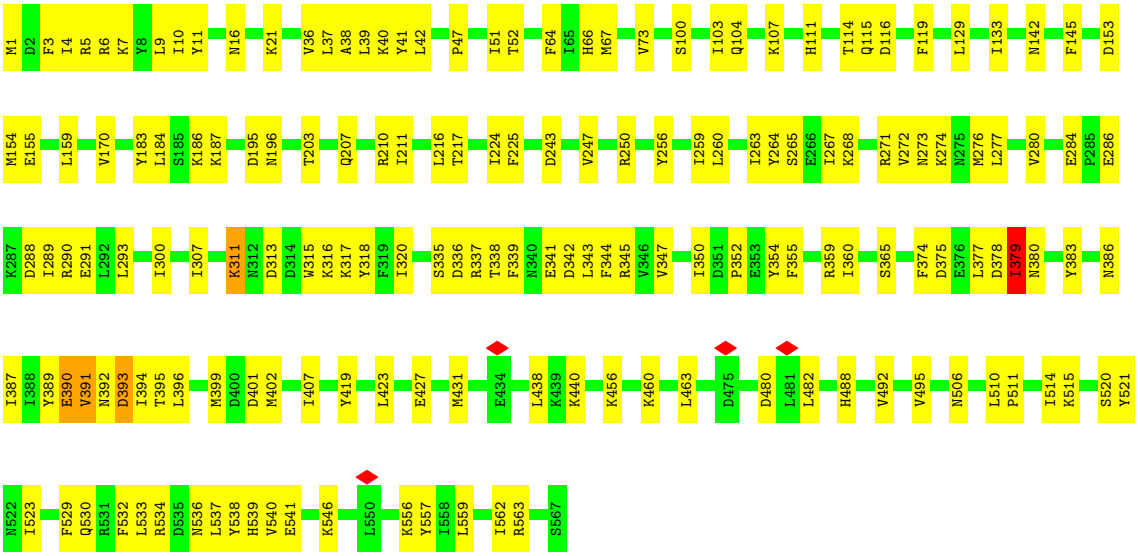





• Molecule 3: OPG068

Chain s:

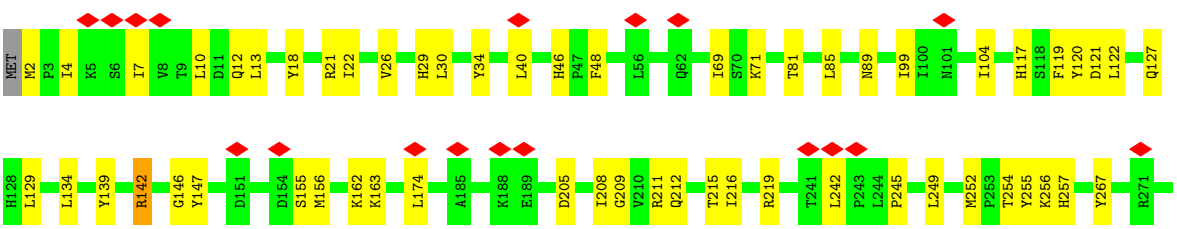


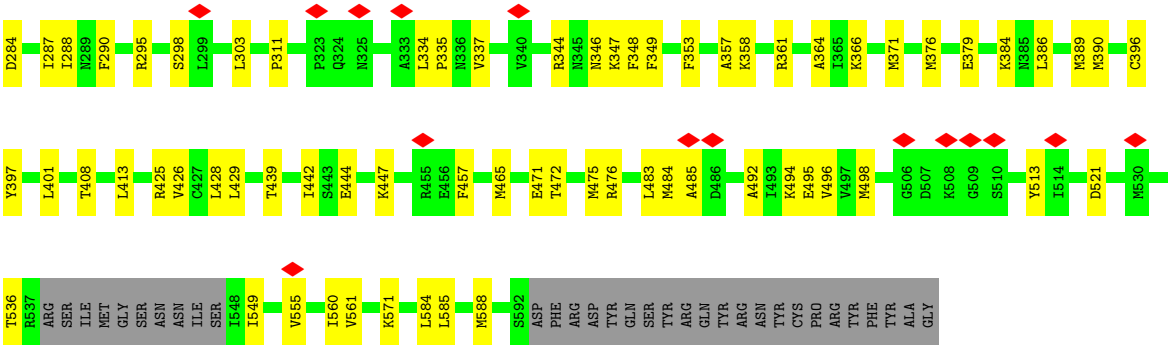




• Molecule 4: Core protein OPG136

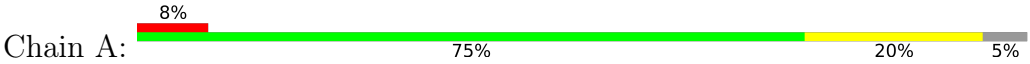
Chain B:

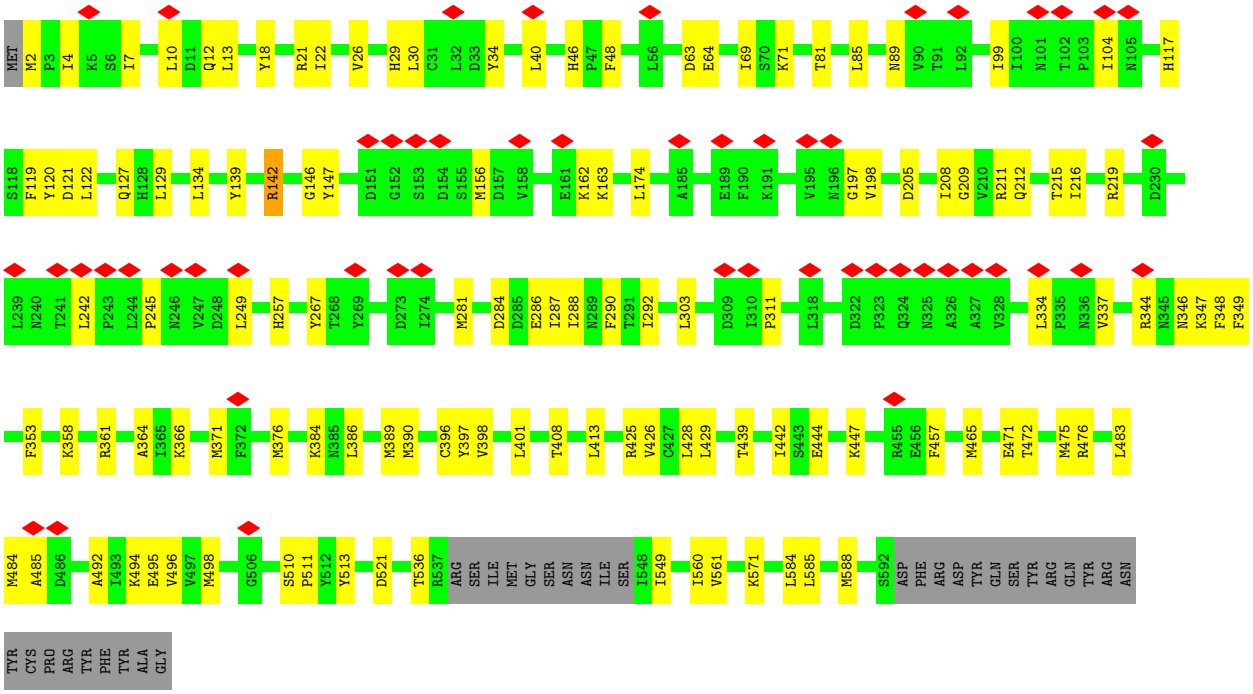


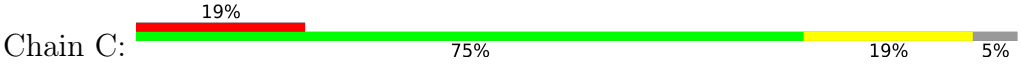


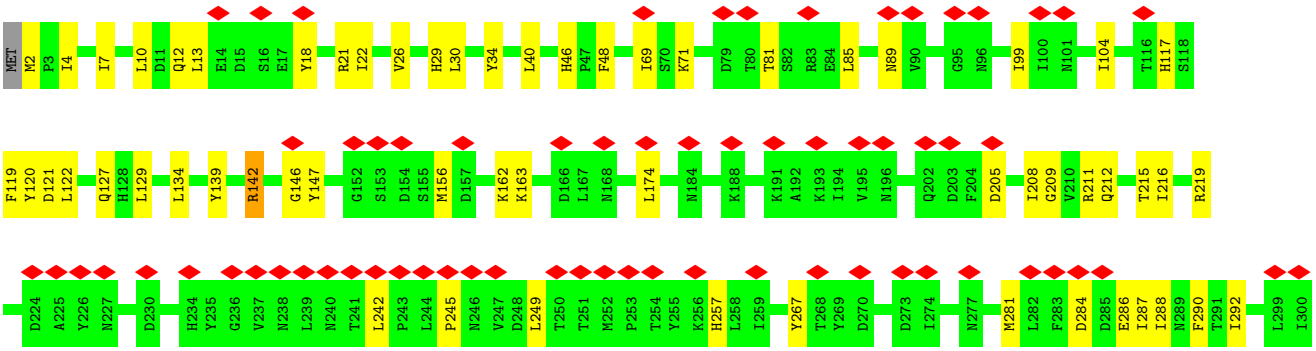

• Molecule 4: Core protein OPG136

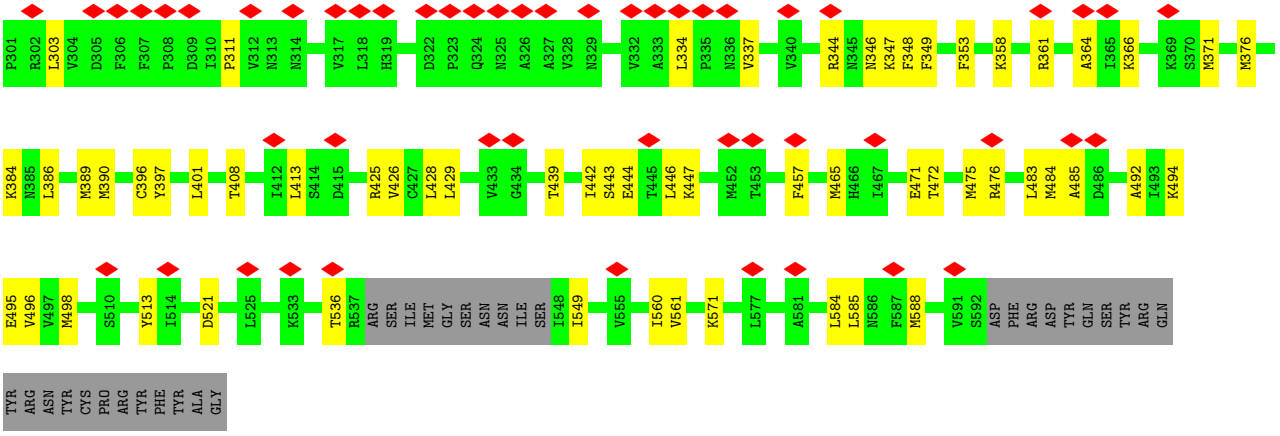



• Molecule 4: Core protein OPG136



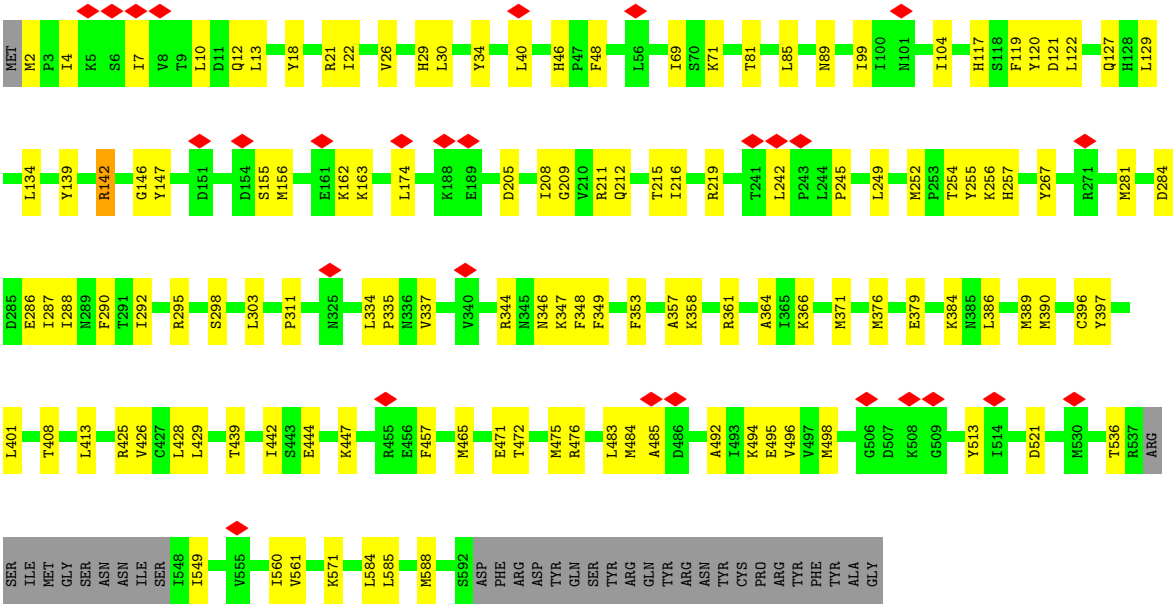






• Molecule 4: Core protein OPG136

Chain J:

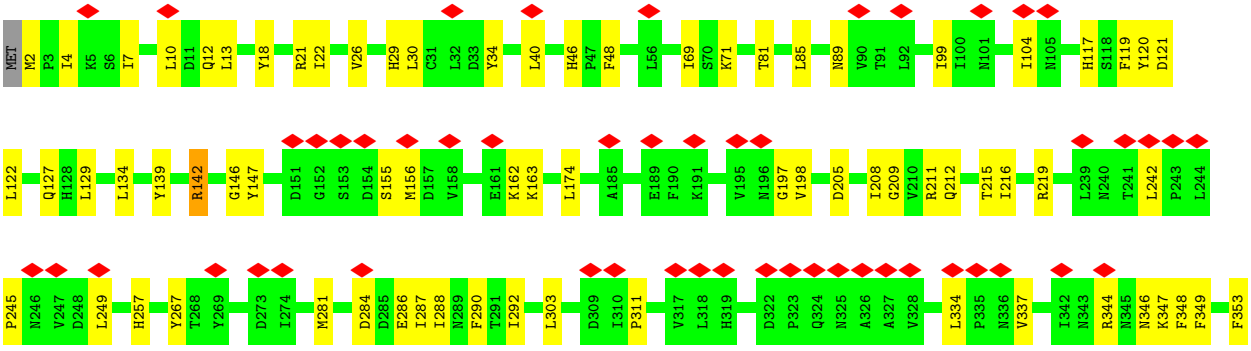


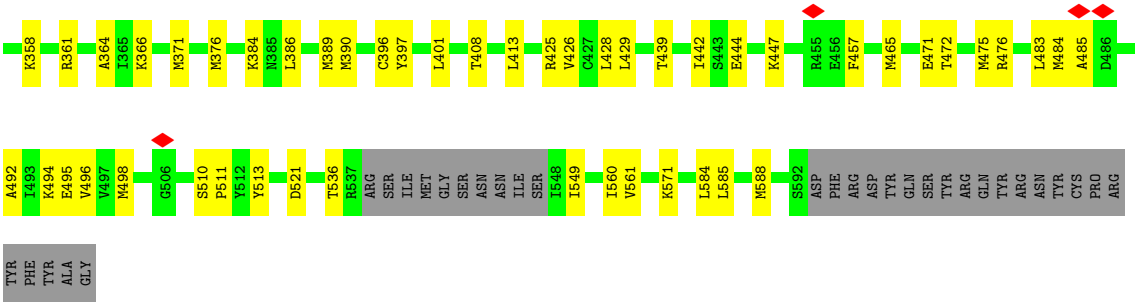




• Molecule 4: Core protein OPG136

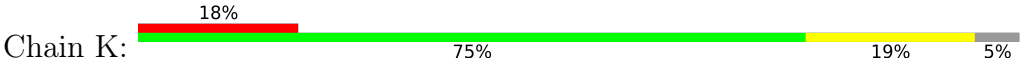
Chain I:

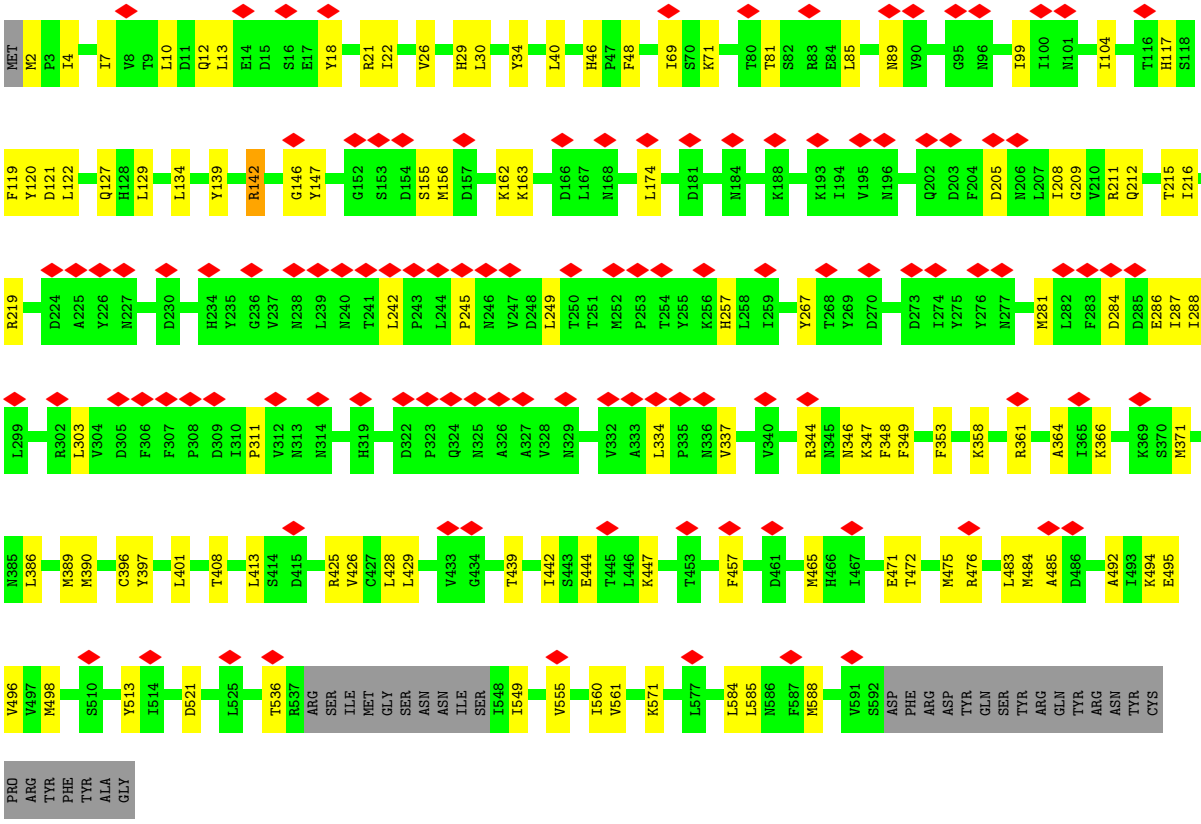


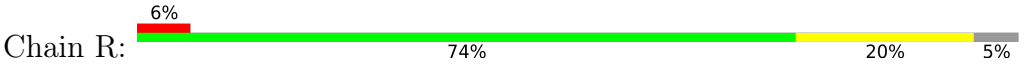


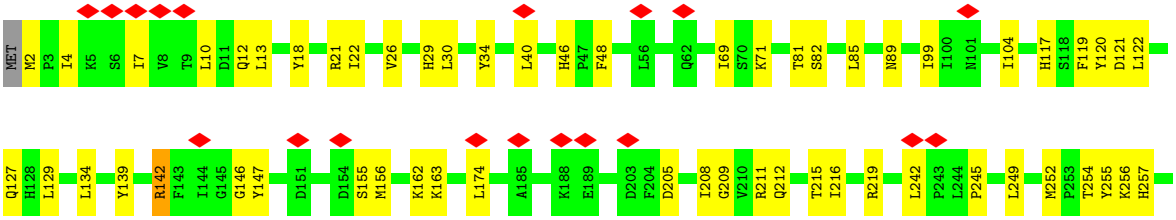

• Molecule 4: Core protein OPG136

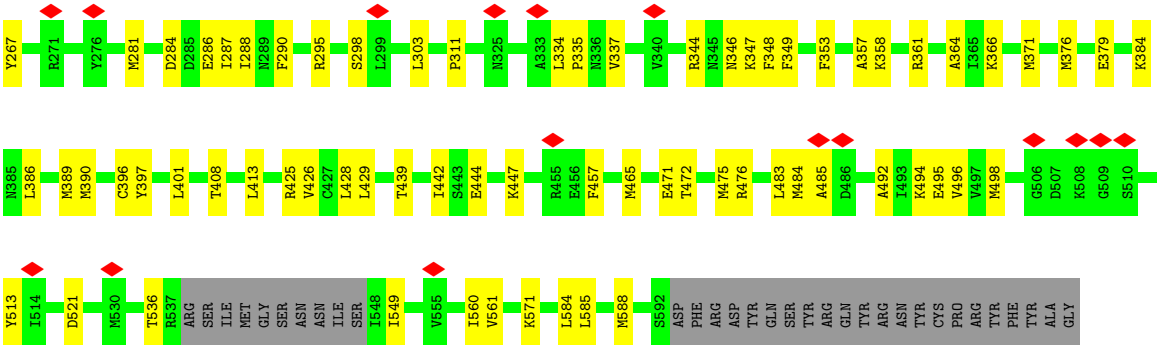



• Molecule 4: Core protein OPG136



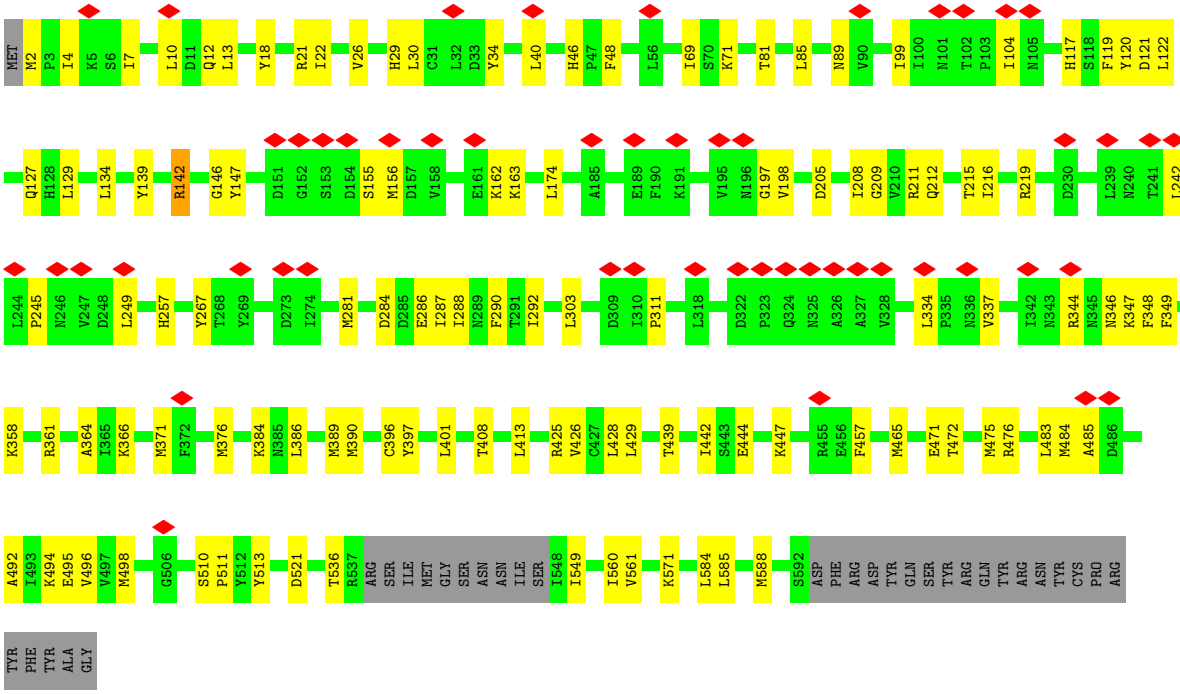






• Molecule 4: Core protein OPG136

Chain Q:

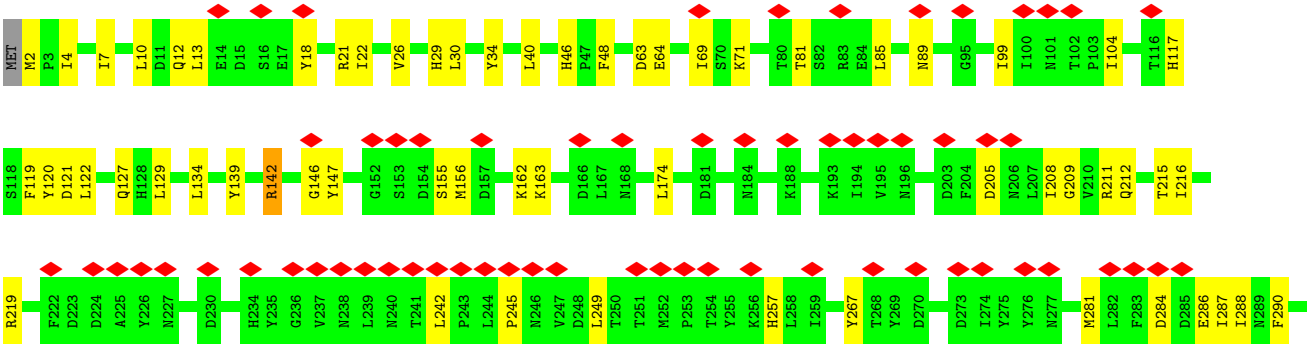


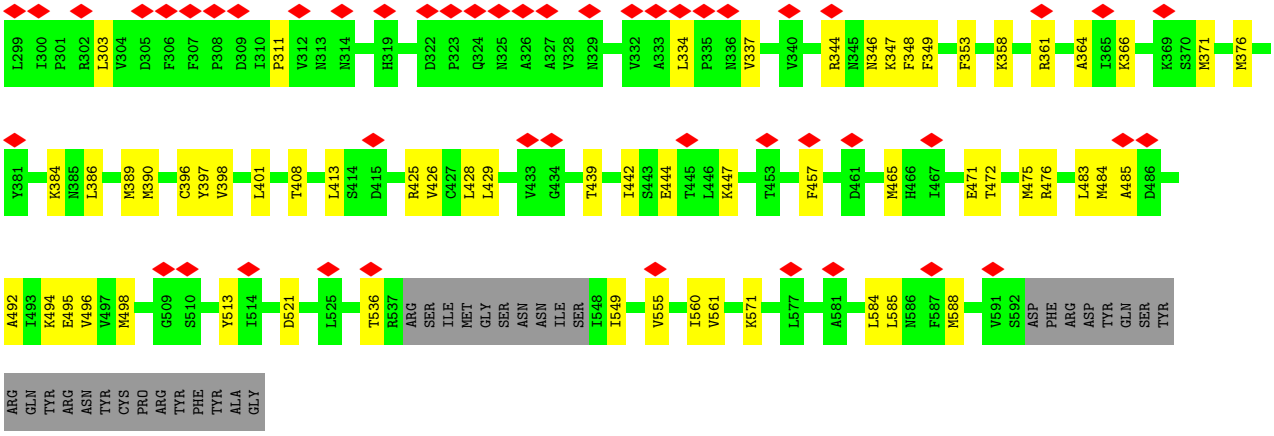




• Molecule 4: Core protein OPG136

Chain S:



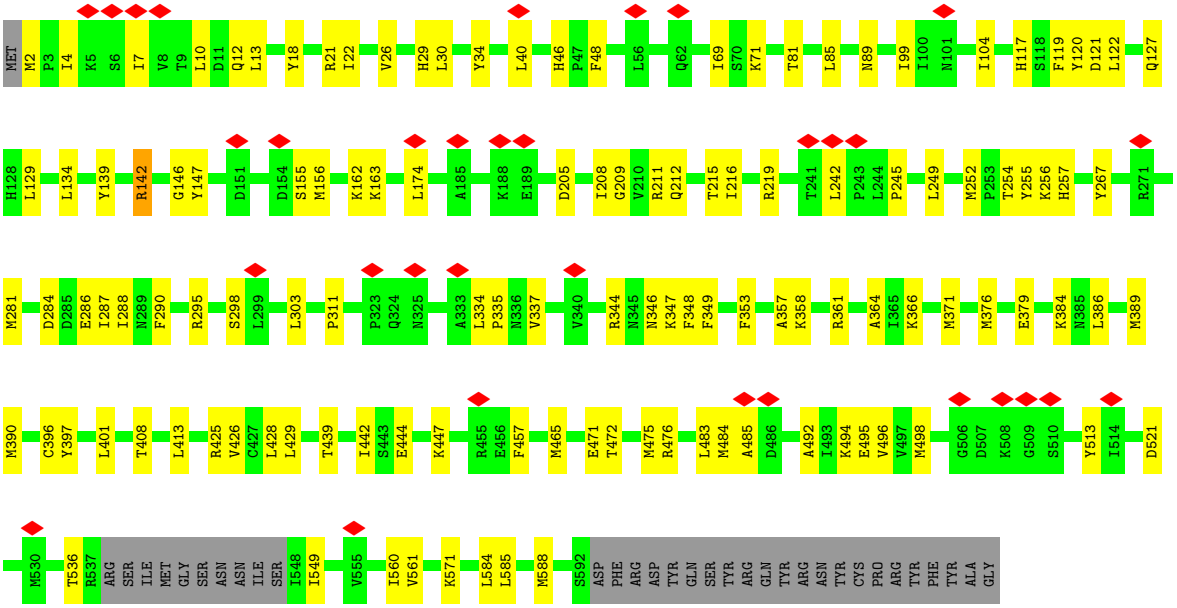






• Molecule 4: Core protein OPG136

Chain Z:

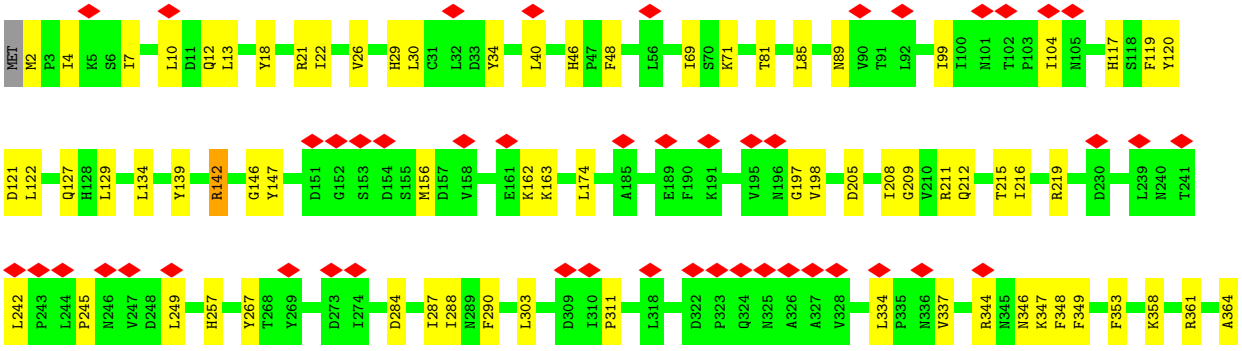


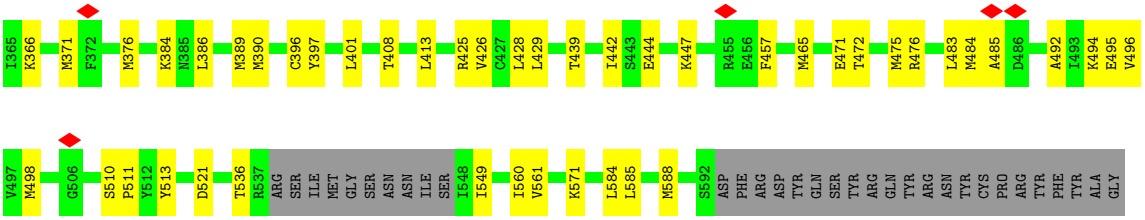




• Molecule 4: Core protein OPG136

Chain Y:



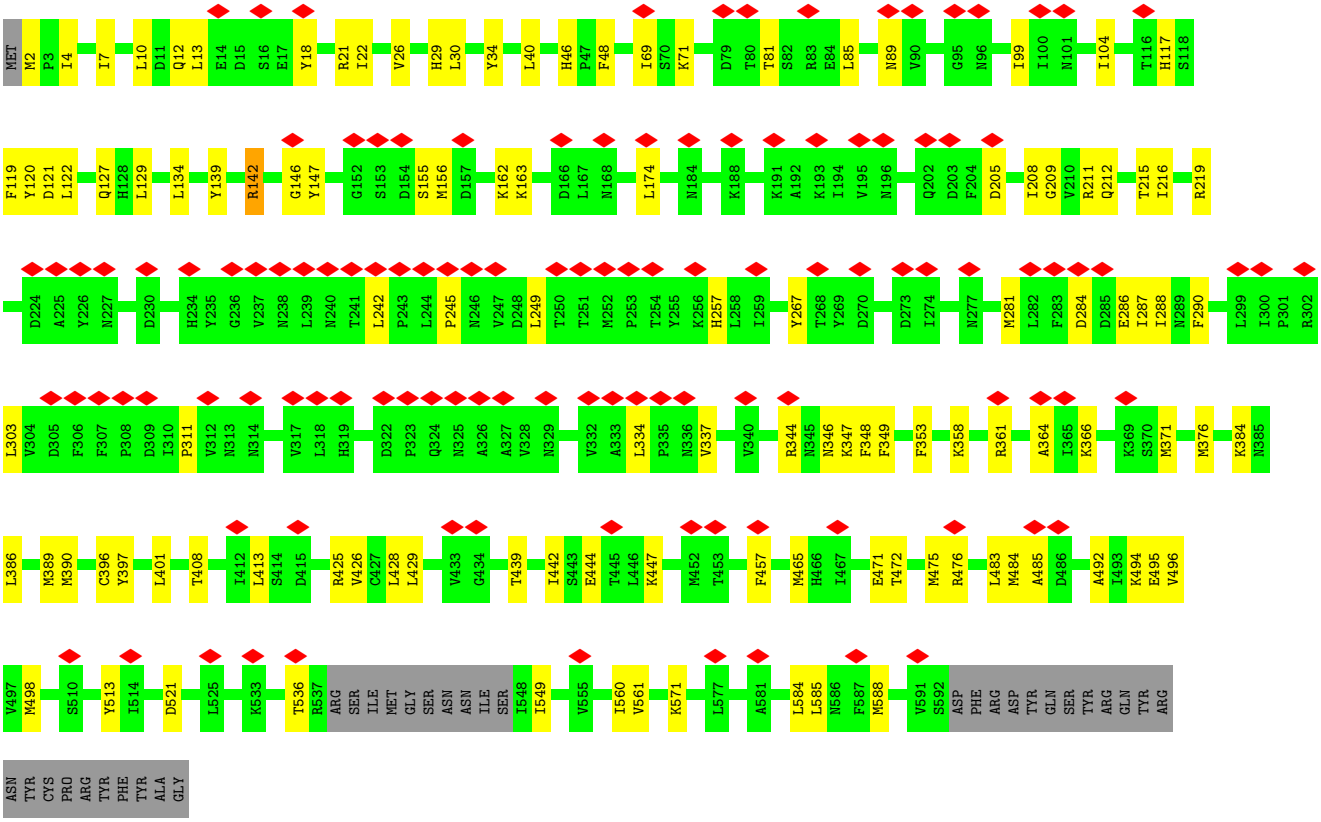






• Molecule 4: Core protein OPG136

Chain a:

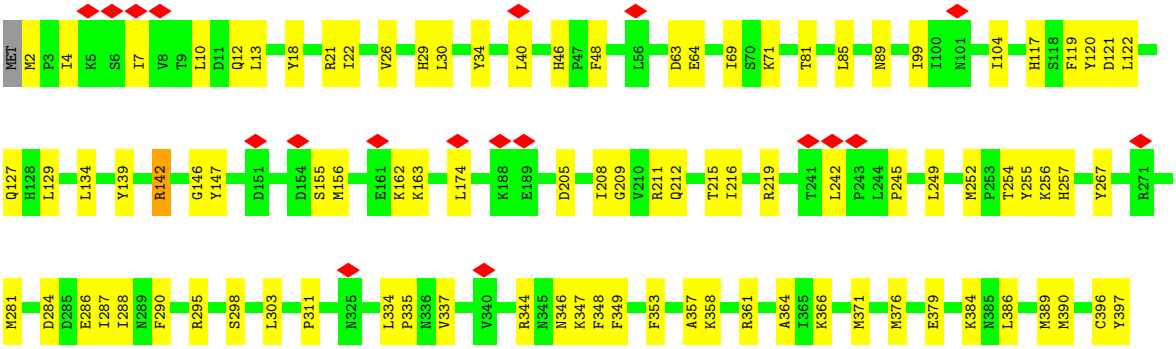


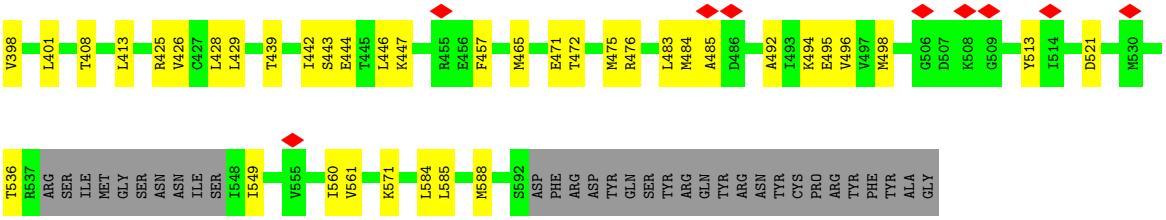




• Molecule 4: Core protein OPG136

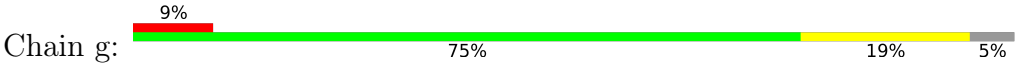
Chain h:

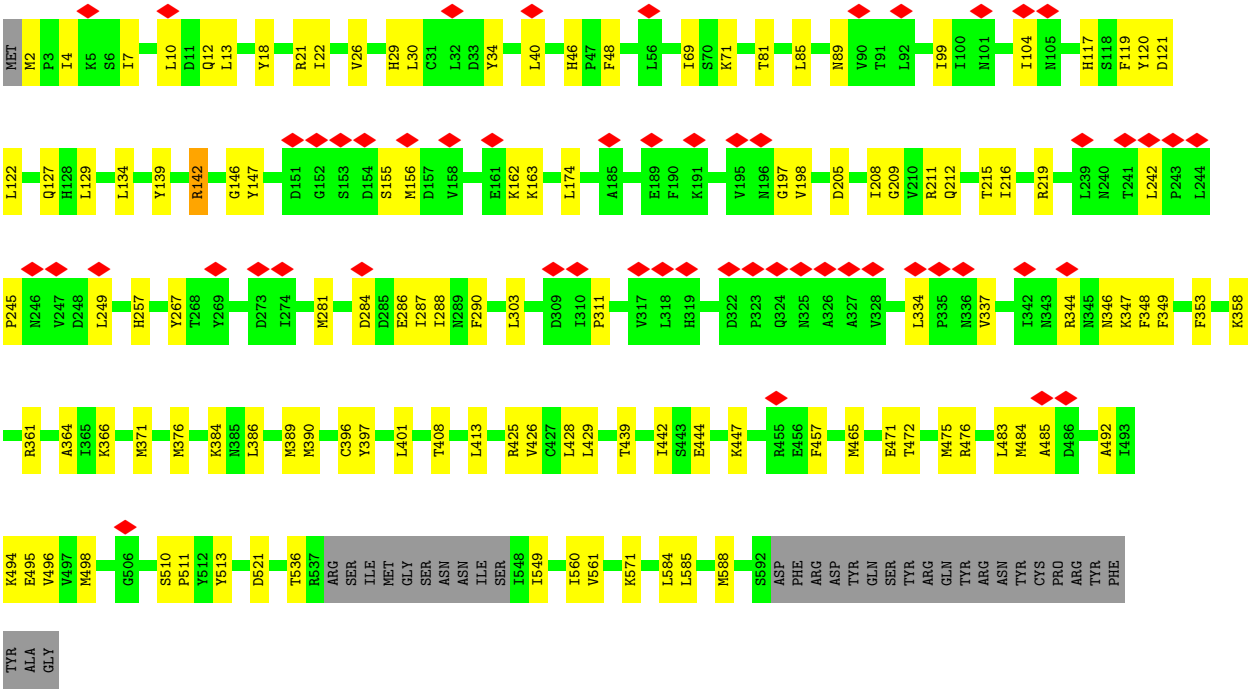


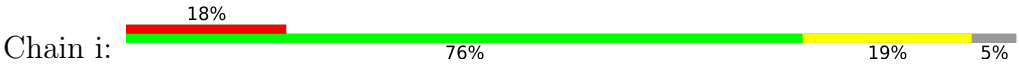


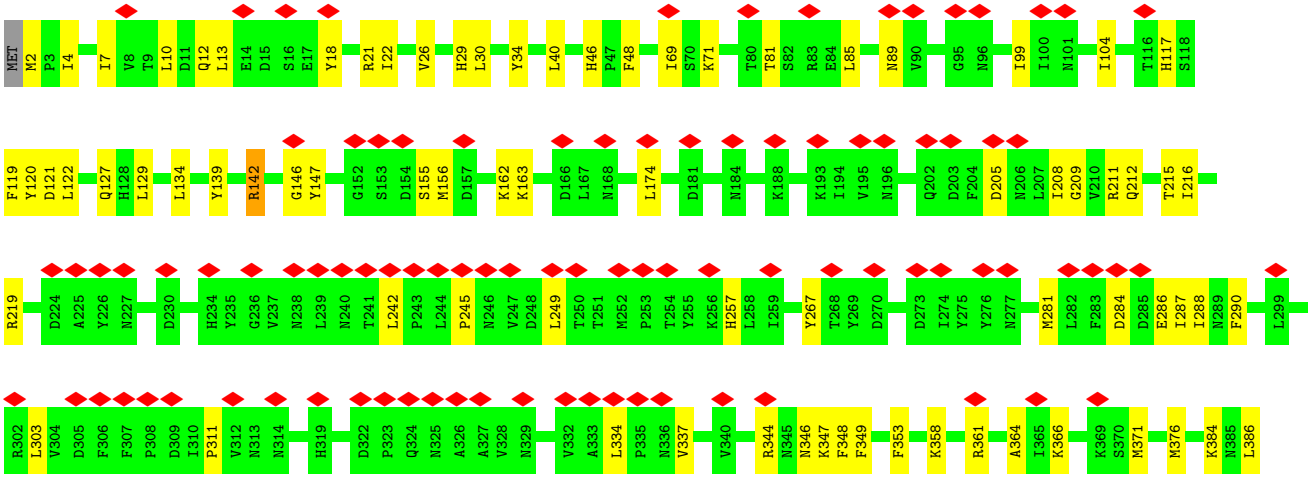

• Molecule 4: Core protein OPG136

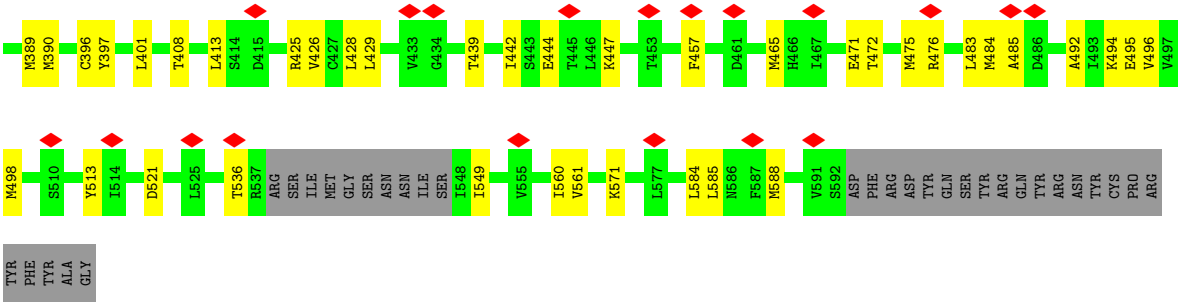


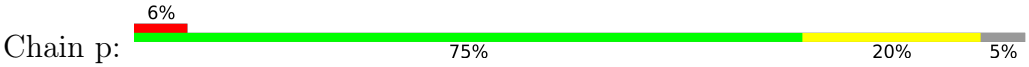

• Molecule 4: Core protein OPG136

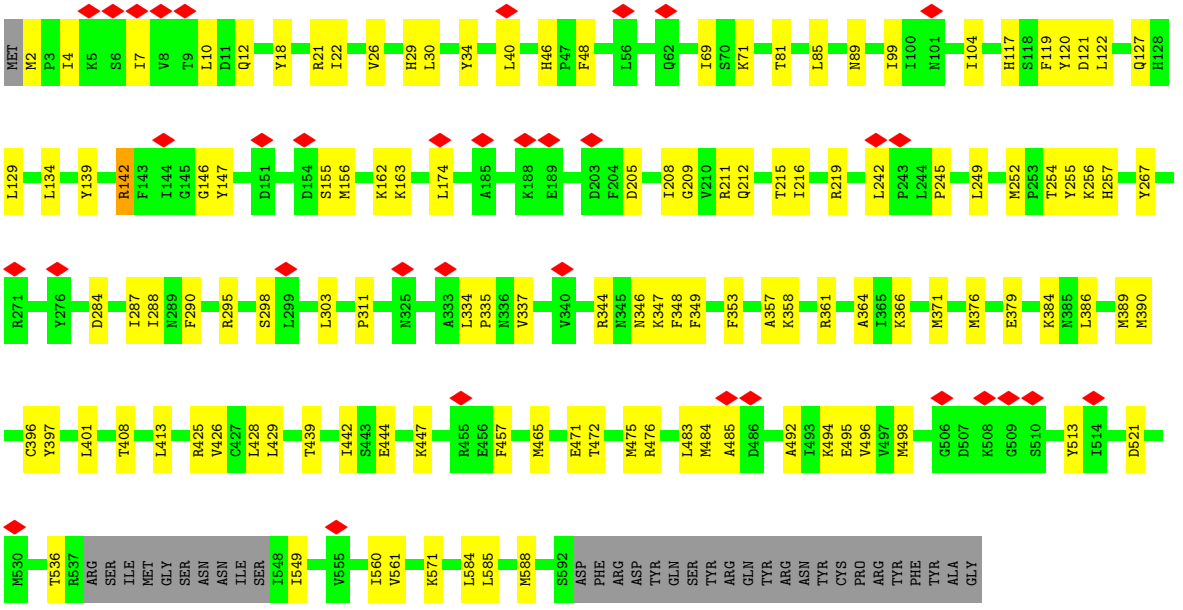




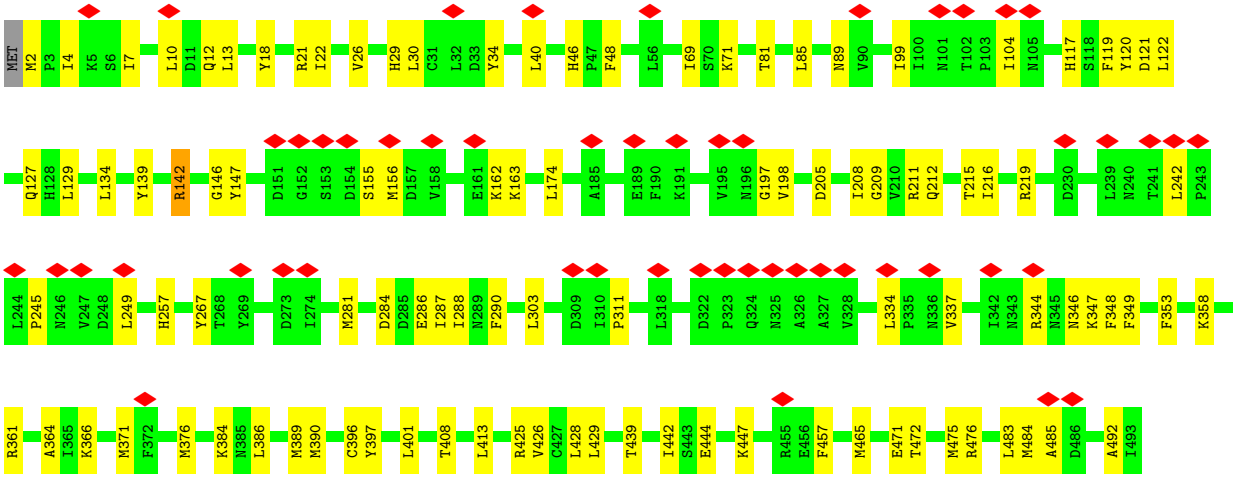

• Molecule 4: Core protein OPG136

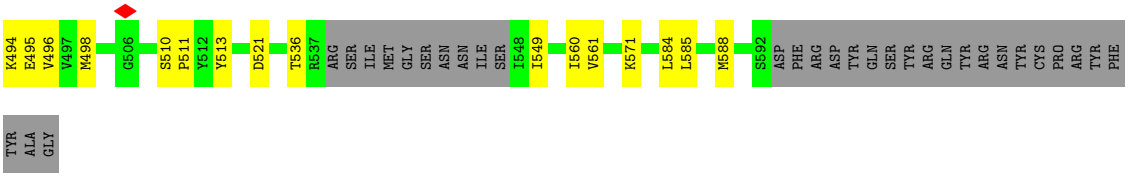



• Molecule 4: Core protein OPG136



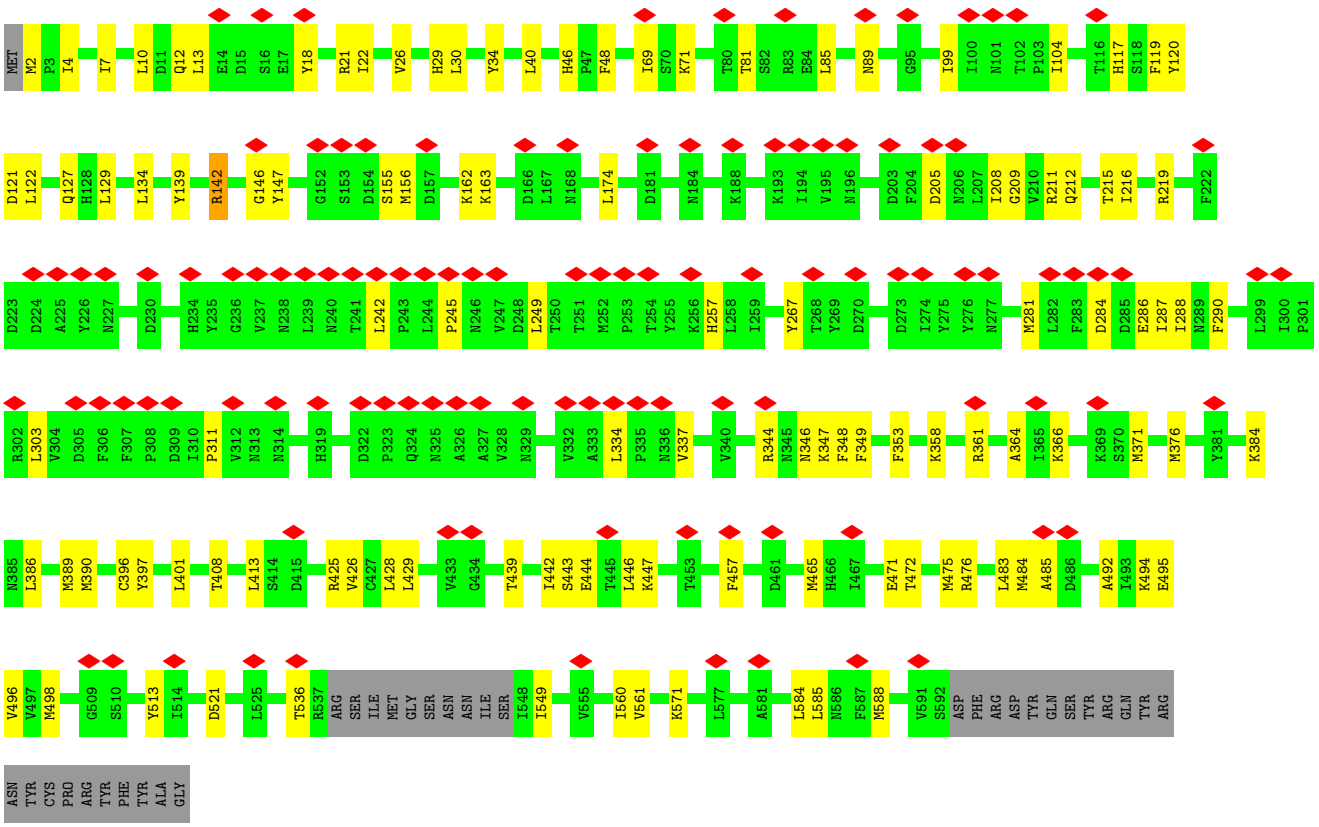





• Molecule 4: Core protein OPG136

Chain q:

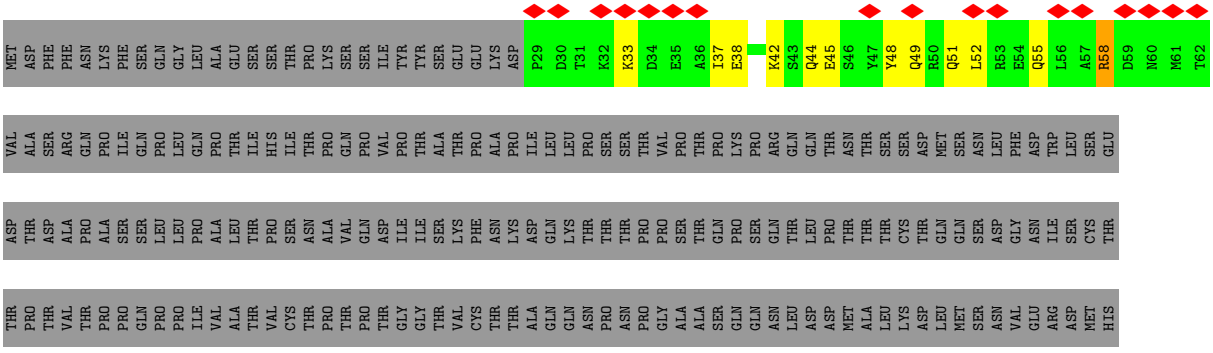


• Molecule 5: 39kDa core protein OPG130

Chain H:



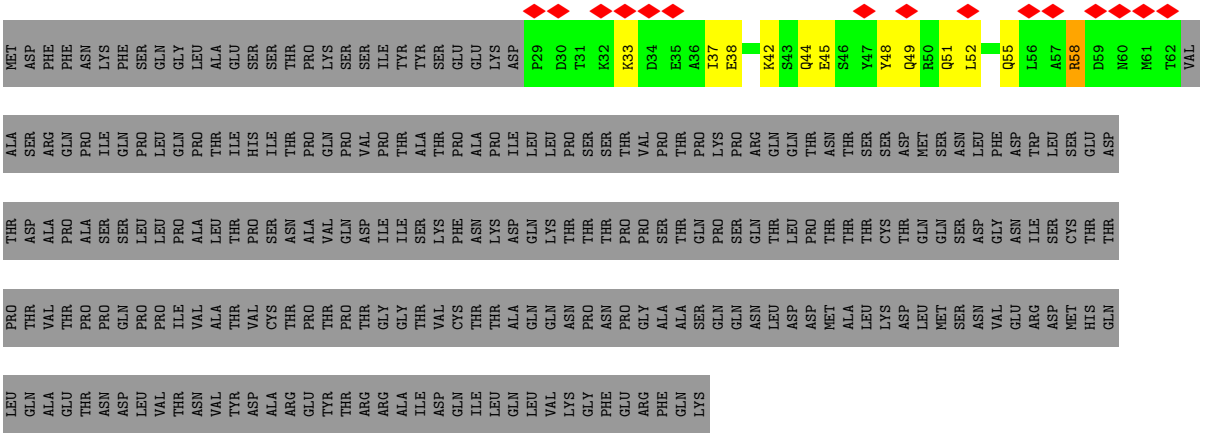






• Molecule 5: 39kDa core protein OPG130

Chain P:

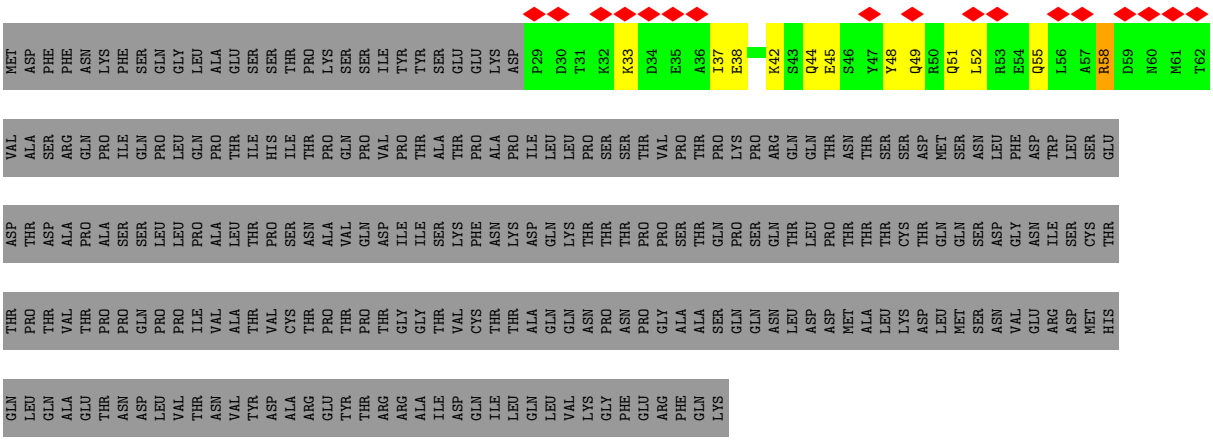



• Molecule 5: 39kDa core protein OPG130

Chain X:

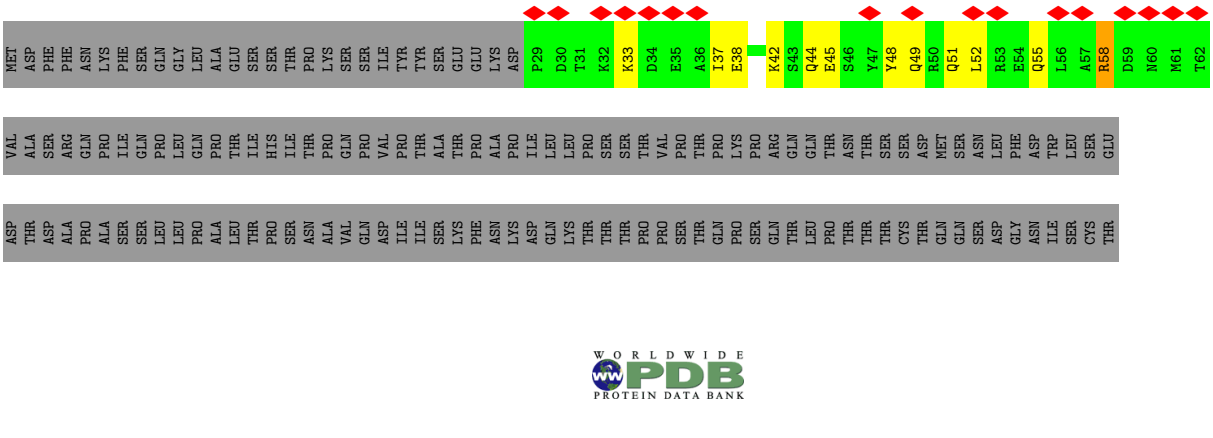


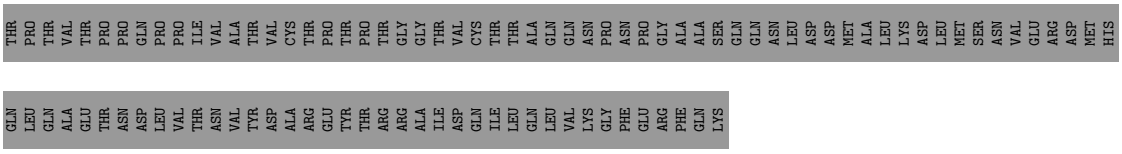




• Molecule 5: 39kDa core protein OPG130

Chain f:

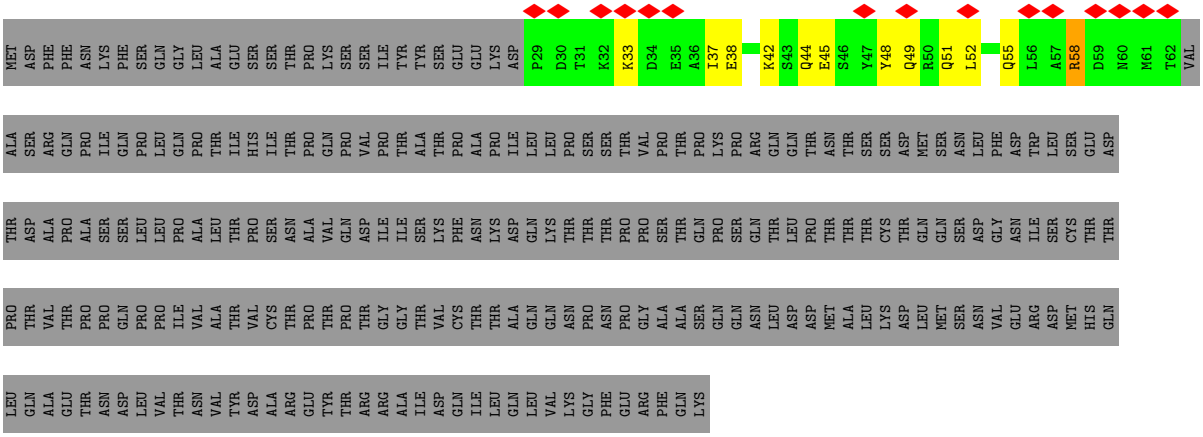




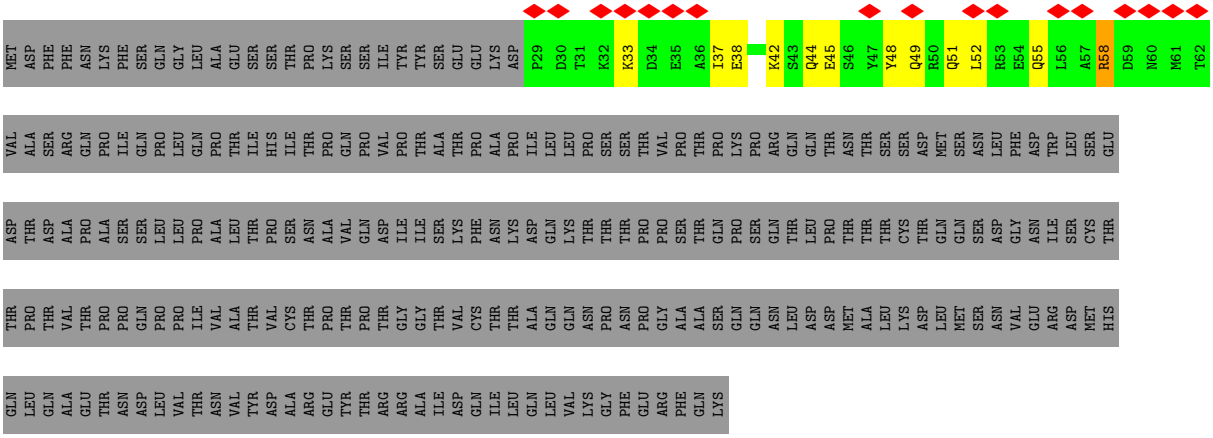

• Molecule 5: 39kDa core protein OPG130




• Molecule 5: 39kDa core protein OPG130



# 4 Experimental information (i)

| Property | Value | Source |
|---|---|---|
| EM reconstruction method | SUBTOMOGRAM AVERAGING | Depositor |
| Imposed symmetry | POINT, C6 | Depositor |
| Number of subtomograms used | 1471 | Depositor |
| Resolution determination method | FSC 0.143 CUT-OFF | Depositor |
| CTF correction method | PHASE FLIPPING AND AMPLITUDE CORRECTION | Depositor |
| Microscope | TFS KRIOS | Depositor |
| Voltage (kV) | 300 | Depositor |
| Electron dose ($e^-/Å^2$) | 166 | Depositor |
| Minimum defocus (nm) | 1500 | Depositor |
| Maximum defocus (nm) | 5000 | Depositor |
| Magnification | Not provided | |
| Image detector | GATAN K3 BIOQUANTUM (6k x 4k) | Depositor |
| Maximum map value | 0.018 | Depositor |
| Minimum map value | -0.009 | Depositor |
| Average map value | 0.000 | Depositor |
| Map value standard deviation | 0.001 | Depositor |
| Recommended contour level | 0.003 | Depositor |
| Map size (Å) | 541.744, 541.744, 541.744 | wwPDB |
| Map dimensions | 196, 196, 196 | wwPDB |
| Map angles (°) | 90.0, 90.0, 90.0 | wwPDB |
| Pixel spacing (Å) | 2.7640002, 2.7640002, 2.7640002 | Depositor |

# 5 Model quality

## 5.1 Standard geometry

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

| Mol | Chain | Bond lengths | | Bond angles | |
|---|---|---|---|---|---|
| | | RMSZ | #$\|Z\|>5$ | RMSZ | #$\|Z\|>5$ |
| 1 | D | 0.26 | 0/2305 | 0.56 | 1/3132 (0.0%) |
| 1 | L | 0.27 | 0/2305 | 0.56 | 1/3132 (0.0%) |
| 1 | T | 0.26 | 0/2305 | 0.56 | 1/3132 (0.0%) |
| 1 | b | 0.26 | 0/2305 | 0.56 | 1/3132 (0.0%) |
| 1 | j | 0.26 | 0/2305 | 0.56 | 1/3132 (0.0%) |
| 1 | r | 0.26 | 0/2305 | 0.56 | 1/3132 (0.0%) |
| 2 | F | 0.29 | 0/2373 | 0.67 | 4/3208 (0.1%) |
| 2 | G | 0.23 | 0/2224 | 0.54 | 0/3007 |
| 2 | N | 0.29 | 0/2373 | 0.67 | 4/3208 (0.1%) |
| 2 | O | 0.23 | 0/2224 | 0.54 | 0/3007 |
| 2 | V | 0.29 | 0/2373 | 0.67 | 4/3208 (0.1%) |
| 2 | W | 0.23 | 0/2224 | 0.54 | 0/3007 |
| 2 | d | 0.29 | 0/2373 | 0.67 | 4/3208 (0.1%) |
| 2 | e | 0.23 | 0/2224 | 0.54 | 0/3007 |
| 2 | l | 0.29 | 0/2373 | 0.67 | 4/3208 (0.1%) |
| 2 | m | 0.23 | 0/2224 | 0.54 | 0/3007 |
| 2 | t | 0.29 | 0/2373 | 0.67 | 4/3208 (0.1%) |
| 2 | u | 0.23 | 0/2224 | 0.54 | 0/3007 |
| 3 | E | 0.26 | 0/4795 | 0.56 | 0/6480 |
| 3 | M | 0.26 | 0/4795 | 0.56 | 0/6480 |
| 3 | U | 0.26 | 0/4795 | 0.56 | 0/6480 |
| 3 | c | 0.26 | 0/4795 | 0.56 | 0/6480 |
| 3 | k | 0.26 | 0/4795 | 0.56 | 0/6480 |
| 3 | s | 0.26 | 0/4795 | 0.56 | 0/6480 |
| 4 | A | 0.16 | 0/4810 | 0.37 | 0/6522 |
| 4 | B | 0.16 | 0/4810 | 0.36 | 0/6522 |
| 4 | C | 0.16 | 0/4810 | 0.37 | 0/6522 |
| 4 | I | 0.16 | 0/4810 | 0.37 | 0/6522 |
| 4 | J | 0.16 | 0/4810 | 0.36 | 0/6522 |
| 4 | K | 0.16 | 0/4810 | 0.37 | 0/6522 |
| 4 | Q | 0.16 | 0/4810 | 0.36 | 0/6522 |
| 4 | R | 0.16 | 0/4810 | 0.36 | 0/6522 |
| 4 | S | 0.16 | 0/4810 | 0.37 | 0/6522 |
| 4 | Y | 0.16 | 0/4810 | 0.37 | 0/6522 |

| Mol | Chain | Bond lengths | | Bond angles | |
|---|---|---|---|---|---|
| | | RMSZ | #\|Z\| >5 | RMSZ | #\|Z\| >5 |
| 4 | Z | 0.16 | 0/4810 | 0.36 | 0/6522 |
| 4 | a | 0.16 | 0/4810 | 0.37 | 0/6522 |
| 4 | g | 0.16 | 0/4810 | 0.37 | 0/6522 |
| 4 | h | 0.16 | 0/4810 | 0.36 | 0/6522 |
| 4 | i | 0.16 | 0/4810 | 0.36 | 0/6522 |
| 4 | o | 0.16 | 0/4810 | 0.36 | 0/6522 |
| 4 | p | 0.16 | 0/4810 | 0.36 | 0/6522 |
| 4 | q | 0.16 | 0/4810 | 0.37 | 0/6522 |
| 5 | H | 0.33 | 0/285 | 0.55 | 0/379 |
| 5 | P | 0.33 | 0/285 | 0.55 | 0/379 |
| 5 | X | 0.33 | 0/285 | 0.55 | 0/379 |
| 5 | f | 0.33 | 0/285 | 0.55 | 0/379 |
| 5 | n | 0.33 | 0/285 | 0.55 | 0/379 |
| 5 | v | 0.33 | 0/285 | 0.55 | 0/379 |
| All | All | 0.21 | 0/158472 | 0.47 | 30/214632 (0.0%) |

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

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|---|---|---|---|
| 1 | D | 0 | 1 |
| 1 | L | 0 | 1 |
| 1 | T | 0 | 1 |
| 1 | b | 0 | 1 |
| 1 | j | 0 | 1 |
| 1 | r | 0 | 1 |
| 2 | F | 0 | 1 |
| 2 | N | 0 | 1 |
| 2 | V | 0 | 1 |
| 2 | d | 0 | 1 |
| 2 | l | 0 | 1 |
| 2 | t | 0 | 1 |
| 3 | E | 0 | 1 |
| 3 | M | 0 | 1 |
| 3 | U | 0 | 1 |
| 3 | c | 0 | 1 |
| 3 | k | 0 | 1 |
| 3 | s | 0 | 1 |
| 4 | A | 0 | 1 |
| 4 | B | 0 | 1 |

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| Mol | Chain | #Chirality outliers | #Planarity outliers |
|---|---|---|---|
| 4 | C | 0 | 1 |
| 4 | I | 0 | 1 |
| 4 | J | 0 | 1 |
| 4 | K | 0 | 1 |
| 4 | Q | 0 | 1 |
| 4 | R | 0 | 1 |
| 4 | S | 0 | 1 |
| 4 | Y | 0 | 1 |
| 4 | Z | 0 | 1 |
| 4 | a | 0 | 1 |
| 4 | g | 0 | 1 |
| 4 | h | 0 | 1 |
| 4 | i | 0 | 1 |
| 4 | o | 0 | 1 |
| 4 | p | 0 | 1 |
| 4 | q | 0 | 1 |
| 5 | H | 0 | 1 |
| 5 | P | 0 | 1 |
| 5 | X | 0 | 1 |
| 5 | f | 0 | 1 |
| 5 | n | 0 | 1 |
| 5 | v | 0 | 1 |
| All | All | 0 | 42 |

There are no bond length outliers.

All (30) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 2 | F | 151 | LYS | CD-CE-NZ | 9.03 | 140.79 | 111.90 |
| 2 | N | 151 | LYS | CD-CE-NZ | 9.03 | 140.79 | 111.90 |
| 2 | V | 151 | LYS | CD-CE-NZ | 9.03 | 140.79 | 111.90 |
| 2 | d | 151 | LYS | CD-CE-NZ | 9.03 | 140.79 | 111.90 |
| 2 | l | 151 | LYS | CD-CE-NZ | 9.03 | 140.79 | 111.90 |
| 2 | t | 151 | LYS | CD-CE-NZ | 9.03 | 140.79 | 111.90 |
| 2 | V | 135 | PHE | CA-C-N | 5.47 | 128.61 | 120.90 |
| 2 | V | 135 | PHE | C-N-CA | 5.47 | 128.61 | 120.90 |
| 2 | t | 135 | PHE | CA-C-N | 5.47 | 128.61 | 120.90 |
| 2 | t | 135 | PHE | C-N-CA | 5.47 | 128.61 | 120.90 |
| 2 | F | 135 | PHE | CA-C-N | 5.46 | 128.61 | 120.90 |
| 2 | F | 135 | PHE | C-N-CA | 5.46 | 128.61 | 120.90 |
| 2 | d | 135 | PHE | CA-C-N | 5.46 | 128.61 | 120.90 |
| 2 | d | 135 | PHE | C-N-CA | 5.46 | 128.61 | 120.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 2 | N | 135 | PHE | CA-C-N | 5.46 | 128.60 | 120.90 |
| 2 | N | 135 | PHE | C-N-CA | 5.46 | 128.60 | 120.90 |
| 2 | l | 135 | PHE | CA-C-N | 5.46 | 128.60 | 120.90 |
| 2 | l | 135 | PHE | C-N-CA | 5.46 | 128.60 | 120.90 |
| 1 | D | 58 | ARG | CG-CD-NE | -5.42 | 100.08 | 112.00 |
| 1 | b | 58 | ARG | CG-CD-NE | -5.42 | 100.08 | 112.00 |
| 1 | r | 58 | ARG | CG-CD-NE | -5.42 | 100.08 | 112.00 |
| 1 | L | 58 | ARG | CG-CD-NE | -5.42 | 100.09 | 112.00 |
| 1 | j | 58 | ARG | CG-CD-NE | -5.42 | 100.09 | 112.00 |
| 1 | T | 58 | ARG | CG-CD-NE | -5.41 | 100.09 | 112.00 |
| 2 | N | 323 | LEU | CA-CB-CG | 5.29 | 134.82 | 116.30 |
| 2 | l | 323 | LEU | CA-CB-CG | 5.29 | 134.82 | 116.30 |
| 2 | F | 323 | LEU | CA-CB-CG | 5.29 | 134.80 | 116.30 |
| 2 | d | 323 | LEU | CA-CB-CG | 5.29 | 134.80 | 116.30 |
| 2 | V | 323 | LEU | CA-CB-CG | 5.28 | 134.79 | 116.30 |
| 2 | t | 323 | LEU | CA-CB-CG | 5.28 | 134.79 | 116.30 |

There are no chirality outliers.

