



Full wwPDB X-ray Structure Validation Report ⓘ

Apr 28, 2025 – 09:12 PM EDT

PDB ID : 3BLW / pdb_00003blw
Title : Yeast Isocitrate Dehydrogenase with Citrate and AMP Bound in the Regulatory Subunits
Authors : Taylor, A.B.; Hu, G.; Hart, P.J.; McAlister-Henn, L.
Deposited on : 2007-12-11
Resolution : 4.30 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 | : | 4-5-2 with Phenix2.0rc1 |
| Mogul | : | 2022.3.0, CSD as543be (2022) |
| Xtriage (Phenix) | : | 2.0rc1 |
| EDS | : | 3.0 |
| buster-report | : | 1.1.7 (2018) |
| Percentile statistics | : | 20231227.v01 (using entries in the PDB archive December 27th 2023) |
| CCP4 | : | 9.0.006 (Gargrove) |
| Density-Fitness | : | 1.0.12 |
| Ideal geometry (proteins) | : | Engh & Huber (2001) |
| Ideal geometry (DNA, RNA) | : | Parkinson et al. (1996) |
| Validation Pipeline (wwPDB-VP) | : | 2.43.1 |

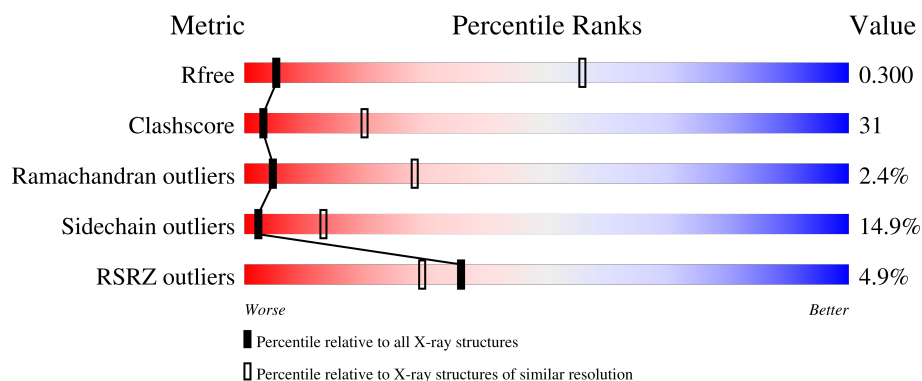
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 4.30 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)) |
|-----------------------|-----------------------------|---|
| R_{free} | 164625 | 1028 (4.72-3.86) |
| Clashscore | 180529 | 1030 (4.70-3.90) |
| Ramachandran outliers | 177936 | 1014 (4.76-3.84) |
| Sidechain outliers | 177891 | 1022 (4.76-3.82) |
| RSRZ outliers | 164620 | 1026 (4.72-3.86) |

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 | 349 | |
| 1 | C | 349 | |
| 1 | E | 349 | |
| 1 | G | 349 | |
| 1 | I | 349 | |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1 | K | 349 | |
| 1 | M | 349 | |
| 1 | O | 349 | |
| 2 | B | 354 | |
| 2 | D | 354 | |
| 2 | F | 354 | |
| 2 | H | 354 | |
| 2 | J | 354 | |
| 2 | L | 354 | |
| 2 | N | 354 | |
| 2 | P | 354 | |

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

| Mol | Type | Chain | Res | Chirality | Geometry | Clashes | Electron density |
|-----|------|-------|------|-----------|----------|---------|------------------|
| 3 | FLC | A | 1001 | - | - | X | - |
| 3 | FLC | C | 1002 | - | - | X | - |
| 3 | FLC | E | 1003 | - | - | X | - |
| 3 | FLC | G | 1004 | - | - | X | - |
| 3 | FLC | I | 1005 | - | - | X | - |
| 3 | FLC | M | 1007 | - | - | X | - |
| 3 | FLC | O | 1008 | - | - | X | - |
| 4 | AMP | K | 2006 | - | - | X | - |

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 41694 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 Isocitrate dehydrogenase [NAD] subunit 1.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|---------|-------|
| 1 | A | 329 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 2523 | 1594 | 440 | 482 | 7 | | | |
| 1 | C | 338 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 2599 | 1643 | 454 | 495 | 7 | | | |
| 1 | E | 338 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 2599 | 1643 | 454 | 495 | 7 | | | |
| 1 | G | 329 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 2523 | 1594 | 440 | 482 | 7 | | | |
| 1 | I | 329 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 2523 | 1594 | 440 | 482 | 7 | | | |
| 1 | K | 337 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 2590 | 1638 | 453 | 492 | 7 | | | |
| 1 | M | 339 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 2604 | 1646 | 455 | 496 | 7 | | | |
| 1 | O | 330 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 2527 | 1596 | 441 | 483 | 7 | | | |

- Molecule 2 is a protein called Isocitrate dehydrogenase [NAD] subunit 2.

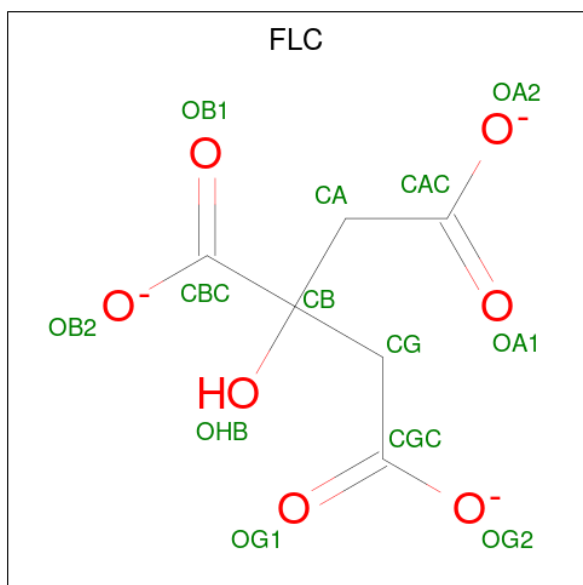
| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|---------|-------|
| 2 | B | 347 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 2617 | 1652 | 449 | 510 | 6 | | | |
| 2 | D | 347 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 2617 | 1652 | 449 | 510 | 6 | | | |
| 2 | F | 347 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 2617 | 1652 | 449 | 510 | 6 | | | |
| 2 | H | 346 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 2608 | 1646 | 447 | 509 | 6 | | | |
| 2 | J | 347 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 2617 | 1652 | 449 | 510 | 6 | | | |
| 2 | L | 346 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 2608 | 1646 | 447 | 509 | 6 | | | |

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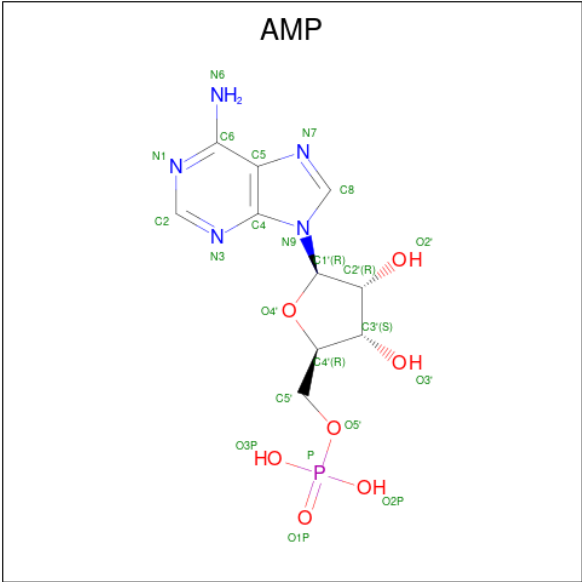
| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|---------|-------|
| 2 | N | 347 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 2617 | 1652 | 449 | 510 | 6 | | | |
| 2 | P | 347 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 2617 | 1652 | 449 | 510 | 6 | | | |

- Molecule 3 is CITRATE ANION (CCD ID: FLC) (formula: $C_6H_5O_7$).



| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|-----|-------|----------|-------|---|---|---------|---------|
| 3 | A | 1 | Total | C | O | 0 | 0 |
| | | | 13 | 6 | 7 | | |
| 3 | C | 1 | Total | C | O | 0 | 0 |
| | | | 13 | 6 | 7 | | |
| 3 | E | 1 | Total | C | O | 0 | 0 |
| | | | 13 | 6 | 7 | | |
| 3 | G | 1 | Total | C | O | 0 | 0 |
| | | | 13 | 6 | 7 | | |
| 3 | I | 1 | Total | C | O | 0 | 0 |
| | | | 13 | 6 | 7 | | |
| 3 | K | 1 | Total | C | O | 0 | 0 |
| | | | 13 | 6 | 7 | | |
| 3 | M | 1 | Total | C | O | 0 | 0 |
| | | | 13 | 6 | 7 | | |
| 3 | O | 1 | Total | C | O | 0 | 0 |
| | | | 13 | 6 | 7 | | |

- Molecule 4 is ADENOSINE MONOPHOSPHATE (CCD ID: AMP) (formula: $C_{10}H_{14}N_5O_7P$).

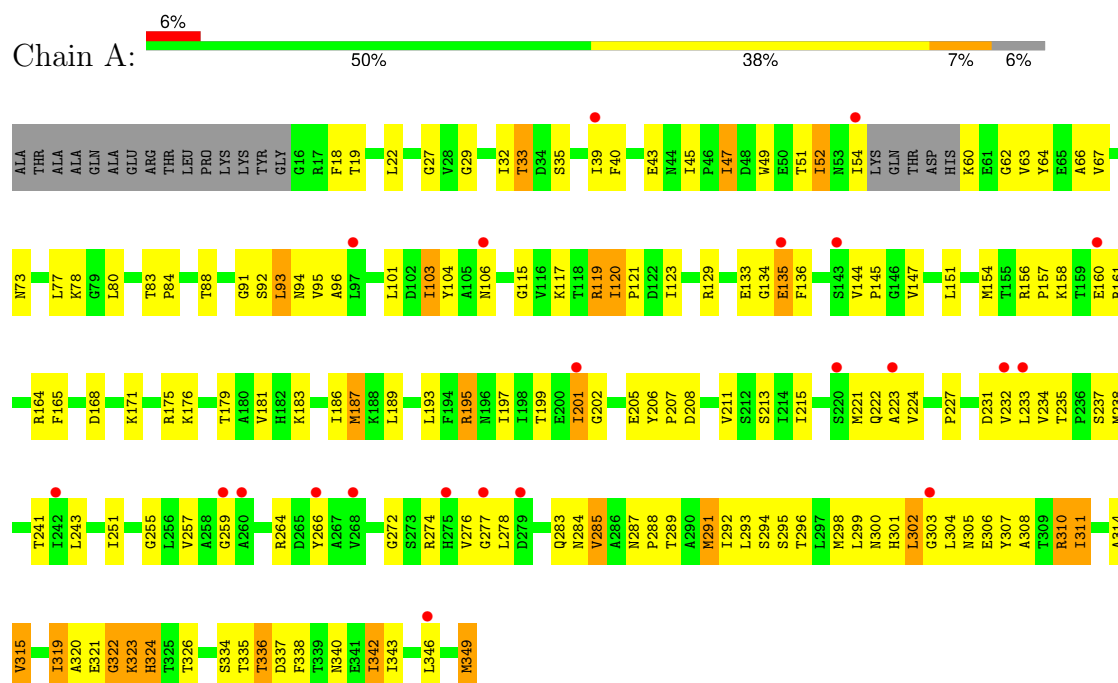


| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf |
|-----|-------|----------|-------|----|---|---|---|---------|---------|
| 4 | A | 1 | Total | C | N | O | P | 0 | 0 |
| | | | 23 | 10 | 5 | 7 | 1 | | |
| 4 | C | 1 | Total | C | N | O | P | 0 | 0 |
| | | | 23 | 10 | 5 | 7 | 1 | | |
| 4 | E | 1 | Total | C | N | O | P | 0 | 0 |
| | | | 23 | 10 | 5 | 7 | 1 | | |
| 4 | G | 1 | Total | C | N | O | P | 0 | 0 |
| | | | 23 | 10 | 5 | 7 | 1 | | |
| 4 | I | 1 | Total | C | N | O | P | 0 | 0 |
| | | | 23 | 10 | 5 | 7 | 1 | | |
| 4 | K | 1 | Total | C | N | O | P | 0 | 0 |
| | | | 23 | 10 | 5 | 7 | 1 | | |
| 4 | M | 1 | Total | C | N | O | P | 0 | 0 |
| | | | 23 | 10 | 5 | 7 | 1 | | |
| 4 | O | 1 | Total | C | N | O | P | 0 | 0 |
| | | | 23 | 10 | 5 | 7 | 1 | | |

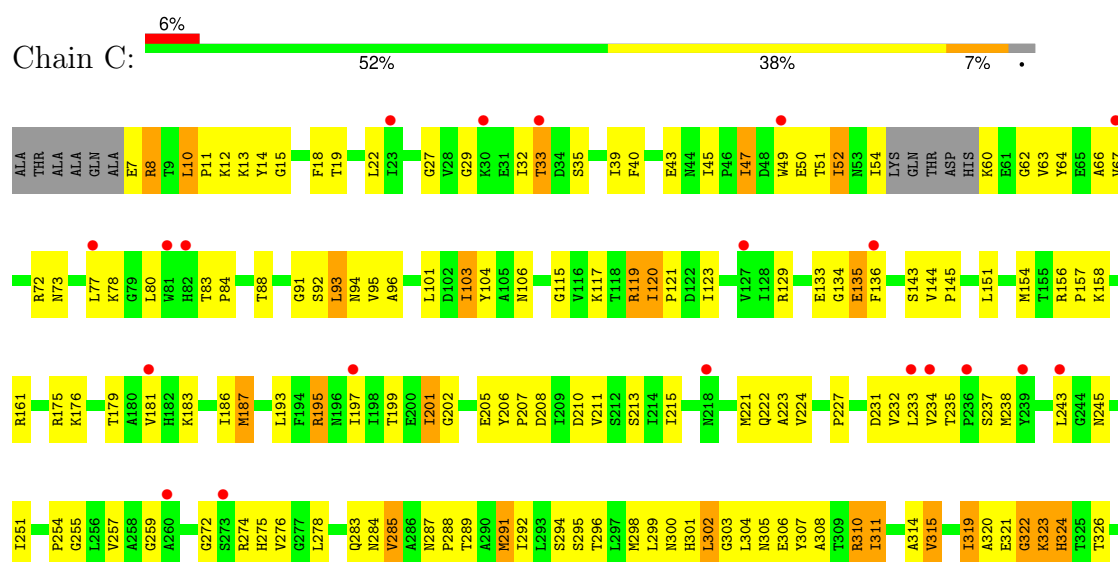
3 Residue-property plots

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: Isocitrate dehydrogenase [NAD] subunit 1

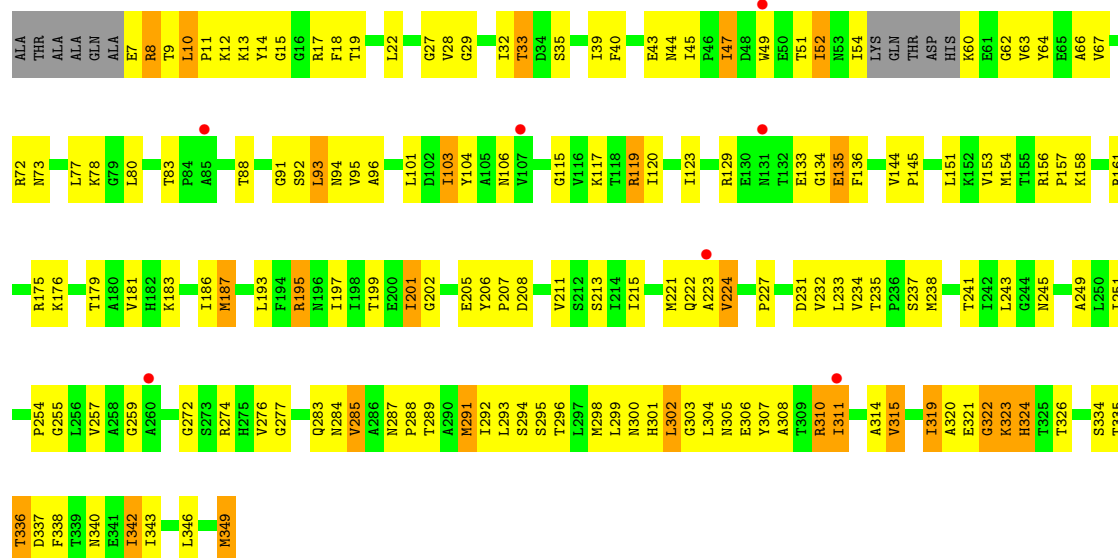


- Molecule 1: Isocitrate dehydrogenase [NAD] subunit 1

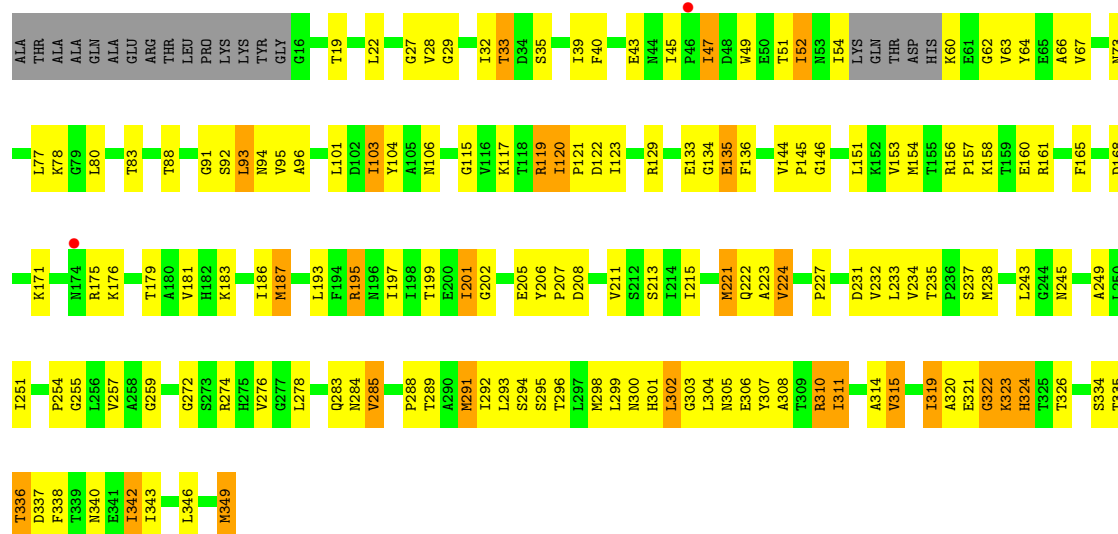




• Molecule 1: Isocitrate dehydrogenase [NAD] subunit 1

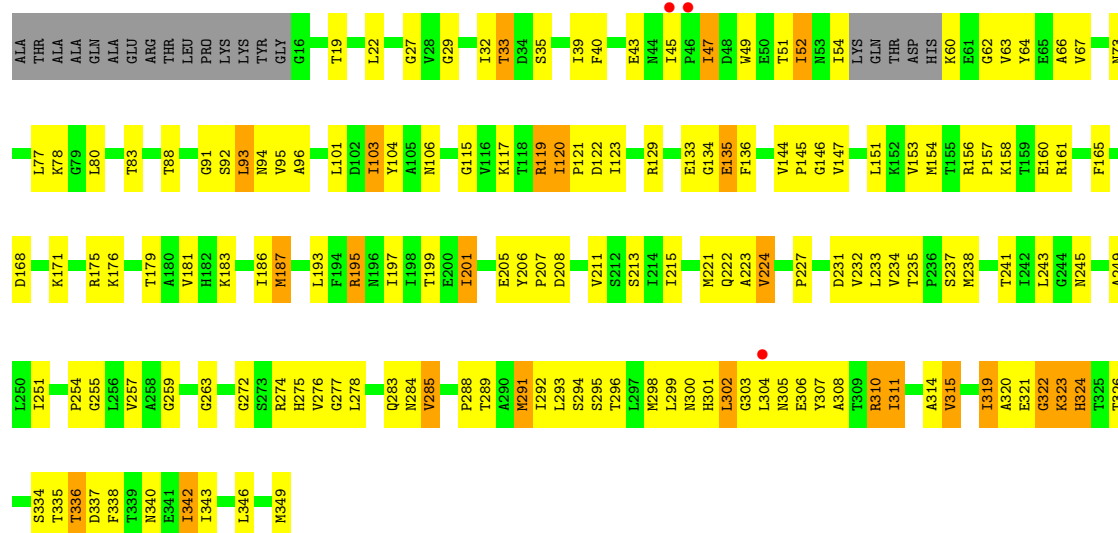


• Molecule 1: Isocitrate dehydrogenase [NAD] subunit 1

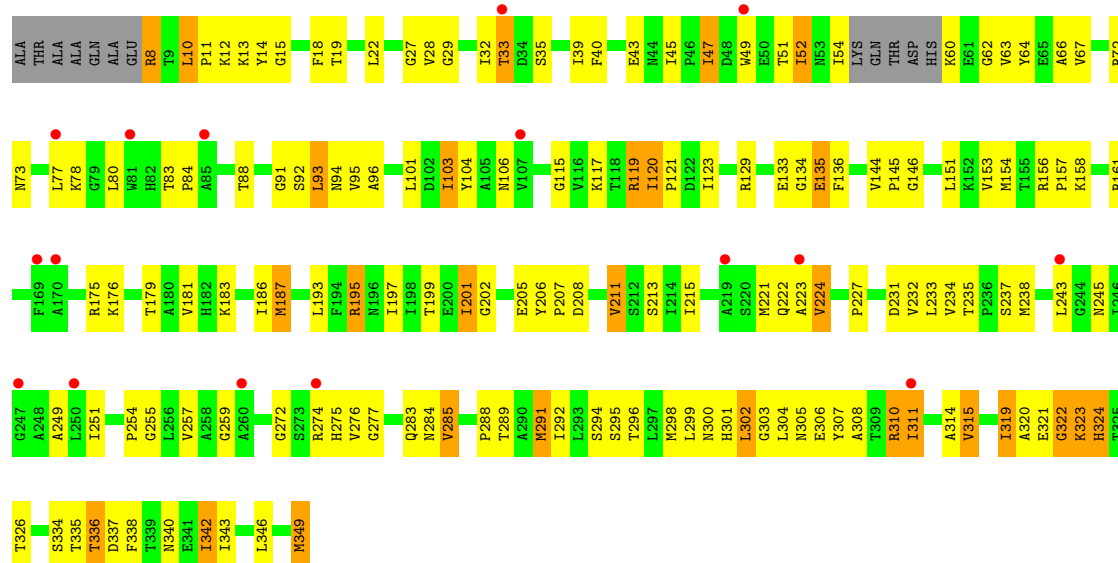


• Molecule 1: Isocitrate dehydrogenase [NAD] subunit 1

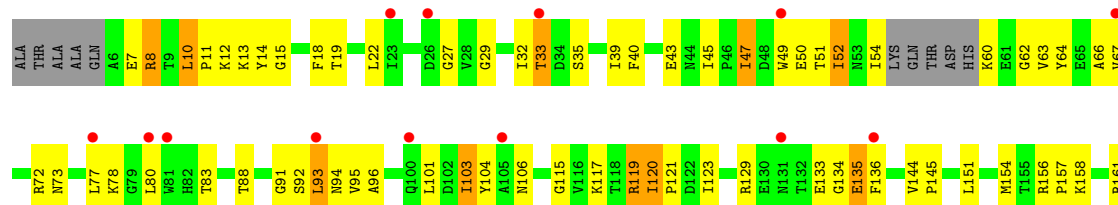


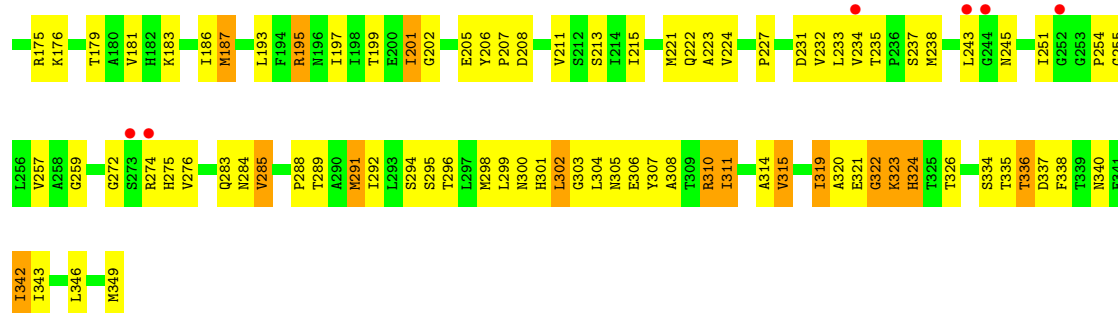


• Molecule 1: Isocitrate dehydrogenase [NAD] subunit 1

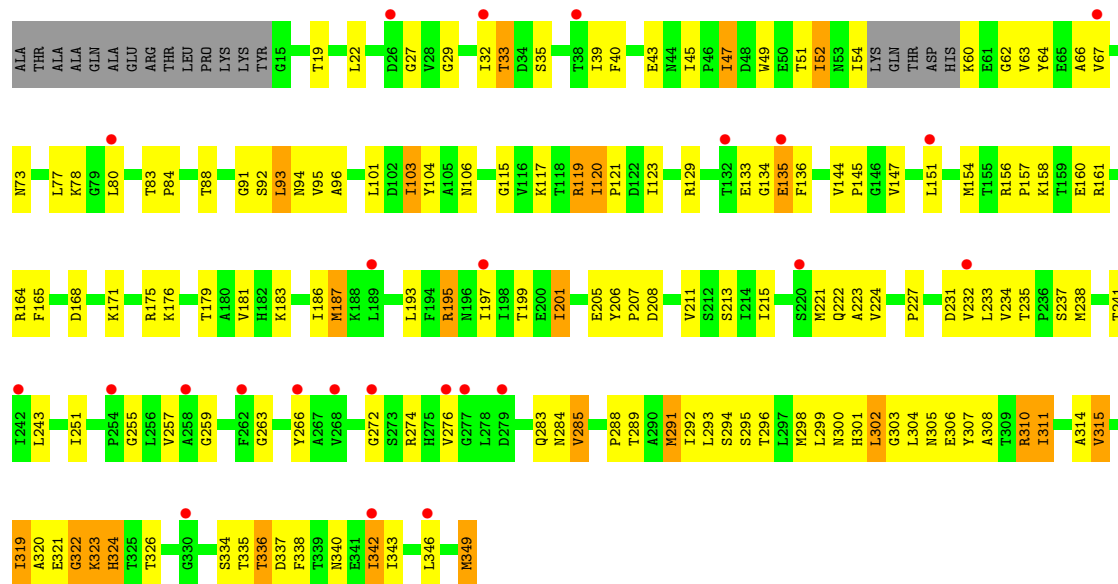


• Molecule 1: Isocitrate dehydrogenase [NAD] subunit 1

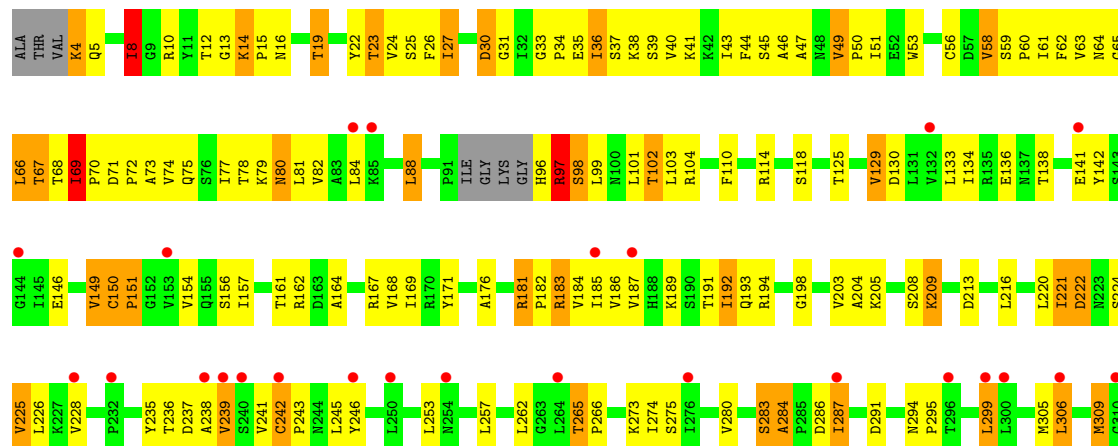
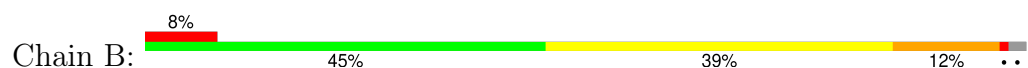


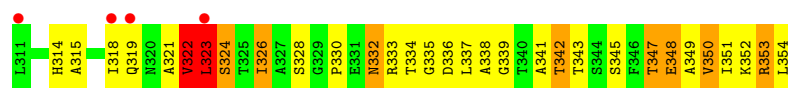


• Molecule 1: Isocitrate dehydrogenase [NAD] subunit 1

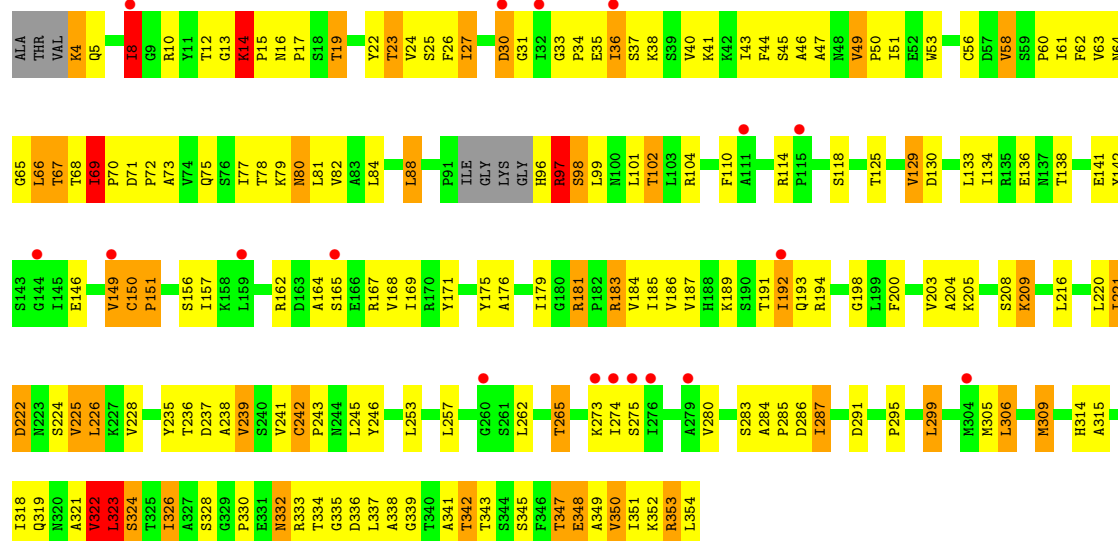


• Molecule 2: Isocitrate dehydrogenase [NAD] subunit 2

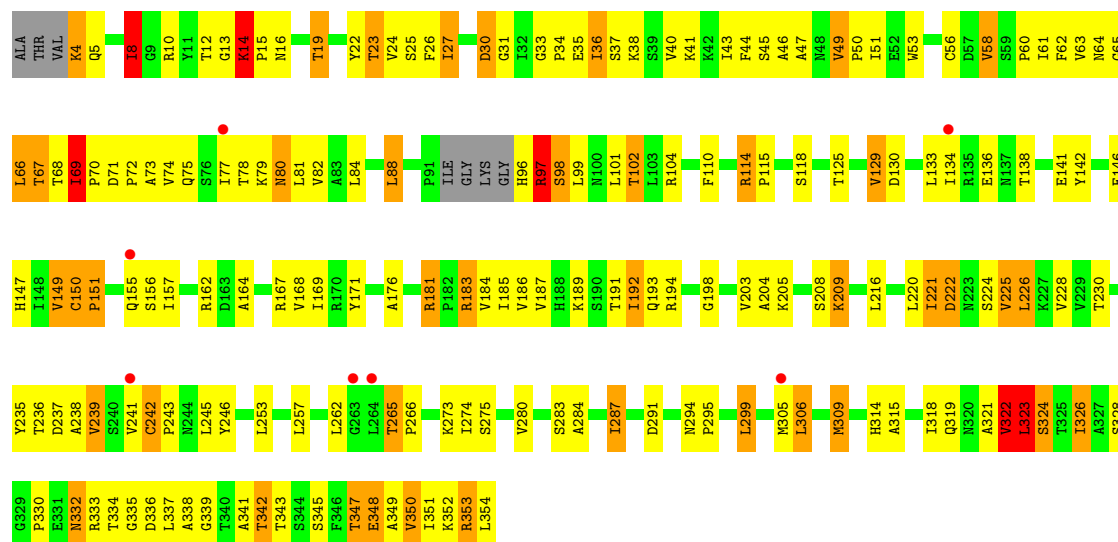




• Molecule 2: Isocitrate dehydrogenase [NAD] subunit 2

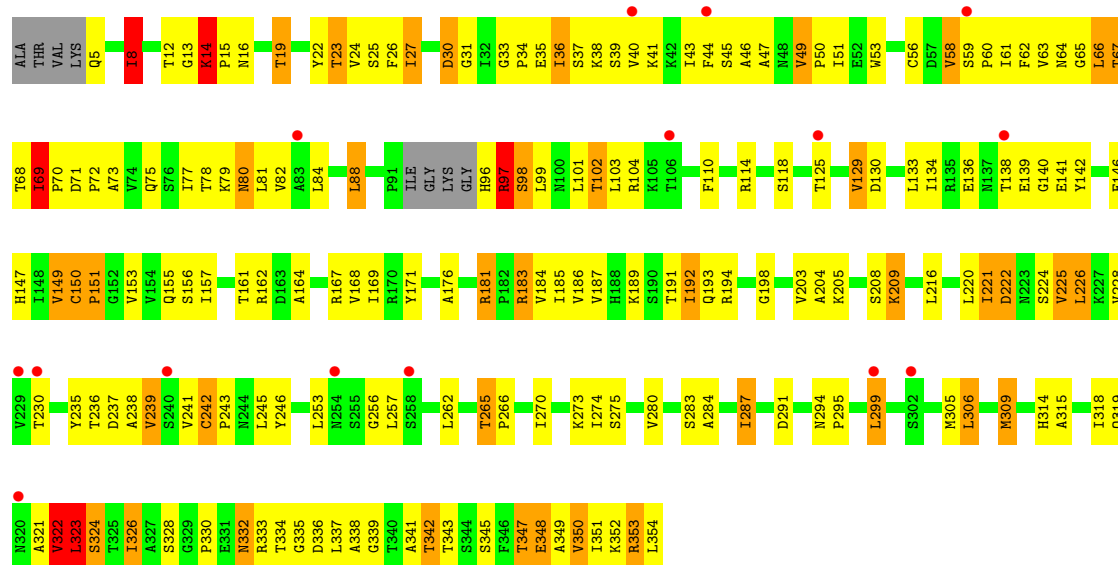


• Molecule 2: Isocitrate dehydrogenase [NAD] subunit 2

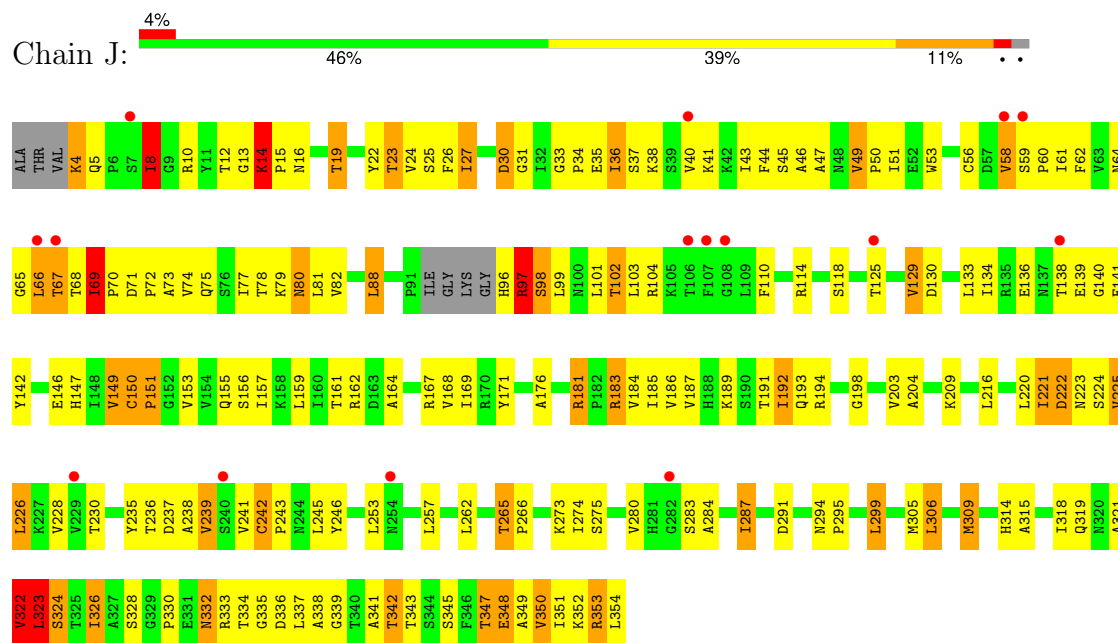


• Molecule 2: Isocitrate dehydrogenase [NAD] subunit 2

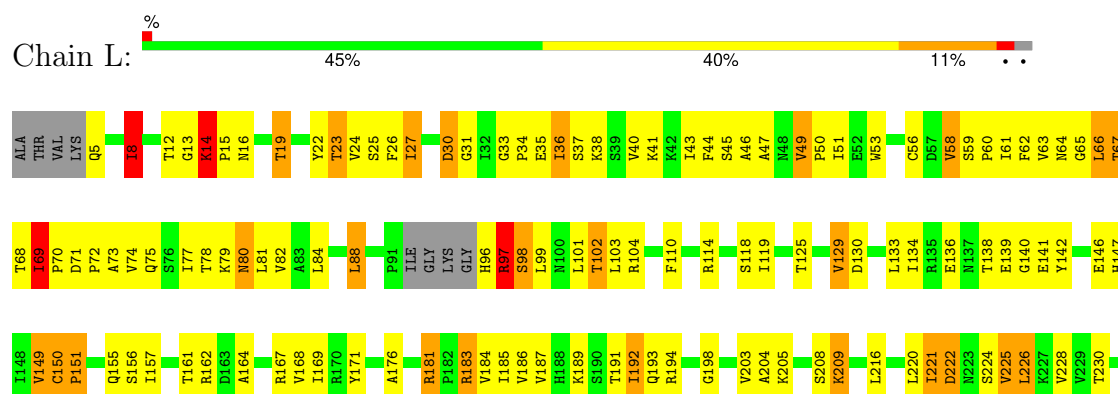


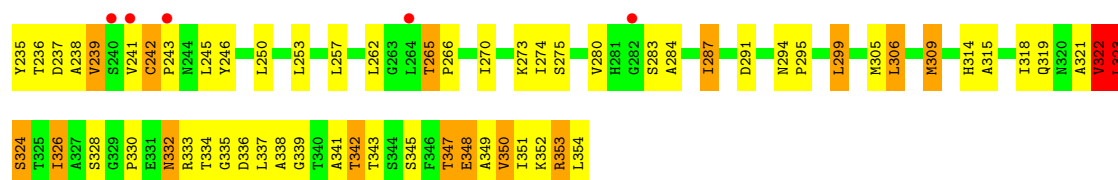


• Molecule 2: Isocitrate dehydrogenase [NAD] subunit 2

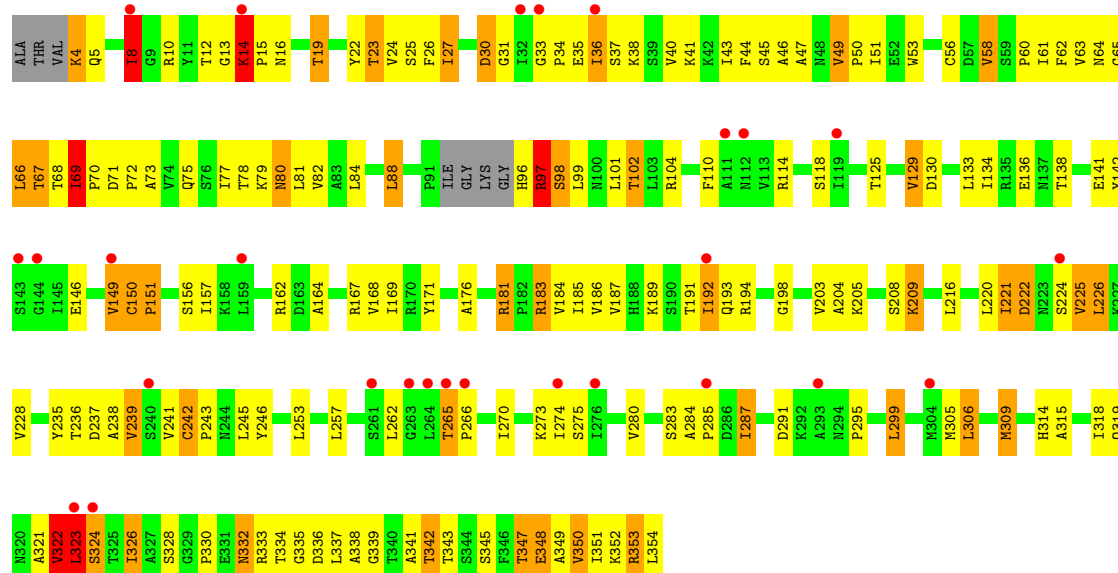


• Molecule 2: Isocitrate dehydrogenase [NAD] subunit 2

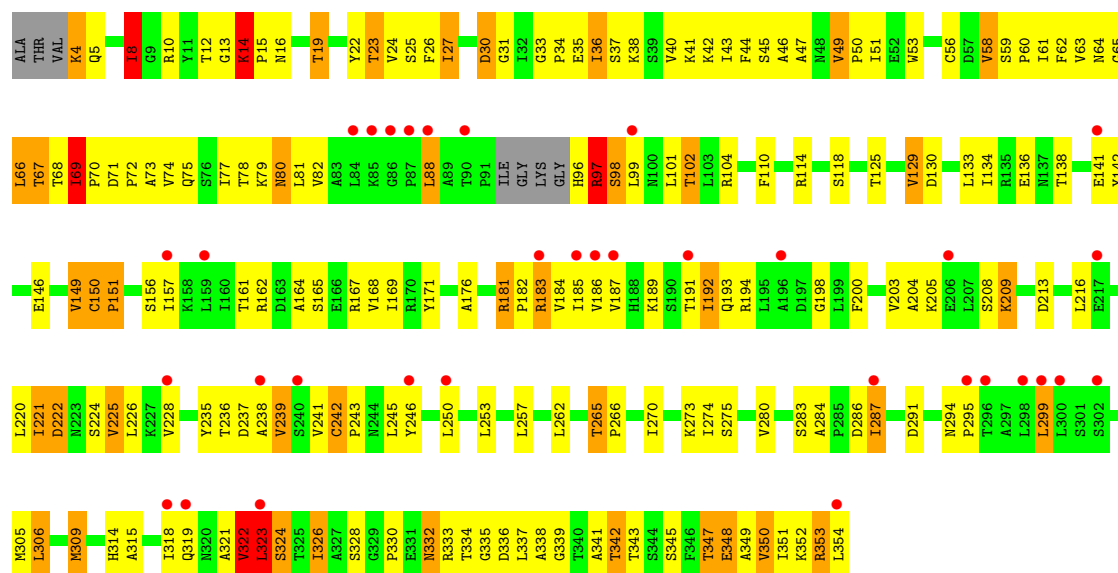
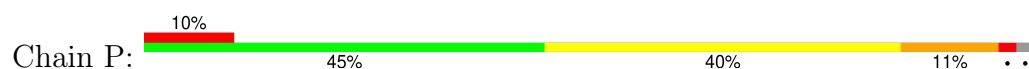




• Molecule 2: Isocitrate dehydrogenase [NAD] subunit 2



• Molecule 2: Isocitrate dehydrogenase [NAD] subunit 2



4 Data and refinement statistics

| Property | Value | Source |
|---|---|------------------|
| Space group | P 1 | Depositor |
| Cell constants a, b, c, α , β , γ | 113.16Å 116.35Å 163.62Å 98.96° 110.23° 106.63° | Depositor |
| Resolution (Å) | 49.38 – 4.30 49.38 – 4.30 | Depositor EDS |
| % Data completeness (in resolution range) | 90.7 (49.38-4.30) 90.7 (49.38-4.30) | Depositor EDS |
| R_{merge} | (Not available) | Depositor |
| R_{sym} | 0.13 | Depositor |
| $\langle I/\sigma(I) \rangle$ ¹ | 2.72 (at 4.29Å) | Xtriage |
| Refinement program | PHENIX (phenix.refine) | Depositor |
| R, R_{free} | 0.274 , 0.311 0.261 , 0.300 | Depositor DCC |
| R_{free} test set | 2238 reflections (5.05%) | wwPDB-VP |
| Wilson B-factor (Å ²) | 139.2 | Xtriage |
| Anisotropy | 0.281 | Xtriage |
| Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²) | 0.27 , 154.0 | EDS |
| L-test for twinning ² | $\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.31$ | Xtriage |
| Estimated twinning fraction | 0.000 for k,h,-h-k-l | Xtriage |
| F_o, F_c correlation | 0.85 | EDS |
| Total number of atoms | 41694 | wwPDB-VP |
| Average B, all atoms (Å ²) | 190.0 | wwPDB-VP |

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 18.65% 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 ⓘ

5.1 Standard geometry ⓘ

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

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 | 0.66 | 12/2565 (0.5%) | 0.92 | 1/3467 (0.0%) |
| 1 | C | 0.66 | 12/2643 (0.5%) | 0.92 | 1/3571 (0.0%) |
| 1 | E | 0.66 | 12/2643 (0.5%) | 0.92 | 1/3571 (0.0%) |
| 1 | G | 0.67 | 12/2565 (0.5%) | 0.92 | 1/3467 (0.0%) |
| 1 | I | 0.67 | 12/2565 (0.5%) | 0.92 | 1/3467 (0.0%) |
| 1 | K | 0.66 | 12/2634 (0.5%) | 0.92 | 1/3559 (0.0%) |
| 1 | M | 0.66 | 12/2648 (0.5%) | 0.92 | 1/3578 (0.0%) |
| 1 | O | 0.66 | 12/2569 (0.5%) | 0.92 | 1/3472 (0.0%) |
| 2 | B | 0.54 | 3/2663 (0.1%) | 0.95 | 14/3621 (0.4%) |
| 2 | D | 0.52 | 1/2663 (0.0%) | 0.95 | 14/3621 (0.4%) |
| 2 | F | 0.51 | 1/2663 (0.0%) | 0.94 | 14/3621 (0.4%) |
| 2 | H | 0.51 | 1/2654 (0.0%) | 0.94 | 14/3610 (0.4%) |
| 2 | J | 0.51 | 1/2663 (0.0%) | 0.94 | 14/3621 (0.4%) |
| 2 | L | 0.51 | 1/2654 (0.0%) | 0.95 | 14/3610 (0.4%) |
| 2 | N | 0.51 | 1/2663 (0.0%) | 0.94 | 14/3621 (0.4%) |
| 2 | P | 0.51 | 1/2663 (0.0%) | 0.95 | 14/3621 (0.4%) |
| All | All | 0.59 | 106/42118 (0.3%) | 0.93 | 120/57098 (0.2%) |

