



Full wwPDB X-ray Structure Validation Report ⓘ

Jan 23, 2024 – 04:11 AM EST

PDB ID : 1N6E
Title : tricorn protease in complex with a tridecapeptide chloromethyl ketone derivative
Authors : Kim, J.-S.; Groll, M.; Huber, R.; Brandstetter, H.
Deposited on : 2002-11-10
Resolution : 2.60 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467
Xtriage (Phenix) : 1.13
EDS : 2.36
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

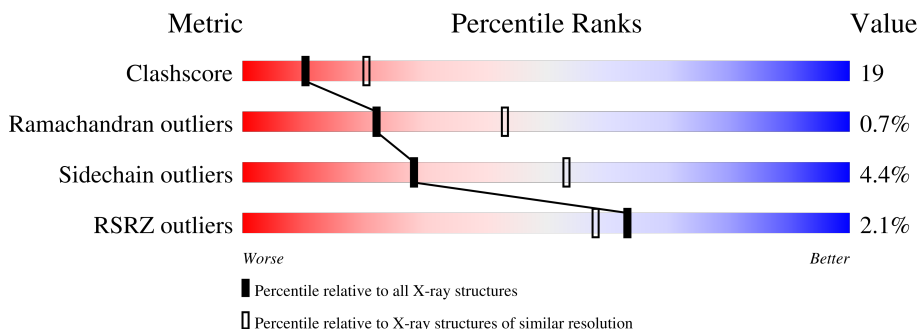
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.60 Å.

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





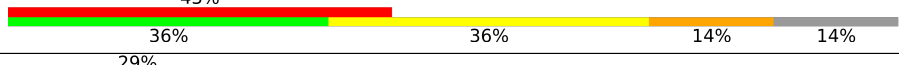
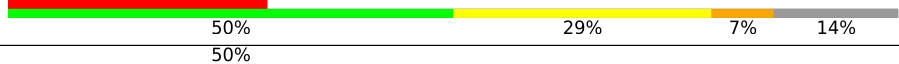

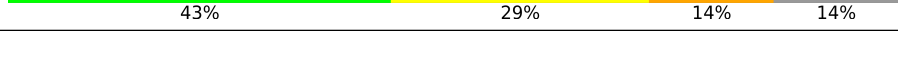
| Metric | Whole archive (#Entries) | Similar resolution (#Entries, resolution range(Å)) |
|-----------------------|-----------------------------|---|
| Clashscore | 141614 | 3518 (2.60-2.60) |
| Ramachandran outliers | 138981 | 3455 (2.60-2.60) |
| Sidechain outliers | 138945 | 3455 (2.60-2.60) |
| RSRZ outliers | 127900 | 3104 (2.60-2.60) |

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

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1 | A | 1071 | |
| 1 | C | 1071 | |
| 1 | E | 1071 | |
| 1 | G | 1071 | |
| 1 | I | 1071 | |
| 1 | K | 1071 | |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|---|
| 2 | B | 14 |  <p>43% 50% 29% 7% 14%</p> |
| 2 | D | 14 |  <p>36% 50% 29% 7% 14%</p> |
| 2 | F | 14 |  <p>43% 36% 36% 14% 14%</p> |
| 2 | H | 14 |  <p>29% 50% 29% 7% 14%</p> |
| 2 | J | 14 |  <p>50% 50% 29% 7% 14%</p> |
| 2 | L | 14 |  <p>50% 43% 29% 14% 14%</p> |

2 Entry composition [i](#)

There are 3 unique types of molecules in this entry. The entry contains 50544 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Tricorn protease.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|------|------|----|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 1 | A | 1023 | 8177 | 5196 | 1402 | 1551 | 28 | 94 | 0 | 0 |
| 1 | C | 1023 | 8177 | 5196 | 1402 | 1551 | 28 | 94 | 0 | 0 |
| 1 | E | 1023 | 8177 | 5196 | 1402 | 1551 | 28 | 94 | 0 | 0 |
| 1 | G | 1023 | 8177 | 5196 | 1402 | 1551 | 28 | 94 | 0 | 0 |
| 1 | I | 1023 | 8177 | 5196 | 1402 | 1551 | 28 | 94 | 0 | 0 |
| 1 | K | 1023 | 8177 | 5196 | 1402 | 1551 | 28 | 94 | 0 | 0 |

- Molecule 2 is a protein called DQTQKAAAELTFF.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|----|----|----|---------|---------|-------|
| | | | Total | C | N | O | | | |
| 2 | B | 12 | 87 | 58 | 13 | 16 | 0 | 0 | 1 |
| 2 | D | 12 | 87 | 58 | 13 | 16 | 0 | 0 | 1 |
| 2 | F | 12 | 87 | 58 | 13 | 16 | 0 | 0 | 1 |
| 2 | H | 12 | 87 | 58 | 13 | 16 | 0 | 0 | 1 |
| 2 | J | 12 | 87 | 58 | 13 | 16 | 0 | 0 | 1 |
| 2 | L | 12 | 87 | 58 | 13 | 16 | 0 | 0 | 1 |

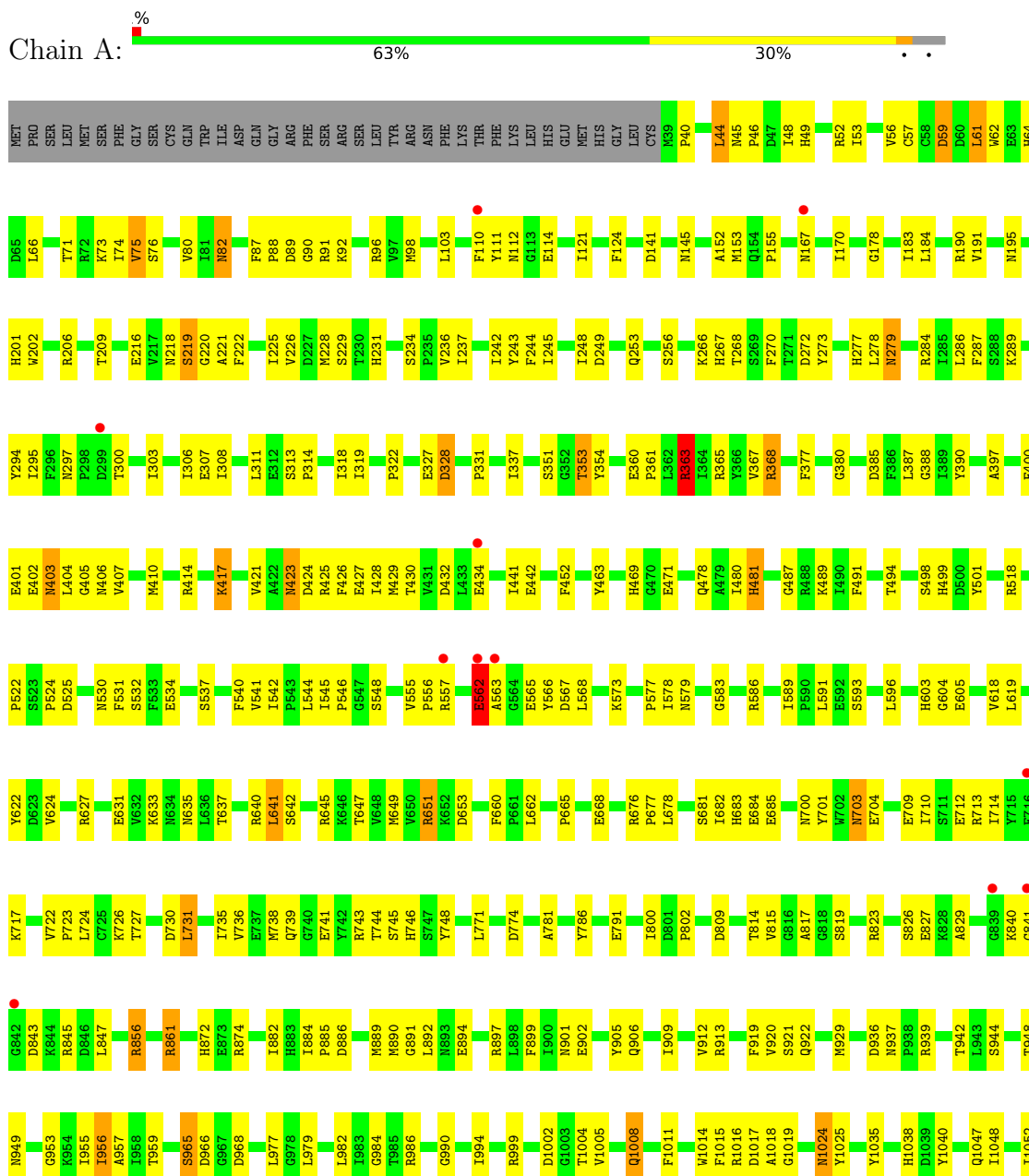
- Molecule 3 is water.

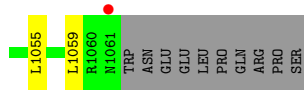
| Mol | Chain | Residues | Atoms | ZeroOcc | AltConf |
|-----|-------|----------|--------------------|---------|---------|
| 3 | A | 178 | Total O 178 178 | 0 | 0 |
| 3 | B | 2 | Total O 2 2 | 0 | 0 |
| 3 | C | 172 | Total O 172 172 | 0 | 0 |
| 3 | D | 2 | Total O 2 2 | 0 | 0 |
| 3 | E | 138 | Total O 138 138 | 0 | 0 |
| 3 | F | 5 | Total O 5 5 | 0 | 0 |
| 3 | G | 154 | Total O 154 154 | 0 | 0 |
| 3 | H | 2 | Total O 2 2 | 0 | 0 |
| 3 | I | 157 | Total O 157 157 | 0 | 0 |
| 3 | J | 2 | Total O 2 2 | 0 | 0 |
| 3 | K | 146 | Total O 146 146 | 0 | 0 |
| 3 | L | 2 | Total O 2 2 | 0 | 0 |

3 Residue-property plots

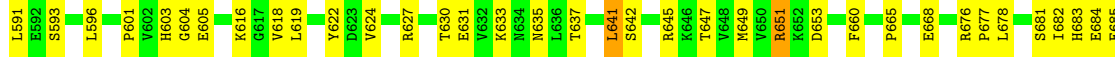
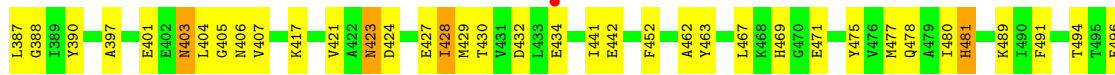
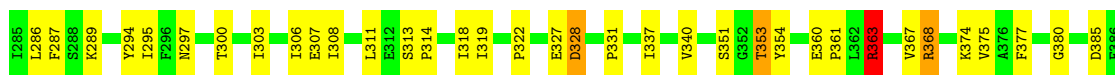
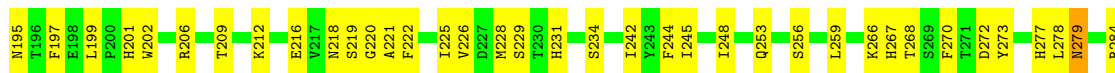
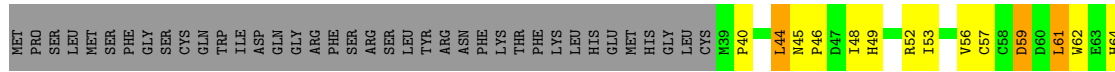
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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 dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). 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: Tricorn protease



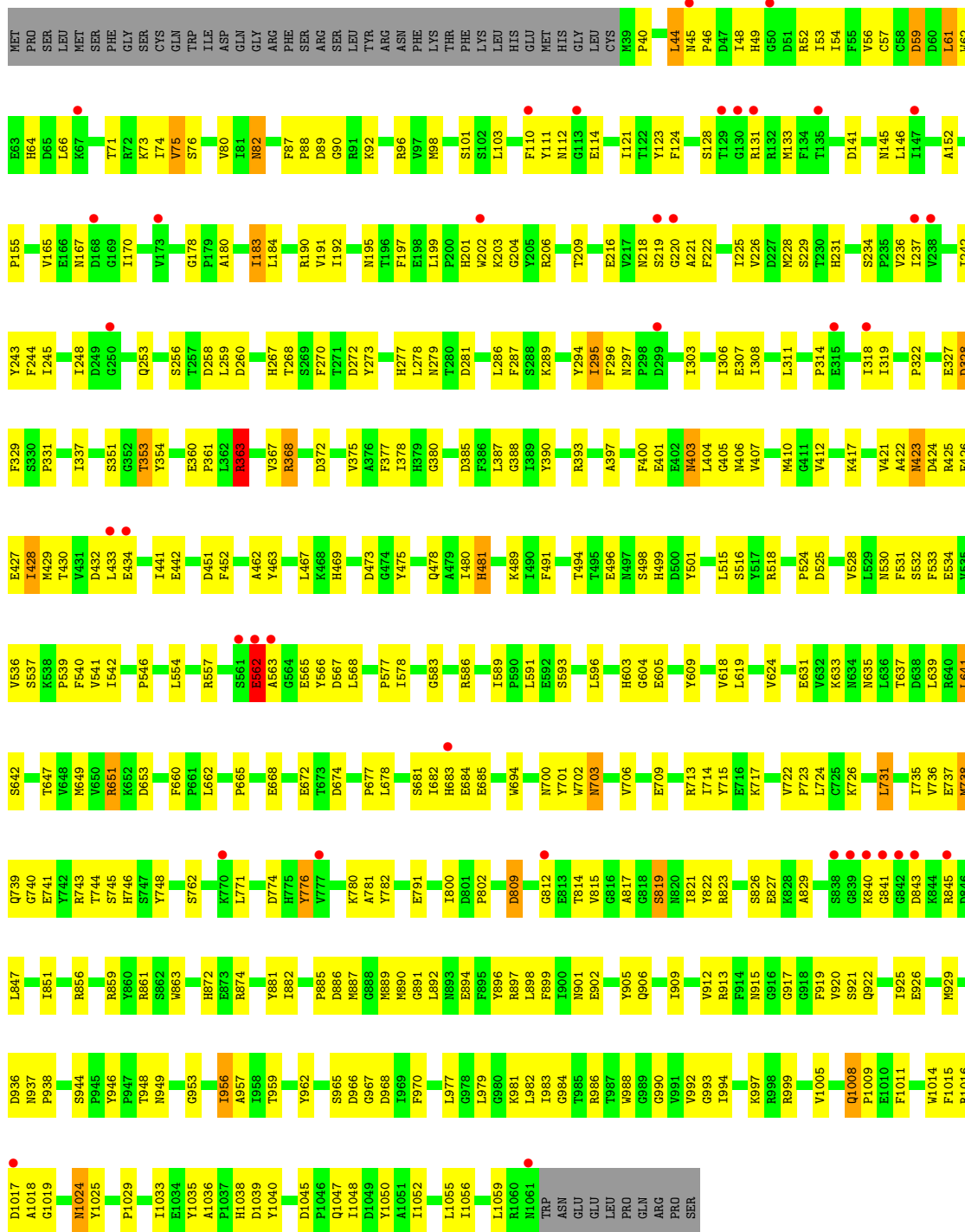


• Molecule 1: Tricorn protease

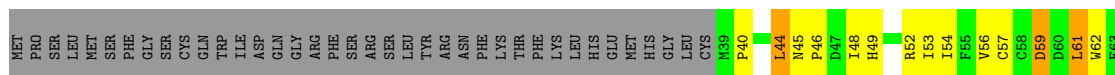


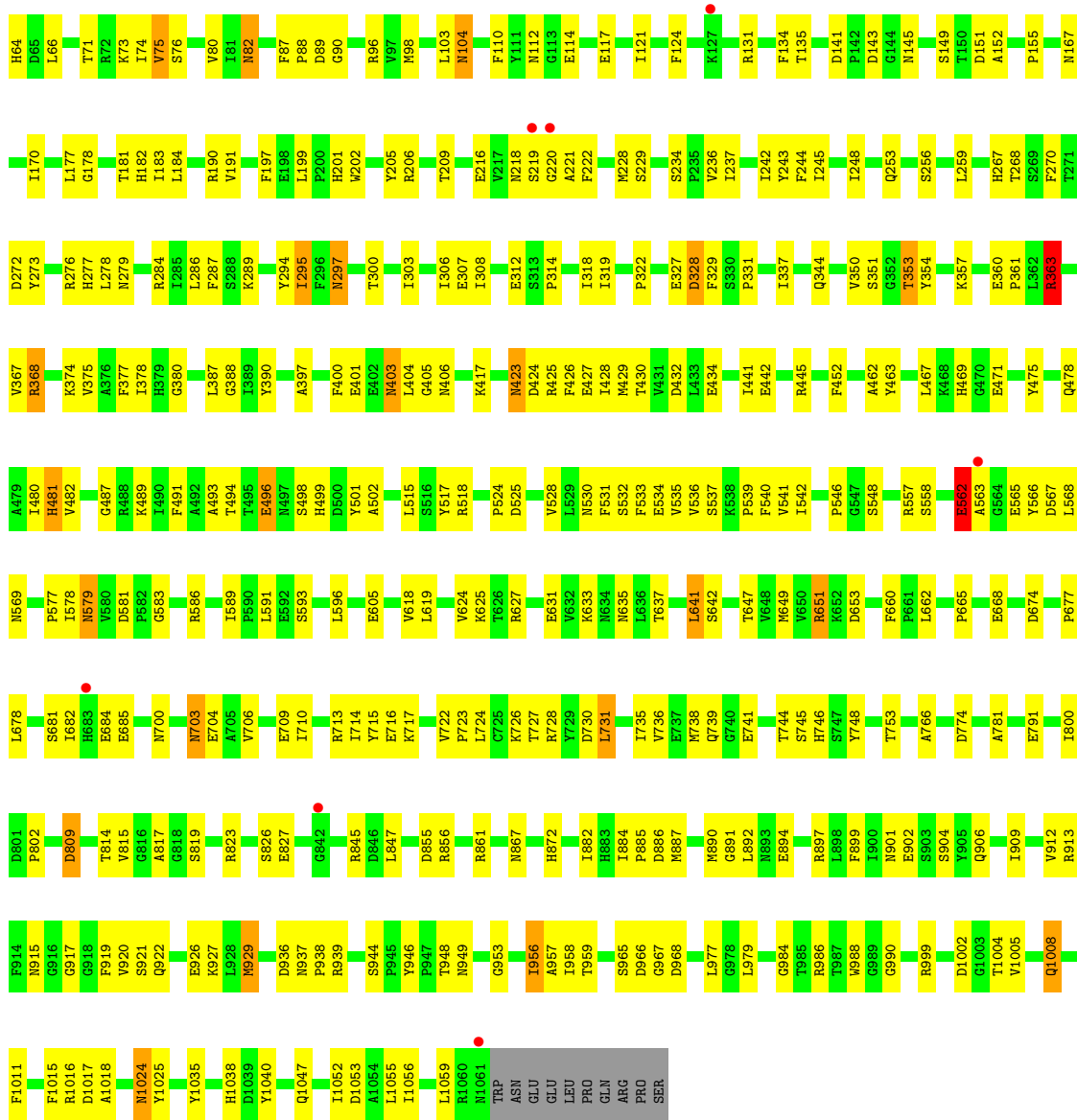
• Molecule 1: Tricorn protease



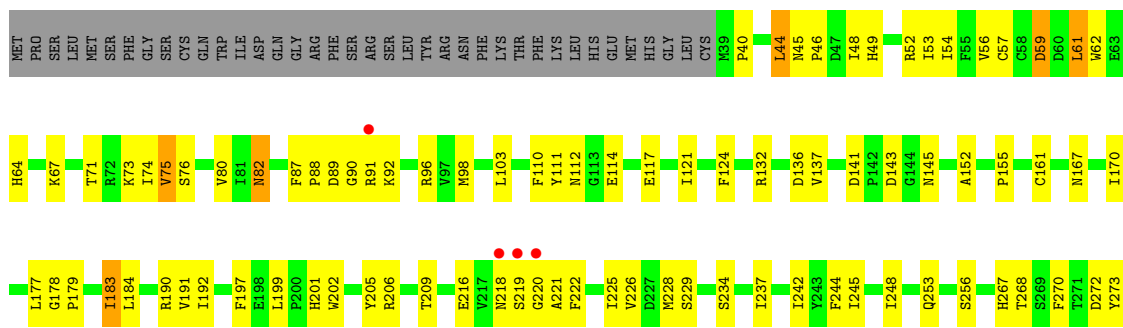


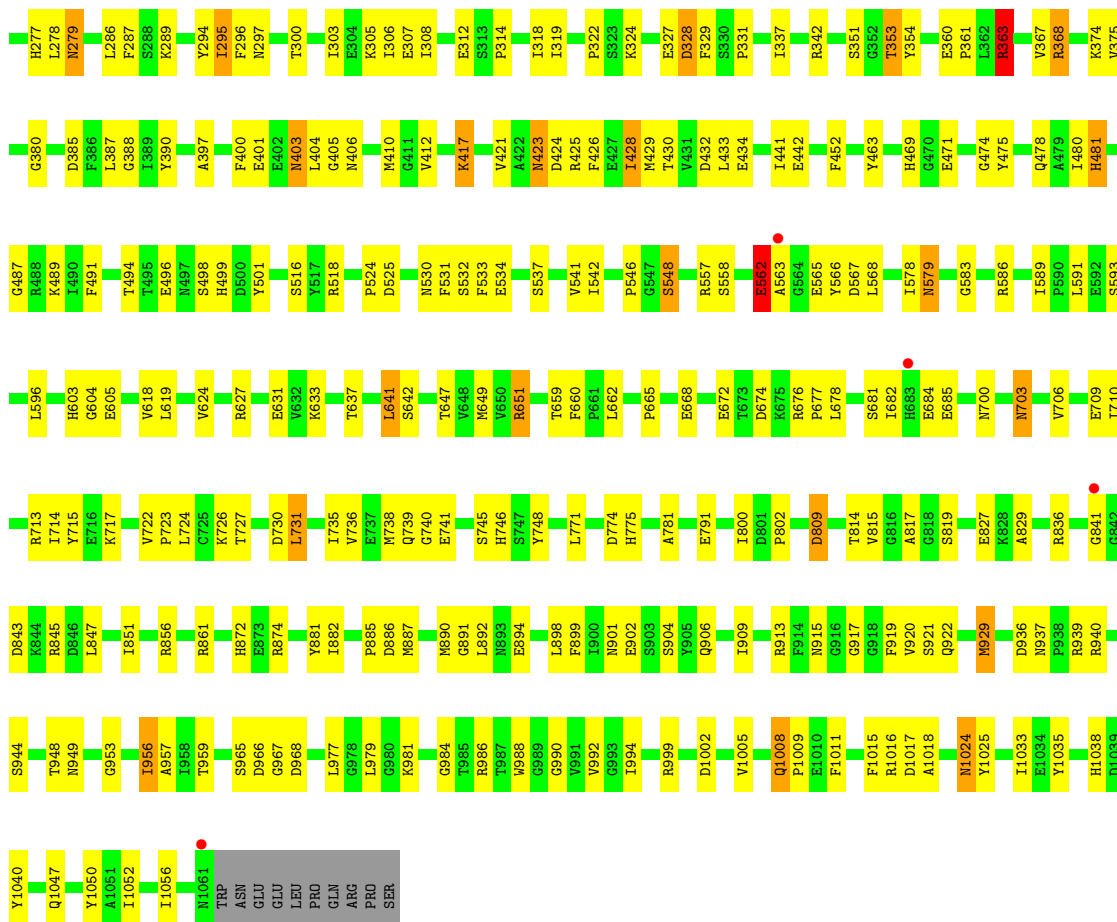
• Molecule 1: Tricorn protease



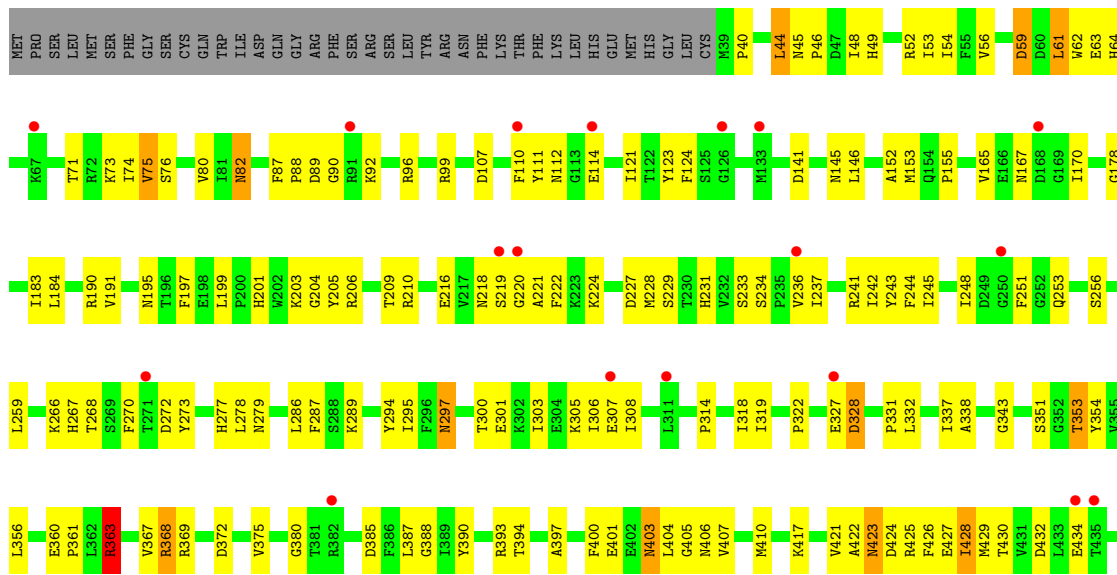


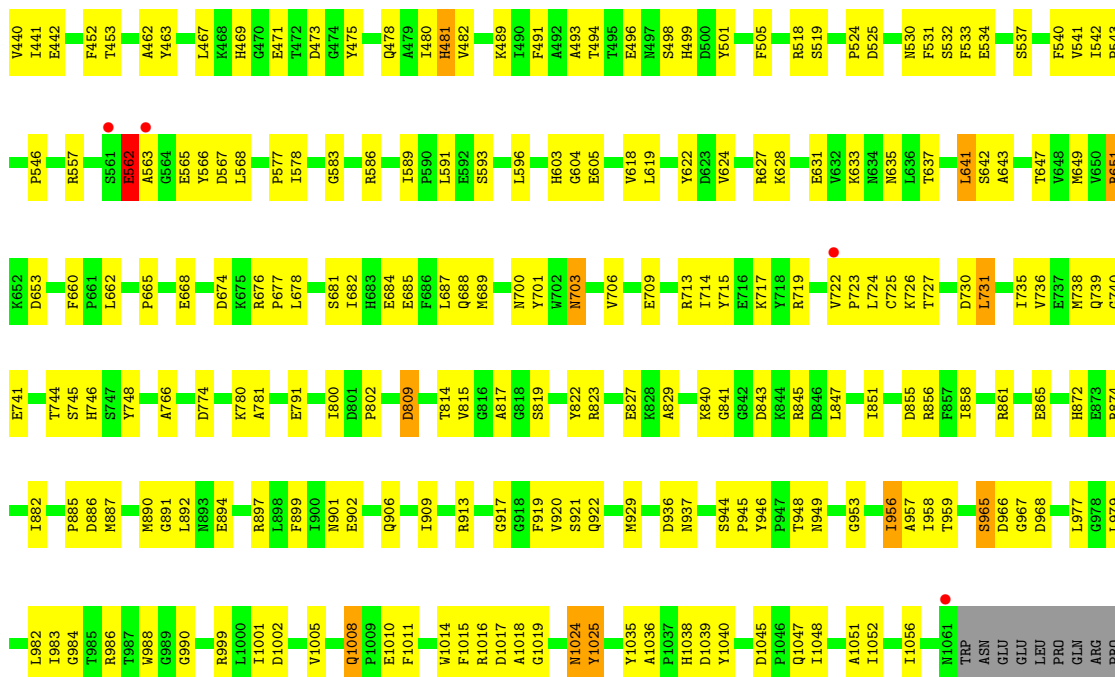
● Molecule 1: Tricorn protease





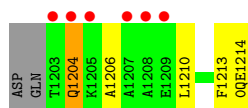
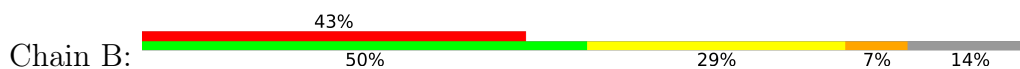
• Molecule 1: Tricorn protease



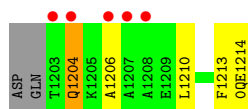


SER

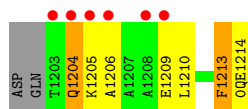
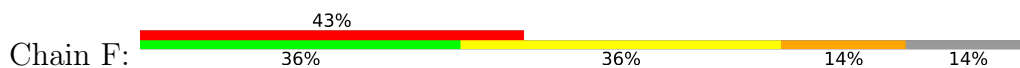
- Molecule 2: DQTQKAAAELTFF



- Molecule 2: DQTQKAAAELTFF

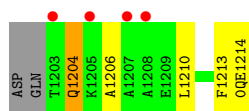


- Molecule 2: DQTQKAAAELTFF

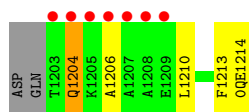


- Molecule 2: DQTQKAAAELTFF

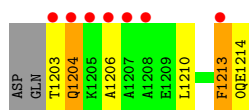
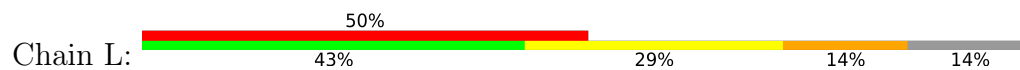




- Molecule 2: DQTQKAAAELTFF



- Molecule 2: DQTQKAAAELTFF



4 Data and refinement statistics

| Property | Value | Source |
|---|---|------------------|
| Space group | P 1 21 1 | Depositor |
| Cell constants a, b, c, α , β , γ | 95.47Å 245.10Å 157.89Å 90.00° 105.19° 90.00° | Depositor |
| Resolution (Å) | 6.00 – 2.60 46.92 – 2.59 | Depositor EDS |
| % Data completeness (in resolution range) | 86.6 (6.00-2.60) 85.7 (46.92-2.59) | Depositor EDS |
| R_{merge} | (Not available) | Depositor |
| R_{sym} | 0.08 | Depositor |
| $\langle I/\sigma(I) \rangle$ ¹ | 1.05 (at 2.58Å) | Xtrriage |
| Refinement program | CNS | Depositor |
| R, R_{free} | 0.254 , 0.288 0.264 , (Not available) | Depositor DCC |
| R_{free} test set | No test flags present. | wwPDB-VP |
| Wilson B-factor (Å ²) | 36.0 | Xtrriage |
| Anisotropy | 0.410 | Xtrriage |
| Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²) | 0.35 , 28.7 | EDS |
| L-test for twinning ² | $\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$ | Xtrriage |
| Estimated twinning fraction | 0.064 for h,-k,-h-l | Xtrriage |
| F_o, F_c correlation | 0.89 | EDS |
| Total number of atoms | 50544 | wwPDB-VP |
| Average B, all atoms (Å ²) | 39.0 | wwPDB-VP |

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.72% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: 0QE

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

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|----------------|-------------|----------------|
| | | RMSZ | # Z >5 | RMSZ | # Z >5 |
| 1 | A | 0.69 | 0/8367 | 0.76 | 1/11311 (0.0%) |
| 1 | C | 0.69 | 1/8367 (0.0%) | 0.76 | 1/11311 (0.0%) |
| 1 | E | 0.68 | 0/8367 | 0.75 | 0/11311 |
| 1 | G | 0.66 | 0/8367 | 0.75 | 0/11311 |
| 1 | I | 0.67 | 1/8367 (0.0%) | 0.75 | 0/11311 |
| 1 | K | 0.67 | 0/8367 | 0.75 | 0/11311 |
| 2 | B | 1.24 | 1/87 (1.1%) | 0.61 | 0/116 |
| 2 | D | 1.29 | 1/87 (1.1%) | 0.57 | 0/116 |
| 2 | F | 1.20 | 1/87 (1.1%) | 0.60 | 0/116 |
| 2 | H | 1.34 | 1/87 (1.1%) | 0.61 | 0/116 |
| 2 | J | 1.24 | 1/87 (1.1%) | 0.60 | 0/116 |
| 2 | L | 1.07 | 1/87 (1.1%) | 0.61 | 0/116 |
| All | All | 0.68 | 8/50724 (0.0%) | 0.75 | 2/68562 (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 | E | 0 | 2 |
| 1 | K | 0 | 2 |
| All | All | 0 | 4 |

All (8) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|-------|-------------|----------|
| 2 | H | 1213 | PHE | C-O | 11.24 | 1.44 | 1.23 |
| 2 | D | 1213 | PHE | C-O | 10.99 | 1.44 | 1.23 |
| 2 | B | 1213 | PHE | C-O | 10.43 | 1.43 | 1.23 |
| 2 | J | 1213 | PHE | C-O | 10.35 | 1.43 | 1.23 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|------|-------------|----------|
| 2 | F | 1213 | PHE | C-O | 9.64 | 1.41 | 1.23 |
| 2 | L | 1213 | PHE | C-O | 8.23 | 1.39 | 1.23 |
| 1 | I | 161 | CYS | CB-SG | 6.32 | 1.93 | 1.82 |
| 1 | C | 161 | CYS | CB-SG | 6.08 | 1.92 | 1.82 |

All (2) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-----------|-------|-------------|----------|
| 1 | A | 861 | ARG | NE-CZ-NH1 | -5.53 | 117.54 | 120.30 |
| 1 | C | 886 | ASP | CB-CG-OD2 | 5.14 | 122.92 | 118.30 |

There are no chirality outliers.