All (42) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 4 | A | 142 | ARG | Sidechain |
| 4 | B | 142 | ARG | Sidechain |
| 4 | C | 142 | ARG | Sidechain |
| 1 | D | 17 | ARG | Sidechain |
| 3 | E | 379 | ILE | Peptide |
| 2 | F | 342 | ARG | Sidechain |
| 5 | H | 58 | ARG | Sidechain |
| 4 | I | 142 | ARG | Sidechain |
| 4 | J | 142 | ARG | Sidechain |
| 4 | K | 142 | ARG | Sidechain |
| 1 | L | 17 | ARG | Sidechain |
| 3 | M | 379 | ILE | Peptide |
| 2 | N | 342 | ARG | Sidechain |
| 5 | P | 58 | ARG | Sidechain |
| 4 | Q | 142 | ARG | Sidechain |
| 4 | R | 142 | ARG | Sidechain |
| 4 | S | 142 | ARG | Sidechain |
| 1 | T | 17 | ARG | Sidechain |
| 3 | U | 379 | ILE | Peptide |
| 2 | V | 342 | ARG | Sidechain |
| 5 | X | 58 | ARG | Sidechain |

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| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 4 | Y | 142 | ARG | Sidechain |
| 4 | Z | 142 | ARG | Sidechain |
| 4 | a | 142 | ARG | Sidechain |
| 1 | b | 17 | ARG | Sidechain |
| 3 | c | 379 | ILE | Peptide |
| 2 | d | 342 | ARG | Sidechain |
| 5 | f | 58 | ARG | Sidechain |
| 4 | g | 142 | ARG | Sidechain |
| 4 | h | 142 | ARG | Sidechain |
| 4 | i | 142 | ARG | Sidechain |
| 1 | j | 17 | ARG | Sidechain |
| 3 | k | 379 | ILE | Peptide |
| 2 | l | 342 | ARG | Sidechain |
| 5 | n | 58 | ARG | Sidechain |
| 4 | o | 142 | ARG | Sidechain |
| 4 | p | 142 | ARG | Sidechain |
| 4 | q | 142 | ARG | Sidechain |
| 1 | r | 17 | ARG | Sidechain |
| 3 | s | 379 | ILE | Peptide |
| 2 | t | 342 | ARG | Sidechain |
| 5 | v | 58 | ARG | Sidechain |

## 5.2 Too-close contacts (i)

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

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|---|---|---|---|---|---|---|
| 1 | D | 2237 | 0 | 2225 | 116 | 0 |
| 1 | L | 2237 | 0 | 2225 | 117 | 0 |
| 1 | T | 2237 | 0 | 2225 | 118 | 0 |
| 1 | b | 2237 | 0 | 2225 | 117 | 0 |
| 1 | j | 2237 | 0 | 2225 | 113 | 0 |
| 1 | r | 2237 | 0 | 2225 | 116 | 0 |
| 2 | F | 2322 | 0 | 2338 | 105 | 0 |
| 2 | G | 2176 | 0 | 2209 | 76 | 0 |
| 2 | N | 2322 | 0 | 2338 | 107 | 0 |
| 2 | O | 2176 | 0 | 2209 | 77 | 0 |
| 2 | V | 2322 | 0 | 2338 | 106 | 0 |
| 2 | W | 2176 | 0 | 2209 | 77 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|---|---|---|---|---|---|---|
| 2 | d | 2322 | 0 | 2338 | 105 | 0 |
| 2 | e | 2176 | 0 | 2209 | 77 | 0 |
| 2 | l | 2322 | 0 | 2338 | 106 | 0 |
| 2 | m | 2176 | 0 | 2209 | 78 | 0 |
| 2 | t | 2322 | 0 | 2338 | 105 | 0 |
| 2 | u | 2176 | 0 | 2209 | 78 | 0 |
| 3 | E | 4696 | 0 | 4732 | 193 | 0 |
| 3 | M | 4696 | 0 | 4732 | 189 | 0 |
| 3 | U | 4696 | 0 | 4732 | 191 | 0 |
| 3 | c | 4696 | 0 | 4732 | 191 | 0 |
| 3 | k | 4696 | 0 | 4732 | 188 | 0 |
| 3 | s | 4696 | 0 | 4732 | 193 | 0 |
| 4 | A | 4710 | 0 | 4746 | 112 | 0 |
| 4 | B | 4710 | 0 | 4746 | 134 | 0 |
| 4 | C | 4710 | 0 | 4746 | 105 | 0 |
| 4 | I | 4710 | 0 | 4746 | 112 | 0 |
| 4 | J | 4710 | 0 | 4746 | 131 | 0 |
| 4 | K | 4710 | 0 | 4746 | 107 | 0 |
| 4 | Q | 4710 | 0 | 4746 | 112 | 0 |
| 4 | R | 4710 | 0 | 4746 | 130 | 0 |
| 4 | S | 4710 | 0 | 4746 | 105 | 0 |
| 4 | Y | 4710 | 0 | 4746 | 112 | 0 |
| 4 | Z | 4710 | 0 | 4746 | 132 | 0 |
| 4 | a | 4710 | 0 | 4746 | 103 | 0 |
| 4 | g | 4710 | 0 | 4746 | 114 | 0 |
| 4 | h | 4710 | 0 | 4746 | 134 | 0 |
| 4 | i | 4710 | 0 | 4746 | 104 | 0 |
| 4 | o | 4710 | 0 | 4746 | 112 | 0 |
| 4 | p | 4710 | 0 | 4746 | 129 | 0 |
| 4 | q | 4710 | 0 | 4746 | 105 | 0 |
| 5 | H | 283 | 0 | 278 | 29 | 0 |
| 5 | P | 283 | 0 | 278 | 29 | 0 |
| 5 | X | 283 | 0 | 278 | 29 | 0 |
| 5 | f | 283 | 0 | 278 | 29 | 0 |
| 5 | n | 283 | 0 | 278 | 29 | 0 |
| 5 | v | 283 | 0 | 278 | 30 | 0 |
| All | All | 155064 | 0 | 156120 | 4313 | 0 |

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 14.