All (106) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|-------|------|-------------|----------|
| 1 | G | 221 | MET | SD-CE | 7.25 | 1.97 | 1.79 |
| 1 | O | 349 | MET | SD-CE | 7.22 | 1.97 | 1.79 |
| 1 | C | 349 | MET | SD-CE | 7.20 | 1.97 | 1.79 |
| 1 | I | 349 | MET | SD-CE | 7.20 | 1.97 | 1.79 |
| 1 | E | 221 | MET | SD-CE | 7.20 | 1.97 | 1.79 |
| 1 | E | 349 | MET | SD-CE | 7.19 | 1.97 | 1.79 |
| 1 | C | 221 | MET | SD-CE | 7.19 | 1.97 | 1.79 |
| 1 | A | 221 | MET | SD-CE | 7.18 | 1.97 | 1.79 |
| 1 | I | 221 | MET | SD-CE | 7.18 | 1.97 | 1.79 |
| 1 | K | 349 | MET | SD-CE | 7.18 | 1.97 | 1.79 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|-------|------|-------------|----------|
| 1 | A | 349 | MET | SD-CE | 7.17 | 1.97 | 1.79 |
| 1 | G | 349 | MET | SD-CE | 7.17 | 1.97 | 1.79 |
| 1 | M | 221 | MET | SD-CE | 7.17 | 1.97 | 1.79 |
| 1 | O | 221 | MET | SD-CE | 7.15 | 1.97 | 1.79 |
| 1 | K | 221 | MET | SD-CE | 7.15 | 1.97 | 1.79 |
| 1 | M | 349 | MET | SD-CE | 7.15 | 1.97 | 1.79 |
| 1 | O | 187 | MET | SD-CE | 6.82 | 1.96 | 1.79 |
| 1 | G | 187 | MET | SD-CE | 6.81 | 1.96 | 1.79 |
| 1 | A | 187 | MET | SD-CE | 6.81 | 1.96 | 1.79 |
| 1 | I | 187 | MET | SD-CE | 6.80 | 1.96 | 1.79 |
| 1 | C | 187 | MET | SD-CE | 6.79 | 1.96 | 1.79 |
| 1 | K | 187 | MET | SD-CE | 6.77 | 1.96 | 1.79 |
| 1 | E | 187 | MET | SD-CE | 6.76 | 1.96 | 1.79 |
| 1 | M | 187 | MET | SD-CE | 6.71 | 1.96 | 1.79 |
| 2 | B | 305 | MET | SD-CE | 6.41 | 1.95 | 1.79 |
| 1 | M | 154 | MET | SD-CE | 6.31 | 1.95 | 1.79 |
| 1 | K | 154 | MET | SD-CE | 6.30 | 1.95 | 1.79 |
| 1 | O | 298 | MET | SD-CE | 6.29 | 1.95 | 1.79 |
| 1 | C | 154 | MET | SD-CE | 6.28 | 1.95 | 1.79 |
| 1 | G | 298 | MET | SD-CE | 6.27 | 1.95 | 1.79 |
| 1 | A | 154 | MET | SD-CE | 6.26 | 1.95 | 1.79 |
| 1 | O | 154 | MET | SD-CE | 6.26 | 1.95 | 1.79 |
| 1 | A | 291 | MET | SD-CE | 6.25 | 1.95 | 1.79 |
| 1 | E | 298 | MET | SD-CE | 6.25 | 1.95 | 1.79 |
| 1 | E | 154 | MET | SD-CE | 6.24 | 1.95 | 1.79 |
| 1 | E | 291 | MET | SD-CE | 6.24 | 1.95 | 1.79 |
| 1 | C | 298 | MET | SD-CE | 6.23 | 1.95 | 1.79 |
| 1 | G | 349 | MET | CG-SD | 6.23 | 1.96 | 1.80 |
| 1 | M | 291 | MET | SD-CE | 6.23 | 1.95 | 1.79 |
| 1 | I | 291 | MET | SD-CE | 6.22 | 1.95 | 1.79 |
| 1 | I | 154 | MET | SD-CE | 6.21 | 1.95 | 1.79 |
| 1 | K | 291 | MET | SD-CE | 6.21 | 1.95 | 1.79 |
| 1 | E | 349 | MET | CG-SD | 6.20 | 1.96 | 1.80 |
| 1 | O | 291 | MET | SD-CE | 6.20 | 1.95 | 1.79 |
| 1 | C | 291 | MET | SD-CE | 6.19 | 1.95 | 1.79 |
| 1 | C | 349 | MET | CG-SD | 6.19 | 1.96 | 1.80 |
| 1 | G | 154 | MET | SD-CE | 6.18 | 1.95 | 1.79 |
| 1 | M | 298 | MET | SD-CE | 6.18 | 1.95 | 1.79 |
| 1 | K | 349 | MET | CG-SD | 6.18 | 1.96 | 1.80 |
| 1 | G | 291 | MET | SD-CE | 6.17 | 1.95 | 1.79 |
| 1 | I | 298 | MET | SD-CE | 6.17 | 1.95 | 1.79 |
| 1 | A | 298 | MET | SD-CE | 6.17 | 1.95 | 1.79 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|-------|------|-------------|----------|
| 1 | O | 349 | MET | CG-SD | 6.17 | 1.96 | 1.80 |
| 1 | K | 298 | MET | SD-CE | 6.16 | 1.95 | 1.79 |
| 1 | M | 349 | MET | CG-SD | 6.16 | 1.96 | 1.80 |
| 1 | I | 349 | MET | CG-SD | 6.12 | 1.96 | 1.80 |
| 1 | A | 349 | MET | CG-SD | 6.11 | 1.96 | 1.80 |
| 1 | C | 154 | MET | CG-SD | 5.99 | 1.95 | 1.80 |
| 1 | I | 154 | MET | CG-SD | 5.99 | 1.95 | 1.80 |
| 1 | A | 154 | MET | CG-SD | 5.95 | 1.95 | 1.80 |
| 1 | E | 154 | MET | CG-SD | 5.93 | 1.95 | 1.80 |
| 1 | G | 154 | MET | CG-SD | 5.92 | 1.95 | 1.80 |
| 1 | O | 154 | MET | CG-SD | 5.92 | 1.95 | 1.80 |
| 1 | K | 154 | MET | CG-SD | 5.91 | 1.95 | 1.80 |
| 1 | M | 154 | MET | CG-SD | 5.90 | 1.95 | 1.80 |
| 1 | G | 291 | MET | CG-SD | 5.77 | 1.95 | 1.80 |
| 1 | A | 291 | MET | CG-SD | 5.75 | 1.95 | 1.80 |
| 1 | E | 291 | MET | CG-SD | 5.72 | 1.95 | 1.80 |
| 1 | C | 291 | MET | CG-SD | 5.72 | 1.95 | 1.80 |
| 1 | I | 291 | MET | CG-SD | 5.71 | 1.95 | 1.80 |
| 1 | K | 291 | MET | CG-SD | 5.71 | 1.95 | 1.80 |
| 1 | M | 187 | MET | CG-SD | 5.71 | 1.95 | 1.80 |
| 1 | K | 187 | MET | CG-SD | 5.70 | 1.95 | 1.80 |
| 1 | I | 187 | MET | CG-SD | 5.69 | 1.95 | 1.80 |
| 1 | M | 291 | MET | CG-SD | 5.69 | 1.95 | 1.80 |
| 1 | A | 187 | MET | CG-SD | 5.68 | 1.95 | 1.80 |
| 1 | C | 187 | MET | CG-SD | 5.67 | 1.95 | 1.80 |
| 1 | O | 291 | MET | CG-SD | 5.65 | 1.94 | 1.80 |
| 1 | O | 187 | MET | CG-SD | 5.65 | 1.94 | 1.80 |
| 1 | E | 187 | MET | CG-SD | 5.64 | 1.94 | 1.80 |
| 1 | G | 187 | MET | CG-SD | 5.62 | 1.94 | 1.80 |
| 1 | O | 298 | MET | CG-SD | 5.56 | 1.94 | 1.80 |
| 1 | M | 221 | MET | CG-SD | 5.54 | 1.94 | 1.80 |
| 1 | C | 298 | MET | CG-SD | 5.52 | 1.94 | 1.80 |
| 1 | A | 298 | MET | CG-SD | 5.52 | 1.94 | 1.80 |
| 1 | G | 221 | MET | CG-SD | 5.51 | 1.94 | 1.80 |
| 1 | I | 298 | MET | CG-SD | 5.51 | 1.94 | 1.80 |
| 1 | I | 221 | MET | CG-SD | 5.50 | 1.94 | 1.80 |
| 1 | A | 221 | MET | CG-SD | 5.50 | 1.94 | 1.80 |
| 1 | E | 298 | MET | CG-SD | 5.49 | 1.94 | 1.80 |
| 2 | H | 309 | MET | SD-CE | 5.49 | 1.93 | 1.79 |
| 1 | O | 221 | MET | CG-SD | 5.49 | 1.94 | 1.80 |
| 2 | N | 309 | MET | SD-CE | 5.49 | 1.93 | 1.79 |
| 1 | G | 298 | MET | CG-SD | 5.48 | 1.94 | 1.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|-------|------|-------------|----------|
| 1 | C | 221 | MET | CG-SD | 5.48 | 1.94 | 1.80 |
| 2 | D | 309 | MET | SD-CE | 5.48 | 1.93 | 1.79 |
| 1 | E | 221 | MET | CG-SD | 5.48 | 1.94 | 1.80 |
| 1 | K | 221 | MET | CG-SD | 5.47 | 1.94 | 1.80 |
| 1 | M | 298 | MET | CG-SD | 5.46 | 1.94 | 1.80 |
| 2 | J | 309 | MET | SD-CE | 5.46 | 1.93 | 1.79 |
| 2 | F | 309 | MET | SD-CE | 5.45 | 1.93 | 1.79 |
| 2 | L | 309 | MET | SD-CE | 5.45 | 1.93 | 1.79 |
| 1 | K | 298 | MET | CG-SD | 5.45 | 1.94 | 1.80 |
| 2 | B | 309 | MET | SD-CE | 5.43 | 1.93 | 1.79 |
| 2 | P | 309 | MET | SD-CE | 5.43 | 1.93 | 1.79 |
| 2 | B | 305 | MET | CG-SD | 5.05 | 1.93 | 1.80 |

All (120) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|--------|-------|-------------|----------|
| 1 | G | 306 | GLU | N-CA-C | -9.44 | 100.95 | 111.14 |
| 1 | M | 306 | GLU | N-CA-C | -9.35 | 101.05 | 111.14 |
| 1 | K | 306 | GLU | N-CA-C | -9.32 | 101.07 | 111.14 |
| 1 | E | 306 | GLU | N-CA-C | -9.27 | 101.13 | 111.14 |
| 1 | O | 306 | GLU | N-CA-C | -9.27 | 101.13 | 111.14 |
| 1 | A | 306 | GLU | N-CA-C | -9.26 | 101.14 | 111.14 |
| 1 | C | 306 | GLU | N-CA-C | -9.26 | 101.14 | 111.14 |
| 1 | I | 306 | GLU | N-CA-C | -9.22 | 101.18 | 111.14 |
| 2 | L | 69 | ILE | CA-C-N | 6.79 | 128.32 | 119.84 |
| 2 | L | 69 | ILE | C-N-CA | 6.79 | 128.32 | 119.84 |
| 2 | B | 69 | ILE | CA-C-N | 6.77 | 128.30 | 119.84 |
| 2 | B | 69 | ILE | C-N-CA | 6.77 | 128.30 | 119.84 |
| 2 | D | 69 | ILE | CA-C-N | 6.76 | 128.30 | 119.84 |
| 2 | D | 69 | ILE | C-N-CA | 6.76 | 128.30 | 119.84 |
| 2 | F | 69 | ILE | CA-C-N | 6.76 | 128.29 | 119.84 |
| 2 | F | 69 | ILE | C-N-CA | 6.76 | 128.29 | 119.84 |
| 2 | P | 69 | ILE | CA-C-N | 6.76 | 128.29 | 119.84 |
| 2 | P | 69 | ILE | C-N-CA | 6.76 | 128.29 | 119.84 |
| 2 | H | 69 | ILE | CA-C-N | 6.71 | 128.22 | 119.84 |
| 2 | H | 69 | ILE | C-N-CA | 6.71 | 128.22 | 119.84 |
| 2 | N | 69 | ILE | CA-C-N | 6.69 | 128.20 | 119.84 |
| 2 | N | 69 | ILE | C-N-CA | 6.69 | 128.20 | 119.84 |
| 2 | J | 69 | ILE | CA-C-N | 6.67 | 128.18 | 119.84 |
| 2 | J | 69 | ILE | C-N-CA | 6.67 | 128.18 | 119.84 |
| 2 | N | 265 | THR | CA-C-N | 6.59 | 128.08 | 119.84 |
| 2 | N | 265 | THR | C-N-CA | 6.59 | 128.08 | 119.84 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|--------|------|-------------|----------|
| 2 | L | 265 | THR | CA-C-N | 6.59 | 128.07 | 119.84 |
| 2 | L | 265 | THR | C-N-CA | 6.59 | 128.07 | 119.84 |
| 2 | P | 265 | THR | CA-C-N | 6.58 | 128.07 | 119.84 |
| 2 | P | 265 | THR | C-N-CA | 6.58 | 128.07 | 119.84 |
| 2 | J | 265 | THR | CA-C-N | 6.57 | 128.05 | 119.84 |
| 2 | J | 265 | THR | C-N-CA | 6.57 | 128.05 | 119.84 |
| 2 | F | 265 | THR | CA-C-N | 6.57 | 128.05 | 119.84 |
| 2 | F | 265 | THR | C-N-CA | 6.57 | 128.05 | 119.84 |
| 2 | H | 265 | THR | CA-C-N | 6.55 | 128.03 | 119.84 |
| 2 | H | 265 | THR | C-N-CA | 6.55 | 128.03 | 119.84 |
| 2 | B | 265 | THR | CA-C-N | 6.52 | 127.99 | 119.84 |
| 2 | B | 265 | THR | C-N-CA | 6.52 | 127.99 | 119.84 |
| 2 | D | 265 | THR | CA-C-N | 6.51 | 127.98 | 119.84 |
| 2 | D | 265 | THR | C-N-CA | 6.51 | 127.98 | 119.84 |
| 2 | P | 181 | ARG | CA-C-N | 6.01 | 125.40 | 118.85 |
| 2 | P | 181 | ARG | C-N-CA | 6.01 | 125.40 | 118.85 |
| 2 | J | 181 | ARG | CA-C-N | 5.96 | 125.35 | 118.85 |
| 2 | J | 181 | ARG | C-N-CA | 5.96 | 125.35 | 118.85 |
| 2 | H | 181 | ARG | CA-C-N | 5.94 | 125.33 | 118.85 |
| 2 | H | 181 | ARG | C-N-CA | 5.94 | 125.33 | 118.85 |
| 2 | F | 181 | ARG | CA-C-N | 5.94 | 125.33 | 118.85 |
| 2 | F | 181 | ARG | C-N-CA | 5.94 | 125.33 | 118.85 |
| 2 | L | 181 | ARG | CA-C-N | 5.93 | 125.31 | 118.85 |
| 2 | L | 181 | ARG | C-N-CA | 5.93 | 125.31 | 118.85 |
| 2 | B | 181 | ARG | CA-C-N | 5.93 | 125.31 | 118.85 |
| 2 | B | 181 | ARG | C-N-CA | 5.93 | 125.31 | 118.85 |
| 2 | D | 181 | ARG | CA-C-N | 5.91 | 125.29 | 118.85 |
| 2 | D | 181 | ARG | C-N-CA | 5.91 | 125.29 | 118.85 |
| 2 | N | 181 | ARG | CA-C-N | 5.90 | 125.28 | 118.85 |
| 2 | N | 181 | ARG | C-N-CA | 5.90 | 125.28 | 118.85 |
| 2 | J | 150 | CYS | CA-C-N | 5.42 | 126.61 | 119.84 |
| 2 | J | 150 | CYS | C-N-CA | 5.42 | 126.61 | 119.84 |
| 2 | D | 150 | CYS | CA-C-N | 5.41 | 126.61 | 119.84 |
| 2 | D | 150 | CYS | C-N-CA | 5.41 | 126.61 | 119.84 |
| 2 | B | 8 | ILE | N-CA-C | 5.41 | 115.61 | 110.53 |
| 2 | J | 49 | VAL | CA-C-N | 5.40 | 126.59 | 119.84 |
| 2 | J | 49 | VAL | C-N-CA | 5.40 | 126.59 | 119.84 |
| 2 | P | 8 | ILE | N-CA-C | 5.39 | 115.60 | 110.53 |
| 2 | H | 49 | VAL | CA-C-N | 5.39 | 126.58 | 119.84 |
| 2 | H | 49 | VAL | C-N-CA | 5.39 | 126.58 | 119.84 |
| 2 | B | 49 | VAL | CA-C-N | 5.37 | 126.55 | 119.84 |
| 2 | B | 49 | VAL | C-N-CA | 5.37 | 126.55 | 119.84 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|--------|------|-------------|----------|
| 2 | N | 8 | ILE | N-CA-C | 5.37 | 115.57 | 110.53 |
| 2 | P | 150 | CYS | CA-C-N | 5.37 | 126.55 | 119.84 |
| 2 | P | 150 | CYS | C-N-CA | 5.37 | 126.55 | 119.84 |
| 2 | P | 49 | VAL | CA-C-N | 5.36 | 126.54 | 119.84 |
| 2 | P | 49 | VAL | C-N-CA | 5.36 | 126.54 | 119.84 |
| 2 | B | 150 | CYS | CA-C-N | 5.36 | 126.54 | 119.84 |
| 2 | B | 150 | CYS | C-N-CA | 5.36 | 126.54 | 119.84 |
| 2 | L | 49 | VAL | CA-C-N | 5.36 | 126.54 | 119.84 |
| 2 | L | 49 | VAL | C-N-CA | 5.36 | 126.54 | 119.84 |
| 2 | L | 8 | ILE | N-CA-C | 5.34 | 115.55 | 110.53 |
| 2 | H | 8 | ILE | N-CA-C | 5.34 | 115.55 | 110.53 |
| 2 | L | 150 | CYS | CA-C-N | 5.34 | 126.52 | 119.84 |
| 2 | L | 150 | CYS | C-N-CA | 5.34 | 126.52 | 119.84 |
| 2 | F | 49 | VAL | CA-C-N | 5.33 | 126.51 | 119.84 |
| 2 | F | 49 | VAL | C-N-CA | 5.33 | 126.51 | 119.84 |
| 2 | D | 49 | VAL | CA-C-N | 5.33 | 126.50 | 119.84 |
| 2 | D | 49 | VAL | C-N-CA | 5.33 | 126.50 | 119.84 |
| 2 | F | 8 | ILE | N-CA-C | 5.33 | 115.54 | 110.53 |
| 2 | H | 150 | CYS | CA-C-N | 5.33 | 126.50 | 119.84 |
| 2 | H | 150 | CYS | C-N-CA | 5.33 | 126.50 | 119.84 |
| 2 | F | 150 | CYS | CA-C-N | 5.32 | 126.49 | 119.84 |
| 2 | F | 150 | CYS | C-N-CA | 5.32 | 126.49 | 119.84 |
| 2 | N | 49 | VAL | CA-C-N | 5.32 | 126.48 | 119.84 |
| 2 | N | 49 | VAL | C-N-CA | 5.32 | 126.48 | 119.84 |
| 2 | D | 8 | ILE | N-CA-C | 5.29 | 115.51 | 110.53 |
| 2 | N | 150 | CYS | CA-C-N | 5.28 | 126.44 | 119.84 |
| 2 | N | 150 | CYS | C-N-CA | 5.28 | 126.44 | 119.84 |
| 2 | J | 8 | ILE | N-CA-C | 5.28 | 115.49 | 110.53 |
| 2 | P | 242 | CYS | N-CA-C | 5.25 | 112.86 | 108.13 |
| 2 | N | 242 | CYS | N-CA-C | 5.21 | 112.82 | 108.13 |
| 2 | N | 284 | ALA | CA-C-N | 5.21 | 125.01 | 119.28 |
| 2 | N | 284 | ALA | C-N-CA | 5.21 | 125.01 | 119.28 |
| 2 | H | 242 | CYS | N-CA-C | 5.21 | 112.82 | 108.13 |
| 2 | L | 242 | CYS | N-CA-C | 5.19 | 112.80 | 108.13 |
| 2 | D | 284 | ALA | CA-C-N | 5.18 | 124.97 | 119.28 |
| 2 | D | 284 | ALA | C-N-CA | 5.18 | 124.97 | 119.28 |
| 2 | D | 242 | CYS | N-CA-C | 5.15 | 112.76 | 108.13 |
| 2 | B | 284 | ALA | CA-C-N | 5.14 | 124.94 | 119.28 |
| 2 | B | 284 | ALA | C-N-CA | 5.14 | 124.94 | 119.28 |
| 2 | F | 242 | CYS | N-CA-C | 5.14 | 112.76 | 108.13 |
| 2 | F | 284 | ALA | CA-C-N | 5.13 | 124.93 | 119.28 |
| 2 | F | 284 | ALA | C-N-CA | 5.13 | 124.93 | 119.28 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|--------|------|-------------|----------|
| 2 | L | 284 | ALA | CA-C-N | 5.12 | 124.91 | 119.28 |
| 2 | L | 284 | ALA | C-N-CA | 5.12 | 124.91 | 119.28 |
| 2 | J | 284 | ALA | CA-C-N | 5.09 | 124.88 | 119.28 |
| 2 | J | 284 | ALA | C-N-CA | 5.09 | 124.88 | 119.28 |
| 2 | H | 284 | ALA | CA-C-N | 5.09 | 124.88 | 119.28 |
| 2 | H | 284 | ALA | C-N-CA | 5.09 | 124.88 | 119.28 |
| 2 | P | 284 | ALA | CA-C-N | 5.08 | 124.87 | 119.28 |
| 2 | P | 284 | ALA | C-N-CA | 5.08 | 124.87 | 119.28 |
| 2 | B | 242 | CYS | N-CA-C | 5.08 | 112.70 | 108.13 |
| 2 | J | 242 | CYS | N-CA-C | 5.02 | 112.74 | 108.22 |

There are no chirality outliers.

There are no planarity outliers.

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 | 2523 | 0 | 2559 | 160 | 0 |
| 1 | C | 2599 | 0 | 2641 | 151 | 0 |
| 1 | E | 2599 | 0 | 2641 | 164 | 0 |
| 1 | G | 2523 | 0 | 2559 | 143 | 1 |
| 1 | I | 2523 | 0 | 2559 | 146 | 0 |
| 1 | K | 2590 | 0 | 2635 | 164 | 0 |
| 1 | M | 2604 | 0 | 2646 | 147 | 0 |
| 1 | O | 2527 | 0 | 2562 | 143 | 0 |
| 2 | B | 2617 | 0 | 2662 | 189 | 2 |
| 2 | D | 2617 | 0 | 2662 | 201 | 0 |
| 2 | F | 2617 | 0 | 2662 | 191 | 0 |
| 2 | H | 2608 | 0 | 2649 | 193 | 0 |
| 2 | J | 2617 | 0 | 2662 | 202 | 0 |
| 2 | L | 2608 | 0 | 2649 | 202 | 0 |
| 2 | N | 2617 | 0 | 2662 | 180 | 2 |
| 2 | P | 2617 | 0 | 2662 | 209 | 1 |
| 3 | A | 13 | 0 | 5 | 5 | 0 |
| 3 | C | 13 | 0 | 5 | 4 | 0 |
| 3 | E | 13 | 0 | 5 | 4 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 3 | G | 13 | 0 | 5 | 5 | 0 |
| 3 | I | 13 | 0 | 5 | 5 | 0 |
| 3 | K | 13 | 0 | 5 | 3 | 0 |
| 3 | M | 13 | 0 | 5 | 5 | 0 |
| 3 | O | 13 | 0 | 5 | 5 | 0 |
| 4 | A | 23 | 0 | 12 | 2 | 0 |
| 4 | C | 23 | 0 | 12 | 2 | 0 |
| 4 | E | 23 | 0 | 12 | 6 | 0 |
| 4 | G | 23 | 0 | 12 | 1 | 0 |
| 4 | I | 23 | 0 | 12 | 3 | 0 |
| 4 | K | 23 | 0 | 12 | 9 | 0 |
| 4 | M | 23 | 0 | 12 | 3 | 0 |
| 4 | O | 23 | 0 | 12 | 0 | 0 |
| All | All | 41694 | 0 | 42208 | 2574 | 3 |

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 31.