All (4) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 1 | E | 776 | TYR | Sidechain |
| 1 | E | 822 | TYR | Sidechain |
| 1 | K | 1025 | TYR | Sidechain |
| 1 | K | 822 | TYR | Sidechain |

5.2 Too-close contacts

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

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 1 | A | 8177 | 0 | 8002 | 300 | 1 |
| 1 | C | 8177 | 0 | 8002 | 291 | 1 |
| 1 | E | 8177 | 0 | 8002 | 352 | 0 |
| 1 | G | 8177 | 0 | 8002 | 317 | 1 |
| 1 | I | 8177 | 0 | 8002 | 301 | 1 |
| 1 | K | 8177 | 0 | 8002 | 330 | 0 |
| 2 | B | 87 | 0 | 84 | 5 | 0 |
| 2 | D | 87 | 0 | 84 | 5 | 0 |
| 2 | F | 87 | 0 | 84 | 9 | 0 |
| 2 | H | 87 | 0 | 84 | 4 | 0 |
| 2 | J | 87 | 0 | 84 | 5 | 0 |
| 2 | L | 87 | 0 | 84 | 8 | 0 |
| 3 | A | 178 | 0 | 0 | 29 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 3 | B | 2 | 0 | 0 | 0 | 0 |
| 3 | C | 172 | 0 | 0 | 24 | 0 |
| 3 | D | 2 | 0 | 0 | 0 | 0 |
| 3 | E | 138 | 0 | 0 | 54 | 0 |
| 3 | F | 5 | 0 | 0 | 2 | 0 |
| 3 | G | 154 | 0 | 0 | 32 | 0 |
| 3 | H | 2 | 0 | 0 | 1 | 0 |
| 3 | I | 157 | 0 | 0 | 18 | 0 |
| 3 | J | 2 | 0 | 0 | 0 | 0 |
| 3 | K | 146 | 0 | 0 | 56 | 0 |
| 3 | L | 2 | 0 | 0 | 1 | 0 |
| All | All | 50544 | 0 | 48516 | 1807 | 2 |

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 19.