All (4313) 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) |
|---|---|---|---|
| 2:N:73:CYS:O | 2:V:151:LYS:NZ | 1.74 | 1.20 |
| 2:l:73:CYS:O | 2:t:151:LYS:NZ | 1.74 | 1.20 |
| 2:F:151:LYS:NZ | 2:t:73:CYS:O | 1.74 | 1.20 |
| 2:V:73:CYS:O | 2:d:151:LYS:NZ | 1.74 | 1.20 |
| 2:F:73:CYS:O | 2:N:151:LYS:NZ | 1.74 | 1.18 |
| 2:d:73:CYS:O | 2:l:151:LYS:NZ | 1.74 | 1.17 |
| 3:E:315:TRP:CZ3 | 3:E:354:TYR:HB3 | 1.99 | 0.98 |
| 3:s:315:TRP:CZ3 | 3:s:354:TYR:HB3 | 1.99 | 0.98 |
| 3:c:315:TRP:CZ3 | 3:c:354:TYR:HB3 | 1.99 | 0.97 |
| 3:E:10:ILE:HD11 | 3:M:520:SER:HA | 1.47 | 0.97 |
| 3:M:315:TRP:CZ3 | 3:M:354:TYR:HB3 | 1.99 | 0.97 |
| 3:k:315:TRP:CZ3 | 3:k:354:TYR:HB3 | 1.99 | 0.97 |
| 3:U:315:TRP:CZ3 | 3:U:354:TYR:HB3 | 1.99 | 0.97 |
| 3:E:520:SER:HA | 3:s:10:ILE:HD11 | 1.47 | 0.97 |
| 3:k:10:ILE:HD11 | 3:s:520:SER:HA | 1.47 | 0.97 |
| 3:M:10:ILE:HD11 | 3:U:520:SER:HA | 1.47 | 0.96 |
| 3:c:10:ILE:HD11 | 3:k:520:SER:HA | 1.47 | 0.96 |
| 3:U:10:ILE:HD11 | 3:c:520:SER:HA | 1.47 | 0.96 |
| 3:c:431:MET:HE1 | 3:c:440:LYS:HG2 | 1.50 | 0.94 |
| 3:k:431:MET:HE1 | 3:k:440:LYS:HG2 | 1.50 | 0.93 |
| 3:E:431:MET:HE1 | 3:E:440:LYS:HG2 | 1.50 | 0.93 |
| 3:M:431:MET:HE1 | 3:M:440:LYS:HG2 | 1.50 | 0.93 |
| 3:c:203:THR:HG22 | 3:c:207:GLN:HE22 | 1.34 | 0.92 |
| 3:s:431:MET:HE1 | 3:s:440:LYS:HG2 | 1.50 | 0.92 |
| 2:F:151:LYS:HG2 | 2:t:77:LYS:HG3 | 1.52 | 0.92 |
| 2:F:77:LYS:HG3 | 2:N:151:LYS:HG2 | 1.52 | 0.92 |
| 2:V:77:LYS:HG3 | 2:d:151:LYS:HG2 | 1.52 | 0.92 |
| 3:U:203:THR:HG22 | 3:U:207:GLN:HE22 | 1.34 | 0.91 |
| 2:d:77:LYS:HG3 | 2:l:151:LYS:HG2 | 1.52 | 0.91 |
| 3:U:431:MET:HE1 | 3:U:440:LYS:HG2 | 1.50 | 0.91 |
| 1:L:38:THR:C | 1:L:222:ASN:HD21 | 1.79 | 0.90 |
| 1:T:38:THR:C | 1:T:222:ASN:HD21 | 1.79 | 0.90 |
| 1:r:38:THR:C | 1:r:222:ASN:HD21 | 1.79 | 0.90 |
| 3:k:203:THR:HG22 | 3:k:207:GLN:HE22 | 1.34 | 0.90 |
| 3:s:203:THR:HG22 | 3:s:207:GLN:HE22 | 1.34 | 0.90 |
| 1:b:35:MET:HE1 | 1:b:52:THR:HB | 1.53 | 0.90 |
| 1:j:35:MET:HE1 | 1:j:52:THR:HB | 1.53 | 0.90 |
| 1:j:38:THR:C | 1:j:222:ASN:HD21 | 1.79 | 0.90 |
| 2:l:77:LYS:HG3 | 2:t:151:LYS:HG2 | 1.52 | 0.90 |
| 1:D:38:THR:C | 1:D:222:ASN:HD21 | 1.79 | 0.89 |
| 3:E:203:THR:HG22 | 3:E:207:GLN:HE22 | 1.34 | 0.89 |
| 1:T:35:MET:HE1 | 1:T:52:THR:HB | 1.53 | 0.89 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:b:38:THR:C | 1:b:222:ASN:HD21 | 1.79 | 0.89 |
| 2:N:77:LYS:HG3 | 2:V:151:LYS:HG2 | 1.52 | 0.89 |
| 3:M:203:THR:HG22 | 3:M:207:GLN:HE22 | 1.34 | 0.89 |
| 1:D:35:MET:HE1 | 1:D:52:THR:HB | 1.53 | 0.89 |
| 1:r:35:MET:HE1 | 1:r:52:THR:HB | 1.53 | 0.88 |
| 1:L:35:MET:HE1 | 1:L:52:THR:HB | 1.53 | 0.87 |
| 4:Z:361:ARG:HD3 | 5:f:37:ILE:HD12 | 1.57 | 0.87 |
| 2:G:339:MET:HE1 | 2:t:171:ARG:HH12 | 1.40 | 0.86 |
| 2:V:171:ARG:HH12 | 2:e:339:MET:HE1 | 1.40 | 0.86 |
| 2:N:171:ARG:HH12 | 2:W:339:MET:HE1 | 1.40 | 0.86 |
| 4:R:361:ARG:HD3 | 5:X:37:ILE:HD12 | 1.57 | 0.86 |
| 4:q:156:MET:HE3 | 4:q:425:ARG:HH11 | 1.40 | 0.86 |
| 2:l:171:ARG:HH12 | 2:u:339:MET:HE1 | 1.40 | 0.86 |
| 4:h:361:ARG:HD3 | 5:n:37:ILE:HD12 | 1.57 | 0.86 |
| 4:g:156:MET:HE3 | 4:g:425:ARG:HH11 | 1.41 | 0.86 |
| 2:d:171:ARG:HH12 | 2:m:339:MET:HE1 | 1.40 | 0.86 |
| 4:S:156:MET:HE3 | 4:S:425:ARG:HH11 | 1.40 | 0.86 |
| 4:J:156:MET:HE3 | 4:J:425:ARG:HH11 | 1.41 | 0.86 |
| 4:Y:156:MET:HE3 | 4:Y:425:ARG:HH11 | 1.40 | 0.86 |
| 4:C:156:MET:HE3 | 4:C:425:ARG:HH11 | 1.41 | 0.86 |
| 1:b:180:LYS:HZ2 | 1:b:217:TYR:HB2 | 1.40 | 0.86 |
| 4:p:361:ARG:HD3 | 5:v:37:ILE:HD12 | 1.57 | 0.86 |
| 4:o:156:MET:HE3 | 4:o:425:ARG:HH11 | 1.41 | 0.86 |
| 4:i:156:MET:HE3 | 4:i:425:ARG:HH11 | 1.41 | 0.85 |
| 4:A:156:MET:HE3 | 4:A:425:ARG:HH11 | 1.40 | 0.85 |
| 2:F:171:ARG:HH12 | 2:O:339:MET:HE1 | 1.40 | 0.85 |
| 4:R:156:MET:HE3 | 4:R:425:ARG:HH11 | 1.41 | 0.85 |
| 1:L:180:LYS:HE3 | 1:L:203:ILE:HG13 | 1.58 | 0.85 |
| 4:I:156:MET:HE3 | 4:I:425:ARG:HH11 | 1.40 | 0.85 |
| 4:K:156:MET:HE3 | 4:K:425:ARG:HH11 | 1.41 | 0.85 |
| 4:a:156:MET:HE3 | 4:a:425:ARG:HH11 | 1.41 | 0.85 |
| 4:J:361:ARG:HD3 | 5:P:37:ILE:HD12 | 1.57 | 0.85 |
| 4:Z:156:MET:HE3 | 4:Z:425:ARG:HH11 | 1.41 | 0.85 |
| 4:Z:471:GLU:HG2 | 4:Z:475:MET:HE1 | 1.59 | 0.85 |
| 4:o:471:GLU:HG2 | 4:o:475:MET:HE1 | 1.59 | 0.85 |
| 4:i:471:GLU:HG2 | 4:i:475:MET:HE1 | 1.59 | 0.84 |
| 4:K:471:GLU:HG2 | 4:K:475:MET:HE1 | 1.59 | 0.84 |
| 4:B:361:ARG:HD3 | 5:H:37:ILE:HD12 | 1.57 | 0.84 |
| 4:B:156:MET:HE3 | 4:B:425:ARG:HH11 | 1.41 | 0.84 |
| 4:h:156:MET:HE3 | 4:h:425:ARG:HH11 | 1.41 | 0.84 |
| 1:D:180:LYS:HE3 | 1:D:203:ILE:HG13 | 1.58 | 0.84 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:T:180:LYS:HE3 | 1:T:203:ILE:HG13 | 1.58 | 0.84 |
| 4:Q:471:GLU:HG2 | 4:Q:475:MET:HE1 | 1.59 | 0.84 |
| 4:C:471:GLU:HG2 | 4:C:475:MET:HE1 | 1.59 | 0.84 |
| 1:j:180:LYS:HE3 | 1:j:203:ILE:HG13 | 1.58 | 0.84 |
| 4:A:471:GLU:HG2 | 4:A:475:MET:HE1 | 1.59 | 0.84 |
| 4:Q:156:MET:HE3 | 4:Q:425:ARG:HH11 | 1.41 | 0.84 |
| 1:j:180:LYS:HZ2 | 1:j:217:TYR:HB2 | 1.41 | 0.83 |
| 4:h:471:GLU:HG2 | 4:h:475:MET:HE1 | 1.59 | 0.83 |
| 1:r:180:LYS:HE3 | 1:r:203:ILE:HG13 | 1.58 | 0.83 |
| 1:D:180:LYS:HZ2 | 1:D:217:TYR:HB2 | 1.41 | 0.83 |
| 4:p:156:MET:HE3 | 4:p:425:ARG:HH11 | 1.41 | 0.83 |
| 1:b:180:LYS:HE3 | 1:b:203:ILE:HG13 | 1.58 | 0.83 |
| 2:l:77:LYS:CG | 2:t:151:LYS:HG2 | 2.09 | 0.83 |
| 2:d:77:LYS:CG | 2:l:151:LYS:HG2 | 2.09 | 0.83 |
| 4:g:471:GLU:HG2 | 4:g:475:MET:HE1 | 1.59 | 0.83 |
| 4:B:471:GLU:HG2 | 4:B:475:MET:HE1 | 1.59 | 0.83 |
| 4:S:471:GLU:HG2 | 4:S:475:MET:HE1 | 1.59 | 0.83 |
| 4:a:471:GLU:HG2 | 4:a:475:MET:HE1 | 1.59 | 0.83 |
| 4:q:471:GLU:HG2 | 4:q:475:MET:HE1 | 1.59 | 0.83 |
| 4:Y:471:GLU:HG2 | 4:Y:475:MET:HE1 | 1.59 | 0.83 |
| 4:p:471:GLU:HG2 | 4:p:475:MET:HE1 | 1.59 | 0.83 |
| 4:I:471:GLU:HG2 | 4:I:475:MET:HE1 | 1.59 | 0.82 |
| 4:R:471:GLU:HG2 | 4:R:475:MET:HE1 | 1.59 | 0.82 |
| 2:F:151:LYS:HG2 | 2:t:77:LYS:CG | 2.09 | 0.82 |
| 2:e:106:LEU:HD13 | 2:e:118:PHE:HB3 | 1.61 | 0.82 |
| 1:r:180:LYS:HZ2 | 1:r:217:TYR:HB2 | 1.43 | 0.82 |
| 2:N:77:LYS:CG | 2:V:151:LYS:HG2 | 2.09 | 0.82 |
| 2:G:106:LEU:HD13 | 2:G:118:PHE:HB3 | 1.61 | 0.82 |
| 2:F:77:LYS:CG | 2:N:151:LYS:HG2 | 2.09 | 0.82 |
| 2:m:106:LEU:HD13 | 2:m:118:PHE:HB3 | 1.62 | 0.82 |
| 3:U:272:VAL:HA | 3:U:276:MET:HE1 | 1.62 | 0.82 |
| 4:J:471:GLU:HG2 | 4:J:475:MET:HE1 | 1.59 | 0.81 |
| 2:O:106:LEU:HD13 | 2:O:118:PHE:HB3 | 1.62 | 0.81 |
| 2:V:77:LYS:CG | 2:d:151:LYS:HG2 | 2.09 | 0.81 |
| 3:c:272:VAL:HA | 3:c:276:MET:HE1 | 1.62 | 0.81 |
| 3:M:272:VAL:HA | 3:M:276:MET:HE1 | 1.62 | 0.81 |
| 3:s:272:VAL:HA | 3:s:276:MET:HE1 | 1.62 | 0.81 |
| 1:D:219:THR:O | 1:D:223:ILE:HD12 | 1.82 | 0.80 |
| 4:o:384:LYS:HB2 | 4:o:389:MET:HE3 | 1.64 | 0.80 |
| 4:S:384:LYS:HB2 | 4:S:389:MET:HE3 | 1.64 | 0.80 |
| 2:u:106:LEU:HD13 | 2:u:118:PHE:HB3 | 1.62 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:p:384:LYS:HB2 | 4:p:389:MET:HE3 | 1.64 | 0.80 |
| 4:g:384:LYS:HB2 | 4:g:389:MET:HE3 | 1.64 | 0.80 |
| 4:i:384:LYS:HB2 | 4:i:389:MET:HE3 | 1.64 | 0.80 |
| 4:a:384:LYS:HB2 | 4:a:389:MET:HE3 | 1.64 | 0.80 |
| 4:Y:384:LYS:HB2 | 4:Y:389:MET:HE3 | 1.64 | 0.80 |
| 4:J:384:LYS:HB2 | 4:J:389:MET:HE3 | 1.64 | 0.80 |
| 3:E:272:VAL:HA | 3:E:276:MET:HE1 | 1.62 | 0.80 |
| 4:K:384:LYS:HB2 | 4:K:389:MET:HE3 | 1.64 | 0.80 |
| 2:W:106:LEU:HD13 | 2:W:118:PHE:HB3 | 1.62 | 0.80 |
| 1:b:219:THR:O | 1:b:223:ILE:HD12 | 1.82 | 0.80 |
| 4:h:384:LYS:HB2 | 4:h:389:MET:HE3 | 1.64 | 0.80 |
| 4:Z:384:LYS:HB2 | 4:Z:389:MET:HE3 | 1.64 | 0.79 |
| 4:B:384:LYS:HB2 | 4:B:389:MET:HE3 | 1.64 | 0.79 |
| 4:A:384:LYS:HB2 | 4:A:389:MET:HE3 | 1.64 | 0.79 |
| 1:T:219:THR:O | 1:T:223:ILE:HD12 | 1.82 | 0.79 |
| 1:j:219:THR:O | 1:j:223:ILE:HD12 | 1.82 | 0.79 |
| 4:R:384:LYS:HB2 | 4:R:389:MET:HE3 | 1.64 | 0.79 |
| 4:q:384:LYS:HB2 | 4:q:389:MET:HE3 | 1.64 | 0.79 |
| 4:C:384:LYS:HB2 | 4:C:389:MET:HE3 | 1.64 | 0.79 |
| 3:k:272:VAL:HA | 3:k:276:MET:HE1 | 1.62 | 0.79 |
| 1:r:219:THR:O | 1:r:223:ILE:HD12 | 1.82 | 0.79 |
| 4:Q:384:LYS:HB2 | 4:Q:389:MET:HE3 | 1.64 | 0.79 |
| 2:m:264:MET:HA | 2:m:267:LEU:HG | 1.64 | 0.79 |
| 1:L:219:THR:O | 1:L:223:ILE:HD12 | 1.82 | 0.79 |
| 2:W:264:MET:HA | 2:W:267:LEU:HG | 1.64 | 0.79 |
| 4:I:384:LYS:HB2 | 4:I:389:MET:HE3 | 1.64 | 0.79 |
| 3:U:510:LEU:HD11 | 3:U:536:ASN:HD22 | 1.49 | 0.78 |
| 2:u:264:MET:HA | 2:u:267:LEU:HG | 1.64 | 0.78 |
| 3:c:510:LEU:HD11 | 3:c:536:ASN:HD22 | 1.49 | 0.78 |
| 2:G:264:MET:HA | 2:G:267:LEU:HG | 1.64 | 0.78 |
| 2:e:264:MET:HA | 2:e:267:LEU:HG | 1.64 | 0.78 |
| 3:M:510:LEU:HD11 | 3:M:536:ASN:HD22 | 1.49 | 0.78 |
| 2:O:264:MET:HA | 2:O:267:LEU:HG | 1.64 | 0.78 |
| 1:D:134:ILE:HG21 | 1:D:239:LEU:HD13 | 1.67 | 0.77 |
| 1:L:134:ILE:HG21 | 1:L:239:LEU:HD13 | 1.67 | 0.77 |
| 1:L:180:LYS:HZ2 | 1:L:217:TYR:HB2 | 1.48 | 0.77 |
| 3:U:186:LYS:HD3 | 3:U:272:VAL:HG13 | 1.66 | 0.77 |
| 3:c:186:LYS:HD3 | 3:c:272:VAL:HG13 | 1.66 | 0.77 |
| 4:h:335:PRO:HD3 | 5:n:55:GLN:HE22 | 1.50 | 0.77 |
| 3:k:510:LEU:HD11 | 3:k:536:ASN:HD22 | 1.49 | 0.77 |
| 4:p:335:PRO:HD3 | 5:v:55:GLN:HE22 | 1.50 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:E:510:LEU:HD11 | 3:E:536:ASN:HD22 | 1.49 | 0.77 |
| 4:Z:335:PRO:HD3 | 5:f:55:GLN:HE22 | 1.50 | 0.77 |
| 3:k:21:LYS:HE2 | 3:k:52:THR:HG21 | 1.66 | 0.77 |
| 1:r:134:ILE:HG21 | 1:r:239:LEU:HD13 | 1.67 | 0.77 |
| 3:s:510:LEU:HD11 | 3:s:536:ASN:HD22 | 1.49 | 0.77 |
| 1:T:134:ILE:HG21 | 1:T:239:LEU:HD13 | 1.67 | 0.77 |
| 4:R:335:PRO:HD3 | 5:X:55:GLN:HE22 | 1.50 | 0.77 |
| 4:B:335:PRO:HD3 | 5:H:55:GLN:HE22 | 1.50 | 0.76 |
| 3:c:21:LYS:HE2 | 3:c:52:THR:HG21 | 1.66 | 0.76 |
| 1:j:134:ILE:HG21 | 1:j:239:LEU:HD13 | 1.67 | 0.76 |
| 3:M:21:LYS:HE2 | 3:M:52:THR:HG21 | 1.66 | 0.76 |
| 1:b:134:ILE:HG21 | 1:b:239:LEU:HD13 | 1.67 | 0.76 |
| 3:E:186:LYS:HD3 | 3:E:272:VAL:HG13 | 1.66 | 0.76 |
| 4:J:335:PRO:HD3 | 5:P:55:GLN:HE22 | 1.50 | 0.76 |
| 3:k:186:LYS:HD3 | 3:k:272:VAL:HG13 | 1.66 | 0.76 |
| 3:s:21:LYS:HE2 | 3:s:52:THR:HG21 | 1.66 | 0.76 |
| 3:s:186:LYS:HD3 | 3:s:272:VAL:HG13 | 1.66 | 0.76 |
| 1:L:180:LYS:NZ | 1:L:217:TYR:HB2 | 2.00 | 0.76 |
| 3:M:186:LYS:HD3 | 3:M:272:VAL:HG13 | 1.66 | 0.76 |
| 3:E:21:LYS:HE2 | 3:E:52:THR:HG21 | 1.66 | 0.76 |
| 1:T:180:LYS:NZ | 1:T:217:TYR:HB2 | 2.01 | 0.76 |
| 1:r:180:LYS:NZ | 1:r:217:TYR:HB2 | 2.01 | 0.76 |
| 1:T:180:LYS:HZ2 | 1:T:217:TYR:HB2 | 1.51 | 0.75 |
| 3:U:21:LYS:HE2 | 3:U:52:THR:HG21 | 1.66 | 0.75 |
| 1:j:180:LYS:NZ | 1:j:217:TYR:HB2 | 2.00 | 0.75 |
| 1:D:180:LYS:NZ | 1:D:217:TYR:HB2 | 2.01 | 0.75 |
| 4:Z:335:PRO:HD3 | 5:f:55:GLN:NE2 | 2.02 | 0.75 |
| 4:R:335:PRO:HD3 | 5:X:55:GLN:NE2 | 2.02 | 0.75 |
| 4:J:335:PRO:HD3 | 5:P:55:GLN:NE2 | 2.02 | 0.74 |
| 4:p:335:PRO:HD3 | 5:v:55:GLN:NE2 | 2.02 | 0.74 |
| 4:h:335:PRO:HD3 | 5:n:55:GLN:NE2 | 2.02 | 0.74 |
| 3:E:559:LEU:O | 3:E:563:ARG:HG3 | 1.88 | 0.74 |
| 4:B:335:PRO:HD3 | 5:H:55:GLN:NE2 | 2.02 | 0.74 |
| 3:M:559:LEU:O | 3:M:563:ARG:HG3 | 1.88 | 0.74 |
| 1:b:180:LYS:NZ | 1:b:217:TYR:HB2 | 2.01 | 0.74 |
| 3:s:559:LEU:O | 3:s:563:ARG:HG3 | 1.88 | 0.73 |
| 2:G:153:LEU:HD21 | 2:G:158:ILE:HG13 | 1.71 | 0.73 |
| 3:U:559:LEU:O | 3:U:563:ARG:HG3 | 1.88 | 0.73 |
| 3:U:377:LEU:HG | 3:U:378:ASP:H | 1.54 | 0.73 |
| 2:O:153:LEU:HD21 | 2:O:158:ILE:HG13 | 1.71 | 0.73 |
| 4:B:139:TYR:O | 4:B:142:ARG:HD3 | 1.89 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:Z:85:LEU:HD21 | 4:Z:162:LYS:HD2 | 1.71 | 0.72 |
| 4:q:139:TYR:O | 4:q:142:ARG:HD3 | 1.89 | 0.72 |
| 2:G:99:GLU:HG2 | 2:G:103:TRP:HE1 | 1.54 | 0.72 |
| 3:M:377:LEU:HG | 3:M:378:ASP:H | 1.54 | 0.72 |
| 4:J:85:LEU:HD21 | 4:J:162:LYS:HD2 | 1.71 | 0.72 |
| 4:K:85:LEU:HD21 | 4:K:162:LYS:HD2 | 1.72 | 0.72 |
| 2:d:76:GLU:CB | 2:l:151:LYS:HE3 | 2.06 | 0.72 |
| 2:e:99:GLU:HG2 | 2:e:103:TRP:HE1 | 1.54 | 0.72 |
| 3:c:377:LEU:HG | 3:c:378:ASP:H | 1.54 | 0.72 |
| 4:Y:139:TYR:O | 4:Y:142:ARG:HD3 | 1.89 | 0.72 |
| 2:t:196:GLN:NE2 | 2:t:340:PHE:HA | 2.05 | 0.72 |
| 4:C:139:TYR:O | 4:C:142:ARG:HD3 | 1.89 | 0.72 |
| 2:O:245:ASN:HD21 | 3:M:506:ASN:ND2 | 1.87 | 0.72 |
| 4:i:139:TYR:O | 4:i:142:ARG:HD3 | 1.90 | 0.72 |
| 4:Q:139:TYR:O | 4:Q:142:ARG:HD3 | 1.89 | 0.72 |
| 4:h:85:LEU:HD21 | 4:h:162:LYS:HD2 | 1.71 | 0.72 |
| 2:u:153:LEU:HD21 | 2:u:158:ILE:HG13 | 1.71 | 0.72 |
| 4:o:85:LEU:HD21 | 4:o:162:LYS:HD2 | 1.72 | 0.72 |
| 4:q:85:LEU:HD21 | 4:q:162:LYS:HD2 | 1.72 | 0.72 |
| 4:B:85:LEU:HD21 | 4:B:162:LYS:HD2 | 1.71 | 0.72 |
| 4:C:85:LEU:HD21 | 4:C:162:LYS:HD2 | 1.71 | 0.72 |
| 2:O:245:ASN:HD21 | 3:M:506:ASN:HD21 | 1.37 | 0.72 |
| 4:K:139:TYR:O | 4:K:142:ARG:HD3 | 1.90 | 0.72 |
| 2:V:196:GLN:NE2 | 2:V:340:PHE:HA | 2.05 | 0.72 |
| 2:m:245:ASN:HD21 | 3:k:506:ASN:ND2 | 1.87 | 0.72 |
| 3:k:377:LEU:HG | 3:k:378:ASP:H | 1.54 | 0.72 |
| 4:g:139:TYR:O | 4:g:142:ARG:HD3 | 1.90 | 0.72 |
| 4:p:139:TYR:O | 4:p:142:ARG:HD3 | 1.89 | 0.72 |
| 2:O:99:GLU:HG2 | 2:O:103:TRP:HE1 | 1.54 | 0.72 |
| 4:J:139:TYR:O | 4:J:142:ARG:HD3 | 1.89 | 0.72 |
| 2:l:196:GLN:NE2 | 2:l:340:PHE:HA | 2.05 | 0.72 |
| 2:m:99:GLU:HG2 | 2:m:103:TRP:HE1 | 1.54 | 0.72 |
| 4:g:85:LEU:HD21 | 4:g:162:LYS:HD2 | 1.72 | 0.72 |
| 4:i:85:LEU:HD21 | 4:i:162:LYS:HD2 | 1.72 | 0.72 |
| 2:u:267:LEU:HD13 | 2:u:317:SER:HB3 | 1.72 | 0.72 |
| 2:O:267:LEU:HD13 | 2:O:317:SER:HB3 | 1.72 | 0.72 |
| 4:I:139:TYR:O | 4:I:142:ARG:HD3 | 1.90 | 0.72 |
| 2:W:245:ASN:HD21 | 3:U:506:ASN:ND2 | 1.87 | 0.72 |
| 4:S:85:LEU:HD21 | 4:S:162:LYS:HD2 | 1.72 | 0.72 |
| 2:N:196:GLN:NE2 | 2:N:340:PHE:HA | 2.05 | 0.72 |
| 4:R:85:LEU:HD21 | 4:R:162:LYS:HD2 | 1.72 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:s:377:LEU:HG | 3:s:378:ASP:H | 1.54 | 0.72 |
| 2:G:267:LEU:HD13 | 2:G:317:SER:HB3 | 1.72 | 0.72 |
| 3:E:377:LEU:HG | 3:E:378:ASP:H | 1.54 | 0.72 |
| 2:W:245:ASN:HD21 | 3:U:506:ASN:HD21 | 1.37 | 0.72 |
| 2:e:245:ASN:HD21 | 3:c:506:ASN:ND2 | 1.88 | 0.72 |
| 3:c:559:LEU:O | 3:c:563:ARG:HG3 | 1.88 | 0.72 |
| 4:Z:139:TYR:O | 4:Z:142:ARG:HD3 | 1.89 | 0.72 |
| 2:m:267:LEU:HD13 | 2:m:317:SER:HB3 | 1.72 | 0.72 |
| 2:u:99:GLU:HG2 | 2:u:103:TRP:HE1 | 1.54 | 0.72 |
| 4:R:139:TYR:O | 4:R:142:ARG:HD3 | 1.89 | 0.72 |
| 4:Y:85:LEU:HD21 | 4:Y:162:LYS:HD2 | 1.72 | 0.72 |
| 4:a:85:LEU:HD21 | 4:a:162:LYS:HD2 | 1.71 | 0.72 |
| 2:u:245:ASN:HD21 | 3:s:506:ASN:ND2 | 1.87 | 0.72 |
| 4:p:85:LEU:HD21 | 4:p:162:LYS:HD2 | 1.72 | 0.71 |
| 4:o:139:TYR:O | 4:o:142:ARG:HD3 | 1.89 | 0.71 |
| 2:G:245:ASN:HD21 | 3:E:506:ASN:HD21 | 1.37 | 0.71 |
| 2:W:185:ILE:HD13 | 2:W:206:LEU:HG | 1.72 | 0.71 |
| 2:m:153:LEU:HD21 | 2:m:158:ILE:HG13 | 1.71 | 0.71 |
| 3:k:559:LEU:O | 3:k:563:ARG:HG3 | 1.88 | 0.71 |
| 2:F:196:GLN:NE2 | 2:F:340:PHE:HA | 2.05 | 0.71 |
| 2:O:185:ILE:HD13 | 2:O:206:LEU:HG | 1.72 | 0.71 |
| 2:W:267:LEU:HD13 | 2:W:317:SER:HB3 | 1.72 | 0.71 |
| 4:a:139:TYR:O | 4:a:142:ARG:HD3 | 1.89 | 0.71 |
| 2:W:153:LEU:HD21 | 2:W:158:ILE:HG13 | 1.71 | 0.71 |
| 4:S:139:TYR:O | 4:S:142:ARG:HD3 | 1.89 | 0.71 |
| 2:e:267:LEU:HD13 | 2:e:317:SER:HB3 | 1.72 | 0.71 |
| 4:h:139:TYR:O | 4:h:142:ARG:HD3 | 1.89 | 0.71 |
| 2:G:245:ASN:HD21 | 3:E:506:ASN:ND2 | 1.88 | 0.71 |
| 4:A:85:LEU:HD21 | 4:A:162:LYS:HD2 | 1.72 | 0.71 |
| 4:A:139:TYR:O | 4:A:142:ARG:HD3 | 1.89 | 0.71 |
| 2:W:99:GLU:HG2 | 2:W:103:TRP:HE1 | 1.54 | 0.71 |
| 2:d:196:GLN:NE2 | 2:d:340:PHE:HA | 2.05 | 0.71 |
| 4:Q:85:LEU:HD21 | 4:Q:162:LYS:HD2 | 1.72 | 0.70 |
| 4:I:85:LEU:HD21 | 4:I:162:LYS:HD2 | 1.72 | 0.70 |
| 2:e:153:LEU:HD21 | 2:e:158:ILE:HG13 | 1.71 | 0.70 |
| 2:e:185:ILE:HD13 | 2:e:206:LEU:HG | 1.72 | 0.70 |
| 2:V:76:GLU:CB | 2:d:151:LYS:HE3 | 2.06 | 0.70 |
| 1:D:176:THR:OG1 | 1:L:58:ARG:NH1 | 2.24 | 0.70 |
| 3:E:284:GLU:OE1 | 3:E:290:ARG:HG3 | 1.91 | 0.70 |
| 1:T:176:THR:OG1 | 1:b:58:ARG:NH1 | 2.24 | 0.70 |
| 1:L:176:THR:OG1 | 1:T:58:ARG:NH1 | 2.24 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:s:284:GLU:OE1 | 3:s:290:ARG:HG3 | 1.91 | 0.70 |
| 1:D:67:TYR:CE1 | 1:D:230:THR:HA | 2.27 | 0.70 |
| 2:G:185:ILE:HD13 | 2:G:206:LEU:HG | 1.72 | 0.70 |
| 2:V:261:LYS:HA | 2:V:264:MET:HE3 | 1.73 | 0.70 |
| 1:L:67:TYR:CE1 | 1:L:230:THR:HA | 2.27 | 0.70 |
| 3:U:313:ASP:HA | 3:U:316:LYS:HB3 | 1.74 | 0.70 |
| 1:j:176:THR:OG1 | 1:r:58:ARG:NH1 | 2.24 | 0.70 |
| 2:m:185:ILE:HD13 | 2:m:206:LEU:HG | 1.72 | 0.70 |
| 3:k:313:ASP:HA | 3:k:316:LYS:HB3 | 1.74 | 0.70 |
| 2:u:245:ASN:HD21 | 3:s:506:ASN:HD21 | 1.37 | 0.70 |
| 1:T:67:TYR:CE1 | 1:T:230:THR:HA | 2.27 | 0.70 |
| 2:e:245:ASN:HD21 | 3:c:506:ASN:HD21 | 1.37 | 0.70 |
| 4:Q:216:ILE:HD12 | 4:Q:219:ARG:HD2 | 1.74 | 0.70 |
| 2:V:338:GLU:OE1 | 2:d:325:ILE:HG22 | 1.92 | 0.69 |
| 1:b:67:TYR:CE1 | 1:b:230:THR:HA | 2.27 | 0.69 |
| 1:r:67:TYR:CE1 | 1:r:230:THR:HA | 2.27 | 0.69 |
| 2:u:185:ILE:HD13 | 2:u:206:LEU:HG | 1.72 | 0.69 |
| 3:s:313:ASP:HA | 3:s:316:LYS:HB3 | 1.74 | 0.69 |
| 3:E:394:ILE:HB | 3:M:114:THR:OG1 | 1.92 | 0.69 |
| 3:M:394:ILE:HB | 3:U:114:THR:OG1 | 1.92 | 0.69 |
| 3:c:284:GLU:OE1 | 3:c:290:ARG:HG3 | 1.91 | 0.69 |
| 3:E:114:THR:OG1 | 3:s:394:ILE:HB | 1.92 | 0.69 |
| 1:j:67:TYR:CE1 | 1:j:230:THR:HA | 2.27 | 0.69 |
| 2:t:261:LYS:HA | 2:t:264:MET:HE3 | 1.73 | 0.69 |
| 2:F:325:ILE:HG22 | 2:t:338:GLU:OE1 | 1.92 | 0.69 |
| 4:R:216:ILE:HD12 | 4:R:219:ARG:HD2 | 1.73 | 0.69 |
| 4:S:216:ILE:HD12 | 4:S:219:ARG:HD2 | 1.73 | 0.69 |
| 2:d:338:GLU:OE1 | 2:l:325:ILE:HG22 | 1.92 | 0.69 |
| 4:A:216:ILE:HD12 | 4:A:219:ARG:HD2 | 1.74 | 0.69 |
| 2:N:261:LYS:HA | 2:N:264:MET:HE3 | 1.73 | 0.69 |
| 3:c:313:ASP:HA | 3:c:316:LYS:HB3 | 1.74 | 0.69 |
| 2:l:261:LYS:HA | 2:l:264:MET:HE3 | 1.73 | 0.69 |
| 1:D:58:ARG:NH1 | 1:r:176:THR:OG1 | 2.24 | 0.69 |
| 2:N:338:GLU:OE1 | 2:V:325:ILE:HG22 | 1.92 | 0.69 |
| 3:U:394:ILE:HB | 3:c:114:THR:OG1 | 1.92 | 0.69 |
| 1:b:176:THR:OG1 | 1:j:58:ARG:NH1 | 2.24 | 0.69 |
| 4:a:216:ILE:HD12 | 4:a:219:ARG:HD2 | 1.73 | 0.69 |
| 2:m:245:ASN:HD21 | 3:k:506:ASN:HD21 | 1.37 | 0.69 |
| 3:k:284:GLU:OE1 | 3:k:290:ARG:HG3 | 1.91 | 0.69 |
| 2:F:261:LYS:HA | 2:F:264:MET:HE3 | 1.73 | 0.69 |
| 4:C:216:ILE:HD12 | 4:C:219:ARG:HD2 | 1.73 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:L:44:TYR:HB3 | 1:L:92:TYR:OH | 1.93 | 0.69 |
| 3:M:284:GLU:OE1 | 3:M:290:ARG:HG3 | 1.91 | 0.69 |
| 4:I:216:ILE:HD12 | 4:I:219:ARG:HD2 | 1.74 | 0.69 |
| 3:U:284:GLU:OE1 | 3:U:290:ARG:HG3 | 1.91 | 0.69 |
| 3:c:394:ILE:HB | 3:k:114:THR:OG1 | 1.92 | 0.69 |
| 4:Y:216:ILE:HD12 | 4:Y:219:ARG:HD2 | 1.74 | 0.69 |
| 1:r:176:THR:HG21 | 1:r:228:TYR:HB2 | 1.75 | 0.69 |
| 2:F:338:GLU:OE1 | 2:N:325:ILE:HG22 | 1.92 | 0.69 |
| 3:E:115:GLN:HG2 | 3:s:394:ILE:HD13 | 1.75 | 0.69 |
| 2:d:261:LYS:HA | 2:d:264:MET:HE3 | 1.73 | 0.69 |
| 4:B:216:ILE:HD12 | 4:B:219:ARG:HD2 | 1.73 | 0.69 |
| 4:Z:216:ILE:HD12 | 4:Z:219:ARG:HD2 | 1.73 | 0.69 |
| 2:l:338:GLU:OE1 | 2:t:325:ILE:HG22 | 1.92 | 0.69 |
| 1:T:176:THR:HG21 | 1:T:228:TYR:HB2 | 1.75 | 0.68 |
| 4:p:216:ILE:HD12 | 4:p:219:ARG:HD2 | 1.73 | 0.68 |
| 1:T:44:TYR:HB3 | 1:T:92:TYR:OH | 1.93 | 0.68 |
| 1:j:44:TYR:HB3 | 1:j:92:TYR:OH | 1.93 | 0.68 |
| 3:k:394:ILE:HB | 3:s:114:THR:OG1 | 1.92 | 0.68 |
| 3:M:313:ASP:HA | 3:M:316:LYS:HB3 | 1.74 | 0.68 |
| 1:j:176:THR:HG21 | 1:j:228:TYR:HB2 | 1.75 | 0.68 |
| 2:l:76:GLU:CB | 2:t:151:LYS:HE3 | 2.05 | 0.68 |
| 1:r:44:TYR:HB3 | 1:r:92:TYR:OH | 1.93 | 0.68 |
| 4:o:216:ILE:HD12 | 4:o:219:ARG:HD2 | 1.74 | 0.68 |
| 4:J:216:ILE:HD12 | 4:J:219:ARG:HD2 | 1.73 | 0.68 |
| 4:q:216:ILE:HD12 | 4:q:219:ARG:HD2 | 1.73 | 0.68 |
| 1:D:176:THR:HG21 | 1:D:228:TYR:HB2 | 1.75 | 0.68 |
| 1:b:44:TYR:HB3 | 1:b:92:TYR:OH | 1.93 | 0.68 |
| 4:h:361:ARG:HD2 | 5:n:33:LYS:C | 2.19 | 0.68 |
| 1:D:44:TYR:HB3 | 1:D:92:TYR:OH | 1.93 | 0.68 |
| 2:N:76:GLU:CB | 2:V:151:LYS:HE3 | 2.05 | 0.68 |
| 2:t:87:PRO:HB3 | 2:t:92:LEU:HD11 | 1.76 | 0.68 |
| 3:c:394:ILE:HD13 | 3:k:115:GLN:HG2 | 1.75 | 0.68 |
| 4:i:216:ILE:HD12 | 4:i:219:ARG:HD2 | 1.73 | 0.68 |
| 2:F:87:PRO:HB3 | 2:F:92:LEU:HD11 | 1.76 | 0.68 |
| 1:L:49:ILE:HB | 1:L:97:ASN:HD21 | 1.59 | 0.68 |
| 1:L:176:THR:HG21 | 1:L:228:TYR:HB2 | 1.75 | 0.68 |
| 1:T:49:ILE:HB | 1:T:97:ASN:HD21 | 1.59 | 0.68 |
| 3:U:394:ILE:HD13 | 3:c:115:GLN:HG2 | 1.75 | 0.68 |
| 4:R:361:ARG:HD2 | 5:X:33:LYS:C | 2.19 | 0.68 |
| 1:r:49:ILE:HB | 1:r:97:ASN:HD21 | 1.59 | 0.68 |
| 4:p:361:ARG:HD2 | 5:v:33:LYS:C | 2.19 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:K:216:ILE:HD12 | 4:K:219:ARG:HD2 | 1.73 | 0.67 |
| 3:E:313:ASP:HA | 3:E:316:LYS:HB3 | 1.74 | 0.67 |
| 3:M:394:ILE:HD13 | 3:U:115:GLN:HG2 | 1.75 | 0.67 |
| 1:b:49:ILE:HB | 1:b:97:ASN:HD21 | 1.59 | 0.67 |
| 4:Q:510:SER:HB3 | 3:c:538:TYR:HB2 | 1.77 | 0.67 |
| 1:b:176:THR:HG21 | 1:b:228:TYR:HB2 | 1.75 | 0.67 |
| 3:c:259:ILE:O | 3:c:263:ILE:HG12 | 1.95 | 0.67 |
| 4:h:216:ILE:HD12 | 4:h:219:ARG:HD2 | 1.73 | 0.67 |
| 2:l:87:PRO:HB3 | 2:l:92:LEU:HD11 | 1.76 | 0.67 |
| 4:J:361:ARG:HD2 | 5:P:33:LYS:C | 2.19 | 0.67 |
| 3:k:394:ILE:HD13 | 3:s:115:GLN:HG2 | 1.75 | 0.67 |
| 4:g:216:ILE:HD12 | 4:g:219:ARG:HD2 | 1.74 | 0.67 |
| 3:E:394:ILE:HD13 | 3:M:115:GLN:HG2 | 1.75 | 0.67 |
| 4:Z:361:ARG:HD2 | 5:f:33:LYS:C | 2.19 | 0.67 |
| 2:t:287:THR:HG21 | 2:t:335:MET:HE1 | 1.77 | 0.67 |
| 4:B:361:ARG:HD2 | 5:H:33:LYS:C | 2.19 | 0.67 |
| 2:N:87:PRO:HB3 | 2:N:92:LEU:HD11 | 1.76 | 0.67 |
| 1:T:12:TYR:HB3 | 1:b:28:ARG:HH22 | 1.60 | 0.67 |
| 1:b:32:ARG:HG3 | 1:b:34:LEU:HG | 1.77 | 0.67 |
| 1:j:49:ILE:HB | 1:j:97:ASN:HD21 | 1.59 | 0.67 |
| 3:M:259:ILE:O | 3:M:263:ILE:HG12 | 1.94 | 0.67 |
| 1:T:32:ARG:HG3 | 1:T:34:LEU:HG | 1.77 | 0.67 |
| 3:U:243:ASP:O | 3:U:247:VAL:HG12 | 1.95 | 0.67 |
| 3:s:259:ILE:O | 3:s:263:ILE:HG12 | 1.95 | 0.67 |
| 1:L:12:TYR:HB3 | 1:T:28:ARG:HH22 | 1.60 | 0.66 |
| 2:l:287:THR:HG21 | 2:l:335:MET:HE1 | 1.77 | 0.66 |
| 3:k:243:ASP:O | 3:k:247:VAL:HG12 | 1.95 | 0.66 |
| 1:j:32:ARG:HG3 | 1:j:34:LEU:HG | 1.77 | 0.66 |
| 2:F:282:LEU:O | 2:O:273:TYR:HD1 | 1.79 | 0.66 |
| 3:M:243:ASP:O | 3:M:247:VAL:HG12 | 1.95 | 0.66 |
| 2:V:282:LEU:O | 2:e:273:TYR:HD1 | 1.79 | 0.66 |
| 2:V:287:THR:HG21 | 2:V:335:MET:HE1 | 1.77 | 0.66 |
| 2:d:282:LEU:O | 2:m:273:TYR:HD1 | 1.79 | 0.66 |
| 4:g:510:SER:HB3 | 3:s:538:TYR:HB2 | 1.77 | 0.66 |
| 2:l:282:LEU:O | 2:u:273:TYR:HD1 | 1.79 | 0.66 |
| 3:E:259:ILE:O | 3:E:263:ILE:HG12 | 1.95 | 0.66 |
| 2:d:87:PRO:HB3 | 2:d:92:LEU:HD11 | 1.76 | 0.66 |
| 2:t:93:LYS:HD2 | 2:t:211:ILE:HG23 | 1.78 | 0.66 |
| 1:D:28:ARG:HH22 | 1:r:12:TYR:HB3 | 1.60 | 0.66 |
| 2:F:287:THR:HG21 | 2:F:335:MET:HE1 | 1.77 | 0.66 |
| 4:B:379:GLU:HB3 | 3:M:556:LYS:HE3 | 1.78 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:N:287:THR:HG21 | 2:N:335:MET:HE1 | 1.77 | 0.66 |
| 3:U:259:ILE:O | 3:U:263:ILE:HG12 | 1.95 | 0.66 |
| 4:Y:510:SER:HB3 | 3:k:538:TYR:HB2 | 1.77 | 0.66 |
| 3:s:243:ASP:O | 3:s:247:VAL:HG12 | 1.95 | 0.66 |
| 2:F:151:LYS:HE3 | 2:t:76:GLU:CB | 2.06 | 0.66 |
| 2:V:87:PRO:HB3 | 2:V:92:LEU:HD11 | 1.76 | 0.66 |
| 3:c:243:ASP:O | 3:c:247:VAL:HG12 | 1.95 | 0.66 |
| 3:k:259:ILE:O | 3:k:263:ILE:HG12 | 1.94 | 0.66 |
| 1:r:32:ARG:HG3 | 1:r:34:LEU:HG | 1.77 | 0.66 |
| 2:F:93:LYS:HD2 | 2:F:211:ILE:HG23 | 1.77 | 0.66 |
| 2:G:273:TYR:HD1 | 2:t:282:LEU:O | 1.79 | 0.66 |
| 3:E:538:TYR:HB2 | 4:o:510:SER:HB3 | 1.77 | 0.66 |
| 4:J:379:GLU:HB3 | 3:U:556:LYS:HE3 | 1.78 | 0.66 |
| 4:I:510:SER:HB3 | 3:U:538:TYR:HB2 | 1.77 | 0.66 |
| 2:V:93:LYS:HD2 | 2:V:211:ILE:HG23 | 1.78 | 0.66 |
| 1:b:12:TYR:HB3 | 1:j:28:ARG:HH22 | 1.60 | 0.66 |
| 2:d:93:LYS:HD2 | 2:d:211:ILE:HG23 | 1.77 | 0.66 |
| 1:D:49:ILE:HB | 1:D:97:ASN:HD21 | 1.59 | 0.66 |
| 3:E:243:ASP:O | 3:E:247:VAL:HG12 | 1.95 | 0.66 |
| 3:E:556:LYS:HE3 | 4:p:379:GLU:HB3 | 1.78 | 0.66 |
| 1:L:32:ARG:HG3 | 1:L:34:LEU:HG | 1.77 | 0.66 |
| 2:N:282:LEU:O | 2:W:273:TYR:HD1 | 1.79 | 0.66 |
| 2:d:287:THR:HG21 | 2:d:335:MET:HE1 | 1.77 | 0.66 |
| 4:Z:379:GLU:HB3 | 3:k:556:LYS:HE3 | 1.78 | 0.66 |
| 4:h:379:GLU:HB3 | 3:s:556:LYS:HE3 | 1.78 | 0.66 |
| 2:V:76:GLU:HB2 | 2:d:151:LYS:HE3 | 1.79 | 0.65 |
| 1:j:12:TYR:HB3 | 1:r:28:ARG:HH22 | 1.60 | 0.65 |
| 4:A:510:SER:HB3 | 3:M:538:TYR:HB2 | 1.77 | 0.65 |
| 1:D:32:ARG:HG3 | 1:D:34:LEU:HG | 1.77 | 0.65 |
| 1:D:12:TYR:HB3 | 1:L:28:ARG:HH22 | 1.60 | 0.65 |
| 2:d:76:GLU:HB2 | 2:l:151:LYS:HE3 | 1.79 | 0.65 |
| 2:l:73:CYS:O | 2:t:151:LYS:CE | 2.45 | 0.65 |
| 2:F:73:CYS:O | 2:N:151:LYS:CE | 2.45 | 0.65 |
| 2:N:76:GLU:HB2 | 2:V:151:LYS:HE3 | 1.79 | 0.65 |
| 4:R:379:GLU:HB3 | 3:c:556:LYS:HE3 | 1.78 | 0.65 |
| 4:R:444:GLU:HA | 4:R:447:LYS:HE3 | 1.79 | 0.65 |
| 2:l:93:LYS:HD2 | 2:l:211:ILE:HG23 | 1.78 | 0.65 |
| 4:J:444:GLU:HA | 4:J:447:LYS:HE3 | 1.79 | 0.65 |
| 1:j:180:LYS:HG2 | 1:j:203:ILE:HD12 | 1.79 | 0.65 |
| 2:l:76:GLU:HB2 | 2:t:151:LYS:HE3 | 1.79 | 0.65 |
| 4:R:396:CYS:HB2 | 4:R:428:LEU:HD12 | 1.79 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:b:180:LYS:HG2 | 1:b:203:ILE:HD12 | 1.79 | 0.65 |
| 1:r:180:LYS:HG2 | 1:r:203:ILE:HD12 | 1.79 | 0.65 |
| 4:o:396:CYS:HB2 | 4:o:428:LEU:HD12 | 1.79 | 0.65 |
| 2:F:151:LYS:HE3 | 2:t:76:GLU:HB2 | 1.79 | 0.64 |
| 4:Z:334:LEU:HA | 5:f:55:GLN:HE22 | 1.63 | 0.64 |
| 1:D:180:LYS:HG2 | 1:D:203:ILE:HD12 | 1.79 | 0.64 |
| 4:R:334:LEU:HA | 5:X:55:GLN:HE22 | 1.63 | 0.64 |
| 4:Z:396:CYS:HB2 | 4:Z:428:LEU:HD12 | 1.79 | 0.64 |
| 4:g:396:CYS:HB2 | 4:g:428:LEU:HD12 | 1.79 | 0.64 |
| 4:i:396:CYS:HB2 | 4:i:428:LEU:HD12 | 1.79 | 0.64 |
| 2:F:76:GLU:HB2 | 2:N:151:LYS:HE3 | 1.79 | 0.64 |
| 4:B:444:GLU:HA | 4:B:447:LYS:HE3 | 1.79 | 0.64 |
| 4:A:444:GLU:HA | 4:A:447:LYS:HE3 | 1.79 | 0.64 |
| 4:C:396:CYS:HB2 | 4:C:428:LEU:HD12 | 1.79 | 0.64 |
| 4:a:444:GLU:HA | 4:a:447:LYS:HE3 | 1.79 | 0.64 |
| 4:h:334:LEU:HA | 5:n:55:GLN:HE22 | 1.63 | 0.64 |
| 2:N:122:LYS:HE2 | 2:N:136:GLU:HA | 1.79 | 0.64 |
| 4:I:444:GLU:HA | 4:I:447:LYS:HE3 | 1.79 | 0.64 |
| 4:a:396:CYS:HB2 | 4:a:428:LEU:HD12 | 1.79 | 0.64 |
| 4:p:334:LEU:HA | 5:v:55:GLN:HE22 | 1.63 | 0.64 |
| 2:F:282:LEU:O | 2:O:273:TYR:CD1 | 2.51 | 0.64 |
| 2:N:282:LEU:O | 2:W:273:TYR:CD1 | 2.51 | 0.64 |
| 2:V:73:CYS:O | 2:d:151:LYS:CE | 2.45 | 0.64 |
| 2:l:122:LYS:HE2 | 2:l:136:GLU:HA | 1.79 | 0.64 |
| 4:p:396:CYS:HB2 | 4:p:428:LEU:HD12 | 1.79 | 0.64 |
| 2:F:122:LYS:HE2 | 2:F:136:GLU:HA | 1.79 | 0.64 |
| 3:E:520:SER:HA | 3:s:10:ILE:CD1 | 2.26 | 0.64 |
| 1:L:180:LYS:HG2 | 1:L:203:ILE:HD12 | 1.79 | 0.64 |
| 4:K:396:CYS:HB2 | 4:K:428:LEU:HD12 | 1.79 | 0.64 |
| 1:T:7:ARG:NH1 | 1:T:8:PHE:HB3 | 2.13 | 0.64 |
| 4:Z:444:GLU:HA | 4:Z:447:LYS:HE3 | 1.79 | 0.64 |
| 3:k:10:ILE:CD1 | 3:s:520:SER:HA | 2.26 | 0.64 |
| 2:F:151:LYS:CE | 2:t:73:CYS:O | 2.45 | 0.64 |
| 1:T:180:LYS:HG2 | 1:T:203:ILE:HD12 | 1.79 | 0.64 |
| 4:B:334:LEU:HA | 5:H:55:GLN:HE22 | 1.63 | 0.64 |
| 4:C:444:GLU:HA | 4:C:447:LYS:HE3 | 1.79 | 0.64 |
| 1:L:7:ARG:NH1 | 1:L:8:PHE:HB3 | 2.13 | 0.64 |
| 2:O:164:ILE:HG22 | 2:O:168:MET:HE2 | 1.80 | 0.64 |
| 4:J:334:LEU:HA | 5:P:55:GLN:HE22 | 1.63 | 0.64 |
| 3:U:315:TRP:CH2 | 3:U:354:TYR:HB3 | 2.33 | 0.64 |
| 2:d:73:CYS:O | 2:l:151:LYS:CE | 2.45 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:l:77:LYS:HG3 | 2:t:151:LYS:CG | 2.28 | 0.64 |
| 2:l:282:LEU:O | 2:u:273:TYR:CD1 | 2.51 | 0.64 |
| 1:r:7:ARG:NH1 | 1:r:8:PHE:HB3 | 2.13 | 0.64 |
| 4:B:396:CYS:HB2 | 4:B:428:LEU:HD12 | 1.79 | 0.63 |
| 4:A:396:CYS:HB2 | 4:A:428:LEU:HD12 | 1.79 | 0.63 |
| 2:V:282:LEU:O | 2:e:273:TYR:CD1 | 2.51 | 0.63 |
| 4:S:444:GLU:HA | 4:S:447:LYS:HE3 | 1.79 | 0.63 |
| 4:Y:444:GLU:HA | 4:Y:447:LYS:HE3 | 1.79 | 0.63 |
| 3:k:315:TRP:CH2 | 3:k:354:TYR:HB3 | 2.33 | 0.63 |
| 2:N:93:LYS:HD2 | 2:N:211:ILE:HG23 | 1.78 | 0.63 |
| 4:I:396:CYS:HB2 | 4:I:428:LEU:HD12 | 1.79 | 0.63 |
| 4:q:444:GLU:HA | 4:q:447:LYS:HE3 | 1.79 | 0.63 |
| 1:D:7:ARG:NH1 | 1:D:8:PHE:HB3 | 2.13 | 0.63 |
| 2:G:273:TYR:CD1 | 2:t:282:LEU:O | 2.51 | 0.63 |
| 3:E:66:HIS:HE1 | 3:E:495:VAL:HA | 1.64 | 0.63 |
| 3:E:460:LYS:HE2 | 3:E:460:LYS:HA | 1.80 | 0.63 |
| 2:W:164:ILE:HG22 | 2:W:168:MET:HE2 | 1.81 | 0.63 |
| 4:Q:396:CYS:HB2 | 4:Q:428:LEU:HD12 | 1.79 | 0.63 |
| 3:c:394:ILE:HG13 | 3:c:395:THR:H | 1.64 | 0.63 |
| 1:j:7:ARG:NH1 | 1:j:8:PHE:HB3 | 2.13 | 0.63 |
| 2:F:151:LYS:CG | 2:t:77:LYS:HG3 | 2.28 | 0.63 |
| 4:I:513:TYR:OH | 3:U:538:TYR:CE1 | 2.51 | 0.63 |
| 3:U:394:ILE:HG13 | 3:U:395:THR:H | 1.64 | 0.63 |
| 4:S:396:CYS:HB2 | 4:S:428:LEU:HD12 | 1.79 | 0.63 |
| 2:t:122:LYS:HE2 | 2:t:136:GLU:HA | 1.79 | 0.63 |
| 3:E:10:ILE:CD1 | 3:M:520:SER:HA | 2.26 | 0.63 |
| 4:Q:513:TYR:OH | 3:c:538:TYR:CE1 | 2.51 | 0.63 |
| 1:b:7:ARG:NH1 | 1:b:8:PHE:HB3 | 2.13 | 0.63 |
| 1:b:77:LYS:O | 1:b:81:LEU:HD23 | 1.99 | 0.63 |
| 2:d:122:LYS:HE2 | 2:d:136:GLU:HA | 1.79 | 0.63 |
| 2:d:282:LEU:O | 2:m:273:TYR:CD1 | 2.51 | 0.63 |
| 1:j:77:LYS:O | 1:j:81:LEU:HD23 | 1.99 | 0.63 |
| 4:g:444:GLU:HA | 4:g:447:LYS:HE3 | 1.79 | 0.63 |
| 1:D:77:LYS:O | 1:D:81:LEU:HD23 | 1.99 | 0.63 |
| 3:M:315:TRP:CH2 | 3:M:354:TYR:HB3 | 2.33 | 0.63 |
| 3:M:394:ILE:HG13 | 3:M:395:THR:N | 2.14 | 0.63 |
| 3:U:394:ILE:CD1 | 3:c:115:GLN:HG2 | 2.29 | 0.63 |
| 2:N:73:CYS:O | 2:V:151:LYS:CE | 2.45 | 0.63 |
| 2:O:148:PRO:HB3 | 2:O:234:GLU:OE2 | 1.99 | 0.63 |
| 4:K:444:GLU:HA | 4:K:447:LYS:HE3 | 1.79 | 0.63 |
| 2:V:122:LYS:HE2 | 2:V:136:GLU:HA | 1.79 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:U:66:HIS:HE1 | 3:U:495:VAL:HA | 1.64 | 0.63 |
| 1:j:67:TYR:CZ | 1:j:230:THR:HA | 2.34 | 0.63 |
| 4:h:396:CYS:HB2 | 4:h:428:LEU:HD12 | 1.79 | 0.63 |
| 4:p:444:GLU:HA | 4:p:447:LYS:HE3 | 1.79 | 0.63 |
| 4:q:396:CYS:HB2 | 4:q:428:LEU:HD12 | 1.79 | 0.63 |
| 3:E:315:TRP:CH2 | 3:E:354:TYR:HB3 | 2.33 | 0.63 |
| 4:J:396:CYS:HB2 | 4:J:428:LEU:HD12 | 1.79 | 0.63 |
| 3:U:394:ILE:HG13 | 3:U:395:THR:N | 2.14 | 0.63 |
| 2:e:148:PRO:HB3 | 2:e:234:GLU:OE2 | 1.99 | 0.63 |
| 3:c:394:ILE:CD1 | 3:k:115:GLN:HG2 | 2.29 | 0.63 |
| 4:Y:513:TYR:OH | 3:k:538:TYR:CE1 | 2.51 | 0.63 |
| 1:r:67:TYR:CZ | 1:r:230:THR:HA | 2.34 | 0.63 |
| 3:s:315:TRP:CH2 | 3:s:354:TYR:HB3 | 2.33 | 0.63 |
| 2:G:164:ILE:HG22 | 2:G:168:MET:HE2 | 1.81 | 0.63 |
| 3:U:460:LYS:HE2 | 3:U:460:LYS:HA | 1.80 | 0.63 |
| 1:b:67:TYR:CZ | 1:b:230:THR:HA | 2.34 | 0.63 |
| 3:k:394:ILE:HG13 | 3:k:395:THR:H | 1.64 | 0.63 |
| 3:k:394:ILE:CD1 | 3:s:115:GLN:HG2 | 2.29 | 0.63 |
| 4:h:444:GLU:HA | 4:h:447:LYS:HE3 | 1.79 | 0.63 |
| 1:r:77:LYS:O | 1:r:81:LEU:HD23 | 1.99 | 0.63 |
| 1:T:77:LYS:O | 1:T:81:LEU:HD23 | 1.99 | 0.62 |
| 2:e:164:ILE:HG22 | 2:e:168:MET:HE2 | 1.81 | 0.62 |
| 3:c:315:TRP:CH2 | 3:c:354:TYR:HB3 | 2.33 | 0.62 |
| 4:i:444:GLU:HA | 4:i:447:LYS:HE3 | 1.79 | 0.62 |
| 2:u:148:PRO:HB3 | 2:u:234:GLU:OE2 | 1.99 | 0.62 |
| 4:o:444:GLU:HA | 4:o:447:LYS:HE3 | 1.79 | 0.62 |
| 3:M:394:ILE:CD1 | 3:U:115:GLN:HG2 | 2.29 | 0.62 |
| 4:Q:371:MET:HE2 | 4:Q:428:LEU:HD23 | 1.81 | 0.62 |
| 4:S:371:MET:HE2 | 4:S:428:LEU:HD23 | 1.81 | 0.62 |
| 3:s:460:LYS:HA | 3:s:460:LYS:HE2 | 1.80 | 0.62 |
| 1:D:67:TYR:CZ | 1:D:230:THR:HA | 2.34 | 0.62 |
| 2:G:148:PRO:HB3 | 2:G:234:GLU:OE2 | 1.99 | 0.62 |
| 3:E:394:ILE:HG13 | 3:E:395:THR:N | 2.14 | 0.62 |
| 3:M:394:ILE:HG13 | 3:M:395:THR:H | 1.64 | 0.62 |
| 4:S:156:MET:HG2 | 4:S:425:ARG:HD2 | 1.81 | 0.62 |
| 3:c:10:ILE:CD1 | 3:k:520:SER:HA | 2.26 | 0.62 |
| 2:m:148:PRO:HB3 | 2:m:234:GLU:OE2 | 1.99 | 0.62 |
| 4:h:371:MET:HE2 | 4:h:428:LEU:HD23 | 1.82 | 0.62 |
| 4:i:371:MET:HE2 | 4:i:428:LEU:HD23 | 1.81 | 0.62 |
| 1:L:77:LYS:O | 1:L:81:LEU:HD23 | 1.99 | 0.62 |
| 3:M:10:ILE:CD1 | 3:U:520:SER:HA | 2.26 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:M:66:HIS:HE1 | 3:M:495:VAL:HA | 1.64 | 0.62 |
| 4:Q:444:GLU:HA | 4:Q:447:LYS:HE3 | 1.79 | 0.62 |
| 2:d:77:LYS:HG3 | 2:l:151:LYS:CG | 2.28 | 0.62 |
| 3:k:66:HIS:HE1 | 3:k:495:VAL:HA | 1.64 | 0.62 |
| 4:B:371:MET:HE2 | 4:B:428:LEU:HD23 | 1.82 | 0.62 |
| 4:A:371:MET:HE2 | 4:A:428:LEU:HD23 | 1.81 | 0.62 |
| 1:L:67:TYR:CZ | 1:L:230:THR:HA | 2.34 | 0.62 |
| 4:J:156:MET:HG2 | 4:J:425:ARG:HD2 | 1.81 | 0.62 |
| 4:K:156:MET:HG2 | 4:K:425:ARG:HD2 | 1.81 | 0.62 |
| 1:T:67:TYR:CZ | 1:T:230:THR:HA | 2.34 | 0.62 |
| 2:W:148:PRO:HB3 | 2:W:234:GLU:OE2 | 1.99 | 0.62 |
| 3:c:66:HIS:HE1 | 3:c:495:VAL:HA | 1.64 | 0.62 |
| 4:Y:371:MET:HE2 | 4:Y:428:LEU:HD23 | 1.81 | 0.62 |
| 4:g:513:TYR:OH | 3:s:538:TYR:CE1 | 2.51 | 0.62 |
| 4:o:371:MET:HE2 | 4:o:428:LEU:HD23 | 1.81 | 0.62 |
| 4:B:156:MET:HG2 | 4:B:425:ARG:HD2 | 1.81 | 0.62 |
| 4:A:513:TYR:OH | 3:M:538:TYR:CE1 | 2.51 | 0.62 |
| 3:M:352:PRO:HG3 | 1:T:77:LYS:HD2 | 1.82 | 0.62 |
| 4:Y:396:CYS:HB2 | 4:Y:428:LEU:HD12 | 1.79 | 0.62 |
| 3:s:377:LEU:HB3 | 3:s:383:TYR:CZ | 2.35 | 0.62 |
| 3:M:460:LYS:HE2 | 3:M:460:LYS:HA | 1.80 | 0.62 |
| 3:c:394:ILE:HG13 | 3:c:395:THR:N | 2.14 | 0.62 |
| 3:k:377:LEU:HB3 | 3:k:383:TYR:CZ | 2.35 | 0.62 |
| 3:s:394:ILE:HG13 | 3:s:395:THR:H | 1.64 | 0.62 |
| 4:q:371:MET:HE2 | 4:q:428:LEU:HD23 | 1.81 | 0.62 |
| 3:E:115:GLN:HG2 | 3:s:394:ILE:CD1 | 2.29 | 0.62 |
| 3:E:394:ILE:CD1 | 3:M:115:GLN:HG2 | 2.29 | 0.62 |
| 3:c:272:VAL:HA | 3:c:276:MET:CE | 2.30 | 0.62 |
| 2:u:164:ILE:HG22 | 2:u:168:MET:HE2 | 1.81 | 0.62 |
| 3:E:538:TYR:CE1 | 4:o:513:TYR:OH | 2.51 | 0.62 |
| 4:K:371:MET:HE2 | 4:K:428:LEU:HD23 | 1.81 | 0.62 |
| 3:c:460:LYS:HA | 3:c:460:LYS:HE2 | 1.80 | 0.62 |
| 3:s:394:ILE:HG13 | 3:s:395:THR:N | 2.14 | 0.62 |
| 2:m:164:ILE:HG22 | 2:m:168:MET:HE2 | 1.80 | 0.62 |
| 3:k:460:LYS:HA | 3:k:460:LYS:HE2 | 1.80 | 0.62 |
| 3:U:10:ILE:CD1 | 3:c:520:SER:HA | 2.26 | 0.61 |
| 3:k:352:PRO:HG3 | 1:r:77:LYS:HD2 | 1.82 | 0.61 |
| 3:k:394:ILE:HG13 | 3:k:395:THR:N | 2.14 | 0.61 |
| 1:D:77:LYS:HD2 | 3:s:352:PRO:HG3 | 1.82 | 0.61 |
| 2:V:77:LYS:HG3 | 2:d:151:LYS:CG | 2.28 | 0.61 |
| 3:U:377:LEU:HB3 | 3:U:383:TYR:CZ | 2.35 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:b:223:ILE:HG21 | 1:b:240:LEU:HD21 | 1.82 | 0.61 |
| 4:Z:371:MET:HE2 | 4:Z:428:LEU:HD23 | 1.82 | 0.61 |
| 2:t:303:LEU:HD21 | 2:t:315:LEU:HD23 | 1.82 | 0.61 |
| 2:F:303:LEU:HD21 | 2:F:315:LEU:HD23 | 1.83 | 0.61 |
| 3:M:377:LEU:HB3 | 3:M:383:TYR:CZ | 2.35 | 0.61 |
| 1:j:223:ILE:HG21 | 1:j:240:LEU:HD21 | 1.82 | 0.61 |
| 2:F:77:LYS:HG3 | 2:N:151:LYS:CG | 2.28 | 0.61 |
| 1:L:165:LYS:HE2 | 1:L:192:PHE:HD2 | 1.65 | 0.61 |
| 4:Y:156:MET:HG2 | 4:Y:425:ARG:HD2 | 1.81 | 0.61 |
| 4:a:156:MET:HG2 | 4:a:425:ARG:HD2 | 1.81 | 0.61 |
| 1:j:165:LYS:HE2 | 1:j:192:PHE:HD2 | 1.65 | 0.61 |
| 1:r:165:LYS:HE2 | 1:r:192:PHE:HD2 | 1.65 | 0.61 |
| 4:p:298:SER:H | 5:v:44:GLN:HE22 | 1.49 | 0.61 |
| 4:o:156:MET:HG2 | 4:o:425:ARG:HD2 | 1.81 | 0.61 |
| 1:D:165:LYS:HE2 | 1:D:192:PHE:HD2 | 1.65 | 0.61 |
| 3:E:377:LEU:HB3 | 3:E:383:TYR:CZ | 2.35 | 0.61 |
| 3:E:394:ILE:HG13 | 3:E:395:THR:H | 1.64 | 0.61 |
| 4:B:298:SER:H | 5:H:44:GLN:HE22 | 1.49 | 0.61 |
| 4:I:511:PRO:HD2 | 3:U:538:TYR:CD2 | 2.36 | 0.61 |
| 4:Q:511:PRO:HD2 | 3:c:538:TYR:CD2 | 2.36 | 0.61 |
| 3:c:377:LEU:HB3 | 3:c:383:TYR:CZ | 2.35 | 0.61 |
| 3:k:272:VAL:HA | 3:k:276:MET:CE | 2.30 | 0.61 |
| 3:E:145:PHE:CE1 | 3:E:419:TYR:HD1 | 2.19 | 0.61 |
| 4:B:288:ILE:HG21 | 4:B:346:ASN:HD21 | 1.66 | 0.61 |
| 2:N:77:LYS:HG3 | 2:V:151:LYS:CG | 2.28 | 0.61 |
| 4:R:156:MET:HG2 | 4:R:425:ARG:HD2 | 1.81 | 0.61 |
| 3:s:66:HIS:HE1 | 3:s:495:VAL:HA | 1.64 | 0.61 |
| 4:q:288:ILE:HG21 | 4:q:346:ASN:HD21 | 1.66 | 0.61 |
| 3:E:352:PRO:HG3 | 1:L:77:LYS:HD2 | 1.82 | 0.61 |
| 4:C:156:MET:HG2 | 4:C:425:ARG:HD2 | 1.81 | 0.61 |
| 4:I:156:MET:HG2 | 4:I:425:ARG:HD2 | 1.81 | 0.61 |
| 3:U:352:PRO:HG3 | 1:b:77:LYS:HD2 | 1.82 | 0.61 |
| 4:Y:511:PRO:HD2 | 3:k:538:TYR:CD2 | 2.36 | 0.61 |
| 4:a:371:MET:HE2 | 4:a:428:LEU:HD23 | 1.81 | 0.61 |
| 1:j:54:ILE:HD11 | 1:j:101:ILE:HG21 | 1.83 | 0.61 |
| 4:h:361:ARG:HB3 | 5:n:37:ILE:CD1 | 2.31 | 0.61 |
| 4:i:288:ILE:HG21 | 4:i:346:ASN:HD21 | 1.66 | 0.61 |
| 4:C:371:MET:HE2 | 4:C:428:LEU:HD23 | 1.81 | 0.61 |
| 4:J:361:ARG:HB3 | 5:P:37:ILE:CD1 | 2.31 | 0.61 |
| 4:J:371:MET:HE2 | 4:J:428:LEU:HD23 | 1.82 | 0.61 |
| 4:R:298:SER:H | 5:X:44:GLN:HE22 | 1.49 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:Y:288:ILE:HG21 | 4:Y:346:ASN:HD21 | 1.66 | 0.61 |
| 4:h:298:SER:H | 5:n:44:GLN:HE22 | 1.49 | 0.61 |
| 4:p:361:ARG:HB3 | 5:v:37:ILE:CD1 | 2.31 | 0.61 |
| 1:D:223:ILE:HG21 | 1:D:240:LEU:HD21 | 1.82 | 0.61 |
| 1:L:223:ILE:HG21 | 1:L:240:LEU:HD21 | 1.82 | 0.61 |
| 3:U:145:PHE:CE1 | 3:U:419:TYR:HD1 | 2.19 | 0.61 |
| 4:Z:361:ARG:HB3 | 5:f:37:ILE:CD1 | 2.31 | 0.61 |
| 3:E:272:VAL:HA | 3:E:276:MET:CE | 2.30 | 0.61 |
| 4:B:361:ARG:HB3 | 5:H:37:ILE:CD1 | 2.31 | 0.61 |
| 4:A:156:MET:HG2 | 4:A:425:ARG:HD2 | 1.81 | 0.61 |
| 2:N:303:LEU:HD21 | 2:N:315:LEU:HD23 | 1.83 | 0.61 |
| 4:J:298:SER:H | 5:P:44:GLN:HE22 | 1.49 | 0.61 |
| 4:h:156:MET:HG2 | 4:h:425:ARG:HD2 | 1.81 | 0.61 |
| 4:g:288:ILE:HG21 | 4:g:346:ASN:HD21 | 1.66 | 0.61 |
| 4:g:371:MET:HE2 | 4:g:428:LEU:HD23 | 1.82 | 0.61 |
| 3:s:272:VAL:HA | 3:s:276:MET:CE | 2.30 | 0.61 |
| 4:p:156:MET:HG2 | 4:p:425:ARG:HD2 | 1.81 | 0.61 |
| 4:p:371:MET:HE2 | 4:p:428:LEU:HD23 | 1.82 | 0.61 |
| 4:A:472:THR:O | 4:A:476:ARG:HG2 | 2.01 | 0.60 |
| 4:A:511:PRO:HD2 | 3:M:538:TYR:CD2 | 2.36 | 0.60 |
| 3:M:145:PHE:CE1 | 3:M:419:TYR:HD1 | 2.19 | 0.60 |
| 4:J:288:ILE:HG21 | 4:J:346:ASN:HD21 | 1.66 | 0.60 |
| 4:I:472:THR:O | 4:I:476:ARG:HG2 | 2.01 | 0.60 |
| 1:T:165:LYS:HE2 | 1:T:192:PHE:HD2 | 1.65 | 0.60 |
| 1:T:223:ILE:HG21 | 1:T:240:LEU:HD21 | 1.82 | 0.60 |
| 4:p:472:THR:O | 4:p:476:ARG:HG2 | 2.01 | 0.60 |
| 4:C:288:ILE:HG21 | 4:C:346:ASN:HD21 | 1.66 | 0.60 |
| 2:V:303:LEU:HD21 | 2:V:315:LEU:HD23 | 1.82 | 0.60 |
| 3:U:383:TYR:CE2 | 3:U:387:ILE:HD11 | 2.36 | 0.60 |
| 4:R:472:THR:O | 4:R:476:ARG:HG2 | 2.01 | 0.60 |
| 4:Q:156:MET:HG2 | 4:Q:425:ARG:HD2 | 1.81 | 0.60 |
| 4:Q:288:ILE:HG21 | 4:Q:346:ASN:HD21 | 1.66 | 0.60 |
| 1:b:165:LYS:HE2 | 1:b:192:PHE:HD2 | 1.65 | 0.60 |
| 4:Z:472:THR:O | 4:Z:476:ARG:HG2 | 2.01 | 0.60 |
| 3:k:145:PHE:CE1 | 3:k:419:TYR:HD1 | 2.19 | 0.60 |
| 4:h:472:THR:O | 4:h:476:ARG:HG2 | 2.02 | 0.60 |
| 4:g:472:THR:O | 4:g:476:ARG:HG2 | 2.01 | 0.60 |
| 4:p:288:ILE:HG21 | 4:p:346:ASN:HD21 | 1.66 | 0.60 |
| 4:o:472:THR:O | 4:o:476:ARG:HG2 | 2.01 | 0.60 |
| 1:D:102:ALA:HB1 | 1:r:17:ARG:NH2 | 2.17 | 0.60 |
| 2:F:76:GLU:CB | 2:N:151:LYS:HE3 | 2.06 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:M:383:TYR:CE2 | 3:M:387:ILE:HD11 | 2.36 | 0.60 |
| 1:b:54:ILE:HD11 | 1:b:101:ILE:HG21 | 1.83 | 0.60 |
| 4:Z:156:MET:HG2 | 4:Z:425:ARG:HD2 | 1.81 | 0.60 |
| 4:Z:298:SER:H | 5:f:44:GLN:HE22 | 1.49 | 0.60 |
| 4:Z:361:ARG:CD | 5:f:37:ILE:HD12 | 2.30 | 0.60 |
| 3:k:4:ILE:HA | 3:k:7:LYS:HD2 | 1.84 | 0.60 |
| 3:k:383:TYR:CE2 | 3:k:387:ILE:HD11 | 2.36 | 0.60 |
| 4:g:156:MET:HG2 | 4:g:425:ARG:HD2 | 1.81 | 0.60 |
| 4:o:288:ILE:HG21 | 4:o:346:ASN:HD21 | 1.66 | 0.60 |
| 3:E:538:TYR:CD2 | 4:o:511:PRO:HD2 | 2.36 | 0.60 |
| 4:I:371:MET:HE2 | 4:I:428:LEU:HD23 | 1.82 | 0.60 |
| 4:K:288:ILE:HG21 | 4:K:346:ASN:HD21 | 1.66 | 0.60 |
| 3:c:4:ILE:HA | 3:c:7:LYS:HD2 | 1.84 | 0.60 |
| 4:Z:288:ILE:HG21 | 4:Z:346:ASN:HD21 | 1.66 | 0.60 |
| 2:l:303:LEU:HD21 | 2:l:315:LEU:HD23 | 1.83 | 0.60 |
| 4:q:156:MET:HG2 | 4:q:425:ARG:HD2 | 1.81 | 0.60 |
| 4:q:472:THR:O | 4:q:476:ARG:HG2 | 2.01 | 0.60 |
| 1:D:17:ARG:NH2 | 1:L:102:ALA:HB1 | 2.17 | 0.60 |
| 4:I:288:ILE:HG21 | 4:I:346:ASN:HD21 | 1.66 | 0.60 |
| 1:T:17:ARG:NH2 | 1:b:102:ALA:HB1 | 2.17 | 0.60 |
| 4:R:288:ILE:HG21 | 4:R:346:ASN:HD21 | 1.66 | 0.60 |
| 4:S:288:ILE:HG21 | 4:S:346:ASN:HD21 | 1.66 | 0.60 |
| 3:c:383:TYR:CE2 | 3:c:387:ILE:HD11 | 2.36 | 0.60 |
| 4:a:472:THR:O | 4:a:476:ARG:HG2 | 2.01 | 0.60 |
| 1:r:54:ILE:HD11 | 1:r:101:ILE:HG21 | 1.83 | 0.60 |
| 3:s:383:TYR:CE2 | 3:s:387:ILE:HD11 | 2.36 | 0.60 |
| 3:E:383:TYR:CE2 | 3:E:387:ILE:HD11 | 2.36 | 0.60 |
| 4:A:288:ILE:HG21 | 4:A:346:ASN:HD21 | 1.66 | 0.60 |
| 3:M:272:VAL:HA | 3:M:276:MET:CE | 2.30 | 0.60 |
| 3:c:383:TYR:HB2 | 3:c:396:LEU:HD21 | 1.84 | 0.60 |
| 4:Y:472:THR:O | 4:Y:476:ARG:HG2 | 2.01 | 0.60 |
| 3:k:288:ASP:O | 3:k:291:GLU:HG3 | 2.02 | 0.60 |
| 3:s:145:PHE:CE1 | 3:s:419:TYR:HD1 | 2.19 | 0.60 |
| 1:D:54:ILE:HD11 | 1:D:101:ILE:HG21 | 1.83 | 0.60 |
| 4:C:472:THR:O | 4:C:476:ARG:HG2 | 2.01 | 0.60 |
| 4:R:361:ARG:CD | 5:X:37:ILE:HD12 | 2.30 | 0.60 |
| 1:b:17:ARG:NH2 | 1:j:102:ALA:HB1 | 2.17 | 0.60 |
| 1:D:28:ARG:NH2 | 1:r:12:TYR:HB3 | 2.17 | 0.60 |
| 2:O:262:GLN:HB3 | 2:O:341:VAL:HG21 | 1.84 | 0.60 |
| 4:J:472:THR:O | 4:J:476:ARG:HG2 | 2.02 | 0.60 |
| 3:U:4:ILE:HA | 3:U:7:LYS:HD2 | 1.84 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:S:472:THR:O | 4:S:476:ARG:HG2 | 2.01 | 0.60 |
| 1:b:17:ARG:NH1 | 1:b:19:ILE:HG23 | 2.17 | 0.60 |
| 2:d:303:LEU:HD21 | 2:d:315:LEU:HD23 | 1.83 | 0.60 |
| 3:c:145:PHE:CE1 | 3:c:419:TYR:HD1 | 2.19 | 0.60 |
| 1:j:17:ARG:NH1 | 1:j:19:ILE:HG23 | 2.17 | 0.60 |
| 4:g:511:PRO:HD2 | 3:s:538:TYR:CD2 | 2.36 | 0.60 |
| 4:i:156:MET:HG2 | 4:i:425:ARG:HD2 | 1.81 | 0.60 |
| 3:s:4:ILE:HA | 3:s:7:LYS:HD2 | 1.84 | 0.60 |
| 4:R:371:MET:HE2 | 4:R:428:LEU:HD23 | 1.82 | 0.60 |
| 4:a:288:ILE:HG21 | 4:a:346:ASN:HD21 | 1.66 | 0.60 |
| 1:j:17:ARG:NH2 | 1:r:102:ALA:HB1 | 2.17 | 0.60 |
| 1:r:17:ARG:NH1 | 1:r:19:ILE:HG23 | 2.17 | 0.60 |
| 1:D:12:TYR:HB3 | 1:L:28:ARG:NH2 | 2.17 | 0.60 |
| 2:G:262:GLN:HB3 | 2:G:341:VAL:HG21 | 1.84 | 0.60 |
| 4:K:472:THR:O | 4:K:476:ARG:HG2 | 2.01 | 0.60 |
| 1:T:17:ARG:NH1 | 1:T:19:ILE:HG23 | 2.17 | 0.60 |
| 3:c:288:ASP:O | 3:c:291:GLU:HG3 | 2.02 | 0.60 |
| 1:j:12:TYR:HB3 | 1:r:28:ARG:NH2 | 2.17 | 0.60 |
| 3:E:4:ILE:HA | 3:E:7:LYS:HD2 | 1.84 | 0.59 |
| 1:L:17:ARG:NH2 | 1:T:102:ALA:HB1 | 2.17 | 0.59 |
| 3:U:383:TYR:HB2 | 3:U:396:LEU:HD21 | 1.84 | 0.59 |
| 1:j:49:ILE:HG13 | 1:j:51:GLU:HG3 | 1.84 | 0.59 |
| 3:k:383:TYR:HB2 | 3:k:396:LEU:HD21 | 1.84 | 0.59 |
| 4:i:472:THR:O | 4:i:476:ARG:HG2 | 2.01 | 0.59 |
| 3:s:66:HIS:CE1 | 3:s:495:VAL:HA | 2.38 | 0.59 |
| 1:D:49:ILE:HG13 | 1:D:51:GLU:HG3 | 1.84 | 0.59 |
| 4:S:71:LYS:HE3 | 4:S:147:TYR:O | 2.02 | 0.59 |
| 3:c:352:PRO:HG3 | 1:j:77:LYS:HD2 | 1.82 | 0.59 |
| 1:D:17:ARG:NH1 | 1:D:19:ILE:HG23 | 2.17 | 0.59 |
| 1:L:49:ILE:HG13 | 1:L:51:GLU:HG3 | 1.84 | 0.59 |
| 1:L:54:ILE:HD11 | 1:L:101:ILE:HG21 | 1.83 | 0.59 |
| 3:M:66:HIS:CE1 | 3:M:495:VAL:HA | 2.37 | 0.59 |
| 4:R:361:ARG:HB3 | 5:X:37:ILE:CD1 | 2.31 | 0.59 |
| 4:h:288:ILE:HG21 | 4:h:346:ASN:HD21 | 1.66 | 0.59 |
| 3:s:288:ASP:O | 3:s:291:GLU:HG3 | 2.02 | 0.59 |
| 4:B:71:LYS:HE3 | 4:B:147:TYR:O | 2.02 | 0.59 |
| 4:B:361:ARG:HD2 | 5:H:33:LYS:O | 2.03 | 0.59 |
| 4:C:81:THR:HG22 | 4:C:348:PHE:HA | 1.84 | 0.59 |
| 3:M:4:ILE:HA | 3:M:7:LYS:HD2 | 1.84 | 0.59 |
| 3:U:66:HIS:CE1 | 3:U:495:VAL:HA | 2.38 | 0.59 |
| 4:S:81:THR:HG22 | 4:S:348:PHE:HA | 1.84 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:u:262:GLN:HB3 | 2:u:341:VAL:HG21 | 1.84 | 0.59 |
| 1:L:12:TYR:HB3 | 1:T:28:ARG:NH2 | 2.17 | 0.59 |
| 1:L:17:ARG:NH1 | 1:L:19:ILE:HG23 | 2.17 | 0.59 |
| 3:M:288:ASP:O | 3:M:291:GLU:HG3 | 2.02 | 0.59 |
| 4:J:29:HIS:HD2 | 4:I:2:MET:HE1 | 1.68 | 0.59 |
| 4:K:71:LYS:HE3 | 4:K:147:TYR:O | 2.02 | 0.59 |
| 4:R:29:HIS:HD2 | 4:Q:2:MET:HE1 | 1.68 | 0.59 |
| 4:Q:472:THR:O | 4:Q:476:ARG:HG2 | 2.01 | 0.59 |
| 4:q:81:THR:HG22 | 4:q:348:PHE:HA | 1.84 | 0.59 |
| 2:F:199:PHE:CD1 | 2:F:258:LEU:HB2 | 2.38 | 0.59 |
| 3:E:38:ALA:O | 3:E:42:LEU:HG | 2.02 | 0.59 |
| 3:E:383:TYR:HB2 | 3:E:396:LEU:HD21 | 1.84 | 0.59 |
| 4:B:46:HIS:HD2 | 4:B:129:LEU:HD22 | 1.68 | 0.59 |
| 3:M:38:ALA:O | 3:M:42:LEU:HG | 2.02 | 0.59 |
| 3:U:38:ALA:O | 3:U:42:LEU:HG | 2.02 | 0.59 |
| 4:R:71:LYS:HE3 | 4:R:147:TYR:O | 2.02 | 0.59 |
| 2:d:199:PHE:CD1 | 2:d:258:LEU:HB2 | 2.38 | 0.59 |
| 4:Y:71:LYS:HE3 | 4:Y:147:TYR:O | 2.02 | 0.59 |
| 4:a:46:HIS:HD2 | 4:a:129:LEU:HD22 | 1.68 | 0.59 |
| 3:E:315:TRP:HZ3 | 3:E:354:TYR:HB3 | 1.66 | 0.59 |
| 4:J:71:LYS:HE3 | 4:J:147:TYR:O | 2.02 | 0.59 |
| 1:T:54:ILE:HD11 | 1:T:101:ILE:HG21 | 1.83 | 0.59 |
| 3:U:272:VAL:HA | 3:U:276:MET:CE | 2.30 | 0.59 |
| 1:b:49:ILE:HG13 | 1:b:51:GLU:HG3 | 1.84 | 0.59 |
| 3:k:38:ALA:O | 3:k:42:LEU:HG | 2.02 | 0.59 |
| 3:k:395:THR:O | 3:k:399:MET:HG2 | 2.03 | 0.59 |
| 4:h:46:HIS:HD2 | 4:h:129:LEU:HD22 | 1.68 | 0.59 |
| 1:r:49:ILE:HG13 | 1:r:51:GLU:HG3 | 1.84 | 0.59 |
| 4:B:472:THR:O | 4:B:476:ARG:HG2 | 2.01 | 0.59 |
| 4:Q:46:HIS:HD2 | 4:Q:129:LEU:HD22 | 1.68 | 0.59 |
| 4:h:81:THR:HG22 | 4:h:348:PHE:HA | 1.84 | 0.59 |
| 1:r:223:ILE:HG21 | 1:r:240:LEU:HD21 | 1.82 | 0.59 |
| 4:A:29:HIS:HD2 | 4:C:2:MET:HE1 | 1.68 | 0.59 |
| 4:J:361:ARG:HD2 | 5:P:33:LYS:O | 2.03 | 0.59 |
| 4:Q:71:LYS:HE3 | 4:Q:147:TYR:O | 2.02 | 0.59 |
| 1:b:134:ILE:CG2 | 1:b:239:LEU:HD13 | 2.33 | 0.59 |
| 2:d:201:ILE:HG22 | 2:d:258:LEU:HD13 | 1.85 | 0.59 |
| 3:c:38:ALA:O | 3:c:42:LEU:HG | 2.02 | 0.59 |
| 4:Z:46:HIS:HD2 | 4:Z:129:LEU:HD22 | 1.68 | 0.59 |
| 4:h:361:ARG:HD2 | 5:n:33:LYS:O | 2.03 | 0.59 |
| 2:t:201:ILE:HG22 | 2:t:258:LEU:HD13 | 1.85 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:s:103:ILE:O | 3:s:107:LYS:HG3 | 2.03 | 0.59 |
| 4:p:2:MET:HE1 | 4:q:29:HIS:HD2 | 1.68 | 0.59 |
| 4:p:46:HIS:HD2 | 4:p:129:LEU:HD22 | 1.68 | 0.59 |
| 3:M:383:TYR:HB2 | 3:M:396:LEU:HD21 | 1.84 | 0.59 |
| 2:W:262:GLN:HB3 | 2:W:341:VAL:HG21 | 1.84 | 0.59 |
| 4:R:81:THR:HG22 | 4:R:348:PHE:HA | 1.84 | 0.59 |
| 1:b:12:TYR:HB3 | 1:j:28:ARG:NH2 | 2.17 | 0.59 |
| 4:h:361:ARG:CD | 5:n:37:ILE:HD12 | 2.30 | 0.59 |
| 4:i:46:HIS:HD2 | 4:i:129:LEU:HD22 | 1.68 | 0.59 |
| 3:E:66:HIS:CE1 | 3:E:495:VAL:HA | 2.38 | 0.58 |
| 3:E:103:ILE:O | 3:E:107:LYS:HG3 | 2.03 | 0.58 |
| 3:E:395:THR:O | 3:E:399:MET:HG2 | 2.03 | 0.58 |
| 2:N:199:PHE:CD1 | 2:N:258:LEU:HB2 | 2.38 | 0.58 |
| 3:M:103:ILE:O | 3:M:107:LYS:HG3 | 2.03 | 0.58 |
| 4:I:81:THR:HG22 | 4:I:348:PHE:HA | 1.84 | 0.58 |
| 3:U:288:ASP:O | 3:U:291:GLU:HG3 | 2.02 | 0.58 |
| 4:R:46:HIS:HD2 | 4:R:129:LEU:HD22 | 1.68 | 0.58 |
| 4:R:521:ASP:OD1 | 4:S:386:LEU:HD21 | 2.03 | 0.58 |
| 4:Z:29:HIS:HD2 | 4:Y:2:MET:HE1 | 1.68 | 0.58 |
| 4:Z:361:ARG:HD2 | 5:f:33:LYS:O | 2.03 | 0.58 |
| 2:l:199:PHE:CD1 | 2:l:258:LEU:HB2 | 2.38 | 0.58 |
| 2:m:283:LEU:HB3 | 2:m:306:VAL:CG2 | 2.33 | 0.58 |
| 3:s:38:ALA:O | 3:s:42:LEU:HG | 2.02 | 0.58 |
| 3:s:383:TYR:HB2 | 3:s:396:LEU:HD21 | 1.84 | 0.58 |
| 4:p:71:LYS:HE3 | 4:p:147:TYR:O | 2.02 | 0.58 |
| 4:B:29:HIS:HD2 | 4:A:2:MET:HE1 | 1.68 | 0.58 |
| 4:A:46:HIS:HD2 | 4:A:129:LEU:HD22 | 1.68 | 0.58 |
| 4:J:4:ILE:O | 4:K:390:MET:HE1 | 2.04 | 0.58 |
| 4:J:81:THR:HG22 | 4:J:348:PHE:HA | 1.84 | 0.58 |
| 4:I:46:HIS:HD2 | 4:I:129:LEU:HD22 | 1.68 | 0.58 |
| 4:I:71:LYS:HE3 | 4:I:147:TYR:O | 2.02 | 0.58 |
| 2:W:283:LEU:HB3 | 2:W:306:VAL:CG2 | 2.33 | 0.58 |
| 3:U:103:ILE:O | 3:U:107:LYS:HG3 | 2.03 | 0.58 |
| 4:Q:81:THR:HG22 | 4:Q:348:PHE:HA | 1.84 | 0.58 |
| 4:a:81:THR:HG22 | 4:a:348:PHE:HA | 1.84 | 0.58 |
| 3:k:66:HIS:CE1 | 3:k:495:VAL:HA | 2.37 | 0.58 |
| 2:t:199:PHE:CD1 | 2:t:258:LEU:HB2 | 2.38 | 0.58 |