All (2574) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|-------------------|--------------------------|-------------------|
| 1:A:171:LYS:HZ2 | 1:E:72:ARG:NH2 | 1.27 | 1.32 |
| 2:B:213:ASP:HB3 | 1:I:122:ASP:OD2 | 1.23 | 1.27 |
| 2:D:285:PRO:HG3 | 2:P:286:ASP:OD2 | 1.42 | 1.20 |
| 2:D:285:PRO:CB | 2:P:286:ASP:OD2 | 1.89 | 1.19 |
| 2:D:285:PRO:CG | 2:P:286:ASP:OD2 | 1.91 | 1.19 |
| 1:A:64:TYR:CE1 | 2:P:63:VAL:HG13 | 1.76 | 1.18 |
| 1:A:171:LYS:NZ | 1:E:72:ARG:NH2 | 1.94 | 1.14 |
| 1:K:135:GLU:HG3 | 1:K:238:MET:HB2 | 1.31 | 1.11 |
| 1:C:135:GLU:HG3 | 1:C:238:MET:HB2 | 1.32 | 1.10 |
| 1:M:135:GLU:HG3 | 1:M:238:MET:HB2 | 1.32 | 1.10 |
| 1:G:135:GLU:HG3 | 1:G:238:MET:HB2 | 1.32 | 1.09 |
| 1:O:135:GLU:HG3 | 1:O:238:MET:HB2 | 1.32 | 1.08 |
| 1:A:135:GLU:HG3 | 1:A:238:MET:HB2 | 1.31 | 1.06 |
| 1:I:135:GLU:HG3 | 1:I:238:MET:HB2 | 1.32 | 1.06 |
| 1:E:135:GLU:HG3 | 1:E:238:MET:HB2 | 1.32 | 1.05 |
| 1:K:72:ARG:CZ | 1:O:171:LYS:HZ2 | 1.71 | 1.03 |
| 1:C:7:GLU:HB3 | 1:C:10:LEU:HD11 | 1.37 | 1.03 |
| 1:K:28:VAL:HG21 | 4:K:2006:AMP:HN61 | 1.17 | 1.02 |
| 2:B:213:ASP:CB | 1:I:122:ASP:OD2 | 2.08 | 1.02 |
| 1:E:7:GLU:HB3 | 1:E:10:LEU:HD11 | 1.37 | 1.02 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:M:7:GLU:HB3 | 1:M:10:LEU:HD11 | 1.37 | 1.01 |
| 2:D:286:ASP:OD1 | 2:P:287:ILE:HD11 | 1.60 | 1.00 |
| 1:A:171:LYS:NZ | 1:E:72:ARG:HH22 | 1.60 | 0.99 |
| 2:P:342:THR:HG23 | 2:P:345:SER:H | 1.27 | 0.98 |
| 2:B:342:THR:HG23 | 2:B:345:SER:H | 1.27 | 0.98 |
| 1:A:64:TYR:CE1 | 2:P:63:VAL:CG1 | 2.46 | 0.98 |
| 2:H:342:THR:HG23 | 2:H:345:SER:H | 1.27 | 0.98 |
| 2:N:342:THR:HG23 | 2:N:345:SER:H | 1.27 | 0.98 |
| 2:L:342:THR:HG23 | 2:L:345:SER:H | 1.27 | 0.98 |
| 1:K:274:ARG:HG2 | 3:K:1006:FLC:OB1 | 1.65 | 0.97 |
| 2:J:342:THR:HG23 | 2:J:345:SER:H | 1.28 | 0.96 |
| 1:K:12:LYS:HE3 | 1:O:168:ASP:OD2 | 1.66 | 0.96 |
| 2:D:342:THR:HG23 | 2:D:345:SER:H | 1.27 | 0.96 |
| 1:C:119:ARG:HG2 | 2:D:125:THR:HG22 | 1.48 | 0.95 |
| 1:K:72:ARG:NH2 | 1:O:171:LYS:HZ2 | 1.64 | 0.94 |
| 1:A:171:LYS:HZ2 | 1:E:72:ARG:CZ | 1.80 | 0.94 |
| 2:F:342:THR:HG23 | 2:F:345:SER:H | 1.27 | 0.94 |
| 1:E:274:ARG:HG2 | 3:E:1003:FLC:OB1 | 1.68 | 0.94 |
| 1:K:277:GLY:HA2 | 4:K:2006:AMP:C8 | 2.03 | 0.93 |
| 1:K:72:ARG:NH2 | 1:O:171:LYS:NZ | 2.17 | 0.93 |
| 2:D:285:PRO:HG3 | 2:P:286:ASP:CG | 1.94 | 0.93 |
| 1:K:277:GLY:CA | 4:K:2006:AMP:C8 | 2.52 | 0.93 |
| 2:H:322:VAL:HG12 | 2:H:350:VAL:HG13 | 1.52 | 0.92 |
| 2:J:322:VAL:HG12 | 2:J:350:VAL:HG13 | 1.52 | 0.92 |
| 2:N:322:VAL:HG12 | 2:N:350:VAL:HG13 | 1.52 | 0.91 |
| 2:D:136:GLU:HG2 | 2:D:168:VAL:HG21 | 1.53 | 0.91 |
| 2:B:136:GLU:HG2 | 2:B:168:VAL:HG21 | 1.53 | 0.91 |
| 2:N:136:GLU:HG2 | 2:N:168:VAL:HG21 | 1.53 | 0.91 |
| 2:F:322:VAL:HG12 | 2:F:350:VAL:HG13 | 1.52 | 0.90 |
| 2:J:136:GLU:HG2 | 2:J:168:VAL:HG21 | 1.53 | 0.90 |
| 2:D:322:VAL:HG12 | 2:D:350:VAL:HG13 | 1.52 | 0.90 |
| 1:I:168:ASP:OD2 | 1:M:12:LYS:HE3 | 1.70 | 0.90 |
| 1:C:275:HIS:HB3 | 4:C:2002:AMP:O2P | 1.70 | 0.90 |
| 1:G:151:LEU:HD23 | 2:H:157:ILE:HG12 | 1.53 | 0.90 |
| 2:H:69:ILE:HD12 | 2:H:70:PRO:HD2 | 1.54 | 0.90 |
| 2:P:136:GLU:HG2 | 2:P:168:VAL:HG21 | 1.53 | 0.90 |
| 2:L:136:GLU:HG2 | 2:L:168:VAL:HG21 | 1.53 | 0.90 |
| 2:P:322:VAL:HG12 | 2:P:350:VAL:HG13 | 1.52 | 0.90 |
| 2:D:69:ILE:HD12 | 2:D:70:PRO:HD2 | 1.54 | 0.89 |
| 2:D:285:PRO:HB3 | 2:P:286:ASP:OD2 | 1.69 | 0.89 |
| 2:F:69:ILE:HD12 | 2:F:70:PRO:HD2 | 1.54 | 0.89 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:F:150:CYS:HB2 | 2:F:151:PRO:HD2 | 1.55 | 0.89 |
| 2:P:69:ILE:HD12 | 2:P:70:PRO:HD2 | 1.54 | 0.89 |
| 2:P:150:CYS:HB2 | 2:P:151:PRO:HD2 | 1.55 | 0.89 |
| 2:J:150:CYS:HB2 | 2:J:151:PRO:HD2 | 1.54 | 0.89 |
| 1:A:168:ASP:OD2 | 1:E:12:LYS:HE3 | 1.72 | 0.89 |
| 2:N:150:CYS:HB2 | 2:N:151:PRO:HD2 | 1.55 | 0.89 |
| 2:H:150:CYS:HB2 | 2:H:151:PRO:HD2 | 1.55 | 0.89 |
| 1:E:135:GLU:CG | 1:E:238:MET:HB2 | 2.04 | 0.88 |
| 2:F:136:GLU:HG2 | 2:F:168:VAL:HG21 | 1.53 | 0.88 |
| 2:B:322:VAL:HG12 | 2:B:350:VAL:HG13 | 1.51 | 0.88 |
| 2:J:69:ILE:HD12 | 2:J:70:PRO:HD2 | 1.54 | 0.88 |
| 2:B:150:CYS:HB2 | 2:B:151:PRO:HD2 | 1.55 | 0.88 |
| 1:A:119:ARG:HG2 | 2:B:125:THR:HG22 | 1.56 | 0.88 |
| 2:L:322:VAL:HG12 | 2:L:350:VAL:HG13 | 1.52 | 0.88 |
| 1:K:135:GLU:CG | 1:K:238:MET:HB2 | 2.03 | 0.88 |
| 1:C:135:GLU:CG | 1:C:238:MET:HB2 | 2.04 | 0.88 |
| 1:I:135:GLU:CG | 1:I:238:MET:HB2 | 2.04 | 0.88 |
| 1:C:72:ARG:NH2 | 1:G:171:LYS:HZ2 | 1.70 | 0.88 |
| 1:A:135:GLU:CG | 1:A:238:MET:HB2 | 2.03 | 0.88 |
| 2:N:69:ILE:HD12 | 2:N:70:PRO:HD2 | 1.54 | 0.88 |
| 2:N:58:VAL:HG12 | 2:N:69:ILE:HD13 | 1.56 | 0.87 |
| 2:L:69:ILE:HD12 | 2:L:70:PRO:HD2 | 1.54 | 0.87 |
| 2:L:150:CYS:HB2 | 2:L:151:PRO:HD2 | 1.55 | 0.87 |
| 2:D:58:VAL:HG12 | 2:D:69:ILE:HD13 | 1.56 | 0.87 |
| 2:H:136:GLU:HG2 | 2:H:168:VAL:HG21 | 1.53 | 0.87 |
| 2:J:58:VAL:HG12 | 2:J:69:ILE:HD13 | 1.56 | 0.87 |
| 2:H:58:VAL:HG12 | 2:H:69:ILE:HD13 | 1.56 | 0.87 |
| 2:L:58:VAL:HG12 | 2:L:69:ILE:HD13 | 1.56 | 0.87 |
| 2:B:69:ILE:HD12 | 2:B:70:PRO:HD2 | 1.54 | 0.87 |
| 1:G:300:ASN:HA | 1:G:305:ASN:HB3 | 1.57 | 0.87 |
| 1:C:12:LYS:HE3 | 1:G:168:ASP:OD2 | 1.73 | 0.87 |
| 1:E:300:ASN:HA | 1:E:305:ASN:HB3 | 1.57 | 0.87 |
| 2:B:221:ILE:O | 2:B:225:VAL:HG12 | 1.75 | 0.87 |
| 1:I:300:ASN:HA | 1:I:305:ASN:HB3 | 1.57 | 0.87 |
| 1:G:135:GLU:CG | 1:G:238:MET:HB2 | 2.04 | 0.86 |
| 1:C:300:ASN:HA | 1:C:305:ASN:HB3 | 1.57 | 0.86 |
| 2:D:150:CYS:HB2 | 2:D:151:PRO:HD2 | 1.55 | 0.86 |
| 1:G:195:ARG:HG2 | 1:G:195:ARG:HH11 | 1.40 | 0.86 |
| 1:O:119:ARG:HG2 | 2:P:125:THR:HG22 | 1.56 | 0.86 |
| 1:A:195:ARG:HG2 | 1:A:195:ARG:HH11 | 1.40 | 0.86 |
| 2:L:221:ILE:O | 2:L:225:VAL:HG12 | 1.75 | 0.86 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:M:135:GLU:CG | 1:M:238:MET:HB2 | 2.03 | 0.86 |
| 1:O:195:ARG:HG2 | 1:O:195:ARG:HH11 | 1.40 | 0.86 |
| 1:C:187:MET:HE2 | 2:D:156:SER:HB3 | 1.55 | 0.86 |
| 1:M:300:ASN:HA | 1:M:305:ASN:HB3 | 1.57 | 0.86 |
| 1:O:135:GLU:CG | 1:O:238:MET:HB2 | 2.04 | 0.86 |
| 1:A:300:ASN:HA | 1:A:305:ASN:HB3 | 1.57 | 0.86 |
| 2:B:58:VAL:HG12 | 2:B:69:ILE:HD13 | 1.56 | 0.86 |
| 2:F:58:VAL:HG12 | 2:F:69:ILE:HD13 | 1.56 | 0.86 |
| 1:K:195:ARG:HG2 | 1:K:195:ARG:HH11 | 1.40 | 0.86 |
| 1:K:300:ASN:HA | 1:K:305:ASN:HB3 | 1.57 | 0.86 |
| 2:P:58:VAL:HG12 | 2:P:69:ILE:HD13 | 1.56 | 0.86 |
| 1:O:241:THR:OG1 | 3:O:1008:FLC:OA2 | 1.94 | 0.86 |
| 1:C:195:ARG:HG2 | 1:C:195:ARG:HH11 | 1.40 | 0.85 |
| 2:F:221:ILE:O | 2:F:225:VAL:HG12 | 1.75 | 0.85 |
| 2:H:221:ILE:O | 2:H:225:VAL:HG12 | 1.75 | 0.85 |
| 1:I:195:ARG:HG2 | 1:I:195:ARG:HH11 | 1.41 | 0.85 |
| 2:J:221:ILE:O | 2:J:225:VAL:HG12 | 1.75 | 0.85 |
| 2:D:221:ILE:O | 2:D:225:VAL:HG12 | 1.75 | 0.85 |
| 1:M:83:THR:OG1 | 3:M:1007:FLC:OG2 | 1.95 | 0.84 |
| 2:P:221:ILE:O | 2:P:225:VAL:HG12 | 1.75 | 0.84 |
| 1:O:300:ASN:HA | 1:O:305:ASN:HB3 | 1.57 | 0.84 |
| 1:M:195:ARG:HG2 | 1:M:195:ARG:HH11 | 1.41 | 0.84 |
| 1:E:195:ARG:HG2 | 1:E:195:ARG:HH11 | 1.40 | 0.84 |
| 2:N:221:ILE:O | 2:N:225:VAL:HG12 | 1.75 | 0.84 |
| 1:E:7:GLU:HB3 | 1:E:10:LEU:CD1 | 2.08 | 0.83 |
| 1:E:187:MET:HE2 | 2:F:156:SER:HB3 | 1.60 | 0.83 |
| 1:I:314:ALA:HB2 | 1:I:346:LEU:HD13 | 1.62 | 0.82 |
| 1:M:195:ARG:HH11 | 1:M:195:ARG:CG | 1.93 | 0.82 |
| 1:C:314:ALA:HB2 | 1:C:346:LEU:HD13 | 1.62 | 0.82 |
| 1:K:195:ARG:HH11 | 1:K:195:ARG:CG | 1.93 | 0.82 |
| 1:M:7:GLU:HB3 | 1:M:10:LEU:CD1 | 2.08 | 0.82 |
| 1:G:195:ARG:HH11 | 1:G:195:ARG:CG | 1.93 | 0.82 |
| 1:C:195:ARG:HH11 | 1:C:195:ARG:CG | 1.93 | 0.81 |
| 1:E:195:ARG:HH11 | 1:E:195:ARG:CG | 1.93 | 0.81 |
| 1:O:195:ARG:HH11 | 1:O:195:ARG:CG | 1.93 | 0.81 |
| 1:O:314:ALA:HB2 | 1:O:346:LEU:HD13 | 1.62 | 0.81 |
| 1:A:64:TYR:CZ | 2:P:63:VAL:CG1 | 2.64 | 0.81 |
| 1:C:7:GLU:HB3 | 1:C:10:LEU:CD1 | 2.08 | 0.81 |
| 1:I:195:ARG:HH11 | 1:I:195:ARG:CG | 1.93 | 0.81 |
| 1:A:195:ARG:HH11 | 1:A:195:ARG:CG | 1.93 | 0.81 |
| 2:H:67:THR:HG21 | 2:H:96:HIS:N | 1.96 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:K:277:GLY:HA2 | 4:K:2006:AMP:H8 | 1.44 | 0.81 |
| 2:B:67:THR:HG21 | 2:B:96:HIS:N | 1.96 | 0.81 |
| 1:K:12:LYS:HE3 | 1:O:168:ASP:CG | 2.06 | 0.80 |
| 1:A:314:ALA:HB2 | 1:A:346:LEU:HD13 | 1.62 | 0.80 |
| 2:J:318:ILE:HA | 2:J:322:VAL:HG21 | 1.64 | 0.80 |
| 2:L:67:THR:HG21 | 2:L:96:HIS:N | 1.96 | 0.80 |
| 2:N:333:ARG:HB2 | 2:N:339:GLY:HA3 | 1.63 | 0.80 |
| 2:B:333:ARG:HB2 | 2:B:339:GLY:HA3 | 1.63 | 0.80 |
| 1:K:314:ALA:HB2 | 1:K:346:LEU:HD13 | 1.62 | 0.80 |
| 1:G:314:ALA:HB2 | 1:G:346:LEU:HD13 | 1.62 | 0.80 |
| 1:I:92:SER:HB3 | 1:I:95:VAL:HG22 | 1.63 | 0.80 |
| 2:J:67:THR:HG21 | 2:J:96:HIS:N | 1.96 | 0.80 |
| 1:C:92:SER:HB3 | 1:C:95:VAL:HG22 | 1.63 | 0.80 |
| 2:H:333:ARG:HB2 | 2:H:339:GLY:HA3 | 1.63 | 0.80 |
| 1:K:92:SER:HB3 | 1:K:95:VAL:HG22 | 1.63 | 0.80 |
| 1:M:119:ARG:HG2 | 2:N:125:THR:HG22 | 1.63 | 0.80 |
| 2:P:67:THR:HG21 | 2:P:96:HIS:N | 1.96 | 0.80 |
| 2:P:318:ILE:HA | 2:P:322:VAL:HG21 | 1.64 | 0.80 |
| 1:M:187:MET:HE2 | 2:N:156:SER:HB3 | 1.61 | 0.80 |
| 1:M:314:ALA:HB2 | 1:M:346:LEU:HD13 | 1.62 | 0.80 |
| 2:N:67:THR:HG21 | 2:N:96:HIS:N | 1.96 | 0.80 |
| 1:G:92:SER:HB3 | 1:G:95:VAL:HG22 | 1.63 | 0.80 |
| 1:E:92:SER:HB3 | 1:E:95:VAL:HG22 | 1.63 | 0.80 |
| 1:M:92:SER:HB3 | 1:M:95:VAL:HG22 | 1.63 | 0.80 |
| 2:N:318:ILE:HA | 2:N:322:VAL:HG21 | 1.64 | 0.80 |
| 1:O:93:LEU:HA | 1:O:96:ALA:HB3 | 1.64 | 0.80 |
| 1:I:93:LEU:HA | 1:I:96:ALA:HB3 | 1.64 | 0.79 |
| 2:L:333:ARG:HB2 | 2:L:339:GLY:HA3 | 1.63 | 0.79 |
| 2:D:67:THR:HG21 | 2:D:96:HIS:N | 1.96 | 0.79 |
| 2:N:61:ILE:HG22 | 2:N:62:PHE:H | 1.47 | 0.79 |
| 2:B:61:ILE:HG22 | 2:B:62:PHE:H | 1.47 | 0.79 |
| 1:G:93:LEU:HA | 1:G:96:ALA:HB3 | 1.64 | 0.79 |
| 2:J:71:ASP:O | 2:J:75:GLN:HG2 | 1.83 | 0.79 |
| 2:J:333:ARG:HB2 | 2:J:339:GLY:HA3 | 1.63 | 0.79 |
| 2:P:61:ILE:HG22 | 2:P:62:PHE:H | 1.47 | 0.79 |
| 2:P:333:ARG:HB2 | 2:P:339:GLY:HA3 | 1.63 | 0.79 |
| 1:C:93:LEU:HA | 1:C:96:ALA:HB3 | 1.64 | 0.79 |
| 2:F:67:THR:HG21 | 2:F:96:HIS:N | 1.96 | 0.79 |
| 2:F:333:ARG:HB2 | 2:F:339:GLY:HA3 | 1.63 | 0.79 |
| 1:K:151:LEU:HD23 | 2:L:157:ILE:HG12 | 1.64 | 0.79 |
| 1:O:92:SER:HB3 | 1:O:95:VAL:HG22 | 1.63 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:92:SER:HB3 | 1:A:95:VAL:HG22 | 1.63 | 0.79 |
| 2:D:71:ASP:O | 2:D:75:GLN:HG2 | 1.82 | 0.79 |
| 2:D:286:ASP:OD1 | 2:P:287:ILE:CD1 | 2.29 | 0.79 |
| 2:H:318:ILE:HA | 2:H:322:VAL:HG21 | 1.64 | 0.79 |
| 2:L:71:ASP:O | 2:L:75:GLN:HG2 | 1.83 | 0.79 |
| 1:E:314:ALA:HB2 | 1:E:346:LEU:HD13 | 1.62 | 0.79 |
| 2:D:61:ILE:HG22 | 2:D:62:PHE:H | 1.48 | 0.79 |
| 2:P:71:ASP:O | 2:P:75:GLN:HG2 | 1.83 | 0.79 |
| 2:F:61:ILE:HG22 | 2:F:62:PHE:H | 1.48 | 0.79 |
| 2:N:71:ASP:O | 2:N:75:GLN:HG2 | 1.82 | 0.79 |
| 2:D:318:ILE:HA | 2:D:322:VAL:HG21 | 1.64 | 0.78 |
| 2:D:333:ARG:HB2 | 2:D:339:GLY:HA3 | 1.63 | 0.78 |
| 2:L:318:ILE:HA | 2:L:322:VAL:HG21 | 1.64 | 0.78 |
| 1:M:93:LEU:HA | 1:M:96:ALA:HB3 | 1.64 | 0.78 |
| 2:H:71:ASP:O | 2:H:75:GLN:HG2 | 1.82 | 0.78 |
| 2:J:61:ILE:HG22 | 2:J:62:PHE:H | 1.48 | 0.78 |
| 1:K:12:LYS:CE | 1:O:168:ASP:OD2 | 2.31 | 0.78 |
| 2:B:71:ASP:O | 2:B:75:GLN:HG2 | 1.82 | 0.78 |
| 2:H:61:ILE:HG22 | 2:H:62:PHE:H | 1.48 | 0.78 |
| 2:F:318:ILE:HA | 2:F:322:VAL:HG21 | 1.64 | 0.78 |
| 1:I:151:LEU:HD23 | 2:J:157:ILE:HG12 | 1.66 | 0.78 |
| 1:C:119:ARG:CG | 2:D:125:THR:HG22 | 2.13 | 0.78 |
| 2:B:318:ILE:HA | 2:B:322:VAL:HG21 | 1.64 | 0.77 |
| 2:F:71:ASP:O | 2:F:75:GLN:HG2 | 1.82 | 0.77 |
| 2:L:61:ILE:HG22 | 2:L:62:PHE:H | 1.48 | 0.77 |
| 1:M:323:LYS:HE3 | 1:M:323:LYS:H | 1.49 | 0.77 |
| 1:E:93:LEU:HA | 1:E:96:ALA:HB3 | 1.64 | 0.77 |
| 1:K:93:LEU:HA | 1:K:96:ALA:HB3 | 1.64 | 0.77 |
| 1:A:93:LEU:HA | 1:A:96:ALA:HB3 | 1.64 | 0.77 |
| 1:E:323:LYS:HE3 | 1:E:323:LYS:H | 1.50 | 0.77 |
| 2:F:130:ASP:HB3 | 2:F:236:THR:HG23 | 1.67 | 0.76 |
| 1:G:323:LYS:HE3 | 1:G:323:LYS:H | 1.50 | 0.76 |
| 2:L:130:ASP:HB3 | 2:L:236:THR:HG23 | 1.67 | 0.76 |
| 1:O:323:LYS:HE3 | 1:O:323:LYS:H | 1.49 | 0.76 |
| 2:D:286:ASP:CG | 2:P:287:ILE:HD11 | 2.10 | 0.76 |
| 1:A:187:MET:HE2 | 2:B:156:SER:HB3 | 1.66 | 0.76 |
| 2:J:130:ASP:HB3 | 2:J:236:THR:HG23 | 1.67 | 0.76 |
| 1:I:323:LYS:HE3 | 1:I:323:LYS:H | 1.49 | 0.76 |
| 2:B:97:ARG:HG3 | 2:B:102:THR:HG23 | 1.68 | 0.76 |
| 2:P:130:ASP:HB3 | 2:P:236:THR:HG23 | 1.67 | 0.76 |
| 1:A:168:ASP:OD2 | 1:E:12:LYS:CE | 2.33 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:D:97:ARG:HG3 | 2:D:102:THR:HG23 | 1.68 | 0.76 |
| 2:N:97:ARG:HG3 | 2:N:102:THR:HG23 | 1.68 | 0.76 |
| 1:K:14:TYR:OH | 1:O:165:PHE:HA | 1.85 | 0.75 |
| 2:P:97:ARG:HG3 | 2:P:102:THR:HG23 | 1.68 | 0.75 |
| 1:K:323:LYS:H | 1:K:323:LYS:HE3 | 1.49 | 0.75 |
| 2:H:97:ARG:HG3 | 2:H:102:THR:HG23 | 1.68 | 0.75 |
| 2:D:285:PRO:HG2 | 2:P:287:ILE:HD13 | 1.66 | 0.75 |
| 1:I:187:MET:HE2 | 2:J:156:SER:HB3 | 1.68 | 0.75 |
| 2:D:130:ASP:HB3 | 2:D:236:THR:HG23 | 1.68 | 0.75 |
| 1:I:171:LYS:HZ2 | 1:M:72:ARG:NH2 | 1.84 | 0.75 |
| 2:J:351:ILE:O | 2:J:354:LEU:HB3 | 1.87 | 0.75 |
| 1:O:187:MET:HE2 | 2:P:156:SER:HB3 | 1.67 | 0.75 |
| 1:A:323:LYS:HE3 | 1:A:323:LYS:H | 1.50 | 0.74 |
| 1:C:323:LYS:H | 1:C:323:LYS:HE3 | 1.49 | 0.74 |
| 2:H:130:ASP:HB3 | 2:H:236:THR:HG23 | 1.68 | 0.74 |
| 2:B:351:ILE:O | 2:B:354:LEU:HB3 | 1.87 | 0.74 |
| 2:N:130:ASP:HB3 | 2:N:236:THR:HG23 | 1.67 | 0.74 |
| 2:F:97:ARG:HG3 | 2:F:102:THR:HG23 | 1.68 | 0.74 |
| 1:K:277:GLY:HA3 | 4:K:2006:AMP:N7 | 2.02 | 0.74 |
| 2:B:130:ASP:HB3 | 2:B:236:THR:HG23 | 1.67 | 0.74 |
| 2:J:97:ARG:HG3 | 2:J:102:THR:HG23 | 1.68 | 0.74 |
| 1:K:28:VAL:HG21 | 4:K:2006:AMP:N6 | 1.99 | 0.74 |
| 2:L:351:ILE:O | 2:L:354:LEU:HB3 | 1.87 | 0.74 |
| 1:A:64:TYR:CZ | 2:P:63:VAL:HG13 | 2.22 | 0.74 |
| 2:J:41:LYS:HG2 | 2:J:53:TRP:CD1 | 2.23 | 0.74 |
| 2:L:97:ARG:HG3 | 2:L:102:THR:HG23 | 1.68 | 0.74 |
| 2:P:41:LYS:HG2 | 2:P:53:TRP:CD1 | 2.23 | 0.74 |
| 2:F:41:LYS:HG2 | 2:F:53:TRP:CD1 | 2.23 | 0.74 |
| 2:H:41:LYS:HG2 | 2:H:53:TRP:CD1 | 2.23 | 0.74 |
| 2:B:41:LYS:HG2 | 2:B:53:TRP:CD1 | 2.23 | 0.73 |
| 2:D:41:LYS:HG2 | 2:D:53:TRP:CD1 | 2.23 | 0.73 |
| 2:D:351:ILE:O | 2:D:354:LEU:HB3 | 1.87 | 0.73 |
| 2:H:351:ILE:O | 2:H:354:LEU:HB3 | 1.87 | 0.73 |
| 1:E:151:LEU:HD23 | 2:F:157:ILE:HG12 | 1.71 | 0.73 |
| 2:P:351:ILE:O | 2:P:354:LEU:HB3 | 1.87 | 0.73 |
| 1:K:72:ARG:CZ | 1:O:171:LYS:NZ | 2.52 | 0.73 |
| 2:N:351:ILE:O | 2:N:354:LEU:HB3 | 1.87 | 0.73 |
| 2:L:41:LYS:HG2 | 2:L:53:TRP:CD1 | 2.23 | 0.73 |
| 1:K:119:ARG:HG2 | 2:L:125:THR:HG22 | 1.70 | 0.73 |
| 1:C:72:ARG:CZ | 1:G:171:LYS:HZ2 | 2.00 | 0.72 |
| 2:F:351:ILE:O | 2:F:354:LEU:HB3 | 1.87 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|-------------------|--------------------------|-------------------|
| 1:K:72:ARG:HH22 | 1:O:171:LYS:NZ | 1.84 | 0.72 |
| 2:N:41:LYS:HG2 | 2:N:53:TRP:CD1 | 2.23 | 0.72 |
| 1:C:72:ARG:NH2 | 1:G:171:LYS:NZ | 2.38 | 0.71 |
| 1:E:277:GLY:CA | 4:E:2003:AMP:C8 | 2.74 | 0.71 |
| 2:L:348:GLU:O | 2:L:352:LYS:HG2 | 1.91 | 0.71 |
| 2:F:348:GLU:O | 2:F:352:LYS:HG2 | 1.91 | 0.71 |
| 2:D:348:GLU:O | 2:D:352:LYS:HG2 | 1.90 | 0.71 |
| 1:G:28:VAL:HG21 | 4:G:2004:AMP:HN61 | 1.55 | 0.71 |
| 2:H:348:GLU:O | 2:H:352:LYS:HG2 | 1.90 | 0.71 |
| 1:E:28:VAL:HG21 | 4:E:2003:AMP:HN61 | 1.55 | 0.70 |
| 2:P:348:GLU:O | 2:P:352:LYS:HG2 | 1.90 | 0.70 |
| 2:B:235:TYR:O | 2:B:238:ALA:HB2 | 1.91 | 0.70 |
| 2:D:235:TYR:O | 2:D:238:ALA:HB2 | 1.91 | 0.70 |
| 2:B:348:GLU:O | 2:B:352:LYS:HG2 | 1.91 | 0.70 |
| 2:J:235:TYR:O | 2:J:238:ALA:HB2 | 1.91 | 0.70 |
| 2:J:348:GLU:O | 2:J:352:LYS:HG2 | 1.90 | 0.70 |
| 2:L:235:TYR:O | 2:L:238:ALA:HB2 | 1.91 | 0.70 |
| 1:E:277:GLY:HA2 | 4:E:2003:AMP:H8 | 1.57 | 0.70 |
| 2:N:348:GLU:O | 2:N:352:LYS:HG2 | 1.90 | 0.70 |
| 2:H:235:TYR:O | 2:H:238:ALA:HB2 | 1.92 | 0.70 |
| 2:H:322:VAL:HB | 2:H:323:LEU:HD23 | 1.74 | 0.70 |
| 1:C:52:ILE:HD12 | 1:C:66:ALA:HA | 1.74 | 0.69 |
| 2:D:322:VAL:HB | 2:D:323:LEU:HD23 | 1.74 | 0.69 |
| 2:N:322:VAL:HB | 2:N:323:LEU:HD23 | 1.74 | 0.69 |
| 2:P:235:TYR:O | 2:P:238:ALA:HB2 | 1.92 | 0.69 |
| 1:K:52:ILE:HD12 | 1:K:66:ALA:HA | 1.75 | 0.69 |
| 1:O:52:ILE:HD12 | 1:O:66:ALA:HA | 1.75 | 0.69 |
| 1:E:195:ARG:HG2 | 1:E:195:ARG:NH1 | 2.07 | 0.69 |
| 1:G:52:ILE:HD12 | 1:G:66:ALA:HA | 1.75 | 0.69 |
| 2:J:322:VAL:HB | 2:J:323:LEU:HD23 | 1.74 | 0.69 |
| 1:K:33:THR:HG23 | 1:K:291:MET:HE3 | 1.75 | 0.69 |
| 1:A:64:TYR:CD1 | 2:P:63:VAL:HG13 | 2.28 | 0.69 |
| 2:F:235:TYR:O | 2:F:238:ALA:HB2 | 1.91 | 0.69 |
| 1:G:305:ASN:HA | 1:G:308:ALA:HB3 | 1.75 | 0.69 |
| 1:I:259:GLY:H | 1:I:294:SER:HB3 | 1.58 | 0.69 |
| 2:N:235:TYR:O | 2:N:238:ALA:HB2 | 1.91 | 0.69 |
| 1:E:33:THR:HG23 | 1:E:291:MET:HE3 | 1.75 | 0.69 |
| 1:E:305:ASN:HA | 1:E:308:ALA:HB3 | 1.75 | 0.69 |
| 1:I:33:THR:HG23 | 1:I:291:MET:HE3 | 1.75 | 0.69 |
| 2:L:322:VAL:HB | 2:L:323:LEU:HD23 | 1.74 | 0.69 |
| 1:M:195:ARG:HG2 | 1:M:195:ARG:NH1 | 2.07 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:33:THR:HG23 | 1:A:291:MET:HE3 | 1.75 | 0.68 |
| 1:A:64:TYR:CZ | 2:P:63:VAL:HG11 | 2.28 | 0.68 |
| 1:C:259:GLY:H | 1:C:294:SER:HB3 | 1.58 | 0.68 |
| 1:E:52:ILE:HD12 | 1:E:66:ALA:HA | 1.74 | 0.68 |
| 1:K:187:MET:HE2 | 2:L:156:SER:HB3 | 1.76 | 0.68 |
| 1:O:305:ASN:HA | 1:O:308:ALA:HB3 | 1.76 | 0.68 |
| 2:P:322:VAL:HB | 2:P:323:LEU:HD23 | 1.74 | 0.68 |
| 2:B:322:VAL:HB | 2:B:323:LEU:HD23 | 1.74 | 0.68 |
| 1:O:33:THR:HG23 | 1:O:291:MET:HE3 | 1.75 | 0.68 |
| 1:M:52:ILE:HD12 | 1:M:66:ALA:HA | 1.75 | 0.68 |
| 1:M:33:THR:HG23 | 1:M:291:MET:HE3 | 1.75 | 0.68 |
| 1:M:259:GLY:H | 1:M:294:SER:HB3 | 1.58 | 0.68 |
| 2:P:274:ILE:HG22 | 2:P:275:SER:N | 2.09 | 0.68 |
| 1:C:33:THR:HG23 | 1:C:291:MET:HE3 | 1.75 | 0.68 |
| 1:C:305:ASN:HA | 1:C:308:ALA:HB3 | 1.76 | 0.68 |
| 2:J:274:ILE:HG22 | 2:J:275:SER:N | 2.09 | 0.68 |
| 1:A:52:ILE:HD12 | 1:A:66:ALA:HA | 1.74 | 0.68 |
| 1:I:305:ASN:HA | 1:I:308:ALA:HB3 | 1.75 | 0.68 |
| 1:E:259:GLY:H | 1:E:294:SER:HB3 | 1.58 | 0.68 |
| 1:G:259:GLY:H | 1:G:294:SER:HB3 | 1.58 | 0.68 |
| 1:I:151:LEU:CD1 | 2:L:147:HIS:CD2 | 2.77 | 0.68 |
| 1:K:195:ARG:HG2 | 1:K:195:ARG:NH1 | 2.07 | 0.68 |
| 1:M:305:ASN:HA | 1:M:308:ALA:HB3 | 1.76 | 0.68 |
| 1:O:259:GLY:H | 1:O:294:SER:HB3 | 1.58 | 0.68 |
| 2:H:274:ILE:HG22 | 2:H:275:SER:N | 2.09 | 0.68 |
| 1:K:259:GLY:H | 1:K:294:SER:HB3 | 1.58 | 0.68 |
| 2:D:274:ILE:HG22 | 2:D:275:SER:N | 2.09 | 0.67 |
| 2:F:322:VAL:HB | 2:F:323:LEU:HD23 | 1.74 | 0.67 |
| 1:E:323:LYS:HE3 | 1:E:323:LYS:N | 2.09 | 0.67 |
| 1:K:305:ASN:HA | 1:K:308:ALA:HB3 | 1.76 | 0.67 |
| 1:M:323:LYS:HE3 | 1:M:323:LYS:N | 2.09 | 0.67 |
| 1:C:323:LYS:HE3 | 1:C:323:LYS:N | 2.09 | 0.67 |
| 1:I:52:ILE:HD12 | 1:I:66:ALA:HA | 1.74 | 0.67 |
| 1:A:160:GLU:OE1 | 1:E:8:ARG:NH2 | 2.27 | 0.67 |
| 2:D:351:ILE:HG23 | 2:D:354:LEU:HD23 | 1.77 | 0.67 |
| 2:H:322:VAL:CG1 | 2:H:350:VAL:HG13 | 2.24 | 0.67 |
| 2:J:351:ILE:HG23 | 2:J:354:LEU:HD23 | 1.77 | 0.67 |
| 2:L:274:ILE:HG22 | 2:L:275:SER:N | 2.09 | 0.67 |
| 2:P:351:ILE:HG23 | 2:P:354:LEU:HD23 | 1.77 | 0.67 |
| 1:A:305:ASN:HA | 1:A:308:ALA:HB3 | 1.76 | 0.67 |
| 1:C:195:ARG:HG2 | 1:C:195:ARG:NH1 | 2.07 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:H:150:CYS:CB | 2:H:151:PRO:HD2 | 2.25 | 0.67 |
| 1:O:323:LYS:HE3 | 1:O:323:LYS:N | 2.09 | 0.67 |
| 1:A:259:GLY:H | 1:A:294:SER:HB3 | 1.58 | 0.67 |
| 1:G:323:LYS:HE3 | 1:G:323:LYS:N | 2.10 | 0.67 |
| 2:P:326:ILE:HG21 | 2:P:350:VAL:HA | 1.77 | 0.67 |
| 2:B:351:ILE:HG23 | 2:B:354:LEU:HD23 | 1.77 | 0.67 |
| 1:I:119:ARG:HG2 | 2:J:125:THR:HG22 | 1.77 | 0.67 |
| 1:I:195:ARG:HG2 | 1:I:195:ARG:NH1 | 2.07 | 0.67 |
| 2:L:351:ILE:HG23 | 2:L:354:LEU:HD23 | 1.77 | 0.67 |
| 1:A:323:LYS:HE3 | 1:A:323:LYS:N | 2.10 | 0.67 |
| 2:B:150:CYS:CB | 2:B:151:PRO:HD2 | 2.25 | 0.67 |
| 2:D:322:VAL:CG1 | 2:D:350:VAL:HG13 | 2.24 | 0.67 |
| 2:H:164:ALA:O | 2:H:168:VAL:HG23 | 1.95 | 0.67 |
| 2:L:40:VAL:HG22 | 2:L:299:LEU:HD13 | 1.77 | 0.67 |
| 2:D:164:ALA:O | 2:D:168:VAL:HG23 | 1.95 | 0.66 |
| 2:F:150:CYS:CB | 2:F:151:PRO:HD2 | 2.25 | 0.66 |
| 2:F:274:ILE:HG22 | 2:F:275:SER:N | 2.09 | 0.66 |
| 2:F:322:VAL:CG1 | 2:F:350:VAL:HG13 | 2.24 | 0.66 |
| 1:G:195:ARG:HG2 | 1:G:195:ARG:NH1 | 2.07 | 0.66 |
| 1:I:323:LYS:HE3 | 1:I:323:LYS:N | 2.09 | 0.66 |
| 2:J:326:ILE:HG21 | 2:J:350:VAL:HA | 1.77 | 0.66 |
| 1:K:323:LYS:HE3 | 1:K:323:LYS:N | 2.09 | 0.66 |
| 2:D:40:VAL:HG22 | 2:D:299:LEU:HD13 | 1.77 | 0.66 |
| 1:E:277:GLY:CA | 4:E:2003:AMP:H8 | 2.07 | 0.66 |
| 2:N:326:ILE:HG21 | 2:N:350:VAL:HA | 1.77 | 0.66 |
| 2:P:164:ALA:O | 2:P:168:VAL:HG23 | 1.95 | 0.66 |
| 2:B:164:ALA:O | 2:B:168:VAL:HG23 | 1.95 | 0.66 |
| 2:H:326:ILE:HG21 | 2:H:350:VAL:HA | 1.77 | 0.66 |
| 2:B:274:ILE:HG22 | 2:B:275:SER:N | 2.09 | 0.66 |
| 2:F:40:VAL:HG22 | 2:F:299:LEU:HD13 | 1.77 | 0.66 |
| 2:N:351:ILE:HG23 | 2:N:354:LEU:HD23 | 1.77 | 0.66 |
| 1:O:323:LYS:O | 1:O:324:HIS:HB2 | 1.96 | 0.66 |
| 2:D:17:PRO:HB2 | 2:J:62:PHE:CD2 | 2.30 | 0.66 |
| 2:N:164:ALA:O | 2:N:168:VAL:HG23 | 1.95 | 0.66 |
| 1:O:151:LEU:HD23 | 2:P:157:ILE:HG12 | 1.78 | 0.66 |
| 2:N:274:ILE:HG22 | 2:N:275:SER:N | 2.09 | 0.66 |
| 2:D:150:CYS:CB | 2:D:151:PRO:HD2 | 2.25 | 0.66 |
| 1:G:33:THR:HG23 | 1:G:291:MET:HE3 | 1.75 | 0.66 |
| 2:L:326:ILE:HG21 | 2:L:350:VAL:HA | 1.77 | 0.66 |
| 2:F:164:ALA:O | 2:F:168:VAL:HG23 | 1.95 | 0.66 |
| 2:H:351:ILE:HG23 | 2:H:354:LEU:HD23 | 1.77 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:333:ARG:O | 2:B:341:ALA:HB3 | 1.96 | 0.66 |
| 1:E:323:LYS:O | 1:E:324:HIS:HB2 | 1.95 | 0.66 |
| 2:F:326:ILE:HG21 | 2:F:350:VAL:HA | 1.77 | 0.66 |
| 2:P:40:VAL:HG22 | 2:P:299:LEU:HD13 | 1.77 | 0.66 |
| 2:B:322:VAL:CG1 | 2:B:350:VAL:HG13 | 2.24 | 0.65 |
| 2:B:326:ILE:HG21 | 2:B:350:VAL:HA | 1.77 | 0.65 |
| 1:K:323:LYS:O | 1:K:324:HIS:HB2 | 1.96 | 0.65 |
| 2:D:326:ILE:HG21 | 2:D:350:VAL:HA | 1.77 | 0.65 |
| 1:G:323:LYS:O | 1:G:324:HIS:HB2 | 1.96 | 0.65 |
| 2:H:40:VAL:HG22 | 2:H:299:LEU:HD13 | 1.77 | 0.65 |
| 2:B:291:ASP:OD2 | 2:B:343:THR:HB | 1.97 | 0.65 |
| 2:N:40:VAL:HG22 | 2:N:299:LEU:HD13 | 1.77 | 0.65 |
| 1:A:195:ARG:HG2 | 1:A:195:ARG:NH1 | 2.07 | 0.65 |
| 2:D:291:ASP:OD2 | 2:D:343:THR:HB | 1.97 | 0.65 |
| 2:J:40:VAL:HG22 | 2:J:299:LEU:HD13 | 1.77 | 0.65 |
| 1:M:323:LYS:O | 1:M:324:HIS:HB2 | 1.96 | 0.65 |
| 2:B:40:VAL:HG22 | 2:B:299:LEU:HD13 | 1.77 | 0.65 |
| 2:F:333:ARG:O | 2:F:341:ALA:HB3 | 1.96 | 0.65 |
| 2:F:351:ILE:HG23 | 2:F:354:LEU:HD23 | 1.77 | 0.65 |
| 2:J:164:ALA:O | 2:J:168:VAL:HG23 | 1.95 | 0.65 |
| 1:A:168:ASP:OD2 | 1:E:12:LYS:NZ | 2.29 | 0.65 |
| 1:A:323:LYS:O | 1:A:324:HIS:HB2 | 1.95 | 0.65 |
| 2:D:333:ARG:O | 2:D:341:ALA:HB3 | 1.96 | 0.65 |
| 2:H:333:ARG:O | 2:H:341:ALA:HB3 | 1.96 | 0.65 |
| 2:L:164:ALA:O | 2:L:168:VAL:HG23 | 1.95 | 0.65 |
| 1:G:187:MET:HE2 | 2:H:156:SER:HB3 | 1.78 | 0.65 |
| 2:J:322:VAL:CG1 | 2:J:350:VAL:HG13 | 2.24 | 0.65 |
| 2:P:333:ARG:O | 2:P:341:ALA:HB3 | 1.96 | 0.65 |
| 2:N:322:VAL:CG1 | 2:N:350:VAL:HG13 | 2.24 | 0.65 |
| 2:J:333:ARG:O | 2:J:341:ALA:HB3 | 1.96 | 0.64 |
| 2:N:333:ARG:O | 2:N:341:ALA:HB3 | 1.96 | 0.64 |
| 2:P:150:CYS:CB | 2:P:151:PRO:HD2 | 2.25 | 0.64 |
| 1:A:171:LYS:NZ | 1:E:72:ARG:CZ | 2.50 | 0.64 |
| 1:C:323:LYS:O | 1:C:324:HIS:HB2 | 1.96 | 0.64 |
| 1:I:323:LYS:O | 1:I:324:HIS:HB2 | 1.96 | 0.64 |
| 2:L:291:ASP:OD2 | 2:L:343:THR:HB | 1.97 | 0.64 |
| 1:O:119:ARG:CG | 2:P:125:THR:HG22 | 2.25 | 0.64 |
| 1:E:277:GLY:HA2 | 4:E:2003:AMP:C8 | 2.31 | 0.64 |
| 2:F:97:ARG:HA | 2:F:97:ARG:HE | 1.62 | 0.64 |
| 2:P:322:VAL:CG1 | 2:P:350:VAL:HG13 | 2.24 | 0.64 |
| 1:A:119:ARG:CG | 2:B:125:THR:HG22 | 2.26 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------|--------------------------|-------------------|
| 1:C:12:LYS:CE | 1:G:168:ASP:OD2 | 2.44 | 0.64 |
| 2:L:333:ARG:O | 2:L:341:ALA:HB3 | 1.96 | 0.64 |
| 2:P:291:ASP:OD2 | 2:P:343:THR:HB | 1.97 | 0.64 |
| 2:H:291:ASP:OD2 | 2:H:343:THR:HB | 1.97 | 0.64 |
| 2:J:97:ARG:HA | 2:J:97:ARG:HE | 1.62 | 0.64 |
| 2:J:291:ASP:OD2 | 2:J:343:THR:HB | 1.97 | 0.64 |
| 1:K:14:TYR:CE2 | 1:O:165:PHE:HD1 | 2.16 | 0.64 |
| 2:D:97:ARG:HA | 2:D:97:ARG:HE | 1.62 | 0.64 |
| 2:L:150:CYS:CB | 2:L:151:PRO:HD2 | 2.25 | 0.64 |
| 2:P:97:ARG:HA | 2:P:97:ARG:HE | 1.62 | 0.64 |
| 1:A:181:VAL:HB | 1:A:235:THR:HG22 | 1.80 | 0.64 |
| 1:C:12:LYS:HE3 | 1:G:168:ASP:CG | 2.23 | 0.64 |
| 2:L:97:ARG:HA | 2:L:97:ARG:HE | 1.62 | 0.64 |
| 2:N:97:ARG:HA | 2:N:97:ARG:HE | 1.62 | 0.64 |
| 2:N:291:ASP:OD2 | 2:N:343:THR:HB | 1.97 | 0.64 |
| 2:B:97:ARG:HA | 2:B:97:ARG:HE | 1.62 | 0.64 |
| 2:F:291:ASP:OD2 | 2:F:343:THR:HB | 1.97 | 0.64 |
| 1:K:72:ARG:HH22 | 1:O:171:LYS:HZ1 | 1.46 | 0.64 |
| 1:E:181:VAL:HB | 1:E:235:THR:HG22 | 1.80 | 0.63 |
| 1:G:181:VAL:HB | 1:G:235:THR:HG22 | 1.80 | 0.63 |
| 2:N:150:CYS:CB | 2:N:151:PRO:HD2 | 2.25 | 0.63 |
| 2:P:67:THR:CG2 | 2:P:96:HIS:N | 2.61 | 0.63 |
| 1:I:181:VAL:HB | 1:I:235:THR:HG22 | 1.80 | 0.63 |
| 2:J:67:THR:CG2 | 2:J:96:HIS:N | 2.62 | 0.63 |
| 2:L:322:VAL:CG1 | 2:L:350:VAL:HG13 | 2.24 | 0.63 |
| 2:H:97:ARG:HA | 2:H:97:ARG:HE | 1.62 | 0.63 |
| 2:L:67:THR:CG2 | 2:L:96:HIS:N | 2.61 | 0.63 |
| 2:J:43:ILE:HD13 | 2:J:350:VAL:HG11 | 1.81 | 0.63 |
| 2:N:67:THR:CG2 | 2:N:96:HIS:N | 2.62 | 0.63 |
| 2:P:60:PRO:HG3 | 2:P:99:LEU:HD13 | 1.81 | 0.63 |
| 1:E:315:VAL:O | 1:E:319:ILE:HG23 | 1.99 | 0.63 |
| 1:M:315:VAL:O | 1:M:319:ILE:HG23 | 1.99 | 0.63 |
| 2:D:58:VAL:HG12 | 2:D:69:ILE:CD1 | 2.29 | 0.63 |
| 2:B:58:VAL:HG12 | 2:B:69:ILE:CD1 | 2.29 | 0.63 |
| 2:H:67:THR:CG2 | 2:H:96:HIS:N | 2.62 | 0.63 |
| 2:N:58:VAL:HG12 | 2:N:69:ILE:CD1 | 2.29 | 0.63 |
| 2:N:60:PRO:HG3 | 2:N:99:LEU:HD13 | 1.81 | 0.63 |
| 1:O:181:VAL:HB | 1:O:235:THR:HG22 | 1.80 | 0.62 |
| 2:F:43:ILE:HD13 | 2:F:350:VAL:HG11 | 1.81 | 0.62 |
| 2:L:43:ILE:HD13 | 2:L:350:VAL:HG11 | 1.81 | 0.62 |
| 2:F:60:PRO:HG3 | 2:F:99:LEU:HD13 | 1.81 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:K:72:ARG:NH1 | 1:O:171:LYS:HZ2 | 1.97 | 0.62 |
| 1:K:315:VAL:O | 1:K:319:ILE:HG23 | 1.99 | 0.62 |
| 1:O:315:VAL:O | 1:O:319:ILE:HG23 | 1.99 | 0.62 |
| 1:I:315:VAL:O | 1:I:319:ILE:HG23 | 1.99 | 0.62 |
| 2:P:334:THR:HG22 | 2:P:335:GLY:H | 1.64 | 0.62 |
| 2:B:67:THR:CG2 | 2:B:96:HIS:N | 2.62 | 0.62 |
| 1:C:315:VAL:O | 1:C:319:ILE:HG23 | 1.99 | 0.62 |
| 1:K:277:GLY:CA | 4:K:2006:AMP:N7 | 2.62 | 0.62 |
| 1:O:195:ARG:HG2 | 1:O:195:ARG:NH1 | 2.07 | 0.62 |
| 2:B:60:PRO:HG3 | 2:B:99:LEU:HD13 | 1.81 | 0.62 |
| 1:K:181:VAL:HB | 1:K:235:THR:HG22 | 1.80 | 0.62 |
| 2:L:60:PRO:HG3 | 2:L:99:LEU:HD13 | 1.81 | 0.62 |
| 1:O:187:MET:HE3 | 2:P:141:GLU:O | 1.99 | 0.62 |
| 2:B:43:ILE:HD13 | 2:B:350:VAL:HG11 | 1.81 | 0.62 |
| 2:D:43:ILE:HD13 | 2:D:350:VAL:HG11 | 1.81 | 0.62 |
| 2:F:67:THR:CG2 | 2:F:96:HIS:N | 2.62 | 0.62 |
| 2:J:58:VAL:HG12 | 2:J:69:ILE:CD1 | 2.29 | 0.62 |
| 1:M:181:VAL:HB | 1:M:235:THR:HG22 | 1.80 | 0.62 |
| 1:A:64:TYR:CE2 | 2:P:63:VAL:HG22 | 2.34 | 0.62 |
| 1:A:315:VAL:O | 1:A:319:ILE:HG23 | 1.99 | 0.62 |
| 1:C:181:VAL:HB | 1:C:235:THR:HG22 | 1.80 | 0.62 |
| 1:I:92:SER:OG | 3:I:1005:FLC:OG2 | 2.15 | 0.62 |
| 2:J:60:PRO:HG3 | 2:J:99:LEU:HD13 | 1.81 | 0.62 |
| 2:P:43:ILE:HD13 | 2:P:350:VAL:HG11 | 1.81 | 0.62 |
| 1:A:160:GLU:CD | 1:E:8:ARG:NH2 | 2.58 | 0.61 |
| 2:D:67:THR:CG2 | 2:D:96:HIS:N | 2.62 | 0.61 |
| 2:L:58:VAL:HG12 | 2:L:69:ILE:CD1 | 2.29 | 0.61 |
| 2:N:334:THR:HG22 | 2:N:335:GLY:H | 1.65 | 0.61 |
| 1:C:119:ARG:HD2 | 2:D:125:THR:O | 2.00 | 0.61 |
| 2:H:186:VAL:HG23 | 2:H:216:LEU:HD11 | 1.83 | 0.61 |
| 2:J:150:CYS:CB | 2:J:151:PRO:HD2 | 2.25 | 0.61 |
| 2:D:60:PRO:HG3 | 2:D:99:LEU:HD13 | 1.81 | 0.61 |
| 2:D:334:THR:HG22 | 2:D:335:GLY:H | 1.65 | 0.61 |
| 1:G:92:SER:OG | 3:G:1004:FLC:OG2 | 2.17 | 0.61 |
| 2:H:60:PRO:HG3 | 2:H:99:LEU:HD13 | 1.81 | 0.61 |
| 1:I:307:TYR:O | 1:I:311:ILE:HG23 | 2.01 | 0.61 |
| 1:A:307:TYR:O | 1:A:311:ILE:HG23 | 2.01 | 0.61 |
| 2:F:334:THR:HG22 | 2:F:335:GLY:H | 1.65 | 0.61 |
| 2:L:334:THR:HG22 | 2:L:335:GLY:H | 1.65 | 0.61 |
| 1:O:307:TYR:O | 1:O:311:ILE:HG23 | 2.01 | 0.61 |
| 2:D:186:VAL:HG23 | 2:D:216:LEU:HD11 | 1.83 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:M:151:LEU:HD23 | 2:N:157:ILE:HG12 | 1.82 | 0.61 |
| 1:M:307:TYR:O | 1:M:311:ILE:HG23 | 2.00 | 0.61 |
| 2:F:58:VAL:HG12 | 2:F:69:ILE:CD1 | 2.29 | 0.61 |
| 1:A:168:ASP:CG | 1:E:12:LYS:HE3 | 2.25 | 0.61 |
| 2:B:334:THR:HG22 | 2:B:335:GLY:H | 1.65 | 0.61 |
| 1:G:315:VAL:O | 1:G:319:ILE:HG23 | 1.99 | 0.61 |
| 1:I:168:ASP:OD2 | 1:M:12:LYS:CE | 2.47 | 0.61 |
| 1:K:115:GLY:HA3 | 1:K:320:ALA:HA | 1.83 | 0.61 |
| 2:F:186:VAL:HG23 | 2:F:216:LEU:HD11 | 1.83 | 0.61 |
| 1:I:115:GLY:HA3 | 1:I:320:ALA:HA | 1.83 | 0.61 |
| 2:J:186:VAL:HG23 | 2:J:216:LEU:HD11 | 1.83 | 0.61 |
| 1:K:307:TYR:O | 1:K:311:ILE:HG23 | 2.00 | 0.61 |
| 2:N:36:ILE:HG12 | 2:N:295:PRO:HA | 1.83 | 0.61 |
| 2:B:186:VAL:HG23 | 2:B:216:LEU:HD11 | 1.83 | 0.61 |
| 1:G:115:GLY:HA3 | 1:G:320:ALA:HA | 1.83 | 0.61 |
| 1:G:307:TYR:O | 1:G:311:ILE:HG23 | 2.01 | 0.61 |
| 2:P:12:THR:HB | 2:P:81:LEU:HD12 | 1.83 | 0.61 |
| 1:K:277:GLY:CA | 4:K:2006:AMP:H8 | 2.02 | 0.60 |
| 1:A:115:GLY:HA3 | 1:A:320:ALA:HA | 1.83 | 0.60 |
| 1:A:171:LYS:HZ1 | 1:E:72:ARG:HH22 | 1.48 | 0.60 |
| 2:H:43:ILE:HD13 | 2:H:350:VAL:HG11 | 1.81 | 0.60 |
| 2:H:306:LEU:HD12 | 2:H:309:MET:CE | 2.31 | 0.60 |
| 2:J:334:THR:HG22 | 2:J:335:GLY:H | 1.65 | 0.60 |
| 1:M:115:GLY:HA3 | 1:M:320:ALA:HA | 1.83 | 0.60 |
| 2:B:306:LEU:HD12 | 2:B:309:MET:CE | 2.32 | 0.60 |
| 1:C:35:SER:O | 1:C:39:ILE:HG13 | 2.01 | 0.60 |
| 2:D:306:LEU:HD12 | 2:D:309:MET:CE | 2.31 | 0.60 |
| 2:P:58:VAL:HG12 | 2:P:69:ILE:CD1 | 2.29 | 0.60 |
| 1:C:307:TYR:O | 1:C:311:ILE:HG23 | 2.01 | 0.60 |
| 1:G:35:SER:O | 1:G:39:ILE:HG13 | 2.02 | 0.60 |
| 1:M:35:SER:O | 1:M:39:ILE:HG13 | 2.02 | 0.60 |
| 2:N:67:THR:HG23 | 2:N:97:ARG:HB3 | 1.83 | 0.60 |
| 2:B:12:THR:HB | 2:B:81:LEU:HD12 | 1.83 | 0.60 |
| 2:B:351:ILE:HA | 2:B:354:LEU:HB2 | 1.84 | 0.60 |
| 2:F:351:ILE:HA | 2:F:354:LEU:HB2 | 1.84 | 0.60 |
| 2:H:351:ILE:HA | 2:H:354:LEU:HB2 | 1.84 | 0.60 |
| 2:N:306:LEU:HD12 | 2:N:309:MET:CE | 2.31 | 0.60 |
| 2:P:36:ILE:HG12 | 2:P:295:PRO:HA | 1.83 | 0.60 |
| 2:D:36:ILE:HG12 | 2:D:295:PRO:HA | 1.83 | 0.60 |
| 1:E:245:ASN:ND2 | 2:F:222:ASP:HA | 2.16 | 0.60 |
| 1:I:35:SER:O | 1:I:39:ILE:HG13 | 2.02 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:J:36:ILE:HG12 | 2:J:295:PRO:HA | 1.83 | 0.60 |
| 2:J:306:LEU:HD12 | 2:J:309:MET:CE | 2.32 | 0.60 |
| 2:L:351:ILE:HA | 2:L:354:LEU:HB2 | 1.84 | 0.60 |
| 2:N:186:VAL:HG23 | 2:N:216:LEU:HD11 | 1.83 | 0.60 |
| 2:P:295:PRO:HB2 | 2:P:299:LEU:HD22 | 1.84 | 0.60 |
| 2:P:306:LEU:HD12 | 2:P:309:MET:CE | 2.32 | 0.60 |
| 1:E:119:ARG:HG2 | 2:F:125:THR:HG22 | 1.84 | 0.60 |
| 1:E:307:TYR:O | 1:E:311:ILE:HG23 | 2.00 | 0.60 |
| 1:K:300:ASN:OD1 | 1:K:305:ASN:HB2 | 2.02 | 0.60 |
| 1:E:151:LEU:CD1 | 2:H:147:HIS:CD2 | 2.84 | 0.60 |
| 2:F:306:LEU:HD12 | 2:F:309:MET:CE | 2.32 | 0.60 |
| 2:H:58:VAL:HG12 | 2:H:69:ILE:CD1 | 2.29 | 0.60 |
| 2:H:295:PRO:HB2 | 2:H:299:LEU:HD22 | 1.84 | 0.60 |
| 2:J:351:ILE:HA | 2:J:354:LEU:HB2 | 1.84 | 0.60 |
| 2:N:43:ILE:HD13 | 2:N:350:VAL:HG11 | 1.81 | 0.60 |
| 2:D:351:ILE:HA | 2:D:354:LEU:HB2 | 1.83 | 0.60 |
| 1:E:115:GLY:HA3 | 1:E:320:ALA:HA | 1.83 | 0.60 |
| 2:F:36:ILE:HG12 | 2:F:295:PRO:HA | 1.83 | 0.60 |
| 2:F:149:VAL:HG21 | 2:H:149:VAL:HG21 | 1.83 | 0.60 |
| 2:L:12:THR:HB | 2:L:81:LEU:HD12 | 1.83 | 0.60 |
| 1:G:197:ILE:O | 1:G:201:ILE:HG23 | 2.02 | 0.60 |
| 1:I:300:ASN:OD1 | 1:I:305:ASN:HB2 | 2.02 | 0.60 |
| 1:K:35:SER:O | 1:K:39:ILE:HG13 | 2.02 | 0.60 |
| 1:M:300:ASN:OD1 | 1:M:305:ASN:HB2 | 2.02 | 0.60 |
| 1:O:115:GLY:HA3 | 1:O:320:ALA:HA | 1.83 | 0.60 |
| 2:P:186:VAL:HG23 | 2:P:216:LEU:HD11 | 1.83 | 0.60 |
| 1:A:197:ILE:O | 1:A:201:ILE:HG23 | 2.02 | 0.59 |
| 1:C:115:GLY:HA3 | 1:C:320:ALA:HA | 1.83 | 0.59 |
| 1:E:300:ASN:OD1 | 1:E:305:ASN:HB2 | 2.02 | 0.59 |
| 2:H:314:HIS:O | 2:H:318:ILE:HG13 | 2.02 | 0.59 |
| 2:J:12:THR:HB | 2:J:81:LEU:HD12 | 1.83 | 0.59 |
| 2:L:306:LEU:HD12 | 2:L:309:MET:CE | 2.32 | 0.59 |
| 2:L:314:HIS:O | 2:L:318:ILE:HG13 | 2.02 | 0.59 |
| 2:P:44:PHE:CD2 | 2:P:49:VAL:HG21 | 2.37 | 0.59 |
| 2:B:295:PRO:HB2 | 2:B:299:LEU:HD22 | 1.84 | 0.59 |
| 1:G:92:SER:CB | 3:G:1004:FLC:OG2 | 2.50 | 0.59 |
| 2:J:155:GLN:NE2 | 2:L:155:GLN:OE1 | 2.33 | 0.59 |
| 2:L:67:THR:HG23 | 2:L:97:ARG:HB3 | 1.84 | 0.59 |
| 2:L:186:VAL:HG23 | 2:L:216:LEU:HD11 | 1.83 | 0.59 |
| 2:N:12:THR:HB | 2:N:81:LEU:HD12 | 1.83 | 0.59 |
| 2:N:314:HIS:O | 2:N:318:ILE:HG13 | 2.02 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:300:ASN:OD1 | 1:A:305:ASN:HB2 | 2.02 | 0.59 |
| 1:C:197:ILE:O | 1:C:201:ILE:HG23 | 2.02 | 0.59 |
| 2:D:12:THR:HB | 2:D:81:LEU:HD12 | 1.83 | 0.59 |
| 2:D:44:PHE:CD2 | 2:D:49:VAL:HG21 | 2.37 | 0.59 |
| 2:F:314:HIS:O | 2:F:318:ILE:HG13 | 2.02 | 0.59 |
| 2:B:67:THR:HG23 | 2:B:97:ARG:HB3 | 1.83 | 0.59 |
| 2:B:322:VAL:O | 2:B:324:SER:N | 2.36 | 0.59 |
| 1:E:35:SER:O | 1:E:39:ILE:HG13 | 2.02 | 0.59 |
| 2:F:67:THR:HG23 | 2:F:97:ARG:HB3 | 1.83 | 0.59 |
| 2:F:322:VAL:O | 2:F:324:SER:N | 2.36 | 0.59 |
| 2:H:12:THR:HB | 2:H:81:LEU:HD12 | 1.83 | 0.59 |
| 1:M:83:THR:OG1 | 3:M:1007:FLC:CGC | 2.49 | 0.59 |
| 2:N:253:LEU:HD23 | 2:N:253:LEU:C | 2.28 | 0.59 |
| 2:N:322:VAL:O | 2:N:324:SER:N | 2.36 | 0.59 |
| 1:O:300:ASN:OD1 | 1:O:305:ASN:HB2 | 2.02 | 0.59 |
| 2:B:44:PHE:CD2 | 2:B:49:VAL:HG21 | 2.38 | 0.59 |
| 1:C:300:ASN:OD1 | 1:C:305:ASN:HB2 | 2.02 | 0.59 |
| 1:I:153:VAL:HG11 | 2:L:149:VAL:O | 2.02 | 0.59 |
| 2:L:133:LEU:HD23 | 2:L:133:LEU:C | 2.28 | 0.59 |
| 2:D:314:HIS:O | 2:D:318:ILE:HG13 | 2.02 | 0.59 |
| 1:E:197:ILE:O | 1:E:201:ILE:HG23 | 2.02 | 0.59 |
| 1:I:168:ASP:CG | 1:M:12:LYS:HE3 | 2.28 | 0.59 |
| 2:J:253:LEU:C | 2:J:253:LEU:HD23 | 2.28 | 0.59 |
| 2:N:44:PHE:CD2 | 2:N:49:VAL:HG21 | 2.38 | 0.59 |
| 2:P:351:ILE:HA | 2:P:354:LEU:HB2 | 1.84 | 0.59 |
| 1:A:183:LYS:HE2 | 2:B:142:TYR:OH | 2.02 | 0.59 |
| 2:D:253:LEU:HD23 | 2:D:253:LEU:C | 2.28 | 0.59 |
| 2:F:12:THR:HB | 2:F:81:LEU:HD12 | 1.83 | 0.59 |
| 2:F:44:PHE:CD2 | 2:F:49:VAL:HG21 | 2.37 | 0.59 |
| 2:H:36:ILE:HG12 | 2:H:295:PRO:HA | 1.83 | 0.59 |
| 2:J:44:PHE:CD2 | 2:J:49:VAL:HG21 | 2.37 | 0.59 |
| 2:L:322:VAL:O | 2:L:324:SER:N | 2.36 | 0.59 |
| 2:L:323:LEU:HD23 | 2:L:323:LEU:H | 1.68 | 0.59 |
| 1:M:183:LYS:HE2 | 2:N:142:TYR:OH | 2.03 | 0.59 |
| 1:M:197:ILE:O | 1:M:201:ILE:HG23 | 2.02 | 0.59 |
| 2:N:295:PRO:HB2 | 2:N:299:LEU:HD22 | 1.84 | 0.59 |
| 2:D:322:VAL:O | 2:D:324:SER:N | 2.36 | 0.59 |
| 1:G:300:ASN:OD1 | 1:G:305:ASN:HB2 | 2.02 | 0.59 |
| 2:H:334:THR:HG22 | 2:H:335:GLY:H | 1.65 | 0.59 |
| 2:J:322:VAL:O | 2:J:324:SER:N | 2.36 | 0.59 |
| 2:L:36:ILE:HG12 | 2:L:295:PRO:HA | 1.83 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:N:351:ILE:HA | 2:N:354:LEU:HB2 | 1.84 | 0.59 |