All (1807) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:I:351:SER:OG | 1:I:353:THR:HG22 | 1.41 | 1.17 |
| 1:C:351:SER:OG | 1:C:353:THR:HG22 | 1.46 | 1.16 |
| 1:G:351:SER:OG | 1:G:353:THR:HG22 | 1.47 | 1.15 |
| 1:A:351:SER:OG | 1:A:353:THR:HG22 | 1.45 | 1.14 |
| 1:E:351:SER:OG | 1:E:353:THR:HG22 | 1.46 | 1.13 |
| 1:K:351:SER:OG | 1:K:353:THR:HG22 | 1.52 | 1.10 |
| 3:E:1083:HOH:O | 2:F:1213:PHE:HA | 1.49 | 1.09 |
| 1:I:342:ARG:HG3 | 3:I:1095:HOH:O | 1.54 | 1.08 |
| 1:K:241:ARG:HB3 | 3:K:1099:HOH:O | 1.54 | 1.06 |
| 2:F:1213:PHE:O | 3:F:239:HOH:O | 1.73 | 1.04 |
| 1:E:702:TRP:HB3 | 3:E:1189:HOH:O | 1.57 | 1.03 |
| 1:E:128:SER:HB2 | 3:E:1077:HOH:O | 1.63 | 0.99 |
| 1:G:557:ARG:HH22 | 1:G:562:GLU:HB2 | 1.25 | 0.98 |
| 1:A:206:ARG:H | 1:A:1024:ASN:HD21 | 1.11 | 0.98 |
| 1:K:557:ARG:HH22 | 1:K:562:GLU:HB2 | 1.28 | 0.97 |
| 1:G:276:ARG:HD3 | 3:G:1079:HOH:O | 1.65 | 0.96 |
| 1:K:689:MET:HE3 | 3:K:1180:HOH:O | 1.66 | 0.95 |
| 1:A:557:ARG:HH22 | 1:A:562:GLU:HB2 | 1.32 | 0.95 |
| 1:E:982:LEU:HG | 3:E:1113:HOH:O | 1.67 | 0.95 |
| 1:C:557:ARG:HH22 | 1:C:562:GLU:HB2 | 1.32 | 0.94 |
| 1:K:351:SER:HG | 1:K:353:THR:HG22 | 1.26 | 0.94 |
| 1:I:557:ARG:HH22 | 1:I:562:GLU:HB2 | 1.29 | 0.94 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:E:762:SER:HA | 3:E:1135:HOH:O | 1.66 | 0.94 |
| 1:E:351:SER:HG | 1:E:353:THR:HG22 | 1.25 | 0.94 |
| 1:E:557:ARG:HH22 | 1:E:562:GLU:HB2 | 1.30 | 0.93 |
| 1:K:858:ILE:HG13 | 3:K:1126:HOH:O | 1.68 | 0.93 |
| 1:I:351:SER:HG | 1:I:353:THR:HG22 | 1.27 | 0.92 |
| 1:C:471:GLU:HA | 3:C:1159:HOH:O | 1.70 | 0.92 |
| 1:E:480:ILE:H | 1:E:494:THR:CG2 | 1.83 | 0.92 |
| 1:A:206:ARG:H | 1:A:1024:ASN:ND2 | 1.68 | 0.91 |
| 1:A:351:SER:HG | 1:A:353:THR:HG22 | 1.31 | 0.91 |
| 1:A:480:ILE:H | 1:A:494:THR:CG2 | 1.84 | 0.90 |
| 1:C:351:SER:HG | 1:C:353:THR:HG22 | 1.30 | 0.90 |
| 1:I:206:ARG:H | 1:I:1024:ASN:HD21 | 1.17 | 0.90 |
| 1:C:206:ARG:H | 1:C:1024:ASN:HD21 | 1.16 | 0.90 |
| 1:G:480:ILE:H | 1:G:494:THR:CG2 | 1.83 | 0.89 |
| 1:K:256:SER:HB2 | 3:K:1099:HOH:O | 1.72 | 0.89 |
| 1:G:913:ARG:HH21 | 1:G:1047:GLN:HE21 | 1.20 | 0.89 |
| 1:E:74:ILE:HG13 | 1:E:75:VAL:HG12 | 1.54 | 0.88 |
| 1:K:480:ILE:H | 1:K:494:THR:CG2 | 1.85 | 0.88 |
| 1:K:206:ARG:H | 1:K:1024:ASN:HD21 | 1.17 | 0.88 |
| 1:K:251:PHE:HB3 | 3:K:1174:HOH:O | 1.73 | 0.88 |
| 1:I:480:ILE:H | 1:I:494:THR:CG2 | 1.87 | 0.87 |
| 1:I:525:ASP:HA | 3:K:1090:HOH:O | 1.72 | 0.87 |
| 1:I:913:ARG:HH21 | 1:I:1047:GLN:HE21 | 1.22 | 0.87 |
| 1:C:480:ILE:H | 1:C:494:THR:CG2 | 1.86 | 0.87 |
| 1:G:736:VAL:HA | 1:G:739:GLN:HE21 | 1.39 | 0.87 |
| 1:G:74:ILE:HG13 | 1:G:75:VAL:HG12 | 1.58 | 0.86 |
| 1:K:206:ARG:H | 1:K:1024:ASN:ND2 | 1.72 | 0.86 |
| 1:E:206:ARG:H | 1:E:1024:ASN:HD21 | 1.16 | 0.86 |
| 1:G:351:SER:HG | 1:G:353:THR:HG22 | 1.35 | 0.86 |
| 1:E:206:ARG:H | 1:E:1024:ASN:ND2 | 1.73 | 0.85 |
| 1:I:206:ARG:H | 1:I:1024:ASN:ND2 | 1.73 | 0.85 |
| 1:C:206:ARG:H | 1:C:1024:ASN:ND2 | 1.74 | 0.85 |
| 1:K:736:VAL:HA | 1:K:739:GLN:HE21 | 1.42 | 0.84 |
| 1:E:736:VAL:HA | 1:E:739:GLN:HE21 | 1.40 | 0.84 |
| 1:A:736:VAL:HA | 1:A:739:GLN:HE21 | 1.41 | 0.84 |
| 1:G:40:PRO:HG2 | 1:G:724:LEU:HD22 | 1.59 | 0.84 |
| 1:K:73:LYS:HD3 | 1:K:76:SER:HB3 | 1.58 | 0.84 |
| 1:C:736:VAL:HA | 1:C:739:GLN:HE21 | 1.40 | 0.84 |
| 1:E:889:MET:HG2 | 3:E:1133:HOH:O | 1.78 | 0.83 |
| 1:G:167:ASN:HB2 | 1:G:170:ILE:HB | 1.61 | 0.83 |
| 1:I:736:VAL:HA | 1:I:739:GLN:HE21 | 1.42 | 0.83 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:K:1001:ILE:HG23 | 3:K:1086:HOH:O | 1.76 | 0.83 |
| 1:A:40:PRO:HG2 | 1:A:724:LEU:HD22 | 1.61 | 0.83 |
| 1:E:167:ASN:HB2 | 1:E:170:ILE:HB | 1.58 | 0.83 |
| 1:C:40:PRO:HG2 | 1:C:724:LEU:HD22 | 1.59 | 0.83 |
| 1:K:167:ASN:HB2 | 1:K:170:ILE:HB | 1.61 | 0.83 |
| 1:E:533:PHE:N | 3:E:1181:HOH:O | 2.11 | 0.83 |
| 1:G:206:ARG:H | 1:G:1024:ASN:HD21 | 1.26 | 0.83 |
| 1:A:480:ILE:H | 1:A:494:THR:HG22 | 1.43 | 0.82 |
| 1:C:74:ILE:HG13 | 1:C:75:VAL:HG12 | 1.62 | 0.82 |
| 3:E:1181:HOH:O | 1:G:525:ASP:HA | 1.79 | 0.82 |
| 1:G:206:ARG:H | 1:G:1024:ASN:ND2 | 1.78 | 0.82 |
| 1:I:167:ASN:HB2 | 1:I:170:ILE:HB | 1.60 | 0.82 |
| 1:K:74:ILE:HG13 | 1:K:75:VAL:HG12 | 1.62 | 0.82 |
| 1:E:40:PRO:HG2 | 1:E:724:LEU:HD22 | 1.62 | 0.82 |
| 1:K:913:ARG:HH21 | 1:K:1047:GLN:HE21 | 1.27 | 0.81 |
| 1:K:643:ALA:HA | 3:K:1107:HOH:O | 1.79 | 0.81 |
| 1:I:40:PRO:HG2 | 1:I:724:LEU:HD22 | 1.61 | 0.81 |
| 1:G:681:SER:HB3 | 1:G:684:GLU:HG2 | 1.61 | 0.80 |
| 1:K:394:THR:HB | 3:K:1150:HOH:O | 1.81 | 0.80 |
| 1:E:889:MET:CE | 3:E:1133:HOH:O | 2.28 | 0.80 |
| 1:G:221:ALA:HB1 | 3:G:1113:HOH:O | 1.80 | 0.80 |
| 1:E:913:ARG:HH21 | 1:E:1047:GLN:HE21 | 1.27 | 0.80 |
| 1:E:586:ARG:CZ | 2:F:1206:ALA:HB3 | 2.10 | 0.80 |
| 1:E:1011:PHE:HB3 | 1:G:936:ASP:OD2 | 1.82 | 0.80 |
| 1:C:167:ASN:HB2 | 1:C:170:ILE:HB | 1.62 | 0.80 |
| 1:K:709:GLU:OE2 | 1:K:713:ARG:HD3 | 1.82 | 0.80 |
| 1:I:74:ILE:HG13 | 1:I:75:VAL:HG12 | 1.62 | 0.79 |
| 1:E:480:ILE:H | 1:E:494:THR:HG22 | 1.46 | 0.79 |
| 1:G:480:ILE:H | 1:G:494:THR:HG22 | 1.48 | 0.79 |
| 1:A:206:ARG:N | 1:A:1024:ASN:HD21 | 1.81 | 0.78 |
| 1:A:74:ILE:HG13 | 1:A:75:VAL:HG12 | 1.64 | 0.78 |
| 1:E:73:LYS:HD3 | 1:E:76:SER:HB3 | 1.64 | 0.78 |
| 1:G:557:ARG:NH2 | 1:G:562:GLU:HB2 | 1.97 | 0.78 |
| 1:I:480:ILE:H | 1:I:494:THR:HG22 | 1.48 | 0.78 |
| 1:G:625:LYS:HG3 | 3:G:1200:HOH:O | 1.83 | 0.78 |
| 1:C:635:ASN:HA | 3:C:1079:HOH:O | 1.83 | 0.78 |
| 1:A:167:ASN:HB2 | 1:A:170:ILE:HB | 1.66 | 0.77 |
| 1:K:40:PRO:HG2 | 1:K:724:LEU:HD22 | 1.64 | 0.77 |
| 1:K:440:VAL:HG12 | 3:K:1100:HOH:O | 1.82 | 0.77 |
| 1:K:557:ARG:NH2 | 1:K:562:GLU:HB2 | 1.99 | 0.77 |
| 1:G:46:PRO:HB2 | 1:G:286:LEU:HD23 | 1.65 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:E:1033:ILE:HB | 3:E:1123:HOH:O | 1.82 | 0.77 |
| 1:I:709:GLU:OE2 | 1:I:713:ARG:HD3 | 1.84 | 0.77 |
| 1:I:46:PRO:HB2 | 1:I:286:LEU:HD23 | 1.66 | 0.77 |
| 1:E:46:PRO:HB2 | 1:E:286:LEU:HD23 | 1.66 | 0.77 |
| 1:K:203:LYS:HG2 | 3:K:1166:HOH:O | 1.83 | 0.77 |
| 1:C:480:ILE:H | 1:C:494:THR:HG22 | 1.48 | 0.76 |
| 1:E:709:GLU:OE2 | 1:E:713:ARG:HD3 | 1.85 | 0.76 |
| 1:G:709:GLU:OE2 | 1:G:713:ARG:HD3 | 1.84 | 0.76 |
| 1:I:53:ILE:HG23 | 1:I:286:LEU:HD21 | 1.66 | 0.76 |
| 1:I:73:LYS:HD3 | 1:I:76:SER:HB3 | 1.66 | 0.76 |
| 1:A:87:PHE:HB3 | 1:A:88:PRO:HD2 | 1.67 | 0.76 |
| 1:A:703:ASN:C | 1:A:703:ASN:HD22 | 1.89 | 0.76 |
| 1:K:46:PRO:HB2 | 1:K:286:LEU:HD23 | 1.67 | 0.76 |
| 1:K:586:ARG:CZ | 2:L:1206:ALA:HB3 | 2.15 | 0.76 |
| 1:K:999:ARG:HG2 | 1:K:1005:VAL:HG22 | 1.67 | 0.76 |
| 1:C:586:ARG:CZ | 2:D:1206:ALA:HB3 | 2.16 | 0.76 |
| 1:E:992:VAL:CG1 | 3:E:1189:HOH:O | 2.33 | 0.75 |
| 1:E:703:ASN:HD22 | 1:E:703:ASN:C | 1.89 | 0.75 |
| 1:I:681:SER:HB3 | 1:I:684:GLU:HG2 | 1.67 | 0.75 |
| 1:C:279:ASN:ND2 | 3:C:1184:HOH:O | 2.18 | 0.75 |
| 1:A:586:ARG:CZ | 2:B:1206:ALA:HB3 | 2.17 | 0.75 |
| 1:C:284:ARG:HD3 | 3:C:1092:HOH:O | 1.85 | 0.75 |
| 1:K:533:PHE:N | 3:K:1090:HOH:O | 2.19 | 0.75 |
| 1:K:233:SER:N | 3:K:1097:HOH:O | 2.20 | 0.75 |
| 1:K:681:SER:HB3 | 1:K:684:GLU:HG2 | 1.67 | 0.75 |
| 1:C:73:LYS:HD3 | 1:C:76:SER:HB3 | 1.67 | 0.75 |
| 1:C:913:ARG:HH21 | 1:C:1047:GLN:HE21 | 1.33 | 0.74 |
| 1:E:557:ARG:NH2 | 1:E:562:GLU:HB2 | 2.02 | 0.74 |
| 1:K:505:PHE:HD1 | 3:K:1176:HOH:O | 1.68 | 0.74 |
| 1:A:73:LYS:HD3 | 1:A:76:SER:HB3 | 1.69 | 0.74 |
| 1:G:53:ILE:HG23 | 1:G:286:LEU:HD21 | 1.70 | 0.74 |
| 1:K:480:ILE:H | 1:K:494:THR:HG22 | 1.49 | 0.74 |
| 1:E:999:ARG:HG2 | 1:E:1005:VAL:HG22 | 1.68 | 0.74 |
| 1:C:936:ASP:HB3 | 1:C:944:SER:HB2 | 1.70 | 0.74 |
| 1:I:557:ARG:NH2 | 1:I:562:GLU:HB2 | 2.03 | 0.74 |
| 1:C:789:GLU:OE1 | 3:C:1119:HOH:O | 2.06 | 0.74 |
| 1:E:681:SER:HB3 | 1:E:684:GLU:HG2 | 1.70 | 0.74 |
| 1:K:1010:GLU:OE1 | 3:K:1079:HOH:O | 2.06 | 0.73 |
| 1:A:61:LEU:HB3 | 1:A:75:VAL:HG13 | 1.68 | 0.73 |
| 1:A:557:ARG:NH2 | 1:A:562:GLU:HB2 | 2.01 | 0.73 |
| 1:C:703:ASN:HD22 | 1:C:703:ASN:C | 1.91 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:E:498:SER:HB2 | 3:E:1107:HOH:O | 1.86 | 0.73 |
| 1:I:586:ARG:CZ | 2:J:1206:ALA:HB3 | 2.17 | 0.73 |
| 1:A:681:SER:HB3 | 1:A:684:GLU:HG2 | 1.71 | 0.73 |
| 1:A:936:ASP:HB3 | 1:A:944:SER:HB2 | 1.70 | 0.73 |
| 1:G:586:ARG:CZ | 2:H:1206:ALA:HB3 | 2.19 | 0.73 |
| 1:I:190:ARG:CZ | 3:I:1087:HOH:O | 2.36 | 0.73 |
| 1:I:936:ASP:OD2 | 1:K:1011:PHE:HB3 | 1.88 | 0.73 |
| 1:K:936:ASP:HB3 | 1:K:944:SER:HB2 | 1.71 | 0.73 |
| 1:E:46:PRO:HB2 | 1:E:286:LEU:CD2 | 2.18 | 0.72 |
| 1:G:73:LYS:HD3 | 1:G:76:SER:HB3 | 1.70 | 0.72 |
| 3:K:1104:HOH:O | 2:L:1213:PHE:HA | 1.89 | 0.72 |
| 1:C:87:PHE:HB3 | 1:C:88:PRO:HD2 | 1.71 | 0.72 |
| 1:A:913:ARG:HH21 | 1:A:1047:GLN:HE21 | 1.33 | 0.72 |
| 1:C:557:ARG:NH2 | 1:C:562:GLU:HB2 | 2.04 | 0.72 |
| 1:A:365:ARG:HA | 3:A:1133:HOH:O | 1.90 | 0.72 |
| 1:C:709:GLU:OE2 | 1:C:713:ARG:HD3 | 1.88 | 0.72 |
| 1:K:1008:GLN:NE2 | 3:K:1182:HOH:O | 2.22 | 0.72 |
| 1:C:351:SER:OG | 1:C:353:THR:CG2 | 2.33 | 0.72 |
| 1:I:403:ASN:HD22 | 1:I:404:LEU:N | 1.87 | 0.72 |
| 1:A:253:GLN:HE22 | 1:A:270:PHE:H | 1.38 | 0.72 |
| 1:G:936:ASP:HB3 | 1:G:944:SER:HB2 | 1.72 | 0.72 |
| 1:I:403:ASN:ND2 | 1:I:405:GLY:H | 1.87 | 0.72 |
| 1:I:1011:PHE:HB3 | 1:K:936:ASP:OD2 | 1.90 | 0.71 |
| 1:C:593:SER:O | 1:C:624:VAL:HG22 | 1.90 | 0.71 |
| 1:I:351:SER:OG | 1:I:353:THR:CG2 | 2.30 | 0.71 |
| 1:K:61:LEU:HB3 | 1:K:75:VAL:HG13 | 1.70 | 0.71 |
| 1:C:720:ASN:ND2 | 3:C:1186:HOH:O | 2.12 | 0.71 |
| 1:E:206:ARG:N | 1:E:1024:ASN:HD21 | 1.87 | 0.71 |
| 1:G:403:ASN:HD22 | 1:G:404:LEU:N | 1.88 | 0.71 |
| 1:A:709:GLU:OE2 | 1:A:713:ARG:HD3 | 1.90 | 0.71 |
| 1:E:133:MET:HA | 3:E:1077:HOH:O | 1.91 | 0.71 |
| 1:E:948:THR:H | 1:G:922:GLN:HE22 | 1.37 | 0.71 |
| 1:C:46:PRO:HB2 | 1:C:286:LEU:HD23 | 1.71 | 0.71 |
| 1:E:936:ASP:OD2 | 1:G:1011:PHE:HB3 | 1.90 | 0.71 |
| 1:I:703:ASN:C | 1:I:703:ASN:HD22 | 1.94 | 0.70 |
| 1:I:913:ARG:HH21 | 1:I:1047:GLN:NE2 | 1.88 | 0.70 |
| 1:E:984:GLY:HA2 | 3:E:1123:HOH:O | 1.90 | 0.70 |
| 1:K:87:PHE:HB3 | 1:K:88:PRO:HD2 | 1.73 | 0.70 |
| 1:G:351:SER:OG | 1:G:353:THR:CG2 | 2.35 | 0.70 |
| 1:C:53:ILE:HG23 | 1:C:286:LEU:HD21 | 1.74 | 0.70 |
| 1:E:936:ASP:HB3 | 1:E:944:SER:HB2 | 1.71 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:I:206:ARG:N | 1:I:1024:ASN:HD21 | 1.90 | 0.70 |
| 1:K:53:ILE:HG23 | 1:K:286:LEU:HD21 | 1.72 | 0.70 |
| 1:C:403:ASN:HD22 | 1:C:404:LEU:N | 1.89 | 0.70 |
| 1:A:593:SER:O | 1:A:624:VAL:HG22 | 1.92 | 0.70 |
| 1:G:1016:ARG:HG3 | 3:G:1099:HOH:O | 1.90 | 0.70 |
| 1:E:557:ARG:NH1 | 3:E:1152:HOH:O | 2.23 | 0.69 |
| 1:I:87:PHE:HB3 | 1:I:88:PRO:HD2 | 1.72 | 0.69 |
| 1:I:936:ASP:HB3 | 1:I:944:SER:HB2 | 1.72 | 0.69 |
| 1:K:703:ASN:HD22 | 1:K:703:ASN:C | 1.96 | 0.69 |
| 1:E:403:ASN:HD22 | 1:E:404:LEU:N | 1.90 | 0.69 |
| 1:G:530:ASN:ND2 | 1:G:531:PHE:H | 1.90 | 0.69 |
| 1:E:372:ASP:HB2 | 3:E:1112:HOH:O | 1.91 | 0.69 |
| 1:E:812:GLY:HA3 | 3:E:1150:HOH:O | 1.91 | 0.69 |
| 1:G:999:ARG:HG2 | 1:G:1005:VAL:HG22 | 1.75 | 0.69 |
| 1:A:403:ASN:HD22 | 1:A:404:LEU:N | 1.90 | 0.69 |
| 1:G:61:LEU:HD13 | 1:G:74:ILE:HD11 | 1.75 | 0.69 |
| 1:K:519:SER:OG | 3:K:1125:HOH:O | 2.10 | 0.69 |
| 1:G:253:GLN:HE22 | 1:G:270:PHE:H | 1.39 | 0.69 |
| 1:C:681:SER:HB3 | 1:C:684:GLU:HG2 | 1.73 | 0.69 |
| 1:C:61:LEU:HB3 | 1:C:75:VAL:HG13 | 1.75 | 0.68 |
| 1:E:351:SER:OG | 1:E:353:THR:CG2 | 2.35 | 0.68 |
| 1:G:46:PRO:HB2 | 1:G:286:LEU:CD2 | 2.23 | 0.68 |
| 1:E:87:PHE:HB3 | 1:E:88:PRO:HD2 | 1.76 | 0.68 |
| 1:K:82:ASN:H | 1:K:82:ASN:HD22 | 1.40 | 0.68 |
| 1:A:530:ASN:ND2 | 1:A:531:PHE:H | 1.91 | 0.68 |
| 1:E:61:LEU:HD13 | 1:E:74:ILE:HD11 | 1.76 | 0.68 |
| 1:K:46:PRO:HB2 | 1:K:286:LEU:CD2 | 2.23 | 0.68 |
| 1:K:206:ARG:N | 1:K:1024:ASN:HD21 | 1.90 | 0.68 |
| 1:G:87:PHE:HB3 | 1:G:88:PRO:HD2 | 1.75 | 0.68 |
| 1:K:403:ASN:ND2 | 1:K:405:GLY:H | 1.91 | 0.68 |
| 1:G:403:ASN:ND2 | 1:G:405:GLY:H | 1.92 | 0.68 |
| 1:G:557:ARG:HH22 | 1:G:562:GLU:CB | 2.05 | 0.68 |
| 1:E:61:LEU:HB3 | 1:E:75:VAL:HG13 | 1.75 | 0.67 |
| 1:G:703:ASN:C | 1:G:703:ASN:HD22 | 1.97 | 0.67 |
| 1:G:913:ARG:HH21 | 1:G:1047:GLN:NE2 | 1.91 | 0.67 |
| 1:E:403:ASN:ND2 | 1:E:405:GLY:H | 1.93 | 0.67 |
| 1:A:403:ASN:ND2 | 1:A:405:GLY:H | 1.92 | 0.67 |
| 1:K:403:ASN:HD22 | 1:K:404:LEU:N | 1.91 | 0.67 |
| 1:K:498:SER:HB2 | 3:K:1073:HOH:O | 1.93 | 0.67 |
| 1:A:46:PRO:HB2 | 1:A:286:LEU:HD23 | 1.76 | 0.67 |
| 1:E:253:GLN:HE22 | 1:E:270:PHE:H | 1.42 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:I:253:GLN:HE22 | 1:I:270:PHE:H | 1.40 | 0.67 |
| 1:I:791:GLU:CD | 1:I:861:ARG:HE | 1.97 | 0.67 |
| 1:E:949:ASN:ND2 | 1:G:475:TYR:OH | 2.25 | 0.67 |
| 1:I:530:ASN:ND2 | 1:I:531:PHE:H | 1.94 | 0.67 |
| 1:I:999:ARG:HG2 | 1:I:1005:VAL:HG22 | 1.75 | 0.67 |
| 1:A:53:ILE:HG23 | 1:A:286:LEU:HD21 | 1.77 | 0.66 |
| 1:C:206:ARG:N | 1:C:1024:ASN:HD21 | 1.89 | 0.66 |
| 1:E:82:ASN:H | 1:E:82:ASN:HD22 | 1.44 | 0.66 |
| 1:G:218:ASN:HB3 | 1:G:221:ALA:HB3 | 1.77 | 0.66 |
| 1:C:999:ARG:HG2 | 1:C:1005:VAL:HG22 | 1.78 | 0.66 |
| 1:G:61:LEU:HB3 | 1:G:75:VAL:HG13 | 1.76 | 0.66 |
| 1:G:82:ASN:HD22 | 1:G:82:ASN:H | 1.43 | 0.66 |
| 1:K:543:PRO:HB3 | 3:K:1202:HOH:O | 1.95 | 0.66 |
| 1:C:253:GLN:HE22 | 1:C:270:PHE:H | 1.44 | 0.66 |
| 1:A:471:GLU:HA | 3:A:1170:HOH:O | 1.95 | 0.66 |
| 1:A:591:LEU:HD12 | 1:A:596:LEU:HD23 | 1.78 | 0.66 |
| 3:A:1148:HOH:O | 1:C:477:MET:HG2 | 1.95 | 0.66 |
| 2:F:1209:GLU:O | 3:F:525:HOH:O | 2.14 | 0.66 |
| 1:A:351:SER:OG | 1:A:353:THR:CG2 | 2.34 | 0.66 |
| 1:A:999:ARG:HG2 | 1:A:1005:VAL:HG22 | 1.77 | 0.66 |
| 1:C:403:ASN:ND2 | 1:C:405:GLY:H | 1.93 | 0.66 |
| 1:C:591:LEU:HD12 | 1:C:596:LEU:HD23 | 1.78 | 0.66 |
| 1:E:53:ILE:HG23 | 1:E:286:LEU:HD21 | 1.77 | 0.66 |
| 1:E:218:ASN:HB3 | 1:E:221:ALA:HB3 | 1.78 | 0.66 |
| 1:G:337:ILE:HG13 | 1:G:649:MET:HE1 | 1.77 | 0.65 |
| 3:K:1170:HOH:O | 2:L:1203:THR:HG23 | 1.95 | 0.65 |
| 1:A:82:ASN:HD22 | 1:A:82:ASN:H | 1.44 | 0.65 |
| 1:A:284:ARG:HD3 | 3:A:1095:HOH:O | 1.96 | 0.65 |
| 1:C:892:LEU:HD13 | 1:C:920:VAL:HG21 | 1.79 | 0.65 |
| 1:E:913:ARG:HH21 | 1:E:1047:GLN:NE2 | 1.95 | 0.65 |
| 1:K:746:HIS:CE1 | 3:K:1104:HOH:O | 2.49 | 0.65 |
| 1:A:61:LEU:HD13 | 1:A:74:ILE:HD11 | 1.78 | 0.65 |
| 1:I:1002:ASP:HA | 3:I:1095:HOH:O | 1.96 | 0.65 |
| 1:K:322:PRO:HA | 1:K:678:LEU:HD22 | 1.79 | 0.65 |
| 1:G:909:ILE:HG12 | 1:G:956:ILE:CG2 | 2.27 | 0.65 |
| 1:K:256:SER:OG | 1:K:267:HIS:HE1 | 1.79 | 0.65 |
| 1:K:301:GLU:HB3 | 3:K:1195:HOH:O | 1.96 | 0.65 |
| 1:E:815:VAL:HA | 1:E:819:SER:HB3 | 1.79 | 0.65 |
| 1:C:82:ASN:H | 1:C:82:ASN:HD22 | 1.43 | 0.65 |
| 1:I:46:PRO:HB2 | 1:I:286:LEU:CD2 | 2.26 | 0.65 |
| 1:K:557:ARG:HH22 | 1:K:562:GLU:CB | 2.08 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:K:591:LEU:HD12 | 1:K:596:LEU:HD23 | 1.78 | 0.65 |
| 1:G:322:PRO:HA | 1:G:678:LEU:HD22 | 1.78 | 0.64 |
| 1:K:319:ILE:HG23 | 1:K:677:PRO:HB3 | 1.79 | 0.64 |
| 1:K:337:ILE:HG13 | 1:K:649:MET:HE1 | 1.76 | 0.64 |
| 1:A:279:ASN:ND2 | 3:A:1111:HOH:O | 2.30 | 0.64 |
| 1:K:253:GLN:HE22 | 1:K:270:PHE:H | 1.46 | 0.64 |
| 1:K:351:SER:OG | 1:K:353:THR:CG2 | 2.39 | 0.64 |
| 1:G:558:SER:HA | 1:K:393:ARG:HE | 1.60 | 0.64 |
| 1:K:52:ARG:NH1 | 1:K:90:GLY:O | 2.29 | 0.64 |
| 1:A:815:VAL:HA | 1:A:819:SER:HB3 | 1.80 | 0.64 |
| 1:C:46:PRO:HB2 | 1:C:286:LEU:CD2 | 2.27 | 0.64 |
| 1:C:52:ARG:NH1 | 1:C:90:GLY:O | 2.30 | 0.64 |
| 1:G:589:ILE:HD13 | 1:G:641:LEU:HD12 | 1.80 | 0.64 |
| 1:I:61:LEU:HB3 | 1:I:75:VAL:HG13 | 1.80 | 0.64 |
| 1:C:530:ASN:ND2 | 1:C:531:PHE:H | 1.95 | 0.64 |
| 1:E:948:THR:HA | 3:E:1102:HOH:O | 1.97 | 0.64 |
| 1:G:591:LEU:HD12 | 1:G:596:LEU:HD23 | 1.78 | 0.64 |
| 1:I:132:ARG:HA | 3:I:1207:HOH:O | 1.98 | 0.64 |
| 1:C:700:ASN:HD22 | 1:C:1008:GLN:NE2 | 1.96 | 0.64 |
| 1:I:67:LYS:HD2 | 3:I:1203:HOH:O | 1.98 | 0.64 |
| 1:I:913:ARG:NH2 | 1:I:1047:GLN:HE21 | 1.94 | 0.64 |
| 1:A:46:PRO:HB2 | 1:A:286:LEU:CD2 | 2.28 | 0.63 |
| 1:I:909:ILE:HG12 | 1:I:956:ILE:CG2 | 2.28 | 0.63 |
| 1:E:331:PRO:HB3 | 1:E:649:MET:HE3 | 1.80 | 0.63 |
| 1:G:593:SER:O | 1:G:624:VAL:HG22 | 1.98 | 0.63 |
| 1:I:322:PRO:HA | 1:I:678:LEU:HD22 | 1.80 | 0.63 |
| 1:C:677:PRO:HD2 | 1:I:827:GLU:O | 1.97 | 0.63 |
| 1:G:660:PHE:HB3 | 1:G:668:GLU:HB3 | 1.80 | 0.63 |
| 1:C:322:PRO:HA | 1:C:678:LEU:HD22 | 1.79 | 0.63 |
| 1:G:206:ARG:N | 1:G:1024:ASN:HD21 | 1.95 | 0.63 |
| 1:A:676:ARG:CD | 3:A:1073:HOH:O | 2.47 | 0.63 |
| 1:I:548:SER:O | 3:I:1178:HOH:O | 2.15 | 0.63 |
| 1:E:393:ARG:HE | 1:I:558:SER:HA | 1.63 | 0.63 |
| 1:E:337:ILE:HG13 | 1:E:649:MET:HE1 | 1.81 | 0.63 |
| 1:I:61:LEU:HD13 | 1:I:74:ILE:HD11 | 1.79 | 0.63 |
| 1:I:949:ASN:ND2 | 1:K:475:TYR:OH | 2.24 | 0.63 |
| 1:A:337:ILE:HG13 | 1:A:649:MET:HE1 | 1.81 | 0.62 |
| 1:K:537:SER:HB3 | 1:K:583:GLY:O | 1.99 | 0.62 |
| 1:A:322:PRO:HA | 1:A:678:LEU:HD22 | 1.80 | 0.62 |
| 1:G:596:LEU:HD12 | 1:G:619:LEU:HD11 | 1.81 | 0.62 |
| 1:K:660:PHE:HB3 | 1:K:668:GLU:HB3 | 1.82 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:52:ARG:NH1 | 1:E:90:GLY:O | 2.33 | 0.62 |
| 1:I:82:ASN:HD22 | 1:I:82:ASN:H | 1.45 | 0.62 |
| 1:K:356:LEU:HD23 | 3:K:1137:HOH:O | 1.98 | 0.62 |
| 1:E:983:ILE:HG23 | 3:E:1123:HOH:O | 1.99 | 0.62 |
| 1:K:815:VAL:HA | 1:K:819:SER:HB3 | 1.81 | 0.62 |
| 1:K:892:LEU:HD13 | 1:K:920:VAL:HG21 | 1.81 | 0.62 |
| 1:A:596:LEU:HD12 | 1:A:619:LEU:HD11 | 1.82 | 0.62 |
| 1:I:700:ASN:HD22 | 1:I:1008:GLN:NE2 | 1.97 | 0.62 |
| 1:I:922:GLN:HE22 | 1:K:948:THR:H | 1.48 | 0.62 |
| 1:K:593:SER:O | 1:K:624:VAL:HG22 | 1.99 | 0.62 |
| 1:K:913:ARG:HH21 | 1:K:1047:GLN:NE2 | 1.96 | 0.62 |
| 1:G:331:PRO:HB3 | 1:G:649:MET:HE3 | 1.81 | 0.62 |
| 1:K:530:ASN:ND2 | 1:K:531:PHE:H | 1.98 | 0.61 |
| 1:A:534:GLU:HG3 | 1:C:534:GLU:OE2 | 2.00 | 0.61 |
| 1:C:61:LEU:HD13 | 1:C:74:ILE:HD11 | 1.82 | 0.61 |
| 1:E:596:LEU:HD12 | 1:E:619:LEU:HD11 | 1.83 | 0.61 |
| 1:K:61:LEU:CB | 1:K:75:VAL:HG13 | 2.30 | 0.61 |
| 1:A:676:ARG:HD2 | 3:A:1073:HOH:O | 2.01 | 0.61 |
| 1:E:319:ILE:HG23 | 1:E:677:PRO:HB3 | 1.82 | 0.61 |
| 1:K:331:PRO:HB3 | 1:K:649:MET:HE3 | 1.83 | 0.61 |
| 1:K:800:ILE:HG21 | 1:K:845:ARG:NH2 | 2.15 | 0.61 |
| 1:A:319:ILE:HG23 | 1:A:677:PRO:HB3 | 1.82 | 0.61 |
| 1:A:414:ARG:HD3 | 3:A:1162:HOH:O | 1.99 | 0.61 |
| 1:C:295:ILE:HG13 | 1:C:306:ILE:HD11 | 1.82 | 0.61 |
| 1:G:319:ILE:HG23 | 1:G:677:PRO:HB3 | 1.82 | 0.61 |
| 1:I:660:PHE:HB3 | 1:I:668:GLU:HB3 | 1.83 | 0.61 |
| 1:A:556:PRO:HD3 | 1:I:354:TYR:CD1 | 2.36 | 0.61 |
| 1:E:541:VAL:HG22 | 1:E:542:ILE:N | 2.16 | 0.61 |
| 1:E:591:LEU:HD12 | 1:E:596:LEU:HD23 | 1.81 | 0.61 |
| 1:E:922:GLN:HE22 | 1:G:948:THR:H | 1.48 | 0.61 |
| 1:A:892:LEU:HD13 | 1:A:920:VAL:HG21 | 1.82 | 0.61 |
| 1:G:815:VAL:HA | 1:G:819:SER:HB3 | 1.81 | 0.61 |
| 1:K:61:LEU:HD13 | 1:K:74:ILE:HD11 | 1.82 | 0.61 |
| 1:A:218:ASN:HB3 | 1:A:221:ALA:HB3 | 1.82 | 0.61 |
| 1:A:478:GLN:HB3 | 1:A:499:HIS:HD2 | 1.66 | 0.61 |
| 1:C:40:PRO:HG2 | 1:C:724:LEU:CD2 | 2.30 | 0.61 |
| 1:I:218:ASN:HB3 | 1:I:221:ALA:HB3 | 1.82 | 0.61 |
| 1:K:700:ASN:HD22 | 1:K:1008:GLN:NE2 | 1.99 | 0.61 |
| 1:C:791:GLU:CD | 1:C:861:ARG:HE | 2.03 | 0.61 |
| 1:G:52:ARG:NH1 | 1:G:90:GLY:O | 2.33 | 0.61 |
| 1:E:256:SER:OG | 1:E:267:HIS:HE1 | 1.83 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:534:GLU:OE2 | 1:C:534:GLU:HG3 | 2.01 | 0.60 |
| 1:A:52:ARG:NH1 | 1:A:90:GLY:O | 2.34 | 0.60 |
| 1:C:556:PRO:HD3 | 1:G:354:TYR:CD1 | 2.35 | 0.60 |
| 1:I:53:ILE:CG2 | 1:I:286:LEU:HD21 | 2.31 | 0.60 |
| 1:A:537:SER:HB3 | 1:A:583:GLY:O | 2.02 | 0.60 |
| 1:C:660:PHE:HB3 | 1:C:668:GLU:HB3 | 1.84 | 0.60 |
| 1:G:390:TYR:HD1 | 1:G:397:ALA:HB2 | 1.67 | 0.60 |
| 1:K:986:ARG:HD2 | 1:K:1025:TYR:O | 2.02 | 0.60 |
| 1:C:603:HIS:HD2 | 1:C:604:GLY:O | 1.85 | 0.60 |
| 1:E:478:GLN:HB3 | 1:E:499:HIS:HD2 | 1.66 | 0.60 |
| 1:E:530:ASN:ND2 | 1:E:531:PHE:H | 2.00 | 0.60 |
| 1:G:791:GLU:CD | 1:G:861:ARG:HE | 2.05 | 0.60 |
| 1:K:432:ASP:OD1 | 1:K:434:GLU:HB3 | 2.01 | 0.60 |
| 1:K:774:ASP:HA | 1:K:817:ALA:HB2 | 1.84 | 0.60 |
| 1:K:977:LEU:HB2 | 1:K:979:LEU:HD13 | 1.82 | 0.60 |
| 1:A:300:THR:HG21 | 3:A:1178:HOH:O | 2.00 | 0.59 |
| 1:G:537:SER:HB3 | 1:G:583:GLY:O | 2.01 | 0.59 |
| 1:G:977:LEU:HB2 | 1:G:979:LEU:HD13 | 1.83 | 0.59 |
| 1:K:909:ILE:HG12 | 1:K:956:ILE:CG2 | 2.31 | 0.59 |
| 1:A:480:ILE:N | 1:A:494:THR:HG22 | 2.16 | 0.59 |
| 1:C:815:VAL:HA | 1:C:819:SER:HB3 | 1.84 | 0.59 |
| 1:A:677:PRO:HD2 | 1:G:827:GLU:O | 2.01 | 0.59 |
| 1:A:791:GLU:CD | 1:A:861:ARG:HE | 2.05 | 0.59 |
| 1:C:319:ILE:HG23 | 1:C:677:PRO:HB3 | 1.83 | 0.59 |
| 1:E:101:SER:N | 3:E:1094:HOH:O | 2.34 | 0.59 |
| 1:E:781:ALA:HB2 | 1:E:802:PRO:HG2 | 1.83 | 0.59 |
| 1:K:107:ASP:OD2 | 3:K:1131:HOH:O | 2.16 | 0.59 |
| 1:K:218:ASN:HB3 | 1:K:221:ALA:HB3 | 1.84 | 0.59 |
| 1:K:390:TYR:HD1 | 1:K:397:ALA:HB2 | 1.67 | 0.59 |
| 1:G:753:THR:HB | 3:G:1163:HOH:O | 2.02 | 0.59 |
| 1:G:882:ILE:HD11 | 1:G:899:PHE:HA | 1.84 | 0.59 |
| 1:A:557:ARG:HH22 | 1:A:562:GLU:CB | 2.10 | 0.59 |
| 1:A:774:ASP:HA | 1:A:817:ALA:HB2 | 1.85 | 0.59 |
| 1:C:218:ASN:HB3 | 1:C:221:ALA:HB3 | 1.84 | 0.59 |
| 1:E:229:SER:HB3 | 1:E:248:ILE:HD11 | 1.84 | 0.59 |
| 1:E:322:PRO:HA | 1:E:678:LEU:HD22 | 1.84 | 0.59 |
| 1:E:774:ASP:HA | 1:E:817:ALA:HB2 | 1.84 | 0.59 |
| 1:I:537:SER:HB3 | 1:I:583:GLY:O | 2.02 | 0.59 |
| 1:I:557:ARG:HH22 | 1:I:562:GLU:CB | 2.10 | 0.59 |
| 1:K:791:GLU:CD | 1:K:861:ARG:HE | 2.06 | 0.59 |
| 1:A:700:ASN:HD22 | 1:A:1008:GLN:NE2 | 2.00 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:E:61:LEU:CB | 1:E:75:VAL:HG13 | 2.33 | 0.59 |
| 1:E:295:ILE:HG13 | 1:E:306:ILE:HD11 | 1.85 | 0.59 |
| 1:K:800:ILE:HG21 | 1:K:845:ARG:HH22 | 1.68 | 0.59 |
| 1:G:141:ASP:OD1 | 1:G:145:ASN:HB2 | 2.03 | 0.59 |
| 1:G:800:ILE:HG21 | 1:G:845:ARG:NH2 | 2.17 | 0.59 |
| 1:A:660:PHE:HB3 | 1:A:668:GLU:HB3 | 1.84 | 0.59 |
| 1:E:660:PHE:HB3 | 1:E:668:GLU:HB3 | 1.85 | 0.59 |
| 1:A:256:SER:OG | 1:A:267:HIS:HE1 | 1.86 | 0.59 |
| 1:I:319:ILE:HG23 | 1:I:677:PRO:HB3 | 1.83 | 0.59 |
| 1:K:541:VAL:HG22 | 1:K:542:ILE:N | 2.17 | 0.59 |
| 1:C:809:ASP:HB3 | 1:C:814:THR:HA | 1.85 | 0.59 |
| 1:E:557:ARG:HH22 | 1:E:562:GLU:CB | 2.11 | 0.59 |
| 1:I:229:SER:HB3 | 1:I:248:ILE:HD11 | 1.83 | 0.59 |
| 1:K:229:SER:HB3 | 1:K:248:ILE:HD11 | 1.85 | 0.59 |
| 1:C:746:HIS:NE2 | 2:D:1214:OQE:C1 | 2.66 | 0.58 |
| 1:I:342:ARG:NH2 | 3:I:1095:HOH:O | 2.34 | 0.58 |
| 1:I:480:ILE:N | 1:I:494:THR:HG22 | 2.18 | 0.58 |
| 1:I:800:ILE:HG21 | 1:I:845:ARG:NH2 | 2.18 | 0.58 |
| 1:K:440:VAL:CG1 | 3:K:1100:HOH:O | 2.45 | 0.58 |
| 1:A:603:HIS:HD2 | 1:A:604:GLY:O | 1.86 | 0.58 |
| 1:A:800:ILE:HG21 | 1:A:845:ARG:HH22 | 1.67 | 0.58 |
| 1:G:131:ARG:HB2 | 3:G:1131:HOH:O | 2.02 | 0.58 |
| 1:I:478:GLN:HB3 | 1:I:499:HIS:HD2 | 1.67 | 0.58 |
| 1:I:589:ILE:HD13 | 1:I:641:LEU:HD12 | 1.85 | 0.58 |
| 1:C:557:ARG:HH22 | 1:C:562:GLU:CB | 2.11 | 0.58 |
| 1:E:430:THR:HG23 | 1:E:441:ILE:HD11 | 1.84 | 0.58 |
| 1:E:593:SER:O | 1:E:624:VAL:HG22 | 2.04 | 0.58 |
| 1:E:800:ILE:HG21 | 1:E:845:ARG:NH2 | 2.18 | 0.58 |
| 1:E:909:ILE:HG12 | 1:E:956:ILE:CG2 | 2.33 | 0.58 |
| 1:G:800:ILE:HG21 | 1:G:845:ARG:HH22 | 1.67 | 0.58 |
| 1:G:913:ARG:NH2 | 1:G:1047:GLN:HE21 | 1.96 | 0.58 |
| 1:I:286:LEU:HD12 | 1:I:295:ILE:HG12 | 1.86 | 0.58 |
| 1:G:681:SER:CB | 1:G:684:GLU:HG2 | 2.33 | 0.58 |
| 1:A:909:ILE:HG12 | 1:A:956:ILE:CG2 | 2.33 | 0.58 |
| 1:G:478:GLN:HB3 | 1:G:499:HIS:HD2 | 1.69 | 0.58 |
| 1:I:403:ASN:HD22 | 1:I:403:ASN:C | 2.07 | 0.58 |
| 1:I:591:LEU:HD12 | 1:I:596:LEU:HD23 | 1.84 | 0.58 |
| 1:I:815:VAL:HA | 1:I:819:SER:HB3 | 1.85 | 0.58 |
| 1:K:307:GLU:HG2 | 3:K:1177:HOH:O | 2.04 | 0.58 |
| 1:E:222:PHE:HB2 | 1:E:1038:HIS:HD2 | 1.69 | 0.58 |
| 1:A:40:PRO:HG2 | 1:A:724:LEU:CD2 | 2.31 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:61:LEU:CB | 1:A:75:VAL:HG13 | 2.34 | 0.58 |
| 1:I:593:SER:O | 1:I:624:VAL:HG22 | 2.02 | 0.58 |
| 1:K:286:LEU:HD12 | 1:K:295:ILE:HG12 | 1.84 | 0.58 |
| 1:C:337:ILE:HG13 | 1:C:649:MET:HE1 | 1.84 | 0.58 |
| 1:C:977:LEU:HB2 | 1:C:979:LEU:HD13 | 1.84 | 0.58 |
| 1:E:314:PRO:HD2 | 1:E:726:LYS:HG2 | 1.86 | 0.58 |
| 1:G:700:ASN:HD22 | 1:G:1008:GLN:NE2 | 2.01 | 0.58 |
| 1:K:73:LYS:HD3 | 1:K:76:SER:CB | 2.32 | 0.58 |
| 1:K:480:ILE:N | 1:K:494:THR:HG22 | 2.17 | 0.58 |
| 1:E:889:MET:HE3 | 3:E:1133:HOH:O | 1.98 | 0.58 |
| 1:G:40:PRO:HG2 | 1:G:724:LEU:CD2 | 2.32 | 0.58 |
| 1:I:190:ARG:NH1 | 3:I:1087:HOH:O | 2.34 | 0.58 |
| 1:I:885:PRO:O | 1:I:915:ASN:HA | 2.04 | 0.58 |
| 1:A:744:THR:HA | 3:A:1151:HOH:O | 2.02 | 0.58 |
| 1:A:800:ILE:HG21 | 1:A:845:ARG:NH2 | 2.17 | 0.58 |
| 1:I:141:ASP:OD1 | 1:I:145:ASN:HB2 | 2.04 | 0.58 |
| 1:I:781:ALA:HB2 | 1:I:802:PRO:HG2 | 1.85 | 0.58 |