| 4:o:71:LYS:HE3 | 4:o:147:TYR:O | 2.02 | 0.58 |
| 4:J:361:ARG:CD | 5:P:37:ILE:HD12 | 2.30 | 0.58 |
| 1:T:35:MET:HG2 | 1:T:39:TYR:CE1 | 2.39 | 0.58 |
| 4:R:4:ILE:O | 4:S:390:MET:HE1 | 2.03 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:Z:2:MET:HE1 | 4:a:29:HIS:HD2 | 1.68 | 0.58 |
| 4:a:71:LYS:HE3 | 4:a:147:TYR:O | 2.02 | 0.58 |
| 4:g:29:HIS:HD2 | 4:i:2:MET:HE1 | 1.68 | 0.58 |
| 4:g:46:HIS:HD2 | 4:g:129:LEU:HD22 | 1.68 | 0.58 |
| 1:D:35:MET:HG2 | 1:D:39:TYR:CE1 | 2.39 | 0.58 |
| 4:B:2:MET:HE1 | 4:C:29:HIS:HD2 | 1.68 | 0.58 |
| 4:B:4:ILE:O | 4:C:390:MET:HE1 | 2.03 | 0.58 |
| 4:B:386:LEU:HD21 | 4:A:521:ASP:OD1 | 2.04 | 0.58 |
| 4:I:29:HIS:HD2 | 4:K:2:MET:HE1 | 1.68 | 0.58 |
| 4:Z:390:MET:HE1 | 4:Y:4:ILE:O | 2.03 | 0.58 |
| 2:m:262:GLN:HB3 | 2:m:341:VAL:HG21 | 1.84 | 0.58 |
| 4:g:81:THR:HG22 | 4:g:348:PHE:HA | 1.84 | 0.58 |
| 2:G:283:LEU:HB3 | 2:G:306:VAL:CG2 | 2.33 | 0.58 |
| 3:E:288:ASP:O | 3:E:291:GLU:HG3 | 2.02 | 0.58 |
| 4:A:71:LYS:HE3 | 4:A:147:TYR:O | 2.02 | 0.58 |
| 1:L:35:MET:HG2 | 1:L:39:TYR:CE1 | 2.39 | 0.58 |
| 1:b:35:MET:HG2 | 1:b:39:TYR:CE1 | 2.39 | 0.58 |
| 3:c:514:ILE:HD13 | 3:c:539:HIS:HB3 | 1.86 | 0.58 |
| 4:Y:29:HIS:HD2 | 4:a:2:MET:HE1 | 1.68 | 0.58 |
| 4:Y:386:LEU:HD21 | 4:a:521:ASP:OD1 | 2.04 | 0.58 |
| 4:g:71:LYS:HE3 | 4:g:147:TYR:O | 2.02 | 0.58 |
| 4:p:361:ARG:HD2 | 5:v:33:LYS:O | 2.03 | 0.58 |
| 2:F:201:ILE:HG22 | 2:F:258:LEU:HD13 | 1.85 | 0.58 |
| 4:J:521:ASP:OD1 | 4:K:386:LEU:HD21 | 2.03 | 0.58 |
| 3:U:315:TRP:HZ3 | 3:U:354:TYR:HB3 | 1.66 | 0.58 |
| 4:S:46:HIS:HD2 | 4:S:129:LEU:HD22 | 1.68 | 0.58 |
| 3:c:392:ASN:HA | 3:k:115:GLN:OE1 | 2.04 | 0.58 |
| 4:Z:71:LYS:HE3 | 4:Z:147:TYR:O | 2.02 | 0.58 |
| 4:Z:81:THR:HG22 | 4:Z:348:PHE:HA | 1.85 | 0.58 |
| 4:i:71:LYS:HE3 | 4:i:147:TYR:O | 2.02 | 0.58 |
| 4:o:46:HIS:HD2 | 4:o:129:LEU:HD22 | 1.68 | 0.58 |
| 4:C:71:LYS:HE3 | 4:C:147:TYR:O | 2.02 | 0.58 |
| 3:M:395:THR:O | 3:M:399:MET:HG2 | 2.03 | 0.58 |
| 4:K:81:THR:HG22 | 4:K:348:PHE:HA | 1.84 | 0.58 |
| 1:T:12:TYR:HB3 | 1:b:28:ARG:NH2 | 2.17 | 0.58 |
| 2:V:201:ILE:HG22 | 2:V:258:LEU:HD13 | 1.85 | 0.58 |
| 4:Q:386:LEU:HD21 | 4:S:521:ASP:OD1 | 2.03 | 0.58 |
| 4:Q:390:MET:HE1 | 4:S:4:ILE:O | 2.03 | 0.58 |
| 2:e:262:GLN:HB3 | 2:e:341:VAL:HG21 | 1.84 | 0.58 |
| 2:e:283:LEU:HB3 | 2:e:306:VAL:CG2 | 2.33 | 0.58 |
| 3:c:395:THR:O | 3:c:399:MET:HG2 | 2.03 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:Z:521:ASP:OD1 | 4:a:386:LEU:HD21 | 2.03 | 0.58 |
| 4:Y:46:HIS:HD2 | 4:Y:129:LEU:HD22 | 1.68 | 0.58 |
| 3:k:103:ILE:O | 3:k:107:LYS:HG3 | 2.03 | 0.58 |
| 4:h:2:MET:HE1 | 4:i:29:HIS:HD2 | 1.68 | 0.58 |
| 2:u:283:LEU:HB3 | 2:u:306:VAL:CG2 | 2.33 | 0.58 |
| 4:p:361:ARG:CD | 5:v:37:ILE:HD12 | 2.30 | 0.58 |
| 4:q:71:LYS:HE3 | 4:q:147:TYR:O | 2.02 | 0.58 |
| 3:E:4:ILE:CD1 | 3:E:37:LEU:HB3 | 2.34 | 0.58 |
| 4:A:81:THR:HG22 | 4:A:348:PHE:HA | 1.84 | 0.58 |
| 2:O:283:LEU:HB3 | 2:O:306:VAL:CG2 | 2.33 | 0.58 |
| 2:V:199:PHE:CD1 | 2:V:258:LEU:HB2 | 2.38 | 0.58 |
| 4:R:2:MET:HE1 | 4:S:29:HIS:HD2 | 1.68 | 0.58 |
| 3:c:103:ILE:O | 3:c:107:LYS:HG3 | 2.03 | 0.58 |
| 3:c:355:PHE:HD2 | 1:j:76:LYS:HZ3 | 1.50 | 0.58 |
| 4:Y:81:THR:HG22 | 4:Y:348:PHE:HA | 1.84 | 0.58 |
| 3:k:514:ILE:HD13 | 3:k:539:HIS:HB3 | 1.86 | 0.58 |
| 4:h:29:HIS:HD2 | 4:g:2:MET:HE1 | 1.68 | 0.58 |
| 4:h:71:LYS:HE3 | 4:h:147:TYR:O | 2.02 | 0.58 |
| 3:s:395:THR:O | 3:s:399:MET:HG2 | 2.03 | 0.58 |
| 4:p:29:HIS:HD2 | 4:o:2:MET:HE1 | 1.68 | 0.58 |
| 4:o:390:MET:HE1 | 4:q:4:ILE:O | 2.03 | 0.58 |
| 2:G:99:GLU:O | 2:G:103:TRP:CD1 | 2.57 | 0.58 |
| 3:E:392:ASN:HA | 3:M:115:GLN:OE1 | 2.04 | 0.58 |
| 3:M:392:ASN:HA | 3:U:115:GLN:OE1 | 2.04 | 0.58 |
| 4:K:46:HIS:HD2 | 4:K:129:LEU:HD22 | 1.68 | 0.58 |
| 3:c:66:HIS:CE1 | 3:c:495:VAL:HA | 2.38 | 0.58 |
| 4:h:390:MET:HE1 | 4:g:4:ILE:O | 2.03 | 0.58 |
| 1:r:35:MET:HG2 | 1:r:39:TYR:CE1 | 2.39 | 0.58 |
| 3:s:514:ILE:HD13 | 3:s:539:HIS:HB3 | 1.86 | 0.58 |
| 4:o:386:LEU:HD21 | 4:q:521:ASP:OD1 | 2.03 | 0.58 |
| 4:q:284:ASP:HA | 4:q:287:ILE:HD12 | 1.86 | 0.58 |
| 4:B:284:ASP:HA | 4:B:287:ILE:HD12 | 1.86 | 0.58 |
| 4:B:390:MET:HE1 | 4:A:4:ILE:O | 2.03 | 0.58 |
| 4:A:386:LEU:HD21 | 4:C:521:ASP:OD1 | 2.04 | 0.58 |
| 1:L:134:ILE:CG2 | 1:L:239:LEU:HD13 | 2.33 | 0.58 |
| 4:I:390:MET:HE1 | 4:K:4:ILE:O | 2.03 | 0.58 |
| 2:W:282:LEU:O | 2:W:282:LEU:HD23 | 2.04 | 0.58 |
| 3:U:395:THR:O | 3:U:399:MET:HG2 | 2.03 | 0.58 |
| 3:c:4:ILE:CD1 | 3:c:37:LEU:HB3 | 2.34 | 0.58 |
| 4:Y:284:ASP:HA | 4:Y:287:ILE:HD12 | 1.86 | 0.58 |
| 4:h:284:ASP:HA | 4:h:287:ILE:HD12 | 1.86 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:r:134:ILE:CG2 | 1:r:239:LEU:HD13 | 2.33 | 0.58 |
| 4:B:81:THR:HG22 | 4:B:348:PHE:HA | 1.85 | 0.57 |
| 4:C:284:ASP:HA | 4:C:287:ILE:HD12 | 1.86 | 0.57 |
| 2:O:99:GLU:O | 2:O:103:TRP:CD1 | 2.57 | 0.57 |
| 4:R:361:ARG:HD2 | 5:X:33:LYS:O | 2.03 | 0.57 |
| 4:R:386:LEU:HD21 | 4:Q:521:ASP:OD1 | 2.04 | 0.57 |
| 4:R:390:MET:HE1 | 4:Q:4:ILE:O | 2.03 | 0.57 |
| 2:d:93:LYS:HZ3 | 2:d:103:TRP:HZ2 | 1.52 | 0.57 |
| 1:j:35:MET:HG2 | 1:j:39:TYR:CE1 | 2.39 | 0.57 |
| 2:m:99:GLU:CG | 2:m:103:TRP:HE1 | 2.17 | 0.57 |
| 3:k:186:LYS:HE2 | 3:k:273:ASN:HA | 1.86 | 0.57 |
| 2:u:282:LEU:HD23 | 2:u:282:LEU:O | 2.04 | 0.57 |
| 4:p:386:LEU:HD21 | 4:o:521:ASP:OD1 | 2.04 | 0.57 |
| 4:C:46:HIS:HD2 | 4:C:129:LEU:HD22 | 1.68 | 0.57 |
| 2:O:282:LEU:O | 2:O:282:LEU:HD23 | 2.04 | 0.57 |
| 4:J:284:ASP:HA | 4:J:287:ILE:HD12 | 1.86 | 0.57 |
| 4:J:386:LEU:HD21 | 4:I:521:ASP:OD1 | 2.04 | 0.57 |
| 1:T:49:ILE:HG13 | 1:T:51:GLU:HG3 | 1.84 | 0.57 |
| 2:l:93:LYS:HZ3 | 2:l:103:TRP:HZ2 | 1.52 | 0.57 |
| 2:m:282:LEU:HD23 | 2:m:282:LEU:O | 2.04 | 0.57 |
| 3:k:4:ILE:CD1 | 3:k:37:LEU:HB3 | 2.34 | 0.57 |
| 3:s:186:LYS:HE2 | 3:s:273:ASN:HA | 1.86 | 0.57 |
| 4:p:81:THR:HG22 | 4:p:348:PHE:HA | 1.84 | 0.57 |
| 4:o:29:HIS:HD2 | 4:q:2:MET:HE1 | 1.68 | 0.57 |
| 4:B:361:ARG:CD | 5:H:37:ILE:HD12 | 2.30 | 0.57 |
| 4:Q:284:ASP:HA | 4:Q:287:ILE:HD12 | 1.86 | 0.57 |
| 4:o:81:THR:HG22 | 4:o:348:PHE:HA | 1.84 | 0.57 |
| 4:A:390:MET:HE1 | 4:C:4:ILE:O | 2.03 | 0.57 |
| 3:M:4:ILE:CD1 | 3:M:37:LEU:HB3 | 2.34 | 0.57 |
| 2:V:93:LYS:HZ3 | 2:V:103:TRP:HZ2 | 1.52 | 0.57 |
| 3:U:392:ASN:HA | 3:c:115:GLN:OE1 | 2.04 | 0.57 |
| 2:e:282:LEU:HD23 | 2:e:282:LEU:O | 2.04 | 0.57 |
| 4:Z:4:ILE:O | 4:a:390:MET:HE1 | 2.03 | 0.57 |
| 2:l:201:ILE:HG22 | 2:l:258:LEU:HD13 | 1.85 | 0.57 |
| 2:u:99:GLU:CG | 2:u:103:TRP:HE1 | 2.17 | 0.57 |
| 2:u:99:GLU:O | 2:u:103:TRP:CD1 | 2.57 | 0.57 |
| 4:B:521:ASP:OD1 | 4:C:386:LEU:HD21 | 2.03 | 0.57 |
| 2:N:201:ILE:HG22 | 2:N:258:LEU:HD13 | 1.85 | 0.57 |
| 4:J:2:MET:HE1 | 4:K:29:HIS:HD2 | 1.68 | 0.57 |
| 2:W:99:GLU:O | 2:W:103:TRP:CD1 | 2.57 | 0.57 |
| 3:U:514:ILE:HD13 | 3:U:539:HIS:HB3 | 1.86 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:e:99:GLU:CG | 2:e:103:TRP:HE1 | 2.17 | 0.57 |
| 4:h:386:LEU:HD21 | 4:g:521:ASP:OD1 | 2.04 | 0.57 |
| 2:F:93:LYS:HZ3 | 2:F:103:TRP:HZ2 | 1.52 | 0.57 |
| 3:E:115:GLN:OE1 | 3:s:392:ASN:HA | 2.04 | 0.57 |
| 3:U:154:MET:HE3 | 3:U:438:LEU:HG | 1.87 | 0.57 |
| 2:e:99:GLU:O | 2:e:103:TRP:CD1 | 2.57 | 0.57 |
| 2:e:271:LYS:HG3 | 2:e:273:TYR:H | 1.69 | 0.57 |
| 4:Y:413:LEU:HD11 | 4:Y:426:VAL:HG13 | 1.87 | 0.57 |
| 3:k:154:MET:HE3 | 3:k:438:LEU:HG | 1.87 | 0.57 |
| 3:k:392:ASN:HA | 3:s:115:GLN:OE1 | 2.04 | 0.57 |
| 4:h:334:LEU:HD23 | 5:n:55:GLN:CD | 2.30 | 0.57 |
| 4:g:386:LEU:HD21 | 4:i:521:ASP:OD1 | 2.03 | 0.57 |
| 4:g:390:MET:HE1 | 4:i:4:ILE:O | 2.03 | 0.57 |
| 4:p:390:MET:HE1 | 4:o:4:ILE:O | 2.03 | 0.57 |
| 4:C:413:LEU:HD11 | 4:C:426:VAL:HG13 | 1.87 | 0.57 |
| 3:M:154:MET:HE3 | 3:M:438:LEU:HG | 1.87 | 0.57 |
| 4:J:46:HIS:HD2 | 4:J:129:LEU:HD22 | 1.68 | 0.57 |
| 4:J:334:LEU:HD23 | 5:P:55:GLN:CD | 2.30 | 0.57 |
| 4:I:386:LEU:HD21 | 4:K:521:ASP:OD1 | 2.03 | 0.57 |
| 2:W:271:LYS:HG3 | 2:W:273:TYR:H | 1.70 | 0.57 |
| 4:R:284:ASP:HA | 4:R:287:ILE:HD12 | 1.86 | 0.57 |
| 3:c:186:LYS:HE2 | 3:c:273:ASN:HA | 1.86 | 0.57 |
| 4:Z:386:LEU:HD21 | 4:Y:521:ASP:OD1 | 2.04 | 0.57 |
| 4:h:413:LEU:HD11 | 4:h:426:VAL:HG13 | 1.87 | 0.57 |
| 4:h:521:ASP:OD1 | 4:i:386:LEU:HD21 | 2.03 | 0.57 |
| 4:g:284:ASP:HA | 4:g:287:ILE:HD12 | 1.86 | 0.57 |
| 4:q:46:HIS:HD2 | 4:q:129:LEU:HD22 | 1.68 | 0.57 |
| 1:D:237:MET:HE1 | 1:D:250:THR:OG1 | 2.04 | 0.57 |
| 2:G:282:LEU:HD23 | 2:G:282:LEU:O | 2.04 | 0.57 |
| 2:O:271:LYS:HG3 | 2:O:273:TYR:H | 1.69 | 0.57 |
| 1:T:134:ILE:CG2 | 1:T:239:LEU:HD13 | 2.33 | 0.57 |
| 4:Q:29:HIS:HD2 | 4:S:2:MET:HE1 | 1.68 | 0.57 |
| 1:j:237:MET:HE1 | 1:j:250:THR:OG1 | 2.04 | 0.57 |
| 2:m:99:GLU:O | 2:m:103:TRP:CD1 | 2.57 | 0.57 |
| 4:i:81:THR:HG22 | 4:i:348:PHE:HA | 1.84 | 0.57 |
| 4:i:284:ASP:HA | 4:i:287:ILE:HD12 | 1.86 | 0.57 |
| 4:q:413:LEU:HD11 | 4:q:426:VAL:HG13 | 1.87 | 0.57 |
| 1:D:134:ILE:CG2 | 1:D:239:LEU:HD13 | 2.33 | 0.57 |
| 2:G:99:GLU:CG | 2:G:103:TRP:HE1 | 2.17 | 0.57 |
| 3:E:514:ILE:HD13 | 3:E:539:HIS:HB3 | 1.86 | 0.57 |
| 4:C:349:PHE:O | 4:C:353:PHE:HD2 | 1.88 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:L:237:MET:HE1 | 1:L:250:THR:OG1 | 2.04 | 0.57 |
| 4:R:349:PHE:O | 4:R:353:PHE:HD2 | 1.88 | 0.57 |
| 4:Y:390:MET:HE1 | 4:a:4:ILE:O | 2.03 | 0.57 |
| 2:m:271:LYS:HG3 | 2:m:273:TYR:H | 1.69 | 0.57 |
| 4:h:4:ILE:O | 4:i:390:MET:HE1 | 2.04 | 0.57 |
| 4:g:349:PHE:O | 4:g:353:PHE:HD2 | 1.88 | 0.57 |
| 2:t:93:LYS:HZ3 | 2:t:103:TRP:HZ2 | 1.53 | 0.57 |
| 3:s:431:MET:HE1 | 3:s:440:LYS:HE2 | 1.87 | 0.57 |
| 4:p:4:ILE:O | 4:q:390:MET:HE1 | 2.03 | 0.57 |
| 4:B:349:PHE:O | 4:B:353:PHE:HD2 | 1.88 | 0.57 |
| 4:S:284:ASP:HA | 4:S:287:ILE:HD12 | 1.86 | 0.57 |
| 4:i:349:PHE:O | 4:i:353:PHE:HD2 | 1.88 | 0.57 |
| 2:u:271:LYS:HG3 | 2:u:273:TYR:H | 1.70 | 0.57 |
| 3:s:4:ILE:CD1 | 3:s:37:LEU:HB3 | 2.34 | 0.57 |
| 4:p:521:ASP:OD1 | 4:q:386:LEU:HD21 | 2.03 | 0.57 |
| 3:E:184:LEU:O | 3:E:187:LYS:HG2 | 2.05 | 0.56 |
| 4:B:334:LEU:HD23 | 5:H:55:GLN:CD | 2.30 | 0.56 |
| 3:M:514:ILE:HD13 | 3:M:539:HIS:HB3 | 1.86 | 0.56 |
| 1:b:237:MET:HE1 | 1:b:250:THR:OG1 | 2.04 | 0.56 |
| 4:Z:465:MET:HG2 | 4:Z:513:TYR:HD1 | 1.70 | 0.56 |
| 1:j:92:TYR:HD1 | 1:j:143:PHE:CD2 | 2.23 | 0.56 |
| 4:h:349:PHE:O | 4:h:353:PHE:HD2 | 1.88 | 0.56 |
| 4:g:413:LEU:HD11 | 4:g:426:VAL:HG13 | 1.87 | 0.56 |
| 1:r:92:TYR:HD1 | 1:r:143:PHE:CD2 | 2.23 | 0.56 |
| 3:s:154:MET:HE3 | 3:s:438:LEU:HG | 1.87 | 0.56 |
| 2:G:271:LYS:HG3 | 2:G:273:TYR:H | 1.69 | 0.56 |
| 4:A:284:ASP:HA | 4:A:287:ILE:HD12 | 1.86 | 0.56 |
| 1:L:92:TYR:HD1 | 1:L:143:PHE:CD2 | 2.23 | 0.56 |
| 2:N:93:LYS:HZ3 | 2:N:103:TRP:HZ2 | 1.52 | 0.56 |
| 4:K:349:PHE:O | 4:K:353:PHE:HD2 | 1.88 | 0.56 |
| 3:U:4:ILE:CD1 | 3:U:37:LEU:HB3 | 2.34 | 0.56 |
| 4:p:334:LEU:HD23 | 5:v:55:GLN:CD | 2.30 | 0.56 |
| 3:E:186:LYS:HE2 | 3:E:273:ASN:HA | 1.86 | 0.56 |
| 4:A:413:LEU:HD11 | 4:A:426:VAL:HG13 | 1.87 | 0.56 |
| 3:M:460:LYS:NZ | 3:M:463:LEU:HD23 | 2.21 | 0.56 |
| 4:J:390:MET:HE1 | 4:I:4:ILE:O | 2.03 | 0.56 |
| 4:J:413:LEU:HD11 | 4:J:426:VAL:HG13 | 1.87 | 0.56 |
| 2:W:99:GLU:CG | 2:W:103:TRP:HE1 | 2.17 | 0.56 |
| 3:U:355:PHE:HD2 | 1:b:76:LYS:HZ3 | 1.51 | 0.56 |
| 3:U:431:MET:HE1 | 3:U:440:LYS:HE2 | 1.87 | 0.56 |
| 4:R:413:LEU:HD11 | 4:R:426:VAL:HG13 | 1.87 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:Q:413:LEU:HD11 | 4:Q:426:VAL:HG13 | 1.87 | 0.56 |
| 4:S:349:PHE:O | 4:S:353:PHE:HD2 | 1.88 | 0.56 |
| 3:c:317:LYS:HA | 3:c:320:ILE:HD12 | 1.87 | 0.56 |
| 4:Z:284:ASP:HA | 4:Z:287:ILE:HD12 | 1.86 | 0.56 |
| 4:a:413:LEU:HD11 | 4:a:426:VAL:HG13 | 1.87 | 0.56 |
| 2:m:267:LEU:HA | 2:m:299:ILE:CG2 | 2.36 | 0.56 |
| 3:k:431:MET:HE1 | 3:k:440:LYS:HE2 | 1.87 | 0.56 |
| 3:k:460:LYS:NZ | 3:k:463:LEU:HD23 | 2.21 | 0.56 |
| 3:s:460:LYS:NZ | 3:s:463:LEU:HD23 | 2.21 | 0.56 |
| 4:p:284:ASP:HA | 4:p:287:ILE:HD12 | 1.86 | 0.56 |
| 4:p:413:LEU:HD11 | 4:p:426:VAL:HG13 | 1.87 | 0.56 |
| 4:o:284:ASP:HA | 4:o:287:ILE:HD12 | 1.86 | 0.56 |
| 3:E:460:LYS:NZ | 3:E:463:LEU:HD23 | 2.21 | 0.56 |
| 4:C:465:MET:HG2 | 4:C:513:TYR:HD1 | 1.70 | 0.56 |
| 2:O:99:GLU:CG | 2:O:103:TRP:HE1 | 2.17 | 0.56 |
| 4:Z:334:LEU:HD23 | 5:f:55:GLN:CD | 2.30 | 0.56 |
| 4:a:284:ASP:HA | 4:a:287:ILE:HD12 | 1.86 | 0.56 |
| 1:D:92:TYR:HD1 | 1:D:143:PHE:CD2 | 2.23 | 0.56 |
| 3:E:431:MET:HE1 | 3:E:440:LYS:HE2 | 1.87 | 0.56 |
| 4:B:465:MET:HG2 | 4:B:513:TYR:HD1 | 1.70 | 0.56 |
| 4:S:413:LEU:HD11 | 4:S:426:VAL:HG13 | 1.87 | 0.56 |
| 2:e:267:LEU:HA | 2:e:299:ILE:CG2 | 2.36 | 0.56 |
| 4:A:349:PHE:O | 4:A:353:PHE:HD2 | 1.88 | 0.56 |
| 2:O:267:LEU:HA | 2:O:299:ILE:CG2 | 2.36 | 0.56 |
| 4:K:284:ASP:HA | 4:K:287:ILE:HD12 | 1.86 | 0.56 |
| 3:U:460:LYS:NZ | 3:U:463:LEU:HD23 | 2.21 | 0.56 |
| 4:R:334:LEU:HD23 | 5:X:55:GLN:CD | 2.30 | 0.56 |
| 3:c:546:LYS:N | 3:c:546:LYS:HD3 | 2.20 | 0.56 |
| 4:h:465:MET:HG2 | 4:h:513:TYR:HD1 | 1.70 | 0.56 |
| 3:s:184:LEU:O | 3:s:187:LYS:HG2 | 2.05 | 0.56 |
| 4:p:465:MET:HG2 | 4:p:513:TYR:HD1 | 1.70 | 0.56 |
| 2:G:103:TRP:HA | 2:G:106:LEU:HG | 1.88 | 0.56 |
| 4:B:413:LEU:HD11 | 4:B:426:VAL:HG13 | 1.87 | 0.56 |
| 3:M:100:SER:O | 3:M:103:ILE:HG22 | 2.06 | 0.56 |
| 4:J:349:PHE:O | 4:J:353:PHE:HD2 | 1.88 | 0.56 |
| 3:U:184:LEU:O | 3:U:187:LYS:HG2 | 2.05 | 0.56 |
| 4:R:465:MET:HG2 | 4:R:513:TYR:HD1 | 1.70 | 0.56 |
| 3:c:431:MET:HE1 | 3:c:440:LYS:HE2 | 1.87 | 0.56 |
| 3:k:184:LEU:O | 3:k:187:LYS:HG2 | 2.05 | 0.56 |
| 4:o:349:PHE:O | 4:o:353:PHE:HD2 | 1.88 | 0.56 |
| 2:F:199:PHE:HD1 | 2:F:258:LEU:HB2 | 1.71 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:G:267:LEU:HA | 2:G:299:ILE:CG2 | 2.36 | 0.56 |
| 3:E:154:MET:HE3 | 3:E:438:LEU:HG | 1.87 | 0.56 |
| 4:J:465:MET:HG2 | 4:J:513:TYR:HD1 | 1.70 | 0.56 |
| 4:I:413:LEU:HD11 | 4:I:426:VAL:HG13 | 1.87 | 0.56 |
| 4:K:465:MET:HG2 | 4:K:513:TYR:HD1 | 1.70 | 0.56 |
| 1:T:92:TYR:HD1 | 1:T:143:PHE:CD2 | 2.23 | 0.56 |
| 3:U:186:LYS:HE2 | 3:U:273:ASN:HA | 1.86 | 0.56 |
| 3:U:317:LYS:HA | 3:U:320:ILE:HD12 | 1.87 | 0.56 |
| 4:Q:349:PHE:O | 4:Q:353:PHE:HD2 | 1.88 | 0.56 |
| 4:Z:349:PHE:O | 4:Z:353:PHE:HD2 | 1.88 | 0.56 |
| 2:l:199:PHE:HD1 | 2:l:258:LEU:HB2 | 1.71 | 0.56 |
| 3:k:546:LYS:N | 3:k:546:LYS:HD3 | 2.21 | 0.56 |
| 4:i:413:LEU:HD11 | 4:i:426:VAL:HG13 | 1.87 | 0.56 |
| 3:E:317:LYS:HA | 3:E:320:ILE:HD12 | 1.87 | 0.56 |
| 3:E:546:LYS:HD3 | 3:E:546:LYS:N | 2.20 | 0.56 |
| 4:A:494:LYS:O | 4:A:498:MET:HG3 | 2.06 | 0.56 |
| 3:M:154:MET:HE1 | 3:M:438:LEU:H | 1.71 | 0.56 |
| 3:M:186:LYS:HE2 | 3:M:273:ASN:HA | 1.86 | 0.56 |
| 4:I:349:PHE:O | 4:I:353:PHE:HD2 | 1.88 | 0.56 |
| 4:I:465:MET:HG2 | 4:I:513:TYR:HD1 | 1.70 | 0.56 |
| 3:c:154:MET:HE3 | 3:c:438:LEU:HG | 1.87 | 0.56 |
| 4:a:349:PHE:O | 4:a:353:PHE:HD2 | 1.88 | 0.56 |
| 1:j:134:ILE:CG2 | 1:j:239:LEU:HD13 | 2.33 | 0.56 |
| 3:k:100:SER:O | 3:k:103:ILE:HG22 | 2.06 | 0.56 |
| 1:r:237:MET:HE1 | 1:r:250:THR:OG1 | 2.04 | 0.56 |
| 3:s:317:LYS:HA | 3:s:320:ILE:HD12 | 1.87 | 0.56 |
| 3:M:184:LEU:O | 3:M:187:LYS:HG2 | 2.05 | 0.56 |
| 4:I:494:LYS:O | 4:I:498:MET:HG3 | 2.06 | 0.56 |
| 1:T:237:MET:HE1 | 1:T:250:THR:OG1 | 2.04 | 0.56 |
| 2:e:103:TRP:HA | 2:e:106:LEU:HG | 1.88 | 0.56 |
| 3:c:460:LYS:NZ | 3:c:463:LEU:HD23 | 2.21 | 0.56 |
| 3:s:100:SER:O | 3:s:103:ILE:HG22 | 2.06 | 0.56 |
| 4:p:494:LYS:O | 4:p:498:MET:HG3 | 2.06 | 0.56 |
| 4:q:349:PHE:O | 4:q:353:PHE:HD2 | 1.88 | 0.56 |
| 3:M:317:LYS:HA | 3:M:320:ILE:HD12 | 1.87 | 0.55 |
| 2:V:68:ILE:HG13 | 2:V:71:ARG:HH21 | 1.70 | 0.55 |
| 4:Q:494:LYS:O | 4:Q:498:MET:HG3 | 2.06 | 0.55 |
| 1:b:92:TYR:HD1 | 1:b:143:PHE:CD2 | 2.23 | 0.55 |
| 3:k:480:ASP:OD1 | 3:k:482:LEU:HG | 2.06 | 0.55 |
| 4:B:494:LYS:O | 4:B:498:MET:HG3 | 2.06 | 0.55 |
| 4:A:465:MET:HG2 | 4:A:513:TYR:HD1 | 1.70 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:N:68:ILE:HG13 | 2:N:71:ARG:HH21 | 1.70 | 0.55 |
| 4:K:494:LYS:O | 4:K:498:MET:HG3 | 2.06 | 0.55 |
| 2:d:68:ILE:HG13 | 2:d:71:ARG:HH21 | 1.70 | 0.55 |
| 3:c:154:MET:HE1 | 3:c:438:LEU:H | 1.71 | 0.55 |
| 3:c:184:LEU:O | 3:c:187:LYS:HG2 | 2.05 | 0.55 |
| 4:Z:494:LYS:O | 4:Z:498:MET:HG3 | 2.06 | 0.55 |
| 4:a:494:LYS:O | 4:a:498:MET:HG3 | 2.06 | 0.55 |
| 2:m:328:PHE:HB3 | 2:m:333:LEU:HD21 | 1.89 | 0.55 |
| 4:g:465:MET:HG2 | 4:g:513:TYR:HD1 | 1.70 | 0.55 |
| 4:o:413:LEU:HD11 | 4:o:426:VAL:HG13 | 1.87 | 0.55 |
| 4:o:465:MET:HG2 | 4:o:513:TYR:HD1 | 1.70 | 0.55 |
| 2:F:68:ILE:HG13 | 2:F:71:ARG:HH21 | 1.70 | 0.55 |
| 3:E:154:MET:HE1 | 3:E:438:LEU:H | 1.71 | 0.55 |
| 3:M:480:ASP:OD1 | 3:M:482:LEU:HG | 2.06 | 0.55 |
| 2:V:199:PHE:HD1 | 2:V:258:LEU:HB2 | 1.71 | 0.55 |
| 2:W:328:PHE:HB3 | 2:W:333:LEU:HD21 | 1.89 | 0.55 |
| 4:Q:465:MET:HG2 | 4:Q:513:TYR:HD1 | 1.70 | 0.55 |
| 4:Z:413:LEU:HD11 | 4:Z:426:VAL:HG13 | 1.87 | 0.55 |
| 2:u:267:LEU:HA | 2:u:299:ILE:CG2 | 2.36 | 0.55 |
| 3:E:480:ASP:OD1 | 3:E:482:LEU:HG | 2.06 | 0.55 |
| 3:M:431:MET:HE1 | 3:M:440:LYS:HE2 | 1.87 | 0.55 |
| 2:W:267:LEU:HA | 2:W:299:ILE:CG2 | 2.36 | 0.55 |
| 3:U:154:MET:HE1 | 3:U:438:LEU:H | 1.71 | 0.55 |
| 3:s:480:ASP:OD1 | 3:s:482:LEU:HG | 2.06 | 0.55 |
| 3:E:100:SER:O | 3:E:103:ILE:HG22 | 2.06 | 0.55 |
| 4:K:413:LEU:HD11 | 4:K:426:VAL:HG13 | 1.87 | 0.55 |
| 3:U:546:LYS:HD3 | 3:U:546:LYS:N | 2.21 | 0.55 |
| 4:S:494:LYS:O | 4:S:498:MET:HG3 | 2.06 | 0.55 |
| 2:d:199:PHE:HD1 | 2:d:258:LEU:HB2 | 1.71 | 0.55 |
| 3:k:317:LYS:HA | 3:k:320:ILE:HD12 | 1.87 | 0.55 |
| 4:h:494:LYS:O | 4:h:498:MET:HG3 | 2.06 | 0.55 |
| 4:i:494:LYS:O | 4:i:498:MET:HG3 | 2.06 | 0.55 |
| 2:t:68:ILE:HG13 | 2:t:71:ARG:HH21 | 1.70 | 0.55 |
| 4:o:494:LYS:O | 4:o:498:MET:HG3 | 2.06 | 0.55 |
| 4:q:494:LYS:O | 4:q:498:MET:HG3 | 2.06 | 0.55 |
| 1:L:112:SER:H | 1:L:115:ARG:HE | 1.55 | 0.55 |
| 2:N:199:PHE:HD1 | 2:N:258:LEU:HB2 | 1.71 | 0.55 |
| 4:I:284:ASP:HA | 4:I:287:ILE:HD12 | 1.86 | 0.55 |
| 2:e:328:PHE:HB3 | 2:e:333:LEU:HD21 | 1.89 | 0.55 |
| 3:c:389:TYR:O | 3:c:390:GLU:HB3 | 2.07 | 0.55 |
| 4:Y:494:LYS:O | 4:Y:498:MET:HG3 | 2.06 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:a:465:MET:HG2 | 4:a:513:TYR:HD1 | 1.70 | 0.55 |
| 1:j:112:SER:H | 1:j:115:ARG:HE | 1.55 | 0.55 |
| 1:j:233:ASP:OD1 | 1:j:235:VAL:HG22 | 2.07 | 0.55 |
| 4:i:465:MET:HG2 | 4:i:513:TYR:HD1 | 1.70 | 0.55 |
| 2:u:103:TRP:HA | 2:u:106:LEU:HG | 1.88 | 0.55 |
| 2:W:137:GLN:HE21 | 2:W:139:LYS:HE3 | 1.72 | 0.55 |
| 4:R:494:LYS:O | 4:R:498:MET:HG3 | 2.06 | 0.55 |
| 2:e:137:GLN:HE21 | 2:e:139:LYS:HE3 | 1.72 | 0.55 |
| 3:s:546:LYS:N | 3:s:546:LYS:HD3 | 2.21 | 0.55 |
| 4:p:349:PHE:O | 4:p:353:PHE:HD2 | 1.88 | 0.55 |
| 1:D:102:ALA:HB1 | 1:r:17:ARG:HH21 | 1.72 | 0.55 |
| 3:M:355:PHE:HB3 | 1:T:76:LYS:NZ | 2.22 | 0.55 |
| 3:c:100:SER:O | 3:c:103:ILE:HG22 | 2.06 | 0.55 |
| 4:Y:349:PHE:O | 4:Y:353:PHE:HD2 | 1.88 | 0.55 |
| 3:k:154:MET:HE1 | 3:k:438:LEU:H | 1.71 | 0.55 |
| 2:u:328:PHE:HB3 | 2:u:333:LEU:HD21 | 1.89 | 0.55 |
| 2:O:103:TRP:HA | 2:O:106:LEU:HG | 1.88 | 0.55 |
| 2:d:77:LYS:HG2 | 2:l:151:LYS:HG2 | 1.89 | 0.55 |
| 3:c:355:PHE:HB3 | 1:j:76:LYS:NZ | 2.22 | 0.55 |
| 4:h:295:ARG:HD2 | 5:n:45:GLU:OE2 | 2.07 | 0.55 |
| 1:r:233:ASP:OD1 | 1:r:235:VAL:HG22 | 2.07 | 0.55 |
| 3:E:133:ILE:HD12 | 3:M:557:TYR:CD2 | 2.42 | 0.55 |
| 4:J:386:LEU:HD23 | 4:J:386:LEU:H | 1.72 | 0.55 |
| 4:J:494:LYS:O | 4:J:498:MET:HG3 | 2.06 | 0.55 |
| 1:T:233:ASP:OD1 | 1:T:235:VAL:HG22 | 2.07 | 0.55 |
| 3:U:100:SER:O | 3:U:103:ILE:HG22 | 2.06 | 0.55 |
| 4:Y:465:MET:HG2 | 4:Y:513:TYR:HD1 | 1.70 | 0.55 |
| 1:j:17:ARG:HH21 | 1:r:102:ALA:HB1 | 1.72 | 0.55 |
| 2:m:103:TRP:HA | 2:m:106:LEU:HG | 1.88 | 0.55 |
| 1:r:112:SER:H | 1:r:115:ARG:HE | 1.55 | 0.55 |
| 4:q:465:MET:HG2 | 4:q:513:TYR:HD1 | 1.70 | 0.55 |
| 2:G:246:TYR:CD2 | 2:G:304:THR:HA | 2.42 | 0.54 |
| 3:E:355:PHE:HB3 | 1:L:76:LYS:NZ | 2.22 | 0.54 |
| 3:M:133:ILE:HD12 | 3:U:557:TYR:CD2 | 2.42 | 0.54 |
| 3:M:277:LEU:O | 3:M:293:LEU:HD21 | 2.07 | 0.54 |
| 4:I:472:THR:HA | 4:I:475:MET:HE2 | 1.89 | 0.54 |
| 1:T:112:SER:H | 1:T:115:ARG:HE | 1.55 | 0.54 |
| 3:U:277:LEU:O | 3:U:293:LEU:HD21 | 2.08 | 0.54 |
| 4:S:465:MET:HG2 | 4:S:513:TYR:HD1 | 1.70 | 0.54 |
| 1:b:21:ASP:CG | 1:b:203:ILE:HG12 | 2.32 | 0.54 |
| 3:c:133:ILE:HD12 | 3:k:557:TYR:CD2 | 2.42 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:u:246:TYR:CD2 | 2:u:304:THR:HA | 2.42 | 0.54 |
| 3:s:389:TYR:O | 3:s:390:GLU:HB3 | 2.07 | 0.54 |
| 1:D:112:SER:H | 1:D:115:ARG:HE | 1.55 | 0.54 |
| 4:B:295:ARG:HD2 | 5:H:45:GLU:OE2 | 2.07 | 0.54 |
| 4:C:119:PHE:HB3 | 4:C:122:LEU:HD12 | 1.90 | 0.54 |
| 2:O:328:PHE:HB3 | 2:O:333:LEU:HD21 | 1.89 | 0.54 |
| 2:W:246:TYR:CD2 | 2:W:304:THR:HA | 2.42 | 0.54 |
| 4:R:386:LEU:HD23 | 4:R:386:LEU:H | 1.72 | 0.54 |
| 4:Q:472:THR:HA | 4:Q:475:MET:HE2 | 1.90 | 0.54 |
| 3:c:311:LYS:HZ3 | 3:c:359:ARG:HH21 | 1.55 | 0.54 |
| 4:h:334:LEU:HD23 | 5:n:55:GLN:NE2 | 2.23 | 0.54 |
| 3:s:154:MET:HE1 | 3:s:438:LEU:H | 1.71 | 0.54 |
| 3:s:203:THR:CG2 | 3:s:207:GLN:HE22 | 2.16 | 0.54 |
| 4:p:334:LEU:HD23 | 5:v:55:GLN:NE2 | 2.23 | 0.54 |
| 2:G:328:PHE:HB3 | 2:G:333:LEU:HD21 | 1.89 | 0.54 |
| 3:E:277:LEU:O | 3:E:293:LEU:HD21 | 2.07 | 0.54 |
| 4:B:334:LEU:HD23 | 5:H:55:GLN:NE2 | 2.23 | 0.54 |
| 4:J:295:ARG:HD2 | 5:P:45:GLU:OE2 | 2.07 | 0.54 |
| 1:T:21:ASP:CG | 1:T:203:ILE:HG12 | 2.32 | 0.54 |
| 1:T:90:PRO:HG2 | 1:T:142:TRP:CE2 | 2.43 | 0.54 |
| 2:W:103:TRP:HA | 2:W:106:LEU:HG | 1.88 | 0.54 |
| 4:R:119:PHE:HB3 | 4:R:122:LEU:HD12 | 1.90 | 0.54 |
| 2:d:76:GLU:HB2 | 2:l:151:LYS:CE | 2.38 | 0.54 |
| 2:e:246:TYR:CD2 | 2:e:304:THR:HA | 2.42 | 0.54 |
| 1:j:21:ASP:CG | 1:j:203:ILE:HG12 | 2.32 | 0.54 |
| 1:j:90:PRO:HG2 | 1:j:142:TRP:CE2 | 2.43 | 0.54 |
| 3:s:315:TRP:HZ3 | 3:s:354:TYR:HB3 | 1.66 | 0.54 |
| 1:D:233:ASP:OD1 | 1:D:235:VAL:HG22 | 2.07 | 0.54 |
| 4:B:386:LEU:HD23 | 4:B:386:LEU:H | 1.72 | 0.54 |
| 3:M:546:LYS:HD3 | 3:M:546:LYS:N | 2.21 | 0.54 |
| 1:b:17:ARG:HH21 | 1:j:102:ALA:HB1 | 1.72 | 0.54 |
| 1:b:90:PRO:HG2 | 1:b:142:TRP:CE2 | 2.43 | 0.54 |
| 3:s:318:TYR:HE1 | 3:s:350:ILE:HD11 | 1.73 | 0.54 |
| 1:D:76:LYS:NZ | 3:s:355:PHE:HB3 | 2.22 | 0.54 |
| 3:E:318:TYR:HE1 | 3:E:350:ILE:HD11 | 1.73 | 0.54 |
| 4:C:472:THR:HA | 4:C:475:MET:HE2 | 1.89 | 0.54 |
| 1:L:233:ASP:OD1 | 1:L:235:VAL:HG22 | 2.07 | 0.54 |
| 2:O:246:TYR:CD2 | 2:O:304:THR:HA | 2.42 | 0.54 |
| 4:J:119:PHE:HB3 | 4:J:122:LEU:HD12 | 1.90 | 0.54 |
| 4:K:472:THR:HA | 4:K:475:MET:HE2 | 1.89 | 0.54 |
| 3:U:355:PHE:HB3 | 1:b:76:LYS:NZ | 2.22 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:U:480:ASP:OD1 | 3:U:482:LEU:HG | 2.06 | 0.54 |
| 4:R:472:THR:HA | 4:R:475:MET:HE2 | 1.89 | 0.54 |
| 1:b:112:SER:H | 1:b:115:ARG:HE | 1.55 | 0.54 |
| 1:b:233:ASP:OD1 | 1:b:235:VAL:HG22 | 2.07 | 0.54 |
| 3:c:480:ASP:OD1 | 3:c:482:LEU:HG | 2.06 | 0.54 |
| 4:Z:119:PHE:HB3 | 4:Z:122:LEU:HD12 | 1.90 | 0.54 |
| 2:l:76:GLU:HB2 | 2:t:151:LYS:CE | 2.38 | 0.54 |
| 4:g:119:PHE:HB3 | 4:g:122:LEU:HD12 | 1.90 | 0.54 |
| 3:s:41:TYR:HD1 | 3:s:42:LEU:HD23 | 1.73 | 0.54 |
| 4:B:119:PHE:HB3 | 4:B:122:LEU:HD12 | 1.90 | 0.54 |
| 4:C:494:LYS:O | 4:C:498:MET:HG3 | 2.06 | 0.54 |
| 3:M:389:TYR:O | 3:M:390:GLU:HB3 | 2.07 | 0.54 |
| 2:V:77:LYS:HG2 | 2:d:151:LYS:HG2 | 1.89 | 0.54 |
| 3:c:277:LEU:O | 3:c:293:LEU:HD21 | 2.07 | 0.54 |
| 4:Z:472:THR:HA | 4:Z:475:MET:HE2 | 1.89 | 0.54 |
| 4:Y:386:LEU:H | 4:Y:386:LEU:HD23 | 1.72 | 0.54 |
| 2:l:68:ILE:HG13 | 2:l:71:ARG:HH21 | 1.70 | 0.54 |
| 4:o:303:LEU:HD22 | 4:o:353:PHE:CZ | 2.43 | 0.54 |
| 4:q:119:PHE:HB3 | 4:q:122:LEU:HD12 | 1.90 | 0.54 |
| 1:D:17:ARG:HH21 | 1:L:102:ALA:HB1 | 1.72 | 0.54 |
| 3:E:41:TYR:HD1 | 3:E:42:LEU:HD23 | 1.73 | 0.54 |
| 3:E:389:TYR:O | 3:E:390:GLU:HB3 | 2.07 | 0.54 |
| 4:A:386:LEU:HD23 | 4:A:386:LEU:H | 1.72 | 0.54 |
| 4:A:472:THR:HA | 4:A:475:MET:HE2 | 1.90 | 0.54 |
| 4:C:303:LEU:HD22 | 4:C:353:PHE:CZ | 2.43 | 0.54 |
| 2:O:137:GLN:HE21 | 2:O:139:LYS:HE3 | 1.72 | 0.54 |
| 1:T:58:ARG:HG3 | 1:T:59:TYR:H | 1.72 | 0.54 |
| 2:V:196:GLN:HE22 | 2:V:340:PHE:HA | 1.73 | 0.54 |
| 3:k:41:TYR:HD1 | 3:k:42:LEU:HD23 | 1.73 | 0.54 |
| 3:k:133:ILE:HD12 | 3:s:557:TYR:CD2 | 2.42 | 0.54 |
| 3:k:318:TYR:HE1 | 3:k:350:ILE:HD11 | 1.73 | 0.54 |
| 4:p:295:ARG:HD2 | 5:v:45:GLU:OE2 | 2.07 | 0.54 |
| 2:F:196:GLN:HE22 | 2:F:340:PHE:HA | 1.73 | 0.54 |
| 2:G:283:LEU:HB3 | 2:G:306:VAL:HG21 | 1.90 | 0.54 |
| 4:A:303:LEU:HD22 | 4:A:353:PHE:CZ | 2.43 | 0.54 |
| 2:N:76:GLU:HB2 | 2:V:151:LYS:CE | 2.38 | 0.54 |
| 3:M:41:TYR:HD1 | 3:M:42:LEU:HD23 | 1.73 | 0.54 |
| 3:M:203:THR:HG22 | 3:M:207:GLN:NE2 | 2.15 | 0.54 |
| 2:V:76:GLU:HB2 | 2:d:151:LYS:CE | 2.38 | 0.54 |
| 4:S:303:LEU:HD22 | 4:S:353:PHE:CZ | 2.43 | 0.54 |
| 4:Z:303:LEU:HD22 | 4:Z:353:PHE:CZ | 2.43 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:a:303:LEU:HD22 | 4:a:353:PHE:CZ | 2.43 | 0.54 |
| 2:m:246:TYR:CD2 | 2:m:304:THR:HA | 2.42 | 0.54 |
| 3:k:389:TYR:O | 3:k:390:GLU:HB3 | 2.07 | 0.54 |
| 1:r:21:ASP:CG | 1:r:203:ILE:HG12 | 2.32 | 0.54 |
| 4:p:254:THR:HA | 5:v:45:GLU:OE1 | 2.08 | 0.54 |
| 3:M:318:TYR:HE1 | 3:M:350:ILE:HD11 | 1.73 | 0.54 |
| 4:K:119:PHE:HB3 | 4:K:122:LEU:HD12 | 1.90 | 0.54 |
| 4:K:303:LEU:HD22 | 4:K:353:PHE:CZ | 2.43 | 0.54 |
| 1:T:17:ARG:HH21 | 1:b:102:ALA:HB1 | 1.72 | 0.54 |
| 4:R:254:THR:HA | 5:X:45:GLU:OE1 | 2.08 | 0.54 |
| 4:R:295:ARG:HD2 | 5:X:45:GLU:OE2 | 2.07 | 0.54 |
| 2:m:137:GLN:HE21 | 2:m:139:LYS:HE3 | 1.72 | 0.54 |
| 4:h:303:LEU:HD22 | 4:h:353:PHE:CZ | 2.43 | 0.54 |
| 4:g:303:LEU:HD22 | 4:g:353:PHE:CZ | 2.43 | 0.54 |
| 4:g:494:LYS:O | 4:g:498:MET:HG3 | 2.06 | 0.54 |
| 4:q:386:LEU:HD23 | 4:q:386:LEU:H | 1.72 | 0.54 |
| 4:B:311:PRO:HD3 | 4:B:344:ARG:HH22 | 1.73 | 0.54 |
| 3:M:311:LYS:HZ3 | 3:M:359:ARG:HH21 | 1.56 | 0.54 |
| 4:J:254:THR:HA | 5:P:45:GLU:OE1 | 2.08 | 0.54 |
| 4:K:311:PRO:HD3 | 4:K:344:ARG:HH22 | 1.73 | 0.54 |
| 3:U:318:TYR:HE1 | 3:U:350:ILE:HD11 | 1.73 | 0.54 |
| 3:c:318:TYR:HE1 | 3:c:350:ILE:HD11 | 1.73 | 0.54 |
| 4:Z:311:PRO:HD3 | 4:Z:344:ARG:HH22 | 1.73 | 0.54 |
| 4:a:472:THR:HA | 4:a:475:MET:HE2 | 1.89 | 0.54 |
| 3:k:277:LEU:O | 3:k:293:LEU:HD21 | 2.07 | 0.54 |
| 3:k:355:PHE:HB3 | 1:r:76:LYS:NZ | 2.22 | 0.54 |
| 4:h:254:THR:HA | 5:n:45:GLU:OE1 | 2.08 | 0.54 |
| 1:r:90:PRO:HG2 | 1:r:142:TRP:CE2 | 2.43 | 0.54 |
| 4:p:472:THR:HA | 4:p:475:MET:HE2 | 1.89 | 0.54 |
| 4:q:303:LEU:HD22 | 4:q:353:PHE:CZ | 2.43 | 0.54 |
| 2:F:151:LYS:CE | 2:t:76:GLU:HB2 | 2.38 | 0.53 |
| 3:E:557:TYR:CD2 | 3:s:133:ILE:HD12 | 2.43 | 0.53 |
| 1:L:21:ASP:CG | 1:L:203:ILE:HG12 | 2.32 | 0.53 |
| 1:T:125:PHE:O | 1:T:129:LEU:HG | 2.09 | 0.53 |
| 3:U:47:PRO:O | 3:U:51:ILE:HG12 | 2.08 | 0.53 |
| 3:U:133:ILE:HD12 | 3:c:557:TYR:CD2 | 2.43 | 0.53 |
| 4:R:303:LEU:HD22 | 4:R:353:PHE:CZ | 2.43 | 0.53 |
| 4:Q:311:PRO:HD3 | 4:Q:344:ARG:HH22 | 1.73 | 0.53 |
| 4:Q:386:LEU:H | 4:Q:386:LEU:HD23 | 1.72 | 0.53 |
| 4:h:119:PHE:HB3 | 4:h:122:LEU:HD12 | 1.90 | 0.53 |
| 4:g:386:LEU:HD23 | 4:g:386:LEU:H | 1.72 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:i:119:PHE:HB3 | 4:i:122:LEU:HD12 | 1.90 | 0.53 |
| 4:i:472:THR:HA | 4:i:475:MET:HE2 | 1.89 | 0.53 |
| 2:t:199:PHE:HD1 | 2:t:258:LEU:HB2 | 1.71 | 0.53 |
| 2:u:283:LEU:HB3 | 2:u:306:VAL:HG21 | 1.90 | 0.53 |
| 3:s:277:LEU:O | 3:s:293:LEU:HD21 | 2.08 | 0.53 |
| 4:p:386:LEU:HD23 | 4:p:386:LEU:H | 1.72 | 0.53 |
| 3:E:47:PRO:O | 3:E:51:ILE:HG12 | 2.08 | 0.53 |
| 4:B:254:THR:HA | 5:H:45:GLU:OE1 | 2.08 | 0.53 |
| 4:B:472:THR:HA | 4:B:475:MET:HE2 | 1.89 | 0.53 |
| 1:L:90:PRO:HG2 | 1:L:142:TRP:CE2 | 2.43 | 0.53 |
| 2:N:111:ARG:NH1 | 2:V:239:ARG:HA | 2.24 | 0.53 |
| 4:J:208:ILE:HD12 | 4:J:211:ARG:HG2 | 1.90 | 0.53 |
| 4:J:472:THR:HA | 4:J:475:MET:HE2 | 1.89 | 0.53 |
| 4:R:311:PRO:HD3 | 4:R:344:ARG:HH22 | 1.73 | 0.53 |
| 3:c:47:PRO:O | 3:c:51:ILE:HG12 | 2.08 | 0.53 |
| 4:Z:334:LEU:HD23 | 5:f:55:GLN:NE2 | 2.23 | 0.53 |
| 4:Y:119:PHE:HB3 | 4:Y:122:LEU:HD12 | 1.90 | 0.53 |
| 4:a:386:LEU:H | 4:a:386:LEU:HD23 | 1.72 | 0.53 |
| 2:l:111:ARG:NH1 | 2:t:239:ARG:HA | 2.24 | 0.53 |
| 4:p:119:PHE:HB3 | 4:p:122:LEU:HD12 | 1.90 | 0.53 |
| 4:q:472:THR:HA | 4:q:475:MET:HE2 | 1.89 | 0.53 |
| 3:M:47:PRO:O | 3:M:51:ILE:HG12 | 2.08 | 0.53 |
| 4:I:303:LEU:HD22 | 4:I:353:PHE:CZ | 2.43 | 0.53 |
| 4:I:311:PRO:HD3 | 4:I:344:ARG:HH22 | 1.73 | 0.53 |
| 4:I:386:LEU:HD23 | 4:I:386:LEU:H | 1.72 | 0.53 |
| 4:S:386:LEU:HD23 | 4:S:386:LEU:H | 1.72 | 0.53 |
| 2:d:196:GLN:HE22 | 2:d:340:PHE:HA | 1.73 | 0.53 |
| 4:Z:386:LEU:HD23 | 4:Z:386:LEU:H | 1.72 | 0.53 |
| 4:Y:472:THR:HA | 4:Y:475:MET:HE2 | 1.90 | 0.53 |
| 2:u:137:GLN:HE21 | 2:u:139:LYS:HE3 | 1.72 | 0.53 |
| 2:G:137:GLN:HE21 | 2:G:139:LYS:HE3 | 1.72 | 0.53 |
| 1:L:17:ARG:HH21 | 1:T:102:ALA:HB1 | 1.72 | 0.53 |
| 1:L:58:ARG:HG3 | 1:L:59:TYR:H | 1.73 | 0.53 |
| 3:U:311:LYS:HZ3 | 3:U:359:ARG:HH21 | 1.56 | 0.53 |
| 2:d:111:ARG:NH1 | 2:l:239:ARG:HA | 2.23 | 0.53 |
| 4:a:311:PRO:HD3 | 4:a:344:ARG:HH22 | 1.73 | 0.53 |
| 4:o:119:PHE:HB3 | 4:o:122:LEU:HD12 | 1.90 | 0.53 |
| 1:D:58:ARG:HG3 | 1:D:59:TYR:H | 1.73 | 0.53 |
| 2:F:73:CYS:O | 2:N:151:LYS:HE2 | 2.09 | 0.53 |
| 2:F:307:SER:HB2 | 2:G:282:LEU:HD12 | 1.91 | 0.53 |
| 1:L:125:PHE:O | 1:L:129:LEU:HG | 2.09 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:K:386:LEU:HD23 | 4:K:386:LEU:H | 1.72 | 0.53 |
| 4:S:311:PRO:HD3 | 4:S:344:ARG:HH22 | 1.73 | 0.53 |
| 2:e:291:VAL:O | 2:e:297:TYR:HA | 2.09 | 0.53 |
| 4:Z:295:ARG:HD2 | 5:f:45:GLU:OE2 | 2.07 | 0.53 |
| 4:i:311:PRO:HD3 | 4:i:344:ARG:HH22 | 1.73 | 0.53 |
| 2:t:196:GLN:HE22 | 2:t:340:PHE:HA | 1.73 | 0.53 |
| 1:D:21:ASP:CG | 1:D:203:ILE:HG12 | 2.32 | 0.53 |
| 1:D:90:PRO:HG2 | 1:D:142:TRP:CE2 | 2.43 | 0.53 |
| 3:E:129:LEU:HB3 | 3:E:460:LYS:HE3 | 1.91 | 0.53 |
| 2:N:171:ARG:HH12 | 2:W:339:MET:CE | 2.18 | 0.53 |
| 4:J:4:ILE:HG12 | 4:K:29:HIS:HB2 | 1.91 | 0.53 |
| 4:J:334:LEU:HD23 | 5:P:55:GLN:NE2 | 2.23 | 0.53 |
| 4:I:119:PHE:HB3 | 4:I:122:LEU:HD12 | 1.90 | 0.53 |
| 4:K:117:HIS:CE1 | 4:K:119:PHE:H | 2.27 | 0.53 |
| 2:V:111:ARG:NH1 | 2:d:239:ARG:HA | 2.24 | 0.53 |
| 2:W:291:VAL:O | 2:W:297:TYR:HA | 2.09 | 0.53 |
| 4:R:208:ILE:HD12 | 4:R:211:ARG:HG2 | 1.91 | 0.53 |
| 1:b:125:PHE:O | 1:b:129:LEU:HG | 2.09 | 0.53 |
| 4:Z:254:THR:HA | 5:f:45:GLU:OE1 | 2.08 | 0.53 |
| 4:g:311:PRO:HD3 | 4:g:344:ARG:HH22 | 1.73 | 0.53 |
| 1:r:58:ARG:HG3 | 1:r:59:TYR:H | 1.72 | 0.53 |
| 2:t:68:ILE:H | 2:t:68:ILE:HD12 | 1.74 | 0.53 |
| 3:s:47:PRO:O | 3:s:51:ILE:HG12 | 2.08 | 0.53 |
| 3:s:129:LEU:HB3 | 3:s:460:LYS:HE3 | 1.91 | 0.53 |
| 4:o:311:PRO:HD3 | 4:o:344:ARG:HH22 | 1.73 | 0.53 |
| 4:o:472:THR:HA | 4:o:475:MET:HE2 | 1.90 | 0.53 |
| 2:F:76:GLU:HB2 | 2:N:151:LYS:CE | 2.38 | 0.53 |
| 2:F:111:ARG:NH1 | 2:N:239:ARG:HA | 2.23 | 0.53 |
| 4:B:208:ILE:HD12 | 4:B:211:ARG:HG2 | 1.91 | 0.53 |
| 4:C:311:PRO:HD3 | 4:C:344:ARG:HH22 | 1.73 | 0.53 |
| 4:K:208:ILE:HD12 | 4:K:211:ARG:HG2 | 1.91 | 0.53 |
| 1:T:121:PRO:HB2 | 1:T:124:GLU:OE1 | 2.09 | 0.53 |
| 4:R:4:ILE:HG12 | 4:S:29:HIS:HB2 | 1.91 | 0.53 |
| 4:R:117:HIS:CE1 | 4:R:119:PHE:H | 2.27 | 0.53 |
| 4:R:334:LEU:HD23 | 5:X:55:GLN:NE2 | 2.23 | 0.53 |
| 4:Q:117:HIS:CE1 | 4:Q:119:PHE:H | 2.27 | 0.53 |
| 2:d:307:SER:HB2 | 2:e:282:LEU:HD12 | 1.91 | 0.53 |
| 4:Y:303:LEU:HD22 | 4:Y:353:PHE:CZ | 2.43 | 0.53 |
| 2:l:307:SER:HB2 | 2:m:282:LEU:HD12 | 1.91 | 0.53 |
| 4:g:472:THR:HA | 4:g:475:MET:HE2 | 1.89 | 0.53 |
| 4:i:386:LEU:H | 4:i:386:LEU:HD23 | 1.72 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:o:386:LEU:HD23 | 4:o:386:LEU:H | 1.72 | 0.53 |
| 2:F:239:ARG:HA | 2:t:111:ARG:NH1 | 2.24 | 0.53 |
| 4:C:117:HIS:CE1 | 4:C:119:PHE:H | 2.27 | 0.53 |
| 2:N:307:SER:HB2 | 2:O:282:LEU:HD12 | 1.91 | 0.53 |
| 4:J:303:LEU:HD22 | 4:J:353:PHE:CZ | 2.43 | 0.53 |
| 4:I:117:HIS:CE1 | 4:I:119:PHE:H | 2.27 | 0.53 |
| 2:V:68:ILE:H | 2:V:68:ILE:HD12 | 1.74 | 0.53 |
| 2:W:160:GLN:O | 2:W:164:ILE:HG12 | 2.09 | 0.53 |
| 4:Q:119:PHE:HB3 | 4:Q:122:LEU:HD12 | 1.90 | 0.53 |
| 4:S:119:PHE:HB3 | 4:S:122:LEU:HD12 | 1.90 | 0.53 |
| 1:b:58:ARG:HG3 | 1:b:59:TYR:H | 1.73 | 0.53 |
| 3:c:41:TYR:HD1 | 3:c:42:LEU:HD23 | 1.73 | 0.53 |
| 2:m:291:VAL:O | 2:m:297:TYR:HA | 2.09 | 0.53 |
| 4:h:386:LEU:HD23 | 4:h:386:LEU:H | 1.72 | 0.53 |
| 3:s:39:LEU:HB2 | 3:s:64:PHE:CE1 | 2.44 | 0.53 |
| 4:p:311:PRO:HD3 | 4:p:344:ARG:HH22 | 1.73 | 0.53 |
| 4:o:457:PHE:CE1 | 4:o:560:ILE:HG21 | 2.44 | 0.53 |
| 2:F:151:LYS:HE2 | 2:t:73:CYS:O | 2.09 | 0.53 |
| 4:B:303:LEU:HD22 | 4:B:353:PHE:CZ | 2.43 | 0.53 |
| 4:A:311:PRO:HD3 | 4:A:344:ARG:HH22 | 1.73 | 0.53 |
| 4:C:386:LEU:HD23 | 4:C:386:LEU:H | 1.72 | 0.53 |
| 1:L:121:PRO:HB2 | 1:L:124:GLU:OE1 | 2.09 | 0.53 |
| 2:N:68:ILE:H | 2:N:68:ILE:HD12 | 1.74 | 0.53 |
| 2:O:160:GLN:O | 2:O:164:ILE:HG12 | 2.09 | 0.53 |
| 2:O:283:LEU:HB3 | 2:O:306:VAL:HG21 | 1.90 | 0.53 |
| 3:U:39:LEU:HB2 | 3:U:64:PHE:CE1 | 2.44 | 0.53 |
| 3:U:389:TYR:O | 3:U:390:GLU:HB3 | 2.07 | 0.53 |
| 2:e:163:VAL:HG11 | 2:e:192:PHE:CE2 | 2.44 | 0.53 |
| 2:e:283:LEU:HB3 | 2:e:306:VAL:HG21 | 1.90 | 0.53 |
| 4:Z:29:HIS:HB2 | 4:Y:4:ILE:HG12 | 1.91 | 0.53 |
| 2:m:163:VAL:HG11 | 2:m:192:PHE:CE2 | 2.44 | 0.53 |
| 4:h:472:THR:HA | 4:h:475:MET:HE2 | 1.89 | 0.53 |
| 1:r:59:TYR:HA | 1:r:62:LEU:HG | 1.91 | 0.53 |
| 1:r:121:PRO:HB2 | 1:r:124:GLU:OE1 | 2.09 | 0.53 |
| 2:u:163:VAL:HG11 | 2:u:192:PHE:CE2 | 2.44 | 0.53 |
| 4:o:208:ILE:HD12 | 4:o:211:ARG:HG2 | 1.91 | 0.53 |
| 4:B:4:ILE:HG12 | 4:C:29:HIS:HB2 | 1.91 | 0.53 |
| 4:A:511:PRO:HB2 | 3:M:538:TYR:HE2 | 1.75 | 0.53 |
| 2:N:73:CYS:O | 2:V:151:LYS:HE2 | 2.09 | 0.53 |
| 2:O:291:VAL:O | 2:O:297:TYR:HA | 2.09 | 0.53 |
| 4:J:256:LYS:HD2 | 5:P:38:GLU:OE1 | 2.09 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:K:457:PHE:CE1 | 4:K:560:ILE:HG21 | 2.44 | 0.53 |
| 1:T:140:LEU:HD11 | 1:T:262:LYS:HB3 | 1.91 | 0.53 |
| 2:V:73:CYS:O | 2:d:151:LYS:HE2 | 2.09 | 0.53 |
| 2:V:307:SER:HB2 | 2:W:282:LEU:HD12 | 1.91 | 0.53 |
| 2:W:283:LEU:HB3 | 2:W:306:VAL:HG21 | 1.90 | 0.53 |
| 3:U:9:LEU:HD23 | 3:c:521:TYR:HB2 | 1.91 | 0.53 |
| 4:R:457:PHE:CE1 | 4:R:560:ILE:HG21 | 2.44 | 0.53 |
| 4:S:472:THR:HA | 4:S:475:MET:HE2 | 1.89 | 0.53 |
| 2:d:73:CYS:O | 2:l:151:LYS:HE2 | 2.09 | 0.53 |
| 2:e:290:TYR:CE2 | 2:e:336:ALA:HA | 2.44 | 0.53 |
| 4:Y:117:HIS:CE1 | 4:Y:119:PHE:H | 2.27 | 0.53 |
| 4:a:119:PHE:HB3 | 4:a:122:LEU:HD12 | 1.90 | 0.53 |
| 3:k:39:LEU:HB2 | 3:k:64:PHE:CE1 | 2.44 | 0.53 |
| 4:h:311:PRO:HD3 | 4:h:344:ARG:HH22 | 1.73 | 0.53 |
| 2:u:290:TYR:CE2 | 2:u:336:ALA:HA | 2.44 | 0.53 |
| 4:p:303:LEU:HD22 | 4:p:353:PHE:CZ | 2.43 | 0.53 |
| 1:D:12:TYR:CG | 1:L:28:ARG:NH1 | 2.77 | 0.52 |
| 1:D:28:ARG:NH1 | 1:r:12:TYR:CG | 2.77 | 0.52 |
| 3:E:538:TYR:HE2 | 4:o:511:PRO:HB2 | 1.74 | 0.52 |
| 4:A:208:ILE:HD12 | 4:A:211:ARG:HG2 | 1.91 | 0.52 |
| 2:N:77:LYS:HG2 | 2:V:151:LYS:HG2 | 1.89 | 0.52 |
| 2:O:290:TYR:CE2 | 2:O:336:ALA:HA | 2.44 | 0.52 |
| 2:W:198:MET:H | 2:W:263:THR:HG22 | 1.74 | 0.52 |
| 4:Q:303:LEU:HD22 | 4:Q:353:PHE:CZ | 2.43 | 0.52 |
| 4:S:71:LYS:HD2 | 4:S:146:GLY:HA2 | 1.92 | 0.52 |
| 4:Z:4:ILE:HG12 | 4:a:29:HIS:HB2 | 1.91 | 0.52 |
| 4:Y:208:ILE:HD12 | 4:Y:211:ARG:HG2 | 1.91 | 0.52 |
| 4:Y:311:PRO:HD3 | 4:Y:344:ARG:HH22 | 1.73 | 0.52 |
| 2:m:160:GLN:O | 2:m:164:ILE:HG12 | 2.09 | 0.52 |
| 2:m:283:LEU:HB3 | 2:m:306:VAL:HG21 | 1.90 | 0.52 |
| 4:h:255:TYR:HD2 | 5:n:45:GLU:HG2 | 1.74 | 0.52 |
| 4:h:256:LYS:HD2 | 5:n:38:GLU:OE1 | 2.09 | 0.52 |
| 4:h:457:PHE:CE1 | 4:h:560:ILE:HG21 | 2.44 | 0.52 |
| 4:g:457:PHE:CE1 | 4:g:560:ILE:HG21 | 2.44 | 0.52 |
| 4:i:303:LEU:HD22 | 4:i:353:PHE:CZ | 2.43 | 0.52 |
| 2:t:307:SER:HB2 | 2:u:282:LEU:HD12 | 1.91 | 0.52 |
| 2:t:313:ARG:HG2 | 2:t:327:ASP:OD1 | 2.09 | 0.52 |
| 3:s:203:THR:HG22 | 3:s:207:GLN:NE2 | 2.16 | 0.52 |
| 4:o:29:HIS:HB2 | 4:q:4:ILE:HG12 | 1.91 | 0.52 |
| 1:D:125:PHE:O | 1:D:129:LEU:HG | 2.09 | 0.52 |
| 2:G:223:GLN:HG3 | 2:G:247:PHE:CE2 | 2.45 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:W:163:VAL:HG11 | 2:W:192:PHE:CE2 | 2.44 | 0.52 |
| 1:j:12:TYR:CG | 1:r:28:ARG:NH1 | 2.77 | 0.52 |
| 3:k:129:LEU:HB3 | 3:k:460:LYS:HE3 | 1.91 | 0.52 |
| 3:s:532:PHE:HD2 | 3:s:533:LEU:HD22 | 1.74 | 0.52 |
| 4:p:457:PHE:CE1 | 4:p:560:ILE:HG21 | 2.44 | 0.52 |
| 2:G:163:VAL:HG11 | 2:G:192:PHE:CE2 | 2.44 | 0.52 |
| 2:G:291:VAL:O | 2:G:297:TYR:HA | 2.09 | 0.52 |
| 4:B:71:LYS:HD2 | 4:B:146:GLY:HA2 | 1.92 | 0.52 |
| 4:B:117:HIS:CE1 | 4:B:119:PHE:H | 2.27 | 0.52 |
| 4:A:457:PHE:CE1 | 4:A:560:ILE:HG21 | 2.44 | 0.52 |
| 2:O:223:GLN:HG3 | 2:O:247:PHE:CE2 | 2.45 | 0.52 |
| 3:M:129:LEU:HB3 | 3:M:460:LYS:HE3 | 1.91 | 0.52 |
| 3:M:315:TRP:HZ3 | 3:M:354:TYR:HB3 | 1.66 | 0.52 |
| 3:U:41:TYR:HD1 | 3:U:42:LEU:HD23 | 1.73 | 0.52 |
| 4:S:208:ILE:HD12 | 4:S:211:ARG:HG2 | 1.90 | 0.52 |
| 2:d:68:ILE:H | 2:d:68:ILE:HD12 | 1.74 | 0.52 |
| 4:Z:117:HIS:CE1 | 4:Z:119:PHE:H | 2.27 | 0.52 |
| 4:Z:457:PHE:CE1 | 4:Z:560:ILE:HG21 | 2.44 | 0.52 |
| 4:a:208:ILE:HD12 | 4:a:211:ARG:HG2 | 1.91 | 0.52 |
| 1:j:121:PRO:HB2 | 1:j:124:GLU:OE1 | 2.09 | 0.52 |
| 2:m:290:TYR:CE2 | 2:m:336:ALA:HA | 2.44 | 0.52 |
| 4:h:71:LYS:HD2 | 4:h:146:GLY:HA2 | 1.92 | 0.52 |
| 4:i:71:LYS:HD2 | 4:i:146:GLY:HA2 | 1.92 | 0.52 |
| 2:u:223:GLN:HG3 | 2:u:247:PHE:CE2 | 2.45 | 0.52 |
| 2:u:291:VAL:O | 2:u:297:TYR:HA | 2.09 | 0.52 |
| 4:o:71:LYS:HD2 | 4:o:146:GLY:HA2 | 1.92 | 0.52 |
| 3:E:392:ASN:HD21 | 3:M:111:HIS:CE1 | 2.28 | 0.52 |
| 4:B:457:PHE:CE1 | 4:B:560:ILE:HG21 | 2.44 | 0.52 |
| 1:L:12:TYR:CG | 1:T:28:ARG:NH1 | 2.77 | 0.52 |
| 1:L:59:TYR:HA | 1:L:62:LEU:HG | 1.91 | 0.52 |
| 2:W:290:TYR:CE2 | 2:W:336:ALA:HA | 2.44 | 0.52 |
| 4:R:255:TYR:HD2 | 5:X:45:GLU:HG2 | 1.74 | 0.52 |
| 4:S:457:PHE:CE1 | 4:S:560:ILE:HG21 | 2.44 | 0.52 |
| 3:c:39:LEU:HB2 | 3:c:64:PHE:CE1 | 2.44 | 0.52 |
| 3:c:129:LEU:HB3 | 3:c:460:LYS:HE3 | 1.91 | 0.52 |
| 3:c:344:PHE:CZ | 1:j:116:LYS:HB3 | 2.45 | 0.52 |
| 4:a:117:HIS:CE1 | 4:a:119:PHE:H | 2.27 | 0.52 |
| 3:k:203:THR:HG22 | 3:k:207:GLN:NE2 | 2.15 | 0.52 |
| 4:g:511:PRO:HB2 | 3:s:538:TYR:HE2 | 1.74 | 0.52 |
| 4:i:117:HIS:CE1 | 4:i:119:PHE:H | 2.27 | 0.52 |
| 4:q:71:LYS:HD2 | 4:q:146:GLY:HA2 | 1.92 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:q:208:ILE:HD12 | 4:q:211:ARG:HG2 | 1.90 | 0.52 |
| 2:F:77:LYS:HG2 | 2:N:151:LYS:HG2 | 1.89 | 0.52 |
| 4:A:29:HIS:HB2 | 4:C:4:ILE:HG12 | 1.91 | 0.52 |
| 4:A:71:LYS:HD2 | 4:A:146:GLY:HA2 | 1.92 | 0.52 |
| 4:A:117:HIS:CE1 | 4:A:119:PHE:H | 2.27 | 0.52 |
| 4:C:457:PHE:CE1 | 4:C:560:ILE:HG21 | 2.44 | 0.52 |
| 4:I:511:PRO:HB2 | 3:U:538:TYR:HE2 | 1.74 | 0.52 |
| 4:R:256:LYS:HD2 | 5:X:38:GLU:OE1 | 2.09 | 0.52 |
| 1:b:59:TYR:HA | 1:b:62:LEU:HG | 1.91 | 0.52 |
| 2:e:198:MET:H | 2:e:263:THR:HG22 | 1.74 | 0.52 |
| 4:Z:256:LYS:HD2 | 5:f:38:GLU:OE1 | 2.09 | 0.52 |
| 4:Y:71:LYS:HD2 | 4:Y:146:GLY:HA2 | 1.92 | 0.52 |
| 3:k:47:PRO:O | 3:k:51:ILE:HG12 | 2.08 | 0.52 |
| 4:p:255:TYR:HD2 | 5:v:45:GLU:HG2 | 1.74 | 0.52 |
| 2:G:102:CYS:SG | 2:G:173:ILE:HD13 | 2.50 | 0.52 |
| 4:Q:29:HIS:HB2 | 4:S:4:ILE:HG12 | 1.91 | 0.52 |
| 4:S:117:HIS:CE1 | 4:S:119:PHE:H | 2.27 | 0.52 |
| 1:b:121:PRO:HB2 | 1:b:124:GLU:OE1 | 2.09 | 0.52 |
| 1:b:140:LEU:HD11 | 1:b:262:LYS:HB3 | 1.91 | 0.52 |
| 3:c:9:LEU:HD23 | 3:k:521:TYR:HB2 | 1.91 | 0.52 |
| 3:c:36:VAL:HA | 3:c:64:PHE:HE1 | 1.75 | 0.52 |
| 4:Z:208:ILE:HD12 | 4:Z:211:ARG:HG2 | 1.91 | 0.52 |
| 4:Y:457:PHE:CE1 | 4:Y:560:ILE:HG21 | 2.44 | 0.52 |
| 1:j:125:PHE:O | 1:j:129:LEU:HG | 2.09 | 0.52 |
| 2:l:196:GLN:HE22 | 2:l:340:PHE:HA | 1.73 | 0.52 |
| 3:k:36:VAL:HA | 3:k:64:PHE:HE1 | 1.75 | 0.52 |
| 3:k:344:PHE:CZ | 1:r:116:LYS:HB3 | 2.45 | 0.52 |
| 4:i:208:ILE:HD12 | 4:i:211:ARG:HG2 | 1.91 | 0.52 |
| 1:r:125:PHE:O | 1:r:129:LEU:HG | 2.09 | 0.52 |
| 4:p:117:HIS:CE1 | 4:p:119:PHE:H | 2.27 | 0.52 |
| 3:E:9:LEU:HD23 | 3:M:521:TYR:HB2 | 1.91 | 0.52 |
| 3:E:36:VAL:HA | 3:E:64:PHE:HE1 | 1.75 | 0.52 |
| 2:O:198:MET:H | 2:O:263:THR:HG22 | 1.74 | 0.52 |
| 4:J:71:LYS:HD2 | 4:J:146:GLY:HA2 | 1.92 | 0.52 |
| 4:J:117:HIS:CE1 | 4:J:119:PHE:H | 2.27 | 0.52 |
| 4:I:457:PHE:CE1 | 4:I:560:ILE:HG21 | 2.44 | 0.52 |
| 3:U:36:VAL:HA | 3:U:64:PHE:HE1 | 1.75 | 0.52 |
| 3:U:129:LEU:HB3 | 3:U:460:LYS:HE3 | 1.91 | 0.52 |
| 3:U:392:ASN:HD21 | 3:c:111:HIS:CE1 | 2.28 | 0.52 |
| 4:Q:457:PHE:CE1 | 4:Q:560:ILE:HG21 | 2.44 | 0.52 |
| 4:Z:71:LYS:HD2 | 4:Z:146:GLY:HA2 | 1.92 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:j:58:ARG:HG3 | 1:j:59:TYR:H | 1.73 | 0.52 |
| 1:j:59:TYR:HA | 1:j:62:LEU:HG | 1.91 | 0.52 |
| 3:k:532:PHE:HD2 | 3:k:533:LEU:HD22 | 1.74 | 0.52 |
| 4:h:29:HIS:HB2 | 4:g:4:ILE:HG12 | 1.91 | 0.52 |
| 4:i:457:PHE:CE1 | 4:i:560:ILE:HG21 | 2.44 | 0.52 |
| 3:s:36:VAL:HA | 3:s:64:PHE:HE1 | 1.75 | 0.52 |
| 4:q:117:HIS:CE1 | 4:q:119:PHE:H | 2.27 | 0.52 |
| 4:q:311:PRO:HD3 | 4:q:344:ARG:HH22 | 1.73 | 0.52 |
| 3:E:337:ARG:HG3 | 3:E:338:THR:N | 2.25 | 0.52 |
| 3:M:9:LEU:HD23 | 3:U:521:TYR:HB2 | 1.91 | 0.52 |
| 3:M:36:VAL:HA | 3:M:64:PHE:HE1 | 1.75 | 0.52 |
| 4:J:29:HIS:HB2 | 4:I:4:ILE:HG12 | 1.91 | 0.52 |
| 4:J:255:TYR:HD2 | 5:P:45:GLU:HG2 | 1.74 | 0.52 |
| 4:J:457:PHE:CE1 | 4:J:560:ILE:HG21 | 2.44 | 0.52 |
| 4:I:208:ILE:HD12 | 4:I:211:ARG:HG2 | 1.91 | 0.52 |
| 1:T:175:GLN:O | 1:b:58:ARG:NH2 | 2.26 | 0.52 |
| 2:e:102:CYS:SG | 2:e:173:ILE:HD13 | 2.50 | 0.52 |
| 4:a:457:PHE:CE1 | 4:a:560:ILE:HG21 | 2.44 | 0.52 |
| 2:l:92:LEU:HB3 | 2:l:132:MET:CE | 2.40 | 0.52 |
| 2:l:313:ARG:HG2 | 2:l:327:ASP:OD1 | 2.09 | 0.52 |
| 2:m:102:CYS:SG | 2:m:173:ILE:HD13 | 2.50 | 0.52 |
| 3:k:311:LYS:HZ3 | 3:k:359:ARG:HH21 | 1.58 | 0.52 |
| 2:t:92:LEU:HB3 | 2:t:132:MET:CE | 2.40 | 0.52 |
| 2:u:102:CYS:SG | 2:u:173:ILE:HD13 | 2.50 | 0.52 |
| 4:o:117:HIS:CE1 | 4:o:119:PHE:H | 2.27 | 0.52 |
| 1:D:121:PRO:HB2 | 1:D:124:GLU:OE1 | 2.09 | 0.52 |
| 2:G:306:VAL:HG12 | 2:G:307:SER:O | 2.10 | 0.52 |
| 3:E:129:LEU:CB | 3:E:460:LYS:HE3 | 2.40 | 0.52 |
| 4:B:29:HIS:HB2 | 4:A:4:ILE:HG12 | 1.91 | 0.52 |
| 4:A:119:PHE:HB3 | 4:A:122:LEU:HD12 | 1.90 | 0.52 |
| 1:L:140:LEU:HD11 | 1:L:262:LYS:HB3 | 1.91 | 0.52 |
| 2:N:196:GLN:HE22 | 2:N:340:PHE:HA | 1.73 | 0.52 |
| 4:K:71:LYS:HD2 | 4:K:146:GLY:HA2 | 1.92 | 0.52 |
| 1:T:59:TYR:HA | 1:T:62:LEU:HG | 1.91 | 0.52 |
| 4:Q:208:ILE:HD12 | 4:Q:211:ARG:HG2 | 1.91 | 0.52 |
| 2:e:160:GLN:O | 2:e:164:ILE:HG12 | 2.09 | 0.52 |
| 3:c:392:ASN:HD21 | 3:k:111:HIS:CE1 | 2.28 | 0.52 |
| 4:g:29:HIS:HB2 | 4:i:4:ILE:HG12 | 1.91 | 0.52 |
| 4:p:4:ILE:HG12 | 4:q:29:HIS:HB2 | 1.91 | 0.52 |
| 2:G:160:GLN:O | 2:G:164:ILE:HG12 | 2.09 | 0.52 |
| 4:B:255:TYR:HD2 | 5:H:45:GLU:HG2 | 1.74 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:B:256:LYS:HD2 | 5:H:38:GLU:OE1 | 2.09 | 0.52 |
| 2:O:102:CYS:SG | 2:O:173:ILE:HD13 | 2.50 | 0.52 |
| 3:M:39:LEU:HB2 | 3:M:64:PHE:CE1 | 2.44 | 0.52 |
| 3:M:129:LEU:CB | 3:M:460:LYS:HE3 | 2.40 | 0.52 |
| 4:Q:71:LYS:HD2 | 4:Q:146:GLY:HA2 | 1.92 | 0.52 |
| 1:b:58:ARG:HG3 | 1:b:59:TYR:N | 2.25 | 0.52 |
| 3:c:532:PHE:HD2 | 3:c:533:LEU:HD22 | 1.74 | 0.52 |
| 2:m:223:GLN:HG3 | 2:m:247:PHE:CE2 | 2.45 | 0.52 |
| 4:g:208:ILE:HD12 | 4:g:211:ARG:HG2 | 1.91 | 0.52 |
| 3:s:129:LEU:CB | 3:s:460:LYS:HE3 | 2.40 | 0.52 |
| 1:D:58:ARG:NH2 | 1:r:175:GLN:O | 2.26 | 0.51 |
| 2:F:92:LEU:HB3 | 2:F:132:MET:CE | 2.40 | 0.51 |
| 2:F:313:ARG:HG2 | 2:F:327:ASP:OD1 | 2.09 | 0.51 |
| 3:E:344:PHE:CZ | 1:L:116:LYS:HB3 | 2.45 | 0.51 |
| 2:N:92:LEU:HB3 | 2:N:132:MET:CE | 2.40 | 0.51 |
| 2:O:163:VAL:HG11 | 2:O:192:PHE:CE2 | 2.44 | 0.51 |
| 3:M:344:PHE:CZ | 1:T:116:LYS:HB3 | 2.45 | 0.51 |
| 1:T:58:ARG:HG3 | 1:T:59:TYR:N | 2.24 | 0.51 |
| 2:W:102:CYS:SG | 2:W:173:ILE:HD13 | 2.50 | 0.51 |
| 3:U:344:PHE:CZ | 1:b:116:LYS:HB3 | 2.45 | 0.51 |
| 2:e:165:LEU:HD13 | 2:e:168:MET:HE3 | 1.93 | 0.51 |
| 2:e:264:MET:HA | 2:e:267:LEU:CG | 2.37 | 0.51 |
| 2:l:68:ILE:H | 2:l:68:ILE:HD12 | 1.74 | 0.51 |
| 4:h:4:ILE:HG12 | 4:i:29:HIS:HB2 | 1.91 | 0.51 |
| 4:h:117:HIS:CE1 | 4:h:119:PHE:H | 2.27 | 0.51 |
| 4:g:117:HIS:CE1 | 4:g:119:PHE:H | 2.27 | 0.51 |
| 2:u:198:MET:H | 2:u:263:THR:HG22 | 1.74 | 0.51 |
| 3:s:286:GLU:HB2 | 3:s:289:ILE:HD13 | 1.93 | 0.51 |
| 4:p:29:HIS:HB2 | 4:o:4:ILE:HG12 | 1.91 | 0.51 |
| 4:p:256:LYS:HD2 | 5:v:38:GLU:OE1 | 2.09 | 0.51 |
| 4:q:457:PHE:CE1 | 4:q:560:ILE:HG21 | 2.44 | 0.51 |
| 2:G:290:TYR:CE2 | 2:G:336:ALA:HA | 2.44 | 0.51 |
| 2:G:339:MET:CE | 2:t:171:ARG:HH12 | 2.18 | 0.51 |
| 3:E:111:HIS:CE1 | 3:s:392:ASN:HD21 | 2.28 | 0.51 |
| 4:C:208:ILE:HD12 | 4:C:211:ARG:HG2 | 1.91 | 0.51 |
| 2:N:313:ARG:HG2 | 2:N:327:ASP:OD1 | 2.09 | 0.51 |
| 2:O:306:VAL:HG12 | 2:O:307:SER:O | 2.10 | 0.51 |
| 3:M:392:ASN:HD21 | 3:U:111:HIS:CE1 | 2.28 | 0.51 |
| 3:M:532:PHE:HD2 | 3:M:533:LEU:HD22 | 1.74 | 0.51 |
| 2:V:221:LEU:HD21 | 2:W:101:SER:HB2 | 1.92 | 0.51 |
| 2:W:223:GLN:HG3 | 2:W:247:PHE:CE2 | 2.45 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:W:266:ILE:HD11 | 2:W:341:VAL:HG13 | 1.93 | 0.51 |
| 1:b:12:TYR:CG | 1:j:28:ARG:NH1 | 2.77 | 0.51 |
| 2:m:165:LEU:HD13 | 2:m:168:MET:HE3 | 1.92 | 0.51 |
| 3:k:129:LEU:CB | 3:k:460:LYS:HE3 | 2.40 | 0.51 |
| 4:h:208:ILE:HD12 | 4:h:211:ARG:HG2 | 1.90 | 0.51 |
| 4:p:208:ILE:HD12 | 4:p:211:ARG:HG2 | 1.91 | 0.51 |
| 1:D:59:TYR:HA | 1:D:62:LEU:HG | 1.91 | 0.51 |
| 2:F:68:ILE:H | 2:F:68:ILE:HD12 | 1.74 | 0.51 |
| 2:G:264:MET:HA | 2:G:267:LEU:CG | 2.37 | 0.51 |
| 3:E:155:GLU:O | 3:E:159:LEU:HG | 2.11 | 0.51 |
| 3:E:532:PHE:HD2 | 3:E:533:LEU:HD22 | 1.74 | 0.51 |
| 2:O:266:ILE:HD11 | 2:O:341:VAL:HG13 | 1.93 | 0.51 |
| 4:J:311:PRO:HD3 | 4:J:344:ARG:HH22 | 1.73 | 0.51 |
| 4:I:29:HIS:HB2 | 4:K:4:ILE:HG12 | 1.91 | 0.51 |
| 2:V:313:ARG:HG2 | 2:V:327:ASP:OD1 | 2.09 | 0.51 |
| 3:U:129:LEU:CB | 3:U:460:LYS:HE3 | 2.40 | 0.51 |
| 3:U:532:PHE:HD2 | 3:U:533:LEU:HD22 | 1.74 | 0.51 |
| 1:b:32:ARG:HG3 | 1:b:34:LEU:CG | 2.40 | 0.51 |
| 3:c:286:GLU:HB2 | 3:c:289:ILE:HD13 | 1.93 | 0.51 |
| 4:Y:29:HIS:HB2 | 4:a:4:ILE:HG12 | 1.91 | 0.51 |
| 2:l:73:CYS:O | 2:t:151:LYS:HE2 | 2.09 | 0.51 |
| 2:u:165:LEU:HD13 | 2:u:168:MET:HE3 | 1.93 | 0.51 |
| 2:N:105:GLU:O | 2:N:109:LEU:HD23 | 2.11 | 0.51 |
| 2:O:288:LEU:HG | 2:O:336:ALA:HB3 | 1.93 | 0.51 |
| 1:T:12:TYR:CG | 1:b:28:ARG:NH1 | 2.77 | 0.51 |
| 4:R:29:HIS:HB2 | 4:Q:4:ILE:HG12 | 1.91 | 0.51 |
| 2:d:221:LEU:HD21 | 2:e:101:SER:HB2 | 1.93 | 0.51 |
| 3:s:155:GLU:O | 3:s:159:LEU:HG | 2.11 | 0.51 |
| 3:s:337:ARG:HG3 | 3:s:338:THR:N | 2.25 | 0.51 |
| 1:D:116:LYS:HB3 | 3:s:344:PHE:CZ | 2.45 | 0.51 |
| 2:G:165:LEU:HD13 | 2:G:168:MET:HE3 | 1.93 | 0.51 |
| 3:E:39:LEU:HB2 | 3:E:64:PHE:CE1 | 2.44 | 0.51 |
| 3:E:286:GLU:HB2 | 3:E:289:ILE:HD13 | 1.93 | 0.51 |
| 4:C:69:ILE:HG23 | 4:C:174:LEU:HD12 | 1.93 | 0.51 |
| 1:L:58:ARG:HG3 | 1:L:59:TYR:N | 2.25 | 0.51 |
| 2:W:165:LEU:HD13 | 2:W:168:MET:HE3 | 1.93 | 0.51 |
| 3:U:155:GLU:O | 3:U:159:LEU:HG | 2.11 | 0.51 |
| 2:d:313:ARG:HG2 | 2:d:327:ASP:OD1 | 2.09 | 0.51 |
| 2:e:223:GLN:HG3 | 2:e:247:PHE:CE2 | 2.45 | 0.51 |