| 1:O:183:LYS:HE2 | 2:P:142:TYR:OH | 2.03 | 0.59 |
| 2:F:295:PRO:HB2 | 2:F:299:LEU:HD22 | 1.84 | 0.59 |
| 2:B:36:ILE:HG12 | 2:B:295:PRO:HA | 1.83 | 0.58 |
| 2:D:67:THR:HG23 | 2:D:97:ARG:HB3 | 1.83 | 0.58 |
| 2:H:133:LEU:C | 2:H:133:LEU:HD23 | 2.28 | 0.58 |
| 2:L:44:PHE:CD2 | 2:L:49:VAL:HG21 | 2.37 | 0.58 |
| 2:P:322:VAL:O | 2:P:324:SER:N | 2.36 | 0.58 |
| 1:C:151:LEU:HD23 | 2:D:157:ILE:HG12 | 1.85 | 0.58 |
| 2:D:133:LEU:HD23 | 2:D:133:LEU:C | 2.28 | 0.58 |
| 2:F:189:LYS:HB2 | 2:F:221:ILE:HD11 | 1.86 | 0.58 |
| 1:I:338:PHE:O | 1:I:342:ILE:HG12 | 2.04 | 0.58 |
| 2:J:133:LEU:HD23 | 2:J:133:LEU:C | 2.28 | 0.58 |
| 2:L:253:LEU:HD23 | 2:L:253:LEU:C | 2.28 | 0.58 |
| 1:O:35:SER:O | 1:O:39:ILE:HG13 | 2.02 | 0.58 |
| 2:P:67:THR:HG23 | 2:P:97:ARG:HB3 | 1.84 | 0.58 |
| 1:A:35:SER:O | 1:A:39:ILE:HG13 | 2.02 | 0.58 |
| 2:D:189:LYS:HB2 | 2:D:221:ILE:HD11 | 1.85 | 0.58 |
| 1:E:338:PHE:O | 1:E:342:ILE:HG12 | 2.04 | 0.58 |
| 2:F:133:LEU:HD23 | 2:F:133:LEU:C | 2.28 | 0.58 |
| 2:J:295:PRO:HB2 | 2:J:299:LEU:HD22 | 1.84 | 0.58 |
| 2:B:253:LEU:C | 2:B:253:LEU:HD23 | 2.28 | 0.58 |
| 1:C:338:PHE:O | 1:C:342:ILE:HG12 | 2.04 | 0.58 |
| 2:D:295:PRO:HB2 | 2:D:299:LEU:HD22 | 1.84 | 0.58 |
| 1:K:338:PHE:O | 1:K:342:ILE:HG12 | 2.04 | 0.58 |
| 1:M:338:PHE:O | 1:M:342:ILE:HG12 | 2.03 | 0.58 |
| 2:P:253:LEU:HD23 | 2:P:253:LEU:C | 2.28 | 0.58 |
| 2:P:314:HIS:O | 2:P:318:ILE:HG13 | 2.02 | 0.58 |
| 2:H:253:LEU:HD23 | 2:H:253:LEU:C | 2.28 | 0.58 |
| 2:J:314:HIS:O | 2:J:318:ILE:HG13 | 2.02 | 0.58 |
| 2:N:64:ASN:C | 2:N:66:LEU:H | 2.12 | 0.58 |
| 2:N:189:LYS:HB2 | 2:N:221:ILE:HD11 | 1.85 | 0.58 |
| 2:B:64:ASN:C | 2:B:66:LEU:H | 2.12 | 0.58 |
| 2:F:253:LEU:HD23 | 2:F:253:LEU:C | 2.28 | 0.58 |
| 1:O:338:PHE:O | 1:O:342:ILE:HG12 | 2.04 | 0.58 |
| 2:B:133:LEU:HD23 | 2:B:133:LEU:C | 2.28 | 0.58 |
| 2:B:314:HIS:O | 2:B:318:ILE:HG13 | 2.03 | 0.58 |
| 1:G:338:PHE:O | 1:G:342:ILE:HG12 | 2.04 | 0.58 |
| 2:H:44:PHE:CD2 | 2:H:49:VAL:HG21 | 2.38 | 0.58 |
| 2:H:64:ASN:C | 2:H:66:LEU:H | 2.12 | 0.58 |
| 2:J:67:THR:HG23 | 2:J:97:ARG:HB3 | 1.83 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:K:197:ILE:O | 1:K:201:ILE:HG23 | 2.02 | 0.58 |
| 1:O:197:ILE:O | 1:O:201:ILE:HG23 | 2.02 | 0.58 |
| 1:A:338:PHE:O | 1:A:342:ILE:HG12 | 2.04 | 0.58 |
| 2:D:187:VAL:HB | 2:D:242:CYS:HB3 | 1.86 | 0.58 |
| 2:F:64:ASN:C | 2:F:66:LEU:H | 2.12 | 0.58 |
| 2:H:67:THR:HG23 | 2:H:97:ARG:HB3 | 1.83 | 0.58 |
| 2:H:187:VAL:HB | 2:H:242:CYS:HB3 | 1.86 | 0.58 |
| 1:I:197:ILE:O | 1:I:201:ILE:HG23 | 2.02 | 0.58 |
| 2:P:323:LEU:HD23 | 2:P:323:LEU:H | 1.68 | 0.58 |
| 2:B:101:LEU:HD23 | 2:B:104:ARG:HH12 | 1.69 | 0.58 |
| 2:B:187:VAL:HB | 2:B:242:CYS:HB3 | 1.86 | 0.58 |
| 2:B:189:LYS:HB2 | 2:B:221:ILE:HD11 | 1.85 | 0.58 |
| 1:C:72:ARG:HH22 | 1:G:171:LYS:NZ | 2.01 | 0.58 |
| 1:E:93:LEU:HA | 1:E:96:ALA:CB | 2.34 | 0.58 |
| 2:P:133:LEU:C | 2:P:133:LEU:HD23 | 2.28 | 0.58 |
| 1:G:80:LEU:HD11 | 1:G:274:ARG:HG3 | 1.86 | 0.57 |
| 2:J:187:VAL:HB | 2:J:242:CYS:HB3 | 1.86 | 0.57 |
| 1:M:119:ARG:CG | 2:N:125:THR:HG22 | 2.32 | 0.57 |
| 2:P:64:ASN:C | 2:P:66:LEU:H | 2.11 | 0.57 |
| 2:H:322:VAL:O | 2:H:324:SER:N | 2.36 | 0.57 |
| 2:N:133:LEU:HD23 | 2:N:133:LEU:C | 2.28 | 0.57 |
| 1:A:151:LEU:HD23 | 2:B:157:ILE:HG12 | 1.85 | 0.57 |
| 2:H:101:LEU:HD23 | 2:H:104:ARG:HH12 | 1.69 | 0.57 |
| 1:K:93:LEU:HA | 1:K:96:ALA:CB | 2.34 | 0.57 |
| 2:L:295:PRO:HB2 | 2:L:299:LEU:HD22 | 1.84 | 0.57 |
| 2:P:187:VAL:HB | 2:P:242:CYS:HB3 | 1.86 | 0.57 |
| 1:A:80:LEU:HD11 | 1:A:274:ARG:HG3 | 1.86 | 0.57 |
| 1:E:183:LYS:HE2 | 2:F:142:TYR:OH | 2.05 | 0.57 |
| 2:H:189:LYS:HB2 | 2:H:221:ILE:HD11 | 1.85 | 0.57 |
| 2:L:23:THR:O | 2:L:80:ASN:HB3 | 2.05 | 0.57 |
| 2:L:51:ILE:HD11 | 2:L:309:MET:HE1 | 1.87 | 0.57 |
| 2:L:64:ASN:C | 2:L:66:LEU:H | 2.12 | 0.57 |
| 2:L:189:LYS:HB2 | 2:L:221:ILE:HD11 | 1.85 | 0.57 |
| 2:N:101:LEU:HD23 | 2:N:104:ARG:HH12 | 1.70 | 0.57 |
| 2:N:323:LEU:HD23 | 2:N:323:LEU:H | 1.68 | 0.57 |
| 2:B:323:LEU:HD23 | 2:B:323:LEU:H | 1.68 | 0.57 |
| 2:D:101:LEU:HD23 | 2:D:104:ARG:HH12 | 1.69 | 0.57 |
| 2:F:147:HIS:CD2 | 1:G:151:LEU:CD1 | 2.87 | 0.57 |
| 2:J:64:ASN:C | 2:J:66:LEU:H | 2.12 | 0.57 |
| 2:J:323:LEU:HD23 | 2:J:323:LEU:H | 1.68 | 0.57 |
| 2:L:187:VAL:HB | 2:L:242:CYS:HB3 | 1.86 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:23:THR:O | 2:B:80:ASN:HB3 | 2.05 | 0.57 |
| 2:F:51:ILE:HD11 | 2:F:309:MET:HE1 | 1.87 | 0.57 |
| 2:H:23:THR:O | 2:H:80:ASN:HB3 | 2.05 | 0.57 |
| 2:J:101:LEU:HD23 | 2:J:104:ARG:HH12 | 1.70 | 0.57 |
| 2:N:68:THR:HG22 | 2:N:69:ILE:N | 2.20 | 0.57 |
| 2:P:61:ILE:HG22 | 2:P:62:PHE:N | 2.19 | 0.57 |
| 1:C:80:LEU:HD11 | 1:C:274:ARG:HG3 | 1.86 | 0.57 |
| 2:D:23:THR:O | 2:D:80:ASN:HB3 | 2.05 | 0.57 |
| 2:D:323:LEU:HD23 | 2:D:323:LEU:H | 1.68 | 0.57 |
| 2:F:68:THR:HG22 | 2:F:69:ILE:N | 2.20 | 0.57 |
| 2:F:187:VAL:HB | 2:F:242:CYS:HB3 | 1.86 | 0.57 |
| 2:L:189:LYS:HD3 | 2:L:221:ILE:HD11 | 1.87 | 0.57 |
| 1:M:80:LEU:HD11 | 1:M:274:ARG:HG3 | 1.87 | 0.57 |
| 1:M:255:GLY:HA3 | 4:M:2007:AMP:N1 | 2.20 | 0.57 |
| 2:D:64:ASN:C | 2:D:66:LEU:H | 2.12 | 0.57 |
| 2:F:189:LYS:HD3 | 2:F:221:ILE:HD11 | 1.87 | 0.57 |
| 2:J:23:THR:O | 2:J:80:ASN:HB3 | 2.05 | 0.57 |
| 2:P:23:THR:O | 2:P:80:ASN:HB3 | 2.05 | 0.57 |
| 1:C:83:THR:OG1 | 3:C:1002:FLC:OG2 | 2.22 | 0.57 |
| 1:G:129:ARG:CZ | 1:G:274:ARG:HH12 | 2.18 | 0.57 |
| 2:N:51:ILE:HD11 | 2:N:309:MET:HE1 | 1.87 | 0.57 |
| 1:O:129:ARG:CZ | 1:O:274:ARG:HH12 | 2.18 | 0.57 |
| 2:P:189:LYS:HB2 | 2:P:221:ILE:HD11 | 1.85 | 0.57 |
| 1:A:165:PHE:HA | 1:E:14:TYR:OH | 2.05 | 0.57 |
| 2:B:68:THR:HG22 | 2:B:69:ILE:N | 2.20 | 0.57 |
| 1:C:14:TYR:OH | 1:G:165:PHE:HA | 2.04 | 0.57 |
| 2:H:189:LYS:HD3 | 2:H:221:ILE:HD11 | 1.87 | 0.57 |
| 1:I:93:LEU:HA | 1:I:96:ALA:CB | 2.34 | 0.57 |
| 2:J:189:LYS:HB2 | 2:J:221:ILE:HD11 | 1.85 | 0.57 |
| 2:L:101:LEU:HD23 | 2:L:104:ARG:HH12 | 1.69 | 0.57 |
| 1:A:164:ARG:HH22 | 1:E:8:ARG:NH2 | 2.03 | 0.56 |
| 2:F:323:LEU:HD23 | 2:F:323:LEU:H | 1.68 | 0.56 |
| 2:H:51:ILE:HD11 | 2:H:309:MET:HE1 | 1.87 | 0.56 |
| 2:J:51:ILE:HD11 | 2:J:309:MET:HE1 | 1.87 | 0.56 |
| 2:N:187:VAL:HB | 2:N:242:CYS:HB3 | 1.86 | 0.56 |
| 2:P:51:ILE:HD11 | 2:P:309:MET:HE1 | 1.87 | 0.56 |
| 2:D:51:ILE:HD11 | 2:D:309:MET:HE1 | 1.87 | 0.56 |
| 2:D:285:PRO:HG3 | 2:P:286:ASP:CB | 2.35 | 0.56 |
| 1:E:129:ARG:CZ | 1:E:274:ARG:HH12 | 2.18 | 0.56 |
| 1:I:263:GLY:O | 1:M:15:GLY:N | 2.31 | 0.56 |
| 2:L:68:THR:HG22 | 2:L:69:ILE:N | 2.20 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:M:129:ARG:CZ | 1:M:274:ARG:HH12 | 2.18 | 0.56 |
| 1:O:80:LEU:HD11 | 1:O:274:ARG:HG3 | 1.87 | 0.56 |
| 2:P:101:LEU:HD23 | 2:P:104:ARG:HH12 | 1.69 | 0.56 |
| 2:B:16:ASN:O | 2:B:19:THR:O | 2.24 | 0.56 |
| 2:B:51:ILE:HD11 | 2:B:309:MET:HE1 | 1.87 | 0.56 |
| 2:H:181:ARG:HD3 | 2:H:238:ALA:N | 2.20 | 0.56 |
| 1:I:45:ILE:HG12 | 1:I:307:TYR:CD2 | 2.41 | 0.56 |
| 1:I:151:LEU:HD11 | 2:L:147:HIS:CD2 | 2.40 | 0.56 |
| 1:I:171:LYS:NZ | 1:M:50:GLU:OE1 | 2.36 | 0.56 |
| 2:J:68:THR:HG22 | 2:J:69:ILE:N | 2.20 | 0.56 |
| 1:K:45:ILE:HG12 | 1:K:307:TYR:CD2 | 2.41 | 0.56 |
| 2:L:181:ARG:HD3 | 2:L:238:ALA:N | 2.21 | 0.56 |
| 2:N:23:THR:O | 2:N:80:ASN:HB3 | 2.05 | 0.56 |
| 2:N:181:ARG:HD3 | 2:N:238:ALA:N | 2.21 | 0.56 |
| 2:N:189:LYS:HD3 | 2:N:221:ILE:HD11 | 1.87 | 0.56 |
| 1:O:183:LYS:HE3 | 1:O:186:ILE:HD12 | 1.87 | 0.56 |
| 2:P:16:ASN:O | 2:P:19:THR:O | 2.24 | 0.56 |
| 2:P:181:ARG:HD3 | 2:P:238:ALA:N | 2.21 | 0.56 |
| 2:P:189:LYS:HD3 | 2:P:221:ILE:HD11 | 1.87 | 0.56 |
| 2:B:189:LYS:HD3 | 2:B:221:ILE:HD11 | 1.87 | 0.56 |
| 1:C:210:ASP:OD2 | 2:P:42:LYS:NZ | 2.26 | 0.56 |
| 1:G:45:ILE:HG12 | 1:G:307:TYR:CD2 | 2.41 | 0.56 |
| 2:J:189:LYS:HD3 | 2:J:221:ILE:HD11 | 1.87 | 0.56 |
| 2:N:16:ASN:O | 2:N:19:THR:O | 2.24 | 0.56 |
| 1:A:183:LYS:HE3 | 1:A:186:ILE:HD12 | 1.87 | 0.56 |
| 2:D:16:ASN:O | 2:D:19:THR:O | 2.24 | 0.56 |
| 2:F:181:ARG:HD3 | 2:F:238:ALA:N | 2.21 | 0.56 |
| 1:I:144:VAL:HB | 1:I:145:PRO:HD2 | 1.88 | 0.56 |
| 1:K:14:TYR:HH | 1:O:165:PHE:HA | 1.71 | 0.56 |
| 1:K:129:ARG:CZ | 1:K:274:ARG:HH12 | 2.18 | 0.56 |
| 2:P:68:THR:HG22 | 2:P:69:ILE:N | 2.20 | 0.56 |
| 1:C:45:ILE:HG12 | 1:C:307:TYR:CD2 | 2.41 | 0.56 |
| 1:C:210:ASP:CG | 2:P:42:LYS:HZ1 | 2.10 | 0.56 |
| 1:G:183:LYS:HE3 | 1:G:186:ILE:HD12 | 1.87 | 0.56 |
| 1:I:80:LEU:HD11 | 1:I:274:ARG:HG3 | 1.87 | 0.56 |
| 2:L:69:ILE:HD12 | 2:L:70:PRO:CD | 2.34 | 0.56 |
| 1:M:45:ILE:HG12 | 1:M:307:TYR:CD2 | 2.41 | 0.56 |
| 1:C:183:LYS:HE3 | 1:C:186:ILE:HD12 | 1.87 | 0.56 |
| 1:E:183:LYS:HE3 | 1:E:186:ILE:HD12 | 1.87 | 0.56 |
| 2:F:23:THR:O | 2:F:80:ASN:HB3 | 2.05 | 0.56 |
| 1:K:80:LEU:HD11 | 1:K:274:ARG:HG3 | 1.87 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:O:144:VAL:HB | 1:O:145:PRO:HD2 | 1.88 | 0.56 |
| 1:C:183:LYS:HE2 | 2:D:142:TYR:OH | 2.06 | 0.56 |
| 1:E:45:ILE:HG12 | 1:E:307:TYR:CD2 | 2.41 | 0.56 |
| 1:O:93:LEU:HA | 1:O:96:ALA:CB | 2.34 | 0.56 |
| 2:P:14:LYS:HD3 | 2:P:14:LYS:O | 2.06 | 0.56 |
| 1:A:129:ARG:CZ | 1:A:274:ARG:HH12 | 2.18 | 0.56 |
| 2:D:68:THR:HG22 | 2:D:69:ILE:N | 2.20 | 0.56 |
| 2:F:101:LEU:HD23 | 2:F:104:ARG:HH12 | 1.70 | 0.56 |
| 2:H:323:LEU:HD23 | 2:H:323:LEU:H | 1.68 | 0.56 |
| 1:I:314:ALA:CB | 1:I:346:LEU:HD13 | 2.35 | 0.56 |
| 2:J:306:LEU:HB3 | 2:J:315:ALA:HB2 | 1.88 | 0.56 |
| 1:K:144:VAL:HB | 1:K:145:PRO:HD2 | 1.88 | 0.56 |
| 1:M:195:ARG:HH11 | 1:M:195:ARG:CB | 2.19 | 0.56 |
| 2:N:61:ILE:HG22 | 2:N:62:PHE:N | 2.19 | 0.56 |
| 1:O:274:ARG:NH1 | 3:O:1008:FLC:OB1 | 2.39 | 0.56 |
| 1:A:187:MET:HE3 | 2:B:141:GLU:O | 2.06 | 0.56 |
| 1:A:301:HIS:O | 1:E:17:ARG:NH1 | 2.39 | 0.56 |
| 2:B:181:ARG:HD3 | 2:B:238:ALA:N | 2.21 | 0.56 |
| 2:B:326:ILE:HG12 | 2:B:350:VAL:HG23 | 1.88 | 0.56 |
| 2:D:14:LYS:O | 2:D:14:LYS:HD3 | 2.06 | 0.56 |
| 2:H:14:LYS:O | 2:H:14:LYS:HD3 | 2.06 | 0.56 |
| 2:H:68:THR:HG22 | 2:H:69:ILE:N | 2.20 | 0.56 |
| 2:J:274:ILE:HG22 | 2:J:275:SER:H | 1.71 | 0.56 |
| 2:L:14:LYS:O | 2:L:14:LYS:HD3 | 2.06 | 0.56 |
| 1:M:183:LYS:HE3 | 1:M:186:ILE:HD12 | 1.87 | 0.56 |
| 1:A:52:ILE:CD1 | 1:A:66:ALA:HA | 2.36 | 0.55 |
| 2:B:14:LYS:O | 2:B:14:LYS:HD3 | 2.06 | 0.55 |
| 1:C:8:ARG:NH2 | 1:G:160:GLU:OE1 | 2.38 | 0.55 |
| 1:C:144:VAL:HB | 1:C:145:PRO:HD2 | 1.88 | 0.55 |
| 2:F:326:ILE:HG12 | 2:F:350:VAL:HG23 | 1.88 | 0.55 |
| 2:H:16:ASN:O | 2:H:19:THR:O | 2.24 | 0.55 |
| 1:I:52:ILE:CD1 | 1:I:66:ALA:HA | 2.36 | 0.55 |
| 2:J:61:ILE:HG22 | 2:J:62:PHE:N | 2.19 | 0.55 |
| 2:D:17:PRO:HB2 | 2:J:62:PHE:HD2 | 1.72 | 0.55 |
| 2:F:16:ASN:O | 2:F:19:THR:O | 2.24 | 0.55 |
| 1:I:254:PRO:HG3 | 2:J:226:LEU:HD11 | 1.87 | 0.55 |
| 1:K:314:ALA:CB | 1:K:346:LEU:HD13 | 2.35 | 0.55 |
| 2:L:306:LEU:HB3 | 2:L:315:ALA:HB2 | 1.88 | 0.55 |
| 2:D:181:ARG:HD3 | 2:D:238:ALA:N | 2.21 | 0.55 |
| 2:D:189:LYS:HD3 | 2:D:221:ILE:HD11 | 1.87 | 0.55 |
| 1:G:195:ARG:HH11 | 1:G:195:ARG:CB | 2.19 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:H:306:LEU:HB3 | 2:H:315:ALA:HB2 | 1.88 | 0.55 |
| 1:I:129:ARG:CZ | 1:I:274:ARG:HH12 | 2.18 | 0.55 |
| 1:I:183:LYS:HE3 | 1:I:186:ILE:HD12 | 1.87 | 0.55 |
| 2:J:181:ARG:HD3 | 2:J:238:ALA:N | 2.21 | 0.55 |
| 1:C:129:ARG:CZ | 1:C:274:ARG:HH12 | 2.18 | 0.55 |
| 1:E:52:ILE:CD1 | 1:E:66:ALA:HA | 2.36 | 0.55 |
| 1:E:314:ALA:CB | 1:E:346:LEU:HD13 | 2.35 | 0.55 |
| 2:F:306:LEU:HB3 | 2:F:315:ALA:HB2 | 1.88 | 0.55 |
| 1:O:45:ILE:HG12 | 1:O:307:TYR:CD2 | 2.41 | 0.55 |
| 1:O:274:ARG:HG2 | 3:O:1008:FLC:OB1 | 2.06 | 0.55 |
| 1:A:45:ILE:HG12 | 1:A:307:TYR:CD2 | 2.41 | 0.55 |
| 1:A:165:PHE:HD1 | 1:E:14:TYR:CE2 | 2.25 | 0.55 |
| 2:B:97:ARG:O | 2:B:98:SER:C | 2.50 | 0.55 |
| 2:B:274:ILE:HG22 | 2:B:275:SER:H | 1.71 | 0.55 |
| 1:E:187:MET:HE3 | 2:F:141:GLU:O | 2.06 | 0.55 |
| 2:F:14:LYS:O | 2:F:14:LYS:HD3 | 2.06 | 0.55 |
| 1:G:52:ILE:CD1 | 1:G:66:ALA:HA | 2.37 | 0.55 |
| 2:H:61:ILE:HG22 | 2:H:62:PHE:N | 2.19 | 0.55 |
| 1:K:195:ARG:HH11 | 1:K:195:ARG:CB | 2.19 | 0.55 |
| 2:L:97:ARG:O | 2:L:98:SER:C | 2.50 | 0.55 |
| 2:N:326:ILE:HG12 | 2:N:350:VAL:HG23 | 1.88 | 0.55 |
| 2:P:306:LEU:HB3 | 2:P:315:ALA:HB2 | 1.88 | 0.55 |
| 2:D:69:ILE:HD12 | 2:D:70:PRO:CD | 2.34 | 0.55 |
| 2:D:97:ARG:O | 2:D:98:SER:C | 2.50 | 0.55 |
| 1:E:80:LEU:HD11 | 1:E:274:ARG:HG3 | 1.87 | 0.55 |
| 1:E:144:VAL:HB | 1:E:145:PRO:HD2 | 1.88 | 0.55 |
| 1:G:144:VAL:HB | 1:G:145:PRO:HD2 | 1.88 | 0.55 |
| 1:K:183:LYS:HE3 | 1:K:186:ILE:HD12 | 1.87 | 0.55 |
| 2:N:14:LYS:O | 2:N:14:LYS:HD3 | 2.06 | 0.55 |
| 2:N:97:ARG:O | 2:N:98:SER:C | 2.50 | 0.55 |
| 1:C:93:LEU:HA | 1:C:96:ALA:CB | 2.34 | 0.55 |
| 1:C:195:ARG:HH11 | 1:C:195:ARG:CB | 2.19 | 0.55 |
| 1:M:144:VAL:HB | 1:M:145:PRO:HD2 | 1.88 | 0.55 |
| 1:I:160:GLU:OE1 | 1:M:8:ARG:NH2 | 2.40 | 0.55 |
| 1:I:195:ARG:HH11 | 1:I:195:ARG:CB | 2.19 | 0.55 |
| 2:J:16:ASN:O | 2:J:19:THR:O | 2.24 | 0.55 |
| 1:M:52:ILE:CD1 | 1:M:66:ALA:HA | 2.37 | 0.55 |
| 1:A:195:ARG:HH11 | 1:A:195:ARG:CB | 2.19 | 0.55 |
| 1:C:187:MET:HE3 | 2:D:141:GLU:O | 2.07 | 0.55 |
| 2:F:274:ILE:HG22 | 2:F:275:SER:H | 1.71 | 0.55 |
| 2:L:16:ASN:O | 2:L:19:THR:O | 2.24 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:O:52:ILE:CD1 | 1:O:66:ALA:HA | 2.37 | 0.55 |
| 2:N:306:LEU:HB3 | 2:N:315:ALA:HB2 | 1.88 | 0.55 |
| 1:E:32:ILE:CG1 | 1:E:288:PRO:HA | 2.38 | 0.54 |
| 1:E:195:ARG:HH11 | 1:E:195:ARG:CB | 2.19 | 0.54 |
| 2:H:326:ILE:HG22 | 2:H:353:ARG:HG3 | 1.90 | 0.54 |
| 1:M:314:ALA:CB | 1:M:346:LEU:HD13 | 2.35 | 0.54 |
| 2:B:326:ILE:HG22 | 2:B:353:ARG:HG3 | 1.89 | 0.54 |
| 1:C:52:ILE:CD1 | 1:C:66:ALA:HA | 2.36 | 0.54 |
| 2:D:61:ILE:HG22 | 2:D:62:PHE:N | 2.20 | 0.54 |
| 2:D:306:LEU:HB3 | 2:D:315:ALA:HB2 | 1.88 | 0.54 |
| 1:E:241:THR:OG1 | 3:E:1003:FLC:OA2 | 2.16 | 0.54 |
| 1:G:224:VAL:HG11 | 2:H:257:LEU:HG | 1.90 | 0.54 |
| 2:H:326:ILE:HG12 | 2:H:350:VAL:HG23 | 1.88 | 0.54 |
| 2:J:14:LYS:O | 2:J:14:LYS:HD3 | 2.06 | 0.54 |
| 1:O:195:ARG:HH11 | 1:O:195:ARG:CB | 2.19 | 0.54 |
| 2:P:97:ARG:O | 2:P:98:SER:C | 2.50 | 0.54 |
| 1:A:160:GLU:CD | 1:E:8:ARG:HH21 | 2.15 | 0.54 |
| 1:C:32:ILE:CG1 | 1:C:288:PRO:HA | 2.38 | 0.54 |
| 1:I:45:ILE:HG22 | 1:I:47:ILE:HG22 | 1.90 | 0.54 |
| 2:J:97:ARG:O | 2:J:98:SER:C | 2.50 | 0.54 |
| 2:L:326:ILE:HG12 | 2:L:350:VAL:HG23 | 1.88 | 0.54 |
| 1:M:45:ILE:HG22 | 1:M:47:ILE:HG22 | 1.90 | 0.54 |
| 2:P:274:ILE:HG22 | 2:P:275:SER:H | 1.71 | 0.54 |
| 2:B:306:LEU:HB3 | 2:B:315:ALA:HB2 | 1.88 | 0.54 |
| 1:C:43:GLU:OE1 | 1:C:310:ARG:HD3 | 2.08 | 0.54 |
| 1:E:62:GLY:C | 1:E:64:TYR:N | 2.65 | 0.54 |
| 2:F:326:ILE:HG22 | 2:F:353:ARG:HG3 | 1.89 | 0.54 |
| 1:K:43:GLU:OE1 | 1:K:310:ARG:HD3 | 2.08 | 0.54 |
| 2:P:326:ILE:HG12 | 2:P:350:VAL:HG23 | 1.88 | 0.54 |
| 1:A:32:ILE:CG1 | 1:A:288:PRO:HA | 2.38 | 0.54 |
| 1:C:314:ALA:CB | 1:C:346:LEU:HD13 | 2.35 | 0.54 |
| 1:M:32:ILE:CG1 | 1:M:288:PRO:HA | 2.38 | 0.54 |
| 1:E:45:ILE:HG22 | 1:E:47:ILE:HG22 | 1.90 | 0.54 |
| 2:H:97:ARG:O | 2:H:98:SER:C | 2.50 | 0.54 |
| 2:J:326:ILE:HG12 | 2:J:350:VAL:HG23 | 1.88 | 0.54 |
| 2:P:323:LEU:N | 2:P:326:ILE:HG23 | 2.23 | 0.54 |
| 1:A:43:GLU:OE1 | 1:A:310:ARG:HD3 | 2.08 | 0.54 |
| 1:C:45:ILE:HG22 | 1:C:47:ILE:HG22 | 1.90 | 0.54 |
| 2:F:97:ARG:O | 2:F:98:SER:C | 2.50 | 0.54 |
| 1:G:32:ILE:CG1 | 1:G:288:PRO:HA | 2.38 | 0.54 |
| 1:I:120:ILE:HG13 | 2:J:125:THR:HG21 | 1.90 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:J:323:LEU:N | 2:J:326:ILE:HG23 | 2.23 | 0.54 |
| 1:M:93:LEU:HA | 1:M:96:ALA:CB | 2.35 | 0.54 |
| 1:O:32:ILE:CG1 | 1:O:288:PRO:HA | 2.37 | 0.54 |
| 1:G:305:ASN:HA | 1:G:308:ALA:CB | 2.38 | 0.54 |
| 2:L:323:LEU:N | 2:L:326:ILE:HG23 | 2.23 | 0.54 |
| 2:L:326:ILE:HG22 | 2:L:353:ARG:HG3 | 1.90 | 0.54 |
| 1:M:187:MET:HE3 | 2:N:141:GLU:O | 2.08 | 0.54 |
| 2:N:274:ILE:HG22 | 2:N:275:SER:H | 1.71 | 0.54 |
| 2:N:326:ILE:HG22 | 2:N:353:ARG:HG3 | 1.89 | 0.54 |
| 1:A:45:ILE:HG22 | 1:A:47:ILE:HG22 | 1.90 | 0.54 |
| 2:D:273:LYS:HG3 | 2:D:274:ILE:HD12 | 1.90 | 0.54 |
| 2:D:326:ILE:HG12 | 2:D:350:VAL:HG23 | 1.88 | 0.54 |
| 1:K:72:ARG:NH1 | 1:O:171:LYS:NZ | 2.55 | 0.54 |
| 1:A:314:ALA:CB | 1:A:346:LEU:HD13 | 2.35 | 0.54 |
| 2:H:323:LEU:N | 2:H:326:ILE:HG23 | 2.23 | 0.54 |
| 2:J:326:ILE:HG12 | 2:J:350:VAL:CG2 | 2.38 | 0.54 |
| 1:O:45:ILE:HG22 | 1:O:47:ILE:HG22 | 1.90 | 0.54 |
| 1:A:93:LEU:HA | 1:A:96:ALA:CB | 2.34 | 0.53 |
| 1:K:52:ILE:CD1 | 1:K:66:ALA:HA | 2.37 | 0.53 |
| 2:F:323:LEU:N | 2:F:326:ILE:HG23 | 2.23 | 0.53 |
| 1:K:62:GLY:C | 1:K:64:TYR:N | 2.65 | 0.53 |
| 2:D:323:LEU:N | 2:D:326:ILE:HG23 | 2.23 | 0.53 |
| 1:E:43:GLU:OE1 | 1:E:310:ARG:HD3 | 2.08 | 0.53 |
| 2:F:273:LYS:HG3 | 2:F:274:ILE:HD12 | 1.91 | 0.53 |
| 1:G:187:MET:HE3 | 2:H:141:GLU:O | 2.08 | 0.53 |
| 1:G:314:ALA:CB | 1:G:346:LEU:HD13 | 2.35 | 0.53 |
| 2:H:273:LYS:HG3 | 2:H:274:ILE:HD12 | 1.91 | 0.53 |
| 2:J:4:LYS:HE3 | 2:J:10:ARG:HH22 | 1.73 | 0.53 |
| 2:J:31:GLY:O | 2:J:34:PRO:HD2 | 2.09 | 0.53 |
| 2:J:69:ILE:HD12 | 2:J:70:PRO:CD | 2.34 | 0.53 |
| 2:L:273:LYS:HG3 | 2:L:274:ILE:HD12 | 1.90 | 0.53 |
| 2:N:323:LEU:N | 2:N:326:ILE:HG23 | 2.23 | 0.53 |
| 1:A:144:VAL:HB | 1:A:145:PRO:HD2 | 1.88 | 0.53 |
| 1:A:305:ASN:HA | 1:A:308:ALA:CB | 2.38 | 0.53 |
| 2:D:318:ILE:HA | 2:D:322:VAL:CG2 | 2.38 | 0.53 |
| 2:H:31:GLY:O | 2:H:34:PRO:HD2 | 2.09 | 0.53 |
| 1:O:62:GLY:C | 1:O:64:TYR:N | 2.65 | 0.53 |
| 1:O:106:ASN:HB3 | 1:O:129:ARG:HG2 | 1.91 | 0.53 |
| 2:P:318:ILE:HA | 2:P:322:VAL:CG2 | 2.38 | 0.53 |
| 2:P:326:ILE:HG22 | 2:P:353:ARG:HG3 | 1.89 | 0.53 |
| 2:B:273:LYS:HG3 | 2:B:274:ILE:HD12 | 1.90 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:F:4:LYS:HE3 | 2:F:10:ARG:HH22 | 1.74 | 0.53 |
| 2:F:31:GLY:O | 2:F:34:PRO:HD2 | 2.09 | 0.53 |
| 1:G:45:ILE:HG22 | 1:G:47:ILE:HG22 | 1.90 | 0.53 |
| 2:J:147:HIS:CD2 | 1:K:151:LEU:CD1 | 2.91 | 0.53 |
| 1:K:32:ILE:CG1 | 1:K:288:PRO:HA | 2.38 | 0.53 |
| 2:P:4:LYS:HE3 | 2:P:10:ARG:HH22 | 1.74 | 0.53 |
| 1:C:106:ASN:HB3 | 1:C:129:ARG:HG2 | 1.91 | 0.53 |
| 2:D:4:LYS:HE3 | 2:D:10:ARG:HH22 | 1.74 | 0.53 |
| 2:D:326:ILE:HG22 | 2:D:353:ARG:HG3 | 1.90 | 0.53 |
| 2:F:69:ILE:HD12 | 2:F:70:PRO:CD | 2.34 | 0.53 |
| 1:G:119:ARG:HG2 | 2:H:125:THR:HG22 | 1.90 | 0.53 |
| 1:O:43:GLU:OE1 | 1:O:310:ARG:HD3 | 2.08 | 0.53 |
| 2:D:165:SER:HG | 2:D:200:PHE:HD1 | 1.55 | 0.53 |
| 2:F:326:ILE:HG12 | 2:F:350:VAL:CG2 | 2.39 | 0.53 |
| 2:F:330:PRO:HA | 2:F:333:ARG:HG3 | 1.91 | 0.53 |
| 2:H:318:ILE:HA | 2:H:322:VAL:CG2 | 2.37 | 0.53 |
| 1:I:32:ILE:CG1 | 1:I:288:PRO:HA | 2.38 | 0.53 |
| 1:M:305:ASN:HA | 1:M:308:ALA:CB | 2.38 | 0.53 |
| 2:N:326:ILE:HG12 | 2:N:350:VAL:CG2 | 2.38 | 0.53 |
| 1:A:62:GLY:C | 1:A:64:TYR:N | 2.65 | 0.53 |
| 2:B:61:ILE:HG22 | 2:B:62:PHE:N | 2.19 | 0.53 |
| 2:D:274:ILE:HG22 | 2:D:275:SER:H | 1.71 | 0.53 |
| 2:H:274:ILE:HG22 | 2:H:275:SER:H | 1.71 | 0.53 |
| 1:I:171:LYS:HZ2 | 1:M:72:ARG:CZ | 2.21 | 0.53 |
| 2:L:31:GLY:O | 2:L:34:PRO:HD2 | 2.09 | 0.53 |
| 1:M:43:GLU:OE1 | 1:M:310:ARG:HD3 | 2.08 | 0.53 |
| 1:O:305:ASN:HA | 1:O:308:ALA:CB | 2.38 | 0.53 |
| 2:P:31:GLY:O | 2:P:34:PRO:HD2 | 2.09 | 0.53 |
| 2:B:323:LEU:N | 2:B:326:ILE:HG23 | 2.23 | 0.53 |
| 1:C:206:TYR:N | 1:C:207:PRO:HD3 | 2.24 | 0.53 |
| 2:F:97:ARG:CG | 2:F:102:THR:HG23 | 2.39 | 0.53 |
| 1:G:206:TYR:N | 1:G:207:PRO:HD3 | 2.24 | 0.53 |
| 2:J:326:ILE:C | 2:J:328:SER:H | 2.17 | 0.53 |
| 1:K:45:ILE:HG22 | 1:K:47:ILE:HG22 | 1.90 | 0.53 |
| 1:M:62:GLY:C | 1:M:64:TYR:N | 2.65 | 0.53 |
| 2:N:31:GLY:O | 2:N:34:PRO:HD2 | 2.09 | 0.53 |
| 2:N:69:ILE:HD12 | 2:N:70:PRO:CD | 2.34 | 0.53 |
| 2:B:31:GLY:O | 2:B:34:PRO:HD2 | 2.09 | 0.53 |
| 2:B:326:ILE:HG12 | 2:B:350:VAL:CG2 | 2.39 | 0.53 |
| 1:C:305:ASN:HA | 1:C:308:ALA:CB | 2.38 | 0.53 |
| 1:E:27:GLY:C | 1:E:29:GLY:H | 2.17 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:E:254:PRO:HG3 | 2:F:226:LEU:HD11 | 1.91 | 0.53 |
| 1:G:43:GLU:OE1 | 1:G:310:ARG:HD3 | 2.08 | 0.53 |
| 1:G:62:GLY:C | 1:G:64:TYR:N | 2.65 | 0.53 |
| 1:G:93:LEU:HA | 1:G:96:ALA:CB | 2.34 | 0.53 |
| 2:J:318:ILE:HA | 2:J:322:VAL:CG2 | 2.38 | 0.53 |
| 1:K:27:GLY:C | 1:K:29:GLY:H | 2.17 | 0.53 |
| 1:K:187:MET:HE3 | 2:L:141:GLU:O | 2.09 | 0.53 |
| 2:N:330:PRO:HA | 2:N:333:ARG:HG3 | 1.91 | 0.53 |
| 1:O:27:GLY:C | 1:O:29:GLY:H | 2.17 | 0.53 |
| 2:P:326:ILE:C | 2:P:328:SER:H | 2.17 | 0.53 |
| 1:E:206:TYR:N | 1:E:207:PRO:HD3 | 2.25 | 0.52 |
| 2:H:326:ILE:HG12 | 2:H:350:VAL:CG2 | 2.39 | 0.52 |
| 2:H:330:PRO:HA | 2:H:333:ARG:HG3 | 1.91 | 0.52 |
| 1:M:27:GLY:C | 1:M:29:GLY:H | 2.17 | 0.52 |
| 1:A:287:ASN:H | 4:A:2001:AMP:HN62 | 1.57 | 0.52 |
| 2:B:4:LYS:HE3 | 2:B:10:ARG:HH22 | 1.74 | 0.52 |
| 2:H:97:ARG:CG | 2:H:102:THR:HG23 | 2.39 | 0.52 |
| 1:I:43:GLU:OE1 | 1:I:310:ARG:HD3 | 2.08 | 0.52 |
| 2:J:273:LYS:HG3 | 2:J:274:ILE:HD12 | 1.91 | 0.52 |
| 1:M:106:ASN:HB3 | 1:M:129:ARG:HG2 | 1.91 | 0.52 |
| 2:D:31:GLY:O | 2:D:34:PRO:HD2 | 2.09 | 0.52 |
| 1:G:106:ASN:HB3 | 1:G:129:ARG:HG2 | 1.91 | 0.52 |
| 1:I:206:TYR:N | 1:I:207:PRO:HD3 | 2.25 | 0.52 |
| 2:L:118:SER:OG | 2:L:129:VAL:HG13 | 2.10 | 0.52 |
| 2:N:273:LYS:HG3 | 2:N:274:ILE:HD12 | 1.91 | 0.52 |
| 1:A:106:ASN:HB3 | 1:A:129:ARG:HG2 | 1.91 | 0.52 |
| 1:A:206:TYR:N | 1:A:207:PRO:HD3 | 2.25 | 0.52 |
| 2:F:326:ILE:C | 2:F:328:SER:H | 2.17 | 0.52 |
| 1:I:62:GLY:C | 1:I:64:TYR:N | 2.65 | 0.52 |
| 2:J:326:ILE:HG22 | 2:J:353:ARG:HG3 | 1.89 | 0.52 |
| 2:N:118:SER:OG | 2:N:129:VAL:HG13 | 2.10 | 0.52 |
| 2:P:326:ILE:HG12 | 2:P:350:VAL:CG2 | 2.39 | 0.52 |
| 2:B:330:PRO:HA | 2:B:333:ARG:HG3 | 1.91 | 0.52 |
| 2:D:118:SER:OG | 2:D:129:VAL:HG13 | 2.10 | 0.52 |
| 2:H:69:ILE:HD12 | 2:H:70:PRO:CD | 2.33 | 0.52 |
| 1:K:12:LYS:NZ | 1:O:168:ASP:OD2 | 2.42 | 0.52 |
| 1:O:206:TYR:N | 1:O:207:PRO:HD3 | 2.25 | 0.52 |
| 1:A:27:GLY:C | 1:A:29:GLY:H | 2.17 | 0.52 |
| 2:B:36:ILE:CG1 | 2:B:295:PRO:HA | 2.40 | 0.52 |
| 2:D:330:PRO:HA | 2:D:333:ARG:HG3 | 1.91 | 0.52 |
| 1:K:206:TYR:N | 1:K:207:PRO:HD3 | 2.24 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:L:326:ILE:C | 2:L:328:SER:H | 2.17 | 0.52 |
| 2:L:330:PRO:HA | 2:L:333:ARG:HG3 | 1.91 | 0.52 |
| 2:N:4:LYS:HE3 | 2:N:10:ARG:HH22 | 1.74 | 0.52 |
| 2:N:322:VAL:O | 2:N:323:LEU:C | 2.53 | 0.52 |
| 2:D:326:ILE:C | 2:D:328:SER:H | 2.17 | 0.52 |
| 1:E:305:ASN:HA | 1:E:308:ALA:CB | 2.38 | 0.52 |
| 2:L:318:ILE:HA | 2:L:322:VAL:CG2 | 2.38 | 0.52 |
| 2:L:326:ILE:HG12 | 2:L:350:VAL:CG2 | 2.39 | 0.52 |
| 2:H:322:VAL:O | 2:H:323:LEU:C | 2.53 | 0.52 |
| 1:I:224:VAL:HG11 | 2:J:257:LEU:HG | 1.91 | 0.52 |
| 2:J:97:ARG:CG | 2:J:102:THR:HG23 | 2.39 | 0.52 |
| 2:N:326:ILE:C | 2:N:328:SER:H | 2.17 | 0.52 |
| 2:P:322:VAL:O | 2:P:323:LEU:C | 2.53 | 0.52 |
| 2:B:118:SER:OG | 2:B:129:VAL:HG13 | 2.10 | 0.52 |
| 2:D:326:ILE:HG12 | 2:D:350:VAL:CG2 | 2.39 | 0.52 |
| 2:H:326:ILE:C | 2:H:328:SER:H | 2.17 | 0.52 |
| 1:K:8:ARG:NH2 | 1:O:160:GLU:CD | 2.68 | 0.52 |
| 2:P:36:ILE:CG1 | 2:P:295:PRO:HA | 2.40 | 0.52 |
| 2:B:322:VAL:O | 2:B:323:LEU:C | 2.53 | 0.52 |
| 2:B:326:ILE:C | 2:B:328:SER:H | 2.17 | 0.52 |
| 1:E:106:ASN:HB3 | 1:E:129:ARG:HG2 | 1.91 | 0.52 |
| 1:E:153:VAL:HG11 | 2:H:149:VAL:O | 2.10 | 0.52 |
| 2:J:330:PRO:HA | 2:J:333:ARG:HG3 | 1.91 | 0.52 |
| 2:L:61:ILE:HG22 | 2:L:62:PHE:N | 2.20 | 0.52 |
| 2:L:274:ILE:HG22 | 2:L:275:SER:H | 1.71 | 0.52 |
| 1:O:314:ALA:CB | 1:O:346:LEU:HD13 | 2.35 | 0.52 |
| 1:A:195:ARG:CG | 1:A:195:ARG:NH1 | 2.63 | 0.51 |
| 2:H:118:SER:OG | 2:H:129:VAL:HG13 | 2.10 | 0.51 |
| 1:I:305:ASN:HA | 1:I:308:ALA:CB | 2.38 | 0.51 |
| 1:E:323:LYS:H | 1:E:323:LYS:CE | 2.23 | 0.51 |
| 4:I:2005:AMP:O3P | 4:I:2005:AMP:H4' | 2.10 | 0.51 |
| 1:K:193:LEU:HD11 | 1:K:197:ILE:HD11 | 1.92 | 0.51 |
| 1:K:305:ASN:HA | 1:K:308:ALA:CB | 2.38 | 0.51 |
| 1:M:206:TYR:N | 1:M:207:PRO:HD3 | 2.25 | 0.51 |
| 2:P:330:PRO:HA | 2:P:333:ARG:HG3 | 1.91 | 0.51 |
| 1:C:62:GLY:C | 1:C:64:TYR:N | 2.65 | 0.51 |
| 2:J:155:GLN:OE1 | 2:L:155:GLN:NE2 | 2.42 | 0.51 |
| 2:P:273:LYS:HG3 | 2:P:274:ILE:HD12 | 1.90 | 0.51 |
| 1:A:193:LEU:HD11 | 1:A:197:ILE:HD11 | 1.92 | 0.51 |
| 1:E:193:LEU:HD11 | 1:E:197:ILE:HD11 | 1.92 | 0.51 |
| 2:F:61:ILE:HG22 | 2:F:62:PHE:N | 2.20 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:G:27:GLY:C | 1:G:29:GLY:H | 2.17 | 0.51 |
| 2:H:36:ILE:CG1 | 2:H:295:PRO:HA | 2.40 | 0.51 |
| 2:L:36:ILE:CG1 | 2:L:295:PRO:HA | 2.40 | 0.51 |
| 2:N:36:ILE:CG1 | 2:N:295:PRO:HA | 2.40 | 0.51 |
| 2:P:118:SER:OG | 2:P:129:VAL:HG13 | 2.10 | 0.51 |
| 1:I:106:ASN:HB3 | 1:I:129:ARG:HG2 | 1.91 | 0.51 |
| 1:M:193:LEU:HD11 | 1:M:197:ILE:HD11 | 1.92 | 0.51 |
| 1:C:119:ARG:CD | 2:D:125:THR:O | 2.58 | 0.51 |
| 1:C:254:PRO:HG3 | 2:D:226:LEU:HD11 | 1.91 | 0.51 |
| 2:F:323:LEU:HD23 | 2:F:323:LEU:N | 2.26 | 0.51 |
| 1:I:277:GLY:HA2 | 4:I:2005:AMP:H5'2 | 1.93 | 0.51 |
| 2:J:118:SER:OG | 2:J:129:VAL:HG13 | 2.10 | 0.51 |
| 2:D:322:VAL:O | 2:D:323:LEU:C | 2.53 | 0.51 |
| 2:F:36:ILE:CG1 | 2:F:295:PRO:HA | 2.40 | 0.51 |
| 2:P:69:ILE:HD12 | 2:P:70:PRO:CD | 2.34 | 0.51 |
| 1:C:7:GLU:HA | 1:C:7:GLU:OE1 | 2.10 | 0.51 |
| 2:D:189:LYS:HD3 | 2:D:221:ILE:CD1 | 2.41 | 0.51 |
| 1:E:7:GLU:OE1 | 1:E:7:GLU:HA | 2.10 | 0.51 |
| 1:K:106:ASN:HB3 | 1:K:129:ARG:HG2 | 1.91 | 0.51 |
| 1:O:323:LYS:H | 1:O:323:LYS:CE | 2.23 | 0.51 |
| 2:P:189:LYS:HD3 | 2:P:221:ILE:CD1 | 2.41 | 0.51 |
| 2:P:323:LEU:HD23 | 2:P:323:LEU:N | 2.26 | 0.51 |
| 1:C:27:GLY:C | 1:C:29:GLY:H | 2.17 | 0.51 |
| 2:D:97:ARG:CG | 2:D:102:THR:HG23 | 2.39 | 0.51 |
| 2:F:322:VAL:O | 2:F:323:LEU:C | 2.53 | 0.51 |
| 2:J:322:VAL:O | 2:J:323:LEU:C | 2.53 | 0.51 |
| 2:L:323:LEU:HD23 | 2:L:323:LEU:N | 2.26 | 0.51 |
| 2:P:97:ARG:CG | 2:P:102:THR:HG23 | 2.39 | 0.51 |
| 2:B:323:LEU:HD23 | 2:B:323:LEU:N | 2.26 | 0.51 |
| 2:D:36:ILE:CG1 | 2:D:295:PRO:HA | 2.40 | 0.51 |
| 2:F:118:SER:OG | 2:F:129:VAL:HG13 | 2.10 | 0.51 |
| 1:K:72:ARG:NH2 | 1:O:171:LYS:HZ1 | 2.01 | 0.51 |
| 1:A:64:TYR:OH | 2:P:63:VAL:HG11 | 2.11 | 0.50 |
| 2:B:97:ARG:CG | 2:B:102:THR:HG23 | 2.39 | 0.50 |
| 1:E:245:ASN:HD22 | 2:F:222:ASP:HA | 1.75 | 0.50 |
| 2:H:189:LYS:HD3 | 2:H:221:ILE:CD1 | 2.41 | 0.50 |
| 2:L:189:LYS:HD3 | 2:L:221:ILE:CD1 | 2.41 | 0.50 |
| 1:O:119:ARG:HD2 | 2:P:125:THR:O | 2.12 | 0.50 |
| 1:C:323:LYS:H | 1:C:323:LYS:CE | 2.23 | 0.50 |
| 2:F:189:LYS:HD3 | 2:F:221:ILE:CD1 | 2.41 | 0.50 |
| 1:I:249:ALA:CB | 2:J:230:THR:HG23 | 2.40 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:I:323:LYS:H | 1:I:323:LYS:CE | 2.23 | 0.50 |
| 2:L:61:ILE:HD11 | 2:L:70:PRO:HA | 1.94 | 0.50 |
| 2:L:243:PRO:HD2 | 2:L:246:TYR:HD2 | 1.77 | 0.50 |
| 2:L:322:VAL:O | 2:L:323:LEU:C | 2.53 | 0.50 |
| 1:A:92:SER:OG | 3:A:1001:FLC:OG2 | 2.27 | 0.50 |
| 1:K:254:PRO:HG3 | 2:L:226:LEU:HD11 | 1.93 | 0.50 |
| 2:B:213:ASP:CA | 1:I:122:ASP:OD2 | 2.58 | 0.50 |
| 2:H:61:ILE:HD11 | 2:H:70:PRO:HA | 1.94 | 0.50 |
| 2:H:323:LEU:HD23 | 2:H:323:LEU:N | 2.26 | 0.50 |
| 2:J:69:ILE:HD11 | 2:J:73:ALA:HB3 | 1.94 | 0.50 |
| 2:J:189:LYS:HD3 | 2:J:221:ILE:CD1 | 2.41 | 0.50 |
| 2:J:323:LEU:HD23 | 2:J:323:LEU:N | 2.26 | 0.50 |
| 2:L:349:ALA:O | 2:L:353:ARG:HD3 | 2.12 | 0.50 |
| 2:N:334:THR:HB | 2:N:336:ASP:OD1 | 2.12 | 0.50 |
| 1:O:193:LEU:HD11 | 1:O:197:ILE:HD11 | 1.92 | 0.50 |
| 2:D:69:ILE:HD11 | 2:D:73:ALA:HB3 | 1.94 | 0.50 |
| 2:D:243:PRO:HD2 | 2:D:246:TYR:HD2 | 1.77 | 0.50 |
| 1:E:283:GLN:HB3 | 1:E:285:VAL:HG13 | 1.94 | 0.50 |
| 2:F:61:ILE:HD11 | 2:F:70:PRO:HA | 1.94 | 0.50 |
| 1:I:171:LYS:NZ | 1:M:72:ARG:NH2 | 2.58 | 0.50 |
| 4:I:2005:AMP:O3P | 2:J:223:ASN:ND2 | 2.45 | 0.50 |
| 2:J:36:ILE:CG1 | 2:J:295:PRO:HA | 2.40 | 0.50 |
| 1:K:299:LEU:HB2 | 1:K:308:ALA:HB2 | 1.94 | 0.50 |
| 1:M:257:VAL:HG12 | 1:M:272:GLY:HA3 | 1.94 | 0.50 |
| 1:O:186:ILE:HD13 | 2:P:142:TYR:CD2 | 2.47 | 0.50 |
| 1:O:299:LEU:HB2 | 1:O:308:ALA:HB2 | 1.94 | 0.50 |
| 1:A:241:THR:OG1 | 3:A:1001:FLC:OA2 | 2.24 | 0.50 |
| 1:A:283:GLN:HB3 | 1:A:285:VAL:HG13 | 1.94 | 0.50 |
| 2:D:323:LEU:HD23 | 2:D:323:LEU:N | 2.26 | 0.50 |
| 1:E:255:GLY:O | 1:E:289:THR:HB | 2.12 | 0.50 |
| 2:F:349:ALA:O | 2:F:353:ARG:HD3 | 2.11 | 0.50 |
| 1:G:342:ILE:O | 1:G:346:LEU:HB2 | 2.12 | 0.50 |
| 3:I:1005:FLC:OG1 | 3:I:1005:FLC:OHB | 2.30 | 0.50 |
| 1:M:299:LEU:HB2 | 1:M:308:ALA:HB2 | 1.94 | 0.50 |
| 3:M:1007:FLC:OG1 | 3:M:1007:FLC:OHB | 2.30 | 0.50 |
| 2:N:323:LEU:HD23 | 2:N:323:LEU:N | 2.26 | 0.50 |
| 2:P:69:ILE:HD11 | 2:P:73:ALA:HB3 | 1.94 | 0.50 |
| 2:B:349:ALA:O | 2:B:353:ARG:HD3 | 2.12 | 0.50 |
| 1:C:14:TYR:CE2 | 1:G:165:PHE:HD1 | 2.30 | 0.50 |
| 1:C:257:VAL:HG12 | 1:C:272:GLY:HA3 | 1.94 | 0.50 |
| 1:E:257:VAL:HG12 | 1:E:272:GLY:HA3 | 1.94 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:I:193:LEU:HD11 | 1:I:197:ILE:HD11 | 1.93 | 0.50 |
| 2:J:71:ASP:N | 2:J:72:PRO:HD2 | 2.27 | 0.50 |
| 2:J:274:ILE:CG2 | 2:J:275:SER:N | 2.75 | 0.50 |
| 1:K:283:GLN:HB3 | 1:K:285:VAL:HG13 | 1.94 | 0.50 |
| 3:K:1006:FLC:OG1 | 3:K:1006:FLC:OHB | 2.30 | 0.50 |
| 2:L:69:ILE:HD11 | 2:L:73:ALA:HB3 | 1.94 | 0.50 |
| 1:M:7:GLU:OE1 | 1:M:7:GLU:HA | 2.11 | 0.50 |
| 1:O:176:LYS:HE3 | 1:O:208:ASP:O | 2.12 | 0.50 |
| 2:P:61:ILE:HD11 | 2:P:70:PRO:HA | 1.94 | 0.50 |
| 2:P:274:ILE:CG2 | 2:P:275:SER:N | 2.75 | 0.50 |
| 2:P:334:THR:HB | 2:P:336:ASP:OD1 | 2.12 | 0.50 |
| 1:A:342:ILE:O | 1:A:346:LEU:HB2 | 2.12 | 0.50 |
| 2:B:243:PRO:HD2 | 2:B:246:TYR:HD2 | 1.77 | 0.50 |
| 1:C:104:TYR:CE2 | 1:C:161:ARG:HG2 | 2.47 | 0.50 |
| 1:C:283:GLN:HB3 | 1:C:285:VAL:HG13 | 1.94 | 0.50 |
| 2:D:46:ALA:HB2 | 2:D:351:ILE:HD13 | 1.94 | 0.50 |
| 2:D:334:THR:HB | 2:D:336:ASP:OD1 | 2.12 | 0.50 |
| 2:F:274:ILE:CG2 | 2:F:275:SER:N | 2.75 | 0.50 |
| 2:J:349:ALA:O | 2:J:353:ARG:HD3 | 2.11 | 0.50 |
| 1:M:176:LYS:HE3 | 1:M:208:ASP:O | 2.12 | 0.50 |
| 2:N:349:ALA:O | 2:N:353:ARG:HD3 | 2.12 | 0.50 |
| 1:O:104:TYR:CE2 | 1:O:161:ARG:HG2 | 2.47 | 0.50 |
| 2:P:165:SER:HG | 2:P:200:PHE:HD1 | 1.58 | 0.50 |
| 2:P:243:PRO:HD2 | 2:P:246:TYR:HD2 | 1.77 | 0.50 |
| 2:B:189:LYS:HD3 | 2:B:221:ILE:CD1 | 2.41 | 0.50 |
| 2:F:134:ILE:HD13 | 2:F:239:VAL:HG13 | 1.94 | 0.50 |
| 2:F:334:THR:HB | 2:F:336:ASP:OD1 | 2.12 | 0.50 |
| 1:G:193:LEU:HD11 | 1:G:197:ILE:HD11 | 1.92 | 0.50 |
| 3:G:1004:FLC:OG1 | 3:G:1004:FLC:OHB | 2.30 | 0.50 |
| 2:H:243:PRO:HD2 | 2:H:246:TYR:HD2 | 1.77 | 0.50 |
| 1:I:27:GLY:C | 1:I:29:GLY:H | 2.17 | 0.50 |
| 1:K:255:GLY:O | 1:K:289:THR:HB | 2.12 | 0.50 |
| 2:L:134:ILE:HD13 | 2:L:239:VAL:HG13 | 1.94 | 0.50 |
| 1:A:257:VAL:HG12 | 1:A:272:GLY:HA3 | 1.94 | 0.49 |
| 1:C:176:LYS:HE3 | 1:C:208:ASP:O | 2.12 | 0.49 |
| 2:D:71:ASP:N | 2:D:72:PRO:HD2 | 2.27 | 0.49 |
| 1:G:151:LEU:CD2 | 2:H:157:ILE:HG12 | 2.34 | 0.49 |
| 1:G:255:GLY:O | 1:G:289:THR:HB | 2.12 | 0.49 |
| 1:K:104:TYR:CE2 | 1:K:161:ARG:HG2 | 2.47 | 0.49 |
| 2:L:334:THR:HB | 2:L:336:ASP:OD1 | 2.12 | 0.49 |
| 2:P:46:ALA:HB2 | 2:P:351:ILE:HD13 | 1.94 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:46:ALA:HB2 | 2:B:351:ILE:HD13 | 1.94 | 0.49 |
| 2:B:134:ILE:HD13 | 2:B:239:VAL:HG13 | 1.94 | 0.49 |
| 1:C:255:GLY:O | 1:C:289:THR:HB | 2.12 | 0.49 |
| 1:C:342:ILE:O | 1:C:346:LEU:HB2 | 2.12 | 0.49 |
| 1:E:342:ILE:O | 1:E:346:LEU:HB2 | 2.12 | 0.49 |
| 2:H:69:ILE:HD11 | 2:H:73:ALA:HB3 | 1.94 | 0.49 |
| 2:H:134:ILE:HD13 | 2:H:239:VAL:HG13 | 1.94 | 0.49 |
| 1:I:283:GLN:HB3 | 1:I:285:VAL:HG13 | 1.94 | 0.49 |
| 2:L:71:ASP:N | 2:L:72:PRO:HD2 | 2.27 | 0.49 |
| 1:M:195:ARG:CG | 1:M:195:ARG:NH1 | 2.63 | 0.49 |
| 2:N:69:ILE:HD11 | 2:N:73:ALA:HB3 | 1.94 | 0.49 |
| 2:N:97:ARG:CG | 2:N:102:THR:HG23 | 2.39 | 0.49 |
| 2:N:101:LEU:HD23 | 2:N:104:ARG:NH1 | 2.27 | 0.49 |
| 1:O:283:GLN:HB3 | 1:O:285:VAL:HG13 | 1.94 | 0.49 |
| 2:P:349:ALA:O | 2:P:353:ARG:HD3 | 2.12 | 0.49 |
| 1:A:186:ILE:HD13 | 2:B:142:TYR:CD2 | 2.47 | 0.49 |
| 2:B:69:ILE:HD11 | 2:B:73:ALA:HB3 | 1.94 | 0.49 |
| 1:C:22:LEU:HD11 | 1:C:33:THR:HG22 | 1.95 | 0.49 |
| 1:C:193:LEU:HD11 | 1:C:197:ILE:HD11 | 1.92 | 0.49 |
| 1:C:245:ASN:ND2 | 2:D:222:ASP:HA | 2.27 | 0.49 |
| 1:C:274:ARG:HG2 | 3:C:1002:FLC:OB1 | 2.11 | 0.49 |
| 2:D:4:LYS:CE | 2:D:10:ARG:HH22 | 2.25 | 0.49 |
| 1:G:257:VAL:HG12 | 1:G:272:GLY:HA3 | 1.94 | 0.49 |
| 1:G:299:LEU:HB2 | 1:G:308:ALA:HB2 | 1.94 | 0.49 |
| 1:K:15:GLY:N | 1:O:263:GLY:O | 2.34 | 0.49 |
| 1:K:176:LYS:HE3 | 1:K:208:ASP:O | 2.12 | 0.49 |
| 1:M:22:LEU:HD11 | 1:M:33:THR:HG22 | 1.95 | 0.49 |
| 1:M:255:GLY:O | 1:M:289:THR:HB | 2.12 | 0.49 |
| 1:M:342:ILE:O | 1:M:346:LEU:HB2 | 2.12 | 0.49 |
| 2:N:71:ASP:N | 2:N:72:PRO:HD2 | 2.27 | 0.49 |
| 2:P:4:LYS:CE | 2:P:10:ARG:HH22 | 2.25 | 0.49 |
| 1:A:119:ARG:HD2 | 2:B:125:THR:O | 2.11 | 0.49 |
| 2:B:4:LYS:CE | 2:B:10:ARG:HH22 | 2.25 | 0.49 |
| 2:B:71:ASP:N | 2:B:72:PRO:HD2 | 2.27 | 0.49 |
| 2:D:136:GLU:OE2 | 2:D:138:THR:HB | 2.13 | 0.49 |
| 1:G:176:LYS:HE3 | 1:G:208:ASP:O | 2.12 | 0.49 |
| 1:I:165:PHE:HA | 1:M:14:TYR:OH | 2.12 | 0.49 |
| 2:J:4:LYS:CE | 2:J:10:ARG:HH22 | 2.25 | 0.49 |
| 2:J:334:THR:HB | 2:J:336:ASP:OD1 | 2.12 | 0.49 |
| 1:O:67:VAL:HG13 | 1:O:101:LEU:HD21 | 1.94 | 0.49 |
| 2:B:334:THR:HB | 2:B:336:ASP:OD1 | 2.12 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:67:VAL:HG13 | 1:C:101:LEU:HD21 | 1.94 | 0.49 |
| 2:D:101:LEU:HD23 | 2:D:104:ARG:NH1 | 2.27 | 0.49 |
| 1:G:249:ALA:CB | 2:H:230:THR:HG23 | 2.42 | 0.49 |
| 1:I:160:GLU:CD | 1:M:8:ARG:HH21 | 2.20 | 0.49 |
| 2:L:97:ARG:CG | 2:L:102:THR:HG23 | 2.39 | 0.49 |
| 2:N:169:ILE:HD13 | 2:N:204:ALA:HB2 | 1.95 | 0.49 |
| 1:O:342:ILE:O | 1:O:346:LEU:HB2 | 2.12 | 0.49 |
| 1:A:22:LEU:HD11 | 1:A:33:THR:HG22 | 1.95 | 0.49 |
| 2:B:318:ILE:HA | 2:B:322:VAL:CG2 | 2.38 | 0.49 |
| 2:D:61:ILE:HD11 | 2:D:70:PRO:HA | 1.94 | 0.49 |
| 2:F:46:ALA:HB2 | 2:F:351:ILE:HD13 | 1.94 | 0.49 |
| 2:F:243:PRO:HD2 | 2:F:246:TYR:HD2 | 1.77 | 0.49 |
| 2:H:349:ALA:O | 2:H:353:ARG:HD3 | 2.11 | 0.49 |
| 1:I:104:TYR:CE2 | 1:I:161:ARG:HG2 | 2.47 | 0.49 |
| 1:I:255:GLY:O | 1:I:289:THR:HB | 2.12 | 0.49 |
| 2:J:243:PRO:HD2 | 2:J:246:TYR:HD2 | 1.77 | 0.49 |
| 1:K:257:VAL:HG12 | 1:K:272:GLY:HA3 | 1.94 | 0.49 |
| 2:N:189:LYS:HD3 | 2:N:221:ILE:CD1 | 2.41 | 0.49 |
| 1:A:104:TYR:CE2 | 1:A:161:ARG:HG2 | 2.47 | 0.49 |
| 2:D:349:ALA:O | 2:D:353:ARG:HD3 | 2.12 | 0.49 |
| 1:E:67:VAL:HG13 | 1:E:101:LEU:HD21 | 1.94 | 0.49 |
| 2:H:274:ILE:CG2 | 2:H:275:SER:N | 2.75 | 0.49 |
| 2:H:334:THR:HB | 2:H:336:ASP:OD1 | 2.12 | 0.49 |
| 1:I:67:VAL:HG13 | 1:I:101:LEU:HD21 | 1.94 | 0.49 |
| 2:J:101:LEU:HD23 | 2:J:104:ARG:NH1 | 2.27 | 0.49 |
| 1:K:22:LEU:HD11 | 1:K:33:THR:HG22 | 1.95 | 0.49 |
| 2:L:46:ALA:HB2 | 2:L:351:ILE:HD13 | 1.94 | 0.49 |
| 2:N:46:ALA:HB2 | 2:N:351:ILE:HD13 | 1.94 | 0.49 |
| 1:A:176:LYS:HE3 | 1:A:208:ASP:O | 2.12 | 0.49 |
| 1:A:255:GLY:O | 1:A:289:THR:HB | 2.12 | 0.49 |
| 2:H:71:ASP:N | 2:H:72:PRO:HD2 | 2.27 | 0.49 |
| 2:H:103:LEU:HD12 | 2:H:103:LEU:HA | 1.68 | 0.49 |
| 2:H:136:GLU:OE2 | 2:H:138:THR:HB | 2.13 | 0.49 |