| 1:A:618:VAL:CG2 | 1:A:631:GLU:HG3 | 2.34 | 0.57 |
| 1:K:781:ALA:HB2 | 1:K:802:PRO:HG2 | 1.86 | 0.57 |
| 1:C:390:TYR:HD1 | 1:C:397:ALA:HB2 | 1.69 | 0.57 |
| 1:E:480:ILE:N | 1:E:494:THR:HG22 | 2.18 | 0.57 |
| 1:I:475:TYR:OH | 1:K:949:ASN:ND2 | 2.36 | 0.57 |
| 1:A:155:PRO:O | 1:A:856:ARG:HD2 | 2.05 | 0.57 |
| 1:A:913:ARG:HH21 | 1:A:1047:GLN:NE2 | 2.01 | 0.57 |
| 1:I:337:ILE:HG13 | 1:I:649:MET:HE1 | 1.86 | 0.57 |
| 1:K:363:ARG:HB3 | 1:K:380:GLY:O | 2.04 | 0.57 |
| 1:C:88:PRO:HG2 | 1:C:89:ASP:H | 1.68 | 0.57 |
| 1:C:220:GLY:O | 1:C:1038:HIS:HB3 | 2.04 | 0.57 |
| 1:C:596:LEU:HD12 | 1:C:619:LEU:HD11 | 1.86 | 0.57 |
| 1:E:286:LEU:HD12 | 1:E:295:ILE:HG12 | 1.86 | 0.57 |
| 1:K:337:ILE:HG13 | 1:K:649:MET:CE | 2.35 | 0.57 |
| 1:K:406:ASN:HB2 | 1:K:424:ASP:CG | 2.24 | 0.57 |
| 1:A:229:SER:HB3 | 1:A:248:ILE:HD11 | 1.87 | 0.57 |
| 1:C:286:LEU:HD12 | 1:C:295:ILE:HG12 | 1.86 | 0.57 |
| 1:A:286:LEU:HD12 | 1:A:295:ILE:HG12 | 1.87 | 0.57 |
| 1:A:331:PRO:HB3 | 1:A:649:MET:HE3 | 1.87 | 0.57 |
| 1:C:774:ASP:HA | 1:C:817:ALA:HB2 | 1.86 | 0.57 |
| 1:C:800:ILE:HG21 | 1:C:845:ARG:NH2 | 2.19 | 0.57 |
| 1:E:363:ARG:HB3 | 1:E:380:GLY:O | 2.03 | 0.57 |
| 1:I:746:HIS:NE2 | 2:J:1214:0QE:C1 | 2.67 | 0.57 |
| 1:K:746:HIS:NE2 | 2:L:1214:0QE:C1 | 2.67 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:C:489:LYS:HG3 | 1:C:491:PHE:CE1 | 2.40 | 0.57 |
| 1:E:948:THR:H | 1:G:922:GLN:NE2 | 2.02 | 0.57 |
| 1:K:278:LEU:HD23 | 1:K:287:PHE:HB3 | 1.87 | 0.57 |
| 1:E:475:TYR:OH | 1:G:949:ASN:ND2 | 2.34 | 0.57 |
| 1:G:61:LEU:CB | 1:G:75:VAL:HG13 | 2.35 | 0.57 |
| 1:I:774:ASP:HA | 1:I:817:ALA:HB2 | 1.86 | 0.57 |
| 1:C:229:SER:HB3 | 1:C:248:ILE:HD11 | 1.85 | 0.57 |
| 1:A:727:THR:O | 1:A:730:ASP:HB2 | 2.05 | 0.56 |
| 1:A:874:ARG:NE | 3:A:1176:HOH:O | 2.38 | 0.56 |
| 1:C:478:GLN:HB3 | 1:C:499:HIS:HD2 | 1.70 | 0.56 |
| 1:G:286:LEU:HD12 | 1:G:295:ILE:HG12 | 1.87 | 0.56 |
| 1:I:390:TYR:HD1 | 1:I:397:ALA:HB2 | 1.68 | 0.56 |
| 1:K:809:ASP:HB3 | 1:K:814:THR:HA | 1.87 | 0.56 |
| 1:A:218:ASN:O | 1:A:220:GLY:N | 2.37 | 0.56 |
| 1:A:589:ILE:HD13 | 1:A:641:LEU:HD12 | 1.85 | 0.56 |
| 1:C:586:ARG:HG3 | 2:D:1204:GLN:HG3 | 1.87 | 0.56 |
| 1:E:791:GLU:CD | 1:E:861:ARG:HE | 2.09 | 0.56 |
| 1:E:1047:GLN:HG2 | 3:E:1123:HOH:O | 2.05 | 0.56 |
| 1:G:88:PRO:HG2 | 1:G:89:ASP:H | 1.70 | 0.56 |
| 1:K:53:ILE:CG2 | 1:K:286:LEU:HD21 | 2.35 | 0.56 |
| 1:K:735:ILE:O | 1:K:739:GLN:HG3 | 2.05 | 0.56 |
| 1:A:88:PRO:HG2 | 1:A:89:ASP:H | 1.69 | 0.56 |
| 1:A:498:SER:OG | 1:A:518:ARG:HG2 | 2.05 | 0.56 |
| 1:C:314:PRO:HD2 | 1:C:726:LYS:HG2 | 1.86 | 0.56 |
| 1:C:676:ARG:HD2 | 3:C:1072:HOH:O | 2.04 | 0.56 |
| 1:E:537:SER:HB3 | 1:E:583:GLY:O | 2.04 | 0.56 |
| 1:E:737:GLU:HG2 | 3:E:1197:HOH:O | 2.05 | 0.56 |
| 1:E:913:ARG:NH2 | 1:E:1047:GLN:HE21 | 2.01 | 0.56 |
| 1:I:546:PRO:HG2 | 1:I:567:ASP:HB3 | 1.87 | 0.56 |
| 1:I:977:LEU:HB2 | 1:I:979:LEU:HD13 | 1.88 | 0.56 |
| 1:K:220:GLY:O | 1:K:1038:HIS:HB3 | 2.05 | 0.56 |
| 1:E:401:GLU:H | 1:E:401:GLU:CD | 2.08 | 0.56 |
| 1:I:909:ILE:HA | 1:I:956:ILE:HG22 | 1.87 | 0.56 |
| 1:K:478:GLN:HB3 | 1:K:499:HIS:HD2 | 1.70 | 0.56 |
| 1:E:882:ILE:HD11 | 1:E:899:PHE:HA | 1.88 | 0.56 |
| 1:G:314:PRO:HD2 | 1:G:726:LYS:HG2 | 1.87 | 0.56 |
| 1:K:44:LEU:HD12 | 1:K:56:VAL:HB | 1.88 | 0.56 |
| 1:C:913:ARG:HH21 | 1:C:1047:GLN:NE2 | 1.99 | 0.56 |
| 1:E:390:TYR:HD1 | 1:E:397:ALA:HB2 | 1.71 | 0.56 |
| 1:G:674:ASP:HB2 | 3:G:1150:HOH:O | 2.06 | 0.56 |
| 1:A:743:ARG:O | 3:A:1151:HOH:O | 2.18 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:977:LEU:HB2 | 1:A:979:LEU:HD13 | 1.88 | 0.56 |
| 1:E:800:ILE:HG21 | 1:E:845:ARG:HH22 | 1.70 | 0.56 |
| 1:K:603:HIS:HD2 | 1:K:604:GLY:O | 1.88 | 0.56 |
| 1:K:882:ILE:HD11 | 1:K:899:PHE:HA | 1.87 | 0.56 |
| 1:E:977:LEU:HB2 | 1:E:979:LEU:HD13 | 1.87 | 0.56 |
| 1:G:278:LEU:HD23 | 1:G:287:PHE:HB3 | 1.88 | 0.56 |
| 1:I:318:ILE:HG21 | 1:I:682:ILE:HD11 | 1.87 | 0.56 |
| 1:C:401:GLU:CD | 1:C:401:GLU:H | 2.08 | 0.56 |
| 1:I:295:ILE:HG13 | 1:I:306:ILE:HD11 | 1.88 | 0.56 |
| 1:K:546:PRO:HG2 | 1:K:567:ASP:HB3 | 1.88 | 0.56 |
| 1:K:746:HIS:HA | 1:K:748:TYR:CZ | 2.41 | 0.56 |
| 1:C:589:ILE:HD13 | 1:C:641:LEU:HD12 | 1.88 | 0.55 |
| 1:E:722:VAL:N | 1:E:723:PRO:HD2 | 2.22 | 0.55 |
| 1:I:53:ILE:HG23 | 1:I:286:LEU:CD2 | 2.36 | 0.55 |
| 1:I:88:PRO:HG2 | 1:I:89:ASP:H | 1.71 | 0.55 |
| 1:A:278:LEU:HD23 | 1:A:287:PHE:HB3 | 1.88 | 0.55 |
| 1:A:314:PRO:HD2 | 1:A:726:LYS:HG2 | 1.86 | 0.55 |
| 1:C:253:GLN:NE2 | 1:C:268:THR:OG1 | 2.39 | 0.55 |
| 1:C:909:ILE:HG12 | 1:C:956:ILE:CG2 | 2.36 | 0.55 |
| 1:E:809:ASP:HB3 | 1:E:814:THR:HA | 1.88 | 0.55 |
| 1:G:728:ARG:HD3 | 3:G:1073:HOH:O | 2.04 | 0.55 |
| 1:G:781:ALA:HB2 | 1:G:802:PRO:HG2 | 1.88 | 0.55 |
| 1:G:909:ILE:HA | 1:G:956:ILE:HG22 | 1.88 | 0.55 |
| 1:K:596:LEU:HD12 | 1:K:619:LEU:HD11 | 1.88 | 0.55 |
| 1:A:363:ARG:HB3 | 1:A:380:GLY:O | 2.07 | 0.55 |
| 1:A:390:TYR:HD1 | 1:A:397:ALA:HB2 | 1.71 | 0.55 |
| 1:A:401:GLU:CD | 1:A:401:GLU:H | 2.08 | 0.55 |
| 1:A:417:LYS:NZ | 3:A:1164:HOH:O | 2.37 | 0.55 |
| 1:C:155:PRO:O | 1:C:856:ARG:HD2 | 2.06 | 0.55 |
| 1:C:190:ARG:HG3 | 1:C:216:GLU:OE2 | 2.05 | 0.55 |
| 1:G:403:ASN:HD22 | 1:G:403:ASN:C | 2.10 | 0.55 |
| 1:I:52:ARG:NH1 | 1:I:90:GLY:O | 2.38 | 0.55 |
| 1:G:401:GLU:H | 1:G:401:GLU:CD | 2.09 | 0.55 |
| 1:G:432:ASP:OD1 | 1:G:434:GLU:HB3 | 2.05 | 0.55 |
| 1:G:809:ASP:HB3 | 1:G:814:THR:HA | 1.89 | 0.55 |
| 1:G:892:LEU:HD13 | 1:G:920:VAL:HG21 | 1.88 | 0.55 |
| 1:I:278:LEU:HD23 | 1:I:287:PHE:HB3 | 1.88 | 0.55 |
| 1:G:703:ASN:ND2 | 1:G:706:VAL:H | 2.04 | 0.55 |
| 1:I:800:ILE:HG21 | 1:I:845:ARG:HH22 | 1.70 | 0.55 |
| 1:K:714:ILE:HG21 | 1:K:741:GLU:HG3 | 1.89 | 0.55 |
| 1:C:256:SER:OG | 1:C:267:HIS:HE1 | 1.89 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:268:THR:HG22 | 1:E:303:ILE:HD11 | 1.89 | 0.55 |
| 1:K:62:TRP:HB3 | 3:K:1152:HOH:O | 2.07 | 0.55 |
| 1:A:220:GLY:O | 1:A:1038:HIS:HB3 | 2.06 | 0.55 |
| 1:A:253:GLN:NE2 | 1:A:268:THR:OG1 | 2.40 | 0.55 |
| 1:C:781:ALA:HB2 | 1:C:802:PRO:HG2 | 1.88 | 0.55 |
| 1:G:184:LEU:HB2 | 1:G:191:VAL:HB | 1.89 | 0.55 |
| 1:G:746:HIS:HA | 1:G:748:TYR:CZ | 2.42 | 0.55 |
| 1:G:774:ASP:HA | 1:G:817:ALA:HB2 | 1.88 | 0.55 |
| 1:I:872:HIS:HE1 | 1:I:902:GLU:OE1 | 1.89 | 0.55 |
| 1:K:295:ILE:HG13 | 1:K:306:ILE:HD11 | 1.88 | 0.55 |
| 1:G:363:ARG:HB3 | 1:G:380:GLY:O | 2.06 | 0.55 |
| 1:I:44:LEU:HD12 | 1:I:56:VAL:HB | 1.88 | 0.55 |
| 1:K:681:SER:CB | 1:K:684:GLU:HG2 | 2.35 | 0.55 |
| 1:G:295:ILE:HG13 | 1:G:306:ILE:HD11 | 1.89 | 0.55 |
| 1:A:541:VAL:HG22 | 1:A:542:ILE:N | 2.22 | 0.55 |
| 1:A:882:ILE:HD11 | 1:A:899:PHE:HA | 1.89 | 0.55 |
| 1:C:387:LEU:HD13 | 1:C:388:GLY:N | 2.22 | 0.55 |
| 1:E:546:PRO:HG2 | 1:E:567:ASP:HB3 | 1.89 | 0.55 |
| 1:E:736:VAL:HB | 3:E:1197:HOH:O | 2.06 | 0.55 |
| 1:E:532:SER:HB2 | 1:G:525:ASP:OD1 | 2.06 | 0.54 |
| 1:E:746:HIS:HA | 1:E:748:TYR:CZ | 2.42 | 0.54 |
| 1:E:993:GLY:HA2 | 3:E:1083:HOH:O | 2.04 | 0.54 |
| 1:G:53:ILE:CG2 | 1:G:286:LEU:HD21 | 2.36 | 0.54 |
| 1:I:882:ILE:HD11 | 1:I:899:PHE:HA | 1.89 | 0.54 |
| 1:K:190:ARG:HG3 | 1:K:216:GLU:OE2 | 2.07 | 0.54 |
| 1:K:498:SER:CB | 3:K:1073:HOH:O | 2.48 | 0.54 |
| 1:K:565:GLU:HG2 | 1:K:566:TYR:N | 2.22 | 0.54 |
| 1:E:1016:ARG:O | 1:E:1017:ASP:HB2 | 2.07 | 0.54 |
| 1:G:489:LYS:HG3 | 1:G:491:PHE:CE1 | 2.43 | 0.54 |
| 1:K:1002:ASP:N | 3:K:1180:HOH:O | 2.39 | 0.54 |
| 1:A:809:ASP:HB3 | 1:A:814:THR:HA | 1.88 | 0.54 |
| 1:C:245:ILE:HD11 | 1:C:278:LEU:HG | 1.90 | 0.54 |
| 1:C:541:VAL:HG22 | 1:C:542:ILE:N | 2.23 | 0.54 |
| 1:E:681:SER:CB | 1:E:684:GLU:HG2 | 2.36 | 0.54 |
| 1:E:746:HIS:NE2 | 2:F:1214:OQE:C1 | 2.71 | 0.54 |
| 1:A:87:PHE:CB | 1:A:88:PRO:HD2 | 2.35 | 0.54 |
| 1:A:874:ARG:CZ | 3:A:1176:HOH:O | 2.55 | 0.54 |
| 1:E:700:ASN:HD22 | 1:E:1008:GLN:NE2 | 2.05 | 0.54 |
| 1:I:324:LYS:HD2 | 3:I:1117:HOH:O | 2.05 | 0.54 |
| 1:I:892:LEU:HD13 | 1:I:920:VAL:HG21 | 1.89 | 0.54 |
| 1:A:112:ASN:OD1 | 1:A:114:GLU:HB3 | 2.08 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:A:781:ALA:HB2 | 1:A:802:PRO:HG2 | 1.89 | 0.54 |
| 1:C:1052:ILE:O | 1:C:1056:ILE:HG13 | 2.07 | 0.54 |
| 1:E:256:SER:OG | 1:E:267:HIS:CE1 | 2.60 | 0.54 |
| 1:G:190:ARG:HG3 | 1:G:216:GLU:OE2 | 2.08 | 0.54 |
| 1:C:278:LEU:HD23 | 1:C:287:PHE:HB3 | 1.90 | 0.54 |
| 1:C:363:ARG:HB3 | 1:C:380:GLY:O | 2.07 | 0.54 |
| 1:C:800:ILE:HG21 | 1:C:845:ARG:HH22 | 1.71 | 0.54 |
| 1:E:44:LEU:HD12 | 1:E:56:VAL:HB | 1.90 | 0.54 |
| 1:E:956:ILE:HD13 | 1:E:957:ALA:N | 2.21 | 0.54 |
| 1:G:541:VAL:HG22 | 1:G:542:ILE:N | 2.22 | 0.54 |
| 1:G:681:SER:HB3 | 1:G:684:GLU:CG | 2.35 | 0.54 |
| 1:K:565:GLU:HG2 | 3:K:1178:HOH:O | 2.07 | 0.54 |
| 1:A:746:HIS:NE2 | 2:B:1214:OQE:C1 | 2.71 | 0.54 |
| 1:C:746:HIS:HA | 1:C:748:TYR:CZ | 2.43 | 0.54 |
| 1:E:220:GLY:O | 1:E:1038:HIS:HB3 | 2.08 | 0.54 |
| 1:E:337:ILE:HG13 | 1:E:649:MET:CE | 2.37 | 0.54 |
| 1:E:997:LYS:NZ | 3:E:1136:HOH:O | 2.41 | 0.54 |
| 1:G:480:ILE:N | 1:G:494:THR:HG22 | 2.19 | 0.54 |
| 1:G:956:ILE:HD13 | 1:G:957:ALA:N | 2.22 | 0.54 |
| 1:I:681:SER:CB | 1:I:684:GLU:HG2 | 2.34 | 0.54 |
| 1:K:184:LEU:HB2 | 1:K:191:VAL:HB | 1.89 | 0.54 |
| 1:K:684:GLU:HG3 | 1:K:685:GLU:N | 2.23 | 0.54 |
| 1:C:268:THR:HG22 | 1:C:303:ILE:HD11 | 1.90 | 0.54 |
| 1:E:201:HIS:HE1 | 3:E:1155:HOH:O | 1.90 | 0.54 |
| 1:I:525:ASP:OD1 | 1:K:532:SER:HB2 | 2.07 | 0.54 |
| 1:I:901:ASN:HB3 | 1:K:469:HIS:ND1 | 2.22 | 0.54 |
| 1:K:1016:ARG:O | 1:K:1017:ASP:HB2 | 2.08 | 0.54 |
| 1:A:430:THR:HG23 | 1:A:441:ILE:HD11 | 1.90 | 0.54 |
| 1:C:307:GLU:C | 1:C:308:ILE:HD12 | 2.29 | 0.54 |
| 1:E:278:LEU:HD23 | 1:E:287:PHE:HB3 | 1.89 | 0.54 |
| 1:E:565:GLU:HG2 | 1:E:566:TYR:H | 1.73 | 0.54 |
| 1:G:744:THR:HA | 3:G:1174:HOH:O | 2.08 | 0.54 |
| 1:A:295:ILE:HG13 | 1:A:306:ILE:HD11 | 1.90 | 0.53 |
| 1:A:522:PRO:HG2 | 1:C:889:MET:SD | 2.48 | 0.53 |
| 1:C:882:ILE:HD11 | 1:C:899:PHE:HA | 1.90 | 0.53 |
| 1:E:201:HIS:HB3 | 1:E:736:VAL:HG13 | 1.91 | 0.53 |
| 1:E:603:HIS:HD2 | 1:E:604:GLY:O | 1.90 | 0.53 |
| 1:E:986:ARG:HD2 | 1:E:1025:TYR:O | 2.06 | 0.53 |
| 1:G:110:PHE:CD2 | 1:G:121:ILE:HG13 | 2.43 | 0.53 |
| 1:K:253:GLN:HA | 1:K:253:GLN:NE2 | 2.22 | 0.53 |
| 1:K:591:LEU:HD13 | 1:K:662:LEU:HD21 | 1.90 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:633:LYS:NZ | 1:A:665:PRO:O | 2.40 | 0.53 |
| 1:A:889:MET:SD | 1:C:522:PRO:HG2 | 2.49 | 0.53 |
| 1:C:714:ILE:HG21 | 1:C:741:GLU:HG3 | 1.91 | 0.53 |
| 1:E:701:TYR:O | 1:G:939:ARG:HD3 | 2.08 | 0.53 |
| 1:G:268:THR:HG22 | 1:G:303:ILE:HD11 | 1.91 | 0.53 |
| 1:G:731:LEU:HD22 | 1:G:735:ILE:CD1 | 2.38 | 0.53 |
| 1:I:314:PRO:HD2 | 1:I:726:LYS:HG2 | 1.89 | 0.53 |
| 1:I:618:VAL:CG2 | 1:I:631:GLU:HG3 | 2.38 | 0.53 |
| 1:K:343:GLY:HA2 | 3:K:1095:HOH:O | 2.07 | 0.53 |
| 1:A:268:THR:HG22 | 1:A:303:ILE:HD11 | 1.91 | 0.53 |
| 1:A:402:GLU:HB2 | 3:A:1195:HOH:O | 2.08 | 0.53 |
| 1:E:565:GLU:HG2 | 1:E:566:TYR:N | 2.23 | 0.53 |
| 1:K:112:ASN:OD1 | 1:K:114:GLU:HB3 | 2.08 | 0.53 |
| 1:C:909:ILE:HA | 1:C:956:ILE:HG22 | 1.90 | 0.53 |
| 1:E:432:ASP:OD1 | 1:E:434:GLU:HB3 | 2.08 | 0.53 |
| 1:G:124:PHE:HB3 | 1:G:152:ALA:CB | 2.39 | 0.53 |
| 1:I:222:PHE:HB2 | 1:I:1038:HIS:HD2 | 1.74 | 0.53 |
| 1:C:300:THR:HG21 | 3:C:1154:HOH:O | 2.08 | 0.53 |
| 1:E:909:ILE:HA | 1:E:956:ILE:HG22 | 1.90 | 0.53 |
| 1:E:1029:PRO:HB3 | 3:E:1113:HOH:O | 2.09 | 0.53 |
| 1:G:229:SER:HB3 | 1:G:248:ILE:HD11 | 1.90 | 0.53 |
| 1:G:387:LEU:HD13 | 1:G:388:GLY:N | 2.23 | 0.53 |
| 1:G:681:SER:O | 1:G:684:GLU:HG2 | 2.08 | 0.53 |
| 1:A:909:ILE:HA | 1:A:956:ILE:HG22 | 1.90 | 0.53 |
| 1:C:403:ASN:HD22 | 1:C:403:ASN:C | 2.12 | 0.53 |
| 1:C:840:LYS:HE2 | 3:C:1213:HOH:O | 2.08 | 0.53 |
| 1:E:525:ASP:OD1 | 1:G:532:SER:HB2 | 2.07 | 0.53 |
| 1:G:337:ILE:HG13 | 1:G:649:MET:CE | 2.39 | 0.53 |
| 1:G:618:VAL:CG2 | 1:G:631:GLU:HG3 | 2.38 | 0.53 |
| 1:I:124:PHE:HB3 | 1:I:152:ALA:CB | 2.39 | 0.53 |
| 1:K:909:ILE:HA | 1:K:956:ILE:HG22 | 1.91 | 0.53 |
| 1:A:524:PRO:HD3 | 1:C:605:GLU:CG | 2.39 | 0.53 |
| 1:A:555:VAL:HG22 | 1:I:354:TYR:OH | 2.08 | 0.53 |
| 1:A:714:ILE:HG21 | 1:A:741:GLU:HG3 | 1.91 | 0.53 |
| 1:C:44:LEU:HD12 | 1:C:56:VAL:HB | 1.90 | 0.53 |
| 1:C:727:THR:O | 1:C:730:ASP:HB2 | 2.08 | 0.53 |
| 1:G:746:HIS:NE2 | 2:H:1214:OQE:C1 | 2.72 | 0.53 |
| 1:I:532:SER:HB2 | 1:K:525:ASP:OD1 | 2.08 | 0.53 |
| 1:A:681:SER:CB | 1:A:684:GLU:HG2 | 2.38 | 0.53 |
| 1:A:1016:ARG:O | 1:A:1017:ASP:HB2 | 2.08 | 0.53 |
| 1:E:73:LYS:HD3 | 1:E:76:SER:CB | 2.38 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:184:LEU:HB2 | 1:E:191:VAL:HB | 1.91 | 0.53 |
| 1:G:98:MET:HE3 | 1:G:103:LEU:HD13 | 1.89 | 0.53 |
| 1:G:220:GLY:O | 1:G:1038:HIS:HB3 | 2.08 | 0.53 |
| 1:G:307:GLU:C | 1:G:308:ILE:HD12 | 2.29 | 0.53 |
| 1:I:307:GLU:C | 1:I:308:ILE:HD12 | 2.29 | 0.53 |
| 1:I:432:ASP:OD1 | 1:I:434:GLU:HB3 | 2.08 | 0.53 |
| 1:I:596:LEU:HD12 | 1:I:619:LEU:HD11 | 1.90 | 0.53 |
| 1:K:403:ASN:HD22 | 1:K:403:ASN:C | 2.11 | 0.53 |
| 1:K:480:ILE:H | 1:K:494:THR:HG21 | 1.73 | 0.53 |
| 1:G:546:PRO:HG2 | 1:G:567:ASP:HB3 | 1.90 | 0.53 |
| 1:I:809:ASP:HB3 | 1:I:814:THR:HA | 1.91 | 0.53 |
| 1:E:218:ASN:O | 1:E:220:GLY:N | 2.42 | 0.52 |
| 1:G:222:PHE:HB2 | 1:G:1038:HIS:HD2 | 1.74 | 0.52 |
| 1:G:322:PRO:HB3 | 1:G:678:LEU:HD13 | 1.91 | 0.52 |
| 1:G:351:SER:HG | 1:G:353:THR:CG2 | 2.16 | 0.52 |
| 1:G:1016:ARG:O | 1:G:1017:ASP:HB2 | 2.09 | 0.52 |
| 1:I:179:PRO:HG2 | 3:I:1162:HOH:O | 2.09 | 0.52 |
| 1:K:197:PHE:HE1 | 1:K:199:LEU:HD21 | 1.74 | 0.52 |
| 1:C:184:LEU:HB2 | 1:C:191:VAL:HB | 1.90 | 0.52 |
| 1:E:146:LEU:HD23 | 1:E:165:VAL:HG21 | 1.91 | 0.52 |
| 1:E:423:ASN:HD22 | 1:E:423:ASN:C | 2.12 | 0.52 |
| 1:G:87:PHE:CB | 1:G:88:PRO:HD2 | 2.40 | 0.52 |
| 1:I:155:PRO:O | 1:I:856:ARG:HD2 | 2.09 | 0.52 |
| 1:I:220:GLY:O | 1:I:1038:HIS:HB3 | 2.09 | 0.52 |
| 1:I:256:SER:OG | 1:I:267:HIS:HE1 | 1.91 | 0.52 |
| 1:I:1016:ARG:O | 1:I:1017:ASP:HB2 | 2.08 | 0.52 |
| 1:K:63:GLU:C | 3:K:1152:HOH:O | 2.47 | 0.52 |
| 1:K:222:PHE:HB2 | 1:K:1038:HIS:HD2 | 1.73 | 0.52 |
| 1:K:453:THR:HG23 | 3:K:1176:HOH:O | 2.09 | 0.52 |
| 1:A:406:ASN:HB2 | 1:A:424:ASP:CG | 2.30 | 0.52 |
| 1:C:61:LEU:CB | 1:C:75:VAL:HG13 | 2.38 | 0.52 |
| 1:C:337:ILE:HG13 | 1:C:649:MET:CE | 2.39 | 0.52 |
| 1:C:498:SER:OG | 1:C:518:ARG:HG2 | 2.09 | 0.52 |
| 1:C:618:VAL:CG2 | 1:C:631:GLU:HG3 | 2.40 | 0.52 |
| 1:E:892:LEU:HD13 | 1:E:920:VAL:HG21 | 1.90 | 0.52 |
| 1:I:229:SER:HB3 | 1:I:248:ILE:CD1 | 2.39 | 0.52 |
| 1:I:363:ARG:HB3 | 1:I:380:GLY:O | 2.09 | 0.52 |
| 1:C:110:PHE:CD2 | 1:C:121:ILE:HG13 | 2.44 | 0.52 |
| 1:C:1016:ARG:O | 1:C:1017:ASP:HB2 | 2.10 | 0.52 |
| 1:E:82:ASN:HD21 | 1:E:96:ARG:HG2 | 1.73 | 0.52 |
| 1:E:242:ILE:O | 1:E:256:SER:HA | 2.09 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:I:61:LEU:CB | 1:I:75:VAL:HG13 | 2.39 | 0.52 |
| 1:K:363:ARG:NH2 | 3:K:1095:HOH:O | 2.42 | 0.52 |
| 1:C:273:TYR:O | 1:C:289:LYS:HD2 | 2.10 | 0.52 |
| 1:C:703:ASN:C | 1:C:703:ASN:ND2 | 2.62 | 0.52 |
| 1:G:53:ILE:HG23 | 1:G:286:LEU:CD2 | 2.39 | 0.52 |
| 1:I:401:GLU:CD | 1:I:401:GLU:H | 2.13 | 0.52 |
| 1:K:242:ILE:O | 1:K:256:SER:HA | 2.09 | 0.52 |
| 1:K:256:SER:OG | 1:K:267:HIS:CE1 | 2.60 | 0.52 |
| 1:K:681:SER:O | 1:K:684:GLU:HG2 | 2.10 | 0.52 |
| 1:C:218:ASN:O | 1:C:220:GLY:N | 2.43 | 0.52 |
| 1:C:601:PRO:O | 3:C:1096:HOH:O | 2.19 | 0.52 |
| 1:G:684:GLU:HG3 | 1:G:685:GLU:N | 2.23 | 0.52 |
| 1:I:110:PHE:CD2 | 1:I:121:ILE:HG13 | 2.44 | 0.52 |
| 1:I:353:THR:HG23 | 1:I:354:TYR:CD1 | 2.45 | 0.52 |
| 1:K:82:ASN:HD21 | 1:K:96:ARG:HG2 | 1.74 | 0.52 |
| 1:K:913:ARG:NH2 | 1:K:1047:GLN:HE21 | 2.03 | 0.52 |
| 1:A:184:LEU:HB2 | 1:A:191:VAL:HB | 1.92 | 0.52 |
| 1:A:489:LYS:HG3 | 1:A:491:PHE:CE1 | 2.44 | 0.52 |
| 1:C:64:HIS:HD2 | 1:C:71:THR:OG1 | 1.92 | 0.52 |
| 1:C:430:THR:HG23 | 1:C:441:ILE:HD11 | 1.91 | 0.52 |
| 1:K:82:ASN:HD22 | 1:K:82:ASN:N | 2.08 | 0.52 |
| 1:A:432:ASP:OD1 | 1:A:434:GLU:HB3 | 2.09 | 0.52 |
| 1:A:684:GLU:HG3 | 1:A:685:GLU:N | 2.25 | 0.52 |
| 1:E:714:ILE:HG21 | 1:E:741:GLU:HG3 | 1.91 | 0.52 |
| 1:E:281:ASP:HA | 3:E:1162:HOH:O | 2.09 | 0.52 |
| 1:E:735:ILE:O | 1:E:739:GLN:HG3 | 2.10 | 0.52 |
| 1:G:205:TYR:HA | 1:G:1024:ASN:HD21 | 1.74 | 0.52 |
| 1:I:387:LEU:HD13 | 1:I:388:GLY:N | 2.24 | 0.52 |
| 1:K:201:HIS:HB3 | 1:K:736:VAL:HG13 | 1.91 | 0.52 |
| 1:K:234:SER:HB3 | 1:K:278:LEU:H | 1.75 | 0.52 |
| 1:K:633:LYS:NZ | 1:K:665:PRO:O | 2.42 | 0.52 |
| 1:E:273:TYR:O | 1:E:289:LYS:HD2 | 2.10 | 0.52 |
| 1:E:591:LEU:HD13 | 1:E:662:LEU:HD21 | 1.92 | 0.52 |
| 1:I:184:LEU:HB2 | 1:I:191:VAL:HB | 1.92 | 0.52 |
| 1:K:565:GLU:HG2 | 1:K:566:TYR:H | 1.72 | 0.52 |
| 1:K:890:MET:O | 1:K:894:GLU:HG2 | 2.10 | 0.52 |
| 1:A:605:GLU:CG | 1:C:524:PRO:HD3 | 2.39 | 0.51 |
| 1:A:704:GLU:HG3 | 1:C:939:ARG:HH11 | 1.73 | 0.51 |
| 1:C:565:GLU:HG2 | 1:C:566:TYR:N | 2.25 | 0.51 |
| 1:I:956:ILE:HD13 | 1:I:957:ALA:N | 2.25 | 0.51 |
| 1:K:591:LEU:CD1 | 1:K:662:LEU:HD21 | 2.40 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:A:273:TYR:O | 1:A:289:LYS:HD2 | 2.09 | 0.51 |
| 1:A:327:GLU:O | 1:A:328:ASP:O | 2.28 | 0.51 |
| 1:A:586:ARG:HG3 | 2:B:1204:GLN:HG3 | 1.92 | 0.51 |
| 1:A:949:ASN:ND2 | 1:C:475:TYR:OH | 2.39 | 0.51 |
| 1:C:112:ASN:OD1 | 1:C:114:GLU:HB3 | 2.10 | 0.51 |
| 1:C:616:LYS:HD3 | 3:C:1079:HOH:O | 2.11 | 0.51 |
| 1:I:64:HIS:HD2 | 1:I:71:THR:OG1 | 1.93 | 0.51 |
| 1:I:337:ILE:HG13 | 1:I:649:MET:CE | 2.40 | 0.51 |
| 1:K:110:PHE:CD2 | 1:K:121:ILE:HG13 | 2.45 | 0.51 |
| 1:A:318:ILE:HG21 | 1:A:682:ILE:HD11 | 1.92 | 0.51 |
| 1:A:703:ASN:C | 1:A:703:ASN:ND2 | 2.61 | 0.51 |
| 1:E:406:ASN:HB2 | 1:E:424:ASP:CG | 2.30 | 0.51 |
| 1:E:609:TYR:CE1 | 3:E:1133:HOH:O | 2.54 | 0.51 |
| 1:G:965:SER:HA | 1:G:990:GLY:O | 2.11 | 0.51 |
| 1:I:367:VAL:HG12 | 1:I:375:VAL:HG21 | 1.92 | 0.51 |
| 1:I:1052:ILE:O | 1:I:1056:ILE:HG13 | 2.10 | 0.51 |
| 1:K:124:PHE:HB3 | 1:K:152:ALA:CB | 2.40 | 0.51 |
| 1:K:218:ASN:O | 1:K:220:GLY:N | 2.43 | 0.51 |
| 1:A:64:HIS:HD2 | 1:A:71:THR:OG1 | 1.93 | 0.51 |
| 1:A:245:ILE:HD11 | 1:A:278:LEU:HG | 1.92 | 0.51 |
| 1:A:948:THR:H | 1:C:922:GLN:HE22 | 1.57 | 0.51 |
| 1:G:642:SER:HB2 | 1:G:647:THR:HB | 1.92 | 0.51 |
| 1:I:87:PHE:CB | 1:I:88:PRO:HD2 | 2.38 | 0.51 |
| 1:I:197:PHE:HE1 | 1:I:199:LEU:HD21 | 1.75 | 0.51 |
| 1:I:746:HIS:HA | 1:I:748:TYR:CZ | 2.45 | 0.51 |
| 1:I:890:MET:O | 1:I:894:GLU:HG2 | 2.10 | 0.51 |
| 1:K:253:GLN:NE2 | 1:K:268:THR:OG1 | 2.43 | 0.51 |
| 1:A:202:TRP:CH2 | 1:A:745:SER:HB3 | 2.46 | 0.51 |
| 1:A:256:SER:OG | 1:A:267:HIS:CE1 | 2.63 | 0.51 |
| 1:C:322:PRO:HB3 | 1:C:678:LEU:HD13 | 1.91 | 0.51 |
| 1:C:480:ILE:N | 1:C:494:THR:HG22 | 2.20 | 0.51 |
| 1:I:591:LEU:CD1 | 1:I:662:LEU:HD21 | 2.41 | 0.51 |
| 1:K:586:ARG:HG3 | 2:L:1204:GLN:HG3 | 1.93 | 0.51 |
| 1:K:681:SER:HB3 | 1:K:684:GLU:CG | 2.40 | 0.51 |
| 1:C:423:ASN:C | 1:C:423:ASN:HD22 | 2.14 | 0.51 |
| 1:C:681:SER:CB | 1:C:684:GLU:HG2 | 2.39 | 0.51 |
| 1:E:53:ILE:HD12 | 1:E:66:LEU:HD21 | 1.93 | 0.51 |
| 1:I:546:PRO:CG | 1:I:567:ASP:HB3 | 2.41 | 0.51 |
| 1:I:633:LYS:NZ | 1:I:665:PRO:O | 2.42 | 0.51 |
| 1:A:743:ARG:HB3 | 3:A:1090:HOH:O | 2.10 | 0.51 |
| 1:G:44:LEU:HD12 | 1:G:56:VAL:HB | 1.92 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:G:284:ARG:HD3 | 3:G:1179:HOH:O | 2.09 | 0.51 |
| 1:G:591:LEU:HD13 | 1:G:662:LEU:HD21 | 1.92 | 0.51 |
| 1:I:190:ARG:HG3 | 1:I:216:GLU:OE2 | 2.10 | 0.51 |
| 1:I:429:MET:HA | 1:I:441:ILE:HD13 | 1.93 | 0.51 |
| 1:I:565:GLU:HG2 | 1:I:566:TYR:N | 2.25 | 0.51 |
| 1:K:401:GLU:H | 1:K:401:GLU:CD | 2.14 | 0.51 |
| 1:A:110:PHE:CD2 | 1:A:121:ILE:HG13 | 2.46 | 0.51 |
| 1:G:112:ASN:OD1 | 1:G:114:GLU:HB3 | 2.11 | 0.51 |
| 1:G:890:MET:O | 1:G:894:GLU:HG2 | 2.10 | 0.51 |
| 1:I:218:ASN:O | 1:I:220:GLY:N | 2.44 | 0.51 |
| 1:I:940:ARG:HD2 | 3:K:1098:HOH:O | 2.10 | 0.51 |
| 1:K:385:ASP:HB2 | 1:K:405:GLY:O | 2.11 | 0.51 |
| 1:K:1052:ILE:O | 1:K:1056:ILE:HG13 | 2.11 | 0.51 |
| 1:A:640:ARG:HD2 | 3:A:1184:HOH:O | 2.10 | 0.51 |
| 1:I:731:LEU:HD22 | 1:I:735:ILE:CD1 | 2.41 | 0.51 |
| 1:K:887:MET:HB2 | 1:K:917:GLY:C | 2.30 | 0.51 |
| 1:A:403:ASN:HD22 | 1:A:403:ASN:C | 2.13 | 0.51 |
| 1:C:429:MET:HA | 1:C:441:ILE:HD13 | 1.93 | 0.51 |
| 1:E:591:LEU:CD1 | 1:E:662:LEU:HD21 | 2.41 | 0.51 |
| 1:E:905:TYR:HB2 | 3:E:1086:HOH:O | 2.11 | 0.51 |
| 1:G:82:ASN:HD22 | 1:G:82:ASN:N | 2.09 | 0.51 |
| 1:C:432:ASP:OD1 | 1:C:434:GLU:HB3 | 2.11 | 0.50 |
| 1:E:925:ILE:HG22 | 3:E:1134:HOH:O | 2.11 | 0.50 |
| 1:G:909:ILE:HG12 | 1:G:956:ILE:HG21 | 1.92 | 0.50 |
| 1:I:948:THR:H | 1:K:922:GLN:HE22 | 1.57 | 0.50 |
| 1:K:87:PHE:CB | 1:K:88:PRO:HD2 | 2.39 | 0.50 |
| 1:K:533:PHE:C | 3:K:1090:HOH:O | 2.50 | 0.50 |
| 1:A:387:LEU:HD13 | 1:A:388:GLY:N | 2.27 | 0.50 |
| 1:A:986:ARG:HD2 | 1:A:1025:TYR:O | 2.11 | 0.50 |
| 1:C:222:PHE:HB2 | 1:C:1038:HIS:HD2 | 1.76 | 0.50 |
| 1:G:218:ASN:O | 1:G:220:GLY:N | 2.44 | 0.50 |
| 1:I:541:VAL:HG22 | 1:I:542:ILE:N | 2.26 | 0.50 |
| 1:K:245:ILE:HD11 | 1:K:278:LEU:HG | 1.92 | 0.50 |
| 1:A:722:VAL:N | 1:A:723:PRO:HD2 | 2.27 | 0.50 |
| 1:A:965:SER:HA | 1:A:990:GLY:O | 2.11 | 0.50 |
| 1:G:714:ILE:HG21 | 1:G:741:GLU:HG3 | 1.93 | 0.50 |
| 1:I:480:ILE:H | 1:I:494:THR:HG21 | 1.75 | 0.50 |
| 1:I:618:VAL:HG21 | 1:I:631:GLU:HG3 | 1.93 | 0.50 |
| 1:E:110:PHE:CD2 | 1:E:121:ILE:HG13 | 2.45 | 0.50 |
| 1:G:591:LEU:CD1 | 1:G:662:LEU:HD21 | 2.42 | 0.50 |
| 1:I:82:ASN:HD22 | 1:I:82:ASN:N | 2.09 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:I:112:ASN:OD1 | 1:I:114:GLU:HB3 | 2.11 | 0.50 |
| 1:I:684:GLU:HG3 | 1:I:685:GLU:N | 2.26 | 0.50 |
| 1:K:273:TYR:O | 1:K:289:LYS:HD2 | 2.10 | 0.50 |
| 1:K:872:HIS:HE1 | 1:K:902:GLU:OE1 | 1.94 | 0.50 |
| 1:K:956:ILE:HD13 | 1:K:957:ALA:N | 2.27 | 0.50 |
| 1:C:331:PRO:HB3 | 1:C:649:MET:HE3 | 1.93 | 0.50 |
| 1:G:986:ARG:HD2 | 1:G:1025:TYR:O | 2.12 | 0.50 |
| 1:I:603:HIS:HD2 | 1:I:604:GLY:O | 1.93 | 0.50 |
| 1:I:901:ASN:HB3 | 1:K:469:HIS:CE1 | 2.45 | 0.50 |
| 1:K:422:ALA:HB1 | 3:K:1091:HOH:O | 2.12 | 0.50 |
| 1:A:637:THR:OG1 | 1:A:651:ARG:HG2 | 2.12 | 0.50 |
| 1:A:939:ARG:HH11 | 1:C:704:GLU:HG3 | 1.76 | 0.50 |
| 1:C:87:PHE:CB | 1:C:88:PRO:HD2 | 2.37 | 0.50 |
| 1:G:367:VAL:O | 1:G:368:ARG:HD3 | 2.12 | 0.50 |
| 1:G:546:PRO:CG | 1:G:567:ASP:HB3 | 2.42 | 0.50 |
| 1:K:53:ILE:HG23 | 1:K:286:LEU:CD2 | 2.39 | 0.50 |
| 1:K:201:HIS:O | 1:K:740:GLY:HA2 | 2.11 | 0.50 |
| 1:K:372:ASP:HB3 | 3:K:1197:HOH:O | 2.12 | 0.50 |
| 1:A:44:LEU:HD12 | 1:A:56:VAL:HB | 1.94 | 0.50 |
| 1:A:61:LEU:HB3 | 1:A:75:VAL:CG1 | 2.39 | 0.50 |
| 1:A:546:PRO:HG2 | 1:A:567:ASP:HB3 | 1.93 | 0.50 |
| 1:E:201:HIS:O | 1:E:740:GLY:HA2 | 2.12 | 0.50 |
| 1:E:403:ASN:HD22 | 1:E:403:ASN:C | 2.12 | 0.50 |
| 1:E:684:GLU:HG3 | 1:E:685:GLU:N | 2.26 | 0.50 |
| 1:E:703:ASN:C | 1:E:703:ASN:ND2 | 2.59 | 0.50 |
| 1:I:91:ARG:NH2 | 3:I:1202:HOH:O | 2.41 | 0.50 |
| 1:I:565:GLU:HG2 | 1:I:566:TYR:H | 1.76 | 0.50 |
| 1:K:64:HIS:HD2 | 1:K:71:THR:OG1 | 1.95 | 0.50 |
| 1:A:565:GLU:HG2 | 1:A:566:TYR:N | 2.26 | 0.50 |
| 1:A:618:VAL:HG21 | 1:A:631:GLU:HG3 | 1.93 | 0.50 |
| 1:G:586:ARG:HG3 | 2:H:1204:GLN:HG3 | 1.92 | 0.50 |
| 1:I:681:SER:O | 1:I:684:GLU:HG2 | 2.11 | 0.50 |
| 1:K:236:VAL:HG23 | 1:K:243:TYR:HB2 | 1.94 | 0.50 |
| 1:K:722:VAL:N | 1:K:723:PRO:HD2 | 2.26 | 0.50 |
| 1:I:367:VAL:O | 1:I:368:ARG:HD3 | 2.12 | 0.50 |
| 1:I:714:ILE:HG21 | 1:I:741:GLU:HG3 | 1.92 | 0.50 |
| 1:K:314:PRO:HD2 | 1:K:726:LYS:HG2 | 1.94 | 0.50 |
| 1:C:141:ASP:OD1 | 1:C:145:ASN:HB2 | 2.12 | 0.49 |
| 1:C:319:ILE:HD11 | 3:I:1179:HOH:O | 2.12 | 0.49 |
| 1:C:544:LEU:N | 3:C:1113:HOH:O | 2.45 | 0.49 |
| 1:E:1052:ILE:O | 1:E:1056:ILE:HG13 | 2.12 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:G:565:GLU:HG2 | 1:G:566:TYR:N | 2.26 | 0.49 |
| 1:I:489:LYS:HG3 | 1:I:491:PHE:CE1 | 2.47 | 0.49 |
| 1:I:642:SER:HB2 | 1:I:647:THR:HB | 1.92 | 0.49 |
| 1:E:887:MET:HB2 | 1:E:917:GLY:C | 2.32 | 0.49 |
| 1:E:905:TYR:N | 3:E:1086:HOH:O | 2.29 | 0.49 |
| 1:G:480:ILE:H | 1:G:494:THR:HG21 | 1.72 | 0.49 |
| 1:G:633:LYS:NZ | 1:G:665:PRO:O | 2.46 | 0.49 |
| 1:K:124:PHE:HB3 | 1:K:152:ALA:HB1 | 1.92 | 0.49 |
| 1:K:887:MET:HG3 | 1:K:966:ASP:OD2 | 2.13 | 0.49 |
| 1:A:141:ASP:OD1 | 1:A:145:ASN:HB2 | 2.11 | 0.49 |
| 1:E:64:HIS:HD2 | 1:E:71:THR:OG1 | 1.96 | 0.49 |
| 1:G:367:VAL:HG12 | 1:G:375:VAL:HG21 | 1.93 | 0.49 |
| 1:G:703:ASN:HA | 3:G:1097:HOH:O | 2.11 | 0.49 |
| 1:G:715:TYR:HB3 | 3:G:1186:HOH:O | 2.11 | 0.49 |
| 1:I:234:SER:HB3 | 1:I:278:LEU:H | 1.76 | 0.49 |
| 1:I:430:THR:HG23 | 1:I:441:ILE:HD11 | 1.94 | 0.49 |
| 1:I:703:ASN:C | 1:I:703:ASN:ND2 | 2.64 | 0.49 |
| 1:K:568:LEU:N | 1:K:568:LEU:HD23 | 2.27 | 0.49 |