| 3:c:337:ARG:HG3 | 3:c:338:THR:N | 2.25 | 0.51 |
| 4:Z:255:TYR:HD2 | 5:f:45:GLU:HG2 | 1.74 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:a:71:LYS:HD2 | 4:a:146:GLY:HA2 | 1.92 | 0.51 |
| 4:a:267:TYR:OH | 4:a:347:LYS:HD2 | 2.11 | 0.51 |
| 3:k:155:GLU:O | 3:k:159:LEU:HG | 2.11 | 0.51 |
| 3:k:286:GLU:HB2 | 3:k:289:ILE:HD13 | 1.93 | 0.51 |
| 1:r:54:ILE:CD1 | 1:r:101:ILE:HG21 | 2.41 | 0.51 |
| 1:r:58:ARG:HG3 | 1:r:59:TYR:N | 2.24 | 0.51 |
| 1:D:54:ILE:CD1 | 1:D:101:ILE:HG21 | 2.41 | 0.51 |
| 2:F:105:GLU:O | 2:F:109:LEU:HD23 | 2.11 | 0.51 |
| 2:F:151:LYS:HG2 | 2:t:77:LYS:HG2 | 1.89 | 0.51 |
| 3:M:155:GLU:O | 3:M:159:LEU:HG | 2.11 | 0.51 |
| 4:K:267:TYR:OH | 4:K:347:LYS:HD2 | 2.11 | 0.51 |
| 2:d:105:GLU:O | 2:d:109:LEU:HD23 | 2.11 | 0.51 |
| 2:d:117:GLY:HA3 | 2:d:164:ILE:HD11 | 1.93 | 0.51 |
| 2:l:221:LEU:HD21 | 2:m:101:SER:HB2 | 1.93 | 0.51 |
| 2:m:198:MET:H | 2:m:263:THR:HG22 | 1.74 | 0.51 |
| 4:g:69:ILE:HG23 | 4:g:174:LEU:HD12 | 1.93 | 0.51 |
| 1:r:32:ARG:HG3 | 1:r:34:LEU:CG | 2.41 | 0.51 |
| 1:r:140:LEU:HD11 | 1:r:262:LYS:HB3 | 1.91 | 0.51 |
| 4:p:69:ILE:HG23 | 4:p:174:LEU:HD12 | 1.93 | 0.51 |
| 4:o:267:TYR:OH | 4:o:347:LYS:HD2 | 2.11 | 0.51 |
| 1:D:140:LEU:HD11 | 1:D:262:LYS:HB3 | 1.91 | 0.51 |
| 2:G:198:MET:H | 2:G:263:THR:HG22 | 1.74 | 0.51 |
| 4:A:267:TYR:OH | 4:A:347:LYS:HD2 | 2.11 | 0.51 |
| 2:N:339:MET:HE1 | 2:V:324:GLU:HG3 | 1.93 | 0.51 |
| 3:M:337:ARG:HG3 | 3:M:338:THR:N | 2.25 | 0.51 |
| 2:V:105:GLU:O | 2:V:109:LEU:HD23 | 2.11 | 0.51 |
| 2:V:339:MET:HE1 | 2:d:324:GLU:HG3 | 1.93 | 0.51 |
| 3:U:337:ARG:HG3 | 3:U:338:THR:N | 2.25 | 0.51 |
| 3:U:431:MET:CE | 3:U:440:LYS:HG2 | 2.34 | 0.51 |
| 4:R:69:ILE:HG23 | 4:R:174:LEU:HD12 | 1.93 | 0.51 |
| 4:S:267:TYR:OH | 4:S:347:LYS:HD2 | 2.11 | 0.51 |
| 1:b:175:GLN:O | 1:j:58:ARG:NH2 | 2.26 | 0.51 |
| 2:e:288:LEU:HG | 2:e:336:ALA:HB3 | 1.93 | 0.51 |
| 3:c:460:LYS:HZ3 | 3:c:463:LEU:HD23 | 1.76 | 0.51 |
| 2:m:267:LEU:HA | 2:m:299:ILE:HG21 | 1.93 | 0.51 |
| 2:m:288:LEU:HG | 2:m:336:ALA:HB3 | 1.93 | 0.51 |
| 3:k:392:ASN:HD21 | 3:s:111:HIS:CE1 | 2.28 | 0.51 |
| 4:g:71:LYS:HD2 | 4:g:146:GLY:HA2 | 1.92 | 0.51 |
| 2:u:160:GLN:O | 2:u:164:ILE:HG12 | 2.09 | 0.51 |
| 2:F:117:GLY:HA3 | 2:F:164:ILE:HD11 | 1.93 | 0.51 |
| 2:O:267:LEU:HA | 2:O:299:ILE:HG21 | 1.93 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:M:316:LYS:O | 3:M:320:ILE:HG13 | 2.11 | 0.51 |
| 4:J:267:TYR:OH | 4:J:347:LYS:HD2 | 2.11 | 0.51 |
| 1:T:32:ARG:HG3 | 1:T:34:LEU:CG | 2.41 | 0.51 |
| 1:T:36:LYS:HA | 1:T:39:TYR:CE2 | 2.46 | 0.51 |
| 2:V:303:LEU:HD11 | 2:V:315:LEU:HB3 | 1.93 | 0.51 |
| 2:W:267:LEU:HA | 2:W:299:ILE:HG21 | 1.93 | 0.51 |
| 3:c:103:ILE:HD11 | 3:c:492:VAL:HG23 | 1.93 | 0.51 |
| 4:Y:511:PRO:HB2 | 3:k:538:TYR:HE2 | 1.75 | 0.51 |
| 2:m:264:MET:HA | 2:m:267:LEU:CG | 2.37 | 0.51 |
| 1:r:36:LYS:HA | 1:r:39:TYR:CE2 | 2.46 | 0.51 |
| 1:D:58:ARG:HG3 | 1:D:59:TYR:N | 2.25 | 0.51 |
| 3:E:521:TYR:HB2 | 3:s:9:LEU:HD23 | 1.91 | 0.51 |
| 2:N:221:LEU:HD21 | 2:O:101:SER:HB2 | 1.93 | 0.51 |
| 2:O:165:LEU:HD13 | 2:O:168:MET:HE3 | 1.92 | 0.51 |
| 2:V:92:LEU:HB3 | 2:V:132:MET:CE | 2.40 | 0.51 |
| 2:W:288:LEU:HG | 2:W:336:ALA:HB3 | 1.93 | 0.51 |
| 4:R:71:LYS:HD2 | 4:R:146:GLY:HA2 | 1.92 | 0.51 |
| 4:Q:511:PRO:HB2 | 3:c:538:TYR:HE2 | 1.74 | 0.51 |
| 1:j:36:LYS:HA | 1:j:39:TYR:CE2 | 2.46 | 0.51 |
| 1:j:58:ARG:HG3 | 1:j:59:TYR:N | 2.25 | 0.51 |
| 3:k:315:TRP:HZ3 | 3:k:354:TYR:HB3 | 1.66 | 0.51 |
| 4:i:267:TYR:OH | 4:i:347:LYS:HD2 | 2.11 | 0.51 |
| 2:u:267:LEU:HA | 2:u:299:ILE:HG21 | 1.93 | 0.51 |
| 2:u:306:VAL:HG12 | 2:u:307:SER:O | 2.10 | 0.51 |
| 2:F:323:LEU:HD12 | 2:t:340:PHE:HZ | 1.76 | 0.51 |
| 4:B:69:ILE:HG23 | 4:B:174:LEU:HD12 | 1.93 | 0.51 |
| 4:B:267:TYR:OH | 4:B:347:LYS:HD2 | 2.11 | 0.51 |
| 1:L:54:ILE:CD1 | 1:L:101:ILE:HG21 | 2.41 | 0.51 |
| 3:U:203:THR:CG2 | 3:U:207:GLN:HE22 | 2.16 | 0.51 |
| 2:d:92:LEU:HB3 | 2:d:132:MET:CE | 2.40 | 0.51 |
| 2:d:303:LEU:HD11 | 2:d:315:LEU:HB3 | 1.93 | 0.51 |
| 2:e:266:ILE:HD11 | 2:e:341:VAL:HG13 | 1.93 | 0.51 |
| 3:c:129:LEU:CB | 3:c:460:LYS:HE3 | 2.40 | 0.51 |
| 3:c:155:GLU:O | 3:c:159:LEU:HG | 2.11 | 0.51 |
| 4:Z:267:TYR:OH | 4:Z:347:LYS:HD2 | 2.11 | 0.51 |
| 1:j:140:LEU:HD11 | 1:j:262:LYS:HB3 | 1.91 | 0.51 |
| 1:j:249:THR:O | 1:j:272:LEU:HA | 2.11 | 0.51 |
| 2:l:105:GLU:O | 2:l:109:LEU:HD23 | 2.11 | 0.51 |
| 2:m:261:LYS:O | 2:m:264:MET:HG3 | 2.11 | 0.51 |
| 4:h:267:TYR:OH | 4:h:347:LYS:HD2 | 2.11 | 0.51 |
| 5:n:51:GLN:O | 5:n:55:GLN:HG3 | 2.11 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:t:117:GLY:HA3 | 2:t:164:ILE:HD11 | 1.93 | 0.51 |
| 2:t:221:LEU:HD21 | 2:u:101:SER:HB2 | 1.92 | 0.51 |
| 4:p:71:LYS:HD2 | 4:p:146:GLY:HA2 | 1.92 | 0.51 |
| 2:G:266:ILE:HD11 | 2:G:341:VAL:HG13 | 1.93 | 0.50 |
| 2:G:267:LEU:HA | 2:G:299:ILE:HG21 | 1.93 | 0.50 |
| 3:M:256:TYR:CE2 | 3:M:260:LEU:HD11 | 2.46 | 0.50 |
| 3:M:533:LEU:HA | 3:M:536:ASN:OD1 | 2.12 | 0.50 |
| 2:V:171:ARG:HH12 | 2:e:339:MET:CE | 2.18 | 0.50 |
| 3:U:286:GLU:HB2 | 3:U:289:ILE:HD13 | 1.93 | 0.50 |
| 4:Q:69:ILE:HG23 | 4:Q:174:LEU:HD12 | 1.93 | 0.50 |
| 4:Z:357:ALA:O | 5:f:37:ILE:HD13 | 2.12 | 0.50 |
| 4:Y:30:LEU:HD12 | 4:Y:34:TYR:CG | 2.47 | 0.50 |
| 1:j:32:ARG:HG3 | 1:j:34:LEU:CG | 2.41 | 0.50 |
| 1:j:54:ILE:CD1 | 1:j:101:ILE:HG21 | 2.41 | 0.50 |
| 4:h:30:LEU:HD12 | 4:h:34:TYR:CG | 2.47 | 0.50 |
| 4:q:30:LEU:HD12 | 4:q:34:TYR:CG | 2.47 | 0.50 |
| 1:D:180:LYS:HG2 | 1:D:203:ILE:CD1 | 2.42 | 0.50 |
| 3:E:316:LYS:O | 3:E:320:ILE:HG13 | 2.11 | 0.50 |
| 4:C:71:LYS:HD2 | 4:C:146:GLY:HA2 | 1.92 | 0.50 |
| 2:N:340:PHE:O | 2:V:322:VAL:HG23 | 2.11 | 0.50 |
| 4:J:30:LEU:HD12 | 4:J:34:TYR:CG | 2.47 | 0.50 |
| 3:U:316:LYS:O | 3:U:320:ILE:HG13 | 2.11 | 0.50 |
| 4:S:30:LEU:HD12 | 4:S:34:TYR:CG | 2.47 | 0.50 |
| 2:d:171:ARG:HH12 | 2:m:339:MET:CE | 2.17 | 0.50 |
| 2:e:267:LEU:HA | 2:e:299:ILE:HG21 | 1.93 | 0.50 |
| 2:l:340:PHE:HZ | 2:t:323:LEU:HD12 | 1.76 | 0.50 |
| 3:k:103:ILE:HD11 | 3:k:492:VAL:HG23 | 1.93 | 0.50 |
| 4:g:267:TYR:OH | 4:g:347:LYS:HD2 | 2.11 | 0.50 |
| 4:p:252:MET:O | 5:v:49:GLN:NE2 | 2.44 | 0.50 |
| 4:p:267:TYR:OH | 4:p:347:LYS:HD2 | 2.11 | 0.50 |
| 1:D:36:LYS:HA | 1:D:39:TYR:CE2 | 2.46 | 0.50 |
| 2:F:111:ARG:CZ | 2:N:239:ARG:HA | 2.42 | 0.50 |
| 2:F:324:GLU:HG3 | 2:t:339:MET:HE1 | 1.93 | 0.50 |
| 2:G:288:LEU:HG | 2:G:336:ALA:HB3 | 1.93 | 0.50 |
| 3:E:533:LEU:HA | 3:E:536:ASN:OD1 | 2.12 | 0.50 |
| 4:B:357:ALA:O | 5:H:37:ILE:HD13 | 2.12 | 0.50 |
| 4:A:30:LEU:HD12 | 4:A:34:TYR:CG | 2.47 | 0.50 |
| 4:C:267:TYR:OH | 4:C:347:LYS:HD2 | 2.11 | 0.50 |
| 4:I:30:LEU:HD12 | 4:I:34:TYR:CG | 2.47 | 0.50 |
| 2:W:264:MET:HA | 2:W:267:LEU:CG | 2.37 | 0.50 |
| 2:W:306:VAL:HG12 | 2:W:307:SER:O | 2.10 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:c:256:TYR:CE2 | 3:c:260:LEU:HD11 | 2.46 | 0.50 |
| 2:l:117:GLY:HA3 | 2:l:164:ILE:HD11 | 1.93 | 0.50 |
| 2:l:303:LEU:HD11 | 2:l:315:LEU:HB3 | 1.93 | 0.50 |
| 2:l:339:MET:HE1 | 2:t:324:GLU:HG3 | 1.93 | 0.50 |
| 3:k:9:LEU:HD23 | 3:s:521:TYR:HB2 | 1.91 | 0.50 |
| 3:k:256:TYR:CE2 | 3:k:260:LEU:HD11 | 2.46 | 0.50 |
| 4:h:252:MET:O | 5:n:49:GLN:NE2 | 2.44 | 0.50 |
| 4:i:69:ILE:HG23 | 4:i:174:LEU:HD12 | 1.93 | 0.50 |
| 2:t:303:LEU:HD11 | 2:t:315:LEU:HB3 | 1.93 | 0.50 |
| 2:u:261:LYS:O | 2:u:264:MET:HG3 | 2.12 | 0.50 |
| 3:s:256:TYR:CE2 | 3:s:260:LEU:HD11 | 2.46 | 0.50 |
| 3:s:316:LYS:O | 3:s:320:ILE:HG13 | 2.11 | 0.50 |
| 4:q:69:ILE:HG23 | 4:q:174:LEU:HD12 | 1.93 | 0.50 |
| 4:C:215:THR:O | 4:C:219:ARG:HG3 | 2.12 | 0.50 |
| 2:N:340:PHE:HZ | 2:V:323:LEU:HD12 | 1.76 | 0.50 |
| 3:M:431:MET:CE | 3:M:440:LYS:HG2 | 2.34 | 0.50 |
| 4:I:267:TYR:OH | 4:I:347:LYS:HD2 | 2.11 | 0.50 |
| 2:V:111:ARG:CZ | 2:d:239:ARG:HA | 2.42 | 0.50 |
| 3:U:256:TYR:CE2 | 3:U:260:LEU:HD11 | 2.46 | 0.50 |
| 3:U:529:PHE:HB3 | 3:U:533:LEU:HD23 | 1.94 | 0.50 |
| 2:e:92:LEU:HB3 | 2:e:132:MET:CE | 2.42 | 0.50 |
| 3:c:533:LEU:HA | 3:c:536:ASN:OD1 | 2.12 | 0.50 |
| 4:Y:267:TYR:OH | 4:Y:347:LYS:HD2 | 2.11 | 0.50 |
| 4:a:215:THR:O | 4:a:219:ARG:HG3 | 2.12 | 0.50 |
| 2:m:306:VAL:HG12 | 2:m:307:SER:O | 2.10 | 0.50 |
| 4:h:215:THR:O | 4:h:219:ARG:HG3 | 2.12 | 0.50 |
| 4:i:215:THR:O | 4:i:219:ARG:HG3 | 2.12 | 0.50 |
| 1:r:249:THR:O | 1:r:272:LEU:HA | 2.11 | 0.50 |
| 2:t:105:GLU:O | 2:t:109:LEU:HD23 | 2.11 | 0.50 |
| 1:D:32:ARG:HG3 | 1:D:34:LEU:CG | 2.40 | 0.50 |
| 2:F:90:TYR:CE1 | 2:F:122:LYS:NZ | 2.80 | 0.50 |
| 2:N:111:ARG:CZ | 2:V:239:ARG:HA | 2.42 | 0.50 |
| 4:J:357:ALA:O | 5:P:37:ILE:HD13 | 2.12 | 0.50 |
| 4:I:215:THR:O | 4:I:219:ARG:HG3 | 2.12 | 0.50 |
| 1:T:249:THR:O | 1:T:272:LEU:HA | 2.11 | 0.50 |
| 1:b:54:ILE:CD1 | 1:b:101:ILE:HG21 | 2.41 | 0.50 |
| 4:Z:69:ILE:HG23 | 4:Z:174:LEU:HD12 | 1.93 | 0.50 |
| 4:a:69:ILE:HG23 | 4:a:174:LEU:HD12 | 1.93 | 0.50 |
| 3:k:337:ARG:HG3 | 3:k:338:THR:N | 2.25 | 0.50 |
| 4:h:69:ILE:HG23 | 4:h:174:LEU:HD12 | 1.93 | 0.50 |
| 4:g:215:THR:O | 4:g:219:ARG:HG3 | 2.12 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:u:92:LEU:HB3 | 2:u:132:MET:CE | 2.42 | 0.50 |
| 4:q:267:TYR:OH | 4:q:347:LYS:HD2 | 2.11 | 0.50 |
| 2:F:340:PHE:O | 2:N:322:VAL:HG23 | 2.11 | 0.50 |
| 4:B:30:LEU:HD12 | 4:B:34:TYR:CG | 2.47 | 0.50 |
| 4:B:119:PHE:HB2 | 4:B:127:GLN:HG3 | 1.94 | 0.50 |
| 4:A:401:LEU:HD12 | 4:A:408:THR:HG22 | 1.94 | 0.50 |
| 1:L:180:LYS:HG2 | 1:L:203:ILE:CD1 | 2.41 | 0.50 |
| 2:N:303:LEU:HD11 | 2:N:315:LEU:HB3 | 1.93 | 0.50 |
| 3:M:286:GLU:HB2 | 3:M:289:ILE:HD13 | 1.93 | 0.50 |
| 3:M:336:ASP:C | 3:M:339:PHE:HD1 | 2.20 | 0.50 |
| 4:K:119:PHE:HB2 | 4:K:127:GLN:HG3 | 1.94 | 0.50 |
| 2:W:261:LYS:O | 2:W:264:MET:HG3 | 2.12 | 0.50 |
| 4:Q:215:THR:O | 4:Q:219:ARG:HG3 | 2.12 | 0.50 |
| 5:X:51:GLN:O | 5:X:55:GLN:HG3 | 2.12 | 0.50 |
| 2:d:111:ARG:CZ | 2:l:239:ARG:HA | 2.42 | 0.50 |
| 2:e:306:VAL:HG12 | 2:e:307:SER:O | 2.10 | 0.50 |
| 4:a:30:LEU:HD12 | 4:a:34:TYR:CG | 2.47 | 0.50 |
| 1:j:13:LYS:HA | 1:j:16:GLN:HG3 | 1.94 | 0.50 |
| 3:k:533:LEU:HA | 3:k:536:ASN:OD1 | 2.12 | 0.50 |
| 4:g:30:LEU:HD12 | 4:g:34:TYR:CG | 2.47 | 0.50 |
| 1:r:50:PRO:O | 1:r:54:ILE:HG12 | 2.12 | 0.50 |
| 2:u:288:LEU:HG | 2:u:336:ALA:HB3 | 1.93 | 0.50 |
| 2:F:90:TYR:HE1 | 2:F:122:LYS:HZ1 | 1.59 | 0.50 |
| 2:F:339:MET:HE1 | 2:N:324:GLU:HG3 | 1.93 | 0.50 |
| 4:C:30:LEU:HD12 | 4:C:34:TYR:CG | 2.47 | 0.50 |
| 1:L:36:LYS:HA | 1:L:39:TYR:CE2 | 2.46 | 0.50 |
| 1:L:249:THR:O | 1:L:272:LEU:HA | 2.11 | 0.50 |
| 3:M:559:LEU:HA | 3:M:562:ILE:HG22 | 1.94 | 0.50 |
| 4:I:71:LYS:HD2 | 4:I:146:GLY:HA2 | 1.92 | 0.50 |
| 4:K:401:LEU:HD12 | 4:K:408:THR:HG22 | 1.94 | 0.50 |
| 5:P:51:GLN:O | 5:P:55:GLN:HG3 | 2.11 | 0.50 |
| 3:U:533:LEU:HA | 3:U:536:ASN:OD1 | 2.12 | 0.50 |
| 4:R:252:MET:O | 5:X:49:GLN:NE2 | 2.44 | 0.50 |
| 2:e:261:LYS:O | 2:e:264:MET:HG3 | 2.11 | 0.50 |
| 4:Z:30:LEU:HD12 | 4:Z:34:TYR:CG | 2.47 | 0.50 |
| 4:Y:119:PHE:HB2 | 4:Y:127:GLN:HG3 | 1.94 | 0.50 |
| 5:f:51:GLN:O | 5:f:55:GLN:HG3 | 2.12 | 0.50 |
| 2:l:77:LYS:HG2 | 2:t:151:LYS:HG2 | 1.89 | 0.50 |
| 2:m:92:LEU:HB3 | 2:m:132:MET:CE | 2.42 | 0.50 |
| 3:s:311:LYS:HZ3 | 3:s:359:ARG:HH21 | 1.60 | 0.50 |
| 4:p:215:THR:O | 4:p:219:ARG:HG3 | 2.12 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:D:249:THR:O | 1:D:272:LEU:HA | 2.11 | 0.50 |
| 2:F:303:LEU:HD11 | 2:F:315:LEU:HB3 | 1.93 | 0.50 |
| 2:F:322:VAL:HG23 | 2:t:340:PHE:O | 2.11 | 0.50 |
| 3:E:529:PHE:HB3 | 3:E:533:LEU:HD23 | 1.94 | 0.50 |
| 5:H:51:GLN:O | 5:H:55:GLN:HG3 | 2.12 | 0.50 |
| 4:J:69:ILE:HG23 | 4:J:174:LEU:HD12 | 1.93 | 0.50 |
| 4:J:119:PHE:HB2 | 4:J:127:GLN:HG3 | 1.94 | 0.50 |
| 4:I:69:ILE:HG23 | 4:I:174:LEU:HD12 | 1.93 | 0.50 |
| 4:Q:119:PHE:HB2 | 4:Q:127:GLN:HG3 | 1.94 | 0.50 |
| 4:Q:267:TYR:OH | 4:Q:347:LYS:HD2 | 2.11 | 0.50 |
| 3:c:559:LEU:HA | 3:c:562:ILE:HG22 | 1.94 | 0.50 |
| 4:Z:401:LEU:HD12 | 4:Z:408:THR:HG22 | 1.94 | 0.50 |
| 1:j:231:LYS:O | 1:j:231:LYS:HG3 | 2.12 | 0.50 |
| 4:p:119:PHE:HB2 | 4:p:127:GLN:HG3 | 1.94 | 0.50 |
| 1:D:231:LYS:HG3 | 1:D:231:LYS:O | 2.12 | 0.50 |
| 2:G:267:LEU:HD13 | 2:G:317:SER:CB | 2.41 | 0.50 |
| 2:G:271:LYS:HZ2 | 2:G:273:TYR:HB2 | 1.77 | 0.50 |
| 3:E:336:ASP:C | 3:E:339:PHE:HD1 | 2.20 | 0.50 |
| 4:A:139:TYR:CE1 | 4:A:142:ARG:NH2 | 2.80 | 0.50 |
| 2:O:261:LYS:O | 2:O:264:MET:HG3 | 2.11 | 0.50 |
| 3:M:103:ILE:HD11 | 3:M:492:VAL:HG23 | 1.93 | 0.50 |
| 1:T:231:LYS:HG3 | 1:T:231:LYS:O | 2.12 | 0.50 |
| 2:V:261:LYS:O | 2:V:264:MET:HG2 | 2.12 | 0.50 |
| 2:V:340:PHE:HZ | 2:d:323:LEU:HD12 | 1.76 | 0.50 |
| 3:U:336:ASP:C | 3:U:339:PHE:HD1 | 2.20 | 0.50 |
| 4:R:215:THR:O | 4:R:219:ARG:HG3 | 2.12 | 0.50 |
| 4:S:215:THR:O | 4:S:219:ARG:HG3 | 2.12 | 0.50 |
| 4:S:401:LEU:HD12 | 4:S:408:THR:HG22 | 1.94 | 0.50 |
| 2:d:340:PHE:O | 2:l:322:VAL:HG23 | 2.11 | 0.50 |
| 3:c:129:LEU:O | 3:c:460:LYS:HD2 | 2.12 | 0.50 |
| 4:Z:139:TYR:CE1 | 4:Z:142:ARG:NH2 | 2.80 | 0.50 |
| 4:Y:69:ILE:HG23 | 4:Y:174:LEU:HD12 | 1.93 | 0.50 |
| 2:l:111:ARG:CZ | 2:t:239:ARG:HA | 2.42 | 0.50 |
| 4:h:4:ILE:HA | 4:i:29:HIS:CG | 2.47 | 0.50 |
| 4:h:29:HIS:CG | 4:g:4:ILE:HA | 2.47 | 0.50 |
| 4:h:401:LEU:HD12 | 4:h:408:THR:HG22 | 1.94 | 0.50 |
| 4:i:30:LEU:HD12 | 4:i:34:TYR:CG | 2.47 | 0.50 |
| 2:t:90:TYR:HE1 | 2:t:122:LYS:HZ1 | 1.59 | 0.50 |
| 2:t:261:LYS:O | 2:t:264:MET:HG2 | 2.12 | 0.50 |
| 4:p:30:LEU:HD12 | 4:p:34:TYR:CG | 2.47 | 0.50 |
| 4:p:357:ALA:O | 5:v:37:ILE:HD13 | 2.12 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:o:30:LEU:HD12 | 4:o:34:TYR:CG | 2.46 | 0.50 |
| 4:o:69:ILE:HG23 | 4:o:174:LEU:HD12 | 1.93 | 0.50 |
| 4:o:401:LEU:HD12 | 4:o:408:THR:HG22 | 1.94 | 0.50 |
| 5:v:51:GLN:O | 5:v:55:GLN:HG3 | 2.12 | 0.50 |
| 2:F:239:ARG:HA | 2:t:111:ARG:CZ | 2.42 | 0.49 |
| 2:F:340:PHE:HZ | 2:N:323:LEU:HD12 | 1.76 | 0.49 |
| 3:E:203:THR:CG2 | 3:E:207:GLN:HE22 | 2.16 | 0.49 |
| 4:B:252:MET:O | 5:H:49:GLN:NE2 | 2.44 | 0.49 |
| 4:A:215:THR:O | 4:A:219:ARG:HG3 | 2.12 | 0.49 |
| 1:L:175:GLN:O | 1:T:58:ARG:NH2 | 2.26 | 0.49 |
| 2:N:90:TYR:CE1 | 2:N:122:LYS:NZ | 2.80 | 0.49 |
| 3:M:129:LEU:O | 3:M:460:LYS:HD2 | 2.12 | 0.49 |
| 4:R:267:TYR:OH | 4:R:347:LYS:HD2 | 2.11 | 0.49 |
| 1:b:13:LYS:HA | 1:b:16:GLN:HG3 | 1.94 | 0.49 |
| 1:b:50:PRO:O | 1:b:54:ILE:HG12 | 2.12 | 0.49 |
| 4:g:29:HIS:CG | 4:i:4:ILE:HA | 2.47 | 0.49 |
| 1:r:180:LYS:HG2 | 1:r:203:ILE:CD1 | 2.41 | 0.49 |
| 2:u:266:ILE:HD11 | 2:u:341:VAL:HG13 | 1.93 | 0.49 |
| 3:s:216:LEU:HD12 | 3:s:217:THR:N | 2.27 | 0.49 |
| 4:o:29:HIS:CG | 4:q:4:ILE:HA | 2.47 | 0.49 |
| 2:F:221:LEU:HD21 | 2:G:101:SER:HB2 | 1.93 | 0.49 |
| 3:E:256:TYR:CE2 | 3:E:260:LEU:HD11 | 2.46 | 0.49 |
| 4:B:215:THR:O | 4:B:219:ARG:HG3 | 2.12 | 0.49 |
| 1:L:13:LYS:HA | 1:L:16:GLN:HG3 | 1.94 | 0.49 |
| 4:J:4:ILE:HA | 4:K:29:HIS:CG | 2.47 | 0.49 |
| 4:I:119:PHE:HB2 | 4:I:127:GLN:HG3 | 1.94 | 0.49 |
| 2:V:340:PHE:O | 2:d:322:VAL:HG23 | 2.11 | 0.49 |
| 3:U:216:LEU:HD12 | 3:U:217:THR:N | 2.27 | 0.49 |
| 4:R:30:LEU:HD12 | 4:R:34:TYR:CG | 2.47 | 0.49 |
| 4:Q:30:LEU:HD12 | 4:Q:34:TYR:CG | 2.46 | 0.49 |
| 4:S:40:LEU:O | 4:S:439:THR:HG21 | 2.13 | 0.49 |
| 1:b:36:LYS:HA | 1:b:39:TYR:CE2 | 2.46 | 0.49 |
| 3:c:316:LYS:O | 3:c:320:ILE:HG13 | 2.11 | 0.49 |
| 2:m:266:ILE:HD11 | 2:m:341:VAL:HG13 | 1.93 | 0.49 |
| 3:k:216:LEU:HD12 | 3:k:217:THR:N | 2.27 | 0.49 |
| 4:o:40:LEU:O | 4:o:439:THR:HG21 | 2.12 | 0.49 |
| 4:o:139:TYR:CE1 | 4:o:142:ARG:NH2 | 2.80 | 0.49 |
| 2:F:221:LEU:HB3 | 2:F:225:CYS:SG | 2.53 | 0.49 |
| 2:G:261:LYS:O | 2:G:264:MET:HG3 | 2.11 | 0.49 |
| 4:B:4:ILE:HA | 4:C:29:HIS:CG | 2.47 | 0.49 |
| 4:B:40:LEU:O | 4:B:439:THR:HG21 | 2.13 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:C:139:TYR:CE1 | 4:C:142:ARG:NH2 | 2.80 | 0.49 |
| 3:M:170:VAL:HG12 | 3:M:247:VAL:HA | 1.94 | 0.49 |
| 4:I:29:HIS:CG | 4:K:4:ILE:HA | 2.47 | 0.49 |
| 4:K:30:LEU:HD12 | 4:K:34:TYR:CG | 2.47 | 0.49 |
| 4:K:69:ILE:HG23 | 4:K:174:LEU:HD12 | 1.93 | 0.49 |
| 2:V:117:GLY:HA3 | 2:V:164:ILE:HD11 | 1.93 | 0.49 |
| 3:U:129:LEU:O | 3:U:460:LYS:HD2 | 2.12 | 0.49 |
| 4:Q:40:LEU:O | 4:Q:439:THR:HG21 | 2.12 | 0.49 |
| 4:S:69:ILE:HG23 | 4:S:174:LEU:HD12 | 1.93 | 0.49 |
| 2:d:261:LYS:O | 2:d:264:MET:HG2 | 2.12 | 0.49 |
| 3:c:337:ARG:HG3 | 3:c:338:THR:H | 1.78 | 0.49 |
| 4:Y:40:LEU:O | 4:Y:439:THR:HG21 | 2.12 | 0.49 |
| 4:a:40:LEU:O | 4:a:439:THR:HG21 | 2.12 | 0.49 |
| 2:l:340:PHE:O | 2:t:322:VAL:HG23 | 2.11 | 0.49 |
| 4:i:40:LEU:O | 4:i:439:THR:HG21 | 2.13 | 0.49 |
| 2:t:90:TYR:CE1 | 2:t:122:LYS:NZ | 2.80 | 0.49 |
| 3:s:336:ASP:C | 3:s:339:PHE:HD1 | 2.20 | 0.49 |
| 3:s:533:LEU:HA | 3:s:536:ASN:OD1 | 2.12 | 0.49 |
| 4:q:215:THR:O | 4:q:219:ARG:HG3 | 2.12 | 0.49 |
| 1:D:140:LEU:HD21 | 1:D:262:LYS:HD3 | 1.94 | 0.49 |
| 2:F:91:MET:HE3 | 2:F:137:GLN:CD | 2.38 | 0.49 |
| 2:G:92:LEU:HB3 | 2:G:132:MET:CE | 2.42 | 0.49 |
| 3:E:103:ILE:HD11 | 3:E:492:VAL:HG23 | 1.93 | 0.49 |
| 3:E:277:LEU:HB3 | 3:E:293:LEU:HD11 | 1.95 | 0.49 |
| 4:A:29:HIS:CG | 4:C:4:ILE:HA | 2.47 | 0.49 |
| 4:C:401:LEU:HD12 | 4:C:408:THR:HG22 | 1.94 | 0.49 |
| 1:L:231:LYS:HG3 | 1:L:231:LYS:O | 2.12 | 0.49 |
| 3:M:216:LEU:HD12 | 3:M:217:THR:N | 2.27 | 0.49 |
| 4:J:252:MET:O | 5:P:49:GLN:NE2 | 2.44 | 0.49 |
| 4:K:139:TYR:CE1 | 4:K:142:ARG:NH2 | 2.80 | 0.49 |
| 4:R:357:ALA:O | 5:X:37:ILE:HD13 | 2.12 | 0.49 |
| 4:S:139:TYR:CE1 | 4:S:142:ARG:NH2 | 2.80 | 0.49 |
| 3:c:336:ASP:C | 3:c:339:PHE:HD1 | 2.20 | 0.49 |
| 4:h:40:LEU:O | 4:h:439:THR:HG21 | 2.13 | 0.49 |
| 4:g:119:PHE:HB2 | 4:g:127:GLN:HG3 | 1.94 | 0.49 |
| 4:i:401:LEU:HD12 | 4:i:408:THR:HG22 | 1.94 | 0.49 |
| 4:o:215:THR:O | 4:o:219:ARG:HG3 | 2.12 | 0.49 |
| 3:E:203:THR:HG22 | 3:E:207:GLN:NE2 | 2.15 | 0.49 |
| 2:N:117:GLY:HA3 | 2:N:164:ILE:HD11 | 1.93 | 0.49 |
| 4:K:40:LEU:O | 4:K:439:THR:HG21 | 2.13 | 0.49 |
| 1:T:54:ILE:CD1 | 1:T:101:ILE:HG21 | 2.41 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:V:221:LEU:HB3 | 2:V:225:CYS:SG | 2.53 | 0.49 |
| 3:U:103:ILE:HD11 | 3:U:492:VAL:HG23 | 1.93 | 0.49 |
| 2:d:90:TYR:HE1 | 2:d:122:LYS:HZ2 | 1.61 | 0.49 |
| 2:d:339:MET:HE1 | 2:l:324:GLU:HG3 | 1.93 | 0.49 |
| 4:Z:29:HIS:CG | 4:Y:4:ILE:HA | 2.47 | 0.49 |
| 1:j:180:LYS:HG2 | 1:j:203:ILE:CD1 | 2.41 | 0.49 |
| 1:j:208:LEU:HD21 | 1:j:212:ARG:HB2 | 1.95 | 0.49 |
| 2:m:271:LYS:HZ2 | 2:m:273:TYR:HB2 | 1.77 | 0.49 |
| 2:t:221:LEU:HB3 | 2:t:225:CYS:SG | 2.53 | 0.49 |
| 3:s:537:LEU:O | 3:s:541:GLU:OE1 | 2.31 | 0.49 |
| 4:p:40:LEU:O | 4:p:439:THR:HG21 | 2.13 | 0.49 |
| 2:F:261:LYS:O | 2:F:264:MET:HG2 | 2.12 | 0.49 |
| 3:E:335:SER:OG | 3:E:337:ARG:HG2 | 2.13 | 0.49 |
| 4:A:40:LEU:O | 4:A:439:THR:HG21 | 2.12 | 0.49 |
| 4:A:119:PHE:HB2 | 4:A:127:GLN:HG3 | 1.94 | 0.49 |
| 1:L:140:LEU:HD21 | 1:L:262:LYS:HD3 | 1.94 | 0.49 |
| 2:N:261:LYS:O | 2:N:264:MET:HG2 | 2.12 | 0.49 |
| 4:J:139:TYR:CE1 | 4:J:142:ARG:NH2 | 2.80 | 0.49 |
| 4:I:401:LEU:HD12 | 4:I:408:THR:HG22 | 1.94 | 0.49 |
| 3:U:559:LEU:HA | 3:U:562:ILE:HG22 | 1.94 | 0.49 |
| 1:b:140:LEU:HD21 | 1:b:262:LYS:HD3 | 1.94 | 0.49 |
| 2:d:221:LEU:HB3 | 2:d:225:CYS:SG | 2.53 | 0.49 |
| 3:c:529:PHE:HB3 | 3:c:533:LEU:HD23 | 1.94 | 0.49 |
| 4:Z:252:MET:O | 5:f:49:GLN:NE2 | 2.44 | 0.49 |
| 1:j:140:LEU:HD21 | 1:j:262:LYS:HD3 | 1.94 | 0.49 |
| 3:k:316:LYS:O | 3:k:320:ILE:HG13 | 2.11 | 0.49 |
| 4:i:119:PHE:HB2 | 4:i:127:GLN:HG3 | 1.94 | 0.49 |
| 3:s:170:VAL:HG12 | 3:s:247:VAL:HA | 1.94 | 0.49 |
| 3:s:277:LEU:HB3 | 3:s:293:LEU:HD11 | 1.95 | 0.49 |
| 4:q:401:LEU:HD12 | 4:q:408:THR:HG22 | 1.94 | 0.49 |
| 1:D:13:LYS:HA | 1:D:16:GLN:HG3 | 1.94 | 0.49 |
| 4:C:40:LEU:O | 4:C:439:THR:HG21 | 2.12 | 0.49 |
| 1:L:32:ARG:HG3 | 1:L:34:LEU:CG | 2.41 | 0.49 |
| 3:M:335:SER:OG | 3:M:337:ARG:HG2 | 2.13 | 0.49 |
| 2:V:91:MET:HE3 | 2:V:137:GLN:CD | 2.38 | 0.49 |
| 3:U:337:ARG:HG3 | 3:U:338:THR:H | 1.78 | 0.49 |
| 4:R:361:ARG:HB3 | 5:X:37:ILE:HD12 | 1.95 | 0.49 |
| 4:Q:29:HIS:CG | 4:S:4:ILE:HA | 2.47 | 0.49 |
| 1:b:208:LEU:HD21 | 1:b:212:ARG:HB2 | 1.95 | 0.49 |
| 3:c:537:LEU:O | 3:c:541:GLU:OE1 | 2.31 | 0.49 |
| 4:Z:40:LEU:O | 4:Z:439:THR:HG21 | 2.13 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:Y:215:THR:O | 4:Y:219:ARG:HG3 | 2.12 | 0.49 |
| 3:k:129:LEU:O | 3:k:460:LYS:HD2 | 2.12 | 0.49 |
| 3:k:336:ASP:C | 3:k:339:PHE:HD1 | 2.20 | 0.49 |
| 3:k:529:PHE:HB3 | 3:k:533:LEU:HD23 | 1.94 | 0.49 |
| 3:k:559:LEU:HA | 3:k:562:ILE:HG22 | 1.94 | 0.49 |
| 4:h:357:ALA:O | 5:n:37:ILE:HD13 | 2.12 | 0.49 |
| 4:g:40:LEU:O | 4:g:439:THR:HG21 | 2.13 | 0.49 |
| 2:t:91:MET:HE3 | 2:t:137:GLN:CD | 2.38 | 0.49 |
| 3:s:129:LEU:O | 3:s:460:LYS:HD2 | 2.12 | 0.49 |
| 4:q:40:LEU:O | 4:q:439:THR:HG21 | 2.13 | 0.49 |
| 1:D:64:ALA:O | 1:D:67:TYR:CD1 | 2.66 | 0.49 |
| 1:D:208:LEU:HD23 | 1:D:209:SER:O | 2.13 | 0.49 |
| 3:E:337:ARG:HG3 | 3:E:338:THR:H | 1.78 | 0.49 |
| 2:O:92:LEU:HB3 | 2:O:132:MET:CE | 2.42 | 0.49 |
| 3:M:3:PHE:HD2 | 3:M:7:LYS:HE2 | 1.78 | 0.49 |
| 3:M:529:PHE:HB3 | 3:M:533:LEU:HD23 | 1.94 | 0.49 |
| 4:J:215:THR:O | 4:J:219:ARG:HG3 | 2.12 | 0.49 |
| 1:b:64:ALA:O | 1:b:67:TYR:CD1 | 2.66 | 0.49 |
| 3:c:216:LEU:HD12 | 3:c:217:THR:N | 2.27 | 0.49 |
| 4:Z:4:ILE:HA | 4:a:29:HIS:CG | 2.47 | 0.49 |
| 2:l:90:TYR:CE1 | 2:l:122:LYS:NZ | 2.80 | 0.49 |
| 4:g:139:TYR:CE1 | 4:g:142:ARG:NH2 | 2.80 | 0.49 |
| 2:u:264:MET:HA | 2:u:267:LEU:CG | 2.37 | 0.49 |
| 3:s:337:ARG:HG3 | 3:s:338:THR:H | 1.78 | 0.49 |
| 4:B:139:TYR:CE1 | 4:B:142:ARG:NH2 | 2.80 | 0.49 |
| 3:M:277:LEU:HB3 | 3:M:293:LEU:HD11 | 1.95 | 0.49 |
| 1:T:50:PRO:O | 1:T:54:ILE:HG12 | 2.12 | 0.49 |
| 4:R:4:ILE:HA | 4:S:29:HIS:CG | 2.47 | 0.49 |
| 1:b:249:THR:O | 1:b:272:LEU:HA | 2.11 | 0.49 |
| 3:c:335:SER:OG | 3:c:337:ARG:HG2 | 2.13 | 0.49 |
| 4:a:401:LEU:HD12 | 4:a:408:THR:HG22 | 1.94 | 0.49 |
| 3:k:537:LEU:O | 3:k:541:GLU:OE1 | 2.31 | 0.49 |
| 1:r:13:LYS:HA | 1:r:16:GLN:HG3 | 1.94 | 0.49 |
| 4:p:4:ILE:HA | 4:q:29:HIS:CG | 2.47 | 0.49 |
| 1:D:50:PRO:O | 1:D:54:ILE:HG12 | 2.12 | 0.49 |
| 2:N:91:MET:HE3 | 2:N:137:GLN:CD | 2.38 | 0.49 |
| 4:K:215:THR:O | 4:K:219:ARG:HG3 | 2.12 | 0.49 |
| 3:U:170:VAL:HG12 | 3:U:247:VAL:HA | 1.94 | 0.49 |
| 3:U:335:SER:OG | 3:U:337:ARG:HG2 | 2.13 | 0.49 |
| 4:R:29:HIS:CG | 4:Q:4:ILE:HA | 2.47 | 0.49 |
| 2:d:340:PHE:HZ | 2:l:323:LEU:HD12 | 1.76 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:c:379:ILE:HG12 | 3:c:380:ASN:H | 1.78 | 0.49 |
| 4:Z:119:PHE:HB2 | 4:Z:127:GLN:HG3 | 1.94 | 0.49 |
| 4:Y:401:LEU:HD12 | 4:Y:408:THR:HG22 | 1.94 | 0.49 |
| 1:j:64:ALA:O | 1:j:67:TYR:CD1 | 2.66 | 0.49 |
| 3:s:103:ILE:HD11 | 3:s:492:VAL:HG23 | 1.93 | 0.49 |
| 3:s:529:PHE:HB3 | 3:s:533:LEU:HD23 | 1.94 | 0.49 |
| 3:s:559:LEU:HA | 3:s:562:ILE:HG22 | 1.94 | 0.49 |
| 4:A:69:ILE:HG23 | 4:A:174:LEU:HD12 | 1.93 | 0.48 |
| 2:W:92:LEU:HB3 | 2:W:132:MET:CE | 2.42 | 0.48 |
| 3:U:3:PHE:HD2 | 3:U:7:LYS:HE2 | 1.78 | 0.48 |
| 4:R:139:TYR:CE1 | 4:R:142:ARG:NH2 | 2.80 | 0.48 |
| 4:Z:215:THR:O | 4:Z:219:ARG:HG3 | 2.12 | 0.48 |
| 3:k:170:VAL:HG12 | 3:k:247:VAL:HA | 1.94 | 0.48 |
| 3:k:337:ARG:HG3 | 3:k:338:THR:H | 1.78 | 0.48 |
| 4:h:119:PHE:HB2 | 4:h:127:GLN:HG3 | 1.94 | 0.48 |
| 1:r:208:LEU:HD21 | 1:r:212:ARG:HB2 | 1.95 | 0.48 |
| 1:r:231:LYS:O | 1:r:231:LYS:HG3 | 2.12 | 0.48 |
| 4:o:119:PHE:HB2 | 4:o:127:GLN:HG3 | 1.94 | 0.48 |
| 1:D:176:THR:CG2 | 1:D:228:TYR:HB2 | 2.43 | 0.48 |
| 4:B:29:HIS:CG | 4:A:4:ILE:HA | 2.47 | 0.48 |
| 1:T:208:LEU:HD23 | 1:T:209:SER:O | 2.13 | 0.48 |
| 1:T:208:LEU:HD21 | 1:T:212:ARG:HB2 | 1.95 | 0.48 |
| 2:V:90:TYR:CE1 | 2:V:122:LYS:NZ | 2.80 | 0.48 |
| 3:U:379:ILE:HG12 | 3:U:380:ASN:H | 1.78 | 0.48 |
| 4:R:119:PHE:HB2 | 4:R:127:GLN:HG3 | 1.94 | 0.48 |
| 3:c:3:PHE:HD2 | 3:c:7:LYS:HE2 | 1.78 | 0.48 |
| 3:c:264:TYR:HA | 3:c:267:ILE:HG12 | 1.95 | 0.48 |
| 1:j:50:PRO:O | 1:j:54:ILE:HG12 | 2.12 | 0.48 |
| 2:l:171:ARG:HH12 | 2:u:339:MET:CE | 2.18 | 0.48 |
| 3:k:335:SER:OG | 3:k:337:ARG:HG2 | 2.13 | 0.48 |
| 4:q:119:PHE:HB2 | 4:q:127:GLN:HG3 | 1.94 | 0.48 |
| 3:E:3:PHE:HD2 | 3:E:7:LYS:HE2 | 1.78 | 0.48 |
| 3:E:537:LEU:O | 3:E:541:GLU:OE1 | 2.31 | 0.48 |
| 1:L:50:PRO:O | 1:L:54:ILE:HG12 | 2.12 | 0.48 |
| 3:M:264:TYR:HA | 3:M:267:ILE:HG12 | 1.95 | 0.48 |
| 3:M:342:ASP:HA | 3:M:345:ARG:HE | 1.79 | 0.48 |
| 4:J:40:LEU:O | 4:J:439:THR:HG21 | 2.13 | 0.48 |
| 4:J:401:LEU:HD12 | 4:J:408:THR:HG22 | 1.94 | 0.48 |
| 1:T:13:LYS:HA | 1:T:16:GLN:HG3 | 1.94 | 0.48 |
| 1:b:180:LYS:HG2 | 1:b:203:ILE:CD1 | 2.42 | 0.48 |
| 2:d:76:GLU:N | 2:l:151:LYS:HZ1 | 2.11 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:a:119:PHE:HB2 | 4:a:127:GLN:HG3 | 1.94 | 0.48 |
| 3:k:3:PHE:HD2 | 3:k:7:LYS:HE2 | 1.78 | 0.48 |
| 4:h:536:THR:HG22 | 4:h:549:ILE:HG12 | 1.96 | 0.48 |
| 4:p:46:HIS:CD2 | 4:p:129:LEU:HD22 | 2.48 | 0.48 |
| 2:F:151:LYS:HG3 | 2:F:152:CYS:SG | 2.54 | 0.48 |
| 4:B:361:ARG:HB3 | 5:H:37:ILE:HD12 | 1.95 | 0.48 |
| 3:M:401:ASP:O | 3:M:402:MET:HG3 | 2.14 | 0.48 |
| 4:I:40:LEU:O | 4:I:439:THR:HG21 | 2.13 | 0.48 |
| 1:T:64:ALA:O | 1:T:67:TYR:CD1 | 2.66 | 0.48 |
| 1:T:180:LYS:HG2 | 1:T:203:ILE:CD1 | 2.41 | 0.48 |
| 4:R:401:LEU:HD12 | 4:R:408:THR:HG22 | 1.94 | 0.48 |
| 4:Q:536:THR:HG22 | 4:Q:549:ILE:HG12 | 1.96 | 0.48 |
| 4:S:376:MET:HA | 4:S:425:ARG:HH21 | 1.79 | 0.48 |
| 3:c:514:ILE:HG13 | 3:c:515:LYS:N | 2.28 | 0.48 |
| 2:l:221:LEU:HB3 | 2:l:225:CYS:SG | 2.53 | 0.48 |
| 2:l:261:LYS:O | 2:l:264:MET:HG2 | 2.12 | 0.48 |
| 3:k:277:LEU:HB3 | 3:k:293:LEU:HD11 | 1.95 | 0.48 |
| 3:s:3:PHE:HD2 | 3:s:7:LYS:HE2 | 1.78 | 0.48 |
| 3:E:170:VAL:HG12 | 3:E:247:VAL:HA | 1.94 | 0.48 |
| 3:E:559:LEU:HA | 3:E:562:ILE:HG22 | 1.94 | 0.48 |
| 4:B:254:THR:HG22 | 5:H:42:LYS:HG3 | 1.96 | 0.48 |
| 4:B:401:LEU:HD12 | 4:B:408:THR:HG22 | 1.94 | 0.48 |
| 4:C:536:THR:HG22 | 4:C:549:ILE:HG12 | 1.96 | 0.48 |
| 2:N:151:LYS:HG3 | 2:N:152:CYS:SG | 2.54 | 0.48 |
| 2:O:264:MET:HA | 2:O:267:LEU:CG | 2.37 | 0.48 |
| 2:O:267:LEU:HD13 | 2:O:317:SER:CB | 2.41 | 0.48 |
| 3:M:203:THR:CG2 | 3:M:207:GLN:HE22 | 2.16 | 0.48 |
| 4:J:361:ARG:HB3 | 5:P:37:ILE:HD12 | 1.95 | 0.48 |
| 4:K:364:ALA:HB3 | 4:K:366:LYS:NZ | 2.29 | 0.48 |
| 4:K:376:MET:HA | 4:K:425:ARG:HH21 | 1.79 | 0.48 |
| 1:T:131:LEU:O | 1:T:134:ILE:HG22 | 2.14 | 0.48 |
| 3:U:264:TYR:HA | 3:U:267:ILE:HG12 | 1.95 | 0.48 |
| 4:S:119:PHE:HB2 | 4:S:127:GLN:HG3 | 1.94 | 0.48 |
| 2:d:91:MET:HE3 | 2:d:137:GLN:CD | 2.38 | 0.48 |
| 3:c:533:LEU:HB2 | 3:c:562:ILE:HD11 | 1.96 | 0.48 |
| 4:Y:139:TYR:CE1 | 4:Y:142:ARG:NH2 | 2.80 | 0.48 |
| 4:Y:536:THR:HG22 | 4:Y:549:ILE:HG12 | 1.96 | 0.48 |
| 3:k:203:THR:CG2 | 3:k:207:GLN:HE22 | 2.16 | 0.48 |
| 4:h:376:MET:HA | 4:h:425:ARG:HH21 | 1.79 | 0.48 |
| 4:i:536:THR:HG22 | 4:i:549:ILE:HG12 | 1.96 | 0.48 |
| 1:r:140:LEU:HD21 | 1:r:262:LYS:HD3 | 1.94 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:s:533:LEU:HB2 | 3:s:562:ILE:HD11 | 1.95 | 0.48 |
| 4:p:29:HIS:CG | 4:o:4:ILE:HA | 2.47 | 0.48 |
| 4:p:536:THR:HG22 | 4:p:549:ILE:HG12 | 1.96 | 0.48 |
| 4:o:376:MET:HA | 4:o:425:ARG:HH21 | 1.79 | 0.48 |
| 2:F:67:PHE:CE2 | 2:F:71:ARG:HD3 | 2.49 | 0.48 |
| 4:A:536:THR:HG22 | 4:A:549:ILE:HG12 | 1.96 | 0.48 |
| 4:C:119:PHE:HB2 | 4:C:127:GLN:HG3 | 1.94 | 0.48 |
| 4:C:376:MET:HA | 4:C:425:ARG:HH21 | 1.79 | 0.48 |
| 2:N:221:LEU:HB3 | 2:N:225:CYS:SG | 2.53 | 0.48 |
| 3:U:342:ASP:HA | 3:U:345:ARG:HE | 1.79 | 0.48 |
| 3:U:355:PHE:CZ | 3:U:360:ILE:HD13 | 2.49 | 0.48 |
| 4:Q:211:ARG:HD2 | 4:Q:212:GLN:N | 2.29 | 0.48 |
| 4:S:536:THR:HG22 | 4:S:549:ILE:HG12 | 1.96 | 0.48 |
| 1:b:231:LYS:O | 1:b:231:LYS:HG3 | 2.12 | 0.48 |
| 4:Z:376:MET:HA | 4:Z:425:ARG:HH21 | 1.79 | 0.48 |
| 4:a:376:MET:HA | 4:a:425:ARG:HH21 | 1.79 | 0.48 |
| 4:a:536:THR:HG22 | 4:a:549:ILE:HG12 | 1.96 | 0.48 |
| 4:g:536:THR:HG22 | 4:g:549:ILE:HG12 | 1.96 | 0.48 |
| 2:t:155:ASP:HA | 2:t:158:ILE:HD13 | 1.96 | 0.48 |
| 4:o:536:THR:HG22 | 4:o:549:ILE:HG12 | 1.96 | 0.48 |
| 4:q:139:TYR:CE1 | 4:q:142:ARG:NH2 | 2.80 | 0.48 |
| 4:q:536:THR:HG22 | 4:q:549:ILE:HG12 | 1.96 | 0.48 |
| 3:E:129:LEU:O | 3:E:460:LYS:HD2 | 2.12 | 0.48 |
| 3:E:250:ARG:HE | 4:A:198:VAL:HG22 | 1.79 | 0.48 |
| 3:E:342:ASP:HA | 3:E:345:ARG:HE | 1.79 | 0.48 |
| 3:E:355:PHE:CZ | 3:E:360:ILE:HD13 | 2.49 | 0.48 |
| 4:B:211:ARG:HD2 | 4:B:212:GLN:N | 2.29 | 0.48 |
| 4:A:364:ALA:HB3 | 4:A:366:LYS:NZ | 2.29 | 0.48 |
| 1:L:64:ALA:O | 1:L:67:TYR:CD1 | 2.66 | 0.48 |
| 1:L:208:LEU:HD23 | 1:L:209:SER:O | 2.13 | 0.48 |
| 2:N:67:PHE:CE2 | 2:N:71:ARG:HD3 | 2.49 | 0.48 |
| 2:O:271:LYS:HZ2 | 2:O:273:TYR:HB2 | 1.78 | 0.48 |
| 3:M:339:PHE:O | 3:M:343:LEU:HD12 | 2.14 | 0.48 |
| 4:I:46:HIS:CD2 | 4:I:129:LEU:HD22 | 2.49 | 0.48 |
| 4:I:364:ALA:HB3 | 4:I:366:LYS:NZ | 2.29 | 0.48 |
| 4:I:536:THR:HG22 | 4:I:549:ILE:HG12 | 1.96 | 0.48 |
| 4:K:536:THR:HG22 | 4:K:549:ILE:HG12 | 1.96 | 0.48 |
| 1:T:140:LEU:HD21 | 1:T:262:LYS:HD3 | 1.94 | 0.48 |
| 2:V:155:ASP:HA | 2:V:158:ILE:HD13 | 1.96 | 0.48 |
| 3:U:537:LEU:O | 3:U:541:GLU:OE1 | 2.31 | 0.48 |
| 4:R:40:LEU:O | 4:R:439:THR:HG21 | 2.13 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:R:254:THR:HG22 | 5:X:42:LYS:HG3 | 1.96 | 0.48 |
| 4:Q:139:TYR:CE1 | 4:Q:142:ARG:NH2 | 2.80 | 0.48 |
| 4:Q:376:MET:HA | 4:Q:425:ARG:HH21 | 1.79 | 0.48 |
| 4:Q:401:LEU:HD12 | 4:Q:408:THR:HG22 | 1.94 | 0.48 |
| 4:S:211:ARG:HD2 | 4:S:212:GLN:N | 2.29 | 0.48 |
| 2:d:155:ASP:HA | 2:d:158:ILE:HD13 | 1.96 | 0.48 |
| 4:Y:211:ARG:HD2 | 4:Y:212:GLN:N | 2.29 | 0.48 |
| 4:Y:513:TYR:HH | 3:k:538:TYR:HE1 | 1.56 | 0.48 |
| 3:k:341:GLU:HA | 3:k:344:PHE:HB3 | 1.96 | 0.48 |
| 3:k:514:ILE:HG13 | 3:k:515:LYS:N | 2.28 | 0.48 |
| 4:g:401:LEU:HD12 | 4:g:408:THR:HG22 | 1.94 | 0.48 |
| 1:r:239:LEU:HD12 | 1:r:240:LEU:N | 2.29 | 0.48 |
| 2:u:307:SER:HB2 | 2:u:311:ASN:H | 1.79 | 0.48 |
| 3:s:379:ILE:HG12 | 3:s:380:ASN:H | 1.78 | 0.48 |
| 4:p:211:ARG:HD2 | 4:p:212:GLN:N | 2.29 | 0.48 |
| 4:p:254:THR:HG22 | 5:v:42:LYS:HG3 | 1.96 | 0.48 |
| 1:D:208:LEU:HD21 | 1:D:212:ARG:HB2 | 1.95 | 0.48 |
| 2:G:307:SER:HB2 | 2:G:311:ASN:H | 1.79 | 0.48 |
| 3:E:216:LEU:HD12 | 3:E:217:THR:N | 2.27 | 0.48 |
| 3:M:337:ARG:HG3 | 3:M:338:THR:H | 1.78 | 0.48 |
| 3:M:341:GLU:HA | 3:M:344:PHE:HB3 | 1.96 | 0.48 |
| 4:J:29:HIS:CG | 4:I:4:ILE:HA | 2.47 | 0.48 |
| 4:K:211:ARG:HD2 | 4:K:212:GLN:N | 2.29 | 0.48 |
| 1:T:176:THR:CG2 | 1:T:228:TYR:HB2 | 2.43 | 0.48 |
| 1:b:115:ARG:NH1 | 1:b:115:ARG:HB2 | 2.29 | 0.48 |
| 2:d:67:PHE:CE2 | 2:d:71:ARG:HD3 | 2.49 | 0.48 |
| 2:d:90:TYR:CE1 | 2:d:122:LYS:NZ | 2.80 | 0.48 |
| 2:d:151:LYS:HG3 | 2:d:152:CYS:SG | 2.54 | 0.48 |
| 3:c:315:TRP:HZ3 | 3:c:354:TYR:HB3 | 1.66 | 0.48 |
| 3:c:401:ASP:O | 3:c:402:MET:HG3 | 2.14 | 0.48 |
| 4:Z:254:THR:HG22 | 5:f:42:LYS:HG3 | 1.96 | 0.48 |
| 2:l:91:MET:HE3 | 2:l:137:GLN:CD | 2.38 | 0.48 |
| 2:l:151:LYS:HG3 | 2:l:152:CYS:SG | 2.54 | 0.48 |
| 4:g:46:HIS:CD2 | 4:g:129:LEU:HD22 | 2.49 | 0.48 |
| 4:g:376:MET:HA | 4:g:425:ARG:HH21 | 1.79 | 0.48 |
| 4:i:376:MET:HA | 4:i:425:ARG:HH21 | 1.79 | 0.48 |
| 3:s:250:ARG:HE | 4:o:198:VAL:HG22 | 1.79 | 0.48 |
| 4:p:401:LEU:HD12 | 4:p:408:THR:HG22 | 1.94 | 0.48 |
| 4:q:376:MET:HA | 4:q:425:ARG:HH21 | 1.79 | 0.48 |
| 1:D:115:ARG:NH1 | 1:D:115:ARG:HB2 | 2.29 | 0.48 |
| 3:E:514:ILE:HG13 | 3:E:515:LYS:N | 2.28 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:A:211:ARG:HD2 | 4:A:212:GLN:N | 2.29 | 0.48 |
| 2:N:111:ARG:NH2 | 2:V:239:ARG:HA | 2.29 | 0.48 |
| 3:M:355:PHE:CZ | 3:M:360:ILE:HD13 | 2.49 | 0.48 |
| 2:V:67:PHE:CE2 | 2:V:71:ARG:HD3 | 2.49 | 0.48 |
| 4:R:46:HIS:CD2 | 4:R:129:LEU:HD22 | 2.48 | 0.48 |
| 2:d:111:ARG:NH2 | 2:l:239:ARG:HA | 2.29 | 0.48 |
| 4:Z:536:THR:HG22 | 4:Z:549:ILE:HG12 | 1.96 | 0.48 |
| 4:Y:29:HIS:CG | 4:a:4:ILE:HA | 2.47 | 0.48 |
| 4:a:139:TYR:OH | 4:a:163:LYS:HA | 2.14 | 0.48 |
| 1:j:239:LEU:HD12 | 1:j:240:LEU:N | 2.29 | 0.48 |
| 3:k:339:PHE:O | 3:k:343:LEU:HD12 | 2.14 | 0.48 |
| 3:k:379:ILE:HG12 | 3:k:380:ASN:H | 1.78 | 0.48 |
| 3:k:431:MET:CE | 3:k:440:LYS:HG2 | 2.34 | 0.48 |
| 4:g:513:TYR:HH | 3:s:538:TYR:HE1 | 1.57 | 0.48 |
| 1:r:208:LEU:HD23 | 1:r:209:SER:O | 2.13 | 0.48 |
| 3:s:514:ILE:HG13 | 3:s:515:LYS:N | 2.28 | 0.48 |
| 1:D:131:LEU:O | 1:D:134:ILE:HG22 | 2.14 | 0.48 |
| 2:F:171:ARG:HH12 | 2:O:339:MET:CE | 2.17 | 0.48 |
| 3:E:339:PHE:O | 3:E:343:LEU:HD12 | 2.14 | 0.48 |
| 3:E:379:ILE:HG12 | 3:E:380:ASN:H | 1.78 | 0.48 |
| 3:E:431:MET:CE | 3:E:440:LYS:HG2 | 2.34 | 0.48 |
| 4:B:536:THR:HG22 | 4:B:549:ILE:HG12 | 1.96 | 0.48 |
| 4:A:376:MET:HA | 4:A:425:ARG:HH21 | 1.79 | 0.48 |
| 1:L:208:LEU:HD21 | 1:L:212:ARG:HB2 | 1.95 | 0.48 |
| 2:N:90:TYR:HE1 | 2:N:122:LYS:HZ2 | 1.62 | 0.48 |
| 3:M:511:PRO:HA | 3:M:514:ILE:HG12 | 1.96 | 0.48 |
| 3:M:514:ILE:HG13 | 3:M:515:LYS:N | 2.28 | 0.48 |
| 4:J:211:ARG:HD2 | 4:J:212:GLN:N | 2.29 | 0.48 |
| 2:V:111:ARG:NH2 | 2:d:239:ARG:HA | 2.29 | 0.48 |
| 3:U:514:ILE:HG13 | 3:U:515:LYS:N | 2.28 | 0.48 |
| 2:e:307:SER:HB2 | 2:e:311:ASN:H | 1.79 | 0.48 |
| 4:Z:364:ALA:HB3 | 4:Z:366:LYS:NZ | 2.29 | 0.48 |
| 1:j:180:LYS:HG3 | 1:j:217:TYR:HB2 | 1.96 | 0.48 |
| 2:l:155:ASP:HA | 2:l:158:ILE:HD13 | 1.96 | 0.48 |
| 3:k:264:TYR:HA | 3:k:267:ILE:HG12 | 1.95 | 0.48 |
| 3:k:355:PHE:CZ | 3:k:360:ILE:HD13 | 2.49 | 0.48 |
| 4:h:361:ARG:HB3 | 5:n:37:ILE:HD12 | 1.95 | 0.48 |
| 4:i:211:ARG:HD2 | 4:i:212:GLN:N | 2.29 | 0.48 |
| 1:r:64:ALA:O | 1:r:67:TYR:CD1 | 2.66 | 0.48 |
| 2:t:67:PHE:CE2 | 2:t:71:ARG:HD3 | 2.49 | 0.48 |
| 3:s:347:VAL:HA | 3:s:350:ILE:HG22 | 1.96 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:o:139:TYR:OH | 4:o:163:LYS:HA | 2.14 | 0.48 |
| 2:F:155:ASP:HA | 2:F:158:ILE:HD13 | 1.96 | 0.47 |
| 4:B:364:ALA:HB3 | 4:B:366:LYS:NZ | 2.29 | 0.47 |
| 4:A:211:ARG:NH2 | 4:A:242:LEU:HD13 | 2.29 | 0.47 |
| 3:M:379:ILE:HG12 | 3:M:380:ASN:H | 1.78 | 0.47 |
| 4:I:211:ARG:HD2 | 4:I:212:GLN:N | 2.29 | 0.47 |
| 4:I:211:ARG:NH2 | 4:I:242:LEU:HD13 | 2.29 | 0.47 |
| 4:K:139:TYR:OH | 4:K:163:LYS:HA | 2.14 | 0.47 |
| 1:T:180:LYS:HG3 | 1:T:217:TYR:HB2 | 1.96 | 0.47 |
| 3:U:339:PHE:O | 3:U:343:LEU:HD12 | 2.14 | 0.47 |
| 4:R:139:TYR:OH | 4:R:163:LYS:HA | 2.14 | 0.47 |
| 4:R:211:ARG:HD2 | 4:R:212:GLN:N | 2.29 | 0.47 |
| 4:S:364:ALA:HB3 | 4:S:366:LYS:NZ | 2.29 | 0.47 |
| 2:e:271:LYS:HZ2 | 2:e:273:TYR:HB2 | 1.79 | 0.47 |
| 4:Z:46:HIS:CD2 | 4:Z:129:LEU:HD22 | 2.48 | 0.47 |
| 4:Y:46:HIS:CD2 | 4:Y:129:LEU:HD22 | 2.48 | 0.47 |
| 4:Y:139:TYR:OH | 4:Y:163:LYS:HA | 2.14 | 0.47 |
| 4:a:211:ARG:HD2 | 4:a:212:GLN:N | 2.29 | 0.47 |
| 4:a:364:ALA:HB3 | 4:a:366:LYS:NZ | 2.29 | 0.47 |
| 1:j:208:LEU:HD23 | 1:j:209:SER:O | 2.13 | 0.47 |
| 2:l:67:PHE:CE2 | 2:l:71:ARG:HD3 | 2.49 | 0.47 |
| 4:g:211:ARG:HD2 | 4:g:212:GLN:N | 2.29 | 0.47 |
| 2:t:151:LYS:HG3 | 2:t:152:CYS:SG | 2.54 | 0.47 |
| 2:t:158:ILE:H | 2:t:158:ILE:HD12 | 1.79 | 0.47 |
| 3:s:342:ASP:HA | 3:s:345:ARG:HE | 1.79 | 0.47 |
| 4:p:361:ARG:HB3 | 5:v:37:ILE:HD12 | 1.95 | 0.47 |
| 2:F:111:ARG:NH2 | 2:N:239:ARG:HA | 2.29 | 0.47 |
| 2:F:158:ILE:HD12 | 2:F:158:ILE:H | 1.80 | 0.47 |
| 3:E:264:TYR:HA | 3:E:267:ILE:HG12 | 1.95 | 0.47 |
| 1:L:115:ARG:NH1 | 1:L:115:ARG:HB2 | 2.29 | 0.47 |
| 2:N:155:ASP:HA | 2:N:158:ILE:HD13 | 1.96 | 0.47 |
| 3:M:250:ARG:HE | 4:I:198:VAL:HG22 | 1.79 | 0.47 |
| 3:M:537:LEU:O | 3:M:541:GLU:OE1 | 2.31 | 0.47 |
| 4:J:249:LEU:O | 5:P:49:GLN:NE2 | 2.47 | 0.47 |
| 4:J:364:ALA:HB3 | 4:J:366:LYS:NZ | 2.29 | 0.47 |
| 1:T:17:ARG:HH11 | 1:T:18:ARG:C | 2.23 | 0.47 |
| 2:V:158:ILE:HD12 | 2:V:158:ILE:H | 1.79 | 0.47 |
| 3:U:277:LEU:HB3 | 3:U:293:LEU:HD11 | 1.95 | 0.47 |
| 3:U:401:ASP:O | 3:U:402:MET:HG3 | 2.14 | 0.47 |
| 4:R:249:LEU:O | 5:X:49:GLN:NE2 | 2.47 | 0.47 |
| 4:Q:139:TYR:OH | 4:Q:163:LYS:HA | 2.14 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:b:131:LEU:O | 1:b:134:ILE:HG22 | 2.14 | 0.47 |
| 3:c:170:VAL:HG12 | 3:c:247:VAL:HA | 1.95 | 0.47 |
| 3:c:203:THR:HG22 | 3:c:207:GLN:NE2 | 2.15 | 0.47 |
| 3:c:277:LEU:HB3 | 3:c:293:LEU:HD11 | 1.95 | 0.47 |
| 3:c:339:PHE:O | 3:c:343:LEU:HD12 | 2.14 | 0.47 |
| 4:a:211:ARG:NH2 | 4:a:242:LEU:HD13 | 2.29 | 0.47 |
| 2:l:283:LEU:HD11 | 2:l:287:THR:HB | 1.97 | 0.47 |
| 4:h:211:ARG:NH2 | 4:h:242:LEU:HD13 | 2.29 | 0.47 |
| 4:h:364:ALA:HB3 | 4:h:366:LYS:NZ | 2.29 | 0.47 |
| 1:r:115:ARG:NH1 | 1:r:115:ARG:HB2 | 2.29 | 0.47 |
| 1:r:180:LYS:HG3 | 1:r:217:TYR:HB2 | 1.96 | 0.47 |
| 3:s:335:SER:OG | 3:s:337:ARG:HG2 | 2.13 | 0.47 |
| 3:s:355:PHE:CZ | 3:s:360:ILE:HD13 | 2.49 | 0.47 |
| 4:p:211:ARG:NH2 | 4:p:242:LEU:HD13 | 2.30 | 0.47 |
| 4:p:249:LEU:O | 5:v:49:GLN:NE2 | 2.47 | 0.47 |
| 4:p:376:MET:HA | 4:p:425:ARG:HH21 | 1.79 | 0.47 |
| 3:E:111:HIS:O | 3:s:394:ILE:HD12 | 2.15 | 0.47 |
| 3:E:394:ILE:HD12 | 3:M:111:HIS:O | 2.15 | 0.47 |
| 3:E:511:PRO:HA | 3:E:514:ILE:HG12 | 1.96 | 0.47 |
| 4:B:249:LEU:O | 5:H:49:GLN:NE2 | 2.47 | 0.47 |
| 4:C:364:ALA:HB3 | 4:C:366:LYS:NZ | 2.29 | 0.47 |
| 1:L:131:LEU:O | 1:L:134:ILE:HG22 | 2.14 | 0.47 |
| 1:L:180:LYS:HG3 | 1:L:217:TYR:HB2 | 1.96 | 0.47 |
| 2:O:307:SER:HB2 | 2:O:311:ASN:H | 1.79 | 0.47 |
| 3:M:394:ILE:HD12 | 3:U:111:HIS:O | 2.15 | 0.47 |
| 4:J:139:TYR:OH | 4:J:163:LYS:HA | 2.14 | 0.47 |
| 4:I:376:MET:HA | 4:I:425:ARG:HH21 | 1.79 | 0.47 |
| 3:U:347:VAL:HA | 3:U:350:ILE:HG22 | 1.96 | 0.47 |
| 4:R:376:MET:HA | 4:R:425:ARG:HH21 | 1.79 | 0.47 |
| 1:b:180:LYS:HG3 | 1:b:217:TYR:HB2 | 1.96 | 0.47 |
| 2:d:158:ILE:H | 2:d:158:ILE:HD12 | 1.80 | 0.47 |
| 3:c:342:ASP:HA | 3:c:345:ARG:HE | 1.79 | 0.47 |
| 3:c:355:PHE:CZ | 3:c:360:ILE:HD13 | 2.49 | 0.47 |
| 4:Z:361:ARG:HB3 | 5:f:37:ILE:HD12 | 1.95 | 0.47 |
| 3:k:250:ARG:HE | 4:g:198:VAL:HG22 | 1.79 | 0.47 |
| 4:h:249:LEU:O | 5:n:49:GLN:NE2 | 2.47 | 0.47 |
| 4:h:254:THR:HG22 | 5:n:42:LYS:HG3 | 1.96 | 0.47 |
| 4:o:364:ALA:HB3 | 4:o:366:LYS:NZ | 2.29 | 0.47 |
| 4:q:211:ARG:HD2 | 4:q:212:GLN:N | 2.29 | 0.47 |
| 3:E:347:VAL:HA | 3:E:350:ILE:HG22 | 1.96 | 0.47 |
| 4:B:211:ARG:NH2 | 4:B:242:LEU:HD13 | 2.29 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:C:139:TYR:OH | 4:C:163:LYS:HA | 2.14 | 0.47 |
| 1:L:239:LEU:HD12 | 1:L:240:LEU:N | 2.29 | 0.47 |
| 2:W:306:VAL:HG11 | 2:W:330:ILE:HD13 | 1.96 | 0.47 |
| 4:R:536:THR:HG22 | 4:R:549:ILE:HG12 | 1.96 | 0.47 |
| 4:Q:397:TYR:HB2 | 4:Q:429:LEU:HB3 | 1.97 | 0.47 |
| 1:b:208:LEU:HD23 | 1:b:209:SER:O | 2.13 | 0.47 |
| 2:l:158:ILE:H | 2:l:158:ILE:HD12 | 1.80 | 0.47 |
| 4:g:139:TYR:OH | 4:g:163:LYS:HA | 2.14 | 0.47 |
| 1:r:131:LEU:O | 1:r:134:ILE:HG22 | 2.14 | 0.47 |
| 4:o:211:ARG:HD2 | 4:o:212:GLN:N | 2.29 | 0.47 |
| 1:D:151:THR:O | 1:D:157:ARG:HD2 | 2.15 | 0.47 |
| 2:F:340:PHE:CE1 | 2:N:323:LEU:HG | 2.50 | 0.47 |
| 4:B:139:TYR:OH | 4:B:163:LYS:HA | 2.14 | 0.47 |
| 2:N:158:ILE:HD12 | 2:N:158:ILE:H | 1.80 | 0.47 |
| 3:M:36:VAL:HA | 3:M:64:PHE:CE1 | 2.49 | 0.47 |
| 4:K:211:ARG:NH2 | 4:K:242:LEU:HD13 | 2.29 | 0.47 |
| 2:V:340:PHE:CE1 | 2:d:323:LEU:HG | 2.50 | 0.47 |
| 3:U:341:GLU:HA | 3:U:344:PHE:HB3 | 1.96 | 0.47 |
| 2:d:283:LEU:HD11 | 2:d:287:THR:HB | 1.97 | 0.47 |
| 2:d:340:PHE:CE1 | 2:l:323:LEU:HG | 2.50 | 0.47 |
| 3:c:250:ARG:HE | 4:Y:198:VAL:HG22 | 1.79 | 0.47 |
| 4:Z:139:TYR:OH | 4:Z:163:LYS:HA | 2.14 | 0.47 |
| 4:Y:376:MET:HA | 4:Y:425:ARG:HH21 | 1.79 | 0.47 |
| 4:a:46:HIS:CD2 | 4:a:129:LEU:HD22 | 2.48 | 0.47 |
| 4:a:397:TYR:HB2 | 4:a:429:LEU:HB3 | 1.97 | 0.47 |
| 1:j:115:ARG:NH1 | 1:j:115:ARG:HB2 | 2.29 | 0.47 |
| 1:j:131:LEU:O | 1:j:134:ILE:HG22 | 2.14 | 0.47 |
| 3:k:36:VAL:HA | 3:k:64:PHE:CE1 | 2.49 | 0.47 |
| 4:h:211:ARG:HD2 | 4:h:212:GLN:N | 2.29 | 0.47 |
| 4:g:397:TYR:HB2 | 4:g:429:LEU:HB3 | 1.97 | 0.47 |
| 4:i:397:TYR:HB2 | 4:i:429:LEU:HB3 | 1.97 | 0.47 |
| 3:s:341:GLU:HA | 3:s:344:PHE:HB3 | 1.96 | 0.47 |
| 4:p:397:TYR:HB2 | 4:p:429:LEU:HB3 | 1.97 | 0.47 |
| 1:D:180:LYS:HG3 | 1:D:217:TYR:HB2 | 1.96 | 0.47 |
| 3:E:263:ILE:HD12 | 3:E:276:MET:SD | 2.54 | 0.47 |
| 2:N:340:PHE:CE1 | 2:V:323:LEU:HG | 2.50 | 0.47 |
| 4:J:536:THR:HG22 | 4:J:549:ILE:HG12 | 1.96 | 0.47 |
| 3:U:263:ILE:HD12 | 3:U:276:MET:SD | 2.54 | 0.47 |
| 3:U:511:PRO:HA | 3:U:514:ILE:HG12 | 1.96 | 0.47 |
| 4:R:364:ALA:HB3 | 4:R:366:LYS:NZ | 2.29 | 0.47 |
| 4:Q:211:ARG:NH2 | 4:Q:242:LEU:HD13 | 2.29 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:S:139:TYR:OH | 4:S:163:LYS:HA | 2.14 | 0.47 |
| 4:S:397:TYR:HB2 | 4:S:429:LEU:HB3 | 1.97 | 0.47 |
| 4:S:561:VAL:HG21 | 4:S:571:LYS:HE2 | 1.97 | 0.47 |
| 1:b:17:ARG:HH11 | 1:b:18:ARG:C | 2.23 | 0.47 |
| 3:c:263:ILE:HD12 | 3:c:276:MET:SD | 2.54 | 0.47 |
| 4:Z:211:ARG:HD2 | 4:Z:212:GLN:N | 2.29 | 0.47 |
| 3:k:533:LEU:HB2 | 3:k:562:ILE:HD11 | 1.95 | 0.47 |
| 4:h:397:TYR:HB2 | 4:h:429:LEU:HB3 | 1.97 | 0.47 |
| 4:i:211:ARG:NH2 | 4:i:242:LEU:HD13 | 2.29 | 0.47 |
| 4:p:139:TYR:CE1 | 4:p:142:ARG:NH2 | 2.80 | 0.47 |
| 4:p:561:VAL:HG21 | 4:p:571:LYS:HE2 | 1.97 | 0.47 |
| 4:o:46:HIS:CD2 | 4:o:129:LEU:HD22 | 2.48 | 0.47 |
| 4:o:211:ARG:NH2 | 4:o:242:LEU:HD13 | 2.29 | 0.47 |
| 1:D:17:ARG:HH11 | 1:D:18:ARG:C | 2.23 | 0.47 |
| 1:D:239:LEU:HD12 | 1:D:240:LEU:N | 2.29 | 0.47 |
| 3:E:355:PHE:HD2 | 1:L:76:LYS:HZ3 | 1.61 | 0.47 |
| 3:E:401:ASP:O | 3:E:402:MET:HG3 | 2.14 | 0.47 |
| 4:B:376:MET:HA | 4:B:425:ARG:HH21 | 1.79 | 0.47 |
| 4:B:397:TYR:HB2 | 4:B:429:LEU:HB3 | 1.97 | 0.47 |
| 4:B:561:VAL:HG21 | 4:B:571:LYS:HE2 | 1.97 | 0.47 |
| 4:A:561:VAL:HG21 | 4:A:571:LYS:HE2 | 1.97 | 0.47 |
| 4:C:208:ILE:O | 4:C:211:ARG:HG3 | 2.15 | 0.47 |
| 4:C:397:TYR:HB2 | 4:C:429:LEU:HB3 | 1.97 | 0.47 |
| 1:L:17:ARG:HH11 | 1:L:18:ARG:C | 2.23 | 0.47 |
| 3:M:4:ILE:HD11 | 3:M:37:LEU:HB3 | 1.97 | 0.47 |
| 3:M:263:ILE:HD12 | 3:M:276:MET:SD | 2.54 | 0.47 |
| 3:M:347:VAL:HA | 3:M:350:ILE:HG22 | 1.96 | 0.47 |
| 4:J:254:THR:HG22 | 5:P:42:LYS:HG3 | 1.96 | 0.47 |
| 4:J:376:MET:HA | 4:J:425:ARG:HH21 | 1.79 | 0.47 |
| 4:I:139:TYR:OH | 4:I:163:LYS:HA | 2.14 | 0.47 |
| 4:K:397:TYR:HB2 | 4:K:429:LEU:HB3 | 1.97 | 0.47 |
| 1:T:115:ARG:NH1 | 1:T:115:ARG:HB2 | 2.29 | 0.47 |
| 4:R:208:ILE:O | 4:R:211:ARG:HG3 | 2.15 | 0.47 |
| 4:Q:364:ALA:HB3 | 4:Q:366:LYS:NZ | 2.29 | 0.47 |
| 4:Z:211:ARG:NH2 | 4:Z:242:LEU:HD13 | 2.29 | 0.47 |
| 4:Y:364:ALA:HB3 | 4:Y:366:LYS:NZ | 2.29 | 0.47 |
| 4:Y:397:TYR:HB2 | 4:Y:429:LEU:HB3 | 1.97 | 0.47 |
| 3:k:342:ASP:HA | 3:k:345:ARG:HE | 1.79 | 0.47 |
| 3:k:374:PHE:CG | 3:k:375:ASP:N | 2.83 | 0.47 |
| 4:h:561:VAL:HG21 | 4:h:571:LYS:HE2 | 1.97 | 0.47 |
| 4:g:211:ARG:NH2 | 4:g:242:LEU:HD13 | 2.29 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:g:561:VAL:HG21 | 4:g:571:LYS:HE2 | 1.97 | 0.47 |
| 4:i:364:ALA:HB3 | 4:i:366:LYS:NZ | 2.29 | 0.47 |
| 4:i:561:VAL:HG21 | 4:i:571:LYS:HE2 | 1.97 | 0.47 |
| 1:r:176:THR:CG2 | 1:r:228:TYR:HB2 | 2.43 | 0.47 |
| 2:t:283:LEU:HD11 | 2:t:287:THR:HB | 1.97 | 0.47 |
| 3:s:36:VAL:HA | 3:s:64:PHE:CE1 | 2.50 | 0.47 |
| 3:s:339:PHE:O | 3:s:343:LEU:HD12 | 2.14 | 0.47 |
| 4:p:335:PRO:CD | 5:v:55:GLN:NE2 | 2.77 | 0.47 |
| 4:p:364:ALA:HB3 | 4:p:366:LYS:NZ | 2.29 | 0.47 |
| 4:o:397:TYR:HB2 | 4:o:429:LEU:HB3 | 1.97 | 0.47 |
| 4:o:561:VAL:HG21 | 4:o:571:LYS:HE2 | 1.97 | 0.47 |
| 4:q:139:TYR:OH | 4:q:163:LYS:HA | 2.14 | 0.47 |
| 4:q:397:TYR:HB2 | 4:q:429:LEU:HB3 | 1.97 | 0.47 |
| 4:B:361:ARG:CG | 5:H:37:ILE:HD12 | 2.45 | 0.47 |
| 4:A:46:HIS:CD2 | 4:A:129:LEU:HD22 | 2.48 | 0.47 |
| 4:C:46:HIS:CD2 | 4:C:129:LEU:HD22 | 2.48 | 0.47 |
| 3:M:533:LEU:HB2 | 3:M:562:ILE:HD11 | 1.95 | 0.47 |
| 4:J:211:ARG:NH2 | 4:J:242:LEU:HD13 | 2.29 | 0.47 |
| 4:I:208:ILE:O | 4:I:211:ARG:HG3 | 2.15 | 0.47 |
| 4:I:397:TYR:HB2 | 4:I:429:LEU:HB3 | 1.97 | 0.47 |
| 3:U:250:ARG:HE | 4:Q:198:VAL:HG22 | 1.79 | 0.47 |
| 4:R:211:ARG:NH2 | 4:R:242:LEU:HD13 | 2.30 | 0.47 |
| 4:Q:208:ILE:O | 4:Q:211:ARG:HG3 | 2.15 | 0.47 |
| 4:S:211:ARG:NH2 | 4:S:242:LEU:HD13 | 2.29 | 0.47 |
| 1:b:151:THR:O | 1:b:157:ARG:HD2 | 2.15 | 0.47 |
| 3:c:36:VAL:HA | 3:c:64:PHE:CE1 | 2.49 | 0.47 |
| 3:c:341:GLU:HA | 3:c:344:PHE:HB3 | 1.96 | 0.47 |
| 4:Y:561:VAL:HG21 | 4:Y:571:LYS:HE2 | 1.97 | 0.47 |
| 4:a:561:VAL:HG21 | 4:a:571:LYS:HE2 | 1.97 | 0.47 |
| 2:l:340:PHE:CE1 | 2:t:323:LEU:HG | 2.50 | 0.47 |
| 2:m:306:VAL:HG11 | 2:m:330:ILE:HD13 | 1.96 | 0.47 |
| 3:k:11:TYR:HD1 | 3:k:16:ASN:HB3 | 1.80 | 0.47 |
| 3:k:263:ILE:HD12 | 3:k:276:MET:SD | 2.54 | 0.47 |
| 1:r:151:THR:O | 1:r:157:ARG:HD2 | 2.15 | 0.47 |
| 3:s:11:TYR:HD1 | 3:s:16:ASN:HB3 | 1.80 | 0.47 |
| 3:s:401:ASP:O | 3:s:402:MET:HG3 | 2.14 | 0.47 |
| 4:p:139:TYR:OH | 4:p:163:LYS:HA | 2.14 | 0.47 |
| 4:q:364:ALA:HB3 | 4:q:366:LYS:NZ | 2.29 | 0.47 |
| 2:F:239:ARG:HA | 2:t:111:ARG:NH2 | 2.29 | 0.47 |
| 2:F:323:LEU:HG | 2:t:340:PHE:CE1 | 2.50 | 0.47 |
| 3:E:341:GLU:HA | 3:E:344:PHE:HB3 | 1.96 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:E:386:ASN:HB3 | 3:E:391:VAL:O | 2.15 | 0.47 |
| 3:E:533:LEU:HB2 | 3:E:562:ILE:HD11 | 1.96 | 0.47 |
| 4:A:397:TYR:HB2 | 4:A:429:LEU:HB3 | 1.97 | 0.47 |
| 4:C:211:ARG:NH2 | 4:C:242:LEU:HD13 | 2.29 | 0.47 |
| 3:M:250:ARG:NH2 | 4:I:198:VAL:HA | 2.30 | 0.47 |
| 2:V:151:LYS:HG3 | 2:V:152:CYS:SG | 2.54 | 0.47 |
| 3:U:4:ILE:HD11 | 3:U:37:LEU:HB3 | 1.97 | 0.47 |
| 3:U:394:ILE:HD12 | 3:c:111:HIS:O | 2.15 | 0.47 |
| 1:b:125:PHE:CZ | 1:b:129:LEU:HD21 | 2.50 | 0.47 |
| 2:d:77:LYS:HA | 2:l:151:LYS:HD3 | 1.70 | 0.47 |
| 3:c:352:PRO:HG2 | 1:j:74:LEU:HD22 | 1.97 | 0.47 |
| 3:c:394:ILE:HD12 | 3:k:111:HIS:O | 2.15 | 0.47 |
| 4:Y:211:ARG:NH2 | 4:Y:242:LEU:HD13 | 2.29 | 0.47 |
| 2:l:77:LYS:HA | 2:t:151:LYS:HD3 | 1.70 | 0.47 |
| 3:k:3:PHE:CD2 | 3:k:7:LYS:HE2 | 2.50 | 0.47 |
| 3:k:352:PRO:HG2 | 1:r:74:LEU:HD22 | 1.97 | 0.47 |
| 4:i:139:TYR:OH | 4:i:163:LYS:HA | 2.14 | 0.47 |
| 1:r:17:ARG:HH11 | 1:r:18:ARG:C | 2.23 | 0.47 |
| 1:r:248:ILE:HG12 | 1:r:271:GLN:HB3 | 1.97 | 0.47 |
| 3:s:264:TYR:HA | 3:s:267:ILE:HG12 | 1.95 | 0.47 |
| 3:s:511:PRO:HA | 3:s:514:ILE:HG12 | 1.96 | 0.47 |
| 4:p:256:LYS:HD2 | 5:v:38:GLU:CD | 2.40 | 0.47 |
| 4:B:256:LYS:HD2 | 5:H:38:GLU:CD | 2.40 | 0.47 |
| 4:C:211:ARG:HD2 | 4:C:212:GLN:N | 2.29 | 0.47 |
| 3:M:352:PRO:HG2 | 1:T:74:LEU:HD22 | 1.97 | 0.47 |
| 3:M:386:ASN:HB3 | 3:M:391:VAL:O | 2.15 | 0.47 |
| 4:J:46:HIS:CD2 | 4:J:129:LEU:HD22 | 2.48 | 0.47 |
| 3:U:250:ARG:NH2 | 4:Q:198:VAL:HA | 2.30 | 0.47 |
| 3:U:386:ASN:HB3 | 3:U:391:VAL:O | 2.15 | 0.47 |
| 3:U:533:LEU:HB2 | 3:U:562:ILE:HD11 | 1.95 | 0.47 |
| 4:Q:561:VAL:HG21 | 4:Q:571:LYS:HE2 | 1.97 | 0.47 |
| 2:e:267:LEU:HD13 | 2:e:317:SER:CB | 2.41 | 0.47 |
| 4:Z:249:LEU:O | 5:f:49:GLN:NE2 | 2.47 | 0.47 |
| 4:Z:561:VAL:HG21 | 4:Z:571:LYS:HE2 | 1.97 | 0.47 |
| 2:l:111:ARG:NH2 | 2:t:239:ARG:HA | 2.29 | 0.47 |
| 2:m:307:SER:HB2 | 2:m:311:ASN:H | 1.79 | 0.47 |
| 3:k:394:ILE:HD12 | 3:s:111:HIS:O | 2.15 | 0.47 |
| 4:i:139:TYR:CE1 | 4:i:142:ARG:NH2 | 2.80 | 0.47 |
| 1:D:28:ARG:NH2 | 1:r:13:LYS:NZ | 2.63 | 0.46 |
| 2:F:284:GLU:OE2 | 2:O:273:TYR:HB2 | 2.15 | 0.46 |