| 1:I:151:LEU:HD12 | 2:L:147:HIS:CD2 | 2.48 | 0.49 |
| 1:I:257:VAL:HG12 | 1:I:272:GLY:HA3 | 1.94 | 0.49 |
| 1:I:299:LEU:HB2 | 1:I:308:ALA:HB2 | 1.94 | 0.49 |
| 1:K:342:ILE:O | 1:K:346:LEU:HB2 | 2.12 | 0.49 |
| 1:M:104:TYR:CE2 | 1:M:161:ARG:HG2 | 2.47 | 0.49 |
| 2:N:134:ILE:HD13 | 2:N:239:VAL:HG13 | 1.94 | 0.49 |
| 2:P:71:ASP:N | 2:P:72:PRO:HD2 | 2.27 | 0.49 |
| 2:P:101:LEU:HD23 | 2:P:104:ARG:NH1 | 2.27 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:195:ARG:HH11 | 1:A:195:ARG:HB3 | 1.78 | 0.49 |
| 1:C:299:LEU:HB2 | 1:C:308:ALA:HB2 | 1.94 | 0.49 |
| 2:D:134:ILE:HD13 | 2:D:239:VAL:HG13 | 1.94 | 0.49 |
| 2:F:71:ASP:N | 2:F:72:PRO:HD2 | 2.27 | 0.49 |
| 2:J:61:ILE:HD11 | 2:J:70:PRO:HA | 1.94 | 0.49 |
| 2:J:149:VAL:HG21 | 2:L:149:VAL:HG21 | 1.94 | 0.49 |
| 1:M:14:TYR:O | 1:M:15:GLY:C | 2.56 | 0.49 |
| 1:M:283:GLN:HB3 | 1:M:285:VAL:HG13 | 1.94 | 0.49 |
| 2:N:4:LYS:CE | 2:N:10:ARG:HH22 | 2.25 | 0.49 |
| 2:P:136:GLU:OE2 | 2:P:138:THR:HB | 2.13 | 0.49 |
| 2:B:61:ILE:HD11 | 2:B:70:PRO:HA | 1.94 | 0.49 |
| 2:B:274:ILE:CG2 | 2:B:275:SER:N | 2.75 | 0.49 |
| 2:D:274:ILE:CG2 | 2:D:275:SER:N | 2.75 | 0.49 |
| 2:H:101:LEU:HD23 | 2:H:104:ARG:NH1 | 2.27 | 0.49 |
| 2:J:33:GLY:O | 2:J:36:ILE:HG22 | 2.13 | 0.49 |
| 2:N:61:ILE:HD11 | 2:N:70:PRO:HA | 1.94 | 0.49 |
| 2:N:243:PRO:HD2 | 2:N:246:TYR:HD2 | 1.77 | 0.49 |
| 2:N:322:VAL:C | 2:N:326:ILE:HG23 | 2.38 | 0.49 |
| 1:O:257:VAL:HG12 | 1:O:272:GLY:HA3 | 1.94 | 0.49 |
| 1:A:64:TYR:CE1 | 2:P:63:VAL:HG11 | 2.41 | 0.48 |
| 1:A:323:LYS:H | 1:A:323:LYS:CE | 2.23 | 0.48 |
| 2:D:169:ILE:HD13 | 2:D:204:ALA:HB2 | 1.95 | 0.48 |
| 1:E:292:ILE:O | 1:E:296:THR:HG23 | 2.13 | 0.48 |
| 2:F:33:GLY:O | 2:F:36:ILE:HG22 | 2.13 | 0.48 |
| 2:F:101:LEU:HD23 | 2:F:104:ARG:NH1 | 2.27 | 0.48 |
| 2:F:318:ILE:HA | 2:F:322:VAL:CG2 | 2.38 | 0.48 |
| 1:I:146:GLY:O | 2:J:161:THR:HA | 2.13 | 0.48 |
| 1:I:176:LYS:HE3 | 1:I:208:ASP:O | 2.12 | 0.48 |
| 1:I:195:ARG:HH11 | 1:I:195:ARG:HB3 | 1.78 | 0.48 |
| 2:J:136:GLU:OE2 | 2:J:138:THR:HB | 2.13 | 0.48 |
| 2:J:153:VAL:HG11 | 2:L:149:VAL:CG2 | 2.43 | 0.48 |
| 2:J:337:LEU:O | 2:J:338:ALA:HB3 | 2.13 | 0.48 |
| 1:M:104:TYR:CZ | 1:M:161:ARG:HG2 | 2.49 | 0.48 |
| 1:M:292:ILE:O | 1:M:296:THR:HG23 | 2.13 | 0.48 |
| 1:A:164:ARG:HH22 | 1:E:8:ARG:HH21 | 1.61 | 0.48 |
| 2:B:33:GLY:O | 2:B:36:ILE:HG22 | 2.13 | 0.48 |
| 2:B:189:LYS:HE2 | 2:B:192:ILE:HD12 | 1.95 | 0.48 |
| 1:C:10:LEU:HB3 | 1:C:11:PRO:CD | 2.43 | 0.48 |
| 2:F:4:LYS:CE | 2:F:10:ARG:HH22 | 2.25 | 0.48 |
| 1:K:67:VAL:HG13 | 1:K:101:LEU:HD21 | 1.94 | 0.48 |
| 1:M:67:VAL:HG13 | 1:M:101:LEU:HD21 | 1.94 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:N:136:GLU:OE2 | 2:N:138:THR:HB | 2.13 | 0.48 |
| 1:O:104:TYR:CZ | 1:O:161:ARG:HG2 | 2.49 | 0.48 |
| 3:O:1008:FLC:OG1 | 3:O:1008:FLC:OHB | 2.30 | 0.48 |
| 2:D:189:LYS:HE2 | 2:D:192:ILE:HD12 | 1.95 | 0.48 |
| 1:E:299:LEU:HB2 | 1:E:308:ALA:HB2 | 1.94 | 0.48 |
| 2:F:69:ILE:HD11 | 2:F:73:ALA:HB3 | 1.94 | 0.48 |
| 2:H:46:ALA:HB2 | 2:H:351:ILE:HD13 | 1.94 | 0.48 |
| 2:H:189:LYS:HE2 | 2:H:192:ILE:HD12 | 1.95 | 0.48 |
| 2:J:46:ALA:HB2 | 2:J:351:ILE:HD13 | 1.94 | 0.48 |
| 2:L:322:VAL:C | 2:L:326:ILE:HG23 | 2.39 | 0.48 |
| 1:M:10:LEU:HB3 | 1:M:11:PRO:CD | 2.43 | 0.48 |
| 1:O:133:GLU:OE1 | 1:O:158:LYS:HD2 | 2.13 | 0.48 |
| 1:O:255:GLY:O | 1:O:289:THR:HB | 2.12 | 0.48 |
| 2:P:322:VAL:C | 2:P:326:ILE:HG23 | 2.39 | 0.48 |
| 1:A:175:ARG:NH1 | 1:A:231:ASP:OD1 | 2.47 | 0.48 |
| 2:B:101:LEU:HD23 | 2:B:104:ARG:NH1 | 2.27 | 0.48 |
| 2:B:169:ILE:HD12 | 2:B:203:VAL:HG12 | 1.96 | 0.48 |
| 2:B:189:LYS:CG | 2:B:192:ILE:HD13 | 2.44 | 0.48 |
| 1:C:199:THR:HA | 1:C:211:VAL:HG11 | 1.96 | 0.48 |
| 1:C:292:ILE:O | 1:C:296:THR:HG23 | 2.13 | 0.48 |
| 1:E:10:LEU:HB3 | 1:E:11:PRO:CD | 2.43 | 0.48 |
| 1:E:104:TYR:CZ | 1:E:161:ARG:HG2 | 2.49 | 0.48 |
| 1:E:104:TYR:CE2 | 1:E:161:ARG:HG2 | 2.47 | 0.48 |
| 1:G:67:VAL:HG13 | 1:G:101:LEU:HD21 | 1.94 | 0.48 |
| 1:G:104:TYR:CE2 | 1:G:161:ARG:HG2 | 2.47 | 0.48 |
| 2:H:322:VAL:C | 2:H:326:ILE:HG23 | 2.39 | 0.48 |
| 1:I:199:THR:HA | 1:I:211:VAL:HG11 | 1.96 | 0.48 |
| 2:J:189:LYS:CG | 2:J:192:ILE:HD13 | 2.44 | 0.48 |
| 2:J:322:VAL:C | 2:J:326:ILE:HG23 | 2.39 | 0.48 |
| 2:L:33:GLY:O | 2:L:36:ILE:HG22 | 2.13 | 0.48 |
| 2:L:337:LEU:O | 2:L:338:ALA:HB3 | 2.14 | 0.48 |
| 2:N:274:ILE:CG2 | 2:N:275:SER:N | 2.75 | 0.48 |
| 1:O:292:ILE:O | 1:O:296:THR:HG23 | 2.14 | 0.48 |
| 2:F:136:GLU:OE2 | 2:F:138:THR:HB | 2.13 | 0.48 |
| 2:F:169:ILE:HD13 | 2:F:204:ALA:HB2 | 1.95 | 0.48 |
| 2:F:189:LYS:HE2 | 2:F:192:ILE:HD12 | 1.95 | 0.48 |
| 1:G:22:LEU:HD11 | 1:G:33:THR:HG22 | 1.95 | 0.48 |
| 1:G:292:ILE:O | 1:G:296:THR:HG23 | 2.13 | 0.48 |
| 1:I:133:GLU:HG2 | 1:I:134:GLY:H | 1.78 | 0.48 |
| 1:I:175:ARG:NH1 | 1:I:231:ASP:OD1 | 2.47 | 0.48 |
| 2:J:134:ILE:HD13 | 2:J:239:VAL:HG13 | 1.94 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:J:319:GLN:O | 2:J:321:ALA:O | 2.32 | 0.48 |
| 2:L:101:LEU:HD23 | 2:L:104:ARG:NH1 | 2.27 | 0.48 |
| 2:L:189:LYS:HE2 | 2:L:192:ILE:HD12 | 1.95 | 0.48 |
| 2:N:189:LYS:HE2 | 2:N:192:ILE:HD12 | 1.95 | 0.48 |
| 2:N:318:ILE:HA | 2:N:322:VAL:CG2 | 2.37 | 0.48 |
| 2:N:319:GLN:O | 2:N:321:ALA:O | 2.32 | 0.48 |
| 2:P:169:ILE:HD13 | 2:P:204:ALA:HB2 | 1.95 | 0.48 |
| 2:B:319:GLN:O | 2:B:324:SER:HB2 | 2.14 | 0.48 |
| 1:G:104:TYR:CZ | 1:G:161:ARG:HG2 | 2.49 | 0.48 |
| 1:M:19:THR:O | 1:M:73:ASN:HB3 | 2.14 | 0.48 |
| 2:N:33:GLY:O | 2:N:36:ILE:HG22 | 2.13 | 0.48 |
| 2:N:337:LEU:O | 2:N:338:ALA:HB3 | 2.14 | 0.48 |
| 1:O:22:LEU:HD11 | 1:O:33:THR:HG22 | 1.95 | 0.48 |
| 2:P:134:ILE:HD13 | 2:P:239:VAL:HG13 | 1.94 | 0.48 |
| 2:P:319:GLN:O | 2:P:324:SER:HB2 | 2.14 | 0.48 |
| 1:A:133:GLU:HG2 | 1:A:134:GLY:H | 1.79 | 0.48 |
| 1:A:133:GLU:OE1 | 1:A:158:LYS:HD2 | 2.13 | 0.48 |
| 1:C:19:THR:O | 1:C:73:ASN:HB3 | 2.14 | 0.48 |
| 1:C:175:ARG:NH1 | 1:C:231:ASP:OD1 | 2.47 | 0.48 |
| 2:D:189:LYS:CG | 2:D:192:ILE:HD13 | 2.44 | 0.48 |
| 1:G:283:GLN:HB3 | 1:G:285:VAL:HG13 | 1.94 | 0.48 |
| 1:I:104:TYR:CZ | 1:I:161:ARG:HG2 | 2.49 | 0.48 |
| 1:I:342:ILE:O | 1:I:346:LEU:HB2 | 2.12 | 0.48 |
| 2:J:189:LYS:HE2 | 2:J:192:ILE:HD12 | 1.95 | 0.48 |
| 1:K:133:GLU:OE1 | 1:K:158:LYS:HD2 | 2.13 | 0.48 |
| 1:K:224:VAL:HG11 | 2:L:257:LEU:HG | 1.96 | 0.48 |
| 1:K:323:LYS:H | 1:K:323:LYS:CE | 2.23 | 0.48 |
| 1:M:133:GLU:HG2 | 1:M:134:GLY:H | 1.78 | 0.48 |
| 2:N:189:LYS:CG | 2:N:192:ILE:HD13 | 2.44 | 0.48 |
| 2:P:189:LYS:HE2 | 2:P:192:ILE:HD12 | 1.95 | 0.48 |
| 1:A:104:TYR:CZ | 1:A:161:ARG:HG2 | 2.49 | 0.48 |
| 1:A:199:THR:HA | 1:A:211:VAL:HG11 | 1.96 | 0.48 |
| 1:A:292:ILE:O | 1:A:296:THR:HG23 | 2.13 | 0.48 |
| 1:A:299:LEU:HB2 | 1:A:308:ALA:HB2 | 1.94 | 0.48 |
| 2:B:181:ARG:HH11 | 2:B:238:ALA:H | 1.62 | 0.48 |
| 2:B:228:VAL:HG12 | 2:B:257:LEU:HD11 | 1.96 | 0.48 |
| 2:D:319:GLN:O | 2:D:324:SER:HB2 | 2.14 | 0.48 |
| 1:E:176:LYS:HE3 | 1:E:208:ASP:O | 2.12 | 0.48 |
| 1:E:199:THR:HA | 1:E:211:VAL:HG11 | 1.96 | 0.48 |
| 2:F:169:ILE:HD12 | 2:F:203:VAL:HG12 | 1.96 | 0.48 |
| 2:F:322:VAL:C | 2:F:326:ILE:HG23 | 2.38 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:H:169:ILE:HD13 | 2:H:204:ALA:HB2 | 1.95 | 0.48 |
| 1:I:133:GLU:OE1 | 1:I:158:LYS:HD2 | 2.13 | 0.48 |
| 1:I:292:ILE:O | 1:I:296:THR:HG23 | 2.13 | 0.48 |
| 1:K:133:GLU:HG2 | 1:K:134:GLY:H | 1.78 | 0.48 |
| 1:K:195:ARG:HH11 | 1:K:195:ARG:HB3 | 1.78 | 0.48 |
| 2:L:319:GLN:O | 2:L:321:ALA:O | 2.32 | 0.48 |
| 2:N:169:ILE:HD12 | 2:N:203:VAL:HG12 | 1.96 | 0.48 |
| 2:P:319:GLN:O | 2:P:321:ALA:O | 2.32 | 0.48 |
| 2:B:69:ILE:HD12 | 2:B:70:PRO:CD | 2.34 | 0.48 |
| 1:C:133:GLU:HG2 | 1:C:134:GLY:H | 1.78 | 0.48 |
| 1:G:133:GLU:OE1 | 1:G:158:LYS:HD2 | 2.13 | 0.48 |
| 2:H:169:ILE:HD12 | 2:H:203:VAL:HG12 | 1.96 | 0.48 |
| 2:H:228:VAL:HG12 | 2:H:257:LEU:CD1 | 2.44 | 0.48 |
| 2:J:253:LEU:HD23 | 2:J:253:LEU:O | 2.14 | 0.48 |
| 1:K:8:ARG:HH21 | 1:O:160:GLU:CD | 2.22 | 0.48 |
| 1:K:104:TYR:CZ | 1:K:161:ARG:HG2 | 2.49 | 0.48 |
| 2:L:169:ILE:HD13 | 2:L:204:ALA:HB2 | 1.95 | 0.48 |
| 2:L:228:VAL:HG12 | 2:L:257:LEU:CD1 | 2.44 | 0.48 |
| 1:O:199:THR:HA | 1:O:211:VAL:HG11 | 1.96 | 0.48 |
| 2:P:169:ILE:HD12 | 2:P:203:VAL:HG12 | 1.96 | 0.48 |
| 2:P:189:LYS:CG | 2:P:192:ILE:HD13 | 2.44 | 0.48 |
| 2:P:253:LEU:HD23 | 2:P:253:LEU:O | 2.14 | 0.48 |
| 1:A:67:VAL:HG13 | 1:A:101:LEU:HD21 | 1.94 | 0.48 |
| 2:B:169:ILE:HD13 | 2:B:204:ALA:HB2 | 1.95 | 0.48 |
| 2:B:295:PRO:O | 2:B:299:LEU:HB2 | 2.14 | 0.48 |
| 2:B:319:GLN:O | 2:B:321:ALA:O | 2.32 | 0.48 |
| 2:D:228:VAL:HG12 | 2:D:257:LEU:HD11 | 1.96 | 0.48 |
| 2:D:322:VAL:C | 2:D:326:ILE:HG23 | 2.38 | 0.48 |
| 1:E:175:ARG:NH1 | 1:E:231:ASP:OD1 | 2.47 | 0.48 |
| 1:E:224:VAL:HG11 | 2:F:257:LEU:HG | 1.95 | 0.48 |
| 2:F:149:VAL:O | 1:G:153:VAL:HG11 | 2.13 | 0.48 |
| 2:F:228:VAL:HG12 | 2:F:257:LEU:CD1 | 2.44 | 0.48 |
| 1:G:133:GLU:HG2 | 1:G:134:GLY:H | 1.78 | 0.48 |
| 1:G:195:ARG:HH11 | 1:G:195:ARG:HB3 | 1.78 | 0.48 |
| 2:H:319:GLN:O | 2:H:321:ALA:O | 2.32 | 0.48 |
| 1:I:22:LEU:HD11 | 1:I:33:THR:HG22 | 1.95 | 0.48 |
| 2:J:228:VAL:HG12 | 2:J:257:LEU:CD1 | 2.44 | 0.48 |
| 1:K:8:ARG:NH2 | 1:O:164:ARG:HH22 | 2.12 | 0.48 |
| 1:K:205:GLU:HB2 | 1:K:206:TYR:CD1 | 2.49 | 0.48 |
| 2:L:136:GLU:OE2 | 2:L:138:THR:HB | 2.13 | 0.48 |
| 2:L:189:LYS:CG | 2:L:192:ILE:HD13 | 2.44 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:M:205:GLU:HB2 | 1:M:206:TYR:CD1 | 2.49 | 0.48 |
| 2:N:181:ARG:HH11 | 2:N:238:ALA:H | 1.62 | 0.48 |
| 2:N:228:VAL:HG12 | 2:N:257:LEU:CD1 | 2.44 | 0.48 |
| 2:N:319:GLN:O | 2:N:324:SER:HB2 | 2.14 | 0.48 |
| 1:O:205:GLU:HB2 | 1:O:206:TYR:CD1 | 2.49 | 0.48 |
| 1:C:14:TYR:O | 1:C:15:GLY:C | 2.56 | 0.47 |
| 1:I:19:THR:O | 1:I:73:ASN:HB3 | 2.14 | 0.47 |
| 2:J:169:ILE:HD13 | 2:J:204:ALA:HB2 | 1.95 | 0.47 |
| 1:K:183:LYS:HE2 | 2:L:142:TYR:OH | 2.14 | 0.47 |
| 2:N:295:PRO:O | 2:N:299:LEU:HB2 | 2.14 | 0.47 |
| 1:O:133:GLU:HG2 | 1:O:134:GLY:H | 1.78 | 0.47 |
| 2:P:228:VAL:HG12 | 2:P:257:LEU:CD1 | 2.44 | 0.47 |
| 2:P:337:LEU:O | 2:P:338:ALA:HB3 | 2.14 | 0.47 |
| 2:D:319:GLN:O | 2:D:321:ALA:O | 2.32 | 0.47 |
| 1:E:133:GLU:OE1 | 1:E:158:LYS:HD2 | 2.13 | 0.47 |
| 1:K:8:ARG:NH2 | 1:O:160:GLU:OE1 | 2.47 | 0.47 |
| 1:K:14:TYR:O | 1:K:15:GLY:C | 2.56 | 0.47 |
| 1:K:292:ILE:O | 1:K:296:THR:HG23 | 2.13 | 0.47 |
| 2:L:319:GLN:O | 2:L:324:SER:HB2 | 2.14 | 0.47 |
| 1:M:133:GLU:OE1 | 1:M:158:LYS:HD2 | 2.13 | 0.47 |
| 1:M:199:THR:HA | 1:M:211:VAL:HG11 | 1.96 | 0.47 |
| 1:O:19:THR:O | 1:O:73:ASN:HB3 | 2.14 | 0.47 |
| 2:B:322:VAL:C | 2:B:326:ILE:HG23 | 2.39 | 0.47 |
| 1:C:104:TYR:CZ | 1:C:161:ARG:HG2 | 2.49 | 0.47 |
| 1:C:205:GLU:HB2 | 1:C:206:TYR:CD1 | 2.49 | 0.47 |
| 2:D:253:LEU:HD23 | 2:D:253:LEU:O | 2.14 | 0.47 |
| 2:F:253:LEU:HD23 | 2:F:253:LEU:O | 2.14 | 0.47 |
| 2:H:319:GLN:O | 2:H:324:SER:HB2 | 2.14 | 0.47 |
| 2:J:26:PHE:O | 2:J:27:ILE:HB | 2.15 | 0.47 |
| 1:K:10:LEU:HB3 | 1:K:11:PRO:CD | 2.43 | 0.47 |
| 1:K:175:ARG:NH1 | 1:K:231:ASP:OD1 | 2.47 | 0.47 |
| 1:M:175:ARG:NH1 | 1:M:231:ASP:OD1 | 2.47 | 0.47 |
| 1:M:195:ARG:HH11 | 1:M:195:ARG:HB3 | 1.78 | 0.47 |
| 1:O:175:ARG:NH1 | 1:O:231:ASP:OD1 | 2.47 | 0.47 |
| 2:D:209:LYS:HB3 | 2:D:209:LYS:HE3 | 1.36 | 0.47 |
| 1:E:29:GLY:O | 1:E:33:THR:OG1 | 2.33 | 0.47 |
| 2:F:26:PHE:O | 2:F:27:ILE:HB | 2.15 | 0.47 |
| 2:F:189:LYS:HG3 | 2:F:189:LYS:O | 2.15 | 0.47 |
| 2:H:33:GLY:O | 2:H:36:ILE:HG22 | 2.13 | 0.47 |
| 1:M:255:GLY:CA | 4:M:2007:AMP:N1 | 2.77 | 0.47 |
| 2:P:33:GLY:O | 2:P:36:ILE:HG22 | 2.13 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:136:GLU:OE2 | 2:B:138:THR:HB | 2.13 | 0.47 |
| 1:C:133:GLU:OE1 | 1:C:158:LYS:HD2 | 2.13 | 0.47 |
| 2:D:33:GLY:O | 2:D:36:ILE:HG22 | 2.13 | 0.47 |
| 1:E:12:LYS:HB2 | 1:E:73:ASN:HA | 1.97 | 0.47 |
| 1:E:133:GLU:HG2 | 1:E:134:GLY:H | 1.78 | 0.47 |
| 1:E:205:GLU:HB2 | 1:E:206:TYR:CD1 | 2.49 | 0.47 |
| 1:G:47:ILE:C | 1:G:47:ILE:HD13 | 2.40 | 0.47 |
| 1:G:183:LYS:HE2 | 2:H:142:TYR:OH | 2.13 | 0.47 |
| 1:G:199:THR:HA | 1:G:211:VAL:HG11 | 1.96 | 0.47 |
| 1:G:323:LYS:H | 1:G:323:LYS:CE | 2.23 | 0.47 |
| 2:H:189:LYS:CG | 2:H:192:ILE:HD13 | 2.44 | 0.47 |
| 2:N:26:PHE:O | 2:N:27:ILE:HB | 2.15 | 0.47 |
| 2:N:228:VAL:HG12 | 2:N:257:LEU:HD11 | 1.96 | 0.47 |
| 2:P:228:VAL:HG12 | 2:P:257:LEU:HD11 | 1.96 | 0.47 |
| 1:A:64:TYR:CE2 | 2:P:63:VAL:CG2 | 2.97 | 0.47 |
| 2:F:189:LYS:CG | 2:F:192:ILE:HD13 | 2.44 | 0.47 |
| 2:F:228:VAL:HG12 | 2:F:257:LEU:HD11 | 1.96 | 0.47 |
| 1:G:349:MET:HE2 | 1:G:349:MET:HB3 | 1.84 | 0.47 |
| 2:H:337:LEU:O | 2:H:338:ALA:HB3 | 2.14 | 0.47 |
| 1:K:19:THR:O | 1:K:73:ASN:HB3 | 2.14 | 0.47 |
| 1:K:29:GLY:O | 1:K:33:THR:OG1 | 2.33 | 0.47 |
| 1:A:19:THR:O | 1:A:73:ASN:HB3 | 2.14 | 0.47 |
| 2:B:26:PHE:O | 2:B:27:ILE:HB | 2.15 | 0.47 |
| 2:B:337:LEU:O | 2:B:338:ALA:HB3 | 2.14 | 0.47 |
| 2:B:341:ALA:HB1 | 2:B:345:SER:OG | 2.15 | 0.47 |
| 1:C:29:GLY:O | 1:C:33:THR:OG1 | 2.33 | 0.47 |
| 2:D:228:VAL:HG12 | 2:D:257:LEU:CD1 | 2.44 | 0.47 |
| 1:E:22:LEU:HD11 | 1:E:33:THR:HG22 | 1.95 | 0.47 |
| 1:E:151:LEU:HD11 | 2:H:147:HIS:CD2 | 2.50 | 0.47 |
| 1:E:195:ARG:HH11 | 1:E:195:ARG:HB3 | 1.79 | 0.47 |
| 2:F:319:GLN:O | 2:F:321:ALA:O | 2.32 | 0.47 |
| 2:F:337:LEU:O | 2:F:338:ALA:HB3 | 2.14 | 0.47 |
| 1:G:175:ARG:NH1 | 1:G:231:ASP:OD1 | 2.47 | 0.47 |
| 1:G:205:GLU:HB2 | 1:G:206:TYR:CD1 | 2.49 | 0.47 |
| 1:G:245:ASN:ND2 | 2:H:222:ASP:HA | 2.30 | 0.47 |
| 2:H:189:LYS:HG3 | 2:H:189:LYS:O | 2.15 | 0.47 |
| 2:H:295:PRO:O | 2:H:299:LEU:HB2 | 2.14 | 0.47 |
| 2:H:341:ALA:HB1 | 2:H:345:SER:OG | 2.15 | 0.47 |
| 1:I:153:VAL:HG21 | 2:L:149:VAL:O | 2.14 | 0.47 |
| 2:J:169:ILE:HD12 | 2:J:203:VAL:HG12 | 1.96 | 0.47 |
| 1:K:47:ILE:HD13 | 1:K:47:ILE:C | 2.40 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:L:26:PHE:O | 2:L:27:ILE:HB | 2.15 | 0.47 |
| 2:L:181:ARG:HH11 | 2:L:238:ALA:H | 1.62 | 0.47 |
| 2:L:274:ILE:CG2 | 2:L:275:SER:N | 2.75 | 0.47 |
| 1:M:29:GLY:O | 1:M:33:THR:OG1 | 2.33 | 0.47 |
| 2:N:253:LEU:HD23 | 2:N:253:LEU:O | 2.14 | 0.47 |
| 1:O:195:ARG:HH11 | 1:O:195:ARG:HB3 | 1.78 | 0.47 |
| 2:P:26:PHE:O | 2:P:27:ILE:HB | 2.15 | 0.47 |
| 1:A:293:LEU:HD23 | 1:A:293:LEU:HA | 1.62 | 0.47 |
| 2:B:26:PHE:HE2 | 2:B:37:SER:OG | 1.98 | 0.47 |
| 2:B:253:LEU:HD23 | 2:B:253:LEU:O | 2.14 | 0.47 |
| 1:C:195:ARG:HH11 | 1:C:195:ARG:HB3 | 1.78 | 0.47 |
| 3:C:1002:FLC:OG1 | 3:C:1002:FLC:OHB | 2.30 | 0.47 |
| 1:E:60:LYS:O | 1:E:60:LYS:HG2 | 2.15 | 0.47 |
| 2:F:295:PRO:O | 2:F:299:LEU:HB2 | 2.14 | 0.47 |
| 1:M:47:ILE:C | 1:M:47:ILE:HD13 | 2.40 | 0.47 |
| 1:M:47:ILE:HD11 | 1:M:49:TRP:CE3 | 2.50 | 0.47 |
| 2:P:110:PHE:CE1 | 2:P:167:ARG:HG3 | 2.50 | 0.47 |
| 1:A:47:ILE:HD11 | 1:A:49:TRP:CE3 | 2.50 | 0.47 |
| 1:A:47:ILE:HD13 | 1:A:47:ILE:C | 2.40 | 0.47 |
| 2:B:189:LYS:O | 2:B:189:LYS:HG3 | 2.15 | 0.47 |
| 1:C:47:ILE:HD11 | 1:C:49:TRP:CE3 | 2.50 | 0.47 |
| 1:C:101:LEU:HB2 | 1:C:103:ILE:HG13 | 1.97 | 0.47 |
| 1:E:14:TYR:O | 1:E:15:GLY:C | 2.56 | 0.47 |
| 2:F:341:ALA:HB1 | 2:F:345:SER:OG | 2.15 | 0.47 |
| 1:I:47:ILE:HD13 | 1:I:47:ILE:C | 2.40 | 0.47 |
| 1:I:205:GLU:HB2 | 1:I:206:TYR:CD1 | 2.49 | 0.47 |
| 2:J:189:LYS:O | 2:J:189:LYS:HG3 | 2.15 | 0.47 |
| 2:N:110:PHE:CE1 | 2:N:167:ARG:HG3 | 2.50 | 0.47 |
| 2:N:318:ILE:HG22 | 2:N:323:LEU:HD21 | 1.97 | 0.47 |
| 1:O:101:LEU:HB2 | 1:O:103:ILE:HG13 | 1.97 | 0.47 |
| 1:O:293:LEU:HD23 | 1:O:293:LEU:HA | 1.62 | 0.47 |
| 2:P:181:ARG:HH11 | 2:P:238:ALA:H | 1.62 | 0.47 |
| 2:D:285:PRO:HD3 | 2:P:286:ASP:HB2 | 1.97 | 0.47 |
| 2:D:341:ALA:HB1 | 2:D:345:SER:OG | 2.15 | 0.47 |
| 2:J:147:HIS:CD2 | 1:K:151:LEU:HD11 | 2.50 | 0.47 |
| 2:J:319:GLN:O | 2:J:324:SER:HB2 | 2.14 | 0.47 |
| 1:K:199:THR:HA | 1:K:211:VAL:HG11 | 1.96 | 0.47 |
| 2:L:110:PHE:CE1 | 2:L:167:ARG:HG3 | 2.50 | 0.47 |
| 2:B:228:VAL:HG12 | 2:B:257:LEU:CD1 | 2.44 | 0.46 |
| 2:B:265:THR:HA | 2:B:266:PRO:HD3 | 1.64 | 0.46 |
| 2:D:26:PHE:O | 2:D:27:ILE:HB | 2.15 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:D:169:ILE:HD12 | 2:D:203:VAL:HG12 | 1.96 | 0.46 |
| 2:D:189:LYS:HG3 | 2:D:189:LYS:O | 2.15 | 0.46 |
| 1:E:27:GLY:C | 1:E:29:GLY:N | 2.73 | 0.46 |
| 2:F:319:GLN:O | 2:F:324:SER:HB2 | 2.14 | 0.46 |
| 2:J:110:PHE:CE1 | 2:J:167:ARG:HG3 | 2.50 | 0.46 |
| 2:J:181:ARG:HH11 | 2:J:238:ALA:H | 1.62 | 0.46 |
| 2:J:341:ALA:HB1 | 2:J:345:SER:OG | 2.15 | 0.46 |
| 1:K:60:LYS:O | 1:K:60:LYS:HG2 | 2.15 | 0.46 |
| 2:L:228:VAL:HG12 | 2:L:257:LEU:HD11 | 1.96 | 0.46 |
| 2:L:253:LEU:HD23 | 2:L:253:LEU:O | 2.14 | 0.46 |
| 2:L:318:ILE:HG22 | 2:L:323:LEU:HD21 | 1.97 | 0.46 |
| 1:O:288:PRO:HG3 | 1:O:335:THR:HG23 | 1.97 | 0.46 |
| 1:A:288:PRO:HG3 | 1:A:335:THR:HG23 | 1.97 | 0.46 |
| 2:D:295:PRO:O | 2:D:299:LEU:HB2 | 2.14 | 0.46 |
| 2:D:337:LEU:O | 2:D:338:ALA:HB3 | 2.14 | 0.46 |
| 1:E:19:THR:O | 1:E:73:ASN:HB3 | 2.14 | 0.46 |
| 1:G:60:LYS:O | 1:G:60:LYS:HG2 | 2.15 | 0.46 |
| 1:G:221:MET:HG3 | 2:H:256:GLY:CA | 2.45 | 0.46 |
| 2:H:26:PHE:HE2 | 2:H:37:SER:OG | 1.98 | 0.46 |
| 2:L:26:PHE:HE2 | 2:L:37:SER:OG | 1.98 | 0.46 |
| 2:L:169:ILE:HD12 | 2:L:203:VAL:HG12 | 1.96 | 0.46 |
| 1:O:47:ILE:HD11 | 1:O:49:TRP:CE3 | 2.50 | 0.46 |
| 1:O:232:VAL:C | 1:O:233:LEU:HD23 | 2.41 | 0.46 |
| 2:P:189:LYS:HG3 | 2:P:189:LYS:O | 2.15 | 0.46 |
| 1:C:232:VAL:C | 1:C:233:LEU:HD23 | 2.41 | 0.46 |
| 2:H:26:PHE:O | 2:H:27:ILE:HB | 2.15 | 0.46 |
| 2:H:318:ILE:HG22 | 2:H:323:LEU:HD21 | 1.97 | 0.46 |
| 1:I:60:LYS:O | 1:I:60:LYS:HG2 | 2.14 | 0.46 |
| 2:J:224:SER:O | 2:J:228:VAL:HG23 | 2.15 | 0.46 |
| 2:L:224:SER:O | 2:L:228:VAL:HG23 | 2.16 | 0.46 |
| 1:M:288:PRO:HG3 | 1:M:335:THR:HG23 | 1.97 | 0.46 |
| 2:N:26:PHE:HE2 | 2:N:37:SER:OG | 1.98 | 0.46 |
| 2:N:224:SER:O | 2:N:228:VAL:HG23 | 2.15 | 0.46 |
| 2:N:341:ALA:HB1 | 2:N:345:SER:OG | 2.15 | 0.46 |
| 1:O:147:VAL:HG13 | 2:P:161:THR:HG22 | 1.98 | 0.46 |
| 1:A:27:GLY:C | 1:A:29:GLY:N | 2.73 | 0.46 |
| 1:A:29:GLY:O | 1:A:33:THR:OG1 | 2.33 | 0.46 |
| 1:A:101:LEU:HB2 | 1:A:103:ILE:HG13 | 1.97 | 0.46 |
| 1:A:266:TYR:O | 1:E:15:GLY:HA2 | 2.15 | 0.46 |
| 1:E:47:ILE:C | 1:E:47:ILE:HD13 | 2.40 | 0.46 |
| 1:E:47:ILE:HD11 | 1:E:49:TRP:CE3 | 2.50 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:G:101:LEU:HB2 | 1:G:103:ILE:HG13 | 1.97 | 0.46 |
| 1:G:232:VAL:C | 1:G:233:LEU:HD23 | 2.41 | 0.46 |
| 2:H:110:PHE:CE1 | 2:H:167:ARG:HG3 | 2.50 | 0.46 |
| 1:I:101:LEU:HB2 | 1:I:103:ILE:HG13 | 1.97 | 0.46 |
| 1:O:47:ILE:C | 1:O:47:ILE:HD13 | 2.40 | 0.46 |
| 2:P:253:LEU:C | 2:P:253:LEU:CD2 | 2.89 | 0.46 |
| 1:A:60:LYS:O | 1:A:60:LYS:HG2 | 2.15 | 0.46 |
| 1:A:205:GLU:HB2 | 1:A:206:TYR:CD1 | 2.49 | 0.46 |
| 1:A:206:TYR:CE2 | 1:E:72:ARG:HD3 | 2.51 | 0.46 |
| 1:C:47:ILE:HD13 | 1:C:47:ILE:C | 2.40 | 0.46 |
| 2:D:253:LEU:C | 2:D:253:LEU:CD2 | 2.89 | 0.46 |
| 3:E:1003:FLC:OG1 | 3:E:1003:FLC:OHB | 2.30 | 0.46 |
| 2:F:209:LYS:HE3 | 2:F:209:LYS:HB3 | 1.36 | 0.46 |
| 2:F:253:LEU:C | 2:F:253:LEU:CD2 | 2.89 | 0.46 |
| 1:G:19:THR:O | 1:G:73:ASN:HB3 | 2.14 | 0.46 |
| 2:H:228:VAL:HG12 | 2:H:257:LEU:HD11 | 1.96 | 0.46 |
| 2:H:253:LEU:HD23 | 2:H:253:LEU:O | 2.14 | 0.46 |
| 2:J:295:PRO:O | 2:J:299:LEU:HB2 | 2.14 | 0.46 |
| 1:K:101:LEU:HB2 | 1:K:103:ILE:HG13 | 1.97 | 0.46 |
| 2:L:295:PRO:O | 2:L:299:LEU:HB2 | 2.14 | 0.46 |
| 1:M:232:VAL:C | 1:M:233:LEU:HD23 | 2.40 | 0.46 |
| 1:M:275:HIS:HB3 | 4:M:2007:AMP:O3P | 2.14 | 0.46 |
| 2:P:295:PRO:O | 2:P:299:LEU:HB2 | 2.14 | 0.46 |
| 2:B:110:PHE:CE1 | 2:B:167:ARG:HG3 | 2.50 | 0.46 |
| 1:C:119:ARG:HG2 | 2:D:125:THR:CG2 | 2.33 | 0.46 |
| 2:D:224:SER:O | 2:D:228:VAL:HG23 | 2.15 | 0.46 |
| 2:F:181:ARG:HH11 | 2:F:238:ALA:H | 1.62 | 0.46 |
| 2:H:186:VAL:CG2 | 2:H:216:LEU:HD11 | 2.46 | 0.46 |
| 2:J:228:VAL:HG12 | 2:J:257:LEU:HD11 | 1.96 | 0.46 |
| 1:M:60:LYS:O | 1:M:60:LYS:HG2 | 2.15 | 0.46 |
| 2:F:318:ILE:HG22 | 2:F:323:LEU:HD21 | 1.97 | 0.46 |
| 2:F:321:ALA:O | 2:F:322:VAL:O | 2.34 | 0.46 |
| 1:I:47:ILE:HD11 | 1:I:49:TRP:CE3 | 2.50 | 0.46 |
| 2:J:26:PHE:HE2 | 2:J:37:SER:OG | 1.98 | 0.46 |
| 2:J:44:PHE:O | 2:J:49:VAL:HG22 | 2.16 | 0.46 |
| 1:K:232:VAL:O | 1:K:233:LEU:HD23 | 2.16 | 0.46 |
| 2:L:44:PHE:O | 2:L:49:VAL:HG22 | 2.16 | 0.46 |
| 1:M:119:ARG:HD2 | 2:N:125:THR:O | 2.15 | 0.46 |
| 1:O:27:GLY:C | 1:O:29:GLY:N | 2.73 | 0.46 |
| 1:O:232:VAL:O | 1:O:233:LEU:HD23 | 2.16 | 0.46 |
| 2:P:209:LYS:HE3 | 2:P:209:LYS:HB3 | 1.36 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:147:VAL:HG13 | 2:B:161:THR:HG22 | 1.98 | 0.46 |
| 2:B:224:SER:O | 2:B:228:VAL:HG23 | 2.16 | 0.46 |
| 2:D:110:PHE:CE1 | 2:D:167:ARG:HG3 | 2.50 | 0.46 |
| 2:F:110:PHE:CE1 | 2:F:167:ARG:HG3 | 2.50 | 0.46 |
| 2:F:224:SER:O | 2:F:228:VAL:HG23 | 2.15 | 0.46 |
| 2:H:253:LEU:C | 2:H:253:LEU:CD2 | 2.89 | 0.46 |
| 1:I:232:VAL:O | 1:I:233:LEU:HD23 | 2.16 | 0.46 |
| 1:K:12:LYS:HB2 | 1:K:73:ASN:HA | 1.97 | 0.46 |
| 1:K:119:ARG:HD2 | 2:L:125:THR:O | 2.15 | 0.46 |
| 2:L:186:VAL:CG2 | 2:L:216:LEU:HD11 | 2.46 | 0.46 |
| 2:L:189:LYS:HG3 | 2:L:189:LYS:O | 2.15 | 0.46 |
| 2:N:186:VAL:CG2 | 2:N:216:LEU:HD11 | 2.46 | 0.46 |
| 2:P:26:PHE:HE2 | 2:P:37:SER:OG | 1.98 | 0.46 |
| 2:P:318:ILE:HG22 | 2:P:323:LEU:HD21 | 1.97 | 0.46 |
| 1:E:101:LEU:HB2 | 1:E:103:ILE:HG13 | 1.97 | 0.46 |
| 2:F:26:PHE:HE2 | 2:F:37:SER:OG | 1.98 | 0.46 |
| 1:G:29:GLY:O | 1:G:33:THR:OG1 | 2.33 | 0.46 |
| 1:I:233:LEU:HD12 | 1:I:243:LEU:HD13 | 1.98 | 0.46 |
| 2:J:273:LYS:HE3 | 2:J:274:ILE:HD11 | 1.98 | 0.46 |
| 1:K:47:ILE:HD11 | 1:K:49:TRP:CE3 | 2.50 | 0.46 |
| 1:M:12:LYS:HB2 | 1:M:73:ASN:HA | 1.97 | 0.46 |
| 2:N:44:PHE:O | 2:N:49:VAL:HG22 | 2.16 | 0.46 |
| 2:P:44:PHE:O | 2:P:49:VAL:HG22 | 2.16 | 0.46 |
| 2:P:341:ALA:HB1 | 2:P:345:SER:OG | 2.15 | 0.46 |
| 2:B:321:ALA:O | 2:B:322:VAL:O | 2.34 | 0.46 |
| 1:C:27:GLY:C | 1:C:29:GLY:N | 2.73 | 0.46 |
| 1:E:92:SER:C | 1:E:94:ASN:H | 2.24 | 0.46 |
| 1:G:47:ILE:HD11 | 1:G:49:TRP:CE3 | 2.50 | 0.46 |
| 1:G:288:PRO:HG3 | 1:G:335:THR:HG23 | 1.97 | 0.46 |
| 2:H:273:LYS:HE3 | 2:H:274:ILE:HD11 | 1.98 | 0.46 |
| 2:L:341:ALA:HB1 | 2:L:345:SER:OG | 2.15 | 0.46 |
| 2:P:224:SER:O | 2:P:228:VAL:HG23 | 2.15 | 0.46 |
| 1:A:232:VAL:C | 1:A:233:LEU:HD23 | 2.41 | 0.45 |
| 1:C:8:ARG:HH21 | 1:G:160:GLU:CD | 2.24 | 0.45 |
| 1:C:232:VAL:O | 1:C:233:LEU:HD23 | 2.16 | 0.45 |
| 1:C:342:ILE:HG12 | 1:C:342:ILE:H | 1.62 | 0.45 |
| 2:D:189:LYS:HG2 | 2:D:192:ILE:HD13 | 1.98 | 0.45 |
| 2:F:265:THR:HA | 2:F:266:PRO:HD3 | 1.63 | 0.45 |
| 2:H:44:PHE:O | 2:H:49:VAL:HG22 | 2.16 | 0.45 |
| 1:I:29:GLY:O | 1:I:33:THR:OG1 | 2.33 | 0.45 |
| 1:K:233:LEU:HD12 | 1:K:243:LEU:HD13 | 1.98 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:L:273:LYS:HE3 | 2:L:274:ILE:HD11 | 1.98 | 0.45 |
| 1:M:232:VAL:O | 1:M:233:LEU:HD23 | 2.16 | 0.45 |
| 2:P:321:ALA:O | 2:P:322:VAL:O | 2.34 | 0.45 |
| 2:D:44:PHE:O | 2:D:49:VAL:HG22 | 2.16 | 0.45 |
| 2:D:62:PHE:CE1 | 2:D:67:THR:HG22 | 2.52 | 0.45 |
| 1:G:146:GLY:O | 2:H:161:THR:HA | 2.16 | 0.45 |
| 2:H:181:ARG:HH11 | 2:H:238:ALA:H | 1.62 | 0.45 |
| 1:I:27:GLY:C | 1:I:29:GLY:N | 2.73 | 0.45 |
| 1:I:78:LYS:C | 1:I:291:MET:HE1 | 2.41 | 0.45 |
| 1:I:232:VAL:C | 1:I:233:LEU:HD23 | 2.41 | 0.45 |
| 1:K:27:GLY:C | 1:K:29:GLY:N | 2.73 | 0.45 |
| 1:K:146:GLY:O | 2:L:161:THR:HA | 2.16 | 0.45 |
| 2:L:209:LYS:HB3 | 2:L:209:LYS:HE3 | 1.36 | 0.45 |
| 2:L:220:LEU:O | 2:L:221:ILE:C | 2.60 | 0.45 |
| 2:L:253:LEU:C | 2:L:253:LEU:CD2 | 2.89 | 0.45 |
| 2:L:305:MET:HG2 | 2:L:309:MET:HE2 | 1.98 | 0.45 |
| 2:L:326:ILE:HG21 | 2:L:350:VAL:HG22 | 1.98 | 0.45 |
| 1:M:27:GLY:C | 1:M:29:GLY:N | 2.73 | 0.45 |
| 1:M:78:LYS:C | 1:M:291:MET:HE1 | 2.41 | 0.45 |
| 1:M:101:LEU:HB2 | 1:M:103:ILE:HG13 | 1.97 | 0.45 |
| 2:N:273:LYS:HE3 | 2:N:274:ILE:HD11 | 1.98 | 0.45 |
| 1:O:179:THR:HB | 1:O:233:LEU:HD22 | 1.98 | 0.45 |
| 2:B:189:LYS:HE2 | 2:B:192:ILE:CD1 | 2.47 | 0.45 |
| 2:B:189:LYS:HG2 | 2:B:192:ILE:HD13 | 1.98 | 0.45 |
| 2:D:181:ARG:HH11 | 2:D:238:ALA:H | 1.62 | 0.45 |
| 1:E:78:LYS:C | 1:E:291:MET:HE1 | 2.41 | 0.45 |
| 1:G:92:SER:C | 1:G:94:ASN:H | 2.25 | 0.45 |
| 1:G:251:ILE:HD11 | 1:G:257:VAL:HG22 | 1.99 | 0.45 |
| 2:L:24:VAL:HG11 | 2:L:53:TRP:HZ3 | 1.82 | 0.45 |
| 2:L:287:ILE:O | 2:L:287:ILE:HG23 | 2.17 | 0.45 |
| 1:M:179:THR:HB | 1:M:233:LEU:HD22 | 1.98 | 0.45 |
| 2:N:189:LYS:HG3 | 2:N:189:LYS:O | 2.15 | 0.45 |
| 2:P:59:SER:HA | 2:P:60:PRO:HD3 | 1.86 | 0.45 |
| 2:P:265:THR:O | 2:P:280:VAL:HG22 | 2.17 | 0.45 |
| 1:A:78:LYS:C | 1:A:291:MET:HE1 | 2.41 | 0.45 |
| 2:B:318:ILE:HG22 | 2:B:323:LEU:HD21 | 1.97 | 0.45 |
| 1:C:120:ILE:HA | 1:C:121:PRO:HD3 | 1.76 | 0.45 |
| 2:D:273:LYS:HE3 | 2:D:274:ILE:HD11 | 1.98 | 0.45 |
| 1:E:115:GLY:CA | 1:E:320:ALA:HA | 2.47 | 0.45 |
| 1:E:232:VAL:O | 1:E:233:LEU:HD23 | 2.16 | 0.45 |
| 2:F:189:LYS:HE2 | 2:F:192:ILE:CD1 | 2.47 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:G:78:LYS:C | 1:G:291:MET:HE1 | 2.41 | 0.45 |
| 2:H:326:ILE:HG21 | 2:H:350:VAL:HG22 | 1.98 | 0.45 |
| 2:J:253:LEU:C | 2:J:253:LEU:CD2 | 2.89 | 0.45 |
| 1:K:120:ILE:HG13 | 2:L:125:THR:HG21 | 1.97 | 0.45 |
| 1:K:249:ALA:CB | 2:L:230:THR:HG23 | 2.47 | 0.45 |
| 1:M:92:SER:C | 1:M:94:ASN:H | 2.25 | 0.45 |
| 1:M:323:LYS:H | 1:M:323:LYS:CE | 2.23 | 0.45 |
| 2:N:189:LYS:HE2 | 2:N:192:ILE:CD1 | 2.47 | 0.45 |
| 2:N:253:LEU:C | 2:N:253:LEU:CD2 | 2.89 | 0.45 |
| 2:P:189:LYS:HE2 | 2:P:192:ILE:CD1 | 2.47 | 0.45 |
| 1:A:32:ILE:HG13 | 1:A:288:PRO:HA | 1.99 | 0.45 |
| 1:A:233:LEU:HD12 | 1:A:243:LEU:HD13 | 1.98 | 0.45 |
| 1:C:340:ASN:O | 1:C:343:ILE:HG13 | 2.17 | 0.45 |
| 2:D:189:LYS:HE2 | 2:D:192:ILE:CD1 | 2.47 | 0.45 |
| 1:E:232:VAL:C | 1:E:233:LEU:HD23 | 2.41 | 0.45 |
| 1:E:288:PRO:HG3 | 1:E:335:THR:HG23 | 1.98 | 0.45 |
| 2:F:44:PHE:O | 2:F:49:VAL:HG22 | 2.16 | 0.45 |
| 2:F:155:GLN:OE1 | 2:H:155:GLN:NE2 | 2.46 | 0.45 |
| 2:F:265:THR:O | 2:F:280:VAL:HG22 | 2.17 | 0.45 |
| 1:I:187:MET:HE2 | 2:J:156:SER:CB | 2.43 | 0.45 |
| 1:I:245:ASN:ND2 | 2:J:222:ASP:HA | 2.31 | 0.45 |
| 1:I:288:PRO:HG3 | 1:I:335:THR:HG23 | 1.98 | 0.45 |
| 2:J:43:ILE:HD12 | 2:J:299:LEU:HD21 | 1.99 | 0.45 |
| 1:K:179:THR:HB | 1:K:233:LEU:HD22 | 1.98 | 0.45 |
| 1:K:232:VAL:C | 1:K:233:LEU:HD23 | 2.41 | 0.45 |
| 2:N:321:ALA:O | 2:N:322:VAL:O | 2.34 | 0.45 |
| 1:O:233:LEU:HD12 | 1:O:243:LEU:HD13 | 1.98 | 0.45 |
| 1:A:340:ASN:O | 1:A:343:ILE:HG13 | 2.17 | 0.45 |
| 2:B:44:PHE:O | 2:B:49:VAL:HG22 | 2.16 | 0.45 |
| 2:B:265:THR:O | 2:B:280:VAL:HG22 | 2.17 | 0.45 |
| 1:C:12:LYS:HB2 | 1:C:73:ASN:HA | 1.97 | 0.45 |
| 1:C:120:ILE:HG13 | 2:D:125:THR:HG21 | 1.99 | 0.45 |
| 2:D:146:GLU:HB3 | 2:D:156:SER:HA | 1.99 | 0.45 |
| 2:D:321:ALA:O | 2:D:322:VAL:O | 2.34 | 0.45 |
| 1:E:224:VAL:HG21 | 2:F:253:LEU:HD21 | 1.99 | 0.45 |
| 2:F:186:VAL:CG2 | 2:F:216:LEU:HD11 | 2.46 | 0.45 |
| 2:F:305:MET:HG2 | 2:F:309:MET:HE2 | 1.99 | 0.45 |
| 2:H:265:THR:HA | 2:H:266:PRO:HD3 | 1.63 | 0.45 |
| 1:I:151:LEU:HD13 | 2:J:155:GLN:NE2 | 2.31 | 0.45 |
| 2:J:305:MET:HG2 | 2:J:309:MET:HE2 | 1.98 | 0.45 |
| 2:L:321:ALA:O | 2:L:322:VAL:O | 2.34 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:M:340:ASN:O | 1:M:343:ILE:HG13 | 2.17 | 0.45 |
| 2:N:189:LYS:HG2 | 2:N:192:ILE:HD13 | 1.98 | 0.45 |
| 1:A:136:PHE:CD1 | 1:A:237:SER:HB2 | 2.52 | 0.45 |
| 1:A:232:VAL:O | 1:A:233:LEU:HD23 | 2.16 | 0.45 |
| 3:A:1001:FLC:OG1 | 3:A:1001:FLC:OHB | 2.30 | 0.45 |
| 2:B:62:PHE:CE1 | 2:B:67:THR:HG22 | 2.52 | 0.45 |
| 1:C:32:ILE:HG13 | 1:C:288:PRO:HA | 1.99 | 0.45 |
| 2:D:26:PHE:HE2 | 2:D:37:SER:OG | 1.98 | 0.45 |
| 2:D:318:ILE:HG22 | 2:D:323:LEU:HD21 | 1.97 | 0.45 |
| 1:E:179:THR:HB | 1:E:233:LEU:HD22 | 1.98 | 0.45 |
| 2:F:43:ILE:HD12 | 2:F:299:LEU:HD21 | 1.99 | 0.45 |
| 1:G:249:ALA:HB1 | 2:H:230:THR:HG23 | 1.98 | 0.45 |
| 1:G:321:GLU:O | 1:G:322:GLY:C | 2.60 | 0.45 |
| 2:H:321:ALA:O | 2:H:322:VAL:O | 2.34 | 0.45 |
| 2:J:321:ALA:O | 2:J:322:VAL:O | 2.34 | 0.45 |
| 1:K:115:GLY:CA | 1:K:320:ALA:HA | 2.47 | 0.45 |
| 1:K:136:PHE:CD1 | 1:K:237:SER:HB2 | 2.52 | 0.45 |
| 2:L:30:ASP:OD2 | 2:L:88:LEU:HA | 2.17 | 0.45 |
| 2:N:287:ILE:O | 2:N:287:ILE:HG23 | 2.17 | 0.45 |
| 2:N:305:MET:HG2 | 2:N:309:MET:HE2 | 1.98 | 0.45 |
| 2:N:326:ILE:HG21 | 2:N:350:VAL:HG22 | 1.98 | 0.45 |
| 2:P:43:ILE:HD12 | 2:P:299:LEU:HD21 | 1.99 | 0.45 |
| 2:P:186:VAL:CG2 | 2:P:216:LEU:HD11 | 2.46 | 0.45 |
| 2:B:253:LEU:C | 2:B:253:LEU:CD2 | 2.89 | 0.45 |
| 1:C:179:THR:HB | 1:C:233:LEU:HD22 | 1.98 | 0.45 |
| 1:C:251:ILE:HD11 | 1:C:257:VAL:HG22 | 1.99 | 0.45 |
| 1:C:288:PRO:HG3 | 1:C:335:THR:HG23 | 1.97 | 0.45 |
| 2:D:326:ILE:HG21 | 2:D:350:VAL:HG22 | 1.99 | 0.45 |
| 2:F:189:LYS:HG2 | 2:F:192:ILE:HD13 | 1.98 | 0.45 |
| 1:G:340:ASN:O | 1:G:343:ILE:HG13 | 2.17 | 0.45 |
| 2:H:62:PHE:CE1 | 2:H:67:THR:HG22 | 2.52 | 0.45 |
| 1:I:136:PHE:CD1 | 1:I:237:SER:HB2 | 2.52 | 0.45 |
| 1:I:340:ASN:O | 1:I:343:ILE:HG13 | 2.17 | 0.45 |
| 1:K:288:PRO:HG3 | 1:K:335:THR:HG23 | 1.97 | 0.45 |
| 1:K:340:ASN:O | 1:K:343:ILE:HG13 | 2.17 | 0.45 |
| 2:L:62:PHE:CE1 | 2:L:67:THR:HG22 | 2.51 | 0.45 |
| 2:L:146:GLU:HB3 | 2:L:156:SER:HA | 1.99 | 0.45 |
| 2:L:189:LYS:HG2 | 2:L:192:ILE:HD13 | 1.98 | 0.45 |
| 2:P:24:VAL:HG11 | 2:P:53:TRP:HZ3 | 1.82 | 0.45 |
| 2:P:62:PHE:CE1 | 2:P:67:THR:HG22 | 2.51 | 0.45 |
| 2:P:220:LEU:O | 2:P:221:ILE:C | 2.60 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:294:ASN:HA | 2:B:295:PRO:HD2 | 1.74 | 0.45 |
| 2:F:220:LEU:O | 2:F:221:ILE:C | 2.60 | 0.45 |
| 2:F:287:ILE:HG23 | 2:F:287:ILE:O | 2.17 | 0.45 |
| 1:G:232:VAL:O | 1:G:233:LEU:HD23 | 2.16 | 0.45 |
| 1:G:283:GLN:CB | 1:G:285:VAL:HG13 | 2.47 | 0.45 |
| 2:J:62:PHE:CE1 | 2:J:67:THR:HG22 | 2.52 | 0.45 |
| 2:J:318:ILE:HG22 | 2:J:323:LEU:HD21 | 1.97 | 0.45 |
| 1:M:283:GLN:CB | 1:M:285:VAL:HG13 | 2.47 | 0.45 |
| 2:N:220:LEU:O | 2:N:221:ILE:C | 2.60 | 0.45 |
| 1:O:32:ILE:HG13 | 1:O:288:PRO:HA | 1.99 | 0.45 |
| 1:O:92:SER:C | 1:O:94:ASN:H | 2.25 | 0.45 |
| 1:O:251:ILE:HD11 | 1:O:257:VAL:HG22 | 1.99 | 0.45 |
| 1:O:283:GLN:CB | 1:O:285:VAL:HG13 | 2.47 | 0.45 |
| 2:P:30:ASP:OD2 | 2:P:88:LEU:HA | 2.17 | 0.45 |
| 2:P:265:THR:HA | 2:P:266:PRO:HD3 | 1.63 | 0.45 |
| 2:P:305:MET:HG2 | 2:P:309:MET:HE2 | 1.98 | 0.45 |
| 1:A:115:GLY:CA | 1:A:320:ALA:HA | 2.47 | 0.45 |
| 2:B:30:ASP:OD2 | 2:B:88:LEU:HA | 2.17 | 0.45 |
| 2:B:146:GLU:HB3 | 2:B:156:SER:HA | 1.99 | 0.45 |
| 2:B:149:VAL:O | 2:B:150:CYS:HB3 | 2.17 | 0.45 |
| 2:D:30:ASP:OD2 | 2:D:88:LEU:HA | 2.17 | 0.45 |
| 2:D:97:ARG:HG3 | 2:D:102:THR:CG2 | 2.44 | 0.45 |
| 1:E:233:LEU:HD12 | 1:E:243:LEU:HD13 | 1.98 | 0.45 |
| 1:E:321:GLU:O | 1:E:322:GLY:C | 2.60 | 0.45 |
| 1:G:115:GLY:CA | 1:G:320:ALA:HA | 2.47 | 0.45 |
| 2:H:306:LEU:HD12 | 2:H:309:MET:HE1 | 1.99 | 0.45 |
| 1:I:115:GLY:CA | 1:I:320:ALA:HA | 2.47 | 0.45 |
| 1:I:283:GLN:CB | 1:I:285:VAL:HG13 | 2.47 | 0.45 |
| 2:J:189:LYS:HG2 | 2:J:192:ILE:HD13 | 1.98 | 0.45 |
| 2:J:189:LYS:C | 2:J:191:THR:H | 2.25 | 0.45 |
| 1:K:78:LYS:C | 1:K:291:MET:HE1 | 2.41 | 0.45 |
| 1:M:32:ILE:HG13 | 1:M:288:PRO:HA | 1.99 | 0.45 |
| 1:O:29:GLY:O | 1:O:33:THR:OG1 | 2.33 | 0.45 |
| 2:P:273:LYS:HE3 | 2:P:274:ILE:HD11 | 1.98 | 0.45 |
| 1:A:92:SER:C | 1:A:94:ASN:H | 2.25 | 0.44 |
| 2:B:12:THR:HB | 2:B:81:LEU:CD1 | 2.47 | 0.44 |
| 1:C:83:THR:HA | 1:C:84:PRO:HD3 | 1.80 | 0.44 |
| 1:C:283:GLN:CB | 1:C:285:VAL:HG13 | 2.47 | 0.44 |
| 2:F:24:VAL:HG11 | 2:F:53:TRP:HZ3 | 1.82 | 0.44 |
| 2:F:62:PHE:CE1 | 2:F:67:THR:HG22 | 2.52 | 0.44 |
| 1:G:233:LEU:HD12 | 1:G:243:LEU:HD13 | 1.98 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:H:224:SER:O | 2:H:228:VAL:HG23 | 2.15 | 0.44 |
| 2:H:265:THR:O | 2:H:280:VAL:HG22 | 2.17 | 0.44 |
| 2:J:8:ILE:HG21 | 2:J:171:TYR:HB2 | 2.00 | 0.44 |
| 2:J:265:THR:O | 2:J:280:VAL:HG22 | 2.17 | 0.44 |
| 1:K:92:SER:C | 1:K:94:ASN:H | 2.25 | 0.44 |
| 1:K:245:ASN:ND2 | 2:L:222:ASP:HA | 2.31 | 0.44 |
| 1:M:251:ILE:HD11 | 1:M:257:VAL:HG22 | 1.99 | 0.44 |
| 2:N:62:PHE:CE1 | 2:N:67:THR:HG22 | 2.52 | 0.44 |
| 2:N:306:LEU:HD12 | 2:N:309:MET:HE1 | 2.00 | 0.44 |
| 1:O:78:LYS:C | 1:O:291:MET:HE1 | 2.41 | 0.44 |
| 1:A:179:THR:HB | 1:A:233:LEU:HD22 | 1.98 | 0.44 |
| 1:A:287:ASN:HA | 1:A:288:PRO:HD3 | 1.85 | 0.44 |
| 1:C:136:PHE:CD1 | 1:C:237:SER:HB2 | 2.52 | 0.44 |
| 2:D:285:PRO:HB2 | 2:P:286:ASP:OD2 | 2.03 | 0.44 |
| 1:E:340:ASN:O | 1:E:343:ILE:HG13 | 2.17 | 0.44 |
| 2:F:30:ASP:OD2 | 2:F:88:LEU:HA | 2.17 | 0.44 |
| 2:H:189:LYS:HG2 | 2:H:192:ILE:HD13 | 1.98 | 0.44 |
| 2:J:30:ASP:OD2 | 2:J:88:LEU:HA | 2.17 | 0.44 |
| 2:J:146:GLU:HB3 | 2:J:156:SER:HA | 1.99 | 0.44 |
| 1:K:120:ILE:HA | 1:K:121:PRO:HD3 | 1.76 | 0.44 |
| 1:K:251:ILE:HD11 | 1:K:257:VAL:HG22 | 1.99 | 0.44 |
| 1:K:283:GLN:CB | 1:K:285:VAL:HG13 | 2.47 | 0.44 |
| 1:K:349:MET:HE2 | 1:K:349:MET:HB3 | 1.84 | 0.44 |
| 2:L:8:ILE:HG21 | 2:L:171:TYR:HB2 | 1.99 | 0.44 |
| 2:L:265:THR:O | 2:L:280:VAL:HG22 | 2.17 | 0.44 |
| 2:N:43:ILE:HD12 | 2:N:299:LEU:HD21 | 1.99 | 0.44 |
| 2:B:24:VAL:HG11 | 2:B:53:TRP:HZ3 | 1.82 | 0.44 |
| 2:B:326:ILE:HG21 | 2:B:350:VAL:HG22 | 1.98 | 0.44 |
| 1:C:78:LYS:C | 1:C:291:MET:HE1 | 2.41 | 0.44 |
| 2:D:287:ILE:O | 2:D:287:ILE:HG23 | 2.16 | 0.44 |
| 2:F:273:LYS:HE3 | 2:F:274:ILE:HD11 | 1.98 | 0.44 |
| 2:F:326:ILE:HG21 | 2:F:350:VAL:HG22 | 1.99 | 0.44 |
| 2:H:12:THR:HB | 2:H:81:LEU:CD1 | 2.47 | 0.44 |
| 2:H:189:LYS:HE2 | 2:H:192:ILE:CD1 | 2.47 | 0.44 |
| 2:H:189:LYS:C | 2:H:191:THR:N | 2.76 | 0.44 |
| 1:I:32:ILE:HG13 | 1:I:288:PRO:HA | 1.99 | 0.44 |
| 1:I:92:SER:C | 1:I:94:ASN:H | 2.25 | 0.44 |
| 1:K:32:ILE:HG13 | 1:K:288:PRO:HA | 1.99 | 0.44 |
| 1:K:158:LYS:HG2 | 1:K:161:ARG:NH2 | 2.33 | 0.44 |
| 1:K:321:GLU:O | 1:K:322:GLY:C | 2.60 | 0.44 |
| 1:M:115:GLY:CA | 1:M:320:ALA:HA | 2.47 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:M:136:PHE:CD1 | 1:M:237:SER:HB2 | 2.52 | 0.44 |
| 1:M:186:ILE:HD13 | 2:N:142:TYR:CD2 | 2.52 | 0.44 |
| 2:B:181:ARG:HD3 | 2:B:238:ALA:H | 1.83 | 0.44 |
| 2:D:149:VAL:O | 2:D:150:CYS:HB3 | 2.17 | 0.44 |
| 2:F:306:LEU:HD12 | 2:F:309:MET:HE1 | 2.00 | 0.44 |
| 1:G:179:THR:HB | 1:G:233:LEU:HD22 | 1.98 | 0.44 |
| 2:H:43:ILE:HD12 | 2:H:299:LEU:HD21 | 1.99 | 0.44 |
| 2:H:146:GLU:HB3 | 2:H:156:SER:HA | 1.99 | 0.44 |
| 2:H:181:ARG:HD3 | 2:H:238:ALA:H | 1.83 | 0.44 |
| 1:I:92:SER:CB | 3:I:1005:FLC:OG2 | 2.65 | 0.44 |
| 2:J:189:LYS:C | 2:J:191:THR:N | 2.76 | 0.44 |
| 2:L:189:LYS:HE2 | 2:L:192:ILE:CD1 | 2.47 | 0.44 |
| 2:N:30:ASP:OD2 | 2:N:88:LEU:HA | 2.17 | 0.44 |
| 1:O:120:ILE:HA | 1:O:121:PRO:HD3 | 1.76 | 0.44 |
| 1:O:136:PHE:CD1 | 1:O:237:SER:HB2 | 2.52 | 0.44 |
| 2:P:181:ARG:HD3 | 2:P:238:ALA:H | 1.83 | 0.44 |
| 2:P:189:LYS:C | 2:P:191:THR:H | 2.25 | 0.44 |
| 1:C:60:LYS:O | 1:C:60:LYS:HG2 | 2.15 | 0.44 |
| 2:D:183:ARG:O | 2:D:238:ALA:O | 2.36 | 0.44 |
| 2:D:220:LEU:O | 2:D:221:ILE:C | 2.60 | 0.44 |