| 1:C:57:CYS:HB3 | 1:C:62:TRP:CD1 | 2.48 | 0.49 |
| 1:C:242:ILE:O | 1:C:256:SER:HA | 2.13 | 0.49 |
| 1:C:327:GLU:O | 1:C:328:ASP:O | 2.30 | 0.49 |
| 1:C:684:GLU:HG3 | 1:C:685:GLU:N | 2.27 | 0.49 |
| 1:E:88:PRO:HG2 | 1:E:89:ASP:H | 1.77 | 0.49 |
| 1:E:407:VAL:HG13 | 1:E:421:VAL:HG13 | 1.95 | 0.49 |
| 1:E:568:LEU:N | 1:E:568:LEU:HD23 | 2.26 | 0.49 |
| 1:G:256:SER:OG | 1:G:267:HIS:HE1 | 1.95 | 0.49 |
| 1:G:885:PRO:O | 1:G:915:ASN:HA | 2.12 | 0.49 |
| 1:I:202:TRP:CH2 | 1:I:745:SER:HB3 | 2.47 | 0.49 |
| 1:I:423:ASN:C | 1:I:423:ASN:HD22 | 2.15 | 0.49 |
| 1:K:589:ILE:HD13 | 1:K:641:LEU:HD12 | 1.93 | 0.49 |
| 1:K:703:ASN:ND2 | 1:K:706:VAL:H | 2.10 | 0.49 |
| 1:C:124:PHE:HB3 | 1:C:152:ALA:CB | 2.42 | 0.49 |
| 1:C:374:LYS:HG3 | 3:C:1144:HOH:O | 2.11 | 0.49 |
| 1:E:190:ARG:HG3 | 1:E:216:GLU:OE2 | 2.12 | 0.49 |
| 1:E:618:VAL:CG2 | 1:E:631:GLU:HG3 | 2.42 | 0.49 |
| 1:G:965:SER:O | 1:G:968:ASP:N | 2.44 | 0.49 |
| 1:K:423:ASN:C | 1:K:423:ASN:HD22 | 2.16 | 0.49 |
| 1:K:546:PRO:CG | 1:K:567:ASP:HB3 | 2.41 | 0.49 |
| 1:A:87:PHE:HB3 | 1:A:88:PRO:CD | 2.41 | 0.49 |
| 1:A:242:ILE:O | 1:A:256:SER:HA | 2.12 | 0.49 |
| 1:E:48:ILE:HG12 | 1:E:49:HIS:N | 2.27 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:124:PHE:HB3 | 1:E:152:ALA:CB | 2.43 | 0.49 |
| 1:E:633:LYS:NZ | 1:E:665:PRO:O | 2.44 | 0.49 |
| 1:E:781:ALA:CB | 1:E:802:PRO:HG2 | 2.43 | 0.49 |
| 1:G:406:ASN:HB2 | 1:G:424:ASP:CG | 2.32 | 0.49 |
| 1:K:353:THR:HG23 | 1:K:354:TYR:CD1 | 2.47 | 0.49 |
| 1:K:703:ASN:C | 1:K:703:ASN:ND2 | 2.65 | 0.49 |
| 1:C:637:THR:OG1 | 1:C:651:ARG:HG2 | 2.13 | 0.49 |
| 1:C:722:VAL:N | 1:C:723:PRO:HD2 | 2.27 | 0.49 |
| 1:E:589:ILE:HD13 | 1:E:641:LEU:HD12 | 1.93 | 0.49 |
| 1:E:681:SER:O | 1:E:684:GLU:HG2 | 2.12 | 0.49 |
| 1:E:863:TRP:CD1 | 3:E:1114:HOH:O | 2.55 | 0.49 |
| 1:G:565:GLU:HG2 | 1:G:566:TYR:H | 1.77 | 0.49 |
| 1:I:222:PHE:H | 1:I:1038:HIS:CD2 | 2.29 | 0.49 |
| 1:C:45:ASN:HA | 1:C:277:HIS:CD2 | 2.48 | 0.49 |
| 1:E:532:SER:HB2 | 3:E:1181:HOH:O | 2.11 | 0.49 |
| 1:E:642:SER:HB2 | 1:E:647:THR:HB | 1.94 | 0.49 |
| 1:G:124:PHE:HB3 | 1:G:152:ALA:HB1 | 1.94 | 0.49 |
| 1:I:268:THR:HG22 | 1:I:303:ILE:HD11 | 1.95 | 0.49 |
| 1:K:40:PRO:HG2 | 1:K:724:LEU:CD2 | 2.41 | 0.49 |
| 1:A:746:HIS:HA | 1:A:748:TYR:CZ | 2.48 | 0.49 |
| 1:A:939:ARG:NH1 | 1:C:704:GLU:HG3 | 2.28 | 0.49 |
| 1:E:245:ILE:HD11 | 1:E:278:LEU:HG | 1.94 | 0.49 |
| 1:G:353:THR:HG23 | 1:G:354:TYR:CD1 | 2.48 | 0.49 |
| 1:G:872:HIS:HE1 | 1:G:902:GLU:OE1 | 1.95 | 0.49 |
| 1:I:331:PRO:HB3 | 1:I:649:MET:HE3 | 1.93 | 0.49 |
| 1:I:959:THR:O | 1:I:984:GLY:HA3 | 2.13 | 0.49 |
| 1:K:63:GLU:N | 3:K:1152:HOH:O | 2.45 | 0.49 |
| 1:C:840:LYS:CE | 3:C:1213:HOH:O | 2.59 | 0.49 |
| 1:E:353:THR:HG23 | 1:E:354:TYR:CD1 | 2.48 | 0.49 |
| 1:G:222:PHE:H | 1:G:1038:HIS:CD2 | 2.31 | 0.49 |
| 1:G:430:THR:HG23 | 1:G:441:ILE:HD11 | 1.95 | 0.49 |
| 1:I:322:PRO:HB3 | 1:I:678:LEU:HD13 | 1.94 | 0.49 |
| 1:A:124:PHE:HB3 | 1:A:152:ALA:CB | 2.42 | 0.48 |
| 1:A:190:ARG:HG3 | 1:A:216:GLU:OE2 | 2.13 | 0.48 |
| 1:A:959:THR:O | 1:A:984:GLY:HA3 | 2.13 | 0.48 |
| 1:C:229:SER:HB3 | 1:C:248:ILE:CD1 | 2.42 | 0.48 |
| 1:I:965:SER:HA | 1:I:990:GLY:O | 2.12 | 0.48 |
| 1:A:641:LEU:HD23 | 1:A:647:THR:O | 2.13 | 0.48 |
| 1:C:442:GLU:OE2 | 1:C:481:HIS:HD2 | 1.96 | 0.48 |
| 1:C:546:PRO:HG2 | 1:C:567:ASP:HB3 | 1.95 | 0.48 |
| 1:C:586:ARG:NE | 2:D:1206:ALA:HB3 | 2.28 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:197:PHE:HE1 | 1:E:199:LEU:HD21 | 1.77 | 0.48 |
| 1:E:859:ARG:NH1 | 3:E:1122:HOH:O | 2.46 | 0.48 |
| 1:G:641:LEU:HD23 | 1:G:647:THR:O | 2.13 | 0.48 |
| 1:I:273:TYR:O | 1:I:289:LYS:HD2 | 2.12 | 0.48 |
| 1:I:591:LEU:HD13 | 1:I:662:LEU:HD21 | 1.95 | 0.48 |
| 1:K:452:PHE:HB3 | 1:K:463:TYR:HB3 | 1.96 | 0.48 |
| 1:A:429:MET:HA | 1:A:441:ILE:HD13 | 1.95 | 0.48 |
| 1:A:704:GLU:HG3 | 1:C:939:ARG:NH1 | 2.28 | 0.48 |
| 1:E:429:MET:HA | 1:E:441:ILE:HD13 | 1.95 | 0.48 |
| 1:E:641:LEU:HD23 | 1:E:647:THR:O | 2.14 | 0.48 |
| 1:E:827:GLU:O | 1:K:677:PRO:HD2 | 2.13 | 0.48 |
| 1:E:885:PRO:HG2 | 1:E:890:MET:HG2 | 1.95 | 0.48 |
| 1:E:959:THR:HG22 | 3:E:1113:HOH:O | 2.12 | 0.48 |
| 1:E:992:VAL:HG13 | 3:E:1189:HOH:O | 2.06 | 0.48 |
| 1:I:403:ASN:HD22 | 1:I:405:GLY:H | 1.60 | 0.48 |
| 1:K:210:ARG:N | 3:K:1083:HOH:O | 2.45 | 0.48 |
| 1:E:605:GLU:CG | 1:G:524:PRO:HD3 | 2.42 | 0.48 |
| 1:I:775:HIS:HA | 3:I:1188:HOH:O | 2.13 | 0.48 |
| 1:K:268:THR:HG22 | 1:K:303:ILE:HD11 | 1.95 | 0.48 |
| 1:K:410:MET:HG2 | 1:K:421:VAL:HG22 | 1.96 | 0.48 |
| 1:A:201:HIS:HB3 | 1:A:736:VAL:HG13 | 1.94 | 0.48 |
| 1:A:423:ASN:C | 1:A:423:ASN:HD22 | 2.15 | 0.48 |
| 1:A:530:ASN:ND2 | 1:A:531:PHE:N | 2.61 | 0.48 |
| 1:C:406:ASN:HB2 | 1:C:424:ASP:CG | 2.32 | 0.48 |
| 1:C:921:SER:HB3 | 1:C:966:ASP:OD2 | 2.13 | 0.48 |
| 1:E:40:PRO:HG2 | 1:E:724:LEU:CD2 | 2.37 | 0.48 |
| 1:G:735:ILE:O | 1:G:739:GLN:HG3 | 2.13 | 0.48 |
| 1:I:124:PHE:HB3 | 1:I:152:ALA:HB1 | 1.93 | 0.48 |
| 1:I:242:ILE:O | 1:I:256:SER:HA | 2.13 | 0.48 |
| 1:I:516:SER:HB3 | 1:I:518:ARG:HG3 | 1.96 | 0.48 |
| 1:K:430:THR:HG23 | 1:K:441:ILE:HD11 | 1.95 | 0.48 |
| 1:A:300:THR:O | 1:A:300:THR:HG22 | 2.13 | 0.48 |
| 1:A:540:PHE:HA | 1:A:577:PRO:HA | 1.96 | 0.48 |
| 1:C:641:LEU:HD23 | 1:C:647:THR:O | 2.14 | 0.48 |
| 1:C:676:ARG:CD | 3:C:1072:HOH:O | 2.59 | 0.48 |
| 1:E:410:MET:HG2 | 1:E:421:VAL:HG22 | 1.96 | 0.48 |
| 1:E:425:ARG:O | 1:E:426:PHE:HB2 | 2.14 | 0.48 |
| 1:A:337:ILE:HG13 | 1:A:649:MET:CE | 2.44 | 0.48 |
| 1:A:469:HIS:ND1 | 1:C:901:ASN:HB3 | 2.27 | 0.48 |
| 1:C:124:PHE:HB3 | 1:C:152:ALA:HB1 | 1.94 | 0.48 |
| 1:E:546:PRO:CG | 1:E:567:ASP:HB3 | 2.44 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:G:429:MET:HA | 1:G:441:ILE:HD13 | 1.95 | 0.48 |
| 1:I:201:HIS:O | 1:I:740:GLY:HA2 | 2.14 | 0.48 |
| 1:I:649:MET:HE3 | 1:I:649:MET:HB2 | 1.74 | 0.48 |
| 1:I:727:THR:O | 1:I:730:ASP:HB2 | 2.14 | 0.48 |
| 1:K:61:LEU:HB3 | 1:K:75:VAL:CG1 | 2.39 | 0.48 |
| 1:K:731:LEU:HD22 | 1:K:735:ILE:CD1 | 2.43 | 0.48 |
| 1:C:633:LYS:NZ | 1:C:665:PRO:O | 2.45 | 0.48 |
| 1:E:124:PHE:HB3 | 1:E:152:ALA:HB1 | 1.95 | 0.48 |
| 1:E:131:ARG:HH21 | 1:E:131:ARG:HG2 | 1.79 | 0.48 |
| 1:E:637:THR:OG1 | 1:E:651:ARG:HG2 | 2.13 | 0.48 |
| 1:I:190:ARG:NH2 | 1:I:222:PHE:HZ | 2.12 | 0.48 |
| 1:I:586:ARG:HG3 | 2:J:1204:GLN:HG3 | 1.95 | 0.48 |
| 1:I:710:ILE:O | 1:I:714:ILE:HG12 | 2.13 | 0.48 |
| 1:K:141:ASP:OD1 | 1:K:145:ASN:HB2 | 2.14 | 0.48 |
| 1:K:387:LEU:HD13 | 1:K:388:GLY:N | 2.28 | 0.48 |
| 1:E:586:ARG:NE | 2:F:1206:ALA:HB3 | 2.28 | 0.48 |
| 1:G:273:TYR:O | 1:G:289:LYS:HD2 | 2.14 | 0.48 |
| 1:G:766:ALA:HA | 1:G:855:ASP:OD1 | 2.13 | 0.48 |
| 1:G:926:GLU:CD | 3:G:1160:HOH:O | 2.52 | 0.48 |
| 1:I:988:TRP:CZ3 | 1:I:990:GLY:HA3 | 2.49 | 0.48 |
| 1:K:184:LEU:HD13 | 1:K:237:ILE:HG13 | 1.96 | 0.48 |
| 1:K:253:GLN:HA | 1:K:253:GLN:HE21 | 1.78 | 0.48 |
| 1:K:557:ARG:NE | 3:K:1164:HOH:O | 2.46 | 0.48 |
| 1:K:676:ARG:HD2 | 3:K:1169:HOH:O | 2.14 | 0.48 |
| 1:A:712:GLU:HG3 | 3:A:1190:HOH:O | 2.13 | 0.47 |
| 1:A:1011:PHE:HB3 | 1:C:936:ASP:OD2 | 2.14 | 0.47 |
| 1:E:498:SER:OG | 1:E:518:ARG:HG2 | 2.14 | 0.47 |
| 1:E:965:SER:HA | 1:E:990:GLY:O | 2.14 | 0.47 |
| 1:G:318:ILE:HG21 | 1:G:682:ILE:HD11 | 1.96 | 0.47 |
| 1:I:367:VAL:CG1 | 1:I:375:VAL:HG21 | 2.43 | 0.47 |
| 1:A:82:ASN:HD22 | 1:A:82:ASN:N | 2.10 | 0.47 |
| 1:A:739:GLN:NE2 | 3:A:1104:HOH:O | 2.45 | 0.47 |
| 1:C:202:TRP:CH2 | 1:C:745:SER:HB3 | 2.49 | 0.47 |
| 1:E:452:PHE:HB3 | 1:E:463:TYR:HB3 | 1.96 | 0.47 |
| 1:E:554:LEU:N | 3:E:1174:HOH:O | 2.47 | 0.47 |
| 1:E:703:ASN:ND2 | 1:E:706:VAL:H | 2.11 | 0.47 |
| 1:E:889:MET:HE2 | 3:E:1133:HOH:O | 2.05 | 0.47 |
| 1:G:82:ASN:HD21 | 1:G:96:ARG:HG2 | 1.78 | 0.47 |
| 1:I:59:ASP:HB3 | 1:I:80:VAL:HA | 1.97 | 0.47 |
| 1:I:681:SER:HB3 | 1:I:684:GLU:CG | 2.40 | 0.47 |
| 1:I:703:ASN:ND2 | 1:I:706:VAL:H | 2.12 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:K:425:ARG:O | 1:K:426:PHE:HB2 | 2.14 | 0.47 |
| 1:K:921:SER:HB3 | 1:K:966:ASP:OD2 | 2.14 | 0.47 |
| 1:C:353:THR:HG23 | 1:C:354:TYR:CD1 | 2.49 | 0.47 |
| 1:C:735:ILE:O | 1:C:739:GLN:HG3 | 2.14 | 0.47 |
| 1:E:894:GLU:OE1 | 1:E:897:ARG:NH2 | 2.47 | 0.47 |
| 1:G:425:ARG:O | 1:G:426:PHE:HB2 | 2.15 | 0.47 |
| 1:K:88:PRO:HG2 | 1:K:89:ASP:H | 1.79 | 0.47 |
| 1:K:959:THR:O | 1:K:984:GLY:HA3 | 2.14 | 0.47 |
| 1:A:307:GLU:C | 1:A:308:ILE:HD12 | 2.34 | 0.47 |
| 1:A:906:GLN:O | 1:A:953:GLY:HA3 | 2.14 | 0.47 |
| 1:C:272:ASP:O | 1:C:717:LYS:HE2 | 2.15 | 0.47 |
| 1:C:385:ASP:HB2 | 1:C:405:GLY:O | 2.15 | 0.47 |
| 1:C:516:SER:HB3 | 1:C:518:ARG:HG3 | 1.96 | 0.47 |
| 1:E:225:ILE:HG13 | 1:E:226:VAL:HG23 | 1.97 | 0.47 |
| 1:E:322:PRO:HB3 | 1:E:678:LEU:HD13 | 1.96 | 0.47 |
| 1:E:385:ASP:HB2 | 1:E:405:GLY:O | 2.14 | 0.47 |
| 1:E:922:GLN:NE2 | 1:G:948:THR:H | 2.11 | 0.47 |
| 1:G:64:HIS:HD2 | 1:G:71:THR:OG1 | 1.98 | 0.47 |
| 1:G:710:ILE:O | 1:G:714:ILE:HG12 | 2.13 | 0.47 |
| 1:I:363:ARG:HD3 | 1:I:363:ARG:HA | 1.52 | 0.47 |
| 1:I:637:THR:OG1 | 1:I:651:ARG:HG2 | 2.13 | 0.47 |
| 1:E:586:ARG:HG3 | 2:F:1204:GLN:HG3 | 1.96 | 0.47 |
| 1:E:737:GLU:N | 3:E:1197:HOH:O | 2.46 | 0.47 |
| 1:G:61:LEU:HB3 | 1:G:75:VAL:CG1 | 2.43 | 0.47 |
| 1:I:929:MET:CE | 3:I:1166:HOH:O | 2.62 | 0.47 |
| 1:E:872:HIS:HE1 | 1:E:902:GLU:OE1 | 1.98 | 0.47 |
| 1:A:57:CYS:HB3 | 1:A:62:TRP:CD1 | 2.50 | 0.47 |
| 1:A:82:ASN:HD21 | 1:A:96:ARG:HG2 | 1.79 | 0.47 |
| 1:A:546:PRO:CG | 1:A:567:ASP:HB3 | 2.45 | 0.47 |
| 1:C:73:LYS:HD3 | 1:C:76:SER:CB | 2.40 | 0.47 |
| 1:C:228:MET:HE1 | 1:C:244:PHE:CE1 | 2.50 | 0.47 |
| 1:C:367:VAL:O | 1:C:368:ARG:HD3 | 2.14 | 0.47 |
| 1:E:57:CYS:HB3 | 1:E:62:TRP:CD1 | 2.50 | 0.47 |
| 1:E:234:SER:HB3 | 1:E:278:LEU:H | 1.79 | 0.47 |
| 1:E:387:LEU:HD13 | 1:E:388:GLY:N | 2.30 | 0.47 |
| 1:G:151:ASP:OD1 | 3:G:1094:HOH:O | 2.20 | 0.47 |
| 1:I:40:PRO:HG2 | 1:I:724:LEU:CD2 | 2.37 | 0.47 |
| 1:I:586:ARG:NE | 2:J:1206:ALA:HB3 | 2.30 | 0.47 |
| 1:K:637:THR:OG1 | 1:K:651:ARG:HG2 | 2.15 | 0.47 |
| 2:L:1206:ALA:HA | 3:L:921:HOH:O | 2.13 | 0.47 |
| 1:A:360:GLU:HG3 | 1:A:377:PHE:CZ | 2.50 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:A:642:SER:HB2 | 1:A:647:THR:HB | 1.97 | 0.47 |
| 1:C:890:MET:O | 1:C:894:GLU:HG2 | 2.15 | 0.47 |
| 1:E:61:LEU:HB3 | 1:E:75:VAL:CG1 | 2.45 | 0.47 |
| 1:E:681:SER:HB3 | 1:E:684:GLU:CG | 2.43 | 0.47 |
| 1:E:887:MET:HG3 | 1:E:966:ASP:OD2 | 2.15 | 0.47 |
| 1:G:637:THR:OG1 | 1:G:651:ARG:HG2 | 2.15 | 0.47 |
| 1:A:942:THR:HG21 | 3:C:1159:HOH:O | 2.14 | 0.47 |
| 1:E:533:PHE:C | 3:E:1181:HOH:O | 2.53 | 0.47 |
| 1:I:178:GLY:HA3 | 1:I:1040:TYR:CD1 | 2.50 | 0.47 |
| 1:I:722:VAL:N | 1:I:723:PRO:HD2 | 2.30 | 0.47 |
| 1:I:887:MET:HB2 | 1:I:917:GLY:C | 2.35 | 0.47 |
| 1:K:322:PRO:HB3 | 1:K:678:LEU:HD13 | 1.95 | 0.47 |
| 1:C:85:ARG:HD3 | 3:C:1228:HOH:O | 2.15 | 0.47 |
| 1:C:642:SER:HB2 | 1:C:647:THR:HB | 1.96 | 0.47 |
| 1:C:885:PRO:HG2 | 1:C:890:MET:HG2 | 1.96 | 0.47 |
| 1:C:956:ILE:HD13 | 1:C:957:ALA:N | 2.30 | 0.47 |
| 1:E:921:SER:HB3 | 1:E:966:ASP:OD2 | 2.15 | 0.47 |
| 1:E:926:GLU:N | 3:E:1134:HOH:O | 2.47 | 0.47 |
| 1:G:229:SER:HB3 | 1:G:248:ILE:CD1 | 2.45 | 0.47 |
| 1:G:423:ASN:C | 1:G:423:ASN:HD22 | 2.17 | 0.47 |
| 1:I:534:GLU:N | 3:I:1082:HOH:O | 2.40 | 0.47 |
| 1:A:872:HIS:HE1 | 1:A:902:GLU:OE1 | 1.97 | 0.46 |
| 1:C:555:VAL:HG22 | 1:G:354:TYR:OH | 2.15 | 0.46 |
| 1:C:992:VAL:HG11 | 1:C:1009:PRO:HB2 | 1.96 | 0.46 |
| 1:E:229:SER:HB3 | 1:E:248:ILE:CD1 | 2.45 | 0.46 |
| 1:G:367:VAL:CG1 | 1:G:375:VAL:HG21 | 2.45 | 0.46 |
| 1:K:618:VAL:CG2 | 1:K:631:GLU:HG3 | 2.44 | 0.46 |
| 1:K:642:SER:HB2 | 1:K:647:THR:HB | 1.97 | 0.46 |
| 1:A:367:VAL:O | 1:A:368:ARG:HD3 | 2.15 | 0.46 |
| 1:C:256:SER:OG | 1:C:267:HIS:CE1 | 2.68 | 0.46 |
| 1:C:565:GLU:HG2 | 1:C:566:TYR:H | 1.79 | 0.46 |
| 1:E:253:GLN:NE2 | 1:E:253:GLN:HA | 2.30 | 0.46 |
| 1:E:524:PRO:HD3 | 1:G:605:GLU:CG | 2.44 | 0.46 |
| 1:E:605:GLU:HG2 | 1:G:524:PRO:HD3 | 1.98 | 0.46 |
| 1:E:829:ALA:HA | 1:E:851:ILE:HG22 | 1.97 | 0.46 |
| 1:I:452:PHE:HB3 | 1:I:463:TYR:HB3 | 1.98 | 0.46 |
| 1:K:501:TYR:CD2 | 1:K:501:TYR:N | 2.83 | 0.46 |
| 1:A:322:PRO:HB3 | 1:A:678:LEU:HD13 | 1.97 | 0.46 |
| 1:A:841:GLY:C | 1:A:843:ASP:H | 2.19 | 0.46 |
| 1:A:913:ARG:NH2 | 1:A:1047:GLN:HE21 | 2.08 | 0.46 |
| 1:C:48:ILE:HG12 | 1:C:49:HIS:N | 2.30 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:G:57:CYS:HB3 | 1:G:62:TRP:CD1 | 2.50 | 0.46 |
| 1:G:155:PRO:O | 1:G:856:ARG:HD2 | 2.14 | 0.46 |
| 1:G:329:PHE:HD1 | 1:G:649:MET:SD | 2.38 | 0.46 |
| 1:G:471:GLU:O | 1:G:471:GLU:HG3 | 2.15 | 0.46 |
| 1:I:836:ARG:N | 3:I:1191:HOH:O | 2.48 | 0.46 |
| 1:I:887:MET:HG3 | 1:I:966:ASP:OD2 | 2.15 | 0.46 |
| 1:A:956:ILE:HD13 | 1:A:957:ALA:N | 2.31 | 0.46 |
| 1:C:540:PHE:HA | 1:C:577:PRO:HA | 1.97 | 0.46 |
| 1:C:622:TYR:OH | 1:C:627:ARG:HG2 | 2.15 | 0.46 |
| 1:E:367:VAL:HG12 | 1:E:375:VAL:HG21 | 1.97 | 0.46 |
| 1:E:387:LEU:HD12 | 1:E:400:PHE:CE1 | 2.50 | 0.46 |
| 1:K:429:MET:HA | 1:K:441:ILE:HD13 | 1.97 | 0.46 |
| 1:A:994:ILE:HG22 | 1:A:1008:GLN:O | 2.15 | 0.46 |
| 1:E:363:ARG:HD3 | 1:E:363:ARG:HA | 1.50 | 0.46 |
| 1:E:946:TYR:CE1 | 1:G:922:GLN:HB3 | 2.51 | 0.46 |
| 1:G:184:LEU:HD13 | 1:G:237:ILE:HG13 | 1.98 | 0.46 |
| 1:G:906:GLN:O | 1:G:953:GLY:HA3 | 2.14 | 0.46 |
| 1:I:533:PHE:N | 1:K:525:ASP:OD1 | 2.39 | 0.46 |
| 1:I:906:GLN:O | 1:I:953:GLY:HA3 | 2.15 | 0.46 |
| 1:K:319:ILE:CG2 | 1:K:677:PRO:HB3 | 2.46 | 0.46 |
| 1:K:1001:ILE:CG1 | 3:K:1180:HOH:O | 2.64 | 0.46 |
| 1:E:1014:TRP:CD1 | 1:E:1019:GLY:HA2 | 2.51 | 0.46 |
| 1:I:57:CYS:HB3 | 1:I:62:TRP:CD1 | 2.50 | 0.46 |
| 1:I:471:GLU:O | 1:I:471:GLU:HG3 | 2.15 | 0.46 |
| 1:A:524:PRO:HD3 | 1:C:605:GLU:HG2 | 1.98 | 0.46 |
| 1:A:605:GLU:HG2 | 1:C:524:PRO:HD3 | 1.97 | 0.46 |
| 1:C:253:GLN:NE2 | 1:C:253:GLN:HA | 2.30 | 0.46 |
| 1:E:112:ASN:OD1 | 1:E:114:GLU:HB3 | 2.16 | 0.46 |
| 1:E:540:PHE:HA | 1:E:577:PRO:HA | 1.97 | 0.46 |
| 1:K:59:ASP:HB3 | 1:K:80:VAL:HA | 1.97 | 0.46 |
| 1:K:318:ILE:HG21 | 1:K:682:ILE:HD11 | 1.98 | 0.46 |
| 1:K:322:PRO:HG2 | 1:K:674:ASP:OD1 | 2.16 | 0.46 |
| 1:K:367:VAL:O | 1:K:368:ARG:HD3 | 2.16 | 0.46 |
| 1:A:562:GLU:O | 1:A:563:ALA:HB3 | 2.15 | 0.46 |
| 1:G:442:GLU:OE2 | 1:G:481:HIS:HD2 | 1.98 | 0.46 |
| 1:I:872:HIS:CE1 | 1:I:902:GLU:OE1 | 2.67 | 0.46 |
| 1:K:462:ALA:HA | 1:K:481:HIS:O | 2.16 | 0.46 |
| 1:K:649:MET:HE3 | 1:K:649:MET:HB2 | 1.78 | 0.46 |
| 1:C:533:PHE:HB3 | 1:C:536:VAL:HG11 | 1.97 | 0.46 |
| 1:E:258:ASP:OD1 | 1:E:260:ASP:HB2 | 2.16 | 0.46 |
| 1:G:234:SER:HB3 | 1:G:278:LEU:H | 1.81 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:I:534:GLU:HG3 | 1:K:534:GLU:OE2 | 2.15 | 0.46 |
| 1:K:307:GLU:C | 1:K:308:ILE:HD12 | 2.36 | 0.46 |
| 1:A:827:GLU:O | 1:G:677:PRO:HD2 | 2.16 | 0.46 |
| 1:I:45:ASN:HA | 1:I:277:HIS:CD2 | 2.51 | 0.46 |
| 1:I:98:MET:HE3 | 1:I:103:LEU:HD13 | 1.98 | 0.46 |
| 1:I:256:SER:OG | 1:I:267:HIS:CE1 | 2.69 | 0.46 |
| 1:I:524:PRO:HD3 | 1:K:605:GLU:CG | 2.46 | 0.46 |
| 1:K:48:ILE:HG12 | 1:K:49:HIS:N | 2.31 | 0.46 |
| 1:K:146:LEU:HD23 | 1:K:165:VAL:HG21 | 1.97 | 0.46 |
| 1:A:48:ILE:HG12 | 1:A:49:HIS:N | 2.30 | 0.45 |
| 1:C:360:GLU:HG3 | 1:C:377:PHE:CZ | 2.51 | 0.45 |
| 1:E:180:ALA:HA | 3:E:1072:HOH:O | 2.16 | 0.45 |
| 1:E:541:VAL:CG2 | 1:E:542:ILE:N | 2.78 | 0.45 |
| 1:E:562:GLU:O | 1:E:563:ALA:HB3 | 2.16 | 0.45 |
| 1:G:197:PHE:HE1 | 1:G:199:LEU:HD21 | 1.81 | 0.45 |
| 1:G:295:ILE:O | 1:G:303:ILE:HA | 2.16 | 0.45 |
| 1:I:641:LEU:HD23 | 1:I:647:THR:O | 2.17 | 0.45 |
| 1:A:45:ASN:HA | 1:A:277:HIS:CD2 | 2.51 | 0.45 |
| 1:C:988:TRP:CZ3 | 1:C:990:GLY:HA3 | 2.50 | 0.45 |
| 1:E:190:ARG:NH2 | 1:E:222:PHE:HZ | 2.14 | 0.45 |
| 1:G:59:ASP:HB3 | 1:G:80:VAL:HA | 1.98 | 0.45 |
| 1:G:190:ARG:NH2 | 1:G:222:PHE:HZ | 2.14 | 0.45 |
| 1:G:885:PRO:HG2 | 1:G:890:MET:HG2 | 1.98 | 0.45 |
| 1:G:921:SER:HB3 | 1:G:966:ASP:OD2 | 2.16 | 0.45 |
| 1:G:959:THR:O | 1:G:984:GLY:HA3 | 2.15 | 0.45 |
| 1:I:184:LEU:HD13 | 1:I:237:ILE:HG13 | 1.97 | 0.45 |
| 1:I:387:LEU:HD12 | 1:I:400:PHE:CE1 | 2.51 | 0.45 |
| 1:I:886:ASP:O | 1:I:891:GLY:HA3 | 2.17 | 0.45 |
| 1:K:865:GLU:HB3 | 3:K:1144:HOH:O | 2.16 | 0.45 |
| 1:K:885:PRO:HG2 | 1:K:890:MET:HG2 | 1.98 | 0.45 |
| 1:A:249:ASP:HB2 | 3:A:1208:HOH:O | 2.17 | 0.45 |
| 1:A:731:LEU:HD22 | 1:A:735:ILE:CD1 | 2.47 | 0.45 |
| 1:A:894:GLU:OE1 | 1:A:897:ARG:NH2 | 2.49 | 0.45 |
| 1:G:530:ASN:ND2 | 1:G:531:PHE:N | 2.62 | 0.45 |
| 1:G:894:GLU:OE1 | 1:G:897:ARG:NH2 | 2.49 | 0.45 |
| 1:G:1016:ARG:NH1 | 3:G:1216:HOH:O | 2.39 | 0.45 |
| 1:I:329:PHE:HD1 | 1:I:649:MET:SD | 2.39 | 0.45 |
| 1:I:562:GLU:HB3 | 1:I:563:ALA:H | 1.58 | 0.45 |
| 1:I:965:SER:O | 1:I:968:ASP:HB2 | 2.16 | 0.45 |
| 1:K:387:LEU:HD12 | 1:K:400:PHE:CE1 | 2.51 | 0.45 |
| 1:K:909:ILE:HG12 | 1:K:956:ILE:HG21 | 1.97 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:360:GLU:OE2 | 1:A:361:PRO:HD2 | 2.16 | 0.45 |
| 1:A:840:LYS:O | 1:A:843:ASP:HB2 | 2.17 | 0.45 |
| 1:C:462:ALA:HA | 1:C:481:HIS:O | 2.17 | 0.45 |
| 1:C:562:GLU:O | 1:C:563:ALA:HB3 | 2.17 | 0.45 |
| 1:E:731:LEU:HD22 | 1:E:735:ILE:CD1 | 2.47 | 0.45 |
| 1:G:515:LEU:HD23 | 1:G:539:PRO:HA | 1.99 | 0.45 |
| 1:K:586:ARG:NE | 2:L:1206:ALA:HB3 | 2.31 | 0.45 |
| 1:A:222:PHE:H | 1:A:1038:HIS:CD2 | 2.33 | 0.45 |
| 1:A:676:ARG:HD3 | 3:A:1073:HOH:O | 2.15 | 0.45 |
| 1:C:300:THR:HG22 | 1:C:300:THR:O | 2.15 | 0.45 |
| 1:C:681:SER:O | 1:C:684:GLU:HG2 | 2.16 | 0.45 |
| 1:C:827:GLU:O | 1:I:677:PRO:HD2 | 2.16 | 0.45 |
| 1:C:894:GLU:OE1 | 1:C:897:ARG:NH2 | 2.50 | 0.45 |
| 1:E:92:LYS:HA | 1:E:111:TYR:O | 2.17 | 0.45 |
| 1:E:141:ASP:OD1 | 1:E:145:ASN:HB2 | 2.17 | 0.45 |
| 1:E:195:ASN:O | 1:E:231:HIS:HE1 | 1.99 | 0.45 |
| 1:E:318:ILE:HG21 | 1:E:682:ILE:HD11 | 1.98 | 0.45 |
| 1:I:385:ASP:HB2 | 1:I:405:GLY:O | 2.17 | 0.45 |
| 1:K:872:HIS:CE1 | 1:K:902:GLU:OE1 | 2.69 | 0.45 |
| 1:A:228:MET:HE3 | 1:A:244:PHE:CE1 | 2.52 | 0.45 |
| 1:A:353:THR:HG23 | 1:A:354:TYR:CD1 | 2.52 | 0.45 |
| 1:A:452:PHE:HB3 | 1:A:463:TYR:HB3 | 1.99 | 0.45 |
| 1:A:936:ASP:OD2 | 1:C:1011:PHE:HB3 | 2.16 | 0.45 |
| 1:E:59:ASP:HB3 | 1:E:80:VAL:HA | 1.98 | 0.45 |
| 1:E:155:PRO:O | 1:E:856:ARG:HD2 | 2.17 | 0.45 |
| 1:I:562:GLU:O | 1:I:563:ALA:HB3 | 2.16 | 0.45 |
| 1:I:605:GLU:CG | 1:K:524:PRO:HD3 | 2.47 | 0.45 |
| 1:I:885:PRO:HG2 | 1:I:890:MET:HG2 | 1.99 | 0.45 |
| 1:A:363:ARG:HD3 | 1:A:363:ARG:HA | 1.55 | 0.45 |
| 1:E:959:THR:O | 1:E:984:GLY:HA3 | 2.17 | 0.45 |
| 1:G:540:PHE:HA | 1:G:577:PRO:HA | 1.99 | 0.45 |
| 1:I:300:THR:O | 1:I:300:THR:HG22 | 2.17 | 0.45 |
| 1:I:360:GLU:OE2 | 1:I:361:PRO:HD2 | 2.17 | 0.45 |
| 1:K:228:MET:HE1 | 1:K:244:PHE:CE1 | 2.52 | 0.45 |
| 1:K:894:GLU:OE1 | 1:K:897:ARG:NH2 | 2.50 | 0.45 |
| 1:A:253:GLN:HG3 | 1:A:266:LYS:HE2 | 1.98 | 0.45 |
| 1:A:573:LYS:HE2 | 1:C:786:TYR:CZ | 2.52 | 0.45 |
| 1:C:212:LYS:HE3 | 3:C:1126:HOH:O | 2.17 | 0.45 |
| 1:C:630:THR:HG23 | 3:C:1225:HOH:O | 2.17 | 0.45 |
| 1:C:922:GLN:NE2 | 3:C:1132:HOH:O | 2.31 | 0.45 |
| 1:E:984:GLY:CA | 3:E:1123:HOH:O | 2.58 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:G:177:LEU:O | 3:G:1089:HOH:O | 2.21 | 0.45 |
| 1:G:243:TYR:CD2 | 1:G:256:SER:HB3 | 2.52 | 0.45 |
| 1:A:385:ASP:HB2 | 1:A:405:GLY:O | 2.16 | 0.45 |
| 1:A:425:ARG:O | 1:A:426:PHE:HB2 | 2.17 | 0.45 |
| 1:A:480:ILE:H | 1:A:494:THR:HG21 | 1.76 | 0.45 |
| 1:C:913:ARG:NH2 | 1:C:1047:GLN:HE21 | 2.07 | 0.45 |
| 1:E:87:PHE:CB | 1:E:88:PRO:HD2 | 2.41 | 0.45 |
| 1:E:635:ASN:HB3 | 1:E:653:ASP:OD1 | 2.17 | 0.45 |
| 1:E:826:SER:CB | 3:E:1135:HOH:O | 2.64 | 0.45 |
| 1:G:245:ILE:HD11 | 1:G:278:LEU:HG | 1.98 | 0.45 |
| 1:G:445:ARG:NH1 | 3:G:1167:HOH:O | 2.49 | 0.45 |
| 1:G:562:GLU:O | 1:G:563:ALA:HB3 | 2.17 | 0.45 |
| 1:I:57:CYS:HB3 | 1:I:62:TRP:NE1 | 2.32 | 0.45 |
| 1:I:425:ARG:O | 1:I:426:PHE:HB2 | 2.17 | 0.45 |
| 1:I:442:GLU:OE2 | 1:I:481:HIS:HD2 | 2.00 | 0.45 |
| 1:K:906:GLN:O | 1:K:953:GLY:HA3 | 2.17 | 0.45 |
| 1:A:717:LYS:N | 3:A:1229:HOH:O | 2.31 | 0.45 |
| 1:E:442:GLU:OE2 | 1:E:481:HIS:HD2 | 2.00 | 0.45 |
| 1:G:722:VAL:N | 1:G:723:PRO:HD2 | 2.31 | 0.45 |
| 1:G:727:THR:O | 1:G:730:ASP:HB2 | 2.16 | 0.45 |
| 1:I:82:ASN:HD21 | 1:I:96:ARG:HG2 | 1.80 | 0.45 |
| 1:I:136:ASP:OD2 | 1:I:137:VAL:N | 2.44 | 0.45 |
| 1:I:735:ILE:O | 1:I:739:GLN:HG3 | 2.16 | 0.45 |
| 1:K:360:GLU:OE2 | 1:K:361:PRO:HD2 | 2.17 | 0.45 |
| 1:E:272:ASP:O | 1:E:717:LYS:HE2 | 2.17 | 0.44 |
| 1:E:840:LYS:O | 1:E:843:ASP:HB2 | 2.17 | 0.44 |
| 1:E:901:ASN:HB3 | 1:G:469:HIS:CE1 | 2.53 | 0.44 |
| 1:G:360:GLU:OE2 | 1:G:361:PRO:HD2 | 2.16 | 0.44 |
| 1:G:618:VAL:HG21 | 1:G:631:GLU:HG3 | 1.98 | 0.44 |
| 1:I:390:TYR:CD1 | 1:I:397:ALA:HB2 | 2.50 | 0.44 |
| 1:K:295:ILE:O | 1:K:303:ILE:HA | 2.17 | 0.44 |
| 1:K:591:LEU:HD12 | 1:K:596:LEU:CD2 | 2.47 | 0.44 |
| 1:C:53:ILE:CG2 | 1:C:286:LEU:HD21 | 2.46 | 0.44 |
| 1:C:965:SER:HA | 1:C:990:GLY:O | 2.17 | 0.44 |
| 1:E:57:CYS:HB3 | 1:E:62:TRP:NE1 | 2.31 | 0.44 |
| 1:E:307:GLU:C | 1:E:308:ILE:HD12 | 2.37 | 0.44 |
| 1:K:541:VAL:CG2 | 1:K:542:ILE:N | 2.80 | 0.44 |
| 1:C:57:CYS:HB3 | 1:C:62:TRP:NE1 | 2.31 | 0.44 |
| 1:C:87:PHE:HB3 | 1:C:88:PRO:CD | 2.45 | 0.44 |
| 1:C:1014:TRP:CD1 | 1:C:1019:GLY:HA2 | 2.52 | 0.44 |
| 1:E:123:TYR:OH | 1:E:823:ARG:HD3 | 2.16 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:228:MET:HE1 | 1:E:244:PHE:CE1 | 2.53 | 0.44 |
| 1:E:473:ASP:HA | 1:G:904:SER:OG | 2.17 | 0.44 |
| 1:E:890:MET:O | 1:E:894:GLU:HG2 | 2.16 | 0.44 |
| 1:E:965:SER:C | 1:E:967:GLY:N | 2.70 | 0.44 |
| 1:G:45:ASN:HA | 1:G:277:HIS:CD2 | 2.52 | 0.44 |
| 1:G:287:PHE:CE1 | 1:G:294:TYR:HB2 | 2.52 | 0.44 |
| 1:I:295:ILE:O | 1:I:303:ILE:HA | 2.17 | 0.44 |
| 1:I:568:LEU:HD23 | 1:I:568:LEU:N | 2.31 | 0.44 |
| 1:I:829:ALA:HA | 1:I:851:ILE:HG22 | 1.98 | 0.44 |
| 1:I:909:ILE:HG12 | 1:I:956:ILE:HG21 | 1.96 | 0.44 |
| 1:K:178:GLY:HA3 | 1:K:1040:TYR:CD1 | 2.53 | 0.44 |
| 1:A:243:TYR:CD2 | 1:A:256:SER:HB3 | 2.52 | 0.44 |
| 1:A:736:VAL:HG22 | 3:A:1104:HOH:O | 2.16 | 0.44 |
| 1:C:586:ARG:HH21 | 2:D:1204:GLN:HB3 | 1.81 | 0.44 |
| 1:E:367:VAL:O | 1:E:368:ARG:HD3 | 2.17 | 0.44 |
| 1:E:534:GLU:OE2 | 1:G:534:GLU:HG3 | 2.17 | 0.44 |
| 1:E:677:PRO:HD3 | 3:K:1136:HOH:O | 2.18 | 0.44 |
| 1:E:800:ILE:CG2 | 1:E:845:ARG:HH22 | 2.31 | 0.44 |
| 1:G:1017:ASP:N | 3:G:1099:HOH:O | 2.49 | 0.44 |
| 1:I:177:LEU:HD21 | 3:I:1087:HOH:O | 2.17 | 0.44 |
| 1:C:201:HIS:O | 1:C:740:GLY:HA2 | 2.17 | 0.44 |
| 1:C:872:HIS:HE1 | 1:C:902:GLU:OE1 | 2.00 | 0.44 |
| 1:E:489:LYS:HG3 | 1:E:491:PHE:CE1 | 2.52 | 0.44 |
| 1:E:965:SER:O | 1:E:968:ASP:N | 2.50 | 0.44 |
| 1:G:568:LEU:N | 1:G:568:LEU:HD23 | 2.32 | 0.44 |
| 1:I:54:ILE:HA | 1:I:62:TRP:O | 2.18 | 0.44 |
| 1:I:605:GLU:HG2 | 1:K:524:PRO:HD3 | 1.98 | 0.44 |
| 1:I:986:ARG:HD2 | 1:I:1025:TYR:O | 2.17 | 0.44 |
| 1:K:155:PRO:O | 1:K:856:ARG:HD2 | 2.17 | 0.44 |
| 1:A:253:GLN:NE2 | 1:A:253:GLN:HA | 2.33 | 0.44 |
| 1:A:565:GLU:HG2 | 1:A:566:TYR:H | 1.81 | 0.44 |
| 1:C:618:VAL:HG21 | 1:C:631:GLU:HG3 | 1.98 | 0.44 |
| 1:E:45:ASN:HA | 1:E:277:HIS:CD2 | 2.53 | 0.44 |
| 1:E:501:TYR:CD2 | 1:E:501:TYR:N | 2.86 | 0.44 |
| 1:G:965:SER:C | 1:G:967:GLY:N | 2.70 | 0.44 |
| 1:K:390:TYR:CD1 | 1:K:397:ALA:HB2 | 2.49 | 0.44 |
| 1:A:272:ASP:O | 1:A:717:LYS:HE2 | 2.17 | 0.44 |
| 1:C:1008:GLN:NE2 | 3:C:1190:HOH:O | 2.50 | 0.44 |
| 1:E:222:PHE:H | 1:E:1038:HIS:CD2 | 2.36 | 0.44 |
| 1:G:57:CYS:HB3 | 1:G:62:TRP:NE1 | 2.33 | 0.44 |
| 1:G:586:ARG:NE | 2:H:1206:ALA:HB3 | 2.32 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:G:1016:ARG:HA | 3:G:1099:HOH:O | 2.17 | 0.44 |
| 1:I:73:LYS:HD3 | 1:I:76:SER:CB | 2.42 | 0.44 |
| 1:I:253:GLN:NE2 | 1:I:268:THR:OG1 | 2.49 | 0.44 |
| 1:I:800:ILE:CG2 | 1:I:845:ARG:HH22 | 2.30 | 0.44 |
| 1:K:337:ILE:HD11 | 3:K:1165:HOH:O | 2.17 | 0.44 |
| 1:K:407:VAL:HG13 | 1:K:421:VAL:HG13 | 2.00 | 0.44 |
| 1:K:800:ILE:CG2 | 1:K:845:ARG:HH22 | 2.30 | 0.44 |
| 1:A:525:ASP:OD1 | 1:C:532:SER:HB2 | 2.18 | 0.44 |
| 1:I:992:VAL:HG11 | 1:I:1009:PRO:HB2 | 2.00 | 0.44 |
| 1:A:53:ILE:HD12 | 1:A:66:LEU:HD21 | 1.99 | 0.44 |
| 1:C:687:LEU:HD23 | 1:C:687:LEU:HA | 1.86 | 0.44 |
| 1:E:268:THR:HG22 | 1:E:303:ILE:CD1 | 2.47 | 0.44 |
| 1:E:295:ILE:O | 1:E:303:ILE:HA | 2.18 | 0.44 |
| 1:E:633:LYS:HE2 | 1:E:633:LYS:HB2 | 1.84 | 0.44 |
| 1:E:909:ILE:HG12 | 1:E:956:ILE:HG21 | 1.99 | 0.44 |
| 1:G:202:TRP:CH2 | 1:G:745:SER:HB3 | 2.53 | 0.44 |
| 1:I:205:TYR:HA | 1:I:1024:ASN:HD21 | 1.83 | 0.44 |
| 1:I:225:ILE:HG13 | 1:I:226:VAL:HG23 | 1.99 | 0.44 |
| 1:I:272:ASP:O | 1:I:717:LYS:HE2 | 2.18 | 0.44 |
| 1:A:407:VAL:HG13 | 1:A:421:VAL:HG13 | 1.98 | 0.43 |
| 1:A:897:ARG:NH1 | 3:A:1146:HOH:O | 2.43 | 0.43 |