| 3:E:311:LYS:HZ3 | 3:E:359:ARG:HH21 | 1.63 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:L:13:LYS:HZ2 | 1:T:28:ARG:NH2 | 2.13 | 0.46 |
| 2:O:173:ILE:HD12 | 2:O:217:TYR:O | 2.15 | 0.46 |
| 4:J:120:TYR:CD1 | 4:I:10:LEU:HD11 | 2.51 | 0.46 |
| 4:J:561:VAL:HG21 | 4:J:571:LYS:HE2 | 1.97 | 0.46 |
| 1:T:239:LEU:HD12 | 1:T:240:LEU:N | 2.29 | 0.46 |
| 2:V:90:TYR:HE1 | 2:V:122:LYS:HZ2 | 1.63 | 0.46 |
| 3:U:36:VAL:HA | 3:U:64:PHE:CE1 | 2.50 | 0.46 |
| 3:U:352:PRO:HG2 | 1:b:74:LEU:HD22 | 1.97 | 0.46 |
| 4:Q:371:MET:CE | 4:Q:428:LEU:HD23 | 2.46 | 0.46 |
| 4:a:371:MET:CE | 4:a:428:LEU:HD23 | 2.46 | 0.46 |
| 1:j:17:ARG:HH11 | 1:j:18:ARG:C | 2.23 | 0.46 |
| 1:j:125:PHE:CZ | 1:j:129:LEU:HD21 | 2.50 | 0.46 |
| 3:k:401:ASP:O | 3:k:402:MET:HG3 | 2.14 | 0.46 |
| 4:g:364:ALA:HB3 | 4:g:366:LYS:NZ | 2.29 | 0.46 |
| 3:s:263:ILE:HD12 | 3:s:276:MET:SD | 2.54 | 0.46 |
| 3:s:374:PHE:CG | 3:s:375:ASP:N | 2.83 | 0.46 |
| 1:D:49:ILE:HB | 1:D:97:ASN:ND2 | 2.30 | 0.46 |
| 1:D:125:PHE:CZ | 1:D:129:LEU:HD21 | 2.50 | 0.46 |
| 3:E:352:PRO:HG2 | 1:L:74:LEU:HD22 | 1.97 | 0.46 |
| 4:A:139:TYR:OH | 4:A:163:LYS:HA | 2.14 | 0.46 |
| 4:A:371:MET:CE | 4:A:428:LEU:HD23 | 2.46 | 0.46 |
| 2:N:194:VAL:O | 2:N:194:VAL:HG13 | 2.16 | 0.46 |
| 4:I:561:VAL:HG21 | 4:I:571:LYS:HE2 | 1.97 | 0.46 |
| 2:V:283:LEU:HD11 | 2:V:287:THR:HB | 1.97 | 0.46 |
| 3:U:3:PHE:CD2 | 3:U:7:LYS:HE2 | 2.50 | 0.46 |
| 4:Q:46:HIS:CD2 | 4:Q:129:LEU:HD22 | 2.48 | 0.46 |
| 4:S:371:MET:CE | 4:S:428:LEU:HD23 | 2.46 | 0.46 |
| 1:b:239:LEU:HD12 | 1:b:240:LEU:N | 2.29 | 0.46 |
| 3:c:511:PRO:HA | 3:c:514:ILE:HG12 | 1.96 | 0.46 |
| 4:Z:208:ILE:O | 4:Z:211:ARG:HG3 | 2.15 | 0.46 |
| 4:Z:397:TYR:HB2 | 4:Z:429:LEU:HB3 | 1.97 | 0.46 |
| 4:a:208:ILE:O | 4:a:211:ARG:HG3 | 2.15 | 0.46 |
| 1:j:13:LYS:NZ | 1:r:28:ARG:NH2 | 2.63 | 0.46 |
| 1:j:248:ILE:HG12 | 1:j:271:GLN:HB3 | 1.97 | 0.46 |
| 3:k:183:TYR:CD1 | 3:k:186:LYS:HE3 | 2.50 | 0.46 |
| 4:h:46:HIS:CD2 | 4:h:129:LEU:HD22 | 2.48 | 0.46 |
| 4:h:139:TYR:OH | 4:h:163:LYS:HA | 2.14 | 0.46 |
| 1:r:125:PHE:CZ | 1:r:129:LEU:HD21 | 2.50 | 0.46 |
| 3:s:183:TYR:CD1 | 3:s:186:LYS:HE3 | 2.50 | 0.46 |
| 4:p:208:ILE:O | 4:p:211:ARG:HG3 | 2.15 | 0.46 |
| 4:q:561:VAL:HG21 | 4:q:571:LYS:HE2 | 1.97 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:D:74:LEU:HD22 | 3:s:352:PRO:HG2 | 1.97 | 0.46 |
| 1:D:175:GLN:O | 1:L:58:ARG:NH2 | 2.26 | 0.46 |
| 2:G:249:GLU:HA | 2:G:252:ILE:HG12 | 1.97 | 0.46 |
| 2:G:306:VAL:HG11 | 2:G:330:ILE:HD13 | 1.96 | 0.46 |
| 3:E:11:TYR:HD1 | 3:E:16:ASN:HB3 | 1.80 | 0.46 |
| 3:E:183:TYR:CD1 | 3:E:186:LYS:HE3 | 2.51 | 0.46 |
| 3:E:311:LYS:NZ | 3:E:359:ARG:NH2 | 2.64 | 0.46 |
| 1:L:151:THR:O | 1:L:157:ARG:HD2 | 2.15 | 0.46 |
| 2:O:306:VAL:HG11 | 2:O:330:ILE:HD13 | 1.96 | 0.46 |
| 4:I:371:MET:CE | 4:I:428:LEU:HD23 | 2.46 | 0.46 |
| 4:K:561:VAL:HG21 | 4:K:571:LYS:HE2 | 1.97 | 0.46 |
| 2:V:194:VAL:O | 2:V:194:VAL:HG13 | 2.15 | 0.46 |
| 2:W:249:GLU:HA | 2:W:252:ILE:HG12 | 1.97 | 0.46 |
| 2:W:307:SER:HB2 | 2:W:311:ASN:H | 1.79 | 0.46 |
| 4:Q:120:TYR:CD1 | 4:S:10:LEU:HD11 | 2.51 | 0.46 |
| 2:e:306:VAL:HG11 | 2:e:330:ILE:HD13 | 1.96 | 0.46 |
| 3:c:11:TYR:HD1 | 3:c:16:ASN:HB3 | 1.80 | 0.46 |
| 3:c:347:VAL:HA | 3:c:350:ILE:HG22 | 1.96 | 0.46 |
| 3:c:386:ASN:HB3 | 3:c:391:VAL:O | 2.15 | 0.46 |
| 4:Z:10:LEU:HD11 | 4:a:120:TYR:CD1 | 2.51 | 0.46 |
| 3:k:347:VAL:HA | 3:k:350:ILE:HG22 | 1.96 | 0.46 |
| 4:g:208:ILE:O | 4:g:211:ARG:HG3 | 2.15 | 0.46 |
| 4:i:208:ILE:O | 4:i:211:ARG:HG3 | 2.15 | 0.46 |
| 4:i:371:MET:CE | 4:i:428:LEU:HD23 | 2.46 | 0.46 |
| 3:s:311:LYS:NZ | 3:s:359:ARG:NH2 | 2.64 | 0.46 |
| 4:q:46:HIS:CD2 | 4:q:129:LEU:HD22 | 2.49 | 0.46 |
| 2:G:137:GLN:HG2 | 2:G:139:LYS:HG3 | 1.98 | 0.46 |
| 4:A:120:TYR:CD1 | 4:C:10:LEU:HD11 | 2.51 | 0.46 |
| 1:L:125:PHE:CZ | 1:L:129:LEU:HD21 | 2.50 | 0.46 |
| 2:O:249:GLU:HA | 2:O:252:ILE:HG12 | 1.97 | 0.46 |
| 4:J:361:ARG:CG | 5:P:37:ILE:HD12 | 2.45 | 0.46 |
| 2:V:183:VAL:O | 2:V:205:ILE:HA | 2.16 | 0.46 |
| 2:W:267:LEU:HD13 | 2:W:317:SER:CB | 2.41 | 0.46 |
| 4:R:10:LEU:HD11 | 4:S:120:TYR:CD1 | 2.51 | 0.46 |
| 4:R:397:TYR:HB2 | 4:R:429:LEU:HB3 | 1.97 | 0.46 |
| 4:R:561:VAL:HG21 | 4:R:571:LYS:HE2 | 1.97 | 0.46 |
| 2:d:194:VAL:HG13 | 2:d:194:VAL:O | 2.16 | 0.46 |
| 4:Y:371:MET:CE | 4:Y:428:LEU:HD23 | 2.46 | 0.46 |
| 1:j:151:THR:O | 1:j:157:ARG:HD2 | 2.15 | 0.46 |
| 1:j:176:THR:CG2 | 1:j:228:TYR:HB2 | 2.43 | 0.46 |
| 2:l:183:VAL:O | 2:l:205:ILE:HA | 2.16 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:k:511:PRO:HA | 3:k:514:ILE:HG12 | 1.96 | 0.46 |
| 2:u:306:VAL:HG11 | 2:u:330:ILE:HD13 | 1.96 | 0.46 |
| 3:E:374:PHE:CG | 3:E:375:ASP:N | 2.83 | 0.46 |
| 4:B:208:ILE:O | 4:B:211:ARG:HG3 | 2.15 | 0.46 |
| 2:O:137:GLN:HG2 | 2:O:139:LYS:HG3 | 1.98 | 0.46 |
| 3:M:3:PHE:CD2 | 3:M:7:LYS:HE2 | 2.50 | 0.46 |
| 3:M:250:ARG:CZ | 4:I:197:GLY:O | 2.64 | 0.46 |
| 4:I:120:TYR:CD1 | 4:K:10:LEU:HD11 | 2.51 | 0.46 |
| 1:T:176:THR:OG1 | 1:b:58:ARG:CZ | 2.64 | 0.46 |
| 2:W:173:ILE:HD12 | 2:W:217:TYR:O | 2.15 | 0.46 |
| 2:d:93:LYS:CD | 2:d:211:ILE:HG23 | 2.46 | 0.46 |
| 2:e:283:LEU:HB3 | 2:e:306:VAL:HG23 | 1.98 | 0.46 |
| 4:Z:361:ARG:CG | 5:f:37:ILE:HD12 | 2.45 | 0.46 |
| 3:k:280:VAL:O | 3:k:284:GLU:HB2 | 2.16 | 0.46 |
| 4:h:10:LEU:HD11 | 4:i:120:TYR:CD1 | 2.51 | 0.46 |
| 4:q:211:ARG:NH2 | 4:q:242:LEU:HD13 | 2.29 | 0.46 |
| 2:F:90:TYR:CD2 | 2:F:134:TYR:HB3 | 2.51 | 0.46 |
| 2:F:183:VAL:O | 2:F:205:ILE:HA | 2.16 | 0.46 |
| 2:F:282:LEU:C | 2:O:273:TYR:HD1 | 2.24 | 0.46 |
| 2:F:283:LEU:HD11 | 2:F:287:THR:HB | 1.97 | 0.46 |
| 3:E:4:ILE:HD11 | 3:E:37:LEU:HB3 | 1.97 | 0.46 |
| 3:E:36:VAL:HA | 3:E:64:PHE:CE1 | 2.49 | 0.46 |
| 4:A:208:ILE:O | 4:A:211:ARG:HG3 | 2.15 | 0.46 |
| 4:C:561:VAL:HG21 | 4:C:571:LYS:HE2 | 1.97 | 0.46 |
| 1:L:176:THR:OG1 | 1:T:58:ARG:CZ | 2.64 | 0.46 |
| 1:T:13:LYS:NZ | 1:b:28:ARG:NH2 | 2.63 | 0.46 |
| 4:R:334:LEU:HB2 | 4:R:337:VAL:HB | 1.98 | 0.46 |
| 1:b:248:ILE:HG12 | 1:b:271:GLN:HB3 | 1.97 | 0.46 |
| 2:d:171:ARG:HH22 | 2:m:339:MET:HE2 | 1.81 | 0.46 |
| 3:c:183:TYR:CD1 | 3:c:186:LYS:HE3 | 2.51 | 0.46 |
| 3:c:284:GLU:CD | 3:c:286:GLU:H | 2.24 | 0.46 |
| 2:l:194:VAL:O | 2:l:194:VAL:HG13 | 2.16 | 0.46 |
| 2:t:143:VAL:HG12 | 2:t:181:ASP:HB3 | 1.98 | 0.46 |
| 4:o:120:TYR:CD1 | 4:q:10:LEU:HD11 | 2.51 | 0.46 |
| 1:D:176:THR:OG1 | 1:L:58:ARG:CZ | 2.64 | 0.46 |
| 2:G:173:ILE:HD12 | 2:G:217:TYR:O | 2.15 | 0.46 |
| 2:G:273:TYR:HB2 | 2:t:284:GLU:OE2 | 2.15 | 0.46 |
| 3:E:153:ASP:HA | 3:E:271:ARG:HH22 | 1.81 | 0.46 |
| 3:E:250:ARG:CZ | 4:A:197:GLY:O | 2.64 | 0.46 |
| 4:A:104:ILE:HB | 4:C:99:ILE:HG22 | 1.98 | 0.46 |
| 1:L:232:TYR:O | 1:L:237:MET:HE2 | 2.16 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:N:282:LEU:C | 2:W:273:TYR:HD1 | 2.24 | 0.46 |
| 2:N:283:LEU:HD11 | 2:N:287:THR:HB | 1.97 | 0.46 |
| 3:M:11:TYR:HD1 | 3:M:16:ASN:HB3 | 1.80 | 0.46 |
| 3:M:311:LYS:NZ | 3:M:359:ARG:NH2 | 2.64 | 0.46 |
| 4:I:139:TYR:CE1 | 4:I:142:ARG:NH2 | 2.80 | 0.46 |
| 4:K:46:HIS:CD2 | 4:K:129:LEU:HD22 | 2.48 | 0.46 |
| 1:T:232:TYR:O | 1:T:237:MET:HE2 | 2.16 | 0.46 |
| 2:V:143:VAL:HG12 | 2:V:181:ASP:HB3 | 1.98 | 0.46 |
| 2:V:282:LEU:HD22 | 2:e:272:LYS:O | 2.16 | 0.46 |
| 2:V:284:GLU:OE2 | 2:e:273:TYR:HB2 | 2.15 | 0.46 |
| 3:U:284:GLU:CD | 3:U:286:GLU:H | 2.24 | 0.46 |
| 2:d:284:GLU:OE2 | 2:m:273:TYR:HB2 | 2.15 | 0.46 |
| 2:e:249:GLU:HA | 2:e:252:ILE:HG12 | 1.97 | 0.46 |
| 3:c:280:VAL:O | 3:c:284:GLU:HB2 | 2.16 | 0.46 |
| 4:Z:99:ILE:HG22 | 4:a:104:ILE:HB | 1.98 | 0.46 |
| 4:Z:256:LYS:HD2 | 5:f:38:GLU:CD | 2.40 | 0.46 |
| 2:u:137:GLN:HG2 | 2:u:139:LYS:HG3 | 1.98 | 0.46 |
| 1:D:58:ARG:CZ | 1:r:176:THR:OG1 | 2.64 | 0.46 |
| 1:D:248:ILE:HG12 | 1:D:271:GLN:HB3 | 1.97 | 0.46 |
| 2:G:273:TYR:CD1 | 2:t:282:LEU:C | 2.94 | 0.46 |
| 1:L:257:GLU:HA | 1:L:260:MET:HE3 | 1.98 | 0.46 |
| 2:N:143:VAL:HG12 | 2:N:181:ASP:HB3 | 1.98 | 0.46 |
| 2:N:284:GLU:OE2 | 2:W:273:TYR:HB2 | 2.15 | 0.46 |
| 4:J:256:LYS:HD2 | 5:P:38:GLU:CD | 2.40 | 0.46 |
| 4:J:397:TYR:HB2 | 4:J:429:LEU:HB3 | 1.97 | 0.46 |
| 1:T:125:PHE:CZ | 1:T:129:LEU:HD21 | 2.50 | 0.46 |
| 3:U:11:TYR:HD1 | 3:U:16:ASN:HB3 | 1.80 | 0.46 |
| 3:U:183:TYR:CD1 | 3:U:186:LYS:HE3 | 2.50 | 0.46 |
| 3:c:3:PHE:CD2 | 3:c:7:LYS:HE2 | 2.50 | 0.46 |
| 3:c:4:ILE:HD11 | 3:c:37:LEU:HB3 | 1.97 | 0.46 |
| 4:Y:120:TYR:CD1 | 4:a:10:LEU:HD11 | 2.51 | 0.46 |
| 2:l:282:LEU:C | 2:u:273:TYR:HD1 | 2.24 | 0.46 |
| 3:k:284:GLU:CD | 3:k:286:GLU:H | 2.24 | 0.46 |
| 3:k:311:LYS:NZ | 3:k:359:ARG:NH2 | 2.64 | 0.46 |
| 3:k:386:ASN:HB3 | 3:k:391:VAL:O | 2.15 | 0.46 |
| 4:h:361:ARG:CG | 5:n:37:ILE:HD12 | 2.45 | 0.46 |
| 3:s:386:ASN:HB3 | 3:s:391:VAL:O | 2.15 | 0.46 |
| 4:p:120:TYR:CD1 | 4:o:10:LEU:HD11 | 2.51 | 0.46 |
| 1:D:13:LYS:NZ | 1:L:28:ARG:NH2 | 2.63 | 0.46 |
| 2:F:143:VAL:HG12 | 2:F:181:ASP:HB3 | 1.98 | 0.46 |
| 2:F:194:VAL:O | 2:F:194:VAL:HG13 | 2.16 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:F:282:LEU:C | 2:O:273:TYR:CD1 | 2.94 | 0.46 |
| 1:L:13:LYS:NZ | 1:T:28:ARG:NH2 | 2.63 | 0.46 |
| 2:N:183:VAL:O | 2:N:205:ILE:HA | 2.16 | 0.46 |
| 2:N:282:LEU:C | 2:W:273:TYR:CD1 | 2.94 | 0.46 |
| 3:M:153:ASP:HA | 3:M:271:ARG:HH22 | 1.81 | 0.46 |
| 4:J:10:LEU:HD11 | 4:K:120:TYR:CD1 | 2.51 | 0.46 |
| 4:J:334:LEU:HB2 | 4:J:337:VAL:HB | 1.98 | 0.46 |
| 4:I:104:ILE:HB | 4:K:99:ILE:HG22 | 1.98 | 0.46 |
| 4:K:205:ASP:HA | 4:K:208:ILE:HG22 | 1.98 | 0.46 |
| 4:K:208:ILE:O | 4:K:211:ARG:HG3 | 2.15 | 0.46 |
| 3:U:250:ARG:CZ | 4:Q:197:GLY:O | 2.64 | 0.46 |
| 4:R:104:ILE:HB | 4:Q:99:ILE:HG22 | 1.98 | 0.46 |
| 1:b:232:TYR:O | 1:b:237:MET:HE2 | 2.16 | 0.46 |
| 2:d:183:VAL:O | 2:d:205:ILE:HA | 2.16 | 0.46 |
| 4:Y:208:ILE:O | 4:Y:211:ARG:HG3 | 2.15 | 0.46 |
| 2:l:171:ARG:HH22 | 2:u:339:MET:HE2 | 1.81 | 0.46 |
| 4:h:120:TYR:CD1 | 4:g:10:LEU:HD11 | 2.51 | 0.46 |
| 4:h:256:LYS:HD2 | 5:n:38:GLU:CD | 2.40 | 0.46 |
| 4:g:484:MET:HG2 | 4:g:485:ALA:O | 2.16 | 0.46 |
| 3:s:3:PHE:CD2 | 3:s:7:LYS:HE2 | 2.50 | 0.46 |
| 3:s:250:ARG:CZ | 4:o:197:GLY:O | 2.64 | 0.46 |
| 4:q:208:ILE:O | 4:q:211:ARG:HG3 | 2.15 | 0.46 |
| 1:D:252:ILE:HA | 1:D:256:VAL:HG11 | 1.98 | 0.46 |
| 2:G:273:TYR:HD1 | 2:t:282:LEU:C | 2.24 | 0.46 |
| 3:E:538:TYR:HE1 | 4:o:513:TYR:HH | 1.61 | 0.46 |
| 4:B:335:PRO:CD | 5:H:55:GLN:HE22 | 2.25 | 0.46 |
| 2:N:90:TYR:CD2 | 2:N:134:TYR:HB3 | 2.51 | 0.46 |
| 3:M:280:VAL:O | 3:M:284:GLU:HB2 | 2.16 | 0.46 |
| 3:M:284:GLU:CD | 3:M:286:GLU:H | 2.24 | 0.46 |
| 4:J:484:MET:HG2 | 4:J:485:ALA:O | 2.16 | 0.46 |
| 2:W:137:GLN:HG2 | 2:W:139:LYS:HG3 | 1.98 | 0.46 |
| 2:W:283:LEU:HB3 | 2:W:306:VAL:HG23 | 1.98 | 0.46 |
| 4:R:335:PRO:CD | 5:X:55:GLN:NE2 | 2.77 | 0.46 |
| 4:R:484:MET:HG2 | 4:R:485:ALA:O | 2.16 | 0.46 |
| 4:Z:120:TYR:CD1 | 4:Y:10:LEU:HD11 | 2.51 | 0.46 |
| 2:l:143:VAL:HG12 | 2:l:181:ASP:HB3 | 1.98 | 0.46 |
| 2:m:267:LEU:HD13 | 2:m:317:SER:CB | 2.41 | 0.46 |
| 4:h:335:PRO:CD | 5:n:55:GLN:NE2 | 2.77 | 0.46 |
| 2:t:183:VAL:O | 2:t:205:ILE:HA | 2.16 | 0.46 |
| 2:t:194:VAL:O | 2:t:194:VAL:HG13 | 2.15 | 0.46 |
| 4:q:484:MET:HG2 | 4:q:485:ALA:O | 2.16 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:E:250:ARG:NH2 | 4:A:198:VAL:HA | 2.30 | 0.45 |
| 3:E:284:GLU:CD | 3:E:286:GLU:H | 2.24 | 0.45 |
| 4:C:484:MET:HG2 | 4:C:485:ALA:O | 2.16 | 0.45 |
| 1:L:252:ILE:HA | 1:L:256:VAL:HG11 | 1.98 | 0.45 |
| 3:U:280:VAL:O | 3:U:284:GLU:HB2 | 2.16 | 0.45 |
| 4:Q:104:ILE:HB | 4:S:99:ILE:HG22 | 1.98 | 0.45 |
| 4:S:205:ASP:HA | 4:S:208:ILE:HG22 | 1.98 | 0.45 |
| 4:S:208:ILE:O | 4:S:211:ARG:HG3 | 2.15 | 0.45 |
| 1:b:257:GLU:HA | 1:b:260:MET:HE3 | 1.98 | 0.45 |
| 2:d:90:TYR:CD2 | 2:d:134:TYR:HB3 | 2.51 | 0.45 |
| 1:j:39:TYR:O | 1:j:222:ASN:ND2 | 2.49 | 0.45 |
| 3:s:250:ARG:NH2 | 4:o:198:VAL:HA | 2.30 | 0.45 |
| 4:p:10:LEU:HD11 | 4:q:120:TYR:CD1 | 2.51 | 0.45 |
| 4:p:288:ILE:HG21 | 4:p:346:ASN:ND2 | 2.31 | 0.45 |
| 4:p:335:PRO:CD | 5:v:55:GLN:HE22 | 2.25 | 0.45 |
| 3:E:3:PHE:CD2 | 3:E:7:LYS:HE2 | 2.50 | 0.45 |
| 4:B:120:TYR:CD1 | 4:A:10:LEU:HD11 | 2.51 | 0.45 |
| 1:L:176:THR:CG2 | 1:L:228:TYR:HB2 | 2.43 | 0.45 |
| 3:M:394:ILE:HD12 | 3:U:114:THR:OG1 | 2.17 | 0.45 |
| 4:J:335:PRO:CD | 5:P:55:GLN:HE22 | 2.25 | 0.45 |
| 1:T:39:TYR:O | 1:T:222:ASN:ND2 | 2.49 | 0.45 |
| 1:T:172:TYR:CE1 | 1:T:177:GLY:HA3 | 2.52 | 0.45 |
| 4:R:99:ILE:HG22 | 4:S:104:ILE:HB | 1.98 | 0.45 |
| 1:b:13:LYS:NZ | 1:j:28:ARG:NH2 | 2.63 | 0.45 |
| 2:d:143:VAL:HG12 | 2:d:181:ASP:HB3 | 1.98 | 0.45 |
| 2:l:282:LEU:C | 2:u:273:TYR:CD1 | 2.94 | 0.45 |
| 2:l:284:GLU:OE2 | 2:u:273:TYR:HB2 | 2.15 | 0.45 |
| 2:m:173:ILE:HD12 | 2:m:217:TYR:O | 2.15 | 0.45 |
| 3:k:250:ARG:NH2 | 4:g:198:VAL:HA | 2.30 | 0.45 |
| 1:r:39:TYR:O | 1:r:222:ASN:ND2 | 2.49 | 0.45 |
| 1:r:49:ILE:HB | 1:r:97:ASN:ND2 | 2.30 | 0.45 |
| 3:s:4:ILE:HD11 | 3:s:37:LEU:HB3 | 1.97 | 0.45 |
| 3:s:153:ASP:HA | 3:s:271:ARG:HH22 | 1.81 | 0.45 |
| 3:s:284:GLU:CD | 3:s:286:GLU:H | 2.24 | 0.45 |
| 4:q:371:MET:CE | 4:q:428:LEU:HD23 | 2.46 | 0.45 |
| 1:D:90:PRO:HG2 | 1:D:142:TRP:NE1 | 2.32 | 0.45 |
| 1:D:232:TYR:O | 1:D:237:MET:HE2 | 2.16 | 0.45 |
| 2:F:93:LYS:CD | 2:F:211:ILE:HG23 | 2.46 | 0.45 |
| 2:F:171:ARG:HH22 | 2:O:339:MET:HE2 | 1.81 | 0.45 |
| 4:J:208:ILE:O | 4:J:211:ARG:HG3 | 2.15 | 0.45 |
| 4:J:371:MET:CE | 4:J:428:LEU:HD23 | 2.46 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:U:300:ILE:HD13 | 3:U:307:ILE:HG12 | 1.98 | 0.45 |
| 3:U:311:LYS:NZ | 3:U:359:ARG:NH2 | 2.64 | 0.45 |
| 4:R:120:TYR:CD1 | 4:Q:10:LEU:HD11 | 2.51 | 0.45 |
| 2:e:99:GLU:O | 2:e:102:CYS:HB2 | 2.16 | 0.45 |
| 2:e:137:GLN:HG2 | 2:e:139:LYS:HG3 | 1.98 | 0.45 |
| 3:c:250:ARG:CZ | 4:Y:197:GLY:O | 2.64 | 0.45 |
| 3:c:300:ILE:HD13 | 3:c:307:ILE:HG12 | 1.98 | 0.45 |
| 3:c:311:LYS:NZ | 3:c:359:ARG:NH2 | 2.64 | 0.45 |
| 1:j:232:TYR:O | 1:j:237:MET:HE2 | 2.16 | 0.45 |
| 2:l:90:TYR:CD2 | 2:l:134:TYR:HB3 | 2.51 | 0.45 |
| 2:m:99:GLU:O | 2:m:102:CYS:HB2 | 2.16 | 0.45 |
| 4:h:208:ILE:O | 4:h:211:ARG:HG3 | 2.15 | 0.45 |
| 2:u:249:GLU:HA | 2:u:252:ILE:HG12 | 1.97 | 0.45 |
| 3:s:280:VAL:O | 3:s:284:GLU:HB2 | 2.16 | 0.45 |
| 4:p:361:ARG:CG | 5:v:37:ILE:HD12 | 2.45 | 0.45 |
| 4:o:484:MET:HG2 | 4:o:485:ALA:O | 2.16 | 0.45 |
| 2:F:284:GLU:OE2 | 2:O:273:TYR:CB | 2.64 | 0.45 |
| 3:E:280:VAL:O | 3:E:284:GLU:HB2 | 2.16 | 0.45 |
| 4:B:46:HIS:CD2 | 4:B:129:LEU:HD22 | 2.48 | 0.45 |
| 4:C:205:ASP:HA | 4:C:208:ILE:HG22 | 1.98 | 0.45 |
| 1:T:248:ILE:HG12 | 1:T:271:GLN:HB3 | 1.97 | 0.45 |
| 2:V:284:GLU:OE2 | 2:e:273:TYR:CB | 2.64 | 0.45 |
| 4:R:256:LYS:HD2 | 5:X:38:GLU:CD | 2.40 | 0.45 |
| 4:R:361:ARG:CG | 5:X:37:ILE:HD12 | 2.45 | 0.45 |
| 2:d:284:GLU:OE2 | 2:m:273:TYR:CB | 2.64 | 0.45 |
| 2:e:173:ILE:HD12 | 2:e:217:TYR:O | 2.15 | 0.45 |
| 4:Z:334:LEU:HB2 | 4:Z:337:VAL:HB | 1.98 | 0.45 |
| 4:Z:484:MET:HG2 | 4:Z:485:ALA:O | 2.16 | 0.45 |
| 4:Y:484:MET:HG2 | 4:Y:485:ALA:O | 2.16 | 0.45 |
| 3:k:4:ILE:HD11 | 3:k:37:LEU:HB3 | 1.97 | 0.45 |
| 3:k:250:ARG:CZ | 4:g:197:GLY:O | 2.64 | 0.45 |
| 4:h:139:TYR:CE1 | 4:h:142:ARG:NH2 | 2.80 | 0.45 |
| 2:u:267:LEU:HD13 | 2:u:317:SER:CB | 2.41 | 0.45 |
| 2:u:323:LEU:H | 2:u:323:LEU:HD23 | 1.82 | 0.45 |
| 4:o:208:ILE:O | 4:o:211:ARG:HG3 | 2.15 | 0.45 |
| 2:F:151:LYS:HZ1 | 2:t:76:GLU:N | 2.14 | 0.45 |
| 2:G:339:MET:HE2 | 2:t:171:ARG:HH22 | 1.81 | 0.45 |
| 3:E:394:ILE:HD12 | 3:M:114:THR:OG1 | 2.17 | 0.45 |
| 1:L:90:PRO:HG2 | 1:L:142:TRP:NE1 | 2.32 | 0.45 |
| 2:N:171:ARG:HH22 | 2:W:339:MET:HE2 | 1.81 | 0.45 |
| 1:T:151:THR:O | 1:T:157:ARG:HD2 | 2.15 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:V:282:LEU:C | 2:e:273:TYR:HD1 | 2.24 | 0.45 |
| 1:b:39:TYR:O | 1:b:222:ASN:ND2 | 2.49 | 0.45 |
| 1:b:176:THR:OG1 | 1:j:58:ARG:CZ | 2.64 | 0.45 |
| 3:c:203:THR:CG2 | 3:c:207:GLN:HE22 | 2.16 | 0.45 |
| 3:c:250:ARG:NH2 | 4:Y:198:VAL:HA | 2.30 | 0.45 |
| 4:Z:335:PRO:CD | 5:f:55:GLN:NE2 | 2.77 | 0.45 |
| 4:a:205:ASP:HA | 4:a:208:ILE:HG22 | 1.98 | 0.45 |
| 1:j:90:PRO:HG2 | 1:j:142:TRP:NE1 | 2.32 | 0.45 |
| 1:j:257:GLU:HA | 1:j:260:MET:HE3 | 1.98 | 0.45 |
| 4:g:120:TYR:CD1 | 4:i:10:LEU:HD11 | 2.51 | 0.45 |
| 4:g:288:ILE:HG21 | 4:g:346:ASN:ND2 | 2.31 | 0.45 |
| 1:r:90:PRO:HG2 | 1:r:142:TRP:NE1 | 2.32 | 0.45 |
| 1:r:172:TYR:CE1 | 1:r:177:GLY:HA3 | 2.52 | 0.45 |
| 4:o:104:ILE:HB | 4:q:99:ILE:HG22 | 1.98 | 0.45 |
| 4:o:288:ILE:HG21 | 4:o:346:ASN:ND2 | 2.31 | 0.45 |
| 4:q:334:LEU:HB2 | 4:q:337:VAL:HB | 1.98 | 0.45 |
| 1:D:172:TYR:CE1 | 1:D:177:GLY:HA3 | 2.51 | 0.45 |
| 1:D:257:GLU:HA | 1:D:260:MET:HE3 | 1.98 | 0.45 |
| 2:F:282:LEU:HD22 | 2:O:272:LYS:O | 2.16 | 0.45 |
| 3:E:352:PRO:HG3 | 1:L:77:LYS:CD | 2.46 | 0.45 |
| 4:B:10:LEU:HD11 | 4:C:120:TYR:CD1 | 2.51 | 0.45 |
| 4:A:334:LEU:HB2 | 4:A:337:VAL:HB | 1.98 | 0.45 |
| 4:C:349:PHE:O | 4:C:353:PHE:CD2 | 2.70 | 0.45 |
| 1:L:248:ILE:HG12 | 1:L:271:GLN:HB3 | 1.97 | 0.45 |
| 2:V:76:GLU:N | 2:d:151:LYS:HZ1 | 2.15 | 0.45 |
| 2:V:90:TYR:CD2 | 2:V:134:TYR:HB3 | 2.51 | 0.45 |
| 2:V:282:LEU:C | 2:e:273:TYR:CD1 | 2.94 | 0.45 |
| 3:U:195:ASP:OD1 | 3:U:274:LYS:HD2 | 2.17 | 0.45 |
| 3:c:300:ILE:HG21 | 3:c:307:ILE:HG12 | 1.99 | 0.45 |
| 3:c:377:LEU:CG | 3:c:378:ASP:H | 2.26 | 0.45 |
| 4:Z:46:HIS:CE1 | 4:Z:48:PHE:HD2 | 2.35 | 0.45 |
| 1:j:176:THR:OG1 | 1:r:58:ARG:CZ | 2.64 | 0.45 |
| 2:l:282:LEU:HD22 | 2:u:272:LYS:O | 2.16 | 0.45 |
| 2:m:137:GLN:HG2 | 2:m:139:LYS:HG3 | 1.98 | 0.45 |
| 3:k:300:ILE:HD13 | 3:k:307:ILE:HG12 | 1.98 | 0.45 |
| 4:g:371:MET:CE | 4:g:428:LEU:HD23 | 2.46 | 0.45 |
| 4:p:46:HIS:CE1 | 4:p:48:PHE:HD2 | 2.35 | 0.45 |
| 4:p:104:ILE:HB | 4:o:99:ILE:HG22 | 1.98 | 0.45 |
| 4:o:205:ASP:HA | 4:o:208:ILE:HG22 | 1.99 | 0.45 |
| 1:D:77:LYS:CD | 3:s:352:PRO:HG3 | 2.46 | 0.45 |
| 3:E:300:ILE:HG21 | 3:E:307:ILE:HG12 | 1.99 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:B:99:ILE:HG22 | 4:C:104:ILE:HB | 1.98 | 0.45 |
| 2:N:76:GLU:N | 2:V:151:LYS:HZ1 | 2.15 | 0.45 |
| 4:I:46:HIS:CE1 | 4:I:48:PHE:HD2 | 2.35 | 0.45 |
| 2:W:99:GLU:O | 2:W:102:CYS:HB2 | 2.16 | 0.45 |
| 3:U:394:ILE:HD12 | 3:c:114:THR:OG1 | 2.17 | 0.45 |
| 4:S:46:HIS:CD2 | 4:S:129:LEU:HD22 | 2.49 | 0.45 |
| 4:S:484:MET:HG2 | 4:S:485:ALA:O | 2.16 | 0.45 |
| 3:c:311:LYS:HZ3 | 3:c:359:ARG:NH2 | 2.14 | 0.45 |
| 3:c:392:ASN:C | 3:c:394:ILE:H | 2.25 | 0.45 |
| 4:Y:46:HIS:CE1 | 4:Y:48:PHE:HD2 | 2.35 | 0.45 |
| 4:a:139:TYR:CE1 | 4:a:142:ARG:NH2 | 2.80 | 0.45 |
| 2:m:283:LEU:HB3 | 2:m:306:VAL:HG23 | 1.98 | 0.45 |
| 4:h:104:ILE:HB | 4:g:99:ILE:HG22 | 1.98 | 0.45 |
| 4:h:205:ASP:HA | 4:h:208:ILE:HG22 | 1.99 | 0.45 |
| 4:h:484:MET:HG2 | 4:h:485:ALA:O | 2.16 | 0.45 |
| 4:i:288:ILE:HG21 | 4:i:346:ASN:ND2 | 2.31 | 0.45 |
| 2:u:173:ILE:HD12 | 2:u:217:TYR:O | 2.15 | 0.45 |
| 2:G:272:LYS:O | 2:t:282:LEU:HD22 | 2.16 | 0.45 |
| 4:C:334:LEU:HB2 | 4:C:337:VAL:HB | 1.98 | 0.45 |
| 3:M:195:ASP:OD1 | 3:M:274:LYS:HD2 | 2.17 | 0.45 |
| 4:J:99:ILE:HG22 | 4:K:104:ILE:HB | 1.98 | 0.45 |
| 4:I:484:MET:HG2 | 4:I:485:ALA:O | 2.16 | 0.45 |
| 1:T:90:PRO:HG2 | 1:T:142:TRP:NE1 | 2.32 | 0.45 |
| 4:R:46:HIS:CE1 | 4:R:48:PHE:HD2 | 2.35 | 0.45 |
| 4:S:334:LEU:HB2 | 4:S:337:VAL:HB | 1.98 | 0.45 |
| 1:b:90:PRO:HG2 | 1:b:142:TRP:NE1 | 2.32 | 0.45 |
| 2:d:282:LEU:C | 2:m:273:TYR:CD1 | 2.94 | 0.45 |
| 2:d:282:LEU:HD22 | 2:m:272:LYS:O | 2.16 | 0.45 |
| 3:c:195:ASP:OD1 | 3:c:274:LYS:HD2 | 2.17 | 0.45 |
| 3:c:394:ILE:HD12 | 3:k:114:THR:OG1 | 2.17 | 0.45 |
| 4:a:46:HIS:CE1 | 4:a:48:PHE:HD2 | 2.35 | 0.45 |
| 2:l:284:GLU:OE2 | 2:u:273:TYR:CB | 2.64 | 0.45 |
| 3:k:195:ASP:OD1 | 3:k:274:LYS:HD2 | 2.17 | 0.45 |
| 3:k:300:ILE:HG21 | 3:k:307:ILE:HG12 | 1.99 | 0.45 |
| 4:h:46:HIS:CE1 | 4:h:48:PHE:HD2 | 2.35 | 0.45 |
| 4:i:46:HIS:CD2 | 4:i:129:LEU:HD22 | 2.48 | 0.45 |
| 4:i:484:MET:HG2 | 4:i:485:ALA:O | 2.16 | 0.45 |
| 2:t:90:TYR:CD2 | 2:t:134:TYR:HB3 | 2.51 | 0.45 |
| 2:u:99:GLU:O | 2:u:102:CYS:HB2 | 2.16 | 0.45 |
| 2:u:283:LEU:HB3 | 2:u:306:VAL:HG23 | 1.98 | 0.45 |
| 3:s:300:ILE:HG21 | 3:s:307:ILE:HG12 | 1.99 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:B:334:LEU:HB2 | 4:B:337:VAL:HB | 1.98 | 0.45 |
| 4:A:484:MET:HG2 | 4:A:485:ALA:O | 2.16 | 0.45 |
| 4:C:46:HIS:CE1 | 4:C:48:PHE:HD2 | 2.35 | 0.45 |
| 4:C:371:MET:CE | 4:C:428:LEU:HD23 | 2.46 | 0.45 |
| 2:N:284:GLU:OE2 | 2:W:273:TYR:CB | 2.64 | 0.45 |
| 4:I:349:PHE:O | 4:I:353:PHE:CD2 | 2.70 | 0.45 |
| 2:V:171:ARG:HH22 | 2:e:339:MET:HE2 | 1.81 | 0.45 |
| 3:U:153:ASP:HA | 3:U:271:ARG:HH22 | 1.81 | 0.45 |
| 4:S:46:HIS:CE1 | 4:S:48:PHE:HD2 | 2.35 | 0.45 |
| 2:d:282:LEU:C | 2:m:273:TYR:HD1 | 2.24 | 0.45 |
| 4:Z:205:ASP:HA | 4:Z:208:ILE:HG22 | 1.99 | 0.45 |
| 4:Z:349:PHE:O | 4:Z:353:PHE:CD2 | 2.70 | 0.45 |
| 2:m:249:GLU:HA | 2:m:252:ILE:HG12 | 1.97 | 0.45 |
| 3:k:394:ILE:HD12 | 3:s:114:THR:OG1 | 2.17 | 0.45 |
| 4:h:99:ILE:HG22 | 4:i:104:ILE:HB | 1.98 | 0.45 |
| 4:g:334:LEU:HB2 | 4:g:337:VAL:HB | 1.98 | 0.45 |
| 3:s:195:ASP:OD1 | 3:s:274:LYS:HD2 | 2.17 | 0.45 |
| 3:s:300:ILE:HD13 | 3:s:307:ILE:HG12 | 1.98 | 0.45 |
| 2:G:99:GLU:O | 2:G:102:CYS:HB2 | 2.16 | 0.45 |
| 2:G:323:LEU:HD23 | 2:G:323:LEU:H | 1.82 | 0.45 |
| 3:E:114:THR:OG1 | 3:s:394:ILE:HD12 | 2.17 | 0.45 |
| 3:E:210:ARG:O | 3:E:211:ILE:HD13 | 2.17 | 0.45 |
| 4:B:484:MET:HG2 | 4:B:485:ALA:O | 2.16 | 0.45 |
| 2:N:282:LEU:HD22 | 2:W:272:LYS:O | 2.16 | 0.45 |
| 2:N:339:MET:HE1 | 2:V:324:GLU:CG | 2.47 | 0.45 |
| 3:M:300:ILE:HD13 | 3:M:307:ILE:HG12 | 1.98 | 0.45 |
| 4:J:22:ILE:O | 4:J:26:VAL:HG22 | 2.18 | 0.45 |
| 4:J:46:HIS:CE1 | 4:J:48:PHE:HD2 | 2.35 | 0.45 |
| 4:K:46:HIS:CE1 | 4:K:48:PHE:HD2 | 2.35 | 0.45 |
| 4:K:484:MET:HG2 | 4:K:485:ALA:O | 2.16 | 0.45 |
| 1:T:237:MET:HE3 | 1:T:237:MET:HB2 | 1.86 | 0.45 |
| 4:Q:288:ILE:HG21 | 4:Q:346:ASN:ND2 | 2.31 | 0.45 |
| 4:S:288:ILE:HG21 | 4:S:346:ASN:ND2 | 2.31 | 0.45 |
| 3:c:514:ILE:CD1 | 3:c:539:HIS:HB3 | 2.47 | 0.45 |
| 4:Y:104:ILE:HB | 4:a:99:ILE:HG22 | 1.98 | 0.45 |
| 4:a:334:LEU:HB2 | 4:a:337:VAL:HB | 1.98 | 0.45 |
| 1:j:125:PHE:CE1 | 1:j:129:LEU:HD21 | 2.52 | 0.45 |
| 3:k:153:ASP:HA | 3:k:271:ARG:HH22 | 1.81 | 0.45 |
| 3:k:392:ASN:C | 3:k:394:ILE:H | 2.25 | 0.45 |
| 4:i:205:ASP:HA | 4:i:208:ILE:HG22 | 1.98 | 0.45 |
| 1:r:232:TYR:O | 1:r:237:MET:HE2 | 2.16 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:r:252:ILE:HA | 1:r:256:VAL:HG11 | 1.98 | 0.45 |
| 4:o:22:ILE:O | 4:o:26:VAL:HG22 | 2.17 | 0.45 |
| 4:q:22:ILE:O | 4:q:26:VAL:HG22 | 2.17 | 0.45 |
| 3:E:377:LEU:HB3 | 3:E:383:TYR:OH | 2.18 | 0.44 |
| 4:B:22:ILE:O | 4:B:26:VAL:HG22 | 2.18 | 0.44 |
| 4:B:46:HIS:CE1 | 4:B:48:PHE:HD2 | 2.35 | 0.44 |
| 4:B:104:ILE:HB | 4:A:99:ILE:HG22 | 1.98 | 0.44 |
| 4:A:46:HIS:CE1 | 4:A:48:PHE:HD2 | 2.35 | 0.44 |
| 1:L:38:THR:HB | 1:L:222:ASN:OD1 | 2.17 | 0.44 |
| 1:L:39:TYR:O | 1:L:222:ASN:ND2 | 2.49 | 0.44 |
| 2:O:283:LEU:HB3 | 2:O:306:VAL:HG23 | 1.98 | 0.44 |
| 3:M:183:TYR:CD1 | 3:M:186:LYS:HE3 | 2.50 | 0.44 |
| 3:M:394:ILE:HG21 | 3:U:114:THR:C | 2.42 | 0.44 |
| 4:K:288:ILE:HG21 | 4:K:346:ASN:ND2 | 2.31 | 0.44 |
| 3:U:392:ASN:C | 3:U:394:ILE:H | 2.25 | 0.44 |
| 4:R:371:MET:CE | 4:R:428:LEU:HD23 | 2.46 | 0.44 |
| 4:Q:334:LEU:HB2 | 4:Q:337:VAL:HB | 1.98 | 0.44 |
| 4:Z:22:ILE:O | 4:Z:26:VAL:HG22 | 2.18 | 0.44 |
| 1:j:172:TYR:CE1 | 1:j:177:GLY:HA3 | 2.52 | 0.44 |
| 2:l:143:VAL:HA | 2:l:182:LEU:O | 2.17 | 0.44 |
| 4:i:22:ILE:O | 4:i:26:VAL:HG22 | 2.18 | 0.44 |
| 2:t:143:VAL:HA | 2:t:182:LEU:O | 2.17 | 0.44 |
| 4:p:484:MET:HG2 | 4:p:485:ALA:O | 2.16 | 0.44 |
| 4:o:46:HIS:CE1 | 4:o:48:PHE:HD2 | 2.35 | 0.44 |
| 4:q:46:HIS:CE1 | 4:q:48:PHE:HD2 | 2.35 | 0.44 |
| 4:q:205:ASP:HA | 4:q:208:ILE:HG22 | 1.98 | 0.44 |
| 1:D:39:TYR:O | 1:D:222:ASN:ND2 | 2.49 | 0.44 |
| 2:G:273:TYR:CB | 2:t:284:GLU:OE2 | 2.64 | 0.44 |
| 2:G:283:LEU:HB3 | 2:G:306:VAL:HG23 | 1.98 | 0.44 |
| 4:A:205:ASP:HA | 4:A:208:ILE:HG22 | 1.99 | 0.44 |
| 1:L:172:TYR:CE1 | 1:L:177:GLY:HA3 | 2.52 | 0.44 |
| 2:O:99:GLU:O | 2:O:102:CYS:HB2 | 2.16 | 0.44 |
| 3:M:347:VAL:HG12 | 3:M:355:PHE:CE1 | 2.53 | 0.44 |
| 3:M:392:ASN:C | 3:M:394:ILE:H | 2.25 | 0.44 |
| 4:K:584:LEU:HG | 4:K:588:MET:HE2 | 1.99 | 0.44 |
| 1:T:173:MET:HE1 | 1:T:183:PHE:HZ | 1.83 | 0.44 |
| 2:V:77:LYS:HA | 2:d:151:LYS:HD3 | 1.70 | 0.44 |
| 3:U:300:ILE:HG21 | 3:U:307:ILE:HG12 | 1.99 | 0.44 |
| 3:U:514:ILE:CD1 | 3:U:539:HIS:HB3 | 2.47 | 0.44 |
| 4:S:585:LEU:HD13 | 4:S:588:MET:HE3 | 2.00 | 0.44 |
| 1:b:125:PHE:CE1 | 1:b:129:LEU:HD21 | 2.52 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:c:153:ASP:HA | 3:c:271:ARG:HH22 | 1.81 | 0.44 |
| 3:c:394:ILE:HG21 | 3:k:114:THR:C | 2.42 | 0.44 |
| 1:j:173:MET:HE1 | 1:j:183:PHE:HZ | 1.83 | 0.44 |
| 4:g:104:ILE:HB | 4:i:99:ILE:HG22 | 1.98 | 0.44 |
| 4:g:205:ASP:HA | 4:g:208:ILE:HG22 | 1.99 | 0.44 |
| 1:r:92:TYR:OH | 1:r:135:PRO:HB3 | 2.18 | 0.44 |
| 2:u:267:LEU:CD1 | 2:u:320:GLY:HA2 | 2.47 | 0.44 |
| 3:s:142:ASN:HD21 | 3:s:419:TYR:HB2 | 1.83 | 0.44 |
| 3:s:210:ARG:O | 3:s:211:ILE:HD13 | 2.17 | 0.44 |
| 4:o:585:LEU:HD13 | 4:o:588:MET:HE3 | 2.00 | 0.44 |
| 2:F:339:MET:HE1 | 2:N:324:GLU:CG | 2.47 | 0.44 |
| 4:B:29:HIS:CB | 4:A:4:ILE:HG12 | 2.48 | 0.44 |
| 1:L:125:PHE:CE1 | 1:L:129:LEU:HD21 | 2.52 | 0.44 |
| 4:J:104:ILE:HB | 4:I:99:ILE:HG22 | 1.98 | 0.44 |
| 4:I:205:ASP:HA | 4:I:208:ILE:HG22 | 1.99 | 0.44 |
| 4:K:22:ILE:O | 4:K:26:VAL:HG22 | 2.18 | 0.44 |
| 2:W:271:LYS:HZ2 | 2:W:273:TYR:HB2 | 1.82 | 0.44 |
| 3:U:311:LYS:HZ3 | 3:U:359:ARG:NH2 | 2.15 | 0.44 |
| 4:Q:205:ASP:HA | 4:Q:208:ILE:HG22 | 1.99 | 0.44 |
| 2:d:143:VAL:HA | 2:d:182:LEU:O | 2.17 | 0.44 |
| 3:c:210:ARG:O | 3:c:211:ILE:HD13 | 2.17 | 0.44 |
| 4:Y:334:LEU:HB2 | 4:Y:337:VAL:HB | 1.98 | 0.44 |
| 3:k:210:ARG:O | 3:k:211:ILE:HD13 | 2.17 | 0.44 |
| 3:k:377:LEU:HB3 | 3:k:383:TYR:OH | 2.18 | 0.44 |
| 4:g:585:LEU:HD13 | 4:g:588:MET:HE3 | 2.00 | 0.44 |
| 2:u:201:ILE:HG22 | 2:u:258:LEU:HD23 | 1.99 | 0.44 |
| 1:D:237:MET:HE1 | 1:D:250:THR:HG23 | 2.00 | 0.44 |
| 1:L:172:TYR:CZ | 1:L:177:GLY:HA3 | 2.53 | 0.44 |
| 4:K:334:LEU:HB2 | 4:K:337:VAL:HB | 1.98 | 0.44 |
| 4:K:349:PHE:O | 4:K:353:PHE:CD2 | 2.70 | 0.44 |
| 1:T:38:THR:HB | 1:T:222:ASN:OD1 | 2.17 | 0.44 |
| 1:T:148:PHE:HE1 | 1:T:150:ILE:HG22 | 1.83 | 0.44 |
| 1:T:237:MET:HE1 | 1:T:250:THR:HG23 | 2.00 | 0.44 |
| 1:T:257:GLU:HA | 1:T:260:MET:HE3 | 1.98 | 0.44 |
| 2:V:93:LYS:CD | 2:V:211:ILE:HG23 | 2.46 | 0.44 |
| 2:V:339:MET:HE1 | 2:d:324:GLU:CG | 2.47 | 0.44 |
| 2:W:267:LEU:CD1 | 2:W:320:GLY:HA2 | 2.47 | 0.44 |
| 3:U:394:ILE:HG21 | 3:c:114:THR:C | 2.42 | 0.44 |
| 3:U:523:ILE:H | 3:U:523:ILE:HD12 | 1.83 | 0.44 |
| 4:Q:29:HIS:CB | 4:S:4:ILE:HG12 | 2.48 | 0.44 |
| 4:Q:484:MET:HG2 | 4:Q:485:ALA:O | 2.16 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:b:172:TYR:CE1 | 1:b:177:GLY:HA3 | 2.51 | 0.44 |
| 1:b:173:MET:HE1 | 1:b:183:PHE:HZ | 1.83 | 0.44 |
| 1:b:252:ILE:HA | 1:b:256:VAL:HG11 | 1.98 | 0.44 |
| 3:c:347:VAL:HG12 | 3:c:355:PHE:CE1 | 2.53 | 0.44 |
| 4:a:22:ILE:O | 4:a:26:VAL:HG22 | 2.17 | 0.44 |
| 4:g:46:HIS:CE1 | 4:g:48:PHE:HD2 | 2.35 | 0.44 |
| 4:i:585:LEU:HD13 | 4:i:588:MET:HE3 | 2.00 | 0.44 |
| 3:s:264:TYR:HD1 | 3:s:267:ILE:HD11 | 1.83 | 0.44 |
| 3:s:347:VAL:HG12 | 3:s:355:PHE:CE1 | 2.53 | 0.44 |
| 1:D:172:TYR:CZ | 1:D:177:GLY:HA3 | 2.53 | 0.44 |
| 2:G:267:LEU:CD1 | 2:G:320:GLY:HA2 | 2.47 | 0.44 |
| 3:E:347:VAL:HG12 | 3:E:355:PHE:CE1 | 2.53 | 0.44 |
| 4:B:585:LEU:HD13 | 4:B:588:MET:HE3 | 2.00 | 0.44 |
| 4:A:288:ILE:HG21 | 4:A:346:ASN:ND2 | 2.31 | 0.44 |
| 4:A:585:LEU:HD13 | 4:A:588:MET:HE3 | 2.00 | 0.44 |
| 2:N:118:PHE:CZ | 2:N:164:ILE:HG23 | 2.53 | 0.44 |
| 2:O:267:LEU:CD1 | 2:O:320:GLY:HA2 | 2.47 | 0.44 |
| 3:M:300:ILE:HG21 | 3:M:307:ILE:HG12 | 1.99 | 0.44 |
| 4:J:585:LEU:HD13 | 4:J:588:MET:HE3 | 2.00 | 0.44 |
| 4:I:334:LEU:HB2 | 4:I:337:VAL:HB | 1.98 | 0.44 |
| 2:W:323:LEU:HD23 | 2:W:323:LEU:H | 1.82 | 0.44 |
| 3:U:347:VAL:HG12 | 3:U:355:PHE:CE1 | 2.53 | 0.44 |
| 4:Q:22:ILE:O | 4:Q:26:VAL:HG22 | 2.17 | 0.44 |
| 1:b:38:THR:HB | 1:b:222:ASN:OD1 | 2.17 | 0.44 |
| 1:b:92:TYR:OH | 1:b:135:PRO:HB3 | 2.18 | 0.44 |
| 2:e:169:TYR:CE1 | 2:e:223:GLN:NE2 | 2.86 | 0.44 |
| 2:e:323:LEU:H | 2:e:323:LEU:HD23 | 1.82 | 0.44 |
| 4:Z:104:ILE:HB | 4:Y:99:ILE:HG22 | 1.98 | 0.44 |
| 4:Z:585:LEU:HD13 | 4:Z:588:MET:HE3 | 2.00 | 0.44 |
| 4:Y:22:ILE:O | 4:Y:26:VAL:HG22 | 2.17 | 0.44 |
| 2:l:76:GLU:N | 2:t:151:LYS:HZ1 | 2.15 | 0.44 |
| 3:k:423:LEU:O | 3:k:427:GLU:HB2 | 2.18 | 0.44 |
| 4:h:334:LEU:HB2 | 4:h:337:VAL:HB | 1.98 | 0.44 |
| 4:h:585:LEU:HD13 | 4:h:588:MET:HE3 | 2.00 | 0.44 |
| 4:i:46:HIS:CE1 | 4:i:48:PHE:HD2 | 2.35 | 0.44 |
| 1:r:38:THR:HB | 1:r:222:ASN:OD1 | 2.17 | 0.44 |
| 4:p:585:LEU:HD13 | 4:p:588:MET:HE3 | 2.00 | 0.44 |
| 4:q:585:LEU:HD13 | 4:q:588:MET:HE3 | 2.00 | 0.44 |
| 1:D:92:TYR:OH | 1:D:135:PRO:HB3 | 2.18 | 0.44 |
| 2:F:118:PHE:CZ | 2:F:164:ILE:HG23 | 2.53 | 0.44 |
| 2:G:201:ILE:HG22 | 2:G:258:LEU:HD23 | 1.99 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:L:148:PHE:HE1 | 1:L:150:ILE:HG22 | 1.83 | 0.44 |
| 1:L:173:MET:HE1 | 1:L:183:PHE:HZ | 1.83 | 0.44 |
| 1:L:237:MET:HE1 | 1:L:250:THR:HG23 | 2.00 | 0.44 |
| 3:M:264:TYR:HD1 | 3:M:267:ILE:HD11 | 1.83 | 0.44 |
| 1:T:13:LYS:HZ2 | 1:b:28:ARG:NH2 | 2.16 | 0.44 |
| 1:T:172:TYR:CZ | 1:T:177:GLY:HA3 | 2.53 | 0.44 |
| 4:R:4:ILE:HG12 | 4:S:29:HIS:CB | 2.48 | 0.44 |
| 4:R:29:HIS:CB | 4:Q:4:ILE:HG12 | 2.48 | 0.44 |
| 4:R:585:LEU:HD13 | 4:R:588:MET:HE3 | 2.00 | 0.44 |
| 1:b:58:ARG:H | 1:b:58:ARG:HG2 | 1.56 | 0.44 |
| 2:m:323:LEU:H | 2:m:323:LEU:HD23 | 1.82 | 0.44 |
| 4:h:4:ILE:HG12 | 4:i:29:HIS:CB | 2.48 | 0.44 |
| 4:g:22:ILE:O | 4:g:26:VAL:HG22 | 2.18 | 0.44 |
| 1:r:125:PHE:CE1 | 1:r:129:LEU:HD21 | 2.52 | 0.44 |
| 1:r:173:MET:HE1 | 1:r:183:PHE:HZ | 1.83 | 0.44 |
| 4:p:334:LEU:HB2 | 4:p:337:VAL:HB | 1.98 | 0.44 |
| 4:o:334:LEU:HB2 | 4:o:337:VAL:HB | 1.98 | 0.44 |
| 1:D:81:LEU:HD12 | 3:s:344:PHE:CD1 | 2.53 | 0.44 |
| 3:E:114:THR:C | 3:s:394:ILE:HG21 | 2.42 | 0.44 |
| 3:E:300:ILE:HD13 | 3:E:307:ILE:HG12 | 1.98 | 0.44 |
| 4:B:288:ILE:HG21 | 4:B:346:ASN:ND2 | 2.31 | 0.44 |
| 4:C:288:ILE:HG21 | 4:C:346:ASN:ND2 | 2.31 | 0.44 |
| 4:C:584:LEU:HG | 4:C:588:MET:HE2 | 1.99 | 0.44 |
| 3:M:210:ARG:O | 3:M:211:ILE:HD13 | 2.17 | 0.44 |
| 4:J:205:ASP:HA | 4:J:208:ILE:HG22 | 1.99 | 0.44 |
| 4:I:120:TYR:CE2 | 4:I:121:ASP:HB3 | 2.53 | 0.44 |
| 1:T:125:PHE:CE1 | 1:T:129:LEU:HD21 | 2.52 | 0.44 |
| 1:T:252:ILE:HA | 1:T:256:VAL:HG11 | 1.98 | 0.44 |
| 2:V:118:PHE:CZ | 2:V:164:ILE:HG23 | 2.53 | 0.44 |
| 2:W:169:TYR:CE1 | 2:W:223:GLN:NE2 | 2.86 | 0.44 |
| 4:R:120:TYR:CE2 | 4:R:121:ASP:HB3 | 2.53 | 0.44 |
| 4:S:22:ILE:O | 4:S:26:VAL:HG22 | 2.17 | 0.44 |
| 4:S:584:LEU:HG | 4:S:588:MET:HE2 | 1.99 | 0.44 |
| 1:b:148:PHE:HE1 | 1:b:150:ILE:HG22 | 1.83 | 0.44 |
| 3:c:523:ILE:HD12 | 3:c:523:ILE:H | 1.83 | 0.44 |
| 4:Z:288:ILE:HG21 | 4:Z:346:ASN:ND2 | 2.31 | 0.44 |
| 4:Y:585:LEU:HD13 | 4:Y:588:MET:HE3 | 2.00 | 0.44 |
| 1:j:175:GLN:O | 1:r:58:ARG:NH2 | 2.26 | 0.44 |
| 1:j:252:ILE:HA | 1:j:256:VAL:HG11 | 1.98 | 0.44 |
| 2:l:150:VAL:HG11 | 2:l:153:LEU:HD11 | 2.00 | 0.44 |
| 4:i:334:LEU:HB2 | 4:i:337:VAL:HB | 1.98 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:s:423:LEU:O | 3:s:427:GLU:HB2 | 2.18 | 0.44 |
| 4:p:22:ILE:O | 4:p:26:VAL:HG22 | 2.18 | 0.44 |
| 4:p:99:ILE:HG22 | 4:q:104:ILE:HB | 1.98 | 0.44 |
| 4:p:205:ASP:HA | 4:p:208:ILE:HG22 | 1.98 | 0.44 |
| 2:G:168:MET:HB3 | 2:G:173:ILE:HG23 | 2.00 | 0.44 |
| 3:E:264:TYR:HD1 | 3:E:267:ILE:HD11 | 1.83 | 0.44 |
| 3:E:394:ILE:HG21 | 3:M:114:THR:C | 2.42 | 0.44 |
| 4:C:22:ILE:O | 4:C:26:VAL:HG22 | 2.17 | 0.44 |
| 4:C:120:TYR:CE2 | 4:C:121:ASP:HB3 | 2.53 | 0.44 |
| 2:O:169:TYR:CE1 | 2:O:223:GLN:NE2 | 2.86 | 0.44 |
| 4:K:585:LEU:HD13 | 4:K:588:MET:HE3 | 2.00 | 0.44 |
| 1:T:92:TYR:OH | 1:T:135:PRO:HB3 | 2.18 | 0.44 |
| 3:U:393:ASP:O | 3:U:396:LEU:HB3 | 2.18 | 0.44 |
| 4:R:205:ASP:HA | 4:R:208:ILE:HG22 | 1.98 | 0.44 |
| 4:R:288:ILE:HG21 | 4:R:346:ASN:ND2 | 2.31 | 0.44 |
| 4:Q:46:HIS:CE1 | 4:Q:48:PHE:HD2 | 2.35 | 0.44 |
| 4:Q:89:ASN:ND2 | 4:Q:99:ILE:HD11 | 2.33 | 0.44 |
| 3:c:264:TYR:HD1 | 3:c:267:ILE:HD11 | 1.83 | 0.44 |
| 3:c:377:LEU:HB3 | 3:c:383:TYR:OH | 2.18 | 0.44 |
| 4:Y:89:ASN:ND2 | 4:Y:99:ILE:HD11 | 2.33 | 0.44 |
| 4:Y:390:MET:HE2 | 4:Y:390:MET:HB2 | 1.87 | 0.44 |
| 4:a:484:MET:HG2 | 4:a:485:ALA:O | 2.16 | 0.44 |
| 2:m:168:MET:HB3 | 2:m:173:ILE:HG23 | 2.00 | 0.44 |
| 3:k:344:PHE:CD1 | 1:r:81:LEU:HD12 | 2.53 | 0.44 |
| 3:k:394:ILE:HG21 | 3:s:114:THR:C | 2.42 | 0.44 |
| 1:r:257:GLU:HA | 1:r:260:MET:HE3 | 1.98 | 0.44 |
| 2:t:118:PHE:CZ | 2:t:164:ILE:HG23 | 2.53 | 0.44 |
| 1:D:125:PHE:CE1 | 1:D:129:LEU:HD21 | 2.52 | 0.44 |
| 3:E:195:ASP:OD1 | 3:E:274:LYS:HD2 | 2.17 | 0.44 |
| 4:A:29:HIS:CB | 4:C:4:ILE:HG12 | 2.48 | 0.44 |
| 2:O:201:ILE:HG22 | 2:O:258:LEU:HD23 | 1.99 | 0.44 |
| 2:O:323:LEU:HD23 | 2:O:323:LEU:H | 1.82 | 0.44 |
| 3:M:311:LYS:HZ3 | 3:M:359:ARG:NH2 | 2.15 | 0.44 |
| 3:M:393:ASP:O | 3:M:396:LEU:HB3 | 2.18 | 0.44 |
| 4:J:89:ASN:ND2 | 4:J:99:ILE:HD11 | 2.33 | 0.44 |
| 1:T:180:LYS:HZ1 | 1:T:217:TYR:HB2 | 1.82 | 0.44 |
| 2:e:168:MET:HB3 | 2:e:173:ILE:HG23 | 2.00 | 0.44 |
| 2:e:201:ILE:HG22 | 2:e:258:LEU:HD23 | 1.99 | 0.44 |
| 1:j:38:THR:HB | 1:j:222:ASN:OD1 | 2.17 | 0.44 |
| 3:k:514:ILE:CD1 | 3:k:539:HIS:HB3 | 2.47 | 0.44 |
| 4:h:371:MET:CE | 4:h:428:LEU:HD23 | 2.46 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:g:29:HIS:CB | 4:i:4:ILE:HG12 | 2.48 | 0.44 |
| 1:r:148:PHE:HE1 | 1:r:150:ILE:HG22 | 1.83 | 0.44 |
| 1:r:172:TYR:CZ | 1:r:177:GLY:HA3 | 2.53 | 0.44 |
| 2:u:168:MET:HB3 | 2:u:173:ILE:HG23 | 2.00 | 0.44 |
| 4:p:29:HIS:CB | 4:o:4:ILE:HG12 | 2.48 | 0.44 |
| 4:o:371:MET:CE | 4:o:428:LEU:HD23 | 2.46 | 0.44 |
| 4:q:120:TYR:CE2 | 4:q:121:ASP:HB3 | 2.53 | 0.44 |
| 1:D:148:PHE:HE1 | 1:D:150:ILE:HG22 | 1.83 | 0.43 |
| 1:D:173:MET:HE1 | 1:D:183:PHE:HZ | 1.83 | 0.43 |
| 2:F:143:VAL:HA | 2:F:182:LEU:O | 2.17 | 0.43 |
| 3:E:142:ASN:HD21 | 3:E:419:TYR:HB2 | 1.83 | 0.43 |
| 3:E:393:ASP:O | 3:E:396:LEU:HB3 | 2.18 | 0.43 |
| 3:E:514:ILE:CD1 | 3:E:539:HIS:HB3 | 2.47 | 0.43 |
| 4:B:89:ASN:ND2 | 4:B:99:ILE:HD11 | 2.33 | 0.43 |
| 4:C:585:LEU:HD13 | 4:C:588:MET:HE3 | 2.00 | 0.43 |
| 1:L:50:PRO:HD2 | 1:L:97:ASN:OD1 | 2.18 | 0.43 |
| 3:M:142:ASN:HD21 | 3:M:419:TYR:HB2 | 1.83 | 0.43 |
| 3:M:344:PHE:CD1 | 1:T:81:LEU:HD12 | 2.53 | 0.43 |
| 4:J:120:TYR:CE2 | 4:J:121:ASP:HB3 | 2.53 | 0.43 |
| 4:J:386:LEU:HD21 | 4:I:521:ASP:CG | 2.43 | 0.43 |
| 4:I:89:ASN:ND2 | 4:I:99:ILE:HD11 | 2.33 | 0.43 |
| 3:U:142:ASN:HD21 | 3:U:419:TYR:HB2 | 1.83 | 0.43 |
| 4:R:89:ASN:ND2 | 4:R:99:ILE:HD11 | 2.33 | 0.43 |
| 4:Q:585:LEU:HD13 | 4:Q:588:MET:HE3 | 2.00 | 0.43 |
| 1:b:237:MET:HE1 | 1:b:250:THR:HG23 | 2.00 | 0.43 |
| 2:d:150:VAL:HG11 | 2:d:153:LEU:HD11 | 2.00 | 0.43 |
| 4:Z:371:MET:CE | 4:Z:428:LEU:HD23 | 2.46 | 0.43 |
| 4:Y:349:PHE:O | 4:Y:353:PHE:CD2 | 2.70 | 0.43 |
| 4:a:120:TYR:CE2 | 4:a:121:ASP:HB3 | 2.53 | 0.43 |
| 4:a:585:LEU:HD13 | 4:a:588:MET:HE3 | 2.00 | 0.43 |
| 1:j:148:PHE:HE1 | 1:j:150:ILE:HG22 | 1.83 | 0.43 |
| 2:l:90:TYR:HE1 | 2:l:122:LYS:HZ2 | 1.66 | 0.43 |
| 2:m:267:LEU:CD1 | 2:m:320:GLY:HA2 | 2.47 | 0.43 |
| 3:k:347:VAL:HG12 | 3:k:355:PHE:CE1 | 2.53 | 0.43 |
| 3:k:393:ASP:O | 3:k:396:LEU:HB3 | 2.18 | 0.43 |
| 4:h:22:ILE:O | 4:h:26:VAL:HG22 | 2.18 | 0.43 |
| 4:g:120:TYR:CE2 | 4:g:121:ASP:HB3 | 2.53 | 0.43 |
| 1:r:237:MET:HE1 | 1:r:250:THR:HG23 | 2.00 | 0.43 |
| 2:t:93:LYS:CD | 2:t:211:ILE:HG23 | 2.46 | 0.43 |
| 2:t:145:ARG:HA | 2:t:181:ASP:OD1 | 2.18 | 0.43 |
| 4:p:349:PHE:O | 4:p:353:PHE:CD2 | 2.70 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:o:29:HIS:CB | 4:q:4:ILE:HG12 | 2.48 | 0.43 |
| 3:E:392:ASN:C | 3:E:394:ILE:H | 2.25 | 0.43 |
| 4:A:349:PHE:O | 4:A:353:PHE:CD2 | 2.70 | 0.43 |
| 3:M:344:PHE:HZ | 1:T:116:LYS:HB3 | 1.83 | 0.43 |
| 3:M:352:PRO:HG3 | 1:T:77:LYS:CD | 2.46 | 0.43 |
| 3:M:423:LEU:O | 3:M:427:GLU:HB2 | 2.18 | 0.43 |
| 1:T:49:ILE:HB | 1:T:97:ASN:ND2 | 2.30 | 0.43 |
| 3:U:145:PHE:CE1 | 3:U:419:TYR:CD1 | 3.05 | 0.43 |
| 4:Q:349:PHE:O | 4:Q:353:PHE:CD2 | 2.70 | 0.43 |
| 1:b:92:TYR:CE2 | 1:b:153:HIS:CD2 | 3.06 | 0.43 |
| 3:c:1:MET:HE1 | 3:c:5:ARG:HB2 | 2.00 | 0.43 |
| 4:Z:120:TYR:CE2 | 4:Z:121:ASP:HB3 | 2.53 | 0.43 |
| 4:Z:584:LEU:HG | 4:Z:588:MET:HE2 | 1.99 | 0.43 |
| 1:j:92:TYR:OH | 1:j:135:PRO:HB3 | 2.18 | 0.43 |
| 2:l:90:TYR:HE1 | 2:l:122:LYS:NZ | 2.16 | 0.43 |
| 2:l:118:PHE:CZ | 2:l:164:ILE:HG23 | 2.53 | 0.43 |
| 3:k:344:PHE:HZ | 1:r:116:LYS:HB3 | 1.83 | 0.43 |
| 3:k:355:PHE:HD2 | 1:r:76:LYS:NZ | 2.17 | 0.43 |
| 4:h:335:PRO:CD | 5:n:55:GLN:HE22 | 2.25 | 0.43 |
| 4:h:349:PHE:O | 4:h:353:PHE:CD2 | 2.70 | 0.43 |
| 2:t:150:VAL:HG11 | 2:t:153:LEU:HD11 | 2.00 | 0.43 |
| 3:s:392:ASN:C | 3:s:394:ILE:H | 2.25 | 0.43 |
| 4:p:89:ASN:ND2 | 4:p:99:ILE:HD11 | 2.33 | 0.43 |
| 2:F:76:GLU:N | 2:N:151:LYS:HZ1 | 2.16 | 0.43 |
| 2:F:77:LYS:HA | 2:N:151:LYS:HD3 | 1.70 | 0.43 |
| 2:F:179:CYS:O | 2:F:209:LEU:HD12 | 2.18 | 0.43 |
| 2:F:340:PHE:HZ | 2:N:323:LEU:CD1 | 2.32 | 0.43 |
| 4:B:584:LEU:HG | 4:B:588:MET:HE2 | 1.99 | 0.43 |
| 4:C:249:LEU:HD23 | 4:C:290:PHE:CD2 | 2.54 | 0.43 |
| 4:J:29:HIS:CB | 4:I:4:ILE:HG12 | 2.48 | 0.43 |
| 4:I:386:LEU:HD21 | 4:K:521:ASP:CG | 2.43 | 0.43 |
| 4:K:89:ASN:ND2 | 4:K:99:ILE:HD11 | 2.33 | 0.43 |
| 2:V:143:VAL:HA | 2:V:182:LEU:O | 2.17 | 0.43 |
| 3:U:352:PRO:HG3 | 1:b:77:LYS:CD | 2.46 | 0.43 |
| 4:R:521:ASP:CG | 4:S:386:LEU:HD21 | 2.43 | 0.43 |
| 2:d:118:PHE:CZ | 2:d:164:ILE:HG23 | 2.53 | 0.43 |
| 3:c:344:PHE:CD1 | 1:j:81:LEU:HD12 | 2.53 | 0.43 |
| 3:c:537:LEU:O | 3:c:540:VAL:HB | 2.19 | 0.43 |
| 4:Z:29:HIS:CB | 4:Y:4:ILE:HG12 | 2.48 | 0.43 |
| 4:Z:249:LEU:HD23 | 4:Z:290:PHE:CD2 | 2.54 | 0.43 |
| 4:a:349:PHE:O | 4:a:353:PHE:CD2 | 2.70 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:m:169:TYR:CE1 | 2:m:223:GLN:NE2 | 2.86 | 0.43 |
| 3:k:142:ASN:HD21 | 3:k:419:TYR:HB2 | 1.83 | 0.43 |
| 4:h:288:ILE:HG21 | 4:h:346:ASN:ND2 | 2.31 | 0.43 |
| 4:g:89:ASN:ND2 | 4:g:99:ILE:HD11 | 2.33 | 0.43 |
| 1:r:50:PRO:HD2 | 1:r:97:ASN:OD1 | 2.18 | 0.43 |
| 3:s:377:LEU:HB3 | 3:s:383:TYR:OH | 2.17 | 0.43 |
| 2:F:324:GLU:CG | 2:t:339:MET:HE1 | 2.47 | 0.43 |
| 3:E:344:PHE:CD1 | 1:L:81:LEU:HD12 | 2.53 | 0.43 |
| 4:B:386:LEU:HD21 | 4:A:521:ASP:CG | 2.43 | 0.43 |
| 4:A:89:ASN:ND2 | 4:A:99:ILE:HD11 | 2.33 | 0.43 |
| 4:A:390:MET:HE1 | 4:C:4:ILE:C | 2.44 | 0.43 |
| 2:N:143:VAL:HA | 2:N:182:LEU:O | 2.17 | 0.43 |
| 4:J:4:ILE:HG12 | 4:K:29:HIS:CB | 2.48 | 0.43 |
| 4:J:584:LEU:HG | 4:J:588:MET:HE2 | 1.99 | 0.43 |
| 4:I:22:ILE:O | 4:I:26:VAL:HG22 | 2.18 | 0.43 |
| 4:I:584:LEU:HG | 4:I:588:MET:HE2 | 2.00 | 0.43 |
| 4:K:498:MET:HE2 | 4:K:498:MET:HB3 | 1.96 | 0.43 |
| 3:U:203:THR:HG22 | 3:U:207:GLN:NE2 | 2.16 | 0.43 |
| 3:U:210:ARG:O | 3:U:211:ILE:HD13 | 2.17 | 0.43 |
| 4:R:22:ILE:O | 4:R:26:VAL:HG22 | 2.18 | 0.43 |
| 4:S:249:LEU:HD23 | 4:S:290:PHE:CD2 | 2.54 | 0.43 |
| 1:b:172:TYR:CZ | 1:b:177:GLY:HA3 | 2.53 | 0.43 |
| 3:c:355:PHE:HD2 | 1:j:76:LYS:NZ | 2.17 | 0.43 |
| 4:Z:89:ASN:ND2 | 4:Z:99:ILE:HD11 | 2.33 | 0.43 |
| 4:Y:29:HIS:CB | 4:a:4:ILE:HG12 | 2.48 | 0.43 |
| 4:a:249:LEU:HD23 | 4:a:290:PHE:CD2 | 2.54 | 0.43 |
| 2:m:201:ILE:HG22 | 2:m:258:LEU:HD23 | 1.99 | 0.43 |
| 3:k:1:MET:HE1 | 3:k:5:ARG:HB2 | 2.00 | 0.43 |
| 4:h:89:ASN:ND2 | 4:h:99:ILE:HD11 | 2.33 | 0.43 |
| 2:t:179:CYS:O | 2:t:209:LEU:HD12 | 2.18 | 0.43 |
| 3:s:393:ASP:O | 3:s:396:LEU:HB3 | 2.18 | 0.43 |
| 3:s:523:ILE:HD12 | 3:s:523:ILE:H | 1.83 | 0.43 |
| 4:o:89:ASN:ND2 | 4:o:99:ILE:HD11 | 2.33 | 0.43 |
| 4:o:249:LEU:HD23 | 4:o:290:PHE:CD2 | 2.54 | 0.43 |
| 1:D:38:THR:HB | 1:D:222:ASN:OD1 | 2.17 | 0.43 |
| 2:F:67:PHE:CZ | 2:F:71:ARG:HD3 | 2.54 | 0.43 |
| 2:F:323:LEU:CD1 | 2:t:340:PHE:HZ | 2.32 | 0.43 |
| 2:G:169:TYR:CE1 | 2:G:223:GLN:NE2 | 2.86 | 0.43 |
| 2:N:179:CYS:O | 2:N:209:LEU:HD12 | 2.18 | 0.43 |
| 3:M:377:LEU:HB3 | 3:M:383:TYR:OH | 2.18 | 0.43 |
| 3:M:523:ILE:HD12 | 3:M:523:ILE:H | 1.83 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:J:390:MET:HE1 | 4:I:4:ILE:C | 2.44 | 0.43 |
| 4:I:390:MET:HE1 | 4:K:4:ILE:C | 2.44 | 0.43 |
| 1:T:92:TYR:CE2 | 1:T:153:HIS:CD2 | 3.06 | 0.43 |
| 3:U:264:TYR:HD1 | 3:U:267:ILE:HD11 | 1.83 | 0.43 |
| 4:R:249:LEU:HD23 | 4:R:290:PHE:CD2 | 2.54 | 0.43 |
| 4:Q:390:MET:HE1 | 4:S:4:ILE:C | 2.44 | 0.43 |
| 2:d:179:CYS:O | 2:d:209:LEU:HD12 | 2.18 | 0.43 |
| 3:c:142:ASN:HD21 | 3:c:419:TYR:HB2 | 1.83 | 0.43 |
| 3:c:145:PHE:CE1 | 3:c:419:TYR:CD1 | 3.05 | 0.43 |
| 3:k:352:PRO:HG3 | 1:r:77:LYS:CD | 2.46 | 0.43 |
| 3:k:377:LEU:CG | 3:k:378:ASP:H | 2.26 | 0.43 |
| 3:k:537:LEU:O | 3:k:540:VAL:HB | 2.19 | 0.43 |
| 4:h:249:LEU:HD23 | 4:h:290:PHE:CD2 | 2.54 | 0.43 |
| 4:p:390:MET:HE1 | 4:o:4:ILE:C | 2.44 | 0.43 |
| 1:D:76:LYS:NZ | 3:s:355:PHE:HD2 | 2.17 | 0.43 |
| 2:F:150:VAL:HG11 | 2:F:153:LEU:HD11 | 2.00 | 0.43 |
| 4:B:390:MET:HE1 | 4:A:4:ILE:C | 2.44 | 0.43 |
| 4:A:22:ILE:O | 4:A:26:VAL:HG22 | 2.17 | 0.43 |
| 4:A:249:LEU:HD23 | 4:A:290:PHE:CD2 | 2.54 | 0.43 |
| 1:L:92:TYR:OH | 1:L:135:PRO:HB3 | 2.18 | 0.43 |
| 3:M:355:PHE:HB3 | 1:T:76:LYS:HZ1 | 1.83 | 0.43 |
| 4:I:585:LEU:HD13 | 4:I:588:MET:HE3 | 2.00 | 0.43 |
| 4:K:249:LEU:HD23 | 4:K:290:PHE:CD2 | 2.54 | 0.43 |
| 2:V:150:VAL:HG11 | 2:V:153:LEU:HD11 | 2.00 | 0.43 |
| 3:U:344:PHE:HZ | 1:b:116:LYS:HB3 | 1.83 | 0.43 |
| 3:U:355:PHE:HD2 | 1:b:76:LYS:NZ | 2.17 | 0.43 |
| 1:b:176:THR:CG2 | 1:b:228:TYR:HB2 | 2.43 | 0.43 |
| 3:c:423:LEU:O | 3:c:427:GLU:HB2 | 2.18 | 0.43 |
| 4:Z:4:ILE:C | 4:a:390:MET:HE1 | 2.44 | 0.43 |
| 4:Y:120:TYR:CE2 | 4:Y:121:ASP:HB3 | 2.53 | 0.43 |
| 4:Y:205:ASP:HA | 4:Y:208:ILE:HG22 | 1.99 | 0.43 |
| 4:Y:386:LEU:HD21 | 4:a:521:ASP:CG | 2.43 | 0.43 |
| 1:j:112:SER:N | 1:j:115:ARG:HE | 2.17 | 0.43 |
| 1:j:172:TYR:CZ | 1:j:177:GLY:HA3 | 2.53 | 0.43 |
| 2:l:179:CYS:O | 2:l:209:LEU:HD12 | 2.18 | 0.43 |
| 4:h:4:ILE:C | 4:i:390:MET:HE1 | 2.44 | 0.43 |
| 4:h:29:HIS:CB | 4:g:4:ILE:HG12 | 2.48 | 0.43 |
| 4:g:386:LEU:HD21 | 4:i:521:ASP:CG | 2.43 | 0.43 |
| 1:r:112:SER:N | 1:r:115:ARG:HE | 2.17 | 0.43 |
| 4:o:584:LEU:HG | 4:o:588:MET:HE2 | 2.00 | 0.43 |
| 4:q:18:TYR:CE1 | 4:q:21:ARG:HD2 | 2.54 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:D:92:TYR:CE2 | 1:D:153:HIS:CD2 | 3.06 | 0.43 |
| 4:B:4:ILE:HG12 | 4:C:29:HIS:CB | 2.48 | 0.43 |
| 4:A:120:TYR:CE2 | 4:A:121:ASP:HB3 | 2.53 | 0.43 |
| 1:L:92:TYR:CE2 | 1:L:153:HIS:CD2 | 3.06 | 0.43 |
| 2:O:168:MET:HB3 | 2:O:173:ILE:HG23 | 2.00 | 0.43 |
| 3:M:1:MET:HE1 | 3:M:5:ARG:HB2 | 2.00 | 0.43 |
| 2:W:201:ILE:HG22 | 2:W:258:LEU:HD23 | 1.99 | 0.43 |
| 3:U:488:HIS:O | 3:U:492:VAL:HG22 | 2.19 | 0.43 |
| 4:R:386:LEU:HD21 | 4:Q:521:ASP:CG | 2.43 | 0.43 |
| 4:Q:386:LEU:HD21 | 4:S:521:ASP:CG | 2.43 | 0.43 |
| 4:Q:584:LEU:HG | 4:Q:588:MET:HE2 | 2.00 | 0.43 |
| 2:e:267:LEU:CD1 | 2:e:320:GLY:HA2 | 2.47 | 0.43 |
| 3:c:393:ASP:O | 3:c:396:LEU:HB3 | 2.18 | 0.43 |
| 4:a:89:ASN:ND2 | 4:a:99:ILE:HD11 | 2.33 | 0.43 |
| 1:j:237:MET:HE1 | 1:j:250:THR:HG23 | 2.00 | 0.43 |
| 2:l:145:ARG:HA | 2:l:181:ASP:OD1 | 2.18 | 0.43 |
| 4:h:18:TYR:CE1 | 4:h:21:ARG:HD2 | 2.54 | 0.43 |
| 4:h:390:MET:HE1 | 4:g:4:ILE:C | 2.44 | 0.43 |
| 4:h:584:LEU:HG | 4:h:588:MET:HE2 | 1.99 | 0.43 |
| 2:u:339:MET:HE2 | 2:u:339:MET:HA | 2.01 | 0.43 |
| 4:p:4:ILE:C | 4:q:390:MET:HE1 | 2.44 | 0.43 |
| 4:q:89:ASN:ND2 | 4:q:99:ILE:HD11 | 2.33 | 0.43 |
| 1:D:56:SER:HB3 | 1:D:58:ARG:HE | 1.84 | 0.43 |
| 1:D:73:GLY:O | 1:D:76:LYS:HG3 | 2.19 | 0.43 |
| 1:D:116:LYS:HB3 | 3:s:344:PHE:HZ | 1.83 | 0.43 |
| 2:F:90:TYR:HE1 | 2:F:122:LYS:NZ | 2.16 | 0.43 |
| 2:G:161:THR:O | 2:G:165:LEU:HD23 | 2.19 | 0.43 |
| 3:E:1:MET:HE1 | 3:E:5:ARG:HB2 | 2.00 | 0.43 |
| 3:E:423:LEU:O | 3:E:427:GLU:HB2 | 2.18 | 0.43 |
| 4:B:371:MET:CE | 4:B:428:LEU:HD23 | 2.46 | 0.43 |
| 1:L:56:SER:HB3 | 1:L:58:ARG:HE | 1.84 | 0.43 |
| 1:L:73:GLY:O | 1:L:76:LYS:HG3 | 2.19 | 0.43 |
| 2:N:340:PHE:HZ | 2:V:323:LEU:CD1 | 2.31 | 0.43 |
| 4:I:18:TYR:CE1 | 4:I:21:ARG:HD2 | 2.54 | 0.43 |
| 4:I:29:HIS:CB | 4:K:4:ILE:HG12 | 2.48 | 0.43 |
| 4:I:492:ALA:O | 4:I:495:GLU:HG3 | 2.19 | 0.43 |
| 2:V:340:PHE:HZ | 2:d:323:LEU:CD1 | 2.32 | 0.43 |
| 4:R:18:TYR:CE1 | 4:R:21:ARG:HD2 | 2.54 | 0.43 |
| 4:Q:12:GLN:HG2 | 4:Q:483:LEU:HD13 | 2.01 | 0.43 |
| 4:S:18:TYR:CE1 | 4:S:21:ARG:HD2 | 2.54 | 0.43 |
| 4:S:349:PHE:O | 4:S:353:PHE:CD2 | 2.70 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:b:50:PRO:HD2 | 1:b:97:ASN:OD1 | 2.18 | 0.43 |
| 2:d:339:MET:HE1 | 2:l:324:GLU:CG | 2.47 | 0.43 |
| 4:Y:390:MET:HE1 | 4:a:4:ILE:C | 2.44 | 0.43 |
| 1:j:49:ILE:HB | 1:j:97:ASN:ND2 | 2.30 | 0.43 |
| 1:j:50:PRO:HD2 | 1:j:97:ASN:OD1 | 2.18 | 0.43 |
| 1:j:82:MET:CE | 1:j:142:TRP:HB2 | 2.49 | 0.43 |
| 1:j:257:GLU:HA | 1:j:260:MET:CE | 2.49 | 0.43 |
| 4:i:390:MET:HE2 | 4:i:390:MET:HB2 | 1.87 | 0.43 |
| 1:r:82:MET:CE | 1:r:142:TRP:HB2 | 2.49 | 0.43 |
| 2:u:169:TYR:CE1 | 2:u:223:GLN:NE2 | 2.86 | 0.43 |
| 4:p:386:LEU:HD21 | 4:o:521:ASP:CG | 2.43 | 0.43 |
| 4:p:521:ASP:CG | 4:q:386:LEU:HD21 | 2.43 | 0.43 |
| 4:B:18:TYR:CE1 | 4:B:21:ARG:HD2 | 2.54 | 0.43 |
| 4:A:444:GLU:HA | 4:A:447:LYS:HG2 | 2.01 | 0.43 |
| 4:K:18:TYR:CE1 | 4:K:21:ARG:HD2 | 2.54 | 0.43 |
| 4:K:120:TYR:CE2 | 4:K:121:ASP:HB3 | 2.53 | 0.43 |
| 4:K:371:MET:CE | 4:K:428:LEU:HD23 | 2.46 | 0.43 |
| 1:T:36:LYS:HE3 | 1:T:36:LYS:HB3 | 1.89 | 0.43 |
| 2:W:168:MET:HB3 | 2:W:173:ILE:HG23 | 2.00 | 0.43 |
| 3:U:377:LEU:HB3 | 3:U:383:TYR:OH | 2.17 | 0.43 |
| 3:U:537:LEU:O | 3:U:540:VAL:HB | 2.19 | 0.43 |
| 4:Q:120:TYR:CE2 | 4:Q:121:ASP:HB3 | 2.53 | 0.43 |
| 1:b:56:SER:HB3 | 1:b:58:ARG:HE | 1.84 | 0.43 |
| 3:c:431:MET:CE | 3:c:440:LYS:HG2 | 2.34 | 0.43 |
| 3:c:488:HIS:O | 3:c:492:VAL:HG22 | 2.19 | 0.43 |
| 4:Z:521:ASP:CG | 4:a:386:LEU:HD21 | 2.43 | 0.43 |
| 4:Y:18:TYR:CE1 | 4:Y:21:ARG:HD2 | 2.54 | 0.43 |
| 4:a:584:LEU:HG | 4:a:588:MET:HE2 | 1.99 | 0.43 |
| 1:j:56:SER:HB3 | 1:j:58:ARG:HE | 1.84 | 0.43 |
| 1:j:73:GLY:O | 1:j:76:LYS:HG3 | 2.19 | 0.43 |
| 2:m:161:THR:O | 2:m:165:LEU:HD23 | 2.19 | 0.43 |
| 4:h:492:ALA:O | 4:h:495:GLU:HG3 | 2.19 | 0.43 |
| 1:r:73:GLY:O | 1:r:76:LYS:HG3 | 2.19 | 0.43 |
| 1:r:92:TYR:CE2 | 1:r:153:HIS:CD2 | 3.06 | 0.43 |
| 2:t:90:TYR:HE1 | 2:t:122:LYS:NZ | 2.16 | 0.43 |
| 4:p:18:TYR:CE1 | 4:p:21:ARG:HD2 | 2.54 | 0.43 |
| 4:p:371:MET:CE | 4:p:428:LEU:HD23 | 2.46 | 0.43 |
| 4:o:120:TYR:CE2 | 4:o:121:ASP:HB3 | 2.53 | 0.43 |
| 4:q:249:LEU:HD23 | 4:q:290:PHE:CD2 | 2.54 | 0.43 |
| 4:q:584:LEU:HG | 4:q:588:MET:HE2 | 1.99 | 0.43 |
| 1:D:82:MET:CE | 1:D:142:TRP:HB2 | 2.49 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:E:521:TYR:CE1 | 3:s:6:ARG:HD3 | 2.54 | 0.43 |
| 4:B:120:TYR:CE2 | 4:B:121:ASP:HB3 | 2.53 | 0.43 |
| 4:B:205:ASP:HA | 4:B:208:ILE:HG22 | 1.99 | 0.43 |