| 2:D:265:THR:O | 2:D:280:VAL:HG22 | 2.17 | 0.44 |
| 2:D:305:MET:HG2 | 2:D:309:MET:HE2 | 1.99 | 0.44 |
| 2:J:183:ARG:O | 2:J:238:ALA:O | 2.36 | 0.44 |
| 2:J:220:LEU:O | 2:J:221:ILE:C | 2.60 | 0.44 |
| 1:M:43:GLU:OE1 | 1:M:310:ARG:NH1 | 2.51 | 0.44 |
| 1:M:245:ASN:ND2 | 2:N:222:ASP:HA | 2.32 | 0.44 |
| 2:N:149:VAL:O | 2:N:150:CYS:HB3 | 2.17 | 0.44 |
| 2:P:183:ARG:O | 2:P:238:ALA:O | 2.36 | 0.44 |
| 2:P:294:ASN:HA | 2:P:295:PRO:HD2 | 1.73 | 0.44 |
| 2:B:25:SER:HB3 | 2:B:56:CYS:SG | 2.58 | 0.44 |
| 2:B:183:ARG:NH1 | 2:B:237:ASP:OD2 | 2.51 | 0.44 |
| 2:B:273:LYS:HE3 | 2:B:274:ILE:HD11 | 1.98 | 0.44 |
| 1:C:92:SER:C | 1:C:94:ASN:H | 2.25 | 0.44 |
| 1:C:321:GLU:O | 1:C:322:GLY:C | 2.60 | 0.44 |
| 2:D:8:ILE:HG21 | 2:D:171:TYR:HB2 | 2.00 | 0.44 |
| 2:D:24:VAL:HG11 | 2:D:53:TRP:HZ3 | 1.82 | 0.44 |
| 2:D:25:SER:HB3 | 2:D:56:CYS:SG | 2.58 | 0.44 |
| 1:E:136:PHE:CD1 | 1:E:237:SER:HB2 | 2.52 | 0.44 |
| 1:E:283:GLN:CB | 1:E:285:VAL:HG13 | 2.47 | 0.44 |
| 2:F:146:GLU:HB3 | 2:F:156:SER:HA | 1.99 | 0.44 |
| 2:F:189:LYS:C | 2:F:191:THR:H | 2.25 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:H:8:ILE:HG21 | 2:H:171:TYR:HB2 | 1.99 | 0.44 |
| 2:H:287:ILE:O | 2:H:287:ILE:HG23 | 2.17 | 0.44 |
| 1:I:171:LYS:NZ | 1:M:72:ARG:HH22 | 2.16 | 0.44 |
| 1:M:321:GLU:O | 1:M:322:GLY:C | 2.60 | 0.44 |
| 1:A:251:ILE:HD11 | 1:A:257:VAL:HG22 | 1.99 | 0.44 |
| 1:A:274:ARG:HG2 | 3:A:1001:FLC:OB1 | 2.18 | 0.44 |
| 2:B:8:ILE:HG21 | 2:B:171:TYR:HB2 | 2.00 | 0.44 |
| 2:B:186:VAL:CG2 | 2:B:216:LEU:HD11 | 2.46 | 0.44 |
| 2:B:220:LEU:O | 2:B:221:ILE:C | 2.60 | 0.44 |
| 1:C:233:LEU:HD12 | 1:C:243:LEU:HD13 | 1.98 | 0.44 |
| 1:E:251:ILE:HD11 | 1:E:257:VAL:HG22 | 1.99 | 0.44 |
| 2:F:183:ARG:O | 2:F:238:ALA:O | 2.36 | 0.44 |
| 1:G:101:LEU:HD12 | 1:G:103:ILE:HD11 | 1.99 | 0.44 |
| 1:G:136:PHE:CD1 | 1:G:237:SER:HB2 | 2.52 | 0.44 |
| 1:G:158:LYS:HG2 | 1:G:161:ARG:NH2 | 2.33 | 0.44 |
| 3:G:1004:FLC:OA1 | 3:G:1004:FLC:OB1 | 2.36 | 0.44 |
| 2:H:30:ASP:OD2 | 2:H:88:LEU:HA | 2.17 | 0.44 |
| 2:J:24:VAL:HG11 | 2:J:53:TRP:HZ3 | 1.82 | 0.44 |
| 2:J:183:ARG:NH1 | 2:J:237:ASP:OD2 | 2.50 | 0.44 |
| 1:K:43:GLU:OE1 | 1:K:310:ARG:NH1 | 2.51 | 0.44 |
| 1:K:336:THR:HG22 | 1:K:337:ASP:N | 2.33 | 0.44 |
| 2:N:265:THR:O | 2:N:280:VAL:HG22 | 2.17 | 0.44 |
| 1:O:101:LEU:HD12 | 1:O:103:ILE:HD11 | 1.99 | 0.44 |
| 1:O:321:GLU:O | 1:O:322:GLY:C | 2.60 | 0.44 |
| 1:O:340:ASN:O | 1:O:343:ILE:HG13 | 2.17 | 0.44 |
| 2:P:8:ILE:HG21 | 2:P:171:TYR:HB2 | 2.00 | 0.44 |
| 2:P:189:LYS:HG2 | 2:P:192:ILE:HD13 | 1.98 | 0.44 |
| 2:P:287:ILE:O | 2:P:287:ILE:HG23 | 2.17 | 0.44 |
| 1:A:283:GLN:CB | 1:A:285:VAL:HG13 | 2.47 | 0.44 |
| 2:B:287:ILE:HG23 | 2:B:287:ILE:O | 2.17 | 0.44 |
| 1:C:72:ARG:CZ | 1:G:171:LYS:NZ | 2.76 | 0.44 |
| 2:D:64:ASN:O | 2:D:66:LEU:N | 2.48 | 0.44 |
| 2:F:348:GLU:H | 2:F:348:GLU:HG2 | 1.62 | 0.44 |
| 2:H:189:LYS:C | 2:H:191:THR:H | 2.25 | 0.44 |
| 1:I:241:THR:OG1 | 3:I:1005:FLC:OA2 | 2.31 | 0.44 |
| 3:M:1007:FLC:OA1 | 3:M:1007:FLC:OB1 | 2.36 | 0.44 |
| 3:O:1008:FLC:OB1 | 3:O:1008:FLC:OA1 | 2.36 | 0.44 |
| 1:A:158:LYS:HG2 | 1:A:161:ARG:NH2 | 2.33 | 0.44 |
| 2:B:142:TYR:N | 2:B:142:TYR:CD1 | 2.86 | 0.44 |
| 2:B:189:LYS:C | 2:B:191:THR:H | 2.26 | 0.44 |
| 2:D:142:TYR:N | 2:D:142:TYR:CD1 | 2.86 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:E:101:LEU:HD12 | 1:E:103:ILE:HD11 | 1.99 | 0.44 |
| 2:F:8:ILE:HG21 | 2:F:171:TYR:HB2 | 2.00 | 0.44 |
| 2:F:25:SER:HB3 | 2:F:56:CYS:SG | 2.58 | 0.44 |
| 2:F:183:ARG:NH1 | 2:F:237:ASP:OD2 | 2.51 | 0.44 |
| 1:G:43:GLU:OE1 | 1:G:310:ARG:NH1 | 2.51 | 0.44 |
| 2:H:24:VAL:HG11 | 2:H:53:TRP:HZ3 | 1.82 | 0.44 |
| 2:H:64:ASN:O | 2:H:66:LEU:N | 2.48 | 0.44 |
| 2:H:149:VAL:O | 2:H:150:CYS:HB3 | 2.17 | 0.44 |
| 1:I:43:GLU:OE1 | 1:I:310:ARG:NH1 | 2.51 | 0.44 |
| 2:J:149:VAL:O | 1:K:153:VAL:HG21 | 2.18 | 0.44 |
| 2:J:189:LYS:HE2 | 2:J:192:ILE:CD1 | 2.47 | 0.44 |
| 1:M:233:LEU:HD12 | 1:M:243:LEU:HD13 | 1.98 | 0.44 |
| 2:N:189:LYS:C | 2:N:191:THR:N | 2.76 | 0.44 |
| 1:O:83:THR:HA | 1:O:84:PRO:HD3 | 1.80 | 0.44 |
| 2:P:25:SER:HB3 | 2:P:56:CYS:SG | 2.58 | 0.44 |
| 2:P:149:VAL:O | 2:P:150:CYS:HB3 | 2.18 | 0.44 |
| 1:A:43:GLU:OE1 | 1:A:310:ARG:NH1 | 2.51 | 0.43 |
| 1:A:266:TYR:O | 1:E:15:GLY:CA | 2.66 | 0.43 |
| 1:A:342:ILE:HG12 | 1:A:342:ILE:H | 1.62 | 0.43 |
| 1:E:32:ILE:HG13 | 1:E:288:PRO:HA | 1.99 | 0.43 |
| 2:F:189:LYS:C | 2:F:191:THR:N | 2.76 | 0.43 |
| 2:J:25:SER:HB3 | 2:J:56:CYS:SG | 2.58 | 0.43 |
| 2:J:103:LEU:HA | 2:J:103:LEU:HD12 | 1.69 | 0.43 |
| 2:J:186:VAL:CG2 | 2:J:216:LEU:HD11 | 2.46 | 0.43 |
| 2:N:146:GLU:HB3 | 2:N:156:SER:HA | 1.99 | 0.43 |
| 1:A:349:MET:HE2 | 1:A:349:MET:HB3 | 1.84 | 0.43 |
| 1:C:8:ARG:NH2 | 1:G:160:GLU:CD | 2.76 | 0.43 |
| 1:C:158:LYS:HG2 | 1:C:161:ARG:NH2 | 2.33 | 0.43 |
| 1:I:147:VAL:HG13 | 2:J:159:LEU:HD11 | 1.99 | 0.43 |
| 1:I:195:ARG:O | 1:I:199:THR:HG23 | 2.19 | 0.43 |
| 2:L:25:SER:HB3 | 2:L:56:CYS:SG | 2.58 | 0.43 |
| 2:L:43:ILE:HD12 | 2:L:299:LEU:HD21 | 1.99 | 0.43 |
| 1:M:101:LEU:HD12 | 1:M:103:ILE:HD11 | 1.99 | 0.43 |
| 2:N:24:VAL:HG11 | 2:N:53:TRP:HZ3 | 1.82 | 0.43 |
| 2:P:189:LYS:C | 2:P:191:THR:N | 2.76 | 0.43 |
| 1:A:101:LEU:HD12 | 1:A:103:ILE:HD11 | 1.99 | 0.43 |
| 1:A:321:GLU:O | 1:A:322:GLY:C | 2.60 | 0.43 |
| 2:D:43:ILE:HD12 | 2:D:299:LEU:HD21 | 1.99 | 0.43 |
| 2:H:221:ILE:N | 2:H:221:ILE:HD12 | 2.34 | 0.43 |
| 2:H:299:LEU:HD12 | 2:H:299:LEU:HA | 1.86 | 0.43 |
| 2:H:305:MET:HG2 | 2:H:309:MET:HE2 | 1.99 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:I:179:THR:HB | 1:I:233:LEU:HD22 | 1.98 | 0.43 |
| 2:J:47:ALA:HB2 | 2:J:354:LEU:HD11 | 2.01 | 0.43 |
| 2:J:287:ILE:HG23 | 2:J:287:ILE:O | 2.17 | 0.43 |
| 2:J:326:ILE:HD12 | 2:J:332:ASN:HB3 | 2.01 | 0.43 |
| 2:L:103:LEU:HD12 | 2:L:103:LEU:HA | 1.68 | 0.43 |
| 2:L:274:ILE:CG2 | 2:L:275:SER:H | 2.31 | 0.43 |
| 2:N:221:ILE:O | 2:N:222:ASP:C | 2.61 | 0.43 |
| 2:N:274:ILE:CG2 | 2:N:275:SER:H | 2.31 | 0.43 |
| 2:B:209:LYS:HE3 | 2:B:209:LYS:HB3 | 1.36 | 0.43 |
| 2:B:348:GLU:H | 2:B:348:GLU:HG2 | 1.62 | 0.43 |
| 3:C:1002:FLC:OB1 | 3:C:1002:FLC:OA1 | 2.36 | 0.43 |
| 1:E:277:GLY:HA3 | 4:E:2003:AMP:C8 | 2.51 | 0.43 |
| 2:F:221:ILE:N | 2:F:221:ILE:HD12 | 2.33 | 0.43 |
| 2:H:25:SER:HB3 | 2:H:56:CYS:SG | 2.58 | 0.43 |
| 2:H:142:TYR:N | 2:H:142:TYR:CD1 | 2.86 | 0.43 |
| 2:H:326:ILE:HD12 | 2:H:332:ASN:HB3 | 2.01 | 0.43 |
| 1:I:251:ILE:HD11 | 1:I:257:VAL:HG22 | 1.99 | 0.43 |
| 2:J:326:ILE:HG21 | 2:J:350:VAL:HG22 | 1.98 | 0.43 |
| 1:K:8:ARG:HH21 | 1:O:164:ARG:HH22 | 1.66 | 0.43 |
| 1:K:277:GLY:N | 4:K:2006:AMP:C8 | 2.87 | 0.43 |
| 2:L:221:ILE:O | 2:L:222:ASP:C | 2.61 | 0.43 |
| 1:M:120:ILE:HA | 1:M:121:PRO:HD3 | 1.76 | 0.43 |
| 2:N:189:LYS:C | 2:N:191:THR:H | 2.25 | 0.43 |
| 2:N:265:THR:HA | 2:N:266:PRO:HD3 | 1.64 | 0.43 |
| 1:O:195:ARG:O | 1:O:199:THR:HG23 | 2.19 | 0.43 |
| 2:P:146:GLU:HB3 | 2:P:156:SER:HA | 1.99 | 0.43 |
| 2:B:183:ARG:O | 2:B:238:ALA:O | 2.36 | 0.43 |
| 1:C:101:LEU:HD12 | 1:C:103:ILE:HD11 | 1.99 | 0.43 |
| 1:C:195:ARG:O | 1:C:199:THR:HG23 | 2.18 | 0.43 |
| 2:D:186:VAL:CG2 | 2:D:216:LEU:HD11 | 2.46 | 0.43 |
| 2:F:326:ILE:HD12 | 2:F:332:ASN:HB3 | 2.01 | 0.43 |
| 2:H:77:ILE:O | 2:H:80:ASN:O | 2.37 | 0.43 |
| 2:J:348:GLU:H | 2:J:348:GLU:HG2 | 1.63 | 0.43 |
| 2:L:142:TYR:N | 2:L:142:TYR:CD1 | 2.86 | 0.43 |
| 2:L:183:ARG:O | 2:L:238:ALA:O | 2.36 | 0.43 |
| 2:L:326:ILE:HD12 | 2:L:332:ASN:HB3 | 2.01 | 0.43 |
| 1:M:336:THR:HG22 | 1:M:337:ASP:N | 2.33 | 0.43 |
| 2:N:64:ASN:O | 2:N:66:LEU:N | 2.48 | 0.43 |
| 2:P:183:ARG:NH1 | 2:P:237:ASP:OD2 | 2.50 | 0.43 |
| 1:A:91:GLY:O | 1:A:92:SER:C | 2.62 | 0.43 |
| 1:C:91:GLY:O | 1:C:92:SER:C | 2.62 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:115:GLY:CA | 1:C:320:ALA:HA | 2.47 | 0.43 |
| 1:C:135:GLU:CD | 1:C:238:MET:HB2 | 2.44 | 0.43 |
| 2:D:189:LYS:C | 2:D:191:THR:H | 2.26 | 0.43 |
| 2:D:221:ILE:O | 2:D:222:ASP:C | 2.61 | 0.43 |
| 2:D:306:LEU:HD12 | 2:D:309:MET:HE1 | 2.00 | 0.43 |
| 1:E:135:GLU:CD | 1:E:238:MET:HB2 | 2.44 | 0.43 |
| 1:G:32:ILE:HG13 | 1:G:288:PRO:HA | 1.99 | 0.43 |
| 1:G:336:THR:HG22 | 1:G:337:ASP:N | 2.33 | 0.43 |
| 1:I:321:GLU:O | 1:I:322:GLY:C | 2.60 | 0.43 |
| 1:I:336:THR:HG22 | 1:I:337:ASP:N | 2.33 | 0.43 |
| 3:K:1006:FLC:OB1 | 3:K:1006:FLC:OA1 | 2.36 | 0.43 |
| 1:M:158:LYS:HG2 | 1:M:161:ARG:NH2 | 2.33 | 0.43 |
| 1:O:115:GLY:CA | 1:O:320:ALA:HA | 2.47 | 0.43 |
| 2:P:142:TYR:CD1 | 2:P:142:TYR:N | 2.86 | 0.43 |
| 2:P:326:ILE:HG21 | 2:P:350:VAL:HG22 | 1.99 | 0.43 |
| 2:D:46:ALA:CB | 2:D:351:ILE:HD13 | 2.49 | 0.43 |
| 1:E:91:GLY:O | 1:E:92:SER:C | 2.62 | 0.43 |
| 1:E:336:THR:HG22 | 1:E:337:ASP:N | 2.33 | 0.43 |
| 3:E:1003:FLC:OB1 | 3:E:1003:FLC:OA1 | 2.36 | 0.43 |
| 2:H:47:ALA:HB2 | 2:H:354:LEU:HD11 | 2.01 | 0.43 |
| 1:I:91:GLY:O | 1:I:92:SER:C | 2.62 | 0.43 |
| 2:J:149:VAL:O | 2:J:150:CYS:HB3 | 2.18 | 0.43 |
| 2:L:77:ILE:O | 2:L:80:ASN:O | 2.37 | 0.43 |
| 1:O:43:GLU:OE1 | 1:O:310:ARG:NH1 | 2.51 | 0.43 |
| 1:A:195:ARG:O | 1:A:199:THR:HG23 | 2.19 | 0.43 |
| 2:D:236:THR:O | 2:D:236:THR:HG22 | 2.19 | 0.43 |
| 1:E:43:GLU:OE1 | 1:E:310:ARG:NH1 | 2.51 | 0.43 |
| 2:F:46:ALA:CB | 2:F:351:ILE:HD13 | 2.49 | 0.43 |
| 1:G:83:THR:HB | 2:H:191:THR:HG23 | 2.01 | 0.43 |
| 1:I:158:LYS:HG2 | 1:I:161:ARG:NH2 | 2.33 | 0.43 |
| 1:I:323:LYS:O | 1:I:324:HIS:CB | 2.67 | 0.43 |
| 1:K:101:LEU:HD12 | 1:K:103:ILE:HD11 | 1.99 | 0.43 |
| 1:K:135:GLU:CD | 1:K:238:MET:HB2 | 2.44 | 0.43 |
| 2:N:46:ALA:HB3 | 2:N:354:LEU:CD2 | 2.49 | 0.43 |
| 1:O:181:VAL:HG21 | 1:O:243:LEU:CD1 | 2.49 | 0.43 |
| 2:P:306:LEU:HD12 | 2:P:309:MET:HE1 | 2.00 | 0.43 |
| 2:P:326:ILE:HD12 | 2:P:332:ASN:HB3 | 2.01 | 0.43 |
| 1:A:336:THR:HG22 | 1:A:337:ASP:N | 2.33 | 0.43 |
| 3:A:1001:FLC:OB1 | 3:A:1001:FLC:OA1 | 2.36 | 0.43 |
| 2:D:326:ILE:HD12 | 2:D:332:ASN:HB3 | 2.01 | 0.43 |
| 1:E:158:LYS:HG2 | 1:E:161:ARG:NH2 | 2.33 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:F:47:ALA:HB2 | 2:F:354:LEU:HD11 | 2.01 | 0.43 |
| 2:F:97:ARG:HG3 | 2:F:102:THR:CG2 | 2.44 | 0.43 |
| 2:F:149:VAL:O | 2:F:150:CYS:HB3 | 2.18 | 0.43 |
| 2:H:176:ALA:HA | 2:H:239:VAL:HG21 | 2.01 | 0.43 |
| 2:H:220:LEU:O | 2:H:221:ILE:C | 2.60 | 0.43 |
| 1:I:101:LEU:HD12 | 1:I:103:ILE:HD11 | 1.99 | 0.43 |
| 1:I:119:ARG:HD2 | 2:J:125:THR:O | 2.19 | 0.43 |
| 2:J:149:VAL:O | 1:K:153:VAL:HG11 | 2.18 | 0.43 |
| 2:J:221:ILE:HD12 | 2:J:221:ILE:N | 2.33 | 0.43 |
| 2:L:183:ARG:NH1 | 2:L:237:ASP:OD2 | 2.51 | 0.43 |
| 2:L:189:LYS:C | 2:L:191:THR:H | 2.26 | 0.43 |
| 2:L:265:THR:HA | 2:L:266:PRO:HD3 | 1.63 | 0.43 |
| 1:M:195:ARG:O | 1:M:199:THR:HG23 | 2.18 | 0.43 |
| 2:N:25:SER:HB3 | 2:N:56:CYS:SG | 2.58 | 0.43 |
| 1:O:91:GLY:O | 1:O:92:SER:C | 2.62 | 0.43 |
| 2:P:12:THR:HB | 2:P:81:LEU:CD1 | 2.47 | 0.43 |
| 2:P:46:ALA:HB3 | 2:P:354:LEU:CD2 | 2.49 | 0.43 |
| 2:P:77:ILE:O | 2:P:80:ASN:O | 2.37 | 0.43 |
| 2:P:221:ILE:O | 2:P:222:ASP:C | 2.61 | 0.43 |
| 2:P:221:ILE:N | 2:P:221:ILE:HD12 | 2.34 | 0.43 |
| 2:B:194:ARG:O | 2:B:198:GLY:HA3 | 2.19 | 0.43 |
| 1:C:181:VAL:HG21 | 1:C:243:LEU:CD1 | 2.49 | 0.43 |
| 2:D:189:LYS:C | 2:D:191:THR:N | 2.76 | 0.43 |
| 1:G:181:VAL:HG21 | 1:G:243:LEU:CD1 | 2.49 | 0.43 |
| 1:G:195:ARG:O | 1:G:199:THR:HG23 | 2.19 | 0.43 |
| 2:J:299:LEU:HD12 | 2:J:299:LEU:HA | 1.86 | 0.43 |
| 2:L:46:ALA:CB | 2:L:351:ILE:HD13 | 2.49 | 0.43 |
| 2:N:183:ARG:O | 2:N:238:ALA:O | 2.36 | 0.43 |
| 1:O:336:THR:HG22 | 1:O:337:ASP:N | 2.33 | 0.43 |
| 2:B:274:ILE:CG2 | 2:B:275:SER:H | 2.31 | 0.42 |
| 2:D:183:ARG:NH1 | 2:D:237:ASP:OD2 | 2.50 | 0.42 |
| 1:G:254:PRO:HG3 | 2:H:226:LEU:HD11 | 2.00 | 0.42 |
| 2:H:183:ARG:O | 2:H:238:ALA:O | 2.36 | 0.42 |
| 2:H:294:ASN:HA | 2:H:295:PRO:HD2 | 1.74 | 0.42 |
| 2:J:46:ALA:HB3 | 2:J:354:LEU:CD2 | 2.49 | 0.42 |
| 2:J:181:ARG:HD3 | 2:J:238:ALA:H | 1.83 | 0.42 |
| 2:L:24:VAL:CG1 | 2:L:53:TRP:HZ3 | 2.32 | 0.42 |
| 2:L:181:ARG:HD3 | 2:L:238:ALA:H | 1.83 | 0.42 |
| 2:L:299:LEU:HD12 | 2:L:299:LEU:HA | 1.86 | 0.42 |
| 1:M:284:ASN:O | 1:M:334:SER:HB2 | 2.19 | 0.42 |
| 1:O:135:GLU:CD | 1:O:238:MET:HB2 | 2.44 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 2:P:47:ALA:HB2 | 2:P:354:LEU:HD11 | 2.01 | 0.42 |
| 1:A:299:LEU:HA | 1:A:302:LEU:CD1 | 2.49 | 0.42 |
| 2:B:43:ILE:HD12 | 2:B:299:LEU:HD21 | 1.99 | 0.42 |
| 2:B:46:ALA:CB | 2:B:351:ILE:HD13 | 2.49 | 0.42 |
| 2:B:221:ILE:HD12 | 2:B:221:ILE:N | 2.33 | 0.42 |
| 2:B:306:LEU:HD12 | 2:B:309:MET:HE1 | 2.00 | 0.42 |
| 2:D:221:ILE:HD12 | 2:D:221:ILE:N | 2.34 | 0.42 |
| 1:E:299:LEU:HA | 1:E:302:LEU:CD1 | 2.49 | 0.42 |
| 2:F:236:THR:HG22 | 2:F:236:THR:O | 2.19 | 0.42 |
| 2:F:294:ASN:HA | 2:F:295:PRO:HD2 | 1.74 | 0.42 |
| 2:H:24:VAL:CG1 | 2:H:53:TRP:HZ3 | 2.33 | 0.42 |
| 3:I:1005:FLC:OA1 | 3:I:1005:FLC:OB1 | 2.36 | 0.42 |
| 2:J:221:ILE:O | 2:J:222:ASP:C | 2.61 | 0.42 |
| 2:J:274:ILE:CG2 | 2:J:275:SER:H | 2.31 | 0.42 |
| 1:K:151:LEU:CD2 | 2:L:157:ILE:HG12 | 2.43 | 0.42 |
| 1:K:299:LEU:HA | 1:K:302:LEU:CD1 | 2.50 | 0.42 |
| 2:L:46:ALA:HB3 | 2:L:354:LEU:CD2 | 2.49 | 0.42 |
| 2:L:294:ASN:HA | 2:L:295:PRO:HD2 | 1.74 | 0.42 |
| 2:N:176:ALA:HA | 2:N:239:VAL:HG21 | 2.01 | 0.42 |
| 1:O:158:LYS:HG2 | 1:O:161:ARG:NH2 | 2.33 | 0.42 |
| 2:P:176:ALA:HA | 2:P:239:VAL:HG21 | 2.01 | 0.42 |
| 2:P:236:THR:O | 2:P:236:THR:HG22 | 2.19 | 0.42 |
| 1:E:195:ARG:O | 1:E:199:THR:HG23 | 2.19 | 0.42 |
| 2:F:77:ILE:O | 2:F:80:ASN:O | 2.37 | 0.42 |
| 2:F:142:TYR:N | 2:F:142:TYR:CD1 | 2.86 | 0.42 |
| 1:G:201:ILE:O | 1:G:201:ILE:HG13 | 2.20 | 0.42 |
| 2:H:236:THR:HG22 | 2:H:236:THR:O | 2.19 | 0.42 |
| 2:J:176:ALA:HA | 2:J:239:VAL:HG21 | 2.01 | 0.42 |
| 2:N:236:THR:HG22 | 2:N:236:THR:O | 2.19 | 0.42 |
| 2:P:24:VAL:CG1 | 2:P:53:TRP:HZ3 | 2.32 | 0.42 |
| 1:A:277:GLY:HA2 | 4:A:2001:AMP:H5'2 | 2.01 | 0.42 |
| 1:A:284:ASN:O | 1:A:334:SER:HB2 | 2.19 | 0.42 |
| 2:B:326:ILE:HD12 | 2:B:332:ASN:HB3 | 2.01 | 0.42 |
| 2:D:77:ILE:O | 2:D:80:ASN:O | 2.37 | 0.42 |
| 1:E:293:LEU:HD23 | 1:E:293:LEU:HA | 1.62 | 0.42 |
| 1:G:278:LEU:HD23 | 1:G:278:LEU:HA | 1.90 | 0.42 |
| 1:I:47:ILE:HD11 | 1:I:49:TRP:CD2 | 2.55 | 0.42 |
| 2:J:46:ALA:CB | 2:J:351:ILE:HD13 | 2.49 | 0.42 |
| 2:J:142:TYR:N | 2:J:142:TYR:CD1 | 2.86 | 0.42 |
| 2:J:306:LEU:HD12 | 2:J:309:MET:HE1 | 2.00 | 0.42 |
| 2:L:221:ILE:HD12 | 2:L:221:ILE:N | 2.34 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:M:47:ILE:HD11 | 1:M:49:TRP:CD2 | 2.55 | 0.42 |
| 1:M:201:ILE:O | 1:M:201:ILE:HG13 | 2.19 | 0.42 |
| 1:A:201:ILE:O | 1:A:201:ILE:HG13 | 2.20 | 0.42 |
| 2:D:12:THR:HB | 2:D:81:LEU:CD1 | 2.47 | 0.42 |
| 2:D:181:ARG:HD3 | 2:D:238:ALA:H | 1.82 | 0.42 |
| 1:E:40:PHE:CD1 | 1:E:45:ILE:HD12 | 2.55 | 0.42 |
| 2:H:46:ALA:CB | 2:H:351:ILE:HD13 | 2.49 | 0.42 |
| 1:I:120:ILE:HA | 1:I:121:PRO:HD3 | 1.76 | 0.42 |
| 1:K:284:ASN:O | 1:K:334:SER:HB2 | 2.19 | 0.42 |
| 2:N:8:ILE:HG21 | 2:N:171:TYR:HB2 | 2.00 | 0.42 |
| 2:N:221:ILE:N | 2:N:221:ILE:HD12 | 2.33 | 0.42 |
| 1:O:47:ILE:HD11 | 1:O:49:TRP:CD2 | 2.55 | 0.42 |
| 1:O:60:LYS:O | 1:O:60:LYS:HG2 | 2.15 | 0.42 |
| 2:B:46:ALA:HB3 | 2:B:354:LEU:CD2 | 2.49 | 0.42 |
| 2:B:59:SER:HA | 2:B:60:PRO:HD3 | 1.86 | 0.42 |
| 2:B:176:ALA:HA | 2:B:239:VAL:HG21 | 2.02 | 0.42 |
| 1:C:43:GLU:OE1 | 1:C:310:ARG:NH1 | 2.51 | 0.42 |
| 1:C:299:LEU:HA | 1:C:302:LEU:CD1 | 2.49 | 0.42 |
| 2:D:169:ILE:HG21 | 2:D:204:ALA:HA | 2.02 | 0.42 |
| 2:F:221:ILE:O | 2:F:222:ASP:C | 2.61 | 0.42 |
| 1:G:27:GLY:C | 1:G:29:GLY:N | 2.73 | 0.42 |
| 1:G:40:PHE:CD1 | 1:G:45:ILE:HD12 | 2.55 | 0.42 |
| 1:G:47:ILE:HD11 | 1:G:49:TRP:CD2 | 2.55 | 0.42 |
| 2:H:194:ARG:O | 2:H:198:GLY:HA3 | 2.19 | 0.42 |
| 2:J:265:THR:HA | 2:J:266:PRO:HD3 | 1.63 | 0.42 |
| 1:K:181:VAL:HG21 | 1:K:243:LEU:CD1 | 2.49 | 0.42 |
| 2:L:176:ALA:HA | 2:L:239:VAL:HG21 | 2.02 | 0.42 |
| 2:L:306:LEU:HD12 | 2:L:309:MET:HE1 | 2.00 | 0.42 |
| 2:N:46:ALA:CB | 2:N:351:ILE:HD13 | 2.49 | 0.42 |
| 2:N:142:TYR:N | 2:N:142:TYR:CD1 | 2.86 | 0.42 |
| 1:A:40:PHE:CD1 | 1:A:45:ILE:HD12 | 2.55 | 0.42 |
| 1:A:264:ARG:O | 1:E:13:LYS:HG2 | 2.19 | 0.42 |
| 2:B:236:THR:O | 2:B:236:THR:HG22 | 2.19 | 0.42 |
| 2:D:46:ALA:HB3 | 2:D:354:LEU:CD2 | 2.49 | 0.42 |
| 1:E:340:ASN:HA | 1:E:343:ILE:HG13 | 2.01 | 0.42 |
| 2:F:46:ALA:HB3 | 2:F:354:LEU:CD2 | 2.49 | 0.42 |
| 2:F:64:ASN:O | 2:F:66:LEU:N | 2.48 | 0.42 |
| 1:G:299:LEU:HA | 1:G:302:LEU:CD1 | 2.49 | 0.42 |
| 2:L:149:VAL:O | 2:L:150:CYS:HB3 | 2.18 | 0.42 |
| 1:M:181:VAL:HG21 | 1:M:243:LEU:CD1 | 2.49 | 0.42 |
| 2:B:169:ILE:HG21 | 2:B:204:ALA:HA | 2.02 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:F:176:ALA:HA | 2:F:239:VAL:HG21 | 2.01 | 0.42 |
| 2:F:181:ARG:HD3 | 2:F:238:ALA:H | 1.82 | 0.42 |
| 1:G:193:LEU:O | 1:G:197:ILE:HG13 | 2.20 | 0.42 |
| 1:G:221:MET:HG3 | 2:H:256:GLY:HA3 | 2.02 | 0.42 |
| 1:I:201:ILE:HG13 | 1:I:201:ILE:O | 2.20 | 0.42 |
| 2:J:26:PHE:O | 2:J:27:ILE:CB | 2.68 | 0.42 |
| 1:K:40:PHE:CD1 | 1:K:45:ILE:HD12 | 2.55 | 0.42 |
| 2:L:194:ARG:O | 2:L:198:GLY:HA3 | 2.19 | 0.42 |
| 2:L:236:THR:O | 2:L:236:THR:HG22 | 2.19 | 0.42 |
| 2:L:250:LEU:HD23 | 2:L:250:LEU:HA | 1.82 | 0.42 |
| 2:L:347:THR:O | 2:L:351:ILE:HG13 | 2.20 | 0.42 |
| 1:M:13:LYS:HD2 | 1:M:18:PHE:CE1 | 2.54 | 0.42 |
| 1:M:92:SER:OG | 3:M:1007:FLC:HG2 | 2.19 | 0.42 |
| 1:M:299:LEU:HA | 1:M:302:LEU:CD1 | 2.50 | 0.42 |
| 2:N:77:ILE:O | 2:N:80:ASN:O | 2.37 | 0.42 |
| 2:N:194:ARG:O | 2:N:198:GLY:HA3 | 2.19 | 0.42 |
| 1:A:47:ILE:HD11 | 1:A:49:TRP:CD2 | 2.55 | 0.42 |
| 1:E:13:LYS:HD2 | 1:E:18:PHE:CE1 | 2.55 | 0.42 |
| 2:F:24:VAL:CG1 | 2:F:53:TRP:HZ3 | 2.33 | 0.42 |
| 1:G:284:ASN:O | 1:G:334:SER:HB2 | 2.19 | 0.42 |
| 2:H:46:ALA:HB3 | 2:H:354:LEU:CD2 | 2.49 | 0.42 |
| 2:J:24:VAL:CG1 | 2:J:53:TRP:HZ3 | 2.33 | 0.42 |
| 1:K:13:LYS:HD2 | 1:K:18:PHE:CE1 | 2.55 | 0.42 |
| 2:N:141:GLU:C | 2:N:142:TYR:HD1 | 2.28 | 0.42 |
| 2:P:169:ILE:HG21 | 2:P:204:ALA:HA | 2.02 | 0.42 |
| 2:B:64:ASN:O | 2:B:66:LEU:N | 2.48 | 0.42 |
| 2:B:221:ILE:O | 2:B:222:ASP:C | 2.61 | 0.42 |
| 1:C:7:GLU:O | 1:C:10:LEU:HD12 | 2.20 | 0.42 |
| 1:C:40:PHE:CD1 | 1:C:45:ILE:HD12 | 2.55 | 0.42 |
| 1:C:47:ILE:HD11 | 1:C:49:TRP:CD2 | 2.55 | 0.42 |
| 1:C:201:ILE:O | 1:C:201:ILE:HG13 | 2.19 | 0.42 |
| 1:C:288:PRO:O | 1:C:292:ILE:HG13 | 2.20 | 0.42 |
| 2:D:15:PRO:HG3 | 2:D:22:TYR:CZ | 2.55 | 0.42 |
| 2:D:24:VAL:CG1 | 2:D:53:TRP:HZ3 | 2.33 | 0.42 |
| 2:D:141:GLU:C | 2:D:142:TYR:HD1 | 2.28 | 0.42 |
| 2:D:274:ILE:CG2 | 2:D:275:SER:H | 2.31 | 0.42 |
| 2:D:322:VAL:HG12 | 2:D:350:VAL:CG1 | 2.37 | 0.42 |
| 2:F:142:TYR:OH | 2:F:245:LEU:HD12 | 2.20 | 0.42 |
| 1:G:91:GLY:O | 1:G:92:SER:C | 2.62 | 0.42 |
| 1:G:120:ILE:HA | 1:G:121:PRO:HD3 | 1.76 | 0.42 |
| 2:H:221:ILE:O | 2:H:222:ASP:C | 2.61 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:H:347:THR:O | 2:H:351:ILE:HG13 | 2.20 | 0.42 |
| 1:I:284:ASN:O | 1:I:334:SER:HB2 | 2.19 | 0.42 |
| 1:K:195:ARG:O | 1:K:199:THR:HG23 | 2.19 | 0.42 |
| 2:L:47:ALA:HB2 | 2:L:354:LEU:HD11 | 2.01 | 0.42 |
| 2:L:59:SER:HA | 2:L:60:PRO:HD3 | 1.86 | 0.42 |
| 2:L:97:ARG:HG3 | 2:L:102:THR:CG2 | 2.44 | 0.42 |
| 2:L:141:GLU:C | 2:L:142:TYR:HD1 | 2.28 | 0.42 |
| 2:N:347:THR:O | 2:N:351:ILE:HG13 | 2.20 | 0.42 |
| 1:O:299:LEU:HA | 1:O:302:LEU:CD1 | 2.49 | 0.42 |
| 2:P:26:PHE:O | 2:P:27:ILE:CB | 2.68 | 0.42 |
| 1:A:193:LEU:O | 1:A:197:ILE:HG13 | 2.20 | 0.41 |
| 2:B:142:TYR:OH | 2:B:245:LEU:HD12 | 2.20 | 0.41 |
| 2:B:205:LYS:O | 2:B:208:SER:HB3 | 2.20 | 0.41 |
| 1:C:50:GLU:OE1 | 1:G:171:LYS:NZ | 2.41 | 0.41 |
| 2:D:205:LYS:O | 2:D:208:SER:HB3 | 2.20 | 0.41 |
| 1:E:201:ILE:O | 1:E:201:ILE:HG13 | 2.19 | 0.41 |
| 1:E:284:ASN:O | 1:E:334:SER:HB2 | 2.19 | 0.41 |
| 2:F:194:ARG:O | 2:F:198:GLY:HA3 | 2.19 | 0.41 |
| 1:G:135:GLU:CD | 1:G:238:MET:HB2 | 2.44 | 0.41 |
| 1:G:202:GLY:HA3 | 1:G:211:VAL:HG21 | 2.02 | 0.41 |
| 2:H:209:LYS:HE3 | 2:H:209:LYS:HB3 | 1.36 | 0.41 |
| 1:I:181:VAL:HG21 | 1:I:243:LEU:CD1 | 2.49 | 0.41 |
| 2:J:142:TYR:OH | 2:J:245:LEU:HD12 | 2.20 | 0.41 |
| 2:J:194:ARG:O | 2:J:198:GLY:HA3 | 2.19 | 0.41 |
| 2:J:347:THR:O | 2:J:351:ILE:HG13 | 2.20 | 0.41 |
| 1:K:193:LEU:O | 1:K:197:ILE:HG13 | 2.20 | 0.41 |
| 1:M:7:GLU:O | 1:M:10:LEU:HD12 | 2.20 | 0.41 |
| 1:M:91:GLY:O | 1:M:92:SER:C | 2.62 | 0.41 |
| 1:M:135:GLU:CD | 1:M:238:MET:HB2 | 2.44 | 0.41 |
| 1:M:193:LEU:O | 1:M:197:ILE:HG13 | 2.20 | 0.41 |
| 1:M:301:HIS:C | 1:M:303:GLY:H | 2.28 | 0.41 |
| 1:M:342:ILE:HG12 | 1:M:342:ILE:H | 1.62 | 0.41 |
| 2:N:326:ILE:HD12 | 2:N:332:ASN:HB3 | 2.01 | 0.41 |
| 2:N:343:THR:O | 2:N:347:THR:OG1 | 2.38 | 0.41 |
| 1:O:40:PHE:CD1 | 1:O:45:ILE:HD12 | 2.55 | 0.41 |
| 2:B:15:PRO:HG3 | 2:B:22:TYR:CZ | 2.55 | 0.41 |
| 1:C:284:ASN:O | 1:C:334:SER:HB2 | 2.19 | 0.41 |
| 1:C:336:THR:HG22 | 1:C:337:ASP:N | 2.33 | 0.41 |
| 1:C:340:ASN:HA | 1:C:343:ILE:HG13 | 2.02 | 0.41 |
| 2:D:343:THR:O | 2:D:347:THR:OG1 | 2.38 | 0.41 |
| 2:F:141:GLU:C | 2:F:142:TYR:HD1 | 2.28 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:F:306:LEU:HD23 | 2:F:315:ALA:HA | 2.02 | 0.41 |
| 2:F:322:VAL:HG13 | 2:F:354:LEU:HA | 2.02 | 0.41 |
| 1:G:288:PRO:O | 1:G:292:ILE:HG13 | 2.20 | 0.41 |
| 1:G:340:ASN:HA | 1:G:343:ILE:HG13 | 2.01 | 0.41 |
| 2:H:343:THR:O | 2:H:347:THR:OG1 | 2.38 | 0.41 |
| 2:J:77:ILE:O | 2:J:80:ASN:O | 2.37 | 0.41 |
| 1:K:201:ILE:O | 1:K:201:ILE:HG13 | 2.19 | 0.41 |
| 2:L:139:GLU:HB2 | 2:L:140:GLY:H | 1.58 | 0.41 |
| 2:N:209:LYS:HB3 | 2:N:209:LYS:HE3 | 1.36 | 0.41 |
| 1:O:288:PRO:O | 1:O:292:ILE:HG13 | 2.20 | 0.41 |
| 1:A:288:PRO:O | 1:A:292:ILE:HG13 | 2.20 | 0.41 |
| 2:B:103:LEU:HD12 | 2:B:103:LEU:HA | 1.69 | 0.41 |
| 2:B:141:GLU:C | 2:B:142:TYR:HD1 | 2.28 | 0.41 |
| 2:D:336:ASP:O | 2:D:337:LEU:HD23 | 2.21 | 0.41 |
| 2:D:347:THR:O | 2:D:351:ILE:HG13 | 2.20 | 0.41 |
| 1:E:288:PRO:O | 1:E:292:ILE:HG13 | 2.20 | 0.41 |
| 1:I:40:PHE:CD1 | 1:I:45:ILE:HD12 | 2.55 | 0.41 |
| 1:I:299:LEU:HA | 1:I:302:LEU:CD1 | 2.49 | 0.41 |
| 1:I:301:HIS:C | 1:I:303:GLY:H | 2.28 | 0.41 |
| 1:K:119:ARG:CG | 2:L:125:THR:HG22 | 2.45 | 0.41 |
| 2:L:119:ILE:HD13 | 2:L:119:ILE:HA | 1.88 | 0.41 |
| 2:N:12:THR:HB | 2:N:81:LEU:CD1 | 2.47 | 0.41 |
| 2:N:183:ARG:NH1 | 2:N:237:ASP:OD2 | 2.51 | 0.41 |
| 2:N:348:GLU:H | 2:N:348:GLU:HG2 | 1.63 | 0.41 |
| 1:O:223:ALA:O | 1:O:227:PRO:HG3 | 2.21 | 0.41 |
| 1:A:181:VAL:HG21 | 1:A:243:LEU:CD1 | 2.49 | 0.41 |
| 2:B:47:ALA:HB2 | 2:B:354:LEU:HD11 | 2.01 | 0.41 |
| 2:B:77:ILE:O | 2:B:80:ASN:O | 2.37 | 0.41 |
| 1:C:187:MET:HE2 | 2:D:156:SER:CB | 2.40 | 0.41 |
| 1:C:275:HIS:CB | 4:C:2002:AMP:O2P | 2.57 | 0.41 |
| 2:D:322:VAL:HG13 | 2:D:354:LEU:HA | 2.02 | 0.41 |
| 1:E:83:THR:HB | 2:F:191:THR:HG23 | 2.02 | 0.41 |
| 1:E:181:VAL:HG21 | 1:E:243:LEU:CD1 | 2.50 | 0.41 |
| 2:F:15:PRO:HG3 | 2:F:22:TYR:CZ | 2.55 | 0.41 |
| 2:F:169:ILE:HG21 | 2:F:204:ALA:HA | 2.02 | 0.41 |
| 2:F:205:LYS:O | 2:F:208:SER:HB3 | 2.21 | 0.41 |
| 2:F:336:ASP:O | 2:F:337:LEU:HD23 | 2.21 | 0.41 |
| 2:F:343:THR:O | 2:F:347:THR:OG1 | 2.38 | 0.41 |
| 2:H:336:ASP:O | 2:H:337:LEU:HD23 | 2.20 | 0.41 |
| 2:J:322:VAL:HG13 | 2:J:354:LEU:HA | 2.02 | 0.41 |
| 1:K:47:ILE:HD11 | 1:K:49:TRP:CD2 | 2.55 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:K:91:GLY:O | 1:K:92:SER:C | 2.62 | 0.41 |
| 1:K:301:HIS:C | 1:K:303:GLY:H | 2.28 | 0.41 |
| 2:L:189:LYS:C | 2:L:191:THR:N | 2.76 | 0.41 |
| 1:M:40:PHE:CD1 | 1:M:45:ILE:HD12 | 2.55 | 0.41 |
| 1:M:202:GLY:HA3 | 1:M:211:VAL:HG21 | 2.02 | 0.41 |
| 1:O:193:LEU:O | 1:O:197:ILE:HG13 | 2.20 | 0.41 |
| 2:P:142:TYR:OH | 2:P:245:LEU:HD12 | 2.20 | 0.41 |
| 2:P:205:LYS:O | 2:P:208:SER:HB3 | 2.20 | 0.41 |
| 2:P:306:LEU:HD23 | 2:P:315:ALA:HA | 2.02 | 0.41 |
| 1:A:202:GLY:HA3 | 1:A:211:VAL:HG21 | 2.03 | 0.41 |
| 1:C:301:HIS:C | 1:C:303:GLY:H | 2.28 | 0.41 |
| 1:E:7:GLU:C | 1:E:9:THR:H | 2.29 | 0.41 |
| 1:E:193:LEU:O | 1:E:197:ILE:HG13 | 2.20 | 0.41 |
| 1:G:156:ARG:N | 1:G:157:PRO:CD | 2.84 | 0.41 |
| 2:H:15:PRO:HG3 | 2:H:22:TYR:CZ | 2.55 | 0.41 |
| 2:J:150:CYS:CB | 2:J:151:PRO:CD | 2.97 | 0.41 |
| 1:K:83:THR:HA | 1:K:84:PRO:HD3 | 1.80 | 0.41 |
| 1:K:340:ASN:HA | 1:K:343:ILE:HG13 | 2.01 | 0.41 |
| 2:L:336:ASP:O | 2:L:337:LEU:HD23 | 2.21 | 0.41 |
| 2:L:348:GLU:H | 2:L:348:GLU:HG2 | 1.62 | 0.41 |
| 1:M:288:PRO:O | 1:M:292:ILE:HG13 | 2.20 | 0.41 |
| 2:N:26:PHE:O | 2:N:27:ILE:CB | 2.68 | 0.41 |
| 2:N:47:ALA:HB2 | 2:N:354:LEU:HD11 | 2.01 | 0.41 |
| 1:O:284:ASN:O | 1:O:334:SER:HB2 | 2.19 | 0.41 |
| 2:P:46:ALA:CB | 2:P:351:ILE:HD13 | 2.49 | 0.41 |
| 2:P:141:GLU:C | 2:P:142:TYR:HD1 | 2.28 | 0.41 |
| 1:A:120:ILE:HA | 1:A:121:PRO:HD3 | 1.76 | 0.41 |
| 1:A:135:GLU:CD | 1:A:238:MET:HB2 | 2.45 | 0.41 |
| 2:D:299:LEU:HD12 | 2:D:299:LEU:HA | 1.86 | 0.41 |
| 1:E:47:ILE:HD11 | 1:E:49:TRP:CD2 | 2.55 | 0.41 |
| 1:E:249:ALA:CB | 2:F:230:THR:HG23 | 2.50 | 0.41 |
| 2:H:142:TYR:OH | 2:H:245:LEU:HD12 | 2.20 | 0.41 |
| 2:H:183:ARG:NH1 | 2:H:237:ASP:OD2 | 2.51 | 0.41 |
| 1:I:193:LEU:O | 1:I:197:ILE:HG13 | 2.20 | 0.41 |
| 1:I:224:VAL:HG21 | 2:J:253:LEU:HD21 | 2.03 | 0.41 |
| 1:I:275:HIS:CE1 | 2:J:223:ASN:ND2 | 2.88 | 0.41 |
| 2:N:142:TYR:OH | 2:N:245:LEU:HD12 | 2.20 | 0.41 |
| 1:O:201:ILE:O | 1:O:201:ILE:HG13 | 2.20 | 0.41 |
| 1:O:340:ASN:HA | 1:O:343:ILE:HG13 | 2.01 | 0.41 |
| 1:O:349:MET:HE2 | 1:O:349:MET:HB3 | 1.84 | 0.41 |
| 2:P:70:PRO:O | 2:P:74:VAL:HG23 | 2.21 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:P:194:ARG:O | 2:P:198:GLY:HA3 | 2.19 | 0.41 |
| 2:P:274:ILE:CG2 | 2:P:275:SER:H | 2.31 | 0.41 |
| 2:P:322:VAL:HG13 | 2:P:354:LEU:HA | 2.02 | 0.41 |
| 2:P:347:THR:O | 2:P:351:ILE:HG13 | 2.20 | 0.41 |
| 1:A:83:THR:HA | 1:A:84:PRO:HD3 | 1.80 | 0.41 |
| 2:B:24:VAL:CG1 | 2:B:53:TRP:HZ3 | 2.33 | 0.41 |
| 2:B:347:THR:O | 2:B:351:ILE:HG13 | 2.20 | 0.41 |
| 1:C:202:GLY:HA3 | 1:C:211:VAL:HG21 | 2.03 | 0.41 |
| 2:D:142:TYR:OH | 2:D:245:LEU:HD12 | 2.20 | 0.41 |
| 2:D:176:ALA:HA | 2:D:239:VAL:HG21 | 2.01 | 0.41 |
| 2:D:306:LEU:HD23 | 2:D:315:ALA:HA | 2.03 | 0.41 |
| 2:D:334:THR:HG22 | 2:D:335:GLY:N | 2.35 | 0.41 |
| 2:F:114:ARG:HA | 2:F:115:PRO:HD3 | 1.85 | 0.41 |
| 1:I:160:GLU:CD | 1:M:8:ARG:NH2 | 2.78 | 0.41 |
| 2:J:139:GLU:HB2 | 2:J:140:GLY:H | 1.57 | 0.41 |
| 2:L:306:LEU:HD23 | 2:L:315:ALA:HA | 2.02 | 0.41 |
| 2:N:15:PRO:HG3 | 2:N:22:TYR:CZ | 2.55 | 0.41 |
| 2:P:64:ASN:O | 2:P:66:LEU:N | 2.48 | 0.41 |
| 1:A:223:ALA:O | 1:A:227:PRO:HG3 | 2.21 | 0.41 |
| 1:A:299:LEU:O | 1:A:300:ASN:C | 2.64 | 0.41 |
| 2:B:336:ASP:O | 2:B:337:LEU:HD23 | 2.21 | 0.41 |
| 2:B:343:THR:O | 2:B:347:THR:OG1 | 2.38 | 0.41 |
| 2:D:26:PHE:CE1 | 2:D:84:LEU:HD23 | 2.56 | 0.41 |
| 2:D:47:ALA:HB2 | 2:D:354:LEU:HD11 | 2.01 | 0.41 |
| 2:D:194:ARG:O | 2:D:198:GLY:HA3 | 2.19 | 0.41 |
| 1:E:301:HIS:C | 1:E:303:GLY:H | 2.28 | 0.41 |
| 2:F:12:THR:HB | 2:F:81:LEU:CD1 | 2.47 | 0.41 |
| 2:F:26:PHE:CE1 | 2:F:84:LEU:HD23 | 2.56 | 0.41 |
| 1:G:293:LEU:HD23 | 1:G:293:LEU:HA | 1.62 | 0.41 |
| 2:H:59:SER:HA | 2:H:60:PRO:HD3 | 1.86 | 0.41 |
| 2:H:141:GLU:C | 2:H:142:TYR:HD1 | 2.28 | 0.41 |
| 1:I:288:PRO:O | 1:I:292:ILE:HG13 | 2.20 | 0.41 |
| 2:J:15:PRO:HG3 | 2:J:22:TYR:CZ | 2.55 | 0.41 |
| 2:J:236:THR:O | 2:J:236:THR:HG22 | 2.19 | 0.41 |
| 1:K:156:ARG:N | 1:K:157:PRO:CD | 2.84 | 0.41 |
| 2:L:12:THR:HB | 2:L:81:LEU:CD1 | 2.47 | 0.41 |
| 2:L:64:ASN:O | 2:L:66:LEU:N | 2.48 | 0.41 |
| 1:M:95:VAL:HG23 | 1:M:96:ALA:N | 2.36 | 0.41 |
| 1:M:340:ASN:HA | 1:M:343:ILE:HG13 | 2.01 | 0.41 |
| 2:N:150:CYS:CB | 2:N:151:PRO:CD | 2.97 | 0.41 |
| 1:O:156:ARG:N | 1:O:157:PRO:CD | 2.84 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:P:15:PRO:HG3 | 2:P:22:TYR:CZ | 2.55 | 0.41 |
| 2:P:44:PHE:HD2 | 2:P:49:VAL:HG21 | 1.85 | 0.41 |
| 1:A:101:LEU:HB2 | 1:A:103:ILE:CG1 | 2.51 | 0.41 |
| 1:A:278:LEU:HD23 | 1:A:278:LEU:HA | 1.91 | 0.41 |
| 1:A:340:ASN:HA | 1:A:343:ILE:HG13 | 2.02 | 0.41 |
| 2:B:299:LEU:HD12 | 2:B:299:LEU:HA | 1.86 | 0.41 |
| 1:C:13:LYS:HD2 | 1:C:18:PHE:CE1 | 2.54 | 0.41 |
| 1:C:156:ARG:N | 1:C:157:PRO:CD | 2.84 | 0.41 |
| 1:C:186:ILE:HD13 | 2:D:142:TYR:CD2 | 2.56 | 0.41 |
| 1:C:223:ALA:O | 1:C:227:PRO:HG3 | 2.21 | 0.41 |
| 1:C:278:LEU:HD23 | 1:C:278:LEU:HA | 1.90 | 0.41 |
| 1:E:223:ALA:O | 1:E:227:PRO:HG3 | 2.21 | 0.41 |
| 1:E:349:MET:HE2 | 1:E:349:MET:HB3 | 1.84 | 0.41 |
| 2:F:149:VAL:CG2 | 2:H:153:VAL:HG11 | 2.51 | 0.41 |
| 1:G:323:LYS:O | 1:G:324:HIS:CB | 2.67 | 0.41 |
| 2:H:205:LYS:O | 2:H:208:SER:HB3 | 2.20 | 0.41 |
| 2:H:274:ILE:CG2 | 2:H:275:SER:H | 2.31 | 0.41 |
| 2:H:322:VAL:HG13 | 2:H:354:LEU:HA | 2.02 | 0.41 |
| 1:I:101:LEU:HB2 | 1:I:103:ILE:CG1 | 2.51 | 0.41 |
| 2:J:12:THR:HB | 2:J:81:LEU:CD1 | 2.47 | 0.41 |
| 2:J:97:ARG:HG3 | 2:J:102:THR:CG2 | 2.44 | 0.41 |
| 2:J:141:GLU:C | 2:J:142:TYR:HD1 | 2.28 | 0.41 |
| 2:J:169:ILE:HG21 | 2:J:204:ALA:HA | 2.02 | 0.41 |
| 2:J:334:THR:HG22 | 2:J:335:GLY:N | 2.35 | 0.41 |
| 2:J:336:ASP:O | 2:J:337:LEU:HD23 | 2.20 | 0.41 |
| 1:K:15:GLY:HA2 | 1:O:266:TYR:O | 2.20 | 0.41 |
| 1:K:299:LEU:O | 1:K:300:ASN:C | 2.64 | 0.41 |
| 2:L:15:PRO:HG3 | 2:L:22:TYR:CZ | 2.55 | 0.41 |
| 2:L:26:PHE:CE1 | 2:L:84:LEU:HD23 | 2.56 | 0.41 |
| 2:L:64:ASN:C | 2:L:66:LEU:N | 2.79 | 0.41 |
| 2:L:343:THR:O | 2:L:347:THR:OG1 | 2.38 | 0.41 |
| 1:M:323:LYS:O | 1:M:324:HIS:CB | 2.67 | 0.41 |
| 2:N:24:VAL:CG1 | 2:N:53:TRP:HZ3 | 2.33 | 0.41 |
| 2:N:26:PHE:CE1 | 2:N:84:LEU:HD23 | 2.56 | 0.41 |
| 2:N:205:LYS:O | 2:N:208:SER:HB3 | 2.20 | 0.41 |
| 2:N:336:ASP:O | 2:N:337:LEU:HD23 | 2.21 | 0.41 |
| 1:O:95:VAL:HG23 | 1:O:96:ALA:N | 2.36 | 0.41 |
| 1:O:301:HIS:C | 1:O:303:GLY:H | 2.28 | 0.41 |
| 2:P:63:VAL:HG12 | 2:P:64:ASN:ND2 | 2.36 | 0.41 |
| 1:A:18:PHE:HZ | 1:E:44:ASN:HD22 | 1.69 | 0.41 |
| 2:B:26:PHE:O | 2:B:27:ILE:CB | 2.68 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:283:SER:O | 2:B:284:ALA:C | 2.64 | 0.41 |
| 1:E:156:ARG:N | 1:E:157:PRO:CD | 2.84 | 0.41 |
| 1:E:202:GLY:HA3 | 1:E:211:VAL:HG21 | 2.03 | 0.41 |
| 1:E:340:ASN:HA | 1:E:343:ILE:CG1 | 2.51 | 0.41 |
| 2:F:147:HIS:CD2 | 1:G:151:LEU:HD12 | 2.54 | 0.41 |
| 2:F:274:ILE:CG2 | 2:F:275:SER:H | 2.31 | 0.41 |
| 1:G:299:LEU:O | 1:G:300:ASN:C | 2.64 | 0.41 |
| 2:H:26:PHE:CE1 | 2:H:84:LEU:HD23 | 2.56 | 0.41 |
| 1:I:223:ALA:O | 1:I:227:PRO:HG3 | 2.21 | 0.41 |
| 2:J:153:VAL:HG11 | 2:L:149:VAL:HG21 | 2.02 | 0.41 |
| 1:K:95:VAL:HG23 | 1:K:96:ALA:N | 2.36 | 0.41 |
| 1:O:195:ARG:CG | 1:O:195:ARG:NH1 | 2.63 | 0.41 |
| 1:A:156:ARG:N | 1:A:157:PRO:CD | 2.84 | 0.40 |
| 2:B:70:PRO:O | 2:B:74:VAL:HG23 | 2.21 | 0.40 |
| 1:C:193:LEU:O | 1:C:197:ILE:HG13 | 2.20 | 0.40 |
| 1:C:299:LEU:O | 1:C:300:ASN:C | 2.64 | 0.40 |
| 2:D:63:VAL:HG12 | 2:D:64:ASN:ND2 | 2.36 | 0.40 |
| 2:F:70:PRO:O | 2:F:74:VAL:HG23 | 2.21 | 0.40 |
| 2:H:306:LEU:HD23 | 2:H:315:ALA:HA | 2.03 | 0.40 |
| 1:I:83:THR:HB | 2:J:191:THR:HG23 | 2.04 | 0.40 |
| 1:I:278:LEU:HD23 | 1:I:278:LEU:HA | 1.90 | 0.40 |
| 2:J:64:ASN:C | 2:J:66:LEU:N | 2.79 | 0.40 |
| 1:O:101:LEU:HB2 | 1:O:103:ILE:CG1 | 2.51 | 0.40 |
| 2:P:250:LEU:HD23 | 2:P:250:LEU:HA | 1.82 | 0.40 |
| 1:A:18:PHE:HZ | 1:E:44:ASN:ND2 | 2.19 | 0.40 |
| 1:A:301:HIS:C | 1:A:303:GLY:H | 2.28 | 0.40 |
| 1:E:311:ILE:O | 1:E:315:VAL:HG12 | 2.22 | 0.40 |
| 1:E:323:LYS:O | 1:E:324:HIS:CB | 2.67 | 0.40 |
| 2:F:63:VAL:HG12 | 2:F:64:ASN:ND2 | 2.36 | 0.40 |
| 2:H:139:GLU:HB2 | 2:H:140:GLY:H | 1.57 | 0.40 |
| 1:I:156:ARG:N | 1:I:157:PRO:CD | 2.84 | 0.40 |
| 1:I:165:PHE:HD1 | 1:M:14:TYR:CE2 | 2.39 | 0.40 |
| 1:I:340:ASN:HA | 1:I:343:ILE:HG13 | 2.01 | 0.40 |
| 1:K:288:PRO:O | 1:K:292:ILE:HG13 | 2.20 | 0.40 |
| 2:L:63:VAL:HG12 | 2:L:64:ASN:ND2 | 2.36 | 0.40 |
| 2:L:70:PRO:O | 2:L:74:VAL:HG23 | 2.21 | 0.40 |
| 2:L:142:TYR:OH | 2:L:245:LEU:HD12 | 2.20 | 0.40 |
| 1:M:223:ALA:O | 1:M:227:PRO:HG3 | 2.21 | 0.40 |
| 2:N:306:LEU:HD23 | 2:N:315:ALA:HA | 2.02 | 0.40 |
| 1:A:189:LEU:HB3 | 2:B:154:VAL:HG11 | 2.04 | 0.40 |
| 2:B:63:VAL:HG12 | 2:B:64:ASN:ND2 | 2.36 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:322:VAL:HG13 | 2:B:354:LEU:HA | 2.02 | 0.40 |
| 1:C:287:ASN:HA | 1:C:288:PRO:HD3 | 1.85 | 0.40 |
| 2:D:97:ARG:HA | 2:D:97:ARG:NE | 2.33 | 0.40 |
| 1:G:301:HIS:C | 1:G:303:GLY:H | 2.28 | 0.40 |
| 2:H:63:VAL:HG12 | 2:H:64:ASN:ND2 | 2.36 | 0.40 |
| 2:J:59:SER:HA | 2:J:60:PRO:HD3 | 1.86 | 0.40 |
| 1:K:275:HIS:NE2 | 2:L:226:LEU:HD12 | 2.37 | 0.40 |
| 2:L:150:CYS:CB | 2:L:151:PRO:CD | 2.97 | 0.40 |
| 2:L:270:ILE:HA | 2:L:275:SER:OG | 2.22 | 0.40 |
| 1:M:101:LEU:HB2 | 1:M:103:ILE:CG1 | 2.51 | 0.40 |
| 1:M:156:ARG:N | 1:M:157:PRO:CD | 2.84 | 0.40 |
| 2:N:270:ILE:HA | 2:N:275:SER:OG | 2.22 | 0.40 |
| 1:O:299:LEU:O | 1:O:300:ASN:C | 2.64 | 0.40 |
| 2:P:150:CYS:CB | 2:P:151:PRO:CD | 2.97 | 0.40 |
| 2:B:26:PHE:CE1 | 2:B:84:LEU:HD23 | 2.56 | 0.40 |
| 2:B:39:SER:OG | 2:B:347:THR:HG23 | 2.22 | 0.40 |
| 2:B:189:LYS:C | 2:B:191:THR:N | 2.76 | 0.40 |
| 1:C:340:ASN:HA | 1:C:343:ILE:CG1 | 2.52 | 0.40 |
| 1:E:101:LEU:HB2 | 1:E:103:ILE:CG1 | 2.51 | 0.40 |
| 1:E:287:ASN:HA | 1:E:288:PRO:HD3 | 1.86 | 0.40 |
| 2:F:147:HIS:CD2 | 1:G:151:LEU:HD11 | 2.56 | 0.40 |
| 2:F:347:THR:O | 2:F:351:ILE:HG13 | 2.20 | 0.40 |
| 2:H:169:ILE:HG21 | 2:H:204:ALA:HA | 2.02 | 0.40 |
| 2:J:70:PRO:O | 2:J:74:VAL:HG23 | 2.21 | 0.40 |
| 1:K:101:LEU:HB2 | 1:K:103:ILE:CG1 | 2.52 | 0.40 |
| 1:K:202:GLY:HA3 | 1:K:211:VAL:HG21 | 2.03 | 0.40 |
| 1:K:223:ALA:O | 1:K:227:PRO:HG3 | 2.21 | 0.40 |
| 1:K:311:ILE:O | 1:K:315:VAL:HG12 | 2.22 | 0.40 |
| 1:M:254:PRO:HG3 | 2:N:226:LEU:HD11 | 2.02 | 0.40 |
| 2:N:142:TYR:N | 2:N:142:TYR:HD1 | 2.20 | 0.40 |
| 2:N:181:ARG:HD3 | 2:N:238:ALA:H | 1.83 | 0.40 |
| 2:P:97:ARG:HG3 | 2:P:102:THR:CG2 | 2.44 | 0.40 |
| 2:P:270:ILE:HA | 2:P:275:SER:OG | 2.22 | 0.40 |
| 2:P:336:ASP:O | 2:P:337:LEU:HD23 | 2.21 | 0.40 |
| 2:B:182:PRO:HD2 | 2:B:237:ASP:HB2 | 2.04 | 0.40 |
| 2:B:306:LEU:HD23 | 2:B:315:ALA:HA | 2.03 | 0.40 |
| 1:C:311:ILE:O | 1:C:315:VAL:HG12 | 2.22 | 0.40 |
| 2:D:175:TYR:CE1 | 2:D:179:ILE:HD13 | 2.57 | 0.40 |
| 1:E:7:GLU:O | 1:E:10:LEU:HD12 | 2.20 | 0.40 |
| 1:G:223:ALA:O | 1:G:227:PRO:HG3 | 2.21 | 0.40 |
| 3:G:1004:FLC:OA1 | 3:G:1004:FLC:CBC | 2.70 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:H:39:SER:OG | 2:H:347:THR:HG23 | 2.22 | 0.40 |
| 2:H:270:ILE:HA | 2:H:275:SER:OG | 2.22 | 0.40 |
| 1:I:293:LEU:HA | 1:I:293:LEU:HD23 | 1.62 | 0.40 |
| 2:J:294:ASN:HA | 2:J:295:PRO:HD2 | 1.73 | 0.40 |
| 2:J:306:LEU:HD23 | 2:J:315:ALA:HA | 2.03 | 0.40 |
| 2:J:343:THR:O | 2:J:347:THR:OG1 | 2.39 | 0.40 |
| 2:L:205:LYS:O | 2:L:208:SER:HB3 | 2.21 | 0.40 |
| 2:L:322:VAL:HG13 | 2:L:354:LEU:HA | 2.02 | 0.40 |
| 1:M:311:ILE:O | 1:M:315:VAL:HG12 | 2.22 | 0.40 |
| 1:M:340:ASN:HA | 1:M:343:ILE:CG1 | 2.52 | 0.40 |
| 2:N:63:VAL:HG12 | 2:N:64:ASN:ND2 | 2.36 | 0.40 |
| 2:P:182:PRO:HD2 | 2:P:237:ASP:HB2 | 2.04 | 0.40 |