| 1:A:965:SER:O | 1:A:968:ASP:N | 2.50 | 0.43 |
| 1:C:59:ASP:HB3 | 1:C:80:VAL:HA | 2.00 | 0.43 |
| 1:C:363:ARG:HD3 | 1:C:363:ARG:HA | 1.55 | 0.43 |
| 1:C:546:PRO:CG | 1:C:567:ASP:HB3 | 2.48 | 0.43 |
| 1:E:469:HIS:ND1 | 1:G:901:ASN:HB3 | 2.32 | 0.43 |
| 1:E:516:SER:HB3 | 1:E:518:ARG:HG3 | 1.99 | 0.43 |
| 1:E:528:VAL:HG21 | 1:E:896:TYR:CD2 | 2.53 | 0.43 |
| 1:E:591:LEU:HD12 | 1:E:596:LEU:CD2 | 2.48 | 0.43 |
| 1:G:134:PHE:HB2 | 3:G:1094:HOH:O | 2.18 | 0.43 |
| 1:G:272:ASP:O | 1:G:717:LYS:HE2 | 2.18 | 0.43 |
| 1:I:524:PRO:HD3 | 1:K:605:GLU:HG2 | 1.99 | 0.43 |
| 1:I:534:GLU:OE2 | 1:K:534:GLU:HG3 | 2.17 | 0.43 |
| 1:I:781:ALA:CB | 1:I:802:PRO:HG2 | 2.48 | 0.43 |
| 1:K:297:ASN:O | 1:K:301:GLU:N | 2.49 | 0.43 |
| 1:K:440:VAL:CB | 3:K:1100:HOH:O | 2.66 | 0.43 |
| 1:K:829:ALA:HA | 1:K:851:ILE:HG22 | 2.00 | 0.43 |
| 1:A:487:GLY:HA3 | 1:A:489:LYS:NZ | 2.33 | 0.43 |
| 1:A:557:ARG:HH22 | 1:A:562:GLU:H | 1.66 | 0.43 |
| 1:A:701:TYR:O | 1:C:939:ARG:HD3 | 2.18 | 0.43 |
| 1:A:921:SER:HB3 | 1:A:966:ASP:OD2 | 2.18 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 1:C:201:HIS:HB3 | 1:C:736:VAL:HG13 | 2.00 | 0.43 |
| 1:C:313:SER:O | 1:I:117:GLU:HA | 2.17 | 0.43 |
| 1:C:407:VAL:HG13 | 1:C:421:VAL:HG13 | 1.99 | 0.43 |
| 1:C:428:ILE:HD13 | 1:C:429:MET:N | 2.33 | 0.43 |
| 1:E:183:ILE:HD12 | 1:E:192:ILE:HD13 | 1.99 | 0.43 |
| 1:E:823:ARG:O | 1:E:826:SER:HB3 | 2.17 | 0.43 |
| 1:E:881:TYR:O | 1:E:898:LEU:HD23 | 2.18 | 0.43 |
| 1:E:906:GLN:O | 1:E:953:GLY:HA3 | 2.18 | 0.43 |
| 1:G:1053:ASP:OD2 | 3:G:1223:HOH:O | 2.21 | 0.43 |
| 1:K:195:ASN:O | 1:K:231:HIS:HE1 | 2.02 | 0.43 |
| 1:K:622:TYR:OH | 1:K:627:ARG:HG2 | 2.18 | 0.43 |
| 1:K:1001:ILE:HG12 | 3:K:1180:HOH:O | 2.18 | 0.43 |
| 1:A:190:ARG:NH2 | 1:A:222:PHE:HZ | 2.16 | 0.43 |
| 1:A:222:PHE:HB2 | 1:A:1038:HIS:HD2 | 1.82 | 0.43 |
| 1:A:532:SER:HB2 | 1:C:525:ASP:OD1 | 2.17 | 0.43 |
| 1:A:744:THR:HG22 | 1:A:745:SER:N | 2.33 | 0.43 |
| 1:E:184:LEU:HD13 | 1:E:237:ILE:HG13 | 2.00 | 0.43 |
| 1:E:921:SER:HB2 | 1:E:970:PHE:HB2 | 2.00 | 0.43 |
| 1:E:922:GLN:HB3 | 1:G:946:TYR:CE1 | 2.53 | 0.43 |
| 1:E:992:VAL:HG11 | 1:E:1009:PRO:HB2 | 2.00 | 0.43 |
| 1:G:297:ASN:C | 1:G:297:ASN:HD22 | 2.21 | 0.43 |
| 1:I:406:ASN:HB2 | 1:I:424:ASP:CG | 2.39 | 0.43 |
| 1:I:474:GLY:HA2 | 1:K:945:PRO:HD2 | 2.01 | 0.43 |
| 1:I:579:ASN:HD22 | 1:I:627:ARG:HH22 | 1.66 | 0.43 |
| 1:I:659:THR:O | 1:I:668:GLU:HA | 2.18 | 0.43 |
| 1:A:501:TYR:CD2 | 1:A:501:TYR:N | 2.86 | 0.43 |
| 1:E:322:PRO:HG2 | 1:E:674:ASP:OD1 | 2.18 | 0.43 |
| 1:E:423:ASN:ND2 | 1:E:427:GLU:H | 2.16 | 0.43 |
| 1:E:462:ALA:HA | 1:E:481:HIS:O | 2.17 | 0.43 |
| 1:E:962:TYR:HA | 3:E:1167:HOH:O | 2.17 | 0.43 |
| 1:G:253:GLN:NE2 | 1:G:268:THR:OG1 | 2.50 | 0.43 |
| 1:G:558:SER:O | 1:K:393:ARG:HG3 | 2.18 | 0.43 |
| 1:I:922:GLN:NE2 | 1:K:948:THR:H | 2.15 | 0.43 |
| 1:K:45:ASN:HA | 1:K:277:HIS:CD2 | 2.53 | 0.43 |
| 1:A:562:GLU:HB3 | 1:A:563:ALA:H | 1.59 | 0.43 |
| 1:C:563:ALA:N | 3:C:1164:HOH:O | 2.50 | 0.43 |
| 1:E:451:ASP:OD1 | 2:F:1205:LYS:HD2 | 2.18 | 0.43 |
| 1:E:524:PRO:HD3 | 1:G:605:GLU:HG2 | 1.99 | 0.43 |
| 1:E:981:LYS:HE2 | 3:E:1168:HOH:O | 2.19 | 0.43 |
| 1:G:499:HIS:HD1 | 1:G:517:TYR:HD2 | 1.65 | 0.43 |
| 1:G:581:ASP:HB2 | 3:G:1149:HOH:O | 2.18 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 1:G:1002:ASP:OD1 | 1:G:1004:THR:OG1 | 2.31 | 0.43 |
| 1:I:245:ILE:HD11 | 1:I:278:LEU:HG | 2.00 | 0.43 |
| 1:K:307:GLU:N | 3:K:1177:HOH:O | 2.50 | 0.43 |
| 1:K:688:GLN:HA | 3:K:1161:HOH:O | 2.17 | 0.43 |
| 1:K:965:SER:HA | 1:K:990:GLY:O | 2.19 | 0.43 |
| 1:A:229:SER:HB3 | 1:A:248:ILE:CD1 | 2.48 | 0.43 |
| 1:A:234:SER:HB3 | 1:A:278:LEU:H | 1.83 | 0.43 |
| 1:C:452:PHE:HB3 | 1:C:463:TYR:HB3 | 1.99 | 0.43 |
| 1:E:236:VAL:HG23 | 1:E:243:TYR:HB2 | 2.00 | 0.43 |
| 1:G:228:MET:HE1 | 1:G:244:PHE:CE1 | 2.54 | 0.43 |
| 1:G:633:LYS:HB2 | 1:G:633:LYS:HE2 | 1.82 | 0.43 |
| 1:G:927:LYS:HD3 | 3:G:1128:HOH:O | 2.18 | 0.43 |
| 1:I:279:ASN:HD22 | 1:I:279:ASN:HA | 1.72 | 0.43 |
| 1:K:840:LYS:O | 1:K:843:ASP:HB2 | 2.19 | 0.43 |
| 1:A:92:LYS:HA | 1:A:111:TYR:O | 2.19 | 0.43 |
| 1:A:313:SER:O | 1:G:117:GLU:HA | 2.19 | 0.43 |
| 1:C:82:ASN:HD22 | 1:C:82:ASN:N | 2.12 | 0.43 |
| 1:E:53:ILE:CG2 | 1:E:286:LEU:HD21 | 2.46 | 0.43 |
| 1:E:82:ASN:HD22 | 1:E:82:ASN:N | 2.13 | 0.43 |
| 1:E:360:GLU:HG3 | 1:E:377:PHE:CZ | 2.53 | 0.43 |
| 1:E:586:ARG:HH21 | 2:F:1204:GLN:HB3 | 1.84 | 0.43 |
| 1:E:886:ASP:O | 1:E:891:GLY:HA3 | 2.19 | 0.43 |
| 3:E:1181:HOH:O | 1:G:525:ASP:CG | 2.57 | 0.43 |
| 1:G:363:ARG:HD3 | 1:G:363:ARG:HA | 1.50 | 0.43 |
| 1:K:222:PHE:H | 1:K:1038:HIS:CD2 | 2.37 | 0.43 |
| 1:K:628:LYS:HA | 3:K:1181:HOH:O | 2.19 | 0.43 |
| 1:K:635:ASN:HB3 | 1:K:653:ASP:OD1 | 2.19 | 0.43 |
| 1:K:727:THR:O | 1:K:730:ASP:HB2 | 2.18 | 0.43 |
| 1:C:501:TYR:CD2 | 1:C:501:TYR:N | 2.86 | 0.43 |
| 1:E:467:LEU:HD11 | 1:E:496:GLU:HB2 | 2.00 | 0.43 |
| 1:G:800:ILE:CG2 | 1:G:845:ARG:HH22 | 2.30 | 0.43 |
| 1:K:153:MET:HB2 | 1:K:153:MET:HE2 | 1.93 | 0.43 |
| 1:K:327:GLU:O | 1:K:328:ASP:O | 2.37 | 0.43 |
| 1:K:428:ILE:HG22 | 1:K:442:GLU:O | 2.18 | 0.43 |
| 1:K:467:LEU:HD11 | 1:K:496:GLU:HB2 | 2.01 | 0.43 |
| 1:A:568:LEU:HD23 | 1:A:568:LEU:N | 2.33 | 0.43 |
| 1:A:681:SER:O | 1:A:684:GLU:HG2 | 2.18 | 0.43 |
| 1:A:727:THR:HG22 | 3:A:1092:HOH:O | 2.19 | 0.43 |
| 1:A:735:ILE:O | 1:A:739:GLN:HG3 | 2.18 | 0.43 |
| 1:E:390:TYR:CD1 | 1:E:397:ALA:HB2 | 2.52 | 0.43 |
| 1:E:1033:ILE:HD11 | 1:E:1050:TYR:CD2 | 2.54 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:G:467:LEU:HD11 | 1:G:496:GLU:HB2 | 2.01 | 0.43 |
| 1:G:884:ILE:HB | 1:G:912:VAL:HG12 | 2.01 | 0.43 |
| 1:I:498:SER:OG | 1:I:518:ARG:HG2 | 2.18 | 0.43 |
| 1:K:841:GLY:C | 1:K:843:ASP:H | 2.22 | 0.43 |
| 1:K:988:TRP:CZ3 | 1:K:990:GLY:HA3 | 2.54 | 0.43 |
| 1:A:829:ALA:HB3 | 3:A:1132:HOH:O | 2.18 | 0.43 |
| 1:C:731:LEU:HD22 | 1:C:735:ILE:CD1 | 2.49 | 0.43 |
| 1:C:841:GLY:C | 1:C:843:ASP:H | 2.21 | 0.43 |
| 1:E:780:LYS:HD3 | 1:E:782:TYR:CZ | 2.54 | 0.43 |
| 1:E:1055:LEU:O | 1:E:1059:LEU:HD13 | 2.19 | 0.43 |
| 1:G:781:ALA:CB | 1:G:802:PRO:HG2 | 2.49 | 0.43 |
| 1:K:92:LYS:HA | 1:K:111:TYR:O | 2.19 | 0.43 |
| 1:K:562:GLU:O | 1:K:563:ALA:HB3 | 2.18 | 0.43 |
| 1:K:725:CYS:SG | 1:K:730:ASP:HB3 | 2.59 | 0.43 |
| 1:A:1002:ASP:OD1 | 1:A:1004:THR:OG1 | 2.35 | 0.42 |
| 1:C:234:SER:HB3 | 1:C:278:LEU:H | 1.84 | 0.42 |
| 1:C:423:ASN:ND2 | 1:C:427:GLU:H | 2.17 | 0.42 |
| 1:C:514:TYR:HE1 | 3:C:1106:HOH:O | 2.02 | 0.42 |
| 1:C:562:GLU:HB3 | 1:C:563:ALA:H | 1.59 | 0.42 |
| 1:C:616:LYS:HE2 | 1:C:653:ASP:CB | 2.49 | 0.42 |
| 1:C:649:MET:HE3 | 1:C:649:MET:HB2 | 1.75 | 0.42 |
| 1:C:906:GLN:O | 1:C:953:GLY:HA3 | 2.18 | 0.42 |
| 1:E:131:ARG:HG2 | 1:E:131:ARG:NH2 | 2.34 | 0.42 |
| 1:G:390:TYR:CD1 | 1:G:397:ALA:HB2 | 2.50 | 0.42 |
| 1:G:704:GLU:CD | 3:G:1110:HOH:O | 2.58 | 0.42 |
| 1:I:183:ILE:HD12 | 1:I:192:ILE:HD13 | 2.00 | 0.42 |
| 1:K:1045:ASP:HB3 | 1:K:1048:ILE:HG22 | 2.01 | 0.42 |
| 1:A:471:GLU:O | 1:A:471:GLU:HG3 | 2.19 | 0.42 |
| 1:A:786:TYR:CZ | 1:C:573:LYS:HE2 | 2.53 | 0.42 |
| 1:C:253:GLN:HG3 | 1:C:266:LYS:HE2 | 2.00 | 0.42 |
| 1:E:123:TYR:HB3 | 3:E:1135:HOH:O | 2.18 | 0.42 |
| 1:E:912:VAL:HG11 | 1:E:970:PHE:CE2 | 2.54 | 0.42 |
| 1:G:502:ALA:HB1 | 3:G:1078:HOH:O | 2.19 | 0.42 |
| 1:G:533:PHE:HB3 | 1:G:536:VAL:HG11 | 2.01 | 0.42 |
| 1:G:591:LEU:HD12 | 1:G:596:LEU:CD2 | 2.46 | 0.42 |
| 1:G:886:ASP:O | 1:G:891:GLY:HA3 | 2.18 | 0.42 |
| 1:K:471:GLU:O | 1:K:471:GLU:HG3 | 2.18 | 0.42 |
| 1:K:498:SER:OG | 1:K:518:ARG:HG2 | 2.19 | 0.42 |
| 1:K:540:PHE:HA | 1:K:577:PRO:HA | 2.01 | 0.42 |
| 1:A:544:LEU:N | 3:A:1144:HOH:O | 2.52 | 0.42 |
| 1:A:586:ARG:NE | 2:B:1206:ALA:HB3 | 2.32 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 1:A:710:ILE:O | 1:A:714:ILE:HG12 | 2.19 | 0.42 |
| 1:A:800:ILE:CG2 | 1:A:845:ARG:HH22 | 2.31 | 0.42 |
| 1:A:884:ILE:HB | 1:A:912:VAL:HG12 | 2.01 | 0.42 |
| 1:C:195:ASN:O | 1:C:231:HIS:HE1 | 2.03 | 0.42 |
| 1:C:318:ILE:HG21 | 1:C:682:ILE:HD11 | 1.99 | 0.42 |
| 1:E:287:PHE:CZ | 1:E:294:TYR:HB2 | 2.54 | 0.42 |
| 1:E:308:ILE:CG2 | 1:E:311:LEU:HD13 | 2.49 | 0.42 |
| 1:E:378:ILE:HD11 | 1:E:410:MET:HG3 | 2.01 | 0.42 |
| 1:G:53:ILE:HD12 | 1:G:66:LEU:HD21 | 2.00 | 0.42 |
| 1:G:242:ILE:O | 1:G:256:SER:HA | 2.19 | 0.42 |
| 1:I:312:GLU:HG2 | 1:I:314:PRO:HD3 | 2.01 | 0.42 |
| 1:I:586:ARG:HH21 | 2:J:1204:GLN:HB3 | 1.85 | 0.42 |
| 1:I:1033:ILE:HD11 | 1:I:1050:TYR:CD2 | 2.54 | 0.42 |
| 1:K:956:ILE:CG2 | 1:K:956:ILE:O | 2.68 | 0.42 |
| 1:A:922:GLN:NE2 | 1:C:529:LEU:HD23 | 2.33 | 0.42 |
| 1:C:98:MET:HE3 | 1:C:103:LEU:HD13 | 2.02 | 0.42 |
| 1:C:167:ASN:HB2 | 1:C:170:ILE:CB | 2.42 | 0.42 |
| 1:C:360:GLU:OE2 | 1:C:361:PRO:HD2 | 2.19 | 0.42 |
| 1:C:959:THR:O | 1:C:984:GLY:HA3 | 2.18 | 0.42 |
| 1:E:87:PHE:HB3 | 1:E:88:PRO:CD | 2.48 | 0.42 |
| 1:E:412:VAL:HG13 | 1:E:433:LEU:HD11 | 2.01 | 0.42 |
| 1:G:988:TRP:CZ3 | 1:G:990:GLY:HA3 | 2.54 | 0.42 |
| 1:I:87:PHE:HB3 | 1:I:88:PRO:CD | 2.46 | 0.42 |
| 1:I:201:HIS:HB3 | 1:I:736:VAL:HG13 | 2.01 | 0.42 |
| 1:I:412:VAL:HG13 | 1:I:433:LEU:HD11 | 2.02 | 0.42 |
| 1:K:123:TYR:OH | 1:K:823:ARG:HD3 | 2.19 | 0.42 |
| 1:K:190:ARG:NH2 | 1:K:222:PHE:HZ | 2.18 | 0.42 |
| 1:K:229:SER:HB3 | 1:K:248:ILE:CD1 | 2.48 | 0.42 |
| 1:K:442:GLU:OE2 | 1:K:481:HIS:HD2 | 2.02 | 0.42 |
| 1:K:982:LEU:C | 1:K:983:ILE:HD12 | 2.40 | 0.42 |
| 1:A:545:ILE:O | 1:A:548:SER:HB2 | 2.19 | 0.42 |
| 1:A:885:PRO:HG2 | 1:A:890:MET:HG2 | 2.00 | 0.42 |
| 1:A:886:ASP:O | 1:A:891:GLY:HA3 | 2.20 | 0.42 |
| 1:A:955:ILE:HG22 | 1:A:956:ILE:N | 2.33 | 0.42 |
| 1:C:53:ILE:HD12 | 1:C:66:LEU:HD21 | 2.01 | 0.42 |
| 1:C:222:PHE:H | 1:C:1038:HIS:CD2 | 2.37 | 0.42 |
| 1:C:537:SER:HB3 | 1:C:583:GLY:O | 2.19 | 0.42 |
| 1:E:744:THR:HG22 | 1:E:745:SER:N | 2.34 | 0.42 |
| 1:G:82:ASN:HD21 | 1:G:96:ARG:HH21 | 1.66 | 0.42 |
| 1:G:131:ARG:H | 1:G:131:ARG:HG2 | 1.61 | 0.42 |
| 1:I:904:SER:OG | 1:K:473:ASP:HA | 2.19 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:K:300:THR:O | 1:K:300:THR:HG22 | 2.19 | 0.42 |
| 1:K:482:VAL:HG23 | 1:K:493:ALA:HB2 | 2.02 | 0.42 |
| 1:K:886:ASP:O | 1:K:891:GLY:HA3 | 2.18 | 0.42 |
| 1:A:287:PHE:CZ | 1:A:294:TYR:HB2 | 2.55 | 0.42 |
| 1:A:295:ILE:O | 1:A:303:ILE:HA | 2.19 | 0.42 |
| 1:A:649:MET:HE3 | 1:A:649:MET:HB2 | 1.75 | 0.42 |
| 1:A:823:ARG:O | 1:A:826:SER:HB3 | 2.19 | 0.42 |
| 1:C:909:ILE:HG12 | 1:C:956:ILE:HG21 | 2.01 | 0.42 |
| 1:C:986:ARG:HD2 | 1:C:1025:TYR:O | 2.19 | 0.42 |
| 1:E:422:ALA:HB1 | 3:E:1087:HOH:O | 2.19 | 0.42 |
| 1:I:327:GLU:O | 1:I:328:ASP:O | 2.36 | 0.42 |
| 1:A:98:MET:HE3 | 1:A:103:LEU:HD13 | 2.01 | 0.42 |
| 1:C:471:GLU:HG3 | 1:C:471:GLU:O | 2.19 | 0.42 |
| 1:C:541:VAL:CG2 | 1:C:542:ILE:N | 2.83 | 0.42 |
| 1:C:955:ILE:HG22 | 1:C:956:ILE:N | 2.33 | 0.42 |
| 1:E:203:LYS:O | 1:E:743:ARG:HG2 | 2.18 | 0.42 |
| 1:E:393:ARG:HG3 | 1:I:558:SER:O | 2.19 | 0.42 |
| 1:E:841:GLY:C | 1:E:843:ASP:H | 2.23 | 0.42 |
| 1:E:984:GLY:N | 3:E:1123:HOH:O | 2.53 | 0.42 |
| 1:E:1036:ALA:O | 1:E:1039:ASP:HB2 | 2.19 | 0.42 |
| 1:G:423:ASN:ND2 | 1:G:427:GLU:H | 2.17 | 0.42 |
| 1:G:499:HIS:CE1 | 3:H:885:HOH:O | 2.73 | 0.42 |
| 1:G:535:VAL:HG23 | 1:G:535:VAL:O | 2.19 | 0.42 |
| 1:A:641:LEU:HD22 | 1:A:645:ARG:HA | 2.00 | 0.42 |
| 1:A:901:ASN:HB3 | 1:C:469:HIS:ND1 | 2.34 | 0.42 |
| 1:C:61:LEU:HB3 | 1:C:75:VAL:CG1 | 2.46 | 0.42 |
| 1:E:319:ILE:CG2 | 1:E:677:PRO:HB3 | 2.49 | 0.42 |
| 1:E:428:ILE:HG22 | 1:E:442:GLU:O | 2.20 | 0.42 |
| 1:G:54:ILE:HA | 1:G:62:TRP:O | 2.20 | 0.42 |
| 1:G:181:THR:HG22 | 1:G:182:HIS:CE1 | 2.55 | 0.42 |
| 1:G:236:VAL:HG23 | 1:G:243:TYR:HB2 | 2.02 | 0.42 |
| 1:G:487:GLY:HA3 | 1:G:489:LYS:NZ | 2.34 | 0.42 |
| 1:G:809:ASP:HA | 1:G:815:VAL:HG22 | 2.02 | 0.42 |
| 1:I:190:ARG:NH2 | 1:I:222:PHE:CZ | 2.88 | 0.42 |
| 1:K:641:LEU:HD23 | 1:K:647:THR:O | 2.19 | 0.42 |
| 1:K:965:SER:O | 1:K:968:ASP:N | 2.52 | 0.42 |
| 1:A:124:PHE:HB3 | 1:A:152:ALA:HB1 | 2.01 | 0.42 |
| 1:A:406:ASN:O | 1:A:423:ASN:HA | 2.19 | 0.42 |
| 1:C:287:PHE:CZ | 1:C:294:TYR:HB2 | 2.54 | 0.42 |
| 1:C:308:ILE:HD12 | 1:C:308:ILE:N | 2.35 | 0.42 |
| 1:E:901:ASN:HB3 | 1:G:469:HIS:ND1 | 2.35 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:G:104:ASN:H | 1:G:104:ASN:ND2 | 2.18 | 0.42 |
| 1:G:287:PHE:CZ | 1:G:294:TYR:HB2 | 2.55 | 0.42 |
| 1:G:327:GLU:O | 1:G:328:ASP:O | 2.38 | 0.42 |
| 1:G:867:ASN:HD22 | 1:G:867:ASN:HA | 1.64 | 0.42 |
| 1:G:887:MET:HB2 | 1:G:917:GLY:C | 2.40 | 0.42 |
| 1:I:322:PRO:HG2 | 1:I:674:ASP:OD1 | 2.20 | 0.42 |
| 1:K:676:ARG:CD | 3:K:1169:HOH:O | 2.68 | 0.42 |
| 1:K:746:HIS:HE1 | 1:K:990:GLY:O | 2.03 | 0.42 |
| 1:C:197:PHE:HE1 | 1:C:199:LEU:HD21 | 1.85 | 0.42 |
| 1:E:178:GLY:HA3 | 1:E:1040:TYR:CD1 | 2.54 | 0.42 |
| 1:E:329:PHE:HD1 | 1:E:649:MET:SD | 2.43 | 0.42 |
| 1:E:533:PHE:HB3 | 1:E:536:VAL:HG11 | 2.00 | 0.42 |
| 1:G:716:GLU:HB3 | 3:G:1142:HOH:O | 2.19 | 0.42 |
| 1:I:579:ASN:HD22 | 1:I:627:ARG:NH2 | 2.16 | 0.42 |
| 1:I:881:TYR:O | 1:I:898:LEU:HD23 | 2.20 | 0.42 |
| 1:I:921:SER:HB3 | 1:I:966:ASP:OD2 | 2.19 | 0.42 |
| 1:I:939:ARG:HD3 | 1:K:701:TYR:O | 2.19 | 0.42 |
| 1:K:489:LYS:HG3 | 1:K:491:PHE:CE1 | 2.55 | 0.42 |
| 1:A:1014:TRP:CD1 | 1:A:1019:GLY:HA2 | 2.55 | 0.41 |
| 1:C:591:LEU:HD12 | 1:C:596:LEU:CD2 | 2.48 | 0.41 |
| 1:C:744:THR:HG22 | 1:C:745:SER:N | 2.35 | 0.41 |
| 1:C:887:MET:HG3 | 1:C:966:ASP:OD2 | 2.20 | 0.41 |
| 1:E:110:PHE:CE2 | 1:E:121:ILE:HG13 | 2.55 | 0.41 |
| 1:K:687:LEU:HD22 | 1:K:719:ARG:NH2 | 2.35 | 0.41 |
| 1:K:780:LYS:CE | 3:K:1214:HOH:O | 2.67 | 0.41 |
| 1:A:91:ARG:HG3 | 1:A:91:ARG:HH21 | 1.84 | 0.41 |
| 1:A:410:MET:HG2 | 1:A:421:VAL:HG22 | 2.01 | 0.41 |
| 1:A:591:LEU:HD12 | 1:A:596:LEU:CD2 | 2.48 | 0.41 |
| 1:E:287:PHE:CE1 | 1:E:294:TYR:HB2 | 2.55 | 0.41 |
| 1:E:367:VAL:CG1 | 1:E:375:VAL:HG21 | 2.50 | 0.41 |
| 1:E:677:PRO:HD2 | 1:K:827:GLU:O | 2.21 | 0.41 |
| 1:I:530:ASN:ND2 | 1:I:531:PHE:N | 2.64 | 0.41 |
| 1:K:403:ASN:HD22 | 1:K:405:GLY:H | 1.67 | 0.41 |
| 1:K:480:ILE:N | 1:K:494:THR:CG2 | 2.67 | 0.41 |
| 1:K:586:ARG:HH21 | 2:L:1204:GLN:HB3 | 1.84 | 0.41 |
| 1:A:57:CYS:HB3 | 1:A:62:TRP:NE1 | 2.35 | 0.41 |
| 1:A:195:ASN:O | 1:A:231:HIS:HE1 | 2.03 | 0.41 |
| 1:A:225:ILE:HG13 | 1:A:226:VAL:HG23 | 2.02 | 0.41 |
| 1:A:703:ASN:HD22 | 1:A:704:GLU:N | 2.18 | 0.41 |
| 1:C:225:ILE:HG13 | 1:C:226:VAL:HG23 | 2.02 | 0.41 |
| 1:E:401:GLU:CD | 1:E:401:GLU:N | 2.73 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:E:406:ASN:O | 1:E:423:ASN:HA | 2.20 | 0.41 |
| 1:E:618:VAL:HG21 | 1:E:631:GLU:HG3 | 2.02 | 0.41 |
| 1:E:872:HIS:CE1 | 1:E:902:GLU:OE1 | 2.72 | 0.41 |
| 1:E:988:TRP:CZ3 | 1:E:990:GLY:HA3 | 2.55 | 0.41 |
| 1:G:300:THR:O | 1:G:300:THR:HG22 | 2.19 | 0.41 |
| 1:G:387:LEU:HD12 | 1:G:400:PHE:CE1 | 2.55 | 0.41 |
| 1:G:929:MET:CE | 3:G:1084:HOH:O | 2.67 | 0.41 |
| 1:I:61:LEU:HB3 | 1:I:75:VAL:CG1 | 2.49 | 0.41 |
| 1:I:92:LYS:HA | 1:I:111:TYR:O | 2.21 | 0.41 |
| 1:A:586:ARG:HH21 | 2:B:1204:GLN:HB3 | 1.85 | 0.41 |
| 1:C:579:ASN:HA | 3:C:1171:HOH:O | 2.20 | 0.41 |
| 1:E:53:ILE:HG23 | 1:E:286:LEU:CD2 | 2.45 | 0.41 |
| 1:G:178:GLY:HA3 | 1:G:1040:TYR:CD1 | 2.56 | 0.41 |
| 1:G:360:GLU:HG3 | 1:G:377:PHE:CZ | 2.56 | 0.41 |
| 1:G:498:SER:OG | 1:G:518:ARG:HG2 | 2.21 | 0.41 |
| 1:I:469:HIS:CE1 | 1:K:901:ASN:HB3 | 2.55 | 0.41 |
| 1:I:981:LYS:HA | 1:I:981:LYS:HD3 | 1.87 | 0.41 |
| 1:K:234:SER:CB | 1:K:278:LEU:H | 2.33 | 0.41 |
| 1:K:272:ASP:O | 1:K:717:LYS:HE2 | 2.21 | 0.41 |
| 1:K:781:ALA:CB | 1:K:802:PRO:HG2 | 2.50 | 0.41 |
| 1:K:965:SER:C | 1:K:967:GLY:N | 2.72 | 0.41 |
| 1:A:591:LEU:CD1 | 1:A:662:LEU:HD21 | 2.50 | 0.41 |
| 1:A:909:ILE:HG12 | 1:A:956:ILE:HG21 | 1.99 | 0.41 |
| 1:A:948:THR:H | 1:C:922:GLN:NE2 | 2.17 | 0.41 |
| 1:C:367:VAL:CG1 | 1:C:375:VAL:HG21 | 2.50 | 0.41 |
| 1:C:467:LEU:HD11 | 1:C:496:GLU:HB2 | 2.03 | 0.41 |
| 1:C:568:LEU:N | 1:C:568:LEU:HD23 | 2.35 | 0.41 |
| 1:C:829:ALA:HA | 1:C:851:ILE:HG22 | 2.02 | 0.41 |
| 1:E:253:GLN:HA | 1:E:253:GLN:HE21 | 1.85 | 0.41 |
| 1:E:327:GLU:O | 1:E:328:ASP:O | 2.38 | 0.41 |
| 1:E:994:ILE:HG22 | 1:E:1008:GLN:O | 2.19 | 0.41 |
| 1:E:1045:ASP:HB3 | 1:E:1048:ILE:HG22 | 2.03 | 0.41 |
| 1:G:73:LYS:HD3 | 1:G:76:SER:CB | 2.45 | 0.41 |
| 1:G:887:MET:HG3 | 1:G:966:ASP:OD2 | 2.21 | 0.41 |
| 1:K:224:LYS:HD2 | 1:K:227:ASP:HB2 | 2.02 | 0.41 |
| 1:K:363:ARG:HD3 | 1:K:363:ARG:HA | 1.51 | 0.41 |
| 1:K:369:ARG:NH2 | 3:K:1160:HOH:O | 2.53 | 0.41 |
| 1:A:809:ASP:HA | 1:A:815:VAL:HG22 | 2.03 | 0.41 |
| 1:A:965:SER:O | 1:A:968:ASP:HB2 | 2.21 | 0.41 |
| 1:C:327:GLU:HG3 | 1:C:340:VAL:HG12 | 2.02 | 0.41 |
| 1:C:579:ASN:HD22 | 1:C:627:ARG:NH2 | 2.17 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:C:840:LYS:O | 1:C:843:ASP:HB2 | 2.21 | 0.41 |
| 1:E:360:GLU:OE2 | 1:E:361:PRO:HD2 | 2.20 | 0.41 |
| 1:E:469:HIS:CE1 | 1:G:901:ASN:HB3 | 2.56 | 0.41 |
| 1:G:649:MET:HE3 | 1:G:649:MET:HB2 | 1.79 | 0.41 |
| 1:G:977:LEU:HB3 | 3:G:1084:HOH:O | 2.21 | 0.41 |
| 1:I:48:ILE:HG12 | 1:I:49:HIS:N | 2.36 | 0.41 |
| 1:I:167:ASN:HB2 | 1:I:170:ILE:CB | 2.43 | 0.41 |
| 1:I:633:LYS:HE2 | 1:I:633:LYS:HB2 | 1.82 | 0.41 |
| 1:I:809:ASP:HA | 1:I:815:VAL:HG22 | 2.02 | 0.41 |
| 1:A:541:VAL:CG2 | 1:A:542:ILE:N | 2.84 | 0.41 |
| 1:A:622:TYR:OH | 1:A:627:ARG:HG2 | 2.21 | 0.41 |
| 1:C:53:ILE:HG23 | 1:C:286:LEU:CD2 | 2.47 | 0.41 |
| 1:C:153:MET:HB2 | 1:C:153:MET:HE2 | 1.93 | 0.41 |
| 1:C:268:THR:HG22 | 1:C:303:ILE:CD1 | 2.51 | 0.41 |
| 1:E:54:ILE:HA | 1:E:62:TRP:O | 2.21 | 0.41 |
| 1:E:226:VAL:CG1 | 1:E:228:MET:HE3 | 2.51 | 0.41 |
| 1:E:515:LEU:HD23 | 1:E:539:PRO:HA | 2.02 | 0.41 |
| 1:E:534:GLU:HG3 | 1:G:534:GLU:OE2 | 2.21 | 0.41 |
| 1:E:885:PRO:CG | 1:E:890:MET:HG2 | 2.51 | 0.41 |
| 1:G:344:GLN:OE1 | 1:G:357:LYS:HE3 | 2.21 | 0.41 |
| 1:G:501:TYR:N | 1:G:501:TYR:CD2 | 2.88 | 0.41 |
| 1:G:569:ASN:HA | 3:G:1137:HOH:O | 2.20 | 0.41 |
| 1:G:703:ASN:C | 1:G:703:ASN:ND2 | 2.67 | 0.41 |
| 1:I:501:TYR:CD2 | 1:I:501:TYR:N | 2.88 | 0.41 |
| 1:I:676:ARG:HA | 1:I:677:PRO:HD3 | 1.90 | 0.41 |
| 1:K:99:ARG:NH1 | 3:K:1135:HOH:O | 2.51 | 0.41 |
| 1:K:744:THR:HG22 | 1:K:745:SER:N | 2.36 | 0.41 |
| 1:A:53:ILE:CG2 | 1:A:286:LEU:HD21 | 2.49 | 0.41 |
| 1:A:236:VAL:HG23 | 1:A:243:TYR:HB2 | 2.02 | 0.41 |
| 1:A:555:VAL:HG13 | 1:I:354:TYR:CE2 | 2.56 | 0.41 |
| 1:A:635:ASN:HB3 | 1:A:653:ASP:OD1 | 2.21 | 0.41 |
| 1:C:641:LEU:HD22 | 1:C:645:ARG:HA | 2.01 | 0.41 |
| 1:G:823:ARG:O | 1:G:826:SER:HB3 | 2.20 | 0.41 |
| 1:I:190:ARG:HH21 | 1:I:222:PHE:HZ | 1.68 | 0.41 |
| 1:I:234:SER:CB | 1:I:278:LEU:H | 2.34 | 0.41 |
| 1:I:296:PHE:HD1 | 1:I:303:ILE:HG12 | 1.85 | 0.41 |
| 1:A:178:GLY:HA3 | 1:A:1040:TYR:CD1 | 2.55 | 0.41 |
| 1:A:387:LEU:HD12 | 1:A:400:PHE:CE1 | 2.56 | 0.41 |
| 1:A:423:ASN:ND2 | 1:A:427:GLU:H | 2.19 | 0.41 |
| 1:A:1048:ILE:O | 1:A:1052:ILE:HG13 | 2.21 | 0.41 |
| 1:C:92:LYS:HA | 1:C:111:TYR:O | 2.21 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:C:295:ILE:O | 1:C:303:ILE:HA | 2.20 | 0.41 |
| 1:C:809:ASP:HA | 1:C:815:VAL:HG22 | 2.03 | 0.41 |
| 1:E:253:GLN:NE2 | 1:E:268:THR:OG1 | 2.51 | 0.41 |
| 1:E:351:SER:O | 1:E:672:GLU:HB2 | 2.21 | 0.41 |
| 1:E:639:LEU:C | 1:E:639:LEU:HD23 | 2.41 | 0.41 |
| 1:E:746:HIS:CE1 | 3:E:1083:HOH:O | 2.73 | 0.41 |
| 1:E:885:PRO:O | 1:E:915:ASN:HA | 2.21 | 0.41 |
| 1:G:48:ILE:HG12 | 1:G:49:HIS:N | 2.34 | 0.41 |
| 1:G:135:THR:HA | 1:G:149:SER:O | 2.21 | 0.41 |
| 1:G:312:GLU:HG2 | 1:G:314:PRO:HD3 | 2.02 | 0.41 |
| 1:G:337:ILE:HD13 | 1:G:350:VAL:HG12 | 2.03 | 0.41 |
| 1:G:452:PHE:HB3 | 1:G:463:TYR:HB3 | 2.02 | 0.41 |
| 1:I:319:ILE:CG2 | 1:I:677:PRO:HB3 | 2.51 | 0.41 |
| 1:I:469:HIS:ND1 | 1:K:901:ASN:HB3 | 2.36 | 0.41 |
| 1:I:841:GLY:C | 1:I:843:ASP:H | 2.25 | 0.41 |
| 1:K:958:ILE:HD11 | 1:K:1051:ALA:CB | 2.50 | 0.41 |
| 1:A:218:ASN:O | 1:A:219:SER:C | 2.59 | 0.41 |
| 1:C:131:ARG:HH21 | 1:C:131:ARG:HG2 | 1.86 | 0.41 |
| 1:C:676:ARG:HA | 1:C:677:PRO:HD3 | 1.94 | 0.41 |
| 1:C:781:ALA:CB | 1:C:802:PRO:HG2 | 2.50 | 0.41 |
| 1:E:98:MET:HE3 | 1:E:103:LEU:HD13 | 2.03 | 0.41 |
| 1:E:204:GLY:O | 1:E:206:ARG:HG3 | 2.21 | 0.41 |
| 1:G:307:GLU:HA | 1:G:307:GLU:OE2 | 2.21 | 0.41 |
| 1:I:294:TYR:CE2 | 1:I:305:LYS:HB2 | 2.55 | 0.41 |
| 1:I:367:VAL:HG12 | 1:I:375:VAL:CG2 | 2.51 | 0.41 |
| 1:I:374:LYS:HG3 | 3:I:1210:HOH:O | 2.20 | 0.41 |
| 1:I:410:MET:HG2 | 1:I:421:VAL:HG22 | 2.03 | 0.41 |
| 1:K:205:TYR:HA | 1:K:1024:ASN:HD21 | 1.85 | 0.41 |
| 1:K:332:LEU:HD11 | 1:K:338:ALA:HB2 | 2.03 | 0.41 |
| 1:K:367:VAL:CG1 | 1:K:375:VAL:HG21 | 2.51 | 0.41 |
| 1:K:618:VAL:HG21 | 1:K:631:GLU:HG3 | 2.02 | 0.41 |
| 1:A:59:ASP:HB3 | 1:A:80:VAL:HA | 2.03 | 0.40 |
| 1:A:73:LYS:HD3 | 1:A:76:SER:CB | 2.43 | 0.40 |
| 1:A:184:LEU:HD13 | 1:A:237:ILE:HG13 | 2.02 | 0.40 |
| 1:A:401:GLU:CD | 1:A:401:GLU:N | 2.75 | 0.40 |
| 1:A:957:ALA:HB3 | 1:A:982:LEU:HD12 | 2.03 | 0.40 |
| 1:C:141:ASP:OD2 | 1:C:141:ASP:C | 2.60 | 0.40 |
| 1:E:296:PHE:HD1 | 1:E:303:ILE:HG12 | 1.86 | 0.40 |
| 1:E:649:MET:HE3 | 1:E:649:MET:HB2 | 1.81 | 0.40 |
| 1:E:780:LYS:CE | 3:E:1130:HOH:O | 2.69 | 0.40 |
| 1:G:190:ARG:HH21 | 1:G:222:PHE:HZ | 1.70 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:I:228:MET:HE1 | 1:I:244:PHE:CE1 | 2.57 | 0.40 |
| 1:I:965:SER:C | 1:I:967:GLY:N | 2.74 | 0.40 |
| 1:I:994:ILE:HG22 | 1:I:1008:GLN:O | 2.21 | 0.40 |
| 1:K:87:PHE:HB3 | 1:K:88:PRO:CD | 2.45 | 0.40 |
| 1:K:423:ASN:ND2 | 1:K:427:GLU:H | 2.19 | 0.40 |
| 1:K:956:ILE:O | 1:K:956:ILE:HG23 | 2.21 | 0.40 |
| 1:A:390:TYR:CD1 | 1:A:397:ALA:HB2 | 2.53 | 0.40 |
| 1:A:442:GLU:OE2 | 1:A:481:HIS:HD2 | 2.03 | 0.40 |
| 1:A:905:TYR:HB2 | 3:A:1180:HOH:O | 2.21 | 0.40 |
| 1:A:1055:LEU:O | 1:A:1059:LEU:HD13 | 2.20 | 0.40 |
| 1:C:480:ILE:H | 1:C:494:THR:HG21 | 1.81 | 0.40 |
| 1:C:538:LYS:HG2 | 1:C:539:PRO:HD2 | 2.03 | 0.40 |
| 1:C:823:ARG:O | 1:C:826:SER:HB3 | 2.21 | 0.40 |
| 1:G:525:ASP:HB3 | 1:G:528:VAL:O | 2.21 | 0.40 |
| 1:G:635:ASN:HB3 | 1:G:653:ASP:OD1 | 2.22 | 0.40 |
| 1:I:387:LEU:HB2 | 1:I:404:LEU:HD11 | 2.03 | 0.40 |
| 1:I:417:LYS:HE3 | 1:I:417:LYS:HB2 | 1.99 | 0.40 |
| 1:I:428:ILE:HG22 | 1:I:442:GLU:O | 2.21 | 0.40 |
| 1:I:487:GLY:HA3 | 1:I:489:LYS:NZ | 2.36 | 0.40 |
| 1:K:204:GLY:O | 1:K:206:ARG:HG3 | 2.21 | 0.40 |
| 1:K:367:VAL:HG12 | 1:K:375:VAL:HG21 | 2.03 | 0.40 |
| 1:K:1014:TRP:CD1 | 1:K:1019:GLY:HA2 | 2.56 | 0.40 |
| 1:C:530:ASN:ND2 | 1:C:531:PHE:N | 2.66 | 0.40 |
| 1:C:633:LYS:HB2 | 1:C:633:LYS:HE2 | 1.81 | 0.40 |
| 1:E:202:TRP:CH2 | 1:E:745:SER:HB3 | 2.56 | 0.40 |
| 1:G:201:HIS:HB3 | 1:G:736:VAL:HG13 | 2.02 | 0.40 |
| 1:G:482:VAL:HG23 | 1:G:493:ALA:HB2 | 2.02 | 0.40 |
| 1:G:956:ILE:CG2 | 1:G:956:ILE:O | 2.70 | 0.40 |
| 1:G:1052:ILE:O | 1:G:1056:ILE:HG13 | 2.21 | 0.40 |
| 1:A:190:ARG:HH21 | 1:A:222:PHE:HZ | 1.69 | 0.40 |
| 1:A:279:ASN:HD22 | 1:A:279:ASN:HA | 1.79 | 0.40 |
| 1:A:579:ASN:HD22 | 1:A:627:ARG:NH2 | 2.20 | 0.40 |
| 1:A:633:LYS:HE2 | 1:A:633:LYS:HB2 | 1.87 | 0.40 |
| 1:C:881:TYR:O | 1:C:898:LEU:HD23 | 2.20 | 0.40 |
| 1:G:319:ILE:CG2 | 1:G:677:PRO:HB3 | 2.48 | 0.40 |
| 1:G:378:ILE:HD13 | 1:G:378:ILE:HA | 1.91 | 0.40 |
| 1:G:401:GLU:CD | 1:G:401:GLU:N | 2.75 | 0.40 |
| 1:G:424:ASP:OD2 | 3:G:1076:HOH:O | 2.22 | 0.40 |
| 1:G:566:TYR:O | 3:G:1157:HOH:O | 2.22 | 0.40 |
| 1:G:579:ASN:HD22 | 1:G:627:ARG:NH2 | 2.20 | 0.40 |
| 1:K:294:TYR:CE2 | 1:K:305:LYS:HB2 | 2.57 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:K:766:ALA:HA | 1:K:855:ASP:OD1 | 2.20 | 0.40 |
| 1:K:1036:ALA:O | 1:K:1039:ASP:HB2 | 2.20 | 0.40 |
| 1:A:153:MET:O | 3:A:1130:HOH:O | 2.21 | 0.40 |
| 1:A:417:LYS:HE3 | 1:A:417:LYS:HB2 | 1.99 | 0.40 |
| 1:A:645:ARG:HH21 | 1:A:645:ARG:HG3 | 1.86 | 0.40 |
| 1:C:91:ARG:HG3 | 1:C:91:ARG:HH21 | 1.86 | 0.40 |
| 1:C:226:VAL:CG1 | 1:C:228:MET:HE3 | 2.52 | 0.40 |
| 1:C:319:ILE:CG2 | 1:C:677:PRO:HB3 | 2.51 | 0.40 |
| 1:E:694:TRP:HA | 1:E:738:MET:HE1 | 2.04 | 0.40 |
| 1:E:776:TYR:CZ | 1:E:821:ILE:HG22 | 2.57 | 0.40 |
| 1:E:982:LEU:C | 1:E:983:ILE:HD12 | 2.42 | 0.40 |
| 1:G:131:ARG:HG2 | 1:G:131:ARG:NH2 | 2.37 | 0.40 |
| 1:G:374:LYS:HG3 | 3:G:1165:HOH:O | 2.21 | 0.40 |
| 1:G:462:ALA:HA | 1:G:481:HIS:O | 2.22 | 0.40 |
| 1:G:913:ARG:HD3 | 1:G:958:ILE:HG22 | 2.03 | 0.40 |
| 1:G:1055:LEU:O | 1:G:1059:LEU:HD13 | 2.22 | 0.40 |
| 1:I:177:LEU:HD13 | 1:I:192:ILE:HD11 | 2.03 | 0.40 |
| 1:I:351:SER:O | 1:I:672:GLU:HB2 | 2.22 | 0.40 |
| 1:I:922:GLN:HB3 | 1:K:946:TYR:CE1 | 2.56 | 0.40 |
| 1:K:54:ILE:HA | 1:K:62:TRP:O | 2.21 | 0.40 |
| 1:K:253:GLN:HG3 | 1:K:266:LYS:HE2 | 2.04 | 0.40 |
| 1:K:1024:ASN:HD22 | 1:K:1024:ASN:HA | 1.68 | 0.40 |