| 4:A:386:LEU:HD21 | 4:C:521:ASP:CG | 2.43 | 0.43 |
| 1:L:257:GLU:HA | 1:L:260:MET:CE | 2.49 | 0.43 |
| 4:J:492:ALA:O | 4:J:495:GLU:HG3 | 2.19 | 0.43 |
| 4:J:521:ASP:CG | 4:K:386:LEU:HD21 | 2.43 | 0.43 |
| 1:T:56:SER:HB3 | 1:T:58:ARG:HE | 1.84 | 0.43 |
| 3:U:100:SER:HA | 3:U:103:ILE:HG22 | 2.01 | 0.43 |
| 3:U:423:LEU:O | 3:U:427:GLU:HB2 | 2.18 | 0.43 |
| 4:R:390:MET:HE1 | 4:Q:4:ILE:C | 2.44 | 0.43 |
| 4:Q:444:GLU:HA | 4:Q:447:LYS:HG2 | 2.01 | 0.43 |
| 4:S:89:ASN:ND2 | 4:S:99:ILE:HD11 | 2.33 | 0.43 |
| 4:S:120:TYR:CE2 | 4:S:121:ASP:HB3 | 2.53 | 0.43 |
| 1:b:82:MET:CE | 1:b:142:TRP:HB2 | 2.49 | 0.43 |
| 2:e:161:THR:O | 2:e:165:LEU:HD23 | 2.19 | 0.43 |
| 3:c:100:SER:HA | 3:c:103:ILE:HG22 | 2.01 | 0.43 |
| 4:Z:4:ILE:HG12 | 4:a:29:HIS:CB | 2.48 | 0.43 |
| 4:Z:18:TYR:CE1 | 4:Z:21:ARG:HD2 | 2.54 | 0.43 |
| 4:Y:492:ALA:O | 4:Y:495:GLU:HG3 | 2.19 | 0.43 |
| 4:Y:584:LEU:HG | 4:Y:588:MET:HE2 | 2.00 | 0.43 |
| 4:a:444:GLU:HA | 4:a:447:LYS:HG2 | 2.01 | 0.43 |
| 1:j:36:LYS:HE3 | 1:j:36:LYS:HB3 | 1.89 | 0.43 |
| 2:l:67:PHE:CZ | 2:l:71:ARG:HD3 | 2.54 | 0.43 |
| 3:k:523:ILE:HD12 | 3:k:523:ILE:H | 1.83 | 0.43 |
| 4:g:249:LEU:HD23 | 4:g:290:PHE:CD2 | 2.54 | 0.43 |
| 4:i:89:ASN:ND2 | 4:i:99:ILE:HD11 | 2.33 | 0.43 |
| 1:r:56:SER:HB3 | 1:r:58:ARG:HE | 1.84 | 0.43 |
| 3:s:1:MET:HE1 | 3:s:5:ARG:HB2 | 2.00 | 0.43 |
| 4:p:120:TYR:CE2 | 4:p:121:ASP:HB3 | 2.53 | 0.43 |
| 4:p:249:LEU:HD23 | 4:p:290:PHE:CD2 | 2.54 | 0.43 |
| 4:p:444:GLU:HA | 4:p:447:LYS:HG2 | 2.01 | 0.43 |
| 4:p:492:ALA:O | 4:p:495:GLU:HG3 | 2.19 | 0.43 |
| 4:o:156:MET:HE3 | 4:o:425:ARG:HD2 | 2.01 | 0.43 |
| 4:o:349:PHE:O | 4:o:353:PHE:CD2 | 2.70 | 0.43 |
| 4:q:492:ALA:O | 4:q:495:GLU:HG3 | 2.19 | 0.43 |
| 3:E:6:ARG:HD3 | 3:M:521:TYR:CE1 | 2.54 | 0.42 |
| 4:B:349:PHE:O | 4:B:353:PHE:CD2 | 2.70 | 0.42 |
| 4:A:18:TYR:CE1 | 4:A:21:ARG:HD2 | 2.54 | 0.42 |
| 4:C:12:GLN:HG2 | 4:C:483:LEU:HD13 | 2.01 | 0.42 |
| 4:C:89:ASN:ND2 | 4:C:99:ILE:HD11 | 2.33 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:L:49:ILE:HB | 1:L:97:ASN:ND2 | 2.30 | 0.42 |
| 3:M:100:SER:HA | 3:M:103:ILE:HG22 | 2.01 | 0.42 |
| 4:I:249:LEU:HD23 | 4:I:290:PHE:CD2 | 2.54 | 0.42 |
| 2:V:145:ARG:HA | 2:V:181:ASP:OD1 | 2.18 | 0.42 |
| 4:R:4:ILE:C | 4:S:390:MET:HE1 | 2.44 | 0.42 |
| 4:R:156:MET:HE3 | 4:R:425:ARG:HD2 | 2.01 | 0.42 |
| 4:S:444:GLU:HA | 4:S:447:LYS:HG2 | 2.01 | 0.42 |
| 2:d:340:PHE:HZ | 2:l:323:LEU:CD1 | 2.32 | 0.42 |
| 4:a:18:TYR:CE1 | 4:a:21:ARG:HD2 | 2.54 | 0.42 |
| 4:a:492:ALA:O | 4:a:495:GLU:HG3 | 2.19 | 0.42 |
| 2:l:339:MET:HE1 | 2:t:324:GLU:CG | 2.47 | 0.42 |
| 2:l:340:PHE:HZ | 2:t:323:LEU:CD1 | 2.31 | 0.42 |
| 3:k:145:PHE:CE1 | 3:k:419:TYR:CD1 | 3.05 | 0.42 |
| 4:h:386:LEU:HD21 | 4:g:521:ASP:CG | 2.43 | 0.42 |
| 4:g:18:TYR:CE1 | 4:g:21:ARG:HD2 | 2.54 | 0.42 |
| 4:i:120:TYR:CE2 | 4:i:121:ASP:HB3 | 2.53 | 0.42 |
| 2:u:161:THR:O | 2:u:165:LEU:HD23 | 2.19 | 0.42 |
| 4:p:4:ILE:HG12 | 4:q:29:HIS:CB | 2.48 | 0.42 |
| 2:F:261:LYS:HD3 | 2:F:265:ASP:OD2 | 2.20 | 0.42 |
| 3:E:523:ILE:HD12 | 3:E:523:ILE:H | 1.83 | 0.42 |
| 4:B:249:LEU:HD23 | 4:B:290:PHE:CD2 | 2.54 | 0.42 |
| 4:B:492:ALA:O | 4:B:495:GLU:HG3 | 2.19 | 0.42 |
| 4:C:156:MET:HE3 | 4:C:425:ARG:HD2 | 2.01 | 0.42 |
| 3:M:66:HIS:HD2 | 3:M:67:MET:CE | 2.33 | 0.42 |
| 3:M:355:PHE:HD2 | 1:T:76:LYS:NZ | 2.17 | 0.42 |
| 3:M:365:SER:O | 5:X:58:ARG:NH2 | 2.52 | 0.42 |
| 3:M:488:HIS:O | 3:M:492:VAL:HG22 | 2.19 | 0.42 |
| 3:M:514:ILE:CD1 | 3:M:539:HIS:HB3 | 2.47 | 0.42 |
| 4:J:335:PRO:CD | 5:P:55:GLN:NE2 | 2.77 | 0.42 |
| 4:I:444:GLU:HA | 4:I:447:LYS:HG2 | 2.01 | 0.42 |
| 4:K:156:MET:HE3 | 4:K:425:ARG:HD2 | 2.01 | 0.42 |
| 1:T:50:PRO:HD2 | 1:T:97:ASN:OD1 | 2.18 | 0.42 |
| 2:V:179:CYS:O | 2:V:209:LEU:HD12 | 2.18 | 0.42 |
| 3:U:344:PHE:CD1 | 1:b:81:LEU:HD12 | 2.53 | 0.42 |
| 3:c:393:ASP:C | 3:c:396:LEU:HB3 | 2.44 | 0.42 |
| 4:Z:156:MET:HE3 | 4:Z:425:ARG:HD2 | 2.01 | 0.42 |
| 2:m:267:LEU:HD12 | 2:m:320:GLY:HA2 | 2.02 | 0.42 |
| 4:g:492:ALA:O | 4:g:495:GLU:HG3 | 2.19 | 0.42 |
| 4:i:156:MET:HE3 | 4:i:425:ARG:HD2 | 2.01 | 0.42 |
| 4:i:249:LEU:HD23 | 4:i:290:PHE:CD2 | 2.54 | 0.42 |
| 1:r:257:GLU:HA | 1:r:260:MET:CE | 2.49 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:t:67:PHE:CZ | 2:t:71:ARG:HD3 | 2.54 | 0.42 |
| 2:u:267:LEU:HD12 | 2:u:320:GLY:HA2 | 2.02 | 0.42 |
| 4:o:386:LEU:HD21 | 4:q:521:ASP:CG | 2.43 | 0.42 |
| 4:o:390:MET:HE1 | 4:q:4:ILE:C | 2.44 | 0.42 |
| 4:q:156:MET:HE3 | 4:q:425:ARG:HD2 | 2.01 | 0.42 |
| 1:D:50:PRO:HD2 | 1:D:97:ASN:OD1 | 2.18 | 0.42 |
| 1:D:263:LEU:HB3 | 1:D:265:LEU:HD23 | 2.02 | 0.42 |
| 5:H:58:ARG:NH2 | 3:s:365:SER:O | 2.52 | 0.42 |
| 3:M:393:ASP:C | 3:M:396:LEU:HB3 | 2.44 | 0.42 |
| 4:I:12:GLN:HG2 | 4:I:483:LEU:HD13 | 2.01 | 0.42 |
| 4:K:12:GLN:HG2 | 4:K:483:LEU:HD13 | 2.01 | 0.42 |
| 4:K:439:THR:O | 4:K:442:ILE:HG13 | 2.19 | 0.42 |
| 2:V:261:LYS:HD3 | 2:V:265:ASP:OD2 | 2.19 | 0.42 |
| 3:U:393:ASP:C | 3:U:396:LEU:HB3 | 2.44 | 0.42 |
| 4:Q:386:LEU:HD23 | 4:Q:386:LEU:N | 2.35 | 0.42 |
| 4:Q:439:THR:O | 4:Q:442:ILE:HG13 | 2.19 | 0.42 |
| 4:Q:492:ALA:O | 4:Q:495:GLU:HG3 | 2.19 | 0.42 |
| 4:S:156:MET:HE3 | 4:S:425:ARG:HD2 | 2.01 | 0.42 |
| 4:S:439:THR:O | 4:S:442:ILE:HG13 | 2.19 | 0.42 |
| 1:b:112:SER:N | 1:b:115:ARG:HE | 2.17 | 0.42 |
| 3:c:352:PRO:HG3 | 1:j:77:LYS:CD | 2.46 | 0.42 |
| 4:Z:7:ILE:HD12 | 4:a:18:TYR:CZ | 2.55 | 0.42 |
| 4:Z:12:GLN:HG2 | 4:Z:483:LEU:HD13 | 2.01 | 0.42 |
| 4:Y:444:GLU:HA | 4:Y:447:LYS:HG2 | 2.01 | 0.42 |
| 4:a:156:MET:HE3 | 4:a:425:ARG:HD2 | 2.01 | 0.42 |
| 1:j:92:TYR:CE2 | 1:j:153:HIS:CD2 | 3.06 | 0.42 |
| 3:k:6:ARG:HD3 | 3:s:521:TYR:CE1 | 2.54 | 0.42 |
| 3:k:264:TYR:HD1 | 3:k:267:ILE:HD11 | 1.83 | 0.42 |
| 3:k:365:SER:O | 5:v:58:ARG:NH2 | 2.52 | 0.42 |
| 4:h:7:ILE:HD12 | 4:i:18:TYR:CZ | 2.55 | 0.42 |
| 4:g:156:MET:HE3 | 4:g:425:ARG:HD2 | 2.01 | 0.42 |
| 4:g:584:LEU:HG | 4:g:588:MET:HE2 | 2.00 | 0.42 |
| 4:p:18:TYR:CZ | 4:o:7:ILE:HD12 | 2.55 | 0.42 |
| 4:o:18:TYR:CE1 | 4:o:21:ARG:HD2 | 2.54 | 0.42 |
| 4:q:288:ILE:HG21 | 4:q:346:ASN:ND2 | 2.31 | 0.42 |
| 2:G:339:MET:HE2 | 2:G:339:MET:HA | 2.01 | 0.42 |
| 4:B:386:LEU:HD23 | 4:B:386:LEU:N | 2.35 | 0.42 |
| 4:B:444:GLU:HA | 4:B:447:LYS:HG2 | 2.01 | 0.42 |
| 4:B:521:ASP:CG | 4:C:386:LEU:HD21 | 2.43 | 0.42 |
| 4:C:498:MET:HE2 | 4:C:498:MET:HB3 | 1.96 | 0.42 |
| 1:L:36:LYS:HE3 | 1:L:36:LYS:HB3 | 1.89 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:L:82:MET:CE | 1:L:142:TRP:HB2 | 2.49 | 0.42 |
| 2:N:90:TYR:HE1 | 2:N:122:LYS:NZ | 2.16 | 0.42 |
| 2:N:150:VAL:HG11 | 2:N:153:LEU:HD11 | 2.00 | 0.42 |
| 2:O:161:THR:O | 2:O:165:LEU:HD23 | 2.19 | 0.42 |
| 2:O:291:VAL:HG12 | 2:O:298:PHE:O | 2.20 | 0.42 |
| 3:M:51:ILE:O | 3:M:51:ILE:HG13 | 2.20 | 0.42 |
| 4:J:18:TYR:CE1 | 4:J:21:ARG:HD2 | 2.54 | 0.42 |
| 2:V:67:PHE:CZ | 2:V:71:ARG:HD3 | 2.54 | 0.42 |
| 2:W:291:VAL:HG12 | 2:W:298:PHE:O | 2.20 | 0.42 |
| 3:U:66:HIS:HD2 | 3:U:67:MET:CE | 2.33 | 0.42 |
| 4:R:335:PRO:CD | 5:X:55:GLN:HE22 | 2.25 | 0.42 |
| 4:R:584:LEU:HG | 4:R:588:MET:HE2 | 1.99 | 0.42 |
| 4:Q:249:LEU:HD23 | 4:Q:290:PHE:CD2 | 2.54 | 0.42 |
| 1:b:253:THR:H | 1:b:256:VAL:HG12 | 1.85 | 0.42 |
| 2:d:145:ARG:HA | 2:d:181:ASP:OD1 | 2.18 | 0.42 |
| 3:c:6:ARG:HD3 | 3:k:521:TYR:CE1 | 2.54 | 0.42 |
| 3:c:365:SER:O | 5:n:58:ARG:NH2 | 2.53 | 0.42 |
| 4:Z:212:GLN:HB2 | 4:Z:245:PRO:HB3 | 2.02 | 0.42 |
| 4:Z:386:LEU:HD21 | 4:Y:521:ASP:CG | 2.43 | 0.42 |
| 4:Y:386:LEU:HD23 | 4:Y:386:LEU:N | 2.35 | 0.42 |
| 2:l:261:LYS:HD3 | 2:l:265:ASP:OD2 | 2.19 | 0.42 |
| 3:k:51:ILE:O | 3:k:51:ILE:HG13 | 2.20 | 0.42 |
| 3:k:129:LEU:HB3 | 3:k:460:LYS:CD | 2.50 | 0.42 |
| 4:h:18:TYR:CZ | 4:g:7:ILE:HD12 | 2.55 | 0.42 |
| 4:h:120:TYR:CE2 | 4:h:121:ASP:HB3 | 2.53 | 0.42 |
| 4:h:156:MET:HE3 | 4:h:425:ARG:HD2 | 2.01 | 0.42 |
| 4:h:444:GLU:HA | 4:h:447:LYS:HG2 | 2.01 | 0.42 |
| 4:g:390:MET:HE1 | 4:i:4:ILE:C | 2.44 | 0.42 |
| 4:i:349:PHE:O | 4:i:353:PHE:CD2 | 2.70 | 0.42 |
| 4:i:444:GLU:HA | 4:i:447:LYS:HG2 | 2.01 | 0.42 |
| 1:r:237:MET:HB2 | 1:r:237:MET:HE3 | 1.86 | 0.42 |
| 2:t:261:LYS:HD3 | 2:t:265:ASP:OD2 | 2.19 | 0.42 |
| 3:s:51:ILE:O | 3:s:51:ILE:HG13 | 2.20 | 0.42 |
| 3:s:537:LEU:O | 3:s:540:VAL:HB | 2.19 | 0.42 |
| 2:F:145:ARG:HA | 2:F:181:ASP:OD1 | 2.18 | 0.42 |
| 3:E:265:SER:HA | 3:E:268:LYS:HE3 | 2.01 | 0.42 |
| 3:E:355:PHE:HD2 | 1:L:76:LYS:NZ | 2.17 | 0.42 |
| 4:A:439:THR:O | 4:A:442:ILE:HG13 | 2.19 | 0.42 |
| 4:A:492:ALA:O | 4:A:495:GLU:HG3 | 2.19 | 0.42 |
| 3:M:265:SER:HA | 3:M:268:LYS:HE3 | 2.02 | 0.42 |
| 3:M:533:LEU:HD12 | 3:M:540:VAL:HG22 | 2.01 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:M:537:LEU:O | 3:M:540:VAL:HB | 2.19 | 0.42 |
| 4:K:209:GLY:HA3 | 4:K:257:HIS:CD2 | 2.55 | 0.42 |
| 1:T:82:MET:CE | 1:T:142:TRP:HB2 | 2.49 | 0.42 |
| 1:T:257:GLU:HA | 1:T:260:MET:CE | 2.49 | 0.42 |
| 3:U:1:MET:HE1 | 3:U:5:ARG:HB2 | 2.00 | 0.42 |
| 4:Q:18:TYR:CE1 | 4:Q:21:ARG:HD2 | 2.54 | 0.42 |
| 1:b:49:ILE:HB | 1:b:97:ASN:ND2 | 2.30 | 0.42 |
| 2:d:261:LYS:HD3 | 2:d:265:ASP:OD2 | 2.20 | 0.42 |
| 2:e:264:MET:HE2 | 2:e:320:GLY:O | 2.20 | 0.42 |
| 4:Z:492:ALA:O | 4:Z:495:GLU:HG3 | 2.19 | 0.42 |
| 4:Y:249:LEU:HD23 | 4:Y:290:PHE:CD2 | 2.54 | 0.42 |
| 1:j:134:ILE:CB | 1:j:239:LEU:HD13 | 2.50 | 0.42 |
| 2:m:339:MET:HE2 | 2:m:339:MET:HA | 2.01 | 0.42 |
| 3:k:100:SER:HA | 3:k:103:ILE:HG22 | 2.01 | 0.42 |
| 4:g:444:GLU:HA | 4:g:447:LYS:HG2 | 2.01 | 0.42 |
| 4:i:18:TYR:CE1 | 4:i:21:ARG:HD2 | 2.54 | 0.42 |
| 4:i:584:LEU:HG | 4:i:588:MET:HE2 | 1.99 | 0.42 |
| 3:s:431:MET:CE | 3:s:440:LYS:HG2 | 2.34 | 0.42 |
| 4:o:444:GLU:HA | 4:o:447:LYS:HG2 | 2.01 | 0.42 |
| 1:D:253:THR:H | 1:D:256:VAL:HG12 | 1.85 | 0.42 |
| 3:E:344:PHE:HZ | 1:L:116:LYS:HB3 | 1.83 | 0.42 |
| 4:A:134:LEU:HD23 | 4:A:134:LEU:O | 2.20 | 0.42 |
| 4:A:584:LEU:HG | 4:A:588:MET:HE2 | 2.00 | 0.42 |
| 4:C:439:THR:O | 4:C:442:ILE:HG13 | 2.19 | 0.42 |
| 4:J:156:MET:HE3 | 4:J:425:ARG:HD2 | 2.01 | 0.42 |
| 4:K:212:GLN:HB2 | 4:K:245:PRO:HB3 | 2.02 | 0.42 |
| 1:T:253:THR:H | 1:T:256:VAL:HG12 | 1.85 | 0.42 |
| 2:V:164:ILE:HG22 | 2:V:168:MET:HE2 | 2.02 | 0.42 |
| 3:U:129:LEU:HB3 | 3:U:460:LYS:CD | 2.50 | 0.42 |
| 4:R:439:THR:O | 4:R:442:ILE:HG13 | 2.19 | 0.42 |
| 1:b:134:ILE:CB | 1:b:239:LEU:HD13 | 2.50 | 0.42 |
| 1:b:257:GLU:HA | 1:b:260:MET:CE | 2.49 | 0.42 |
| 3:c:300:ILE:HD13 | 3:c:307:ILE:CG1 | 2.50 | 0.42 |
| 4:Y:134:LEU:O | 4:Y:134:LEU:HD23 | 2.20 | 0.42 |
| 4:Y:288:ILE:HG21 | 4:Y:346:ASN:ND2 | 2.31 | 0.42 |
| 2:m:264:MET:HE2 | 2:m:320:GLY:O | 2.20 | 0.42 |
| 3:k:311:LYS:HZ3 | 3:k:359:ARG:NH2 | 2.17 | 0.42 |
| 4:q:498:MET:HE2 | 4:q:498:MET:HB3 | 1.96 | 0.42 |
| 1:D:76:LYS:HZ1 | 3:s:355:PHE:HB3 | 1.83 | 0.42 |
| 2:F:180:PHE:CE2 | 2:F:209:LEU:HD13 | 2.55 | 0.42 |
| 4:B:290:PHE:HZ | 5:H:52:LEU:CD1 | 2.33 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:A:18:TYR:CZ | 4:C:7:ILE:HD12 | 2.55 | 0.42 |
| 4:A:156:MET:HE3 | 4:A:425:ARG:HD2 | 2.01 | 0.42 |
| 2:N:67:PHE:CZ | 2:N:71:ARG:HD3 | 2.54 | 0.42 |
| 3:M:129:LEU:HB3 | 3:M:460:LYS:CD | 2.50 | 0.42 |
| 3:M:562:ILE:HD12 | 3:M:562:ILE:HA | 1.88 | 0.42 |
| 4:J:249:LEU:HD23 | 4:J:290:PHE:CD2 | 2.54 | 0.42 |
| 4:I:18:TYR:CZ | 4:K:7:ILE:HD12 | 2.55 | 0.42 |
| 4:R:212:GLN:HB2 | 4:R:245:PRO:HB3 | 2.02 | 0.42 |
| 4:S:209:GLY:HA3 | 4:S:257:HIS:CD2 | 2.55 | 0.42 |
| 1:b:263:LEU:HB3 | 1:b:265:LEU:HD23 | 2.02 | 0.42 |
| 2:d:164:ILE:HG22 | 2:d:168:MET:HE2 | 2.02 | 0.42 |
| 4:Z:439:THR:O | 4:Z:442:ILE:HG13 | 2.19 | 0.42 |
| 3:k:533:LEU:HD12 | 3:k:540:VAL:HG22 | 2.01 | 0.42 |
| 2:t:180:PHE:CE2 | 2:t:209:LEU:HD13 | 2.55 | 0.42 |
| 3:s:100:SER:HA | 3:s:103:ILE:HG22 | 2.01 | 0.42 |
| 4:p:156:MET:HE3 | 4:p:425:ARG:HD2 | 2.01 | 0.42 |
| 4:p:584:LEU:HG | 4:p:588:MET:HE2 | 1.99 | 0.42 |
| 1:D:237:MET:HB2 | 1:D:237:MET:HE3 | 1.86 | 0.42 |
| 2:G:291:VAL:HG12 | 2:G:298:PHE:O | 2.20 | 0.42 |
| 3:E:66:HIS:CD2 | 3:E:67:MET:CE | 3.03 | 0.42 |
| 3:E:365:SER:O | 5:P:58:ARG:NH2 | 2.53 | 0.42 |
| 3:E:393:ASP:C | 3:E:396:LEU:HB3 | 2.44 | 0.42 |
| 4:B:4:ILE:C | 4:C:390:MET:HE1 | 2.44 | 0.42 |
| 4:B:18:TYR:CZ | 4:A:7:ILE:HD12 | 2.55 | 0.42 |
| 4:B:134:LEU:HD23 | 4:B:134:LEU:O | 2.20 | 0.42 |
| 4:B:361:ARG:HB3 | 5:H:37:ILE:HD11 | 2.01 | 0.42 |
| 4:B:439:THR:O | 4:B:442:ILE:HG13 | 2.19 | 0.42 |
| 4:C:10:LEU:HA | 4:C:13:LEU:HD12 | 2.02 | 0.42 |
| 4:C:209:GLY:HA3 | 4:C:257:HIS:CD2 | 2.55 | 0.42 |
| 4:C:281:MET:HE2 | 4:C:286:GLU:HB2 | 2.02 | 0.42 |
| 1:L:253:THR:H | 1:L:256:VAL:HG12 | 1.85 | 0.42 |
| 2:N:164:ILE:HG22 | 2:N:168:MET:HE2 | 2.02 | 0.42 |
| 3:M:66:HIS:CD2 | 3:M:67:MET:CE | 3.03 | 0.42 |
| 4:I:212:GLN:HB2 | 4:I:245:PRO:HB3 | 2.02 | 0.42 |
| 4:K:10:LEU:HA | 4:K:13:LEU:HD12 | 2.02 | 0.42 |
| 1:T:73:GLY:O | 1:T:76:LYS:HG3 | 2.19 | 0.42 |
| 2:W:161:THR:O | 2:W:165:LEU:HD23 | 2.19 | 0.42 |
| 2:W:264:MET:HE2 | 2:W:320:GLY:O | 2.20 | 0.42 |
| 3:U:392:ASN:ND2 | 3:c:111:HIS:HE1 | 2.18 | 0.42 |
| 3:U:533:LEU:HD12 | 3:U:540:VAL:HG22 | 2.01 | 0.42 |
| 4:R:7:ILE:HD12 | 4:S:18:TYR:CZ | 2.55 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:R:12:GLN:HG2 | 4:R:483:LEU:HD13 | 2.01 | 0.42 |
| 4:S:386:LEU:HD23 | 4:S:386:LEU:N | 2.35 | 0.42 |
| 2:d:67:PHE:CZ | 2:d:71:ARG:HD3 | 2.54 | 0.42 |
| 2:e:267:LEU:HD12 | 2:e:320:GLY:HA2 | 2.02 | 0.42 |
| 3:c:66:HIS:CD2 | 3:c:67:MET:CE | 3.03 | 0.42 |
| 4:Y:12:GLN:HG2 | 4:Y:483:LEU:HD13 | 2.01 | 0.42 |
| 4:Y:209:GLY:HA3 | 4:Y:257:HIS:CD2 | 2.55 | 0.42 |
| 4:Y:439:THR:O | 4:Y:442:ILE:HG13 | 2.19 | 0.42 |
| 2:l:93:LYS:CD | 2:l:211:ILE:HG23 | 2.46 | 0.42 |
| 4:h:495:GLU:OE2 | 4:h:496:VAL:HG23 | 2.20 | 0.42 |
| 4:h:521:ASP:CG | 4:i:386:LEU:HD21 | 2.43 | 0.42 |
| 1:r:134:ILE:CB | 1:r:239:LEU:HD13 | 2.50 | 0.42 |
| 3:s:66:HIS:HD2 | 3:s:67:MET:CE | 2.33 | 0.42 |
| 3:s:514:ILE:CD1 | 3:s:539:HIS:HB3 | 2.47 | 0.42 |
| 4:p:12:GLN:HG2 | 4:p:483:LEU:HD13 | 2.01 | 0.42 |
| 4:p:439:THR:O | 4:p:442:ILE:HG13 | 2.19 | 0.42 |
| 2:F:276:GLY:HA3 | 2:F:335:MET:O | 2.20 | 0.42 |
| 2:G:267:LEU:HD12 | 2:G:320:GLY:HA2 | 2.02 | 0.42 |
| 3:E:100:SER:HA | 3:E:103:ILE:HG22 | 2.01 | 0.42 |
| 4:B:12:GLN:HG2 | 4:B:483:LEU:HD13 | 2.01 | 0.42 |
| 4:B:120:TYR:CE1 | 4:A:10:LEU:HD11 | 2.55 | 0.42 |
| 4:B:335:PRO:CD | 5:H:55:GLN:NE2 | 2.77 | 0.42 |
| 4:C:18:TYR:CE1 | 4:C:21:ARG:HD2 | 2.54 | 0.42 |
| 4:C:492:ALA:O | 4:C:495:GLU:HG3 | 2.19 | 0.42 |
| 2:N:261:LYS:HD3 | 2:N:265:ASP:OD2 | 2.19 | 0.42 |
| 2:N:276:GLY:HA3 | 2:N:335:MET:O | 2.20 | 0.42 |
| 2:O:90:TYR:HE1 | 2:O:122:LYS:HB3 | 1.85 | 0.42 |
| 4:J:12:GLN:HG2 | 4:J:483:LEU:HD13 | 2.01 | 0.42 |
| 4:K:444:GLU:HA | 4:K:447:LYS:HG2 | 2.01 | 0.42 |
| 4:K:492:ALA:O | 4:K:495:GLU:HG3 | 2.19 | 0.42 |
| 1:T:134:ILE:CB | 1:T:239:LEU:HD13 | 2.50 | 0.42 |
| 3:U:365:SER:O | 5:f:58:ARG:NH2 | 2.52 | 0.42 |
| 4:Q:10:LEU:HA | 4:Q:13:LEU:HD12 | 2.02 | 0.42 |
| 4:Q:18:TYR:CZ | 4:S:7:ILE:HD12 | 2.55 | 0.42 |
| 4:Q:212:GLN:HB2 | 4:Q:245:PRO:HB3 | 2.02 | 0.42 |
| 1:b:73:GLY:O | 1:b:76:LYS:HG3 | 2.19 | 0.42 |
| 3:c:40:LYS:HD3 | 3:c:73:VAL:CG2 | 2.50 | 0.42 |
| 4:Z:99:ILE:CG2 | 4:a:104:ILE:HB | 2.50 | 0.42 |
| 4:Z:120:TYR:CE1 | 4:Y:10:LEU:HD11 | 2.55 | 0.42 |
| 4:Z:281:MET:HE2 | 4:Z:286:GLU:HB2 | 2.02 | 0.42 |
| 4:Z:335:PRO:CD | 5:f:55:GLN:HE22 | 2.25 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:Z:390:MET:HE1 | 4:Y:4:ILE:C | 2.44 | 0.42 |
| 4:Z:495:GLU:OE2 | 4:Z:496:VAL:HG23 | 2.20 | 0.42 |
| 4:g:134:LEU:O | 4:g:134:LEU:HD23 | 2.20 | 0.42 |
| 1:r:253:THR:H | 1:r:256:VAL:HG12 | 1.85 | 0.42 |
| 2:u:137:GLN:HG2 | 2:u:137:GLN:O | 2.20 | 0.42 |
| 3:s:533:LEU:HD12 | 3:s:540:VAL:HG22 | 2.01 | 0.42 |
| 4:p:209:GLY:HA3 | 4:p:257:HIS:CD2 | 2.55 | 0.42 |
| 4:o:134:LEU:O | 4:o:134:LEU:HD23 | 2.20 | 0.42 |
| 4:o:439:THR:O | 4:o:442:ILE:HG13 | 2.19 | 0.42 |
| 4:q:444:GLU:HA | 4:q:447:LYS:HG2 | 2.01 | 0.42 |
| 2:G:90:TYR:HE1 | 2:G:122:LYS:HB3 | 1.85 | 0.42 |
| 4:B:10:LEU:HD11 | 4:C:120:TYR:CE1 | 2.55 | 0.42 |
| 4:B:390:MET:HE2 | 4:B:390:MET:HB2 | 1.87 | 0.42 |
| 1:L:263:LEU:HB3 | 1:L:265:LEU:HD23 | 2.02 | 0.42 |
| 2:N:145:ARG:HA | 2:N:181:ASP:OD1 | 2.18 | 0.42 |
| 4:J:134:LEU:O | 4:J:134:LEU:HD23 | 2.20 | 0.42 |
| 4:J:290:PHE:HZ | 5:P:52:LEU:CD1 | 2.33 | 0.42 |
| 4:J:349:PHE:O | 4:J:353:PHE:CD2 | 2.70 | 0.42 |
| 4:J:495:GLU:OE2 | 4:J:496:VAL:HG23 | 2.20 | 0.42 |
| 4:I:209:GLY:HA3 | 4:I:257:HIS:CD2 | 2.55 | 0.42 |
| 4:I:439:THR:O | 4:I:442:ILE:HG13 | 2.19 | 0.42 |
| 1:T:112:SER:N | 1:T:115:ARG:HE | 2.17 | 0.42 |
| 1:T:263:LEU:HB3 | 1:T:265:LEU:HD23 | 2.02 | 0.42 |
| 3:U:6:ARG:HD3 | 3:c:521:TYR:CE1 | 2.54 | 0.42 |
| 4:R:120:TYR:CE1 | 4:Q:10:LEU:HD11 | 2.55 | 0.42 |
| 4:Q:104:ILE:HB | 4:S:99:ILE:CG2 | 2.50 | 0.42 |
| 4:Q:209:GLY:HA3 | 4:Q:257:HIS:CD2 | 2.55 | 0.42 |
| 4:S:492:ALA:O | 4:S:495:GLU:HG3 | 2.19 | 0.42 |
| 2:d:143:VAL:HG22 | 2:d:183:VAL:HA | 2.02 | 0.42 |
| 2:e:291:VAL:HG12 | 2:e:298:PHE:O | 2.20 | 0.42 |
| 4:Z:209:GLY:HA3 | 4:Z:257:HIS:CD2 | 2.55 | 0.42 |
| 4:Z:290:PHE:HZ | 5:f:52:LEU:CD1 | 2.33 | 0.42 |
| 4:Y:120:TYR:CE1 | 4:a:10:LEU:HD11 | 2.55 | 0.42 |
| 4:a:209:GLY:HA3 | 4:a:257:HIS:CD2 | 2.55 | 0.42 |
| 4:a:288:ILE:HG21 | 4:a:346:ASN:ND2 | 2.31 | 0.42 |
| 4:a:358:LYS:HD3 | 4:a:361:ARG:NH2 | 2.35 | 0.42 |
| 4:a:439:THR:O | 4:a:442:ILE:HG13 | 2.19 | 0.42 |
| 2:l:164:ILE:HG22 | 2:l:168:MET:HE2 | 2.02 | 0.42 |
| 2:m:169:TYR:CD1 | 2:m:169:TYR:C | 2.98 | 0.42 |
| 3:k:40:LYS:HD3 | 3:k:73:VAL:CG2 | 2.50 | 0.42 |
| 3:k:66:HIS:HD2 | 3:k:67:MET:CE | 2.33 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:k:355:PHE:HB3 | 1:r:76:LYS:HZ1 | 1.84 | 0.42 |
| 3:k:393:ASP:C | 3:k:396:LEU:HB3 | 2.44 | 0.42 |
| 4:g:120:TYR:CE1 | 4:i:10:LEU:HD11 | 2.55 | 0.42 |
| 4:g:495:GLU:OE2 | 4:g:496:VAL:HG23 | 2.20 | 0.42 |
| 2:u:90:TYR:HE1 | 2:u:122:LYS:HB3 | 1.85 | 0.42 |
| 3:s:129:LEU:HB3 | 3:s:460:LYS:CD | 2.50 | 0.42 |
| 3:s:488:HIS:O | 3:s:492:VAL:HG22 | 2.19 | 0.42 |
| 4:o:18:TYR:CZ | 4:q:7:ILE:HD12 | 2.55 | 0.42 |
| 4:o:358:LYS:HD3 | 4:o:361:ARG:NH2 | 2.35 | 0.42 |
| 4:o:492:ALA:O | 4:o:495:GLU:HG3 | 2.19 | 0.42 |
| 4:o:495:GLU:OE2 | 4:o:496:VAL:HG23 | 2.20 | 0.42 |
| 4:q:358:LYS:HD3 | 4:q:361:ARG:NH2 | 2.35 | 0.42 |
| 3:E:40:LYS:HD3 | 3:E:73:VAL:CG2 | 2.50 | 0.41 |
| 3:E:111:HIS:HE1 | 3:s:392:ASN:ND2 | 2.18 | 0.41 |
| 3:E:355:PHE:HB3 | 1:L:76:LYS:HZ1 | 1.85 | 0.41 |
| 3:E:533:LEU:HD12 | 3:E:540:VAL:HG22 | 2.01 | 0.41 |
| 3:E:537:LEU:O | 3:E:540:VAL:HB | 2.19 | 0.41 |
| 4:B:156:MET:HE3 | 4:B:425:ARG:HD2 | 2.01 | 0.41 |
| 2:O:137:GLN:HG2 | 2:O:137:GLN:O | 2.20 | 0.41 |
| 4:J:10:LEU:HD11 | 4:K:120:TYR:CE1 | 2.55 | 0.41 |
| 4:J:120:TYR:CE1 | 4:I:10:LEU:HD11 | 2.55 | 0.41 |
| 4:I:510:SER:CB | 3:U:538:TYR:HB2 | 2.49 | 0.41 |
| 4:K:390:MET:HE2 | 4:K:390:MET:HB2 | 1.87 | 0.41 |
| 2:V:262:GLN:HB3 | 2:V:341:VAL:HG21 | 2.02 | 0.41 |
| 2:W:90:TYR:HE1 | 2:W:122:LYS:HB3 | 1.85 | 0.41 |
| 2:W:339:MET:HE2 | 2:W:339:MET:HA | 2.01 | 0.41 |
| 3:U:51:ILE:O | 3:U:51:ILE:HG13 | 2.20 | 0.41 |
| 3:U:66:HIS:CD2 | 3:U:67:MET:CE | 3.03 | 0.41 |
| 3:U:300:ILE:HD13 | 3:U:307:ILE:CG1 | 2.50 | 0.41 |
| 4:R:492:ALA:O | 4:R:495:GLU:HG3 | 2.19 | 0.41 |
| 4:Q:134:LEU:HD23 | 4:Q:134:LEU:O | 2.20 | 0.41 |
| 4:S:10:LEU:HA | 4:S:13:LEU:HD12 | 2.02 | 0.41 |
| 4:S:358:LYS:HD3 | 4:S:361:ARG:NH2 | 2.35 | 0.41 |
| 4:S:495:GLU:OE2 | 4:S:496:VAL:HG23 | 2.20 | 0.41 |
| 3:c:344:PHE:HZ | 1:j:116:LYS:HB3 | 1.83 | 0.41 |
| 4:Z:358:LYS:HD3 | 4:Z:361:ARG:NH2 | 2.35 | 0.41 |
| 4:Y:495:GLU:OE2 | 4:Y:496:VAL:HG23 | 2.20 | 0.41 |
| 2:l:262:GLN:HB3 | 2:l:341:VAL:HG21 | 2.02 | 0.41 |
| 3:k:300:ILE:HD13 | 3:k:307:ILE:CG1 | 2.50 | 0.41 |
| 4:h:120:TYR:CE1 | 4:g:10:LEU:HD11 | 2.55 | 0.41 |
| 4:h:209:GLY:HA3 | 4:h:257:HIS:CD2 | 2.55 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:h:358:LYS:HD3 | 4:h:361:ARG:NH2 | 2.35 | 0.41 |
| 4:g:358:LYS:HD3 | 4:g:361:ARG:NH2 | 2.35 | 0.41 |
| 4:i:358:LYS:HD3 | 4:i:361:ARG:NH2 | 2.35 | 0.41 |
| 1:r:263:LEU:HB3 | 1:r:265:LEU:HD23 | 2.02 | 0.41 |
| 2:t:262:GLN:HB3 | 2:t:341:VAL:HG21 | 2.02 | 0.41 |
| 4:p:10:LEU:HD11 | 4:q:120:TYR:CE1 | 2.55 | 0.41 |
| 4:p:290:PHE:HZ | 5:v:52:LEU:CD1 | 2.33 | 0.41 |
| 4:q:12:GLN:HG2 | 4:q:483:LEU:HD13 | 2.01 | 0.41 |
| 4:q:349:PHE:O | 4:q:353:PHE:CD2 | 2.70 | 0.41 |
| 3:E:51:ILE:O | 3:E:51:ILE:HG13 | 2.20 | 0.41 |
| 4:B:10:LEU:HA | 4:B:13:LEU:HD12 | 2.02 | 0.41 |
| 4:B:209:GLY:HA3 | 4:B:257:HIS:CD2 | 2.55 | 0.41 |
| 4:A:358:LYS:HD3 | 4:A:361:ARG:NH2 | 2.35 | 0.41 |
| 4:C:212:GLN:HB2 | 4:C:245:PRO:HB3 | 2.02 | 0.41 |
| 2:N:199:PHE:HE1 | 2:N:255:HIS:O | 2.03 | 0.41 |
| 4:K:281:MET:HE2 | 4:K:286:GLU:HB2 | 2.02 | 0.41 |
| 4:K:386:LEU:HD23 | 4:K:386:LEU:N | 2.35 | 0.41 |
| 2:V:143:VAL:HG22 | 2:V:183:VAL:HA | 2.02 | 0.41 |
| 2:W:267:LEU:HD12 | 2:W:320:GLY:HA2 | 2.02 | 0.41 |
| 4:R:495:GLU:OE2 | 4:R:496:VAL:HG23 | 2.20 | 0.41 |
| 4:S:212:GLN:HB2 | 4:S:245:PRO:HB3 | 2.02 | 0.41 |
| 2:e:339:MET:HE2 | 2:e:339:MET:HA | 2.01 | 0.41 |
| 3:c:66:HIS:HD2 | 3:c:67:MET:CE | 2.33 | 0.41 |
| 3:c:129:LEU:HB3 | 3:c:460:LYS:CD | 2.50 | 0.41 |
| 4:Z:10:LEU:HA | 4:Z:13:LEU:HD12 | 2.02 | 0.41 |
| 4:Z:18:TYR:CZ | 4:Y:7:ILE:HD12 | 2.55 | 0.41 |
| 4:Y:156:MET:HE3 | 4:Y:425:ARG:HD2 | 2.01 | 0.41 |
| 4:a:134:LEU:O | 4:a:134:LEU:HD23 | 2.20 | 0.41 |
| 2:l:180:PHE:CE2 | 2:l:209:LEU:HD13 | 2.55 | 0.41 |
| 2:m:90:TYR:HE1 | 2:m:122:LYS:HB3 | 1.85 | 0.41 |
| 3:k:488:HIS:O | 3:k:492:VAL:HG22 | 2.19 | 0.41 |
| 4:i:492:ALA:O | 4:i:495:GLU:HG3 | 2.19 | 0.41 |
| 2:t:143:VAL:HG22 | 2:t:183:VAL:HA | 2.02 | 0.41 |
| 2:t:164:ILE:HG22 | 2:t:168:MET:HE2 | 2.02 | 0.41 |
| 3:s:393:ASP:C | 3:s:396:LEU:HB3 | 2.44 | 0.41 |
| 3:s:562:ILE:HD12 | 3:s:562:ILE:HA | 1.88 | 0.41 |
| 4:p:7:ILE:HD12 | 4:q:18:TYR:CZ | 2.55 | 0.41 |
| 4:o:212:GLN:HB2 | 4:o:245:PRO:HB3 | 2.02 | 0.41 |
| 4:q:439:THR:O | 4:q:442:ILE:HG13 | 2.19 | 0.41 |
| 2:F:143:VAL:HG22 | 2:F:183:VAL:HA | 2.02 | 0.41 |
| 3:E:111:HIS:O | 3:s:394:ILE:CD1 | 2.69 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:E:394:ILE:CD1 | 3:M:111:HIS:O | 2.69 | 0.41 |
| 3:E:488:HIS:O | 3:E:492:VAL:HG22 | 2.19 | 0.41 |
| 4:B:495:GLU:OE2 | 4:B:496:VAL:HG23 | 2.20 | 0.41 |
| 4:C:358:LYS:HD3 | 4:C:361:ARG:NH2 | 2.35 | 0.41 |
| 2:O:267:LEU:HD12 | 2:O:320:GLY:HA2 | 2.02 | 0.41 |
| 3:M:40:LYS:HD3 | 3:M:73:VAL:CG2 | 2.50 | 0.41 |
| 4:J:4:ILE:C | 4:K:390:MET:HE1 | 2.44 | 0.41 |
| 4:J:104:ILE:HB | 4:I:99:ILE:CG2 | 2.50 | 0.41 |
| 4:J:347:LYS:HD3 | 4:J:347:LYS:N | 2.36 | 0.41 |
| 4:J:361:ARG:HB3 | 5:P:37:ILE:HD11 | 2.01 | 0.41 |
| 4:I:156:MET:HE3 | 4:I:425:ARG:HD2 | 2.01 | 0.41 |
| 4:K:358:LYS:HD3 | 4:K:361:ARG:NH2 | 2.35 | 0.41 |
| 3:U:40:LYS:HD3 | 3:U:73:VAL:CG2 | 2.50 | 0.41 |
| 4:R:281:MET:HE2 | 4:R:286:GLU:HB2 | 2.02 | 0.41 |
| 4:R:290:PHE:HZ | 5:X:52:LEU:CD1 | 2.33 | 0.41 |
| 4:Q:495:GLU:OE2 | 4:Q:496:VAL:HG23 | 2.20 | 0.41 |
| 4:S:134:LEU:O | 4:S:134:LEU:HD23 | 2.20 | 0.41 |
| 2:d:276:GLY:HA3 | 2:d:335:MET:O | 2.20 | 0.41 |
| 2:e:90:TYR:HE1 | 2:e:122:LYS:HB3 | 1.85 | 0.41 |
| 2:e:137:GLN:HG2 | 2:e:137:GLN:O | 2.20 | 0.41 |
| 3:c:51:ILE:O | 3:c:51:ILE:HG13 | 2.20 | 0.41 |
| 3:c:154:MET:CE | 3:c:438:LEU:H | 2.33 | 0.41 |
| 4:Z:361:ARG:HB3 | 5:f:37:ILE:HD11 | 2.01 | 0.41 |
| 4:Y:18:TYR:CZ | 4:a:7:ILE:HD12 | 2.55 | 0.41 |
| 4:Y:347:LYS:HD3 | 4:Y:347:LYS:N | 2.36 | 0.41 |
| 3:k:154:MET:CE | 3:k:438:LEU:H | 2.33 | 0.41 |
| 3:k:265:SER:HA | 3:k:268:LYS:HE3 | 2.02 | 0.41 |
| 4:h:10:LEU:HD11 | 4:i:120:TYR:CE1 | 2.55 | 0.41 |
| 4:h:99:ILE:CG2 | 4:i:104:ILE:HB | 2.50 | 0.41 |
| 4:h:347:LYS:HD3 | 4:h:347:LYS:N | 2.36 | 0.41 |
| 4:h:439:THR:O | 4:h:442:ILE:HG13 | 2.19 | 0.41 |
| 2:u:291:VAL:HG12 | 2:u:298:PHE:O | 2.20 | 0.41 |
| 3:s:300:ILE:HD13 | 3:s:307:ILE:CG1 | 2.50 | 0.41 |
| 4:p:104:ILE:HB | 4:o:99:ILE:CG2 | 2.50 | 0.41 |
| 4:p:120:TYR:CE1 | 4:o:10:LEU:HD11 | 2.55 | 0.41 |
| 4:p:361:ARG:HB3 | 5:v:37:ILE:HD11 | 2.01 | 0.41 |
| 4:o:104:ILE:HB | 4:q:99:ILE:CG2 | 2.50 | 0.41 |
| 4:q:134:LEU:O | 4:q:134:LEU:HD23 | 2.20 | 0.41 |
| 4:q:281:MET:HE2 | 4:q:286:GLU:HB2 | 2.02 | 0.41 |
| 4:q:347:LYS:N | 4:q:347:LYS:HD3 | 2.36 | 0.41 |
| 1:D:13:LYS:HZ2 | 1:L:28:ARG:NH2 | 2.17 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:E:300:ILE:HD13 | 3:E:307:ILE:CG1 | 2.50 | 0.41 |
| 4:B:347:LYS:HD3 | 4:B:347:LYS:N | 2.36 | 0.41 |
| 4:A:212:GLN:HB2 | 4:A:245:PRO:HB3 | 2.02 | 0.41 |
| 4:C:444:GLU:HA | 4:C:447:LYS:HG2 | 2.01 | 0.41 |
| 2:O:264:MET:HE2 | 2:O:320:GLY:O | 2.20 | 0.41 |
| 3:M:6:ARG:HD3 | 3:U:521:TYR:CE1 | 2.54 | 0.41 |
| 4:J:209:GLY:HA3 | 4:J:257:HIS:CD2 | 2.55 | 0.41 |
| 4:J:288:ILE:HG21 | 4:J:346:ASN:ND2 | 2.31 | 0.41 |
| 4:I:347:LYS:HD3 | 4:I:347:LYS:N | 2.36 | 0.41 |
| 2:V:180:PHE:CE2 | 2:V:209:LEU:HD13 | 2.55 | 0.41 |
| 4:R:386:LEU:HD23 | 4:R:386:LEU:N | 2.35 | 0.41 |
| 4:R:444:GLU:HA | 4:R:447:LYS:HG2 | 2.01 | 0.41 |
| 2:e:169:TYR:CD1 | 2:e:169:TYR:C | 2.98 | 0.41 |
| 4:Y:10:LEU:HA | 4:Y:13:LEU:HD12 | 2.02 | 0.41 |
| 4:Y:510:SER:CB | 3:k:538:TYR:HB2 | 2.49 | 0.41 |
| 4:a:347:LYS:N | 4:a:347:LYS:HD3 | 2.36 | 0.41 |
| 1:j:253:THR:H | 1:j:256:VAL:HG12 | 1.85 | 0.41 |
| 3:k:456:LYS:H | 3:k:456:LYS:HD2 | 1.85 | 0.41 |
| 4:h:12:GLN:HG2 | 4:h:483:LEU:HD13 | 2.01 | 0.41 |
| 4:h:290:PHE:HZ | 5:n:52:LEU:CD1 | 2.33 | 0.41 |
| 4:g:18:TYR:CZ | 4:i:7:ILE:HD12 | 2.55 | 0.41 |
| 4:g:349:PHE:O | 4:g:353:PHE:CD2 | 2.70 | 0.41 |
| 2:u:169:TYR:CD1 | 2:u:169:TYR:C | 2.98 | 0.41 |
| 2:u:264:MET:HE2 | 2:u:320:GLY:O | 2.20 | 0.41 |
| 3:s:40:LYS:HD3 | 3:s:73:VAL:CG2 | 2.50 | 0.41 |
| 3:s:66:HIS:CD2 | 3:s:67:MET:CE | 3.03 | 0.41 |
| 3:s:154:MET:CE | 3:s:438:LEU:H | 2.34 | 0.41 |
| 3:s:203:THR:O | 3:s:207:GLN:NE2 | 2.54 | 0.41 |
| 4:p:347:LYS:HD3 | 4:p:347:LYS:N | 2.36 | 0.41 |
| 4:p:358:LYS:HD3 | 4:p:361:ARG:NH2 | 2.35 | 0.41 |
| 4:o:209:GLY:HA3 | 4:o:257:HIS:CD2 | 2.55 | 0.41 |
| 4:o:347:LYS:HD3 | 4:o:347:LYS:N | 2.36 | 0.41 |
| 2:F:199:PHE:HE1 | 2:F:255:HIS:O | 2.03 | 0.41 |
| 3:E:203:THR:O | 3:E:207:GLN:NE2 | 2.54 | 0.41 |
| 3:E:392:ASN:ND2 | 3:M:111:HIS:HE1 | 2.18 | 0.41 |
| 3:E:530:GLN:HE22 | 3:E:534:ARG:NH1 | 2.19 | 0.41 |
| 4:B:104:ILE:HB | 4:A:99:ILE:CG2 | 2.50 | 0.41 |
| 4:C:386:LEU:HD23 | 4:C:386:LEU:N | 2.35 | 0.41 |
| 1:L:134:ILE:CB | 1:L:239:LEU:HD13 | 2.50 | 0.41 |
| 2:O:339:MET:HE2 | 2:O:339:MET:HA | 2.01 | 0.41 |
| 4:I:104:ILE:HB | 4:K:99:ILE:CG2 | 2.50 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:W:189:ASN:O | 2:W:190:ILE:HD13 | 2.21 | 0.41 |
| 2:W:192:PHE:CD1 | 2:W:348:ILE:HB | 2.56 | 0.41 |
| 3:U:196:ASN:HB2 | 3:U:389:TYR:C | 2.46 | 0.41 |
| 4:R:209:GLY:HA3 | 4:R:257:HIS:CD2 | 2.55 | 0.41 |
| 4:Q:156:MET:HE3 | 4:Q:425:ARG:HD2 | 2.01 | 0.41 |
| 4:S:12:GLN:HG2 | 4:S:483:LEU:HD13 | 2.01 | 0.41 |
| 2:d:90:TYR:HE1 | 2:d:122:LYS:NZ | 2.16 | 0.41 |
| 2:e:192:PHE:CD1 | 2:e:348:ILE:HB | 2.56 | 0.41 |
| 2:e:250:TRP:HZ3 | 2:e:255:HIS:CD2 | 2.38 | 0.41 |
| 3:c:203:THR:O | 3:c:207:GLN:NE2 | 2.54 | 0.41 |
| 2:m:250:TRP:HZ3 | 2:m:255:HIS:CD2 | 2.38 | 0.41 |
| 2:m:291:VAL:HG12 | 2:m:298:PHE:O | 2.20 | 0.41 |
| 4:h:134:LEU:O | 4:h:134:LEU:HD23 | 2.20 | 0.41 |
| 4:i:212:GLN:HB2 | 4:i:245:PRO:HB3 | 2.02 | 0.41 |
| 4:i:347:LYS:N | 4:i:347:LYS:HD3 | 2.36 | 0.41 |
| 4:i:439:THR:O | 4:i:442:ILE:HG13 | 2.19 | 0.41 |
| 2:u:250:TRP:HZ3 | 2:u:255:HIS:CD2 | 2.38 | 0.41 |
| 4:p:99:ILE:CG2 | 4:q:104:ILE:HB | 2.50 | 0.41 |
| 4:p:495:GLU:OE2 | 4:p:496:VAL:HG23 | 2.20 | 0.41 |
| 4:o:12:GLN:HG2 | 4:o:483:LEU:HD13 | 2.01 | 0.41 |
| 4:o:120:TYR:CE1 | 4:q:10:LEU:HD11 | 2.55 | 0.41 |
| 1:D:257:GLU:HA | 1:D:260:MET:CE | 2.49 | 0.41 |
| 2:F:164:ILE:HG22 | 2:F:168:MET:HE2 | 2.02 | 0.41 |
| 2:G:192:PHE:CD1 | 2:G:348:ILE:HB | 2.56 | 0.41 |
| 3:E:66:HIS:HD2 | 3:E:67:MET:CE | 2.33 | 0.41 |
| 3:E:129:LEU:HB3 | 3:E:460:LYS:CD | 2.50 | 0.41 |
| 3:E:183:TYR:CG | 3:E:277:LEU:HD11 | 2.56 | 0.41 |
| 4:A:12:GLN:HG2 | 4:A:483:LEU:HD13 | 2.01 | 0.41 |
| 4:A:104:ILE:HB | 4:C:99:ILE:CG2 | 2.50 | 0.41 |
| 4:A:209:GLY:HA3 | 4:A:257:HIS:CD2 | 2.55 | 0.41 |
| 4:A:347:LYS:HD3 | 4:A:347:LYS:N | 2.36 | 0.41 |
| 4:A:495:GLU:OE2 | 4:A:496:VAL:HG23 | 2.20 | 0.41 |
| 4:C:495:GLU:OE2 | 4:C:496:VAL:HG23 | 2.20 | 0.41 |
| 1:L:10:ASP:OD1 | 1:L:13:LYS:HE2 | 2.21 | 0.41 |
| 2:O:192:PHE:CD1 | 2:O:348:ILE:HB | 2.56 | 0.41 |
| 3:M:300:ILE:HD13 | 3:M:307:ILE:CG1 | 2.50 | 0.41 |
| 3:M:530:GLN:HE22 | 3:M:534:ARG:NH1 | 2.19 | 0.41 |
| 4:J:444:GLU:HA | 4:J:447:LYS:HG2 | 2.01 | 0.41 |
| 4:I:134:LEU:HD23 | 4:I:134:LEU:O | 2.20 | 0.41 |
| 1:T:10:ASP:OD1 | 1:T:13:LYS:HE2 | 2.21 | 0.41 |
| 2:V:90:TYR:HE1 | 2:V:122:LYS:NZ | 2.16 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:U:530:GLN:HE22 | 3:U:534:ARG:NH1 | 2.19 | 0.41 |
| 4:R:18:TYR:CZ | 4:Q:7:ILE:HD12 | 2.55 | 0.41 |
| 2:d:180:PHE:CE2 | 2:d:209:LEU:HD13 | 2.55 | 0.41 |
| 2:e:172:GLY:HA3 | 2:e:218:ARG:NH2 | 2.36 | 0.41 |
| 3:c:456:LYS:H | 3:c:456:LYS:HD2 | 1.85 | 0.41 |
| 4:Z:386:LEU:HD23 | 4:Z:386:LEU:N | 2.35 | 0.41 |
| 4:Z:444:GLU:HA | 4:Z:447:LYS:HG2 | 2.01 | 0.41 |
| 4:a:386:LEU:HD23 | 4:a:386:LEU:N | 2.35 | 0.41 |
| 1:j:173:MET:HE1 | 1:j:183:PHE:CZ | 2.56 | 0.41 |
| 1:j:260:MET:SD | 1:j:270:VAL:HG21 | 2.61 | 0.41 |
| 2:l:91:MET:HE3 | 2:l:137:GLN:NE2 | 2.36 | 0.41 |
| 2:m:137:GLN:HG2 | 2:m:137:GLN:O | 2.20 | 0.41 |
| 3:k:394:ILE:CD1 | 3:s:111:HIS:O | 2.69 | 0.41 |
| 4:h:212:GLN:HB2 | 4:h:245:PRO:HB3 | 2.02 | 0.41 |
| 4:h:281:MET:HE2 | 4:h:286:GLU:HB2 | 2.02 | 0.41 |
| 4:g:12:GLN:HG2 | 4:g:483:LEU:HD13 | 2.01 | 0.41 |
| 4:i:12:GLN:HG2 | 4:i:483:LEU:HD13 | 2.01 | 0.41 |
| 4:i:498:MET:HE2 | 4:i:498:MET:HB3 | 1.96 | 0.41 |
| 3:s:116:ASP:HB3 | 3:s:119:PHE:HB3 | 2.03 | 0.41 |
| 4:o:386:LEU:HD23 | 4:o:386:LEU:N | 2.35 | 0.41 |
| 4:q:212:GLN:HB2 | 4:q:245:PRO:HB3 | 2.02 | 0.41 |
| 1:D:10:ASP:OD1 | 1:D:13:LYS:HE2 | 2.21 | 0.41 |
| 1:D:173:MET:HE1 | 1:D:183:PHE:CZ | 2.56 | 0.41 |
| 1:D:260:MET:SD | 1:D:270:VAL:HG21 | 2.61 | 0.41 |
| 2:G:250:TRP:HZ3 | 2:G:255:HIS:CD2 | 2.38 | 0.41 |
| 3:E:63:VAL:HG11 | 3:E:102:THR:HG21 | 2.02 | 0.41 |
| 3:E:116:ASP:HB3 | 3:E:119:PHE:HB3 | 2.03 | 0.41 |
| 3:E:456:LYS:HD2 | 3:E:456:LYS:H | 1.85 | 0.41 |
| 4:B:337:VAL:HG22 | 5:H:48:TYR:CE1 | 2.56 | 0.41 |
| 4:A:386:LEU:HD23 | 4:A:386:LEU:N | 2.35 | 0.41 |
| 1:L:112:SER:N | 1:L:115:ARG:HE | 2.17 | 0.41 |
| 2:N:180:PHE:CE2 | 2:N:209:LEU:HD13 | 2.55 | 0.41 |
| 2:O:189:ASN:O | 2:O:190:ILE:HD13 | 2.21 | 0.41 |
| 3:M:203:THR:O | 3:M:207:GLN:NE2 | 2.54 | 0.41 |
| 3:M:394:ILE:CD1 | 3:U:111:HIS:O | 2.69 | 0.41 |
| 4:J:7:ILE:HD12 | 4:K:18:TYR:CZ | 2.55 | 0.41 |
| 4:J:10:LEU:HA | 4:J:13:LEU:HD12 | 2.02 | 0.41 |
| 4:J:18:TYR:CZ | 4:I:7:ILE:HD12 | 2.55 | 0.41 |
| 4:J:439:THR:O | 4:J:442:ILE:HG13 | 2.19 | 0.41 |
| 4:I:358:LYS:HD3 | 4:I:361:ARG:NH2 | 2.35 | 0.41 |
| 4:K:495:GLU:OE2 | 4:K:496:VAL:HG23 | 2.20 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:T:7:ARG:HH12 | 1:T:8:PHE:HB3 | 1.85 | 0.41 |
| 2:V:199:PHE:HE1 | 2:V:255:HIS:O | 2.03 | 0.41 |
| 2:W:99:GLU:O | 2:W:103:TRP:HD1 | 2.04 | 0.41 |
| 3:U:116:ASP:HB3 | 3:U:119:PHE:HB3 | 2.03 | 0.41 |
| 3:U:203:THR:O | 3:U:207:GLN:NE2 | 2.54 | 0.41 |
| 4:R:10:LEU:HA | 4:R:13:LEU:HD12 | 2.02 | 0.41 |
| 4:R:358:LYS:HD3 | 4:R:361:ARG:NH2 | 2.35 | 0.41 |
| 4:Q:347:LYS:HD3 | 4:Q:347:LYS:N | 2.36 | 0.41 |
| 1:b:13:LYS:HZ2 | 1:j:28:ARG:NH2 | 2.17 | 0.41 |
| 1:b:173:MET:HE1 | 1:b:183:PHE:CZ | 2.56 | 0.41 |
| 3:c:265:SER:HA | 3:c:268:LYS:HE3 | 2.01 | 0.41 |
| 4:a:10:LEU:HA | 4:a:13:LEU:HD12 | 2.02 | 0.41 |
| 4:a:495:GLU:OE2 | 4:a:496:VAL:HG23 | 2.20 | 0.41 |
| 2:l:276:GLY:HA3 | 2:l:335:MET:O | 2.20 | 0.41 |
| 3:k:284:GLU:OE2 | 3:k:286:GLU:HB2 | 2.21 | 0.41 |
| 4:g:212:GLN:HB2 | 4:g:245:PRO:HB3 | 2.02 | 0.41 |
| 4:g:510:SER:CB | 3:s:538:TYR:HB2 | 2.49 | 0.41 |
| 4:i:134:LEU:O | 4:i:134:LEU:HD23 | 2.20 | 0.41 |
| 4:i:155:SER:O | 4:i:156:MET:HE2 | 2.21 | 0.41 |
| 4:i:209:GLY:HA3 | 4:i:257:HIS:CD2 | 2.55 | 0.41 |
| 2:t:276:GLY:HA3 | 2:t:335:MET:O | 2.20 | 0.41 |
| 3:s:284:GLU:OE2 | 3:s:286:GLU:HB2 | 2.21 | 0.41 |
| 4:p:337:VAL:HG22 | 5:v:48:TYR:CE1 | 2.56 | 0.41 |
| 4:o:155:SER:O | 4:o:156:MET:HE2 | 2.21 | 0.41 |
| 2:G:169:TYR:C | 2:G:169:TYR:CD1 | 2.98 | 0.41 |
| 3:E:111:HIS:ND1 | 3:s:395:THR:HG23 | 2.36 | 0.41 |
| 4:B:212:GLN:HB2 | 4:B:245:PRO:HB3 | 2.02 | 0.41 |
| 4:C:134:LEU:O | 4:C:134:LEU:HD23 | 2.20 | 0.41 |
| 1:L:260:MET:SD | 1:L:270:VAL:HG21 | 2.61 | 0.41 |
| 4:I:288:ILE:HG21 | 4:I:346:ASN:ND2 | 2.31 | 0.41 |
| 3:U:418:GLU:HB2 | 3:U:458:ILE:HD12 | 2.03 | 0.41 |
| 3:U:456:LYS:H | 3:U:456:LYS:HD2 | 1.85 | 0.41 |
| 4:R:155:SER:O | 4:R:156:MET:HE2 | 2.21 | 0.41 |
| 4:R:347:LYS:HD3 | 4:R:347:LYS:N | 2.36 | 0.41 |
| 4:Q:120:TYR:CE1 | 4:S:10:LEU:HD11 | 2.55 | 0.41 |
| 4:Q:390:MET:HB2 | 4:Q:390:MET:HE2 | 1.87 | 0.41 |
| 3:c:183:TYR:CG | 3:c:277:LEU:HD11 | 2.56 | 0.41 |
| 3:c:196:ASN:HB2 | 3:c:389:TYR:C | 2.46 | 0.41 |
| 4:Z:134:LEU:HD23 | 4:Z:134:LEU:O | 2.20 | 0.41 |
| 4:Y:358:LYS:HD3 | 4:Y:361:ARG:NH2 | 2.35 | 0.41 |
| 1:j:263:LEU:HB3 | 1:j:265:LEU:HD23 | 2.02 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:l:199:PHE:HE1 | 2:l:255:HIS:O | 2.03 | 0.41 |
| 2:m:172:GLY:HA3 | 2:m:218:ARG:NH2 | 2.36 | 0.41 |
| 3:k:66:HIS:CD2 | 3:k:67:MET:CE | 3.03 | 0.41 |
| 4:h:337:VAL:HG22 | 5:n:48:TYR:CE1 | 2.56 | 0.41 |
| 4:g:104:ILE:HB | 4:i:99:ILE:CG2 | 2.50 | 0.41 |
| 4:g:281:MET:HE2 | 4:g:286:GLU:HB2 | 2.02 | 0.41 |
| 4:g:347:LYS:HD3 | 4:g:347:LYS:N | 2.35 | 0.41 |
| 4:g:439:THR:O | 4:g:442:ILE:HG13 | 2.19 | 0.41 |
| 3:s:530:GLN:HE22 | 3:s:534:ARG:NH1 | 2.19 | 0.41 |
| 4:p:155:SER:O | 4:p:156:MET:HE2 | 2.21 | 0.41 |
| 4:o:10:LEU:HA | 4:o:13:LEU:HD12 | 2.02 | 0.41 |
| 4:o:281:MET:HE2 | 4:o:286:GLU:HB2 | 2.02 | 0.41 |
| 1:D:134:ILE:CB | 1:D:239:LEU:HD13 | 2.50 | 0.41 |
| 2:F:252:ILE:HG13 | 2:F:253:LYS:N | 2.36 | 0.41 |
| 2:G:264:MET:HE2 | 2:G:320:GLY:O | 2.20 | 0.41 |
| 3:E:347:VAL:O | 1:L:77:LYS:HE3 | 2.21 | 0.41 |
| 3:E:395:THR:HG23 | 3:M:111:HIS:ND1 | 2.36 | 0.41 |
| 4:B:7:ILE:HD12 | 4:C:18:TYR:CZ | 2.55 | 0.41 |
| 4:A:281:MET:HE2 | 4:A:286:GLU:HB2 | 2.02 | 0.41 |
| 1:L:173:MET:HE1 | 1:L:183:PHE:CZ | 2.56 | 0.41 |
| 2:N:91:MET:HE3 | 2:N:137:GLN:NE2 | 2.36 | 0.41 |
| 3:M:347:VAL:O | 1:T:77:LYS:HE3 | 2.21 | 0.41 |
| 3:M:392:ASN:ND2 | 3:U:111:HIS:HE1 | 2.18 | 0.41 |
| 3:M:418:GLU:HB2 | 3:M:458:ILE:HD12 | 2.03 | 0.41 |
| 4:J:99:ILE:CG2 | 4:K:104:ILE:HB | 2.50 | 0.41 |
| 4:J:155:SER:O | 4:J:156:MET:HE2 | 2.21 | 0.41 |
| 4:J:337:VAL:HG22 | 5:P:48:TYR:CE1 | 2.56 | 0.41 |
| 4:I:120:TYR:CE1 | 4:K:10:LEU:HD11 | 2.55 | 0.41 |
| 4:I:288:ILE:O | 4:I:292:ILE:HG12 | 2.21 | 0.41 |
| 4:K:134:LEU:O | 4:K:134:LEU:HD23 | 2.20 | 0.41 |
| 4:K:155:SER:O | 4:K:156:MET:HE2 | 2.21 | 0.41 |
| 1:T:173:MET:HE1 | 1:T:183:PHE:CZ | 2.56 | 0.41 |
| 2:W:250:TRP:HZ3 | 2:W:255:HIS:CD2 | 2.38 | 0.41 |
| 3:U:63:VAL:HG11 | 3:U:102:THR:HG21 | 2.02 | 0.41 |
| 3:U:154:MET:CE | 3:U:438:LEU:H | 2.34 | 0.41 |
| 3:U:347:VAL:O | 1:b:77:LYS:HE3 | 2.21 | 0.41 |
| 4:R:99:ILE:CG2 | 4:S:104:ILE:HB | 2.50 | 0.41 |
| 4:R:104:ILE:HB | 4:Q:99:ILE:CG2 | 2.50 | 0.41 |
| 4:R:134:LEU:HD23 | 4:R:134:LEU:O | 2.20 | 0.41 |
| 4:Q:155:SER:O | 4:Q:156:MET:HE2 | 2.21 | 0.41 |
| 4:Q:358:LYS:HD3 | 4:Q:361:ARG:NH2 | 2.35 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:S:281:MET:HE2 | 4:S:286:GLU:HB2 | 2.02 | 0.41 |
| 4:S:347:LYS:HD3 | 4:S:347:LYS:N | 2.36 | 0.41 |
| 1:b:44:TYR:CD1 | 1:b:92:TYR:CE2 | 3.09 | 0.41 |
| 1:b:237:MET:HE3 | 1:b:237:MET:HB2 | 1.86 | 0.41 |
| 2:d:91:MET:HE3 | 2:d:137:GLN:NE2 | 2.36 | 0.41 |
| 3:c:347:VAL:O | 1:j:77:LYS:HE3 | 2.21 | 0.41 |
| 3:c:530:GLN:HE22 | 3:c:534:ARG:NH1 | 2.19 | 0.41 |
| 4:Z:104:ILE:HB | 4:Y:99:ILE:CG2 | 2.50 | 0.41 |
| 4:Z:155:SER:O | 4:Z:156:MET:HE2 | 2.21 | 0.41 |
| 4:Z:337:VAL:HG22 | 5:f:48:TYR:CE1 | 2.56 | 0.41 |
| 4:Y:104:ILE:HB | 4:a:99:ILE:CG2 | 2.50 | 0.41 |
| 3:k:183:TYR:CG | 3:k:277:LEU:HD11 | 2.56 | 0.41 |
| 3:k:347:VAL:O | 1:r:77:LYS:HE3 | 2.21 | 0.41 |
| 3:k:392:ASN:ND2 | 3:s:111:HIS:HE1 | 2.18 | 0.41 |
| 3:k:530:GLN:HE22 | 3:k:534:ARG:NH1 | 2.19 | 0.41 |
| 4:h:10:LEU:HA | 4:h:13:LEU:HD12 | 2.02 | 0.41 |
| 4:h:104:ILE:HB | 4:g:99:ILE:CG2 | 2.50 | 0.41 |
| 4:h:361:ARG:HB3 | 5:n:37:ILE:HD11 | 2.01 | 0.41 |
| 1:r:70:ILE:HB | 1:r:235:VAL:HG21 | 2.03 | 0.41 |
| 1:r:252:ILE:HD11 | 1:r:260:MET:HE1 | 2.03 | 0.41 |
| 1:r:260:MET:SD | 1:r:270:VAL:HG21 | 2.61 | 0.41 |
| 2:t:91:MET:HE3 | 2:t:137:GLN:NE2 | 2.36 | 0.41 |
| 2:t:199:PHE:HE1 | 2:t:255:HIS:O | 2.03 | 0.41 |
| 2:u:192:PHE:CD1 | 2:u:348:ILE:HB | 2.56 | 0.41 |
| 3:s:183:TYR:CG | 3:s:277:LEU:HD11 | 2.56 | 0.41 |
| 3:s:456:LYS:H | 3:s:456:LYS:HD2 | 1.85 | 0.41 |
| 4:p:298:SER:H | 5:v:44:GLN:NE2 | 2.18 | 0.41 |
| 4:q:10:LEU:HA | 4:q:13:LEU:HD12 | 2.02 | 0.41 |
| 4:q:495:GLU:OE2 | 4:q:496:VAL:HG23 | 2.20 | 0.41 |
| 1:D:36:LYS:HB3 | 1:D:36:LYS:HE3 | 1.89 | 0.41 |
| 1:D:77:LYS:HE3 | 3:s:347:VAL:O | 2.21 | 0.41 |
| 2:F:91:MET:HE3 | 2:F:137:GLN:NE2 | 2.36 | 0.41 |
| 3:E:160:LYS:HE2 | 3:E:399:MET:HG3 | 2.03 | 0.41 |
| 4:B:155:SER:O | 4:B:156:MET:HE2 | 2.21 | 0.41 |
| 4:B:358:LYS:HD3 | 4:B:361:ARG:NH2 | 2.35 | 0.41 |
| 3:M:224:ILE:HG13 | 3:M:225:PHE:N | 2.36 | 0.41 |
| 4:I:10:LEU:HA | 4:I:13:LEU:HD12 | 2.02 | 0.41 |
| 4:I:155:SER:O | 4:I:156:MET:HE2 | 2.21 | 0.41 |
| 4:I:495:GLU:OE2 | 4:I:496:VAL:HG23 | 2.20 | 0.41 |
| 4:I:498:MET:HE2 | 4:I:498:MET:HB3 | 1.96 | 0.41 |
| 2:W:169:TYR:CD1 | 2:W:169:TYR:C | 2.98 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:Q:281:MET:HE2 | 4:Q:286:GLU:HB2 | 2.02 | 0.41 |
| 2:e:189:ASN:O | 2:e:190:ILE:HD13 | 2.21 | 0.41 |
| 3:c:116:ASP:HB3 | 3:c:119:PHE:HB3 | 2.03 | 0.41 |
| 3:c:224:ILE:HG13 | 3:c:225:PHE:N | 2.36 | 0.41 |
| 3:c:533:LEU:HD12 | 3:c:540:VAL:HG22 | 2.01 | 0.41 |
| 4:a:155:SER:O | 4:a:156:MET:HE2 | 2.21 | 0.41 |
| 4:a:212:GLN:HB2 | 4:a:245:PRO:HB3 | 2.02 | 0.41 |
| 3:k:224:ILE:HG13 | 3:k:225:PHE:N | 2.36 | 0.41 |
| 3:k:532:PHE:CD2 | 3:k:533:LEU:HD22 | 2.56 | 0.41 |
| 4:g:10:LEU:HA | 4:g:13:LEU:HD12 | 2.02 | 0.41 |
| 4:i:10:LEU:HA | 4:i:13:LEU:HD12 | 2.02 | 0.41 |
| 3:s:196:ASN:HB2 | 3:s:389:TYR:C | 2.46 | 0.41 |
| 3:s:265:SER:HA | 3:s:268:LYS:HE3 | 2.02 | 0.41 |
| 3:s:460:LYS:HZ3 | 3:s:463:LEU:HD23 | 1.86 | 0.41 |
| 4:p:212:GLN:HB2 | 4:p:245:PRO:HB3 | 2.02 | 0.41 |
| 1:D:70:ILE:HB | 1:D:235:VAL:HG21 | 2.03 | 0.40 |
| 2:F:262:GLN:HB3 | 2:F:341:VAL:HG21 | 2.02 | 0.40 |
| 3:E:284:GLU:OE2 | 3:E:286:GLU:HB2 | 2.21 | 0.40 |
| 4:B:99:ILE:CG2 | 4:C:104:ILE:HB | 2.50 | 0.40 |
| 4:B:174:LEU:HD23 | 4:B:174:LEU:HA | 1.93 | 0.40 |
| 4:A:120:TYR:CE1 | 4:C:10:LEU:HD11 | 2.55 | 0.40 |
| 1:L:237:MET:HE3 | 1:L:237:MET:HB2 | 1.86 | 0.40 |
| 2:N:85:LEU:HD12 | 2:N:125:LYS:HE3 | 2.03 | 0.40 |
| 2:N:252:ILE:HG13 | 2:N:253:LYS:N | 2.36 | 0.40 |
| 2:O:169:TYR:CD1 | 2:O:169:TYR:C | 2.98 | 0.40 |
| 3:M:63:VAL:HG11 | 3:M:102:THR:HG21 | 2.02 | 0.40 |
| 3:M:183:TYR:CG | 3:M:277:LEU:HD11 | 2.56 | 0.40 |
| 3:M:196:ASN:HB2 | 3:M:389:TYR:C | 2.46 | 0.40 |
| 4:J:358:LYS:HD3 | 4:J:361:ARG:NH2 | 2.35 | 0.40 |
| 2:W:215:ARG:NH1 | 2:W:217:TYR:HB3 | 2.36 | 0.40 |
| 3:U:104:GLN:OE1 | 3:U:107:LYS:HE2 | 2.21 | 0.40 |
| 3:U:224:ILE:HG13 | 3:U:225:PHE:N | 2.36 | 0.40 |
| 3:U:265:SER:HA | 3:U:268:LYS:HE3 | 2.02 | 0.40 |
| 4:R:10:LEU:HD11 | 4:S:120:TYR:CE1 | 2.55 | 0.40 |
| 4:R:361:ARG:HB3 | 5:X:37:ILE:HD11 | 2.01 | 0.40 |
| 4:S:155:SER:O | 4:S:156:MET:HE2 | 2.21 | 0.40 |
| 2:d:199:PHE:HE1 | 2:d:255:HIS:O | 2.03 | 0.40 |
| 3:c:284:GLU:OE2 | 3:c:286:GLU:HB2 | 2.21 | 0.40 |
| 3:c:374:PHE:CG | 3:c:375:ASP:N | 2.83 | 0.40 |
| 3:c:392:ASN:ND2 | 3:k:111:HIS:HE1 | 2.18 | 0.40 |
| 4:Y:212:GLN:HB2 | 4:Y:245:PRO:HB3 | 2.02 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:h:386:LEU:HD23 | 4:h:386:LEU:N | 2.35 | 0.40 |
| 4:g:155:SER:O | 4:g:156:MET:HE2 | 2.21 | 0.40 |
| 4:g:209:GLY:HA3 | 4:g:257:HIS:CD2 | 2.55 | 0.40 |
| 4:g:390:MET:HB2 | 4:g:390:MET:HE2 | 1.87 | 0.40 |
| 4:i:281:MET:HE2 | 4:i:286:GLU:HB2 | 2.02 | 0.40 |
| 4:i:495:GLU:OE2 | 4:i:496:VAL:HG23 | 2.20 | 0.40 |
| 2:t:252:ILE:HG13 | 2:t:253:LYS:N | 2.36 | 0.40 |
| 4:p:134:LEU:O | 4:p:134:LEU:HD23 | 2.20 | 0.40 |
| 4:q:386:LEU:HD23 | 4:q:386:LEU:N | 2.35 | 0.40 |
| 3:E:262:TYR:CE2 | 3:E:385:SER:HB2 | 2.57 | 0.40 |
| 3:E:418:GLU:HB2 | 3:E:458:ILE:HD12 | 2.03 | 0.40 |
| 4:A:10:LEU:HA | 4:A:13:LEU:HD12 | 2.02 | 0.40 |
| 4:A:63:ASP:OD1 | 4:A:64:GLU:HG3 | 2.22 | 0.40 |
| 4:A:288:ILE:O | 4:A:292:ILE:HG12 | 2.21 | 0.40 |
| 2:N:262:GLN:HB3 | 2:N:341:VAL:HG21 | 2.02 | 0.40 |
| 2:N:340:PHE:HE1 | 2:V:323:LEU:HG | 1.87 | 0.40 |
| 3:M:262:TYR:CE2 | 3:M:385:SER:HB2 | 2.57 | 0.40 |
| 4:J:281:MET:HE2 | 4:J:286:GLU:HB2 | 2.02 | 0.40 |
| 4:I:21:ARG:HB2 | 4:K:7:ILE:HD13 | 2.04 | 0.40 |
| 4:K:555:VAL:O | 4:K:555:VAL:HG23 | 2.21 | 0.40 |
| 2:V:276:GLY:HA3 | 2:V:335:MET:O | 2.20 | 0.40 |
| 3:U:160:LYS:HE2 | 3:U:399:MET:HG3 | 2.03 | 0.40 |
| 4:R:337:VAL:HG22 | 5:X:48:TYR:CE1 | 2.56 | 0.40 |
| 4:S:63:ASP:OD1 | 4:S:64:GLU:HG3 | 2.22 | 0.40 |
| 4:S:555:VAL:O | 4:S:555:VAL:HG23 | 2.21 | 0.40 |
| 1:b:260:MET:SD | 1:b:270:VAL:HG21 | 2.61 | 0.40 |
| 2:e:185:ILE:O | 2:e:204:ASP:OD2 | 2.40 | 0.40 |
| 4:Z:10:LEU:HD11 | 4:a:120:TYR:CE1 | 2.55 | 0.40 |
| 4:Z:347:LYS:HD3 | 4:Z:347:LYS:N | 2.36 | 0.40 |
| 4:a:12:GLN:HG2 | 4:a:483:LEU:HD13 | 2.01 | 0.40 |
| 2:l:143:VAL:HG22 | 2:l:183:VAL:HA | 2.02 | 0.40 |
| 2:m:189:ASN:O | 2:m:190:ILE:HD13 | 2.21 | 0.40 |
| 2:m:192:PHE:CD1 | 2:m:348:ILE:HB | 2.56 | 0.40 |
| 3:k:104:GLN:OE1 | 3:k:107:LYS:HE2 | 2.21 | 0.40 |
| 4:h:155:SER:O | 4:h:156:MET:HE2 | 2.21 | 0.40 |
| 1:r:10:ASP:OD1 | 1:r:13:LYS:HE2 | 2.21 | 0.40 |
| 1:r:36:LYS:HB3 | 1:r:36:LYS:HE3 | 1.89 | 0.40 |
| 2:u:172:GLY:HA3 | 2:u:218:ARG:NH2 | 2.36 | 0.40 |
| 4:q:209:GLY:HA3 | 4:q:257:HIS:CD2 | 2.55 | 0.40 |
| 1:D:252:ILE:HD11 | 1:D:260:MET:HE1 | 2.03 | 0.40 |
| 2:G:137:GLN:HG2 | 2:G:137:GLN:O | 2.20 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:E:145:PHE:CE1 | 3:E:419:TYR:CD1 | 3.05 | 0.40 |
| 3:E:224:ILE:HG13 | 3:E:225:PHE:N | 2.36 | 0.40 |
| 4:B:7:ILE:HD13 | 4:C:21:ARG:HB2 | 2.04 | 0.40 |
| 4:C:288:ILE:O | 4:C:292:ILE:HG12 | 2.21 | 0.40 |
| 1:L:180:LYS:HZ1 | 1:L:217:TYR:HB2 | 1.85 | 0.40 |
| 2:O:156:THR:O | 2:O:160:GLN:HG3 | 2.22 | 0.40 |
| 2:O:250:TRP:HZ3 | 2:O:255:HIS:CD2 | 2.38 | 0.40 |
| 2:O:291:VAL:HG21 | 2:O:328:PHE:CE2 | 2.57 | 0.40 |
| 3:M:104:GLN:OE1 | 3:M:107:LYS:HE2 | 2.21 | 0.40 |
| 3:M:145:PHE:CE1 | 3:M:419:TYR:CD1 | 3.05 | 0.40 |
| 3:M:456:LYS:H | 3:M:456:LYS:HD2 | 1.85 | 0.40 |
| 4:J:212:GLN:HB2 | 4:J:245:PRO:HB3 | 2.02 | 0.40 |
| 4:K:288:ILE:O | 4:K:292:ILE:HG12 | 2.21 | 0.40 |
| 4:K:347:LYS:N | 4:K:347:LYS:HD3 | 2.36 | 0.40 |
| 1:T:44:TYR:CD1 | 1:T:92:TYR:CE2 | 3.09 | 0.40 |
| 2:V:85:LEU:HD12 | 2:V:125:LYS:HE3 | 2.03 | 0.40 |
| 2:W:185:ILE:O | 2:W:204:ASP:OD2 | 2.40 | 0.40 |
| 3:U:262:TYR:CE2 | 3:U:385:SER:HB2 | 2.57 | 0.40 |
| 3:U:355:PHE:CE1 | 3:U:360:ILE:HD13 | 2.56 | 0.40 |
| 1:b:252:ILE:HD11 | 1:b:260:MET:HE1 | 2.03 | 0.40 |
| 2:e:245:ASN:ND2 | 3:c:506:ASN:HD21 | 2.13 | 0.40 |
| 3:c:63:VAL:HG11 | 3:c:102:THR:HG21 | 2.02 | 0.40 |
| 3:c:418:GLU:HB2 | 3:c:458:ILE:HD12 | 2.03 | 0.40 |
| 4:a:281:MET:HE2 | 4:a:286:GLU:HB2 | 2.02 | 0.40 |
| 2:l:85:LEU:HD12 | 2:l:125:LYS:HE3 | 2.03 | 0.40 |
| 2:m:215:ARG:NH1 | 2:m:217:TYR:HB3 | 2.37 | 0.40 |
| 3:k:203:THR:O | 3:k:207:GLN:NE2 | 2.54 | 0.40 |
| 3:k:395:THR:HG23 | 3:s:111:HIS:ND1 | 2.36 | 0.40 |
| 4:h:398:VAL:HG12 | 4:h:413:LEU:HD12 | 2.04 | 0.40 |
| 4:h:443:SER:O | 4:h:446:LEU:HG | 2.22 | 0.40 |
| 2:u:99:GLU:O | 2:u:103:TRP:HD1 | 2.04 | 0.40 |
| 1:D:17:ARG:NH1 | 1:D:19:ILE:N | 2.70 | 0.40 |
| 2:G:156:THR:O | 2:G:160:GLN:HG3 | 2.22 | 0.40 |
| 2:G:245:ASN:ND2 | 3:E:506:ASN:HD21 | 2.13 | 0.40 |
| 4:B:205:ASP:O | 4:B:208:ILE:HG22 | 2.22 | 0.40 |
| 4:A:21:ARG:HB2 | 4:C:7:ILE:HD13 | 2.04 | 0.40 |
| 4:A:398:VAL:HG12 | 4:A:413:LEU:HD12 | 2.04 | 0.40 |
| 2:N:93:LYS:CD | 2:N:211:ILE:HG23 | 2.46 | 0.40 |
| 2:N:143:VAL:HG22 | 2:N:183:VAL:HA | 2.02 | 0.40 |
| 2:O:99:GLU:O | 2:O:103:TRP:HD1 | 2.04 | 0.40 |
| 3:M:395:THR:HG23 | 3:U:111:HIS:ND1 | 2.36 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:J:288:ILE:O | 4:J:292:ILE:HG12 | 2.21 | 0.40 |
| 4:J:386:LEU:HD23 | 4:J:386:LEU:N | 2.35 | 0.40 |
| 2:V:91:MET:HE3 | 2:V:137:GLN:NE2 | 2.36 | 0.40 |
| 3:U:183:TYR:CG | 3:U:277:LEU:HD11 | 2.56 | 0.40 |
| 4:Q:498:MET:HE2 | 4:Q:498:MET:HB3 | 1.96 | 0.40 |
| 4:S:398:VAL:HG12 | 4:S:413:LEU:HD12 | 2.04 | 0.40 |
| 2:d:262:GLN:HB3 | 2:d:341:VAL:HG21 | 2.02 | 0.40 |
| 3:c:262:TYR:CE2 | 3:c:385:SER:HB2 | 2.57 | 0.40 |
| 3:c:355:PHE:CE1 | 3:c:360:ILE:HD13 | 2.56 | 0.40 |
| 4:Z:7:ILE:HD13 | 4:a:21:ARG:HB2 | 2.04 | 0.40 |
| 2:m:291:VAL:HG21 | 2:m:328:PHE:CE2 | 2.57 | 0.40 |
| 4:h:21:ARG:HB2 | 4:g:7:ILE:HD13 | 2.04 | 0.40 |
| 4:h:63:ASP:OD1 | 4:h:64:GLU:HG3 | 2.22 | 0.40 |
| 4:g:21:ARG:HB2 | 4:i:7:ILE:HD13 | 2.04 | 0.40 |
| 1:r:44:TYR:CD1 | 1:r:92:TYR:CE2 | 3.09 | 0.40 |
| 1:r:173:MET:HE1 | 1:r:183:PHE:CZ | 2.56 | 0.40 |
| 2:u:189:ASN:O | 2:u:190:ILE:HD13 | 2.21 | 0.40 |
| 3:s:66:HIS:CD2 | 3:s:67:MET:HE2 | 2.57 | 0.40 |
| 3:s:104:GLN:OE1 | 3:s:107:LYS:HE2 | 2.21 | 0.40 |
| 3:s:377:LEU:CG | 3:s:378:ASP:H | 2.26 | 0.40 |
| 4:p:21:ARG:HB2 | 4:o:7:ILE:HD13 | 2.04 | 0.40 |
| 4:q:155:SER:O | 4:q:156:MET:HE2 | 2.21 | 0.40 |
| 2:G:291:VAL:HG21 | 2:G:328:PHE:CE2 | 2.57 | 0.40 |
| 3:E:196:ASN:HB2 | 3:E:389:TYR:C | 2.46 | 0.40 |
| 3:E:355:PHE:CE1 | 3:E:360:ILE:HD13 | 2.56 | 0.40 |
| 4:B:555:VAL:HG23 | 4:B:555:VAL:O | 2.21 | 0.40 |
| 4:C:443:SER:O | 4:C:446:LEU:HG | 2.22 | 0.40 |
| 3:M:284:GLU:OE2 | 3:M:286:GLU:HB2 | 2.21 | 0.40 |
| 4:I:281:MET:HE2 | 4:I:286:GLU:HB2 | 2.02 | 0.40 |
| 1:T:260:MET:SD | 1:T:270:VAL:HG21 | 2.61 | 0.40 |
| 2:W:172:GLY:HA3 | 2:W:218:ARG:NH2 | 2.36 | 0.40 |
| 3:U:284:GLU:OE2 | 3:U:286:GLU:HB2 | 2.21 | 0.40 |
| 4:R:82:SER:HB2 | 4:R:348:PHE:CD1 | 2.57 | 0.40 |
| 4:Q:288:ILE:O | 4:Q:292:ILE:HG12 | 2.21 | 0.40 |
| 1:b:10:ASP:OD1 | 1:b:13:LYS:HE2 | 2.21 | 0.40 |
| 3:c:104:GLN:OE1 | 3:c:107:LYS:HE2 | 2.21 | 0.40 |
| 4:Z:21:ARG:HB2 | 4:Y:7:ILE:HD13 | 2.04 | 0.40 |
| 4:Y:174:LEU:HD23 | 4:Y:174:LEU:HA | 1.93 | 0.40 |
| 1:j:44:TYR:CD1 | 1:j:92:TYR:CE2 | 3.09 | 0.40 |
| 2:m:185:ILE:O | 2:m:204:ASP:OD2 | 2.40 | 0.40 |
| 4:g:205:ASP:O | 4:g:208:ILE:HG22 | 2.22 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:u:86:SER:HB3 | 2:u:89:TYR:CG | 2.57 | 0.40 |
| 2:u:185:ILE:O | 2:u:204:ASP:OD2 | 2.40 | 0.40 |
| 2:u:215:ARG:NH1 | 2:u:217:TYR:HB3 | 2.36 | 0.40 |
| 3:s:224:ILE:HG13 | 3:s:225:PHE:N | 2.36 | 0.40 |
| 3:s:355:PHE:CE1 | 3:s:360:ILE:HD13 | 2.56 | 0.40 |
| 4:o:21:ARG:HB2 | 4:q:7:ILE:HD13 | 2.04 | 0.40 |
| 4:q:443:SER:O | 4:q:446:LEU:HG | 2.22 | 0.40 |