All (3) 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) |
|-----------------|-----------------------|--------------------------|-------------------|
| 2:B:286:ASP:OD2 | 2:N:285:PRO:CG[1_565] | 1.88 | 0.32 |
| 2:B:286:ASP:OD2 | 2:N:285:PRO:CB[1_565] | 1.90 | 0.30 |
| 1:G:122:ASP:OD2 | 2:P:213:ASP:CB[1_565] | 2.15 | 0.05 |

5.3 Torsion angles

5.3.1 Protein backbone

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

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

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|---------------|-----------|---------|----------|-------------|----|
| 1 | A | 325/349 (93%) | 295 (91%) | 27 (8%) | 3 (1%) | 14 | 50 |
| 1 | C | 334/349 (96%) | 300 (90%) | 31 (9%) | 3 (1%) | 14 | 50 |
| 1 | E | 334/349 (96%) | 300 (90%) | 31 (9%) | 3 (1%) | 14 | 50 |
| 1 | G | 325/349 (93%) | 295 (91%) | 27 (8%) | 3 (1%) | 14 | 50 |
| 1 | I | 325/349 (93%) | 295 (91%) | 27 (8%) | 3 (1%) | 14 | 50 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|-----------------|------------|-----------|----------|-------------|----|
| 1 | K | 333/349 (95%) | 300 (90%) | 30 (9%) | 3 (1%) | 14 | 50 |
| 1 | M | 335/349 (96%) | 301 (90%) | 31 (9%) | 3 (1%) | 14 | 50 |
| 1 | O | 326/349 (93%) | 296 (91%) | 27 (8%) | 3 (1%) | 14 | 50 |
| 2 | B | 343/354 (97%) | 289 (84%) | 42 (12%) | 12 (4%) | 3 | 21 |
| 2 | D | 343/354 (97%) | 289 (84%) | 41 (12%) | 13 (4%) | 2 | 20 |
| 2 | F | 343/354 (97%) | 289 (84%) | 41 (12%) | 13 (4%) | 2 | 20 |
| 2 | H | 342/354 (97%) | 288 (84%) | 41 (12%) | 13 (4%) | 2 | 20 |
| 2 | J | 343/354 (97%) | 289 (84%) | 41 (12%) | 13 (4%) | 2 | 20 |
| 2 | L | 342/354 (97%) | 288 (84%) | 41 (12%) | 13 (4%) | 2 | 20 |
| 2 | N | 343/354 (97%) | 290 (84%) | 40 (12%) | 13 (4%) | 2 | 20 |
| 2 | P | 343/354 (97%) | 289 (84%) | 41 (12%) | 13 (4%) | 2 | 20 |
| All | All | 5379/5624 (96%) | 4693 (87%) | 559 (10%) | 127 (2%) | 5 | 28 |

All (127) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | A | 304 | LEU |
| 2 | B | 97 | ARG |
| 2 | B | 151 | PRO |
| 2 | B | 322 | VAL |
| 2 | B | 323 | LEU |
| 1 | C | 304 | LEU |
| 2 | D | 97 | ARG |
| 2 | D | 151 | PRO |
| 2 | D | 322 | VAL |
| 2 | D | 323 | LEU |
| 1 | E | 304 | LEU |
| 2 | F | 97 | ARG |
| 2 | F | 151 | PRO |
| 2 | F | 322 | VAL |
| 2 | F | 323 | LEU |
| 1 | G | 304 | LEU |
| 2 | H | 97 | ARG |
| 2 | H | 151 | PRO |
| 2 | H | 322 | VAL |
| 2 | H | 323 | LEU |
| 1 | I | 304 | LEU |
| 2 | J | 97 | ARG |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 2 | J | 151 | PRO |
| 2 | J | 322 | VAL |
| 2 | J | 323 | LEU |
| 1 | K | 304 | LEU |
| 2 | L | 97 | ARG |
| 2 | L | 151 | PRO |
| 2 | L | 322 | VAL |
| 2 | L | 323 | LEU |
| 1 | M | 304 | LEU |
| 2 | N | 97 | ARG |
| 2 | N | 151 | PRO |
| 2 | N | 322 | VAL |
| 2 | N | 323 | LEU |
| 1 | O | 304 | LEU |
| 2 | P | 97 | ARG |
| 2 | P | 151 | PRO |
| 2 | P | 322 | VAL |
| 2 | P | 323 | LEU |
| 1 | A | 322 | GLY |
| 2 | B | 13 | GLY |
| 2 | B | 98 | SER |
| 1 | C | 322 | GLY |
| 2 | D | 13 | GLY |
| 2 | D | 98 | SER |
| 1 | E | 322 | GLY |
| 2 | F | 13 | GLY |
| 2 | F | 98 | SER |
| 1 | G | 322 | GLY |
| 2 | H | 13 | GLY |
| 2 | H | 98 | SER |
| 1 | I | 322 | GLY |
| 2 | J | 13 | GLY |
| 2 | J | 98 | SER |
| 1 | K | 322 | GLY |
| 2 | L | 13 | GLY |
| 2 | L | 98 | SER |
| 1 | M | 322 | GLY |
| 2 | N | 13 | GLY |
| 2 | N | 98 | SER |
| 1 | O | 322 | GLY |
| 2 | P | 13 | GLY |
| 2 | P | 98 | SER |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | A | 310 | ARG |
| 2 | B | 79 | LYS |
| 2 | B | 332 | ASN |
| 1 | C | 310 | ARG |
| 2 | D | 79 | LYS |
| 2 | D | 332 | ASN |
| 1 | E | 310 | ARG |
| 2 | F | 79 | LYS |
| 2 | F | 332 | ASN |
| 1 | G | 310 | ARG |
| 2 | H | 79 | LYS |
| 2 | H | 332 | ASN |
| 1 | I | 310 | ARG |
| 2 | J | 79 | LYS |
| 2 | J | 332 | ASN |
| 1 | K | 310 | ARG |
| 2 | L | 79 | LYS |
| 2 | L | 332 | ASN |
| 1 | M | 310 | ARG |
| 2 | N | 79 | LYS |
| 2 | N | 332 | ASN |
| 1 | O | 310 | ARG |
| 2 | P | 79 | LYS |
| 2 | P | 332 | ASN |
| 2 | B | 239 | VAL |
| 2 | D | 239 | VAL |
| 2 | F | 239 | VAL |
| 2 | H | 239 | VAL |
| 2 | J | 239 | VAL |
| 2 | L | 239 | VAL |
| 2 | N | 239 | VAL |
| 2 | P | 239 | VAL |
| 2 | B | 65 | GLY |
| 2 | D | 65 | GLY |
| 2 | F | 27 | ILE |
| 2 | F | 65 | GLY |
| 2 | H | 27 | ILE |
| 2 | H | 65 | GLY |
| 2 | J | 65 | GLY |
| 2 | L | 27 | ILE |
| 2 | L | 65 | GLY |
| 2 | N | 65 | GLY |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 2 | P | 27 | ILE |
| 2 | P | 65 | GLY |
| 2 | B | 27 | ILE |
| 2 | B | 50 | PRO |
| 2 | D | 27 | ILE |
| 2 | D | 50 | PRO |
| 2 | F | 50 | PRO |
| 2 | H | 50 | PRO |
| 2 | J | 27 | ILE |
| 2 | J | 50 | PRO |
| 2 | L | 50 | PRO |
| 2 | N | 27 | ILE |
| 2 | N | 50 | PRO |
| 2 | P | 50 | PRO |
| 2 | D | 14 | LYS |
| 2 | F | 14 | LYS |
| 2 | H | 14 | LYS |
| 2 | J | 14 | LYS |
| 2 | L | 14 | LYS |
| 2 | N | 14 | LYS |
| 2 | P | 14 | LYS |

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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 | 274/289 (95%) | 240 (88%) | 34 (12%) | 4 | 17 |
| 1 | C | 282/289 (98%) | 245 (87%) | 37 (13%) | 3 | 16 |
| 1 | E | 282/289 (98%) | 246 (87%) | 36 (13%) | 3 | 16 |
| 1 | G | 274/289 (95%) | 240 (88%) | 34 (12%) | 4 | 17 |
| 1 | I | 274/289 (95%) | 240 (88%) | 34 (12%) | 4 | 17 |
| 1 | K | 281/289 (97%) | 244 (87%) | 37 (13%) | 3 | 16 |
| 1 | M | 282/289 (98%) | 246 (87%) | 36 (13%) | 3 | 16 |
| 1 | O | 274/289 (95%) | 240 (88%) | 34 (12%) | 4 | 17 |

Continued on next page...