All (2) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---------------|------------------------|--------------------------|-------------------|
| 1:A:167:ASN:N | 1:I:143:ASP:OD2[2_545] | 2.06 | 0.14 |
| 1:C:167:ASN:N | 1:G:143:ASP:OD2[2_455] | 2.12 | 0.08 |

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

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

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|-----------------|------------|----------|----------|-------------|-----|
| 1 | A | 1021/1071 (95%) | 948 (93%) | 67 (7%) | 6 (1%) | 25 | 47 |
| 1 | C | 1021/1071 (95%) | 947 (93%) | 66 (6%) | 8 (1%) | 19 | 39 |
| 1 | E | 1021/1071 (95%) | 950 (93%) | 63 (6%) | 8 (1%) | 19 | 39 |
| 1 | G | 1021/1071 (95%) | 950 (93%) | 63 (6%) | 8 (1%) | 19 | 39 |
| 1 | I | 1021/1071 (95%) | 949 (93%) | 64 (6%) | 8 (1%) | 19 | 39 |
| 1 | K | 1021/1071 (95%) | 947 (93%) | 66 (6%) | 8 (1%) | 19 | 39 |
| 2 | B | 9/14 (64%) | 4 (44%) | 5 (56%) | 0 | 100 | 100 |
| 2 | D | 9/14 (64%) | 4 (44%) | 5 (56%) | 0 | 100 | 100 |
| 2 | F | 9/14 (64%) | 6 (67%) | 3 (33%) | 0 | 100 | 100 |
| 2 | H | 9/14 (64%) | 5 (56%) | 4 (44%) | 0 | 100 | 100 |
| 2 | J | 9/14 (64%) | 6 (67%) | 3 (33%) | 0 | 100 | 100 |
| 2 | L | 9/14 (64%) | 5 (56%) | 4 (44%) | 0 | 100 | 100 |
| All | All | 6180/6510 (95%) | 5721 (93%) | 413 (7%) | 46 (1%) | 22 | 43 |