There are no symmetry-related clashes.

## 5.3 Torsion angles (i)

### 5.3.1 Protein backbone (i)

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

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

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|---|---|---|---|---|---|---|---|
| 1 | D | 267/273 (98%) | 255 (96%) | 11 (4%) | 1 (0%) | 30 | 67 |
| 1 | L | 267/273 (98%) | 255 (96%) | 11 (4%) | 1 (0%) | 30 | 67 |
| 1 | T | 267/273 (98%) | 255 (96%) | 11 (4%) | 1 (0%) | 30 | 67 |
| 1 | b | 267/273 (98%) | 255 (96%) | 11 (4%) | 1 (0%) | 30 | 67 |
| 1 | j | 267/273 (98%) | 255 (96%) | 11 (4%) | 1 (0%) | 30 | 67 |
| 1 | r | 267/273 (98%) | 255 (96%) | 11 (4%) | 1 (0%) | 30 | 67 |
| 2 | F | 283/350 (81%) | 273 (96%) | 10 (4%) | 0 | 100 | 100 |
| 2 | G | 266/350 (76%) | 257 (97%) | 9 (3%) | 0 | 100 | 100 |
| 2 | N | 283/350 (81%) | 273 (96%) | 10 (4%) | 0 | 100 | 100 |
| 2 | O | 266/350 (76%) | 257 (97%) | 9 (3%) | 0 | 100 | 100 |
| 2 | V | 283/350 (81%) | 273 (96%) | 10 (4%) | 0 | 100 | 100 |
| 2 | W | 266/350 (76%) | 257 (97%) | 9 (3%) | 0 | 100 | 100 |
| 2 | d | 283/350 (81%) | 273 (96%) | 10 (4%) | 0 | 100 | 100 |
| 2 | e | 266/350 (76%) | 257 (97%) | 9 (3%) | 0 | 100 | 100 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|---|---|---|---|---|---|---|---|
| 2 | l | 283/350 (81%) | 273 (96%) | 10 (4%) | 0 | 100 | 100 |
| 2 | m | 266/350 (76%) | 257 (97%) | 9 (3%) | 0 | 100 | 100 |
| 2 | t | 283/350 (81%) | 273 (96%) | 10 (4%) | 0 | 100 | 100 |
| 2 | u | 266/350 (76%) | 257 (97%) | 9 (3%) | 0 | 100 | 100 |
| 3 | E | 565/567 (100%) | 543 (96%) | 16 (3%) | 6 (1%) | 11 | 46 |
| 3 | M | 565/567 (100%) | 543 (96%) | 16 (3%) | 6 (1%) | 11 | 46 |
| 3 | U | 565/567 (100%) | 543 (96%) | 16 (3%) | 6 (1%) | 11 | 46 |
| 3 | c | 565/567 (100%) | 543 (96%) | 16 (3%) | 6 (1%) | 11 | 46 |
| 3 | k | 565/567 (100%) | 543 (96%) | 16 (3%) | 6 (1%) | 11 | 46 |
| 3 | s | 565/567 (100%) | 543 (96%) | 16 (3%) | 6 (1%) | 11 | 46 |
| 4 | A | 577/614 (94%) | 568 (98%) | 9 (2%) | 0 | 100 | 100 |
| 4 | B | 577/614 (94%) | 568 (98%) | 9 (2%) | 0 | 100 | 100 |
| 4 | C | 577/614 (94%) | 568 (98%) | 9 (2%) | 0 | 100 | 100 |
| 4 | I | 577/614 (94%) | 568 (98%) | 9 (2%) | 0 | 100 | 100 |
| 4 | J | 577/614 (94%) | 568 (98%) | 9 (2%) | 0 | 100 | 100 |
| 4 | K | 577/614 (94%) | 568 (98%) | 9 (2%) | 0 | 100 | 100 |
| 4 | Q | 577/614 (94%) | 568 (98%) | 9 (2%) | 0 | 100 | 100 |
| 4 | R | 577/614 (94%) | 568 (98%) | 9 (2%) | 0 | 100 | 100 |
| 4 | S | 577/614 (94%) | 568 (98%) | 9 (2%) | 0 | 100 | 100 |
| 4 | Y | 577/614 (94%) | 568 (98%) | 9 (2%) | 0 | 100 | 100 |
| 4 | Z | 577/614 (94%) | 568 (98%) | 9 (2%) | 0 | 100 | 100 |
| 4 | a | 577/614 (94%) | 568 (98%) | 9 (2%) | 0 | 100 | 100 |
| 4 | g | 577/614 (94%) | 568 (98%) | 9 (2%) | 0 | 100 | 100 |
| 4 | h | 577/614 (94%) | 568 (98%) | 9 (2%) | 0 | 100 | 100 |
| 4 | i | 577/614 (94%) | 568 (98%) | 9 (2%) | 0 | 100 | 100 |
| 4 | o | 577/614 (94%) | 568 (98%) | 9 (2%) | 0 | 100 | 100 |
| 4 | p | 577/614 (94%) | 568 (98%) | 9 (2%) | 0 | 100 | 100 |
| 4 | q | 577/614 (94%) | 568 (98%) | 9 (2%) | 0 | 100 | 100 |
| 5 | H | 32/281 (11%) | 32 (100%) | 0 | 0 | 100 | 100 |
| 5 | P | 32/281 (11%) | 32 (100%) | 0 | 0 | 100 | 100 |
| 5 | X | 32/281 (11%) | 32 (100%) | 0 | 0 | 100 | 100 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|---|---|---|---|---|---|---|---|
| 5 | f | 32/281 (11%) | 32 (100%) | 0 | 0 | 100 | 100 |
| 5 | n | 32/281 (11%) | 32 (100%) | 0 | 0 | 100 | 100 |
| 5 | v | 32/281 (11%) | 32 (100%) | 0 | 0 | 100 | 100 |
| All | All | 18864/21978 (86%) | 18384 (98%) | 438 (2%) | 42 (0%) | 44 | 78 |

All (42) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | D | 176 | THR |
| 3 | E | 379 | ILE |
| 3 | E | 390 | GLU |
| 1 | L | 176 | THR |
| 3 | M | 379 | ILE |
| 3 | M | 390 | GLU |
| 1 | T | 176 | THR |
| 3 | U | 379 | ILE |
| 3 | U | 390 | GLU |
| 1 | b | 176 | THR |
| 3 | c | 379 | ILE |
| 3 | c | 390 | GLU |
| 1 | j | 176 | THR |
| 3 | k | 379 | ILE |
| 3 | k | 390 | GLU |
| 1 | r | 176 | THR |
| 3 | s | 379 | ILE |
| 3 | s | 390 | GLU |
| 3 | E | 311 | LYS |
| 3 | E | 391 | VAL |
| 3 | M | 311 | LYS |
| 3 | M | 391 | VAL |
| 3 | U | 311 | LYS |
| 3 | U | 391 | VAL |
| 3 | c | 311 | LYS |
| 3 | c | 391 | VAL |
| 3 | k | 311 | LYS |
| 3 | k | 391 | VAL |
| 3 | s | 311 | LYS |
| 3 | s | 391 | VAL |
| 3 | E | 407 | ILE |
| 3 | M | 407 | ILE |
| 3 | U | 407 | ILE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 3 | c | 407 | ILE |
| 3 | k | 407 | ILE |
| 3 | s | 407 | ILE |
| 3 | E | 393 | ASP |
| 3 | M | 393 | ASP |
| 3 | U | 393 | ASP |
| 3 | c | 393 | ASP |
| 3 | k | 393 | ASP |
| 3 | s | 393 | ASP |

### 5.3.2 Protein sidechains (i)

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

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

| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|---|---|---|---|---|---|---|
| 1 | D | 246/248 (99%) | 246 (100%) | 0 | 100 | 100 |
| 1 | L | 246/248 (99%) | 246 (100%) | 0 | 100 | 100 |
| 1 | T | 246/248 (99%) | 246 (100%) | 0 | 100 | 100 |
| 1 | b | 246/248 (99%) | 246 (100%) | 0 | 100 | 100 |
| 1 | j | 246/248 (99%) | 246 (100%) | 0 | 100 | 100 |
| 1 | r | 246/248 (99%) | 246 (100%) | 0 | 100 | 100 |
| 2 | F | 264/326 (81%) | 264 (100%) | 0 | 100 | 100 |
| 2 | G | 248/326 (76%) | 248 (100%) | 0 | 100 | 100 |
| 2 | N | 264/326 (81%) | 264 (100%) | 0 | 100 | 100 |
| 2 | O | 248/326 (76%) | 248 (100%) | 0 | 100 | 100 |
| 2 | V | 264/326 (81%) | 264 (100%) | 0 | 100 | 100 |
| 2 | W | 248/326 (76%) | 248 (100%) | 0 | 100 | 100 |
| 2 | d | 264/326 (81%) | 264 (100%) | 0 | 100 | 100 |
| 2 | e | 248/326 (76%) | 248 (100%) | 0 | 100 | 100 |
| 2 | l | 264/326 (81%) | 264 (100%) | 0 | 100 | 100 |
| 2 | m | 248/326 (76%) | 248 (100%) | 0 | 100 | 100 |
| 2 | t | 264/326 (81%) | 264 (100%) | 0 | 100 | 100 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|---|---|---|---|---|---|---|
| 2 | u | 248/326 (76%) | 248 (100%) | 0 | 100 | 100 |
| 3 | E | 528/533 (99%) | 528 (100%) | 0 | 100 | 100 |
| 3 | M | 528/533 (99%) | 528 (100%) | 0 | 100 | 100 |
| 3 | U | 528/533 (99%) | 528 (100%) | 0 | 100 | 100 |
| 3 | c | 528/533 (99%) | 528 (100%) | 0 | 100 | 100 |
| 3 | k | 528/533 (99%) | 528 (100%) | 0 | 100 | 100 |
| 3 | s | 528/533 (99%) | 528 (100%) | 0 | 100 | 100 |
| 4 | A | 537/567 (95%) | 537 (100%) | 0 | 100 | 100 |
| 4 | B | 537/567 (95%) | 537 (100%) | 0 | 100 | 100 |
| 4 | C | 537/567 (95%) | 537 (100%) | 0 | 100 | 100 |
| 4 | I | 537/567 (95%) | 537 (100%) | 0 | 100 | 100 |
| 4 | J | 537/567 (95%) | 537 (100%) | 0 | 100 | 100 |
| 4 | K | 537/567 (95%) | 537 (100%) | 0 | 100 | 100 |
| 4 | Q | 537/567 (95%) | 537 (100%) | 0 | 100 | 100 |
| 4 | R | 537/567 (95%) | 537 (100%) | 0 | 100 | 100 |
| 4 | S | 537/567 (95%) | 537 (100%) | 0 | 100 | 100 |
| 4 | Y | 537/567 (95%) | 537 (100%) | 0 | 100 | 100 |
| 4 | Z | 537/567 (95%) | 537 (100%) | 0 | 100 | 100 |
| 4 | a | 537/567 (95%) | 537 (100%) | 0 | 100 | 100 |
| 4 | g | 537/567 (95%) | 537 (100%) | 0 | 100 | 100 |
| 4 | h | 537/567 (95%) | 537 (100%) | 0 | 100 | 100 |
| 4 | i | 537/567 (95%) | 537 (100%) | 0 | 100 | 100 |
| 4 | o | 537/567 (95%) | 537 (100%) | 0 | 100 | 100 |
| 4 | p | 537/567 (95%) | 537 (100%) | 0 | 100 | 100 |
| 4 | q | 537/567 (95%) | 537 (100%) | 0 | 100 | 100 |
| 5 | H | 31/256 (12%) | 31 (100%) | 0 | 100 | 100 |
| 5 | P | 31/256 (12%) | 31 (100%) | 0 | 100 | 100 |
| 5 | X | 31/256 (12%) | 31 (100%) | 0 | 100 | 100 |
| 5 | f | 31/256 (12%) | 31 (100%) | 0 | 100 | 100 |
| 5 | n | 31/256 (12%) | 31 (100%) | 0 | 100 | 100 |
| 5 | v | 31/256 (12%) | 31 (100%) | 0 | 100 | 100 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles |
|---|---|---|---|---|---|
| All | All | 17568/20340 (86%) | 17568 (100%) | 0 | 100 100 |

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

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (223) such sidechains are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | D | 189 | ASN |
| 2 | F | 196 | GLN |
| 2 | F | 200 | ASN |
| 2 | F | 254 | ASN |
| 2 | G | 129 | HIS |
| 2 | G | 137 | GLN |
| 2 | G | 189 | ASN |
| 2 | G | 195 | ASN |
| 2 | G | 233 | HIS |
| 2 | G | 243 | HIS |
| 2 | G | 245 | ASN |
| 3 | E | 66 | HIS |
| 3 | E | 111 | HIS |
| 3 | E | 207 | GLN |
| 3 | E | 251 | HIS |
| 3 | E | 329 | ASN |
| 3 | E | 331 | ASN |
| 3 | E | 420 | ASN |
| 4 | B | 12 | GLN |
| 4 | B | 29 | HIS |
| 4 | B | 46 | HIS |
| 4 | B | 115 | ASN |
| 4 | B | 168 | ASN |
| 4 | B | 279 | ASN |
| 4 | B | 346 | ASN |
| 4 | A | 12 | GLN |
| 4 | A | 29 | HIS |
| 4 | A | 46 | HIS |
| 4 | A | 168 | ASN |
| 4 | A | 279 | ASN |
| 4 | A | 346 | ASN |
| 4 | C | 12 | GLN |
| 4 | C | 29 | HIS |
| 4 | C | 46 | HIS |
| 4 | C | 168 | ASN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 4 | C | 346 | ASN |
| 5 | H | 44 | GLN |
| 5 | H | 49 | GLN |
| 5 | H | 51 | GLN |
| 5 | H | 55 | GLN |
| 1 | L | 189 | ASN |
| 2 | N | 196 | GLN |
| 2 | N | 200 | ASN |
| 2 | N | 254 | ASN |
| 2 | O | 129 | HIS |
| 2 | O | 137 | GLN |
| 2 | O | 189 | ASN |
| 2 | O | 195 | ASN |
| 2 | O | 233 | HIS |
| 2 | O | 243 | HIS |
| 2 | O | 245 | ASN |
| 3 | M | 66 | HIS |
| 3 | M | 111 | HIS |
| 3 | M | 207 | GLN |
| 3 | M | 251 | HIS |
| 3 | M | 329 | ASN |
| 3 | M | 331 | ASN |
| 3 | M | 420 | ASN |
| 4 | J | 12 | GLN |
| 4 | J | 29 | HIS |
| 4 | J | 115 | ASN |
| 4 | J | 168 | ASN |
| 4 | J | 346 | ASN |
| 4 | I | 12 | GLN |
| 4 | I | 115 | ASN |
| 4 | I | 168 | ASN |
| 4 | I | 279 | ASN |
| 4 | I | 346 | ASN |
| 4 | K | 12 | GLN |
| 4 | K | 29 | HIS |
| 4 | K | 168 | ASN |
| 4 | K | 279 | ASN |
| 4 | K | 346 | ASN |
| 5 | P | 44 | GLN |
| 5 | P | 49 | GLN |
| 5 | P | 51 | GLN |
| 5 | P | 55 | GLN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | T | 189 | ASN |
| 2 | V | 196 | GLN |
| 2 | V | 200 | ASN |
| 2 | V | 254 | ASN |
| 2 | W | 129 | HIS |
| 2 | W | 137 | GLN |
| 2 | W | 189 | ASN |
| 2 | W | 195 | ASN |
| 2 | W | 233 | HIS |
| 2 | W | 243 | HIS |
| 2 | W | 245 | ASN |
| 3 | U | 66 | HIS |
| 3 | U | 111 | HIS |
| 3 | U | 207 | GLN |
| 3 | U | 251 | HIS |
| 3 | U | 329 | ASN |
| 3 | U | 331 | ASN |
| 3 | U | 420 | ASN |
| 4 | R | 12 | GLN |
| 4 | R | 29 | HIS |
| 4 | R | 46 | HIS |
| 4 | R | 93 | ASN |
| 4 | R | 96 | ASN |
| 4 | R | 115 | ASN |
| 4 | R | 168 | ASN |
| 4 | R | 279 | ASN |
| 4 | R | 346 | ASN |
| 4 | Q | 12 | GLN |
| 4 | Q | 29 | HIS |
| 4 | Q | 346 | ASN |
| 4 | S | 12 | GLN |
| 4 | S | 29 | HIS |
| 4 | S | 105 | ASN |
| 4 | S | 168 | ASN |
| 4 | S | 279 | ASN |
| 4 | S | 346 | ASN |
| 5 | X | 44 | GLN |
| 5 | X | 49 | GLN |
| 5 | X | 51 | GLN |
| 5 | X | 55 | GLN |
| 1 | b | 189 | ASN |
| 2 | d | 196 | GLN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | d | 200 | ASN |
| 2 | d | 254 | ASN |
| 2 | e | 129 | HIS |
| 2 | e | 137 | GLN |
| 2 | e | 189 | ASN |
| 2 | e | 195 | ASN |
| 2 | e | 233 | HIS |
| 2 | e | 243 | HIS |
| 2 | e | 245 | ASN |
| 3 | c | 66 | HIS |
| 3 | c | 111 | HIS |
| 3 | c | 207 | GLN |
| 3 | c | 251 | HIS |
| 3 | c | 329 | ASN |
| 3 | c | 331 | ASN |
| 3 | c | 420 | ASN |
| 4 | Z | 12 | GLN |
| 4 | Z | 29 | HIS |
| 4 | Z | 168 | ASN |
| 4 | Z | 346 | ASN |
| 4 | Y | 12 | GLN |
| 4 | Y | 29 | HIS |
| 4 | Y | 46 | HIS |
| 4 | Y | 168 | ASN |
| 4 | Y | 346 | ASN |
| 4 | a | 12 | GLN |
| 4 | a | 29 | HIS |
| 4 | a | 168 | ASN |
| 4 | a | 279 | ASN |
| 4 | a | 346 | ASN |
| 5 | f | 44 | GLN |
| 5 | f | 49 | GLN |
| 5 | f | 51 | GLN |
| 5 | f | 55 | GLN |
| 1 | j | 189 | ASN |
| 2 | l | 196 | GLN |
| 2 | l | 200 | ASN |
| 2 | l | 254 | ASN |
| 2 | m | 129 | HIS |
| 2 | m | 137 | GLN |
| 2 | m | 189 | ASN |
| 2 | m | 195 | ASN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | m | 233 | HIS |
| 2 | m | 243 | HIS |
| 2 | m | 245 | ASN |
| 2 | m | 255 | HIS |
| 3 | k | 66 | HIS |
| 3 | k | 111 | HIS |
| 3 | k | 207 | GLN |
| 3 | k | 251 | HIS |
| 3 | k | 329 | ASN |
| 3 | k | 331 | ASN |
| 3 | k | 420 | ASN |
| 4 | h | 12 | GLN |
| 4 | h | 29 | HIS |
| 4 | h | 168 | ASN |
| 4 | h | 346 | ASN |
| 4 | g | 12 | GLN |
| 4 | g | 29 | HIS |
| 4 | g | 168 | ASN |
| 4 | g | 346 | ASN |
| 4 | i | 12 | GLN |
| 4 | i | 29 | HIS |
| 4 | i | 168 | ASN |
| 4 | i | 279 | ASN |
| 4 | i | 346 | ASN |
| 5 | n | 44 | GLN |
| 5 | n | 49 | GLN |
| 5 | n | 51 | GLN |
| 5 | n | 55 | GLN |
| 2 | t | 196 | GLN |
| 2 | t | 200 | ASN |
| 2 | t | 254 | ASN |
| 2 | u | 129 | HIS |
| 2 | u | 137 | GLN |
| 2 | u | 189 | ASN |
| 2 | u | 195 | ASN |
| 2 | u | 233 | HIS |
| 2 | u | 243 | HIS |
| 2 | u | 245 | ASN |
| 3 | s | 66 | HIS |
| 3 | s | 111 | HIS |
| 3 | s | 207 | GLN |
| 3 | s | 251 | HIS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 3 | s | 329 | ASN |
| 3 | s | 331 | ASN |
| 3 | s | 420 | ASN |
| 4 | p | 12 | GLN |
| 4 | p | 168 | ASN |
| 4 | p | 279 | ASN |
| 4 | p | 346 | ASN |
| 4 | o | 12 | GLN |
| 4 | o | 29 | HIS |
| 4 | o | 168 | ASN |
| 4 | o | 346 | ASN |
| 4 | q | 12 | GLN |
| 4 | q | 29 | HIS |
| 4 | q | 93 | ASN |
| 4 | q | 168 | ASN |
| 4 | q | 346 | ASN |
| 5 | v | 44 | GLN |
| 5 | v | 49 | GLN |
| 5 | v | 51 | GLN |
| 5 | v | 55 | GLN |

### 5.3.3 RNA

There are no RNA molecules in this entry.

## 5.4 Non-standard residues in protein, DNA, RNA chains

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

## 5.5 Carbohydrates

There are no oligosaccharides in this entry.

## 5.6 Ligand geometry

There are no ligands in this entry.

## 5.7 Other polymers (i)

There are no such residues in this entry.

## 5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

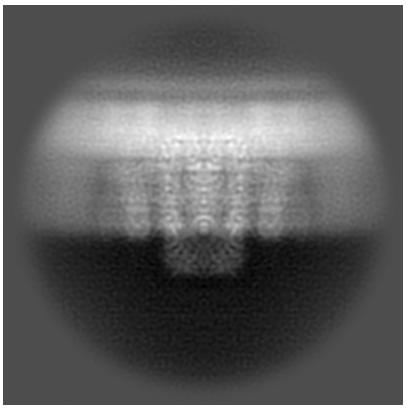
# 6 Map visualisation

This section contains visualisations of the EMDB entry EMD-57446. These allow visual inspection of the internal detail of the map and identification of artifacts.

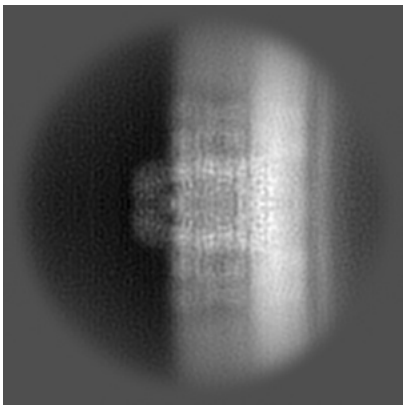
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

## 6.1 Orthogonal projections

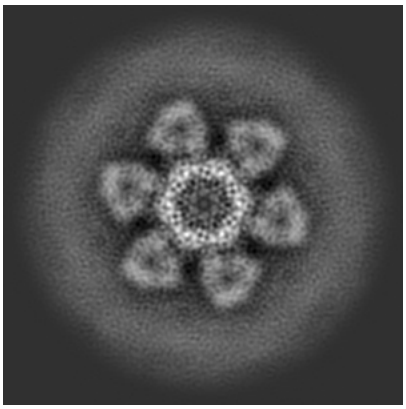
### 6.1.1 Primary map



X

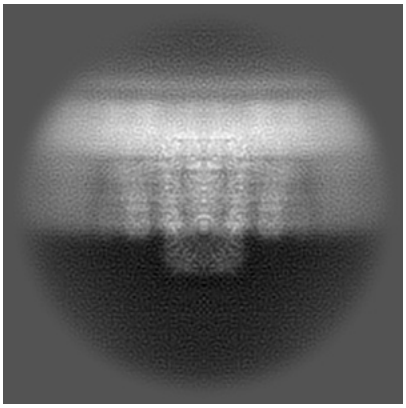


Y

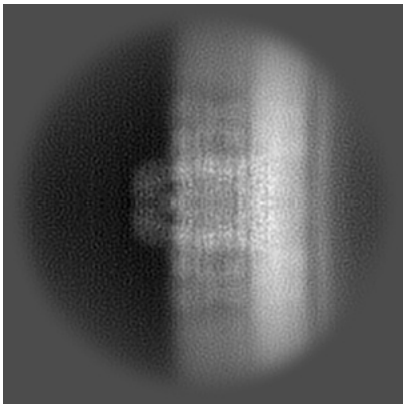


Z

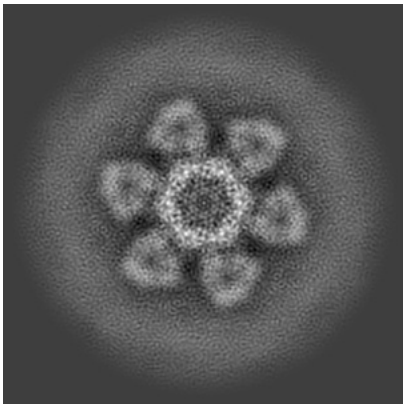
### 6.1.2 Raw map



X



Y

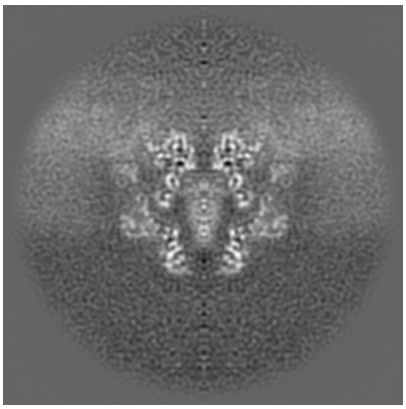


Z

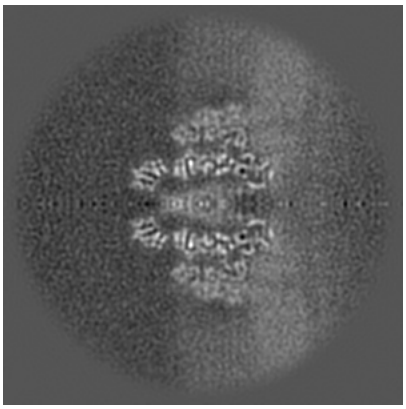
The images above show the map projected in three orthogonal directions.

## 6.2 Central slices (i)

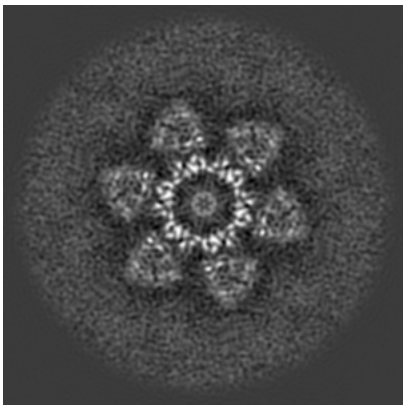
### 6.2.1 Primary map



X Index: 98

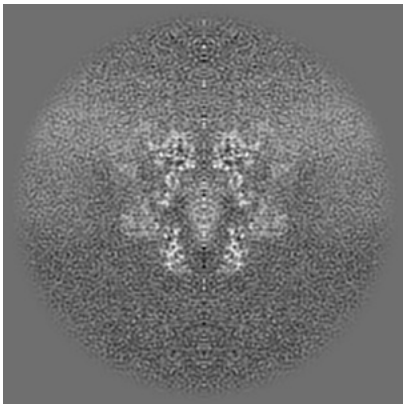


Y Index: 98

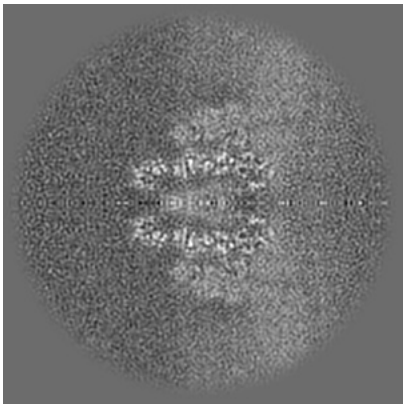


Z Index: 98

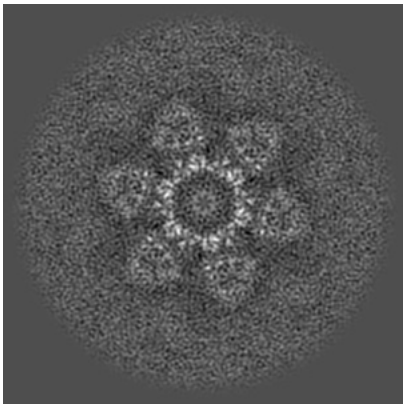
### 6.2.2 Raw map



X Index: 98



Y Index: 98

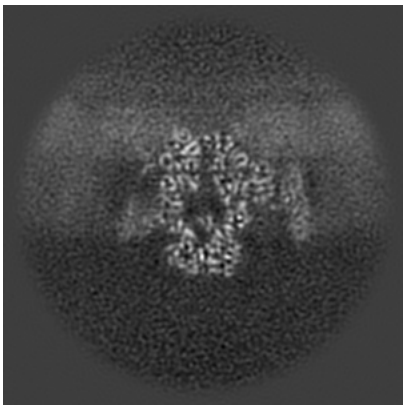


Z Index: 98

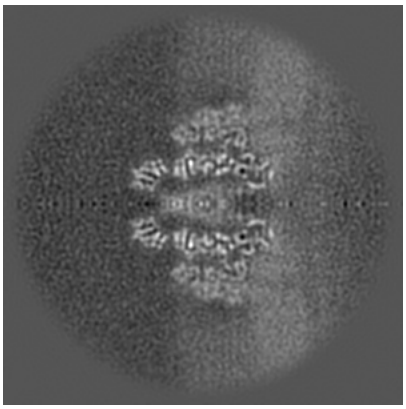
The images above show central slices of the map in three orthogonal directions.

## 6.3 Largest variance slices (i)

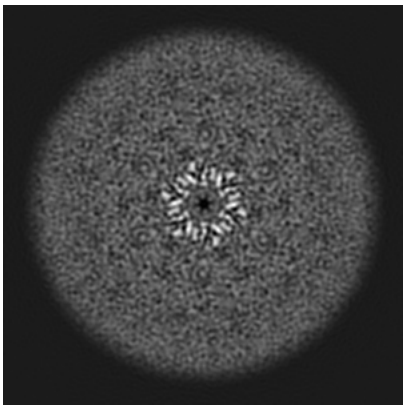
### 6.3.1 Primary map



X Index: 86

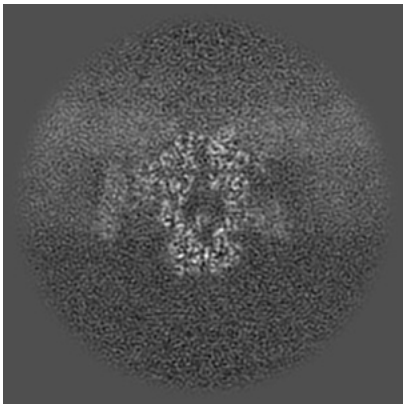


Y Index: 98

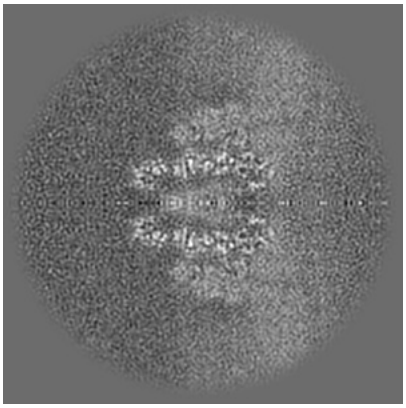


Z Index: 131

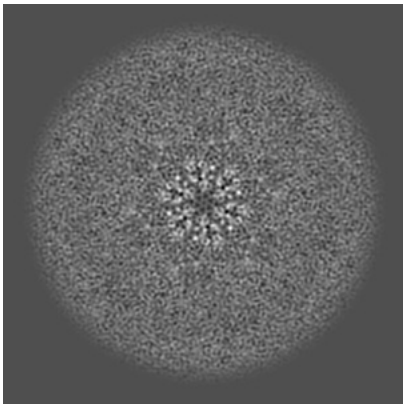
### 6.3.2 Raw map



X Index: 110



Y Index: 98

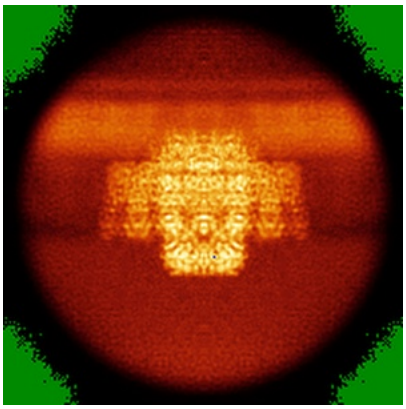


Z Index: 130

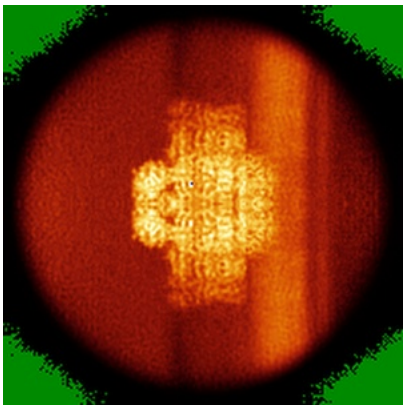
The images above show the largest variance slices of the map in three orthogonal directions.

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

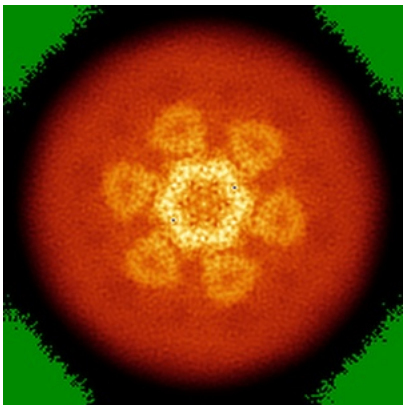
### 6.4.1 Primary map



X

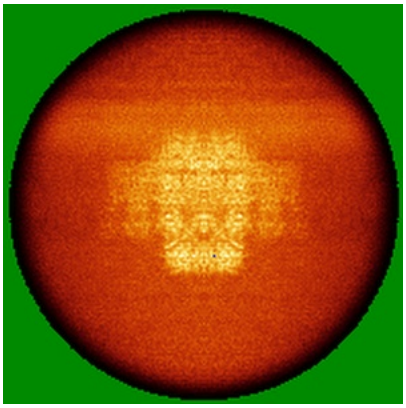


Y

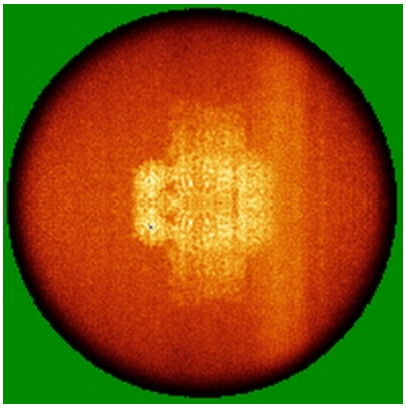


Z

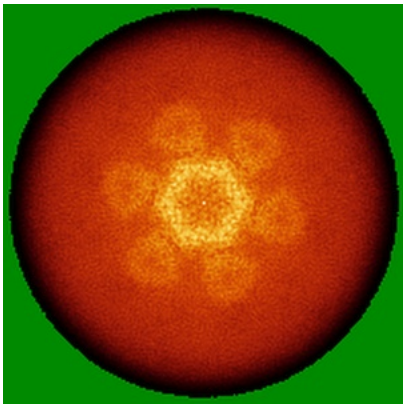
### 6.4.2 Raw map



X



Y



Z

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

## 6.5 Orthogonal surface views (i)

### 6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.003. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

### 6.5.2 Raw map



X Y Z

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

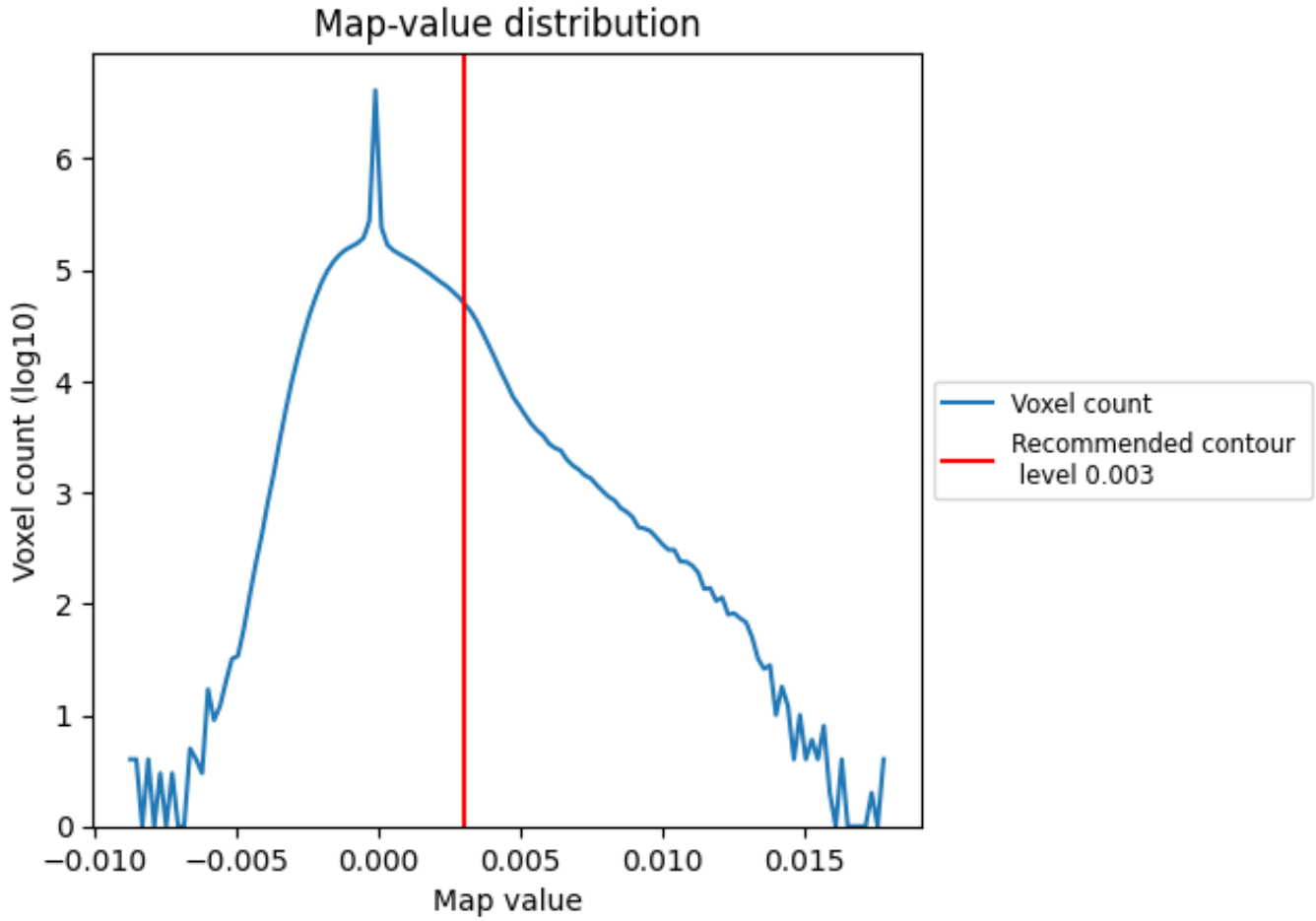
## 6.6 Mask visualisation (i)

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

# 7 Map analysis

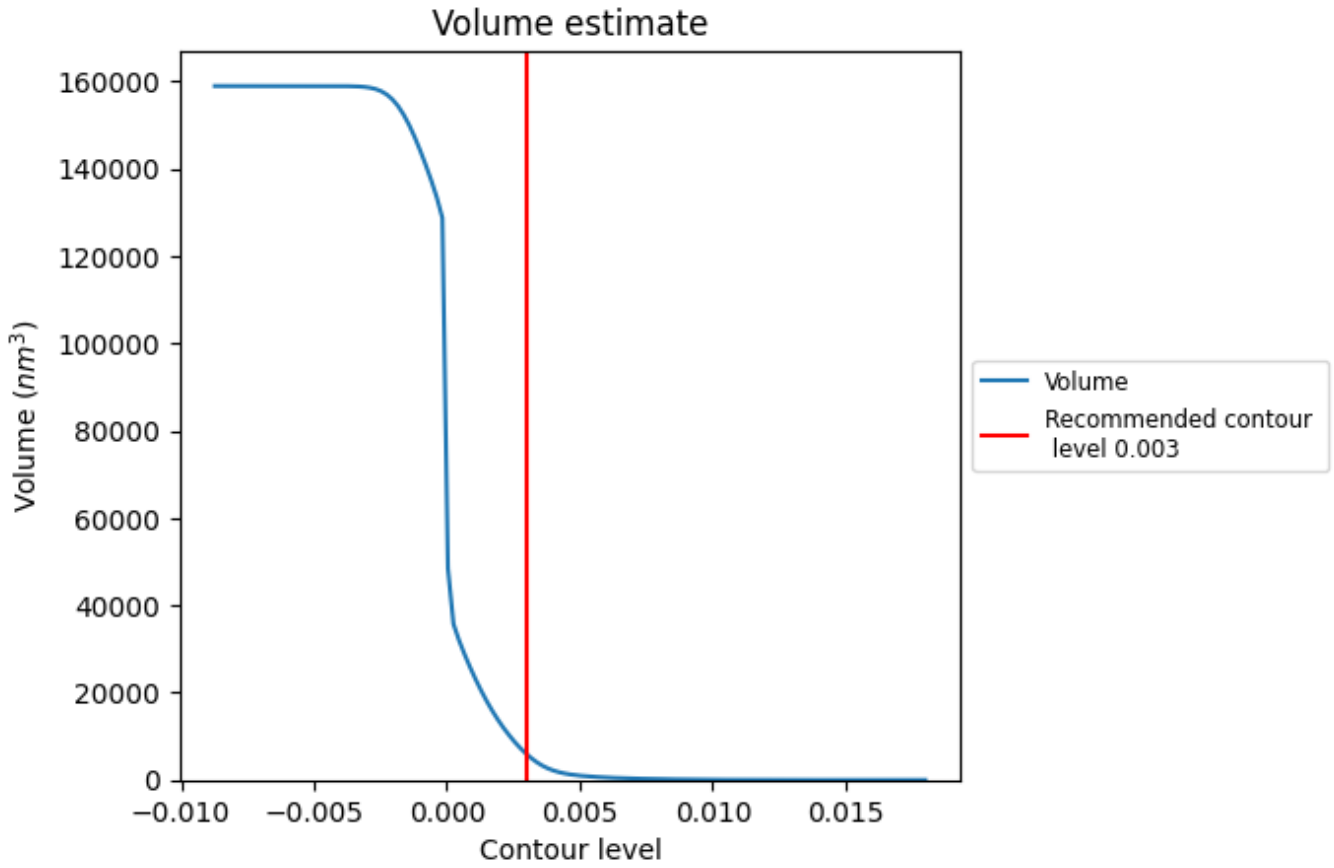
This section contains the results of statistical analysis of the map.

## 7.1 Map-value distribution




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

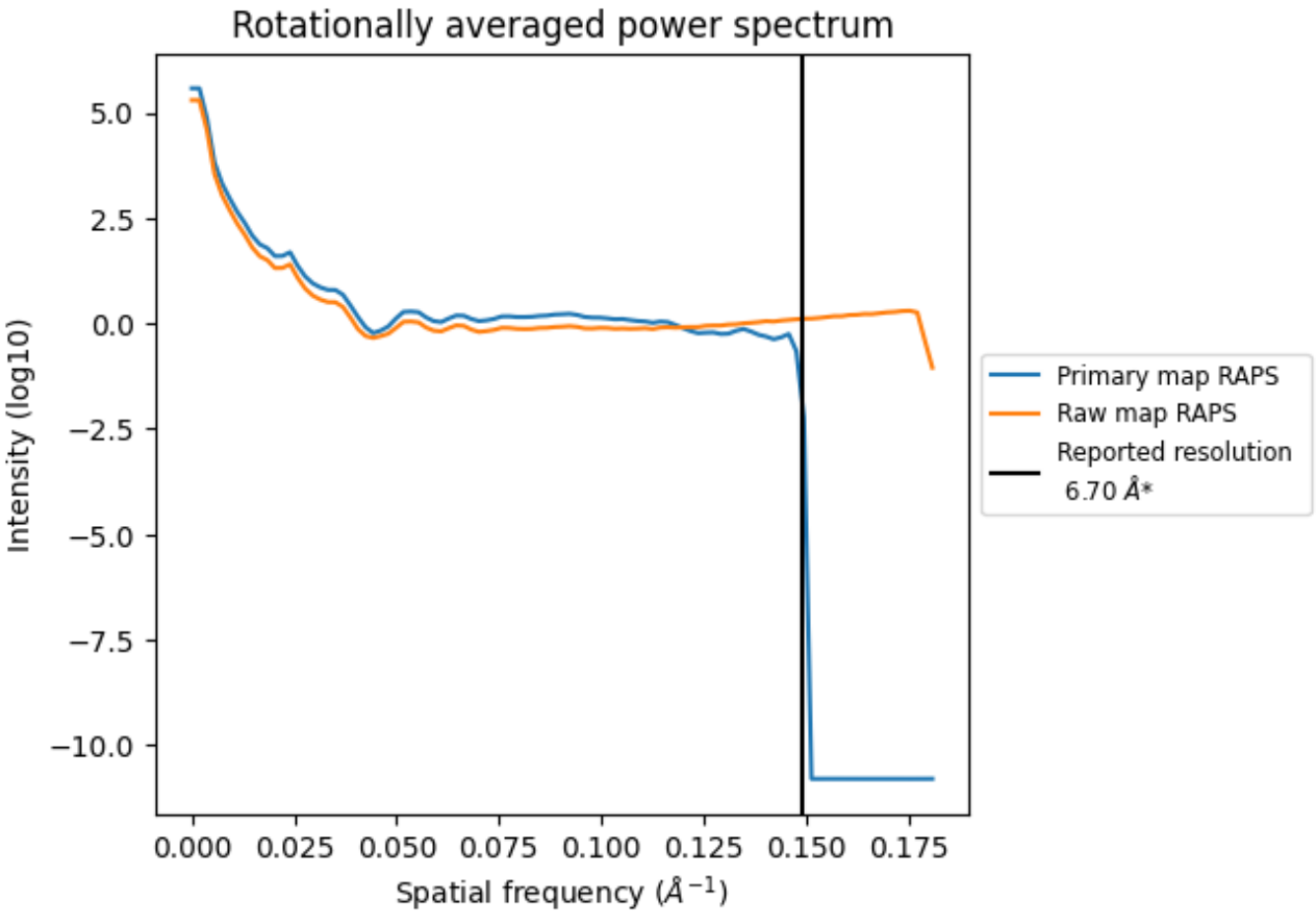
## 7.2 Volume estimate




The volume at the recommended contour level is 5932 $nm^3$; this corresponds to an approximate mass of 5359 kDa.

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

## 7.3 Rotationally averaged power spectrum (i)

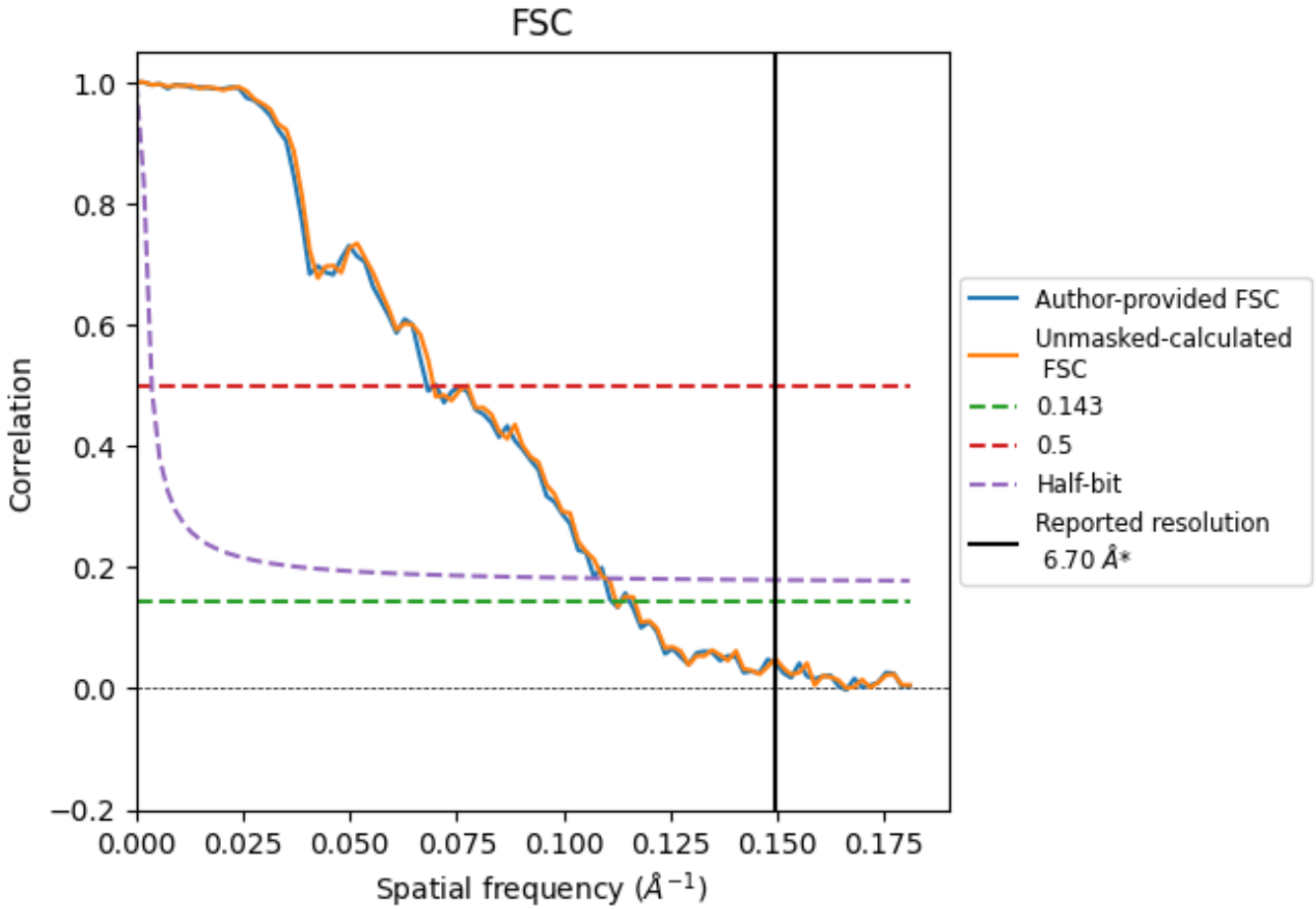



*Reported resolution corresponds to spatial frequency of 0.149 Å$^{-1}$

# 8 Fourier-Shell correlation

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

## 8.1 FSC




*Reported resolution corresponds to spatial frequency of 0.149 Å$^{-1}$

## 8.2 Resolution estimates (i)

| Resolution estimate (Å) | Estimation criterion (FSC cut-off) | | |
|---|---|---|---|
| | 0.143 | 0.5 | Half-bit |
| Reported by author | 6.70 | - | - |
| Author-provided FSC curve | 8.98 | 14.71 | 9.13 |
| Unmasked-calculated* | 8.91 | 14.37 | 9.11 |

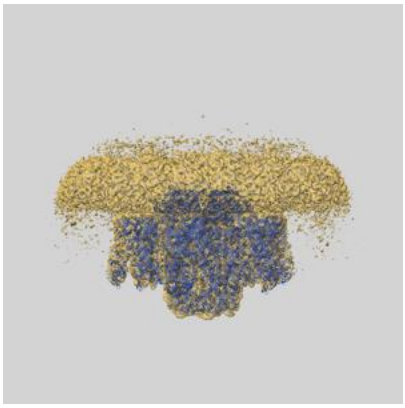
*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from author-provided FSC intersecting FSC 0.143 CUT-OFF 8.98 differs from the reported value 6.7 by more than 10 %

The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 8.91 differs from the reported value 6.7 by more than 10 %

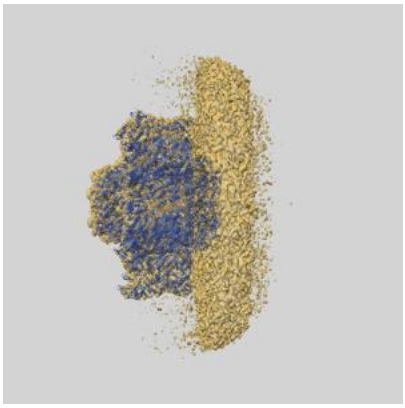
# 9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-57446 and PDB model 29YF. Per-residue inclusion information can be found in section 3 on page 8.

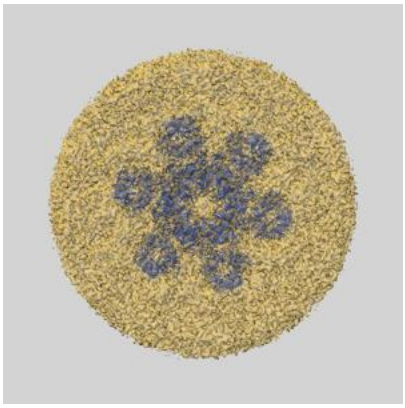
## 9.1 Map-model overlay



X



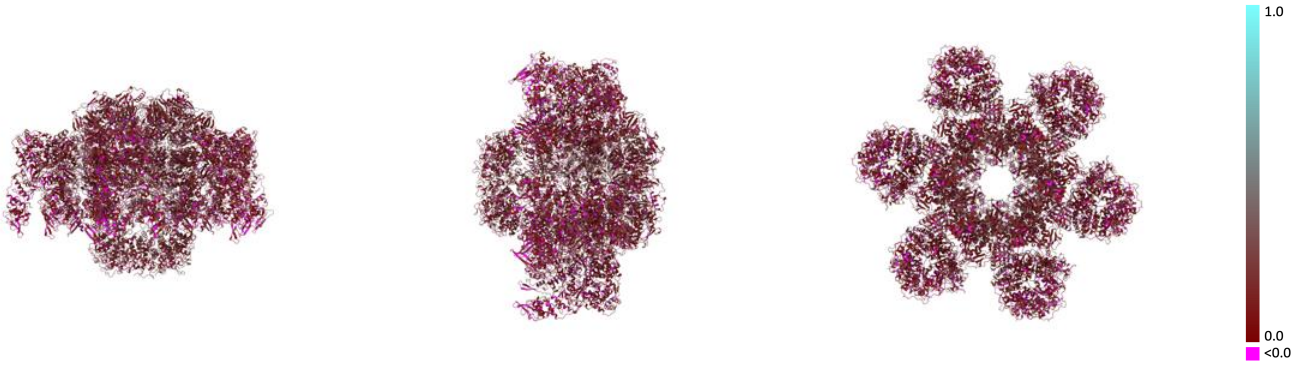
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.003 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

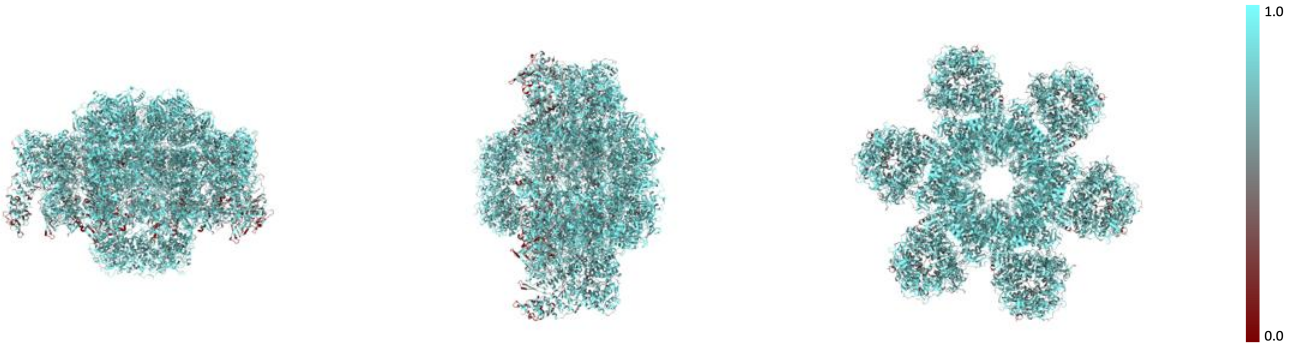
## 9.2 Q-score mapped to coordinate model (i)




X Y Z

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

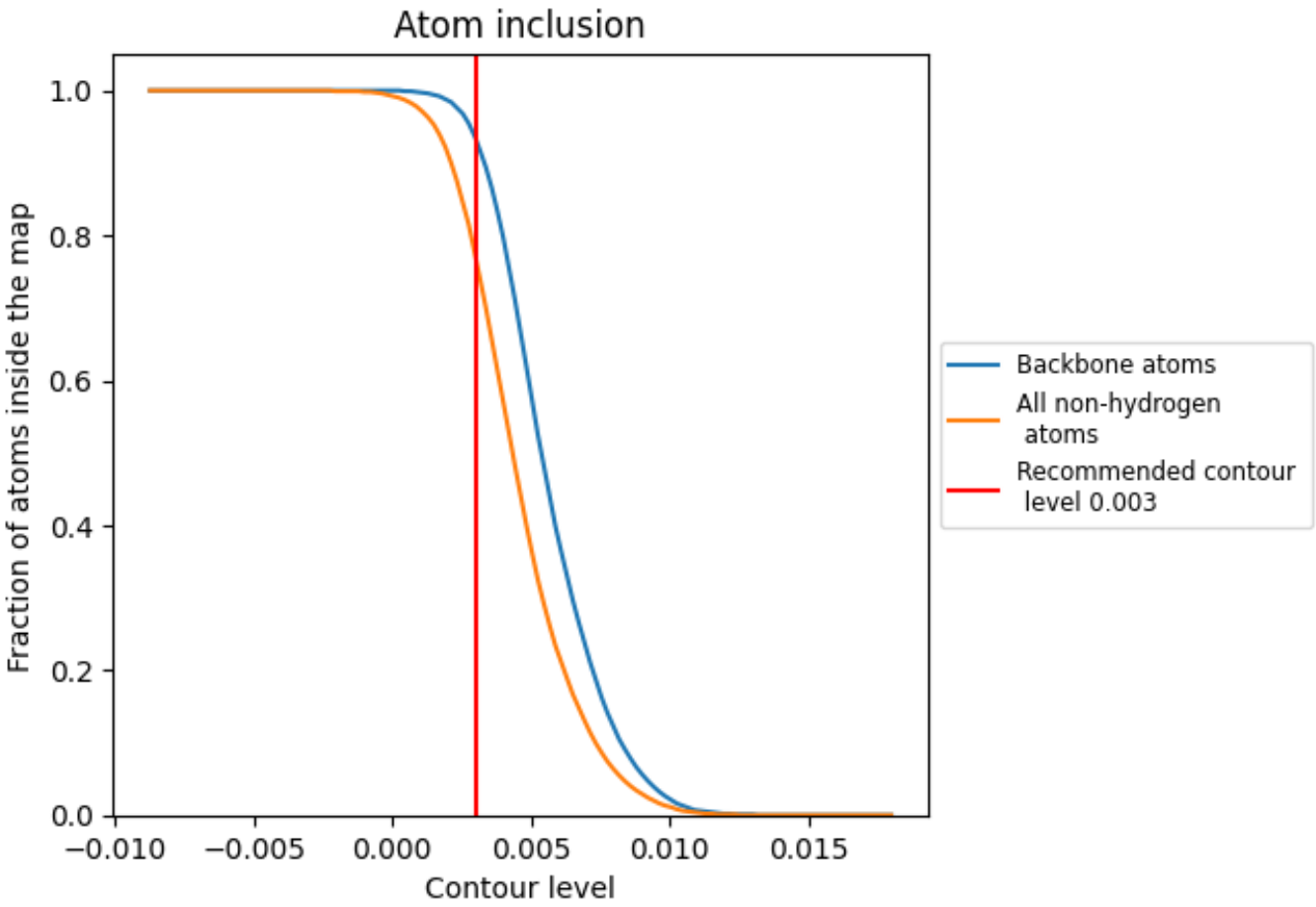
## 9.3 Atom inclusion mapped to coordinate model (i)




X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.003).

## 9.4 Atom inclusion (i)




At the recommended contour level, 94% of all backbone atoms, 77% of all non-hydrogen atoms, are inside the map.

## 9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.003) and Q-score for the entire model and for each chain.

| Chain | Atom inclusion | Q-score |
|---|---|---|
| All | 0.7720 | 0.1500 |
| A | 0.7440 | 0.1340 |
| B | 0.7710 | 0.1440 |
| C | 0.6800 | 0.1180 |
| D | 0.8020 | 0.1730 |
| E | 0.8380 | 0.1810 |
| F | 0.8480 | 0.1780 |
| G | 0.8170 | 0.1680 |
| H | 0.4290 | 0.1080 |
| I | 0.7430 | 0.1350 |
| J | 0.7760 | 0.1410 |
| K | 0.6810 | 0.1180 |
| L | 0.8030 | 0.1740 |
| M | 0.8360 | 0.1790 |
| N | 0.8480 | 0.1720 |
| O | 0.8160 | 0.1650 |
| P | 0.4730 | 0.1080 |
| Q | 0.7380 | 0.1350 |
| R | 0.7730 | 0.1430 |
| S | 0.6860 | 0.1200 |
| T | 0.8010 | 0.1700 |
| U | 0.8420 | 0.1770 |
| V | 0.8540 | 0.1710 |
| W | 0.8130 | 0.1640 |
| X | 0.4330 | 0.1000 |
| Y | 0.7440 | 0.1350 |
| Z | 0.7710 | 0.1440 |
| a | 0.6800 | 0.1170 |
| b | 0.8020 | 0.1740 |
| c | 0.8370 | 0.1810 |
| d | 0.8480 | 0.1760 |
| e | 0.8160 | 0.1670 |
| f | 0.4290 | 0.1100 |
| g | 0.7430 | 0.1360 |
| h | 0.7760 | 0.1410 |




*Continued on next page...*

*Continued from previous page...*

| Chain | Atom inclusion | Q-score |
|---|---|---|
| i | 0.6810 | 0.1180 |
| j | 0.8020 | 0.1730 |
| k | 0.8360 | 0.1780 |
| l | 0.8480 | 0.1710 |
| m | 0.8160 | 0.1640 |
| n | 0.4730 | 0.1070 |
| o | 0.7380 | 0.1350 |
| p | 0.7720 | 0.1420 |
| q | 0.6860 | 0.1210 |
| r | 0.8010 | 0.1700 |
| s | 0.8420 | 0.1760 |
| t | 0.8540 | 0.1700 |
| u | 0.8140 | 0.1630 |
| v | 0.4330 | 0.0990 |