All (46) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 1 | A | 219 | SER |
| 1 | C | 219 | SER |
| 1 | E | 219 | SER |
| 1 | E | 1018 | ALA |
| 1 | G | 219 | SER |
| 1 | G | 1018 | ALA |
| 1 | I | 219 | SER |
| 1 | K | 219 | SER |
| 1 | A | 328 | ASP |
| 1 | A | 1018 | ALA |
| 1 | C | 328 | ASP |
| 1 | C | 1018 | ALA |
| 1 | I | 1018 | ALA |
| 1 | K | 1018 | ALA |
| 1 | E | 328 | ASP |
| 1 | E | 562 | GLU |
| 1 | G | 328 | ASP |
| 1 | G | 363 | ARG |
| 1 | I | 328 | ASP |
| 1 | I | 363 | ARG |
| 1 | I | 562 | GLU |
| 1 | I | 579 | ASN |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | K | 328 | ASP |
| 1 | K | 562 | GLU |
| 1 | A | 363 | ARG |
| 1 | A | 562 | GLU |
| 1 | C | 259 | LEU |
| 1 | C | 363 | ARG |
| 1 | C | 562 | GLU |
| 1 | E | 259 | LEU |
| 1 | E | 363 | ARG |
| 1 | G | 562 | GLU |
| 1 | G | 579 | ASN |
| 1 | G | 919 | PHE |
| 1 | K | 259 | LEU |
| 1 | A | 919 | PHE |
| 1 | C | 919 | PHE |
| 1 | E | 715 | TYR |
| 1 | E | 919 | PHE |
| 1 | G | 259 | LEU |
| 1 | I | 715 | TYR |
| 1 | K | 363 | ARG |
| 1 | K | 919 | PHE |
| 1 | C | 820 | ASN |
| 1 | I | 919 | PHE |
| 1 | K | 715 | TYR |

5.3.2 Protein sidechains [i](#)

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

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

| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|---------------|-----------|----------|-------------|----|
| 1 | A | 883/928 (95%) | 846 (96%) | 37 (4%) | 30 | 55 |
| 1 | C | 883/928 (95%) | 846 (96%) | 37 (4%) | 30 | 55 |
| 1 | E | 883/928 (95%) | 844 (96%) | 39 (4%) | 28 | 53 |
| 1 | G | 883/928 (95%) | 845 (96%) | 38 (4%) | 29 | 54 |
| 1 | I | 883/928 (95%) | 845 (96%) | 38 (4%) | 29 | 54 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|-----------------|------------|----------|-------------|----|
| 1 | K | 883/928 (95%) | 848 (96%) | 35 (4%) | 31 | 57 |
| 2 | B | 8/10 (80%) | 6 (75%) | 2 (25%) | 0 | 1 |
| 2 | D | 8/10 (80%) | 6 (75%) | 2 (25%) | 0 | 1 |
| 2 | F | 8/10 (80%) | 6 (75%) | 2 (25%) | 0 | 1 |
| 2 | H | 8/10 (80%) | 6 (75%) | 2 (25%) | 0 | 1 |
| 2 | J | 8/10 (80%) | 6 (75%) | 2 (25%) | 0 | 1 |
| 2 | L | 8/10 (80%) | 6 (75%) | 2 (25%) | 0 | 1 |
| All | All | 5346/5628 (95%) | 5110 (96%) | 236 (4%) | 28 | 53 |

All (236) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | A | 44 | LEU |
| 1 | A | 59 | ASP |
| 1 | A | 61 | LEU |
| 1 | A | 75 | VAL |
| 1 | A | 82 | ASN |
| 1 | A | 183 | ILE |
| 1 | A | 209 | THR |
| 1 | A | 279 | ASN |
| 1 | A | 297 | ASN |
| 1 | A | 311 | LEU |
| 1 | A | 353 | THR |
| 1 | A | 363 | ARG |
| 1 | A | 368 | ARG |
| 1 | A | 403 | ASN |
| 1 | A | 417 | LYS |
| 1 | A | 423 | ASN |
| 1 | A | 428 | ILE |
| 1 | A | 481 | HIS |
| 1 | A | 562 | GLU |
| 1 | A | 578 | ILE |
| 1 | A | 641 | LEU |
| 1 | A | 651 | ARG |
| 1 | A | 683 | HIS |
| 1 | A | 703 | ASN |
| 1 | A | 731 | LEU |
| 1 | A | 738 | MET |
| 1 | A | 771 | LEU |
| 1 | A | 847 | LEU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | A | 856 | ARG |
| 1 | A | 929 | MET |
| 1 | A | 937 | ASN |
| 1 | A | 956 | ILE |
| 1 | A | 965 | SER |
| 1 | A | 1008 | GLN |
| 1 | A | 1015 | PHE |
| 1 | A | 1024 | ASN |
| 1 | A | 1035 | TYR |
| 2 | B | 1204 | GLN |
| 2 | B | 1210 | LEU |
| 1 | C | 44 | LEU |
| 1 | C | 59 | ASP |
| 1 | C | 61 | LEU |
| 1 | C | 75 | VAL |
| 1 | C | 82 | ASN |
| 1 | C | 183 | ILE |
| 1 | C | 209 | THR |
| 1 | C | 279 | ASN |
| 1 | C | 297 | ASN |
| 1 | C | 311 | LEU |
| 1 | C | 353 | THR |
| 1 | C | 363 | ARG |
| 1 | C | 368 | ARG |
| 1 | C | 403 | ASN |
| 1 | C | 417 | LYS |
| 1 | C | 423 | ASN |
| 1 | C | 428 | ILE |
| 1 | C | 481 | HIS |
| 1 | C | 562 | GLU |
| 1 | C | 578 | ILE |
| 1 | C | 641 | LEU |
| 1 | C | 651 | ARG |
| 1 | C | 683 | HIS |
| 1 | C | 703 | ASN |
| 1 | C | 731 | LEU |
| 1 | C | 738 | MET |
| 1 | C | 771 | LEU |
| 1 | C | 809 | ASP |
| 1 | C | 847 | LEU |
| 1 | C | 856 | ARG |
| 1 | C | 929 | MET |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | C | 937 | ASN |
| 1 | C | 956 | ILE |
| 1 | C | 1008 | GLN |
| 1 | C | 1015 | PHE |
| 1 | C | 1024 | ASN |
| 1 | C | 1035 | TYR |
| 2 | D | 1204 | GLN |
| 2 | D | 1210 | LEU |
| 1 | E | 44 | LEU |
| 1 | E | 59 | ASP |
| 1 | E | 61 | LEU |
| 1 | E | 75 | VAL |
| 1 | E | 82 | ASN |
| 1 | E | 183 | ILE |
| 1 | E | 209 | THR |
| 1 | E | 279 | ASN |
| 1 | E | 295 | ILE |
| 1 | E | 297 | ASN |
| 1 | E | 353 | THR |
| 1 | E | 363 | ARG |
| 1 | E | 368 | ARG |
| 1 | E | 403 | ASN |
| 1 | E | 417 | LYS |
| 1 | E | 423 | ASN |
| 1 | E | 428 | ILE |
| 1 | E | 481 | HIS |
| 1 | E | 562 | GLU |
| 1 | E | 578 | ILE |
| 1 | E | 641 | LEU |
| 1 | E | 651 | ARG |
| 1 | E | 683 | HIS |
| 1 | E | 703 | ASN |
| 1 | E | 731 | LEU |
| 1 | E | 738 | MET |
| 1 | E | 771 | LEU |
| 1 | E | 809 | ASP |
| 1 | E | 819 | SER |
| 1 | E | 847 | LEU |
| 1 | E | 874 | ARG |
| 1 | E | 929 | MET |
| 1 | E | 937 | ASN |
| 1 | E | 938 | PRO |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | E | 956 | ILE |
| 1 | E | 1008 | GLN |
| 1 | E | 1015 | PHE |
| 1 | E | 1024 | ASN |
| 1 | E | 1035 | TYR |
| 2 | F | 1204 | GLN |
| 2 | F | 1210 | LEU |
| 1 | G | 44 | LEU |
| 1 | G | 59 | ASP |
| 1 | G | 61 | LEU |
| 1 | G | 75 | VAL |
| 1 | G | 82 | ASN |
| 1 | G | 104 | ASN |
| 1 | G | 183 | ILE |
| 1 | G | 209 | THR |
| 1 | G | 279 | ASN |
| 1 | G | 295 | ILE |
| 1 | G | 297 | ASN |
| 1 | G | 353 | THR |
| 1 | G | 363 | ARG |
| 1 | G | 368 | ARG |
| 1 | G | 403 | ASN |
| 1 | G | 417 | LYS |
| 1 | G | 423 | ASN |
| 1 | G | 428 | ILE |
| 1 | G | 481 | HIS |
| 1 | G | 496 | GLU |
| 1 | G | 548 | SER |
| 1 | G | 562 | GLU |
| 1 | G | 578 | ILE |
| 1 | G | 641 | LEU |
| 1 | G | 651 | ARG |
| 1 | G | 703 | ASN |
| 1 | G | 731 | LEU |
| 1 | G | 738 | MET |
| 1 | G | 809 | ASP |
| 1 | G | 847 | LEU |
| 1 | G | 929 | MET |
| 1 | G | 937 | ASN |
| 1 | G | 938 | PRO |
| 1 | G | 956 | ILE |
| 1 | G | 1008 | GLN |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | G | 1015 | PHE |
| 1 | G | 1024 | ASN |
| 1 | G | 1035 | TYR |
| 2 | H | 1204 | GLN |
| 2 | H | 1210 | LEU |
| 1 | I | 44 | LEU |
| 1 | I | 59 | ASP |
| 1 | I | 61 | LEU |
| 1 | I | 75 | VAL |
| 1 | I | 82 | ASN |
| 1 | I | 183 | ILE |
| 1 | I | 209 | THR |
| 1 | I | 279 | ASN |
| 1 | I | 295 | ILE |
| 1 | I | 297 | ASN |
| 1 | I | 353 | THR |
| 1 | I | 363 | ARG |
| 1 | I | 368 | ARG |
| 1 | I | 403 | ASN |
| 1 | I | 417 | LYS |
| 1 | I | 423 | ASN |
| 1 | I | 428 | ILE |
| 1 | I | 481 | HIS |
| 1 | I | 496 | GLU |
| 1 | I | 548 | SER |
| 1 | I | 562 | GLU |
| 1 | I | 578 | ILE |
| 1 | I | 641 | LEU |
| 1 | I | 651 | ARG |
| 1 | I | 703 | ASN |
| 1 | I | 731 | LEU |
| 1 | I | 738 | MET |
| 1 | I | 771 | LEU |
| 1 | I | 809 | ASP |
| 1 | I | 847 | LEU |
| 1 | I | 874 | ARG |
| 1 | I | 929 | MET |
| 1 | I | 937 | ASN |
| 1 | I | 956 | ILE |
| 1 | I | 1008 | GLN |
| 1 | I | 1015 | PHE |
| 1 | I | 1024 | ASN |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 1 | I | 1035 | TYR |
| 2 | J | 1204 | GLN |
| 2 | J | 1210 | LEU |
| 1 | K | 44 | LEU |
| 1 | K | 59 | ASP |
| 1 | K | 61 | LEU |
| 1 | K | 75 | VAL |
| 1 | K | 82 | ASN |
| 1 | K | 183 | ILE |
| 1 | K | 209 | THR |
| 1 | K | 279 | ASN |
| 1 | K | 297 | ASN |
| 1 | K | 353 | THR |
| 1 | K | 363 | ARG |
| 1 | K | 368 | ARG |
| 1 | K | 403 | ASN |
| 1 | K | 417 | LYS |
| 1 | K | 423 | ASN |
| 1 | K | 428 | ILE |
| 1 | K | 481 | HIS |
| 1 | K | 562 | GLU |
| 1 | K | 578 | ILE |
| 1 | K | 641 | LEU |
| 1 | K | 651 | ARG |
| 1 | K | 703 | ASN |
| 1 | K | 731 | LEU |
| 1 | K | 738 | MET |
| 1 | K | 809 | ASP |
| 1 | K | 847 | LEU |
| 1 | K | 874 | ARG |
| 1 | K | 929 | MET |
| 1 | K | 937 | ASN |
| 1 | K | 956 | ILE |
| 1 | K | 965 | SER |
| 1 | K | 1008 | GLN |
| 1 | K | 1015 | PHE |
| 1 | K | 1024 | ASN |
| 1 | K | 1035 | TYR |
| 2 | L | 1204 | GLN |
| 2 | L | 1210 | LEU |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (180) such sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 1 | A | 64 | HIS |
| 1 | A | 82 | ASN |
| 1 | A | 167 | ASN |
| 1 | A | 176 | ASN |
| 1 | A | 195 | ASN |
| 1 | A | 253 | GLN |
| 1 | A | 267 | HIS |
| 1 | A | 277 | HIS |
| 1 | A | 279 | ASN |
| 1 | A | 297 | ASN |
| 1 | A | 403 | ASN |
| 1 | A | 423 | ASN |
| 1 | A | 481 | HIS |
| 1 | A | 497 | ASN |
| 1 | A | 511 | ASN |
| 1 | A | 530 | ASN |
| 1 | A | 579 | ASN |
| 1 | A | 603 | HIS |
| 1 | A | 611 | GLN |
| 1 | A | 703 | ASN |
| 1 | A | 733 | ASN |
| 1 | A | 739 | GLN |
| 1 | A | 867 | ASN |
| 1 | A | 872 | HIS |
| 1 | A | 922 | GLN |
| 1 | A | 930 | ASN |
| 1 | A | 949 | ASN |
| 1 | A | 1008 | GLN |
| 1 | A | 1024 | ASN |
| 1 | A | 1038 | HIS |
| 1 | A | 1047 | GLN |
| 1 | C | 64 | HIS |
| 1 | C | 82 | ASN |
| 1 | C | 167 | ASN |
| 1 | C | 176 | ASN |
| 1 | C | 253 | GLN |
| 1 | C | 267 | HIS |
| 1 | C | 279 | ASN |
| 1 | C | 297 | ASN |
| 1 | C | 403 | ASN |
| 1 | C | 423 | ASN |
| 1 | C | 481 | HIS |
| 1 | C | 497 | ASN |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | C | 511 | ASN |
| 1 | C | 530 | ASN |
| 1 | C | 579 | ASN |
| 1 | C | 603 | HIS |
| 1 | C | 611 | GLN |
| 1 | C | 703 | ASN |
| 1 | C | 733 | ASN |
| 1 | C | 739 | GLN |
| 1 | C | 867 | ASN |
| 1 | C | 872 | HIS |
| 1 | C | 922 | GLN |
| 1 | C | 930 | ASN |
| 1 | C | 949 | ASN |
| 1 | C | 1008 | GLN |
| 1 | C | 1024 | ASN |
| 1 | C | 1038 | HIS |
| 1 | C | 1047 | GLN |
| 1 | E | 64 | HIS |
| 1 | E | 77 | ASN |
| 1 | E | 82 | ASN |
| 1 | E | 167 | ASN |
| 1 | E | 176 | ASN |
| 1 | E | 253 | GLN |
| 1 | E | 267 | HIS |
| 1 | E | 277 | HIS |
| 1 | E | 279 | ASN |
| 1 | E | 297 | ASN |
| 1 | E | 403 | ASN |
| 1 | E | 423 | ASN |
| 1 | E | 481 | HIS |
| 1 | E | 497 | ASN |
| 1 | E | 511 | ASN |
| 1 | E | 530 | ASN |
| 1 | E | 579 | ASN |
| 1 | E | 603 | HIS |
| 1 | E | 611 | GLN |
| 1 | E | 635 | ASN |
| 1 | E | 703 | ASN |
| 1 | E | 733 | ASN |
| 1 | E | 739 | GLN |
| 1 | E | 867 | ASN |
| 1 | E | 872 | HIS |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | E | 901 | ASN |
| 1 | E | 922 | GLN |
| 1 | E | 930 | ASN |
| 1 | E | 949 | ASN |
| 1 | E | 1008 | GLN |
| 1 | E | 1024 | ASN |
| 1 | E | 1038 | HIS |
| 1 | E | 1047 | GLN |
| 1 | G | 64 | HIS |
| 1 | G | 82 | ASN |
| 1 | G | 176 | ASN |
| 1 | G | 253 | GLN |
| 1 | G | 267 | HIS |
| 1 | G | 277 | HIS |
| 1 | G | 279 | ASN |
| 1 | G | 297 | ASN |
| 1 | G | 403 | ASN |
| 1 | G | 423 | ASN |
| 1 | G | 481 | HIS |
| 1 | G | 497 | ASN |
| 1 | G | 499 | HIS |
| 1 | G | 511 | ASN |
| 1 | G | 530 | ASN |
| 1 | G | 603 | HIS |
| 1 | G | 611 | GLN |
| 1 | G | 635 | ASN |
| 1 | G | 703 | ASN |
| 1 | G | 739 | GLN |
| 1 | G | 867 | ASN |
| 1 | G | 872 | HIS |
| 1 | G | 922 | GLN |
| 1 | G | 930 | ASN |
| 1 | G | 949 | ASN |
| 1 | G | 1008 | GLN |
| 1 | G | 1024 | ASN |
| 1 | G | 1038 | HIS |
| 1 | G | 1047 | GLN |
| 1 | I | 64 | HIS |
| 1 | I | 82 | ASN |
| 1 | I | 176 | ASN |
| 1 | I | 253 | GLN |
| 1 | I | 267 | HIS |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | I | 279 | ASN |
| 1 | I | 297 | ASN |
| 1 | I | 403 | ASN |
| 1 | I | 423 | ASN |
| 1 | I | 481 | HIS |
| 1 | I | 497 | ASN |
| 1 | I | 499 | HIS |
| 1 | I | 511 | ASN |
| 1 | I | 530 | ASN |
| 1 | I | 579 | ASN |
| 1 | I | 603 | HIS |
| 1 | I | 611 | GLN |
| 1 | I | 703 | ASN |
| 1 | I | 739 | GLN |
| 1 | I | 867 | ASN |
| 1 | I | 872 | HIS |
| 1 | I | 922 | GLN |
| 1 | I | 930 | ASN |
| 1 | I | 949 | ASN |
| 1 | I | 1008 | GLN |
| 1 | I | 1024 | ASN |
| 1 | I | 1038 | HIS |
| 1 | I | 1047 | GLN |
| 1 | K | 64 | HIS |
| 1 | K | 82 | ASN |
| 1 | K | 167 | ASN |
| 1 | K | 176 | ASN |
| 1 | K | 253 | GLN |
| 1 | K | 267 | HIS |
| 1 | K | 277 | HIS |
| 1 | K | 279 | ASN |
| 1 | K | 297 | ASN |
| 1 | K | 403 | ASN |
| 1 | K | 423 | ASN |
| 1 | K | 481 | HIS |
| 1 | K | 497 | ASN |
| 1 | K | 511 | ASN |
| 1 | K | 530 | ASN |
| 1 | K | 603 | HIS |
| 1 | K | 611 | GLN |
| 1 | K | 703 | ASN |
| 1 | K | 733 | ASN |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 1 | K | 739 | GLN |
| 1 | K | 867 | ASN |
| 1 | K | 872 | HIS |
| 1 | K | 901 | ASN |
| 1 | K | 922 | GLN |
| 1 | K | 930 | ASN |
| 1 | K | 949 | ASN |
| 1 | K | 1008 | GLN |
| 1 | K | 1024 | ASN |
| 1 | K | 1038 | HIS |
| 1 | K | 1047 | GLN |

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data [i](#)

6.1 Protein, DNA and RNA chains [i](#)

In the following table, the column labelled '#RSRZ > 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q < 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

| Mol | Chain | Analysed | <RSRZ> | #RSRZ>2 | OWAB(Å ²) | Q<0.9 |
|-----|-------|-----------------|--------|----------------|-----------------------|----------|
| 1 | A | 1023/1071 (95%) | -0.08 | 12 (1%) 79 76 | 16, 36, 58, 78 | 20 (1%) |
| 1 | C | 1023/1071 (95%) | -0.08 | 7 (0%) 87 86 | 17, 36, 58, 78 | 20 (1%) |
| 1 | E | 1023/1071 (95%) | 0.19 | 39 (3%) 40 33 | 20, 39, 59, 80 | 20 (1%) |
| 1 | G | 1023/1071 (95%) | -0.07 | 7 (0%) 87 86 | 20, 37, 58, 78 | 20 (1%) |
| 1 | I | 1023/1071 (95%) | -0.05 | 8 (0%) 86 84 | 20, 37, 58, 78 | 20 (1%) |
| 1 | K | 1023/1071 (95%) | 0.14 | 22 (2%) 62 56 | 20, 39, 59, 79 | 20 (1%) |
| 2 | B | 11/14 (78%) | 2.53 | 6 (54%) 0 0 | 52, 84, 96, 99 | 0 |
| 2 | D | 11/14 (78%) | 2.66 | 5 (45%) 0 0 | 52, 84, 96, 99 | 0 |
| 2 | F | 11/14 (78%) | 2.65 | 6 (54%) 0 0 | 53, 85, 97, 98 | 0 |
| 2 | H | 11/14 (78%) | 2.34 | 4 (36%) 0 0 | 52, 84, 96, 99 | 0 |
| 2 | J | 11/14 (78%) | 3.19 | 7 (63%) 0 0 | 52, 84, 96, 99 | 0 |
| 2 | L | 11/14 (78%) | 3.92 | 7 (63%) 0 0 | 54, 84, 96, 99 | 0 |
| All | All | 6204/6510 (95%) | 0.04 | 130 (2%) 63 58 | 16, 38, 60, 99 | 120 (1%) |

All (130) RSRZ outliers are listed below:

| Mol | Chain | Res | Type | RSRZ |
|-----|-------|------|------|------|
| 1 | I | 219 | SER | 12.1 |
| 1 | G | 219 | SER | 10.6 |
| 2 | J | 1203 | THR | 9.9 |
| 2 | L | 1203 | THR | 9.9 |
| 1 | C | 842 | GLY | 9.8 |
| 2 | H | 1203 | THR | 8.2 |
| 2 | L | 1208 | ALA | 8.0 |
| 2 | D | 1208 | ALA | 7.2 |
| 1 | A | 842 | GLY | 6.7 |
| 2 | F | 1203 | THR | 6.7 |
| 1 | I | 220 | GLY | 6.1 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|------|------|------|
| 2 | B | 1203 | THR | 6.0 |
| 2 | L | 1206 | ALA | 6.0 |
| 2 | D | 1203 | THR | 5.7 |
| 1 | E | 563 | ALA | 5.7 |
| 1 | G | 220 | GLY | 5.5 |
| 1 | E | 130 | GLY | 5.3 |
| 1 | E | 219 | SER | 5.2 |
| 2 | J | 1206 | ALA | 5.2 |
| 2 | J | 1205 | LYS | 5.2 |
| 1 | I | 1061 | ASN | 4.8 |
| 1 | E | 842 | GLY | 4.7 |
| 1 | G | 1061 | ASN | 4.7 |
| 2 | D | 1207 | ALA | 4.6 |
| 2 | B | 1208 | ALA | 4.6 |
| 1 | E | 840 | LYS | 4.5 |
| 1 | E | 838 | SER | 4.5 |
| 2 | J | 1207 | ALA | 4.5 |
| 1 | E | 841 | GLY | 4.4 |
| 1 | A | 167 | ASN | 4.3 |
| 1 | K | 219 | SER | 4.3 |
| 1 | G | 842 | GLY | 4.2 |
| 2 | L | 1207 | ALA | 4.2 |
| 1 | K | 563 | ALA | 4.1 |
| 2 | F | 1206 | ALA | 4.1 |
| 1 | E | 1061 | ASN | 4.0 |
| 1 | A | 434 | GLU | 4.0 |
| 1 | E | 843 | ASP | 3.9 |
| 1 | E | 110 | PHE | 3.9 |
| 1 | K | 220 | GLY | 3.9 |
| 2 | F | 1208 | ALA | 3.8 |
| 1 | A | 1061 | ASN | 3.8 |
| 1 | E | 238 | VAL | 3.8 |
| 1 | I | 563 | ALA | 3.7 |
| 2 | D | 1204 | GLN | 3.7 |
| 2 | F | 1205 | LYS | 3.7 |
| 2 | B | 1207 | ALA | 3.6 |
| 2 | L | 1204 | GLN | 3.6 |
| 1 | K | 110 | PHE | 3.5 |
| 1 | K | 434 | GLU | 3.5 |
| 1 | E | 318 | ILE | 3.5 |
| 1 | K | 133 | MET | 3.5 |
| 1 | C | 167 | ASN | 3.5 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 2 | L | 1205 | LYS | 3.4 |
| 1 | E | 131 | ARG | 3.4 |
| 1 | E | 168 | ASP | 3.4 |
| 2 | H | 1208 | ALA | 3.4 |
| 2 | H | 1207 | ALA | 3.3 |
| 1 | E | 777 | VAL | 3.3 |
| 1 | G | 563 | ALA | 3.3 |
| 1 | E | 433 | LEU | 3.2 |
| 1 | K | 168 | ASP | 3.2 |
| 1 | K | 114 | GLU | 3.0 |
| 1 | C | 563 | ALA | 3.0 |
| 1 | E | 220 | GLY | 2.9 |
| 1 | K | 1061 | ASN | 2.9 |
| 1 | C | 434 | GLU | 2.8 |
| 1 | K | 435 | THR | 2.8 |
| 1 | K | 67 | LYS | 2.8 |
| 2 | D | 1206 | ALA | 2.8 |
| 1 | E | 202 | TRP | 2.8 |
| 1 | I | 841 | GLY | 2.8 |
| 1 | G | 683 | HIS | 2.8 |
| 2 | F | 1209 | GLU | 2.8 |
| 1 | E | 839 | GLY | 2.7 |
| 1 | C | 841 | GLY | 2.7 |
| 1 | E | 113 | GLY | 2.7 |
| 1 | E | 812 | GLY | 2.6 |
| 2 | B | 1204 | GLN | 2.6 |
| 1 | A | 110 | PHE | 2.6 |
| 1 | E | 562 | GLU | 2.6 |
| 2 | J | 1204 | GLN | 2.6 |
| 1 | K | 236 | VAL | 2.6 |
| 2 | L | 1213 | PHE | 2.5 |
| 1 | K | 91 | ARG | 2.5 |
| 2 | F | 1204 | GLN | 2.5 |
| 1 | E | 299 | ASP | 2.5 |
| 1 | A | 557 | ARG | 2.5 |
| 1 | E | 845 | ARG | 2.5 |
| 1 | A | 839 | GLY | 2.4 |
| 1 | A | 563 | ALA | 2.4 |
| 1 | C | 716 | GLU | 2.4 |
| 2 | J | 1208 | ALA | 2.4 |
| 1 | E | 67 | LYS | 2.4 |
| 1 | K | 327 | GLU | 2.4 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|------|------|------|
| 1 | K | 722 | VAL | 2.3 |
| 1 | E | 315 | GLU | 2.3 |
| 1 | E | 237 | ILE | 2.3 |
| 1 | K | 382 | ARG | 2.3 |
| 1 | E | 147 | ILE | 2.3 |
| 1 | E | 50 | GLY | 2.2 |
| 1 | E | 173 | VAL | 2.2 |
| 2 | H | 1205 | LYS | 2.2 |
| 1 | E | 250 | GLY | 2.2 |
| 1 | G | 127 | LYS | 2.2 |
| 1 | A | 841 | GLY | 2.2 |
| 1 | K | 307 | GLU | 2.2 |
| 1 | A | 562 | GLU | 2.2 |
| 1 | E | 129 | THR | 2.2 |
| 2 | B | 1205 | LYS | 2.2 |
| 1 | A | 299 | ASP | 2.2 |
| 1 | K | 561 | SER | 2.1 |
| 2 | J | 1209 | GLU | 2.1 |
| 1 | E | 135 | THR | 2.1 |
| 1 | K | 126 | GLY | 2.1 |
| 2 | B | 1209 | GLU | 2.1 |
| 1 | A | 716 | GLU | 2.1 |
| 1 | I | 218 | ASN | 2.1 |
| 1 | K | 250 | GLY | 2.1 |
| 1 | K | 271 | THR | 2.0 |
| 1 | K | 311 | LEU | 2.0 |
| 1 | I | 683 | HIS | 2.0 |
| 1 | E | 434 | GLU | 2.0 |
| 1 | E | 561 | SER | 2.0 |
| 1 | E | 770 | LYS | 2.0 |
| 1 | E | 683 | HIS | 2.0 |
| 1 | E | 45 | ASN | 2.0 |
| 1 | E | 1017 | ASP | 2.0 |
| 1 | C | 110 | PHE | 2.0 |
| 1 | I | 91 | ARG | 2.0 |

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

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

6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.4 Ligands [i](#)

There are no ligands in this entry.

6.5 Other polymers [i](#)

There are no such residues in this entry.