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|-----------------|------------|-----------|-------------|----|
| 2 | B | 293/297 (99%) | 243 (83%) | 50 (17%) | 1 | 10 |
| 2 | D | 293/297 (99%) | 243 (83%) | 50 (17%) | 1 | 10 |
| 2 | F | 293/297 (99%) | 243 (83%) | 50 (17%) | 1 | 10 |
| 2 | H | 292/297 (98%) | 243 (83%) | 49 (17%) | 1 | 10 |
| 2 | J | 293/297 (99%) | 243 (83%) | 50 (17%) | 1 | 10 |
| 2 | L | 292/297 (98%) | 243 (83%) | 49 (17%) | 1 | 10 |
| 2 | N | 293/297 (99%) | 243 (83%) | 50 (17%) | 1 | 10 |
| 2 | P | 293/297 (99%) | 243 (83%) | 50 (17%) | 1 | 10 |
| All | All | 4565/4688 (97%) | 3885 (85%) | 680 (15%) | 2 | 13 |

All (680) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | A | 33 | THR |
| 1 | A | 47 | ILE |
| 1 | A | 51 | THR |
| 1 | A | 52 | ILE |
| 1 | A | 54 | ILE |
| 1 | A | 63 | VAL |
| 1 | A | 77 | LEU |
| 1 | A | 88 | THR |
| 1 | A | 93 | LEU |
| 1 | A | 103 | ILE |
| 1 | A | 117 | LYS |
| 1 | A | 119 | ARG |
| 1 | A | 120 | ILE |
| 1 | A | 123 | ILE |
| 1 | A | 135 | GLU |
| 1 | A | 195 | ARG |
| 1 | A | 201 | ILE |
| 1 | A | 213 | SER |
| 1 | A | 215 | ILE |
| 1 | A | 222 | GLN |
| 1 | A | 224 | VAL |
| 1 | A | 234 | VAL |
| 1 | A | 276 | VAL |
| 1 | A | 285 | VAL |
| 1 | A | 295 | SER |
| 1 | A | 302 | LEU |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | A | 311 | ILE |
| 1 | A | 315 | VAL |
| 1 | A | 319 | ILE |
| 1 | A | 323 | LYS |
| 1 | A | 324 | HIS |
| 1 | A | 326 | THR |
| 1 | A | 336 | THR |
| 1 | A | 342 | ILE |
| 2 | B | 4 | LYS |
| 2 | B | 5 | GLN |
| 2 | B | 8 | ILE |
| 2 | B | 14 | LYS |
| 2 | B | 19 | THR |
| 2 | B | 23 | THR |
| 2 | B | 30 | ASP |
| 2 | B | 35 | GLU |
| 2 | B | 36 | ILE |
| 2 | B | 38 | LYS |
| 2 | B | 45 | SER |
| 2 | B | 58 | VAL |
| 2 | B | 66 | LEU |
| 2 | B | 67 | THR |
| 2 | B | 69 | ILE |
| 2 | B | 78 | THR |
| 2 | B | 80 | ASN |
| 2 | B | 82 | VAL |
| 2 | B | 88 | LEU |
| 2 | B | 97 | ARG |
| 2 | B | 102 | THR |
| 2 | B | 114 | ARG |
| 2 | B | 129 | VAL |
| 2 | B | 149 | VAL |
| 2 | B | 162 | ARG |
| 2 | B | 183 | ARG |
| 2 | B | 184 | VAL |
| 2 | B | 185 | ILE |
| 2 | B | 192 | ILE |
| 2 | B | 193 | GLN |
| 2 | B | 209 | LYS |
| 2 | B | 221 | ILE |
| 2 | B | 222 | ASP |
| 2 | B | 225 | VAL |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 2 | B | 226 | LEU |
| 2 | B | 241 | VAL |
| 2 | B | 262 | LEU |
| 2 | B | 283 | SER |
| 2 | B | 287 | ILE |
| 2 | B | 299 | LEU |
| 2 | B | 306 | LEU |
| 2 | B | 322 | VAL |
| 2 | B | 323 | LEU |
| 2 | B | 324 | SER |
| 2 | B | 326 | ILE |
| 2 | B | 342 | THR |
| 2 | B | 347 | THR |
| 2 | B | 348 | GLU |
| 2 | B | 350 | VAL |
| 2 | B | 353 | ARG |
| 1 | C | 8 | ARG |
| 1 | C | 10 | LEU |
| 1 | C | 33 | THR |
| 1 | C | 47 | ILE |
| 1 | C | 51 | THR |
| 1 | C | 52 | ILE |
| 1 | C | 54 | ILE |
| 1 | C | 63 | VAL |
| 1 | C | 77 | LEU |
| 1 | C | 88 | THR |
| 1 | C | 93 | LEU |
| 1 | C | 103 | ILE |
| 1 | C | 117 | LYS |
| 1 | C | 119 | ARG |
| 1 | C | 120 | ILE |
| 1 | C | 123 | ILE |
| 1 | C | 135 | GLU |
| 1 | C | 143 | SER |
| 1 | C | 195 | ARG |
| 1 | C | 201 | ILE |
| 1 | C | 213 | SER |
| 1 | C | 215 | ILE |
| 1 | C | 222 | GLN |
| 1 | C | 224 | VAL |
| 1 | C | 234 | VAL |
| 1 | C | 276 | VAL |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | C | 285 | VAL |
| 1 | C | 295 | SER |
| 1 | C | 302 | LEU |
| 1 | C | 311 | ILE |
| 1 | C | 315 | VAL |
| 1 | C | 319 | ILE |
| 1 | C | 323 | LYS |
| 1 | C | 324 | HIS |
| 1 | C | 326 | THR |
| 1 | C | 336 | THR |
| 1 | C | 342 | ILE |
| 2 | D | 4 | LYS |
| 2 | D | 5 | GLN |
| 2 | D | 8 | ILE |
| 2 | D | 14 | LYS |
| 2 | D | 19 | THR |
| 2 | D | 23 | THR |
| 2 | D | 30 | ASP |
| 2 | D | 35 | GLU |
| 2 | D | 36 | ILE |
| 2 | D | 38 | LYS |
| 2 | D | 45 | SER |
| 2 | D | 58 | VAL |
| 2 | D | 66 | LEU |
| 2 | D | 67 | THR |
| 2 | D | 69 | ILE |
| 2 | D | 78 | THR |
| 2 | D | 80 | ASN |
| 2 | D | 82 | VAL |
| 2 | D | 88 | LEU |
| 2 | D | 97 | ARG |
| 2 | D | 102 | THR |
| 2 | D | 114 | ARG |
| 2 | D | 129 | VAL |
| 2 | D | 149 | VAL |
| 2 | D | 162 | ARG |
| 2 | D | 183 | ARG |
| 2 | D | 184 | VAL |
| 2 | D | 185 | ILE |
| 2 | D | 192 | ILE |
| 2 | D | 193 | GLN |
| 2 | D | 209 | LYS |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 2 | D | 221 | ILE |
| 2 | D | 222 | ASP |
| 2 | D | 225 | VAL |
| 2 | D | 226 | LEU |
| 2 | D | 241 | VAL |
| 2 | D | 262 | LEU |
| 2 | D | 283 | SER |
| 2 | D | 287 | ILE |
| 2 | D | 299 | LEU |
| 2 | D | 306 | LEU |
| 2 | D | 322 | VAL |
| 2 | D | 323 | LEU |
| 2 | D | 324 | SER |
| 2 | D | 326 | ILE |
| 2 | D | 342 | THR |
| 2 | D | 347 | THR |
| 2 | D | 348 | GLU |
| 2 | D | 350 | VAL |
| 2 | D | 353 | ARG |
| 1 | E | 8 | ARG |
| 1 | E | 10 | LEU |
| 1 | E | 33 | THR |
| 1 | E | 47 | ILE |
| 1 | E | 51 | THR |
| 1 | E | 52 | ILE |
| 1 | E | 54 | ILE |
| 1 | E | 63 | VAL |
| 1 | E | 77 | LEU |
| 1 | E | 88 | THR |
| 1 | E | 93 | LEU |
| 1 | E | 103 | ILE |
| 1 | E | 117 | LYS |
| 1 | E | 119 | ARG |
| 1 | E | 120 | ILE |
| 1 | E | 123 | ILE |
| 1 | E | 135 | GLU |
| 1 | E | 195 | ARG |
| 1 | E | 201 | ILE |
| 1 | E | 213 | SER |
| 1 | E | 215 | ILE |
| 1 | E | 222 | GLN |
| 1 | E | 224 | VAL |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | E | 234 | VAL |
| 1 | E | 276 | VAL |
| 1 | E | 285 | VAL |
| 1 | E | 295 | SER |
| 1 | E | 302 | LEU |
| 1 | E | 311 | ILE |
| 1 | E | 315 | VAL |
| 1 | E | 319 | ILE |
| 1 | E | 323 | LYS |
| 1 | E | 324 | HIS |
| 1 | E | 326 | THR |
| 1 | E | 336 | THR |
| 1 | E | 342 | ILE |
| 2 | F | 4 | LYS |
| 2 | F | 5 | GLN |
| 2 | F | 8 | ILE |
| 2 | F | 14 | LYS |
| 2 | F | 19 | THR |
| 2 | F | 23 | THR |
| 2 | F | 30 | ASP |
| 2 | F | 35 | GLU |
| 2 | F | 36 | ILE |
| 2 | F | 38 | LYS |
| 2 | F | 45 | SER |
| 2 | F | 58 | VAL |
| 2 | F | 66 | LEU |
| 2 | F | 67 | THR |
| 2 | F | 69 | ILE |
| 2 | F | 78 | THR |
| 2 | F | 80 | ASN |
| 2 | F | 82 | VAL |
| 2 | F | 88 | LEU |
| 2 | F | 97 | ARG |
| 2 | F | 102 | THR |
| 2 | F | 114 | ARG |
| 2 | F | 129 | VAL |
| 2 | F | 149 | VAL |
| 2 | F | 162 | ARG |
| 2 | F | 183 | ARG |
| 2 | F | 184 | VAL |
| 2 | F | 185 | ILE |
| 2 | F | 192 | ILE |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 2 | F | 193 | GLN |
| 2 | F | 209 | LYS |
| 2 | F | 221 | ILE |
| 2 | F | 222 | ASP |
| 2 | F | 225 | VAL |
| 2 | F | 226 | LEU |
| 2 | F | 241 | VAL |
| 2 | F | 262 | LEU |
| 2 | F | 283 | SER |
| 2 | F | 287 | ILE |
| 2 | F | 299 | LEU |
| 2 | F | 306 | LEU |
| 2 | F | 322 | VAL |
| 2 | F | 323 | LEU |
| 2 | F | 324 | SER |
| 2 | F | 326 | ILE |
| 2 | F | 342 | THR |
| 2 | F | 347 | THR |
| 2 | F | 348 | GLU |
| 2 | F | 350 | VAL |
| 2 | F | 353 | ARG |
| 1 | G | 33 | THR |
| 1 | G | 47 | ILE |
| 1 | G | 51 | THR |
| 1 | G | 52 | ILE |
| 1 | G | 54 | ILE |
| 1 | G | 63 | VAL |
| 1 | G | 77 | LEU |
| 1 | G | 88 | THR |
| 1 | G | 93 | LEU |
| 1 | G | 103 | ILE |
| 1 | G | 117 | LYS |
| 1 | G | 119 | ARG |
| 1 | G | 120 | ILE |
| 1 | G | 123 | ILE |
| 1 | G | 135 | GLU |
| 1 | G | 195 | ARG |
| 1 | G | 201 | ILE |
| 1 | G | 213 | SER |
| 1 | G | 215 | ILE |
| 1 | G | 222 | GLN |
| 1 | G | 224 | VAL |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | G | 234 | VAL |
| 1 | G | 276 | VAL |
| 1 | G | 285 | VAL |
| 1 | G | 295 | SER |
| 1 | G | 302 | LEU |
| 1 | G | 311 | ILE |
| 1 | G | 315 | VAL |
| 1 | G | 319 | ILE |
| 1 | G | 323 | LYS |
| 1 | G | 324 | HIS |
| 1 | G | 326 | THR |
| 1 | G | 336 | THR |
| 1 | G | 342 | ILE |
| 2 | H | 5 | GLN |
| 2 | H | 8 | ILE |
| 2 | H | 14 | LYS |
| 2 | H | 19 | THR |
| 2 | H | 23 | THR |
| 2 | H | 30 | ASP |
| 2 | H | 35 | GLU |
| 2 | H | 36 | ILE |
| 2 | H | 38 | LYS |
| 2 | H | 45 | SER |
| 2 | H | 58 | VAL |
| 2 | H | 66 | LEU |
| 2 | H | 67 | THR |
| 2 | H | 69 | ILE |
| 2 | H | 78 | THR |
| 2 | H | 80 | ASN |
| 2 | H | 82 | VAL |
| 2 | H | 88 | LEU |
| 2 | H | 97 | ARG |
| 2 | H | 102 | THR |
| 2 | H | 114 | ARG |
| 2 | H | 129 | VAL |
| 2 | H | 149 | VAL |
| 2 | H | 162 | ARG |
| 2 | H | 183 | ARG |
| 2 | H | 184 | VAL |
| 2 | H | 185 | ILE |
| 2 | H | 192 | ILE |
| 2 | H | 193 | GLN |

Continued on next page...

Continued from previous page...

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 2 | H | 209 | LYS |
| 2 | H | 221 | ILE |
| 2 | H | 222 | ASP |
| 2 | H | 225 | VAL |
| 2 | H | 226 | LEU |
| 2 | H | 241 | VAL |
| 2 | H | 262 | LEU |
| 2 | H | 283 | SER |
| 2 | H | 287 | ILE |
| 2 | H | 299 | LEU |
| 2 | H | 306 | LEU |
| 2 | H | 322 | VAL |
| 2 | H | 323 | LEU |
| 2 | H | 324 | SER |
| 2 | H | 326 | ILE |
| 2 | H | 342 | THR |
| 2 | H | 347 | THR |
| 2 | H | 348 | GLU |
| 2 | H | 350 | VAL |
| 2 | H | 353 | ARG |
| 1 | I | 33 | THR |
| 1 | I | 47 | ILE |
| 1 | I | 51 | THR |
| 1 | I | 52 | ILE |
| 1 | I | 54 | ILE |
| 1 | I | 63 | VAL |
| 1 | I | 77 | LEU |
| 1 | I | 88 | THR |
| 1 | I | 93 | LEU |
| 1 | I | 103 | ILE |
| 1 | I | 117 | LYS |
| 1 | I | 119 | ARG |
| 1 | I | 120 | ILE |
| 1 | I | 123 | ILE |
| 1 | I | 135 | GLU |
| 1 | I | 195 | ARG |
| 1 | I | 201 | ILE |
| 1 | I | 213 | SER |
| 1 | I | 215 | ILE |
| 1 | I | 222 | GLN |
| 1 | I | 224 | VAL |
| 1 | I | 234 | VAL |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | I | 276 | VAL |
| 1 | I | 285 | VAL |
| 1 | I | 295 | SER |
| 1 | I | 302 | LEU |
| 1 | I | 311 | ILE |
| 1 | I | 315 | VAL |
| 1 | I | 319 | ILE |
| 1 | I | 323 | LYS |
| 1 | I | 324 | HIS |
| 1 | I | 326 | THR |
| 1 | I | 336 | THR |
| 1 | I | 342 | ILE |
| 2 | J | 4 | LYS |
| 2 | J | 5 | GLN |
| 2 | J | 8 | ILE |
| 2 | J | 14 | LYS |
| 2 | J | 19 | THR |
| 2 | J | 23 | THR |
| 2 | J | 30 | ASP |
| 2 | J | 35 | GLU |
| 2 | J | 36 | ILE |
| 2 | J | 38 | LYS |
| 2 | J | 45 | SER |
| 2 | J | 58 | VAL |
| 2 | J | 66 | LEU |
| 2 | J | 67 | THR |
| 2 | J | 69 | ILE |
| 2 | J | 78 | THR |
| 2 | J | 80 | ASN |
| 2 | J | 82 | VAL |
| 2 | J | 88 | LEU |
| 2 | J | 97 | ARG |
| 2 | J | 102 | THR |
| 2 | J | 114 | ARG |
| 2 | J | 129 | VAL |
| 2 | J | 149 | VAL |
| 2 | J | 162 | ARG |
| 2 | J | 183 | ARG |
| 2 | J | 184 | VAL |
| 2 | J | 185 | ILE |
| 2 | J | 192 | ILE |
| 2 | J | 193 | GLN |

Continued on next page...

Continued from previous page...

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 2 | J | 209 | LYS |
| 2 | J | 221 | ILE |
| 2 | J | 222 | ASP |
| 2 | J | 225 | VAL |
| 2 | J | 226 | LEU |
| 2 | J | 241 | VAL |
| 2 | J | 262 | LEU |
| 2 | J | 283 | SER |
| 2 | J | 287 | ILE |
| 2 | J | 299 | LEU |
| 2 | J | 306 | LEU |
| 2 | J | 322 | VAL |
| 2 | J | 323 | LEU |
| 2 | J | 324 | SER |
| 2 | J | 326 | ILE |
| 2 | J | 342 | THR |
| 2 | J | 347 | THR |
| 2 | J | 348 | GLU |
| 2 | J | 350 | VAL |
| 2 | J | 353 | ARG |
| 1 | K | 8 | ARG |
| 1 | K | 10 | LEU |
| 1 | K | 33 | THR |
| 1 | K | 47 | ILE |
| 1 | K | 51 | THR |
| 1 | K | 52 | ILE |
| 1 | K | 54 | ILE |
| 1 | K | 63 | VAL |
| 1 | K | 77 | LEU |
| 1 | K | 88 | THR |
| 1 | K | 93 | LEU |
| 1 | K | 103 | ILE |
| 1 | K | 117 | LYS |
| 1 | K | 119 | ARG |
| 1 | K | 120 | ILE |
| 1 | K | 123 | ILE |
| 1 | K | 135 | GLU |
| 1 | K | 195 | ARG |
| 1 | K | 201 | ILE |
| 1 | K | 211 | VAL |
| 1 | K | 213 | SER |
| 1 | K | 215 | ILE |

Continued on next page...

Continued from previous page...

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | K | 222 | GLN |
| 1 | K | 224 | VAL |
| 1 | K | 234 | VAL |
| 1 | K | 276 | VAL |
| 1 | K | 285 | VAL |
| 1 | K | 295 | SER |
| 1 | K | 302 | LEU |
| 1 | K | 311 | ILE |
| 1 | K | 315 | VAL |
| 1 | K | 319 | ILE |
| 1 | K | 323 | LYS |
| 1 | K | 324 | HIS |
| 1 | K | 326 | THR |
| 1 | K | 336 | THR |
| 1 | K | 342 | ILE |
| 2 | L | 5 | GLN |
| 2 | L | 8 | ILE |
| 2 | L | 14 | LYS |
| 2 | L | 19 | THR |
| 2 | L | 23 | THR |
| 2 | L | 30 | ASP |
| 2 | L | 35 | GLU |
| 2 | L | 36 | ILE |
| 2 | L | 38 | LYS |
| 2 | L | 45 | SER |
| 2 | L | 58 | VAL |
| 2 | L | 66 | LEU |
| 2 | L | 67 | THR |
| 2 | L | 69 | ILE |
| 2 | L | 78 | THR |
| 2 | L | 80 | ASN |
| 2 | L | 82 | VAL |
| 2 | L | 88 | LEU |
| 2 | L | 97 | ARG |
| 2 | L | 102 | THR |
| 2 | L | 114 | ARG |
| 2 | L | 129 | VAL |
| 2 | L | 149 | VAL |
| 2 | L | 162 | ARG |
| 2 | L | 183 | ARG |
| 2 | L | 184 | VAL |
| 2 | L | 185 | ILE |

Continued on next page...

Continued from previous page...

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 2 | L | 192 | ILE |
| 2 | L | 193 | GLN |
| 2 | L | 209 | LYS |
| 2 | L | 221 | ILE |
| 2 | L | 222 | ASP |
| 2 | L | 225 | VAL |
| 2 | L | 226 | LEU |
| 2 | L | 241 | VAL |
| 2 | L | 262 | LEU |
| 2 | L | 283 | SER |
| 2 | L | 287 | ILE |
| 2 | L | 299 | LEU |
| 2 | L | 306 | LEU |
| 2 | L | 322 | VAL |
| 2 | L | 323 | LEU |
| 2 | L | 324 | SER |
| 2 | L | 326 | ILE |
| 2 | L | 342 | THR |
| 2 | L | 347 | THR |
| 2 | L | 348 | GLU |
| 2 | L | 350 | VAL |
| 2 | L | 353 | ARG |
| 1 | M | 8 | ARG |
| 1 | M | 10 | LEU |
| 1 | M | 33 | THR |
| 1 | M | 47 | ILE |
| 1 | M | 51 | THR |
| 1 | M | 52 | ILE |
| 1 | M | 54 | ILE |
| 1 | M | 63 | VAL |
| 1 | M | 77 | LEU |
| 1 | M | 88 | THR |
| 1 | M | 93 | LEU |
| 1 | M | 103 | ILE |
| 1 | M | 117 | LYS |
| 1 | M | 119 | ARG |
| 1 | M | 120 | ILE |
| 1 | M | 123 | ILE |
| 1 | M | 135 | GLU |
| 1 | M | 195 | ARG |
| 1 | M | 201 | ILE |
| 1 | M | 213 | SER |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | M | 215 | ILE |
| 1 | M | 222 | GLN |
| 1 | M | 224 | VAL |
| 1 | M | 234 | VAL |
| 1 | M | 276 | VAL |
| 1 | M | 285 | VAL |
| 1 | M | 295 | SER |
| 1 | M | 302 | LEU |
| 1 | M | 311 | ILE |
| 1 | M | 315 | VAL |
| 1 | M | 319 | ILE |
| 1 | M | 323 | LYS |
| 1 | M | 324 | HIS |
| 1 | M | 326 | THR |
| 1 | M | 336 | THR |
| 1 | M | 342 | ILE |
| 2 | N | 4 | LYS |
| 2 | N | 5 | GLN |
| 2 | N | 8 | ILE |
| 2 | N | 14 | LYS |
| 2 | N | 19 | THR |
| 2 | N | 23 | THR |
| 2 | N | 30 | ASP |
| 2 | N | 35 | GLU |
| 2 | N | 36 | ILE |
| 2 | N | 38 | LYS |
| 2 | N | 45 | SER |
| 2 | N | 58 | VAL |
| 2 | N | 66 | LEU |
| 2 | N | 67 | THR |
| 2 | N | 69 | ILE |
| 2 | N | 78 | THR |
| 2 | N | 80 | ASN |
| 2 | N | 82 | VAL |
| 2 | N | 88 | LEU |
| 2 | N | 97 | ARG |
| 2 | N | 102 | THR |
| 2 | N | 114 | ARG |
| 2 | N | 129 | VAL |
| 2 | N | 149 | VAL |
| 2 | N | 162 | ARG |
| 2 | N | 183 | ARG |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 2 | N | 184 | VAL |
| 2 | N | 185 | ILE |
| 2 | N | 192 | ILE |
| 2 | N | 193 | GLN |
| 2 | N | 209 | LYS |
| 2 | N | 221 | ILE |
| 2 | N | 222 | ASP |
| 2 | N | 225 | VAL |
| 2 | N | 226 | LEU |
| 2 | N | 241 | VAL |
| 2 | N | 262 | LEU |
| 2 | N | 283 | SER |
| 2 | N | 287 | ILE |
| 2 | N | 299 | LEU |
| 2 | N | 306 | LEU |
| 2 | N | 322 | VAL |
| 2 | N | 323 | LEU |
| 2 | N | 324 | SER |
| 2 | N | 326 | ILE |
| 2 | N | 342 | THR |
| 2 | N | 347 | THR |
| 2 | N | 348 | GLU |
| 2 | N | 350 | VAL |
| 2 | N | 353 | ARG |
| 1 | O | 33 | THR |
| 1 | O | 47 | ILE |
| 1 | O | 51 | THR |
| 1 | O | 52 | ILE |
| 1 | O | 54 | ILE |
| 1 | O | 63 | VAL |
| 1 | O | 77 | LEU |
| 1 | O | 88 | THR |
| 1 | O | 93 | LEU |
| 1 | O | 103 | ILE |
| 1 | O | 117 | LYS |
| 1 | O | 119 | ARG |
| 1 | O | 120 | ILE |
| 1 | O | 123 | ILE |
| 1 | O | 135 | GLU |
| 1 | O | 195 | ARG |
| 1 | O | 201 | ILE |
| 1 | O | 213 | SER |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | O | 215 | ILE |
| 1 | O | 222 | GLN |
| 1 | O | 224 | VAL |
| 1 | O | 234 | VAL |
| 1 | O | 276 | VAL |
| 1 | O | 285 | VAL |
| 1 | O | 295 | SER |
| 1 | O | 302 | LEU |
| 1 | O | 311 | ILE |
| 1 | O | 315 | VAL |
| 1 | O | 319 | ILE |
| 1 | O | 323 | LYS |
| 1 | O | 324 | HIS |
| 1 | O | 326 | THR |
| 1 | O | 336 | THR |
| 1 | O | 342 | ILE |
| 2 | P | 4 | LYS |
| 2 | P | 5 | GLN |
| 2 | P | 8 | ILE |
| 2 | P | 14 | LYS |
| 2 | P | 19 | THR |
| 2 | P | 23 | THR |
| 2 | P | 30 | ASP |
| 2 | P | 35 | GLU |
| 2 | P | 36 | ILE |
| 2 | P | 38 | LYS |
| 2 | P | 45 | SER |
| 2 | P | 58 | VAL |
| 2 | P | 66 | LEU |
| 2 | P | 67 | THR |
| 2 | P | 69 | ILE |
| 2 | P | 78 | THR |
| 2 | P | 80 | ASN |
| 2 | P | 82 | VAL |
| 2 | P | 88 | LEU |
| 2 | P | 97 | ARG |
| 2 | P | 102 | THR |
| 2 | P | 114 | ARG |
| 2 | P | 129 | VAL |
| 2 | P | 149 | VAL |
| 2 | P | 162 | ARG |
| 2 | P | 183 | ARG |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 2 | P | 184 | VAL |
| 2 | P | 185 | ILE |
| 2 | P | 192 | ILE |
| 2 | P | 193 | GLN |
| 2 | P | 209 | LYS |
| 2 | P | 221 | ILE |
| 2 | P | 222 | ASP |
| 2 | P | 225 | VAL |
| 2 | P | 226 | LEU |
| 2 | P | 241 | VAL |
| 2 | P | 262 | LEU |
| 2 | P | 283 | SER |
| 2 | P | 287 | ILE |
| 2 | P | 299 | LEU |
| 2 | P | 306 | LEU |
| 2 | P | 322 | VAL |
| 2 | P | 323 | LEU |
| 2 | P | 324 | SER |
| 2 | P | 326 | ILE |
| 2 | P | 342 | THR |
| 2 | P | 347 | THR |
| 2 | P | 348 | GLU |
| 2 | P | 350 | VAL |
| 2 | P | 353 | ARG |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (76) such sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | A | 82 | HIS |
| 1 | A | 90 | HIS |
| 1 | A | 283 | GLN |
| 2 | B | 64 | ASN |
| 2 | B | 96 | HIS |
| 2 | B | 193 | GLN |
| 2 | B | 314 | HIS |
| 1 | C | 73 | ASN |
| 1 | C | 82 | HIS |
| 1 | C | 90 | HIS |
| 1 | C | 141 | HIS |
| 1 | C | 245 | ASN |
| 1 | C | 283 | GLN |
| 2 | D | 64 | ASN |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 2 | D | 96 | HIS |
| 2 | D | 193 | GLN |
| 2 | D | 223 | ASN |
| 2 | D | 269 | ASN |
| 2 | D | 314 | HIS |
| 1 | E | 44 | ASN |
| 1 | E | 73 | ASN |
| 1 | E | 82 | HIS |
| 1 | E | 90 | HIS |
| 1 | E | 245 | ASN |
| 1 | E | 283 | GLN |
| 2 | F | 64 | ASN |
| 2 | F | 96 | HIS |
| 2 | F | 193 | GLN |
| 2 | F | 269 | ASN |
| 2 | F | 314 | HIS |
| 1 | G | 73 | ASN |
| 1 | G | 82 | HIS |
| 1 | G | 90 | HIS |
| 1 | G | 245 | ASN |
| 1 | G | 283 | GLN |
| 2 | H | 64 | ASN |
| 2 | H | 193 | GLN |
| 2 | H | 269 | ASN |
| 1 | I | 73 | ASN |
| 1 | I | 82 | HIS |
| 1 | I | 90 | HIS |
| 1 | I | 245 | ASN |
| 1 | I | 283 | GLN |
| 2 | J | 64 | ASN |
| 2 | J | 96 | HIS |
| 2 | J | 193 | GLN |
| 2 | J | 223 | ASN |
| 2 | J | 269 | ASN |
| 2 | J | 314 | HIS |
| 1 | K | 73 | ASN |
| 1 | K | 82 | HIS |
| 1 | K | 90 | HIS |
| 1 | K | 245 | ASN |
| 1 | K | 283 | GLN |
| 1 | K | 301 | HIS |
| 2 | L | 64 | ASN |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 2 | L | 193 | GLN |
| 2 | L | 314 | HIS |
| 1 | M | 73 | ASN |
| 1 | M | 82 | HIS |
| 1 | M | 90 | HIS |
| 1 | M | 141 | HIS |
| 1 | M | 245 | ASN |
| 1 | M | 283 | GLN |
| 2 | N | 64 | ASN |
| 2 | N | 96 | HIS |
| 2 | N | 193 | GLN |
| 2 | N | 223 | ASN |
| 2 | N | 314 | HIS |
| 1 | O | 82 | HIS |
| 1 | O | 90 | HIS |
| 1 | O | 283 | GLN |
| 2 | P | 193 | GLN |
| 2 | P | 223 | ASN |
| 2 | P | 269 | ASN |
| 2 | P | 314 | HIS |

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

16 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond

length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|-----|------|-------|------|------|--------------|------|----------|-------------|------|----------|
| | | | | | Counts | RMSZ | # Z > 2 | Counts | RMSZ | # Z > 2 |
| 4 | AMP | C | 2002 | - | 21,25,25 | 0.87 | 1 (4%) | 23,38,38 | 1.38 | 3 (13%) |
| 3 | FLC | O | 1008 | - | 12,12,12 | 3.59 | 8 (66%) | 17,17,17 | 1.42 | 1 (5%) |
| 3 | FLC | A | 1001 | - | 12,12,12 | 3.58 | 6 (50%) | 17,17,17 | 1.43 | 1 (5%) |
| 3 | FLC | E | 1003 | - | 12,12,12 | 3.58 | 6 (50%) | 17,17,17 | 1.42 | 1 (5%) |
| 3 | FLC | M | 1007 | - | 12,12,12 | 3.58 | 8 (66%) | 17,17,17 | 1.42 | 1 (5%) |
| 4 | AMP | O | 2008 | - | 21,25,25 | 0.86 | 0 | 23,38,38 | 1.39 | 3 (13%) |
| 4 | AMP | M | 2007 | - | 21,25,25 | 0.87 | 0 | 23,38,38 | 1.38 | 3 (13%) |
| 3 | FLC | C | 1002 | - | 12,12,12 | 3.59 | 6 (50%) | 17,17,17 | 1.43 | 1 (5%) |
| 3 | FLC | K | 1006 | - | 12,12,12 | 3.59 | 7 (58%) | 17,17,17 | 1.41 | 1 (5%) |
| 4 | AMP | E | 2003 | - | 21,25,25 | 0.87 | 0 | 23,38,38 | 1.38 | 3 (13%) |
| 4 | AMP | I | 2005 | - | 21,25,25 | 0.87 | 1 (4%) | 23,38,38 | 1.38 | 3 (13%) |
| 4 | AMP | G | 2004 | - | 21,25,25 | 0.87 | 1 (4%) | 23,38,38 | 1.38 | 3 (13%) |
| 4 | AMP | A | 2001 | - | 21,25,25 | 0.86 | 0 | 23,38,38 | 1.39 | 3 (13%) |
| 3 | FLC | I | 1005 | - | 12,12,12 | 3.57 | 7 (58%) | 17,17,17 | 1.40 | 1 (5%) |
| 4 | AMP | K | 2006 | - | 21,25,25 | 0.87 | 0 | 23,38,38 | 1.39 | 3 (13%) |
| 3 | FLC | G | 1004 | - | 12,12,12 | 3.59 | 7 (58%) | 17,17,17 | 1.42 | 1 (5%) |

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings |
|-----|------|-------|------|------|---------|------------|---------|
| 4 | AMP | C | 2002 | - | - | 5/6/26/26 | 0/3/3/3 |
| 3 | FLC | O | 1008 | - | - | 8/16/16/16 | - |
| 3 | FLC | A | 1001 | - | - | 8/16/16/16 | - |
| 3 | FLC | E | 1003 | - | - | 8/16/16/16 | - |
| 3 | FLC | M | 1007 | - | - | 8/16/16/16 | - |
| 4 | AMP | O | 2008 | - | - | 2/6/26/26 | 0/3/3/3 |
| 4 | AMP | M | 2007 | - | - | 4/6/26/26 | 0/3/3/3 |
| 3 | FLC | C | 1002 | - | - | 8/16/16/16 | - |
| 3 | FLC | K | 1006 | - | - | 8/16/16/16 | - |
| 4 | AMP | E | 2003 | - | - | 4/6/26/26 | 0/3/3/3 |

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| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings |
|-----|------|-------|------|------|---------|------------|---------|
| 4 | AMP | I | 2005 | - | - | 1/6/26/26 | 0/3/3/3 |
| 4 | AMP | G | 2004 | - | - | 4/6/26/26 | 0/3/3/3 |
| 4 | AMP | A | 2001 | - | - | 1/6/26/26 | 0/3/3/3 |
| 3 | FLC | I | 1005 | - | - | 8/16/16/16 | - |
| 4 | AMP | K | 2006 | - | - | 2/6/26/26 | 0/3/3/3 |
| 3 | FLC | G | 1004 | - | - | 8/16/16/16 | - |

All (58) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 3 | C | 1002 | FLC | OB1-CBC | 6.12 | 1.41 | 1.22 |
| 3 | G | 1004 | FLC | OB1-CBC | 6.08 | 1.41 | 1.22 |
| 3 | E | 1003 | FLC | OB1-CBC | 6.07 | 1.41 | 1.22 |
| 3 | A | 1001 | FLC | OB1-CBC | 6.07 | 1.41 | 1.22 |
| 3 | K | 1006 | FLC | OB1-CBC | 6.06 | 1.41 | 1.22 |
| 3 | I | 1005 | FLC | OB1-CBC | 6.04 | 1.41 | 1.22 |
| 3 | M | 1007 | FLC | OB1-CBC | 6.03 | 1.41 | 1.22 |
| 3 | O | 1008 | FLC | OB1-CBC | 6.01 | 1.40 | 1.22 |
| 3 | O | 1008 | FLC | OG1-CGC | 5.98 | 1.41 | 1.22 |
| 3 | G | 1004 | FLC | OG1-CGC | 5.96 | 1.41 | 1.22 |
| 3 | E | 1003 | FLC | OG1-CGC | 5.96 | 1.41 | 1.22 |
| 3 | M | 1007 | FLC | OA1-CAC | 5.96 | 1.41 | 1.22 |
| 3 | C | 1002 | FLC | OA1-CAC | 5.95 | 1.41 | 1.22 |
| 3 | O | 1008 | FLC | OA1-CAC | 5.95 | 1.41 | 1.22 |
| 3 | A | 1001 | FLC | OG1-CGC | 5.94 | 1.41 | 1.22 |
| 3 | M | 1007 | FLC | OG1-CGC | 5.93 | 1.41 | 1.22 |
| 3 | C | 1002 | FLC | OG1-CGC | 5.93 | 1.41 | 1.22 |
| 3 | I | 1005 | FLC | OA1-CAC | 5.93 | 1.41 | 1.22 |
| 3 | K | 1006 | FLC | OA1-CAC | 5.92 | 1.41 | 1.22 |
| 3 | G | 1004 | FLC | OA1-CAC | 5.92 | 1.41 | 1.22 |
| 3 | E | 1003 | FLC | OA1-CAC | 5.92 | 1.41 | 1.22 |
| 3 | K | 1006 | FLC | OG1-CGC | 5.91 | 1.41 | 1.22 |
| 3 | I | 1005 | FLC | OG1-CGC | 5.91 | 1.41 | 1.22 |
| 3 | A | 1001 | FLC | OA1-CAC | 5.91 | 1.41 | 1.22 |
| 3 | K | 1006 | FLC | OG2-CGC | -3.50 | 1.19 | 1.30 |
| 3 | M | 1007 | FLC | OG2-CGC | -3.46 | 1.19 | 1.30 |
| 3 | C | 1002 | FLC | OA2-CAC | -3.45 | 1.19 | 1.30 |
| 3 | O | 1008 | FLC | OG2-CGC | -3.45 | 1.19 | 1.30 |
| 3 | C | 1002 | FLC | OG2-CGC | -3.44 | 1.19 | 1.30 |
| 3 | G | 1004 | FLC | OG2-CGC | -3.44 | 1.19 | 1.30 |
| 3 | G | 1004 | FLC | OA2-CAC | -3.43 | 1.19 | 1.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 3 | E | 1003 | FLC | OG2-CGC | -3.43 | 1.19 | 1.30 |
| 3 | I | 1005 | FLC | OG2-CGC | -3.42 | 1.19 | 1.30 |
| 3 | K | 1006 | FLC | OA2-CAC | -3.42 | 1.19 | 1.30 |
| 3 | A | 1001 | FLC | OG2-CGC | -3.42 | 1.19 | 1.30 |
| 3 | A | 1001 | FLC | OA2-CAC | -3.41 | 1.19 | 1.30 |
| 3 | I | 1005 | FLC | OA2-CAC | -3.40 | 1.19 | 1.30 |
| 3 | O | 1008 | FLC | OA2-CAC | -3.40 | 1.19 | 1.30 |
| 3 | E | 1003 | FLC | OA2-CAC | -3.40 | 1.19 | 1.30 |
| 3 | M | 1007 | FLC | OA2-CAC | -3.37 | 1.19 | 1.30 |
| 3 | K | 1006 | FLC | OB2-CBC | -3.08 | 1.19 | 1.30 |
| 3 | E | 1003 | FLC | OB2-CBC | -3.08 | 1.19 | 1.30 |
| 3 | C | 1002 | FLC | OB2-CBC | -3.08 | 1.19 | 1.30 |
| 3 | A | 1001 | FLC | OB2-CBC | -3.08 | 1.19 | 1.30 |
| 3 | G | 1004 | FLC | OB2-CBC | -3.05 | 1.19 | 1.30 |
| 3 | I | 1005 | FLC | OB2-CBC | -3.03 | 1.19 | 1.30 |
| 3 | O | 1008 | FLC | OB2-CBC | -3.03 | 1.19 | 1.30 |
| 3 | M | 1007 | FLC | OB2-CBC | -3.02 | 1.19 | 1.30 |
| 3 | K | 1006 | FLC | CA-CB | 2.10 | 1.56 | 1.54 |
| 3 | M | 1007 | FLC | CA-CB | 2.08 | 1.56 | 1.54 |
| 3 | I | 1005 | FLC | CA-CB | 2.05 | 1.56 | 1.54 |
| 3 | M | 1007 | FLC | CG-CB | 2.04 | 1.56 | 1.54 |
| 4 | I | 2005 | AMP | O4'-C1' | 2.04 | 1.43 | 1.40 |
| 4 | G | 2004 | AMP | O4'-C1' | 2.03 | 1.43 | 1.40 |
| 4 | C | 2002 | AMP | O4'-C1' | 2.02 | 1.43 | 1.40 |
| 3 | O | 1008 | FLC | CA-CB | 2.02 | 1.56 | 1.54 |
| 3 | O | 1008 | FLC | CG-CB | 2.02 | 1.56 | 1.54 |
| 3 | G | 1004 | FLC | CG-CB | 2.01 | 1.56 | 1.54 |

All (32) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 3 | A | 1001 | FLC | OB2-CBC-CB | 3.69 | 120.21 | 113.14 |
| 4 | O | 2008 | AMP | N3-C2-N1 | -3.66 | 123.70 | 128.67 |
| 3 | C | 1002 | FLC | OB2-CBC-CB | 3.66 | 120.17 | 113.14 |
| 4 | C | 2002 | AMP | N3-C2-N1 | -3.66 | 123.71 | 128.67 |
| 4 | K | 2006 | AMP | N3-C2-N1 | -3.66 | 123.71 | 128.67 |
| 3 | E | 1003 | FLC | OB2-CBC-CB | 3.65 | 120.14 | 113.14 |
| 4 | A | 2001 | AMP | N3-C2-N1 | -3.65 | 123.72 | 128.67 |
| 3 | K | 1006 | FLC | OB2-CBC-CB | 3.65 | 120.13 | 113.14 |
| 3 | M | 1007 | FLC | OB2-CBC-CB | 3.64 | 120.13 | 113.14 |
| 3 | G | 1004 | FLC | OB2-CBC-CB | 3.64 | 120.13 | 113.14 |
| 4 | G | 2004 | AMP | N3-C2-N1 | -3.64 | 123.73 | 128.67 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 4 | E | 2003 | AMP | N3-C2-N1 | -3.64 | 123.73 | 128.67 |
| 4 | M | 2007 | AMP | N3-C2-N1 | -3.62 | 123.76 | 128.67 |
| 3 | O | 1008 | FLC | OB2-CBC-CB | 3.62 | 120.08 | 113.14 |
| 4 | I | 2005 | AMP | N3-C2-N1 | -3.59 | 123.80 | 128.67 |
| 3 | I | 1005 | FLC | OB2-CBC-CB | 3.57 | 119.99 | 113.14 |
| 4 | A | 2001 | AMP | C4-C5-N7 | -2.62 | 106.57 | 109.34 |
| 4 | I | 2005 | AMP | C4-C5-N7 | -2.60 | 106.59 | 109.34 |
| 4 | O | 2008 | AMP | C4-C5-N7 | -2.60 | 106.59 | 109.34 |
| 4 | G | 2004 | AMP | C4-C5-N7 | -2.59 | 106.60 | 109.34 |
| 4 | K | 2006 | AMP | C4-C5-N7 | -2.58 | 106.61 | 109.34 |
| 4 | C | 2002 | AMP | C4-C5-N7 | -2.57 | 106.62 | 109.34 |
| 4 | M | 2007 | AMP | C4-C5-N7 | -2.57 | 106.62 | 109.34 |
| 4 | E | 2003 | AMP | C4-C5-N7 | -2.56 | 106.63 | 109.34 |
| 4 | M | 2007 | AMP | C4'-O4'-C1' | 2.17 | 111.91 | 109.92 |
| 4 | K | 2006 | AMP | C4'-O4'-C1' | 2.15 | 111.89 | 109.92 |
| 4 | G | 2004 | AMP | C4'-O4'-C1' | 2.14 | 111.89 | 109.92 |
| 4 | E | 2003 | AMP | C4'-O4'-C1' | 2.13 | 111.87 | 109.92 |
| 4 | C | 2002 | AMP | C4'-O4'-C1' | 2.12 | 111.87 | 109.92 |
| 4 | A | 2001 | AMP | C4'-O4'-C1' | 2.11 | 111.86 | 109.92 |
| 4 | O | 2008 | AMP | C4'-O4'-C1' | 2.11 | 111.86 | 109.92 |
| 4 | I | 2005 | AMP | C4'-O4'-C1' | 2.07 | 111.82 | 109.92 |

There are no chirality outliers.

All (87) torsion outliers are listed below:

| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|---------------|
| 3 | A | 1001 | FLC | CA-CB-CG-CGC |
| 3 | A | 1001 | FLC | CBC-CB-CG-CGC |
| 3 | A | 1001 | FLC | OHB-CB-CG-CGC |
| 3 | C | 1002 | FLC | CA-CB-CG-CGC |
| 3 | C | 1002 | FLC | CBC-CB-CG-CGC |
| 3 | C | 1002 | FLC | OHB-CB-CG-CGC |
| 3 | E | 1003 | FLC | CA-CB-CG-CGC |
| 3 | E | 1003 | FLC | CBC-CB-CG-CGC |
| 3 | E | 1003 | FLC | OHB-CB-CG-CGC |
| 3 | G | 1004 | FLC | CA-CB-CG-CGC |
| 3 | G | 1004 | FLC | CBC-CB-CG-CGC |
| 3 | G | 1004 | FLC | OHB-CB-CG-CGC |
| 3 | I | 1005 | FLC | CA-CB-CG-CGC |
| 3 | I | 1005 | FLC | CBC-CB-CG-CGC |
| 3 | I | 1005 | FLC | OHB-CB-CG-CGC |
| 3 | K | 1006 | FLC | CA-CB-CG-CGC |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 3 | K | 1006 | FLC | CBC-CB-CG-CGC |
| 3 | K | 1006 | FLC | OHB-CB-CG-CGC |
| 3 | M | 1007 | FLC | CA-CB-CG-CGC |
| 3 | M | 1007 | FLC | CBC-CB-CG-CGC |
| 3 | M | 1007 | FLC | OHB-CB-CG-CGC |
| 3 | O | 1008 | FLC | CA-CB-CG-CGC |
| 3 | O | 1008 | FLC | CBC-CB-CG-CGC |
| 3 | O | 1008 | FLC | OHB-CB-CG-CGC |
| 4 | C | 2002 | AMP | C5'-O5'-P-O1P |
| 4 | C | 2002 | AMP | C5'-O5'-P-O2P |
| 4 | C | 2002 | AMP | C5'-O5'-P-O3P |
| 4 | E | 2003 | AMP | C5'-O5'-P-O3P |
| 4 | I | 2005 | AMP | C4'-C5'-O5'-P |
| 4 | M | 2007 | AMP | C5'-O5'-P-O2P |
| 4 | M | 2007 | AMP | C5'-O5'-P-O3P |
| 4 | C | 2002 | AMP | O4'-C4'-C5'-O5' |
| 4 | C | 2002 | AMP | C3'-C4'-C5'-O5' |
| 4 | G | 2004 | AMP | C3'-C4'-C5'-O5' |
| 4 | K | 2006 | AMP | C3'-C4'-C5'-O5' |
| 4 | M | 2007 | AMP | C3'-C4'-C5'-O5' |
| 4 | G | 2004 | AMP | O4'-C4'-C5'-O5' |
| 4 | M | 2007 | AMP | O4'-C4'-C5'-O5' |
| 4 | O | 2008 | AMP | O4'-C4'-C5'-O5' |
| 4 | K | 2006 | AMP | O4'-C4'-C5'-O5' |
| 4 | E | 2003 | AMP | C5'-O5'-P-O1P |
| 4 | G | 2004 | AMP | C5'-O5'-P-O1P |
| 3 | A | 1001 | FLC | CAC-CA-CB-CBC |
| 3 | C | 1002 | FLC | CAC-CA-CB-CBC |
| 3 | E | 1003 | FLC | CAC-CA-CB-CBC |
| 3 | G | 1004 | FLC | CAC-CA-CB-CBC |
| 3 | I | 1005 | FLC | CAC-CA-CB-CBC |
| 3 | K | 1006 | FLC | CAC-CA-CB-CBC |
| 3 | M | 1007 | FLC | CAC-CA-CB-CBC |
| 3 | O | 1008 | FLC | CAC-CA-CB-CBC |
| 3 | I | 1005 | FLC | CAC-CA-CB-OHB |
| 4 | O | 2008 | AMP | C3'-C4'-C5'-O5' |
| 3 | C | 1002 | FLC | CAC-CA-CB-OHB |
| 4 | E | 2003 | AMP | C5'-O5'-P-O2P |
| 3 | A | 1001 | FLC | CAC-CA-CB-OHB |
| 3 | E | 1003 | FLC | CAC-CA-CB-OHB |
| 3 | G | 1004 | FLC | CAC-CA-CB-OHB |
| 3 | K | 1006 | FLC | CAC-CA-CB-OHB |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 3 | M | 1007 | FLC | CAC-CA-CB-OHB |
| 3 | O | 1008 | FLC | CAC-CA-CB-OHB |
| 4 | E | 2003 | AMP | C3'-C4'-C5'-O5' |
| 3 | A | 1001 | FLC | CA-CB-CBC-OB2 |
| 3 | C | 1002 | FLC | CA-CB-CBC-OB2 |
| 3 | E | 1003 | FLC | CA-CB-CBC-OB2 |
| 3 | G | 1004 | FLC | CA-CB-CBC-OB2 |
| 3 | I | 1005 | FLC | CA-CB-CBC-OB2 |
| 3 | K | 1006 | FLC | CA-CB-CBC-OB2 |
| 3 | M | 1007 | FLC | CA-CB-CBC-OB2 |
| 3 | O | 1008 | FLC | CA-CB-CBC-OB2 |
| 4 | A | 2001 | AMP | C4'-C5'-O5'-P |
| 3 | A | 1001 | FLC | CG-CB-CBC-OB2 |
| 3 | C | 1002 | FLC | CG-CB-CBC-OB2 |
| 3 | E | 1003 | FLC | CG-CB-CBC-OB2 |
| 3 | G | 1004 | FLC | CG-CB-CBC-OB2 |
| 3 | I | 1005 | FLC | CG-CB-CBC-OB2 |
| 3 | K | 1006 | FLC | CG-CB-CBC-OB2 |
| 3 | M | 1007 | FLC | CG-CB-CBC-OB2 |
| 3 | O | 1008 | FLC | CG-CB-CBC-OB2 |
| 4 | G | 2004 | AMP | C5'-O5'-P-O3P |
| 3 | A | 1001 | FLC | OHB-CB-CBC-OB2 |
| 3 | C | 1002 | FLC | OHB-CB-CBC-OB2 |
| 3 | E | 1003 | FLC | OHB-CB-CBC-OB2 |
| 3 | G | 1004 | FLC | OHB-CB-CBC-OB2 |
| 3 | I | 1005 | FLC | OHB-CB-CBC-OB2 |
| 3 | K | 1006 | FLC | OHB-CB-CBC-OB2 |
| 3 | M | 1007 | FLC | OHB-CB-CBC-OB2 |
| 3 | O | 1008 | FLC | OHB-CB-CBC-OB2 |

There are no ring outliers.

15 monomers are involved in 62 short contacts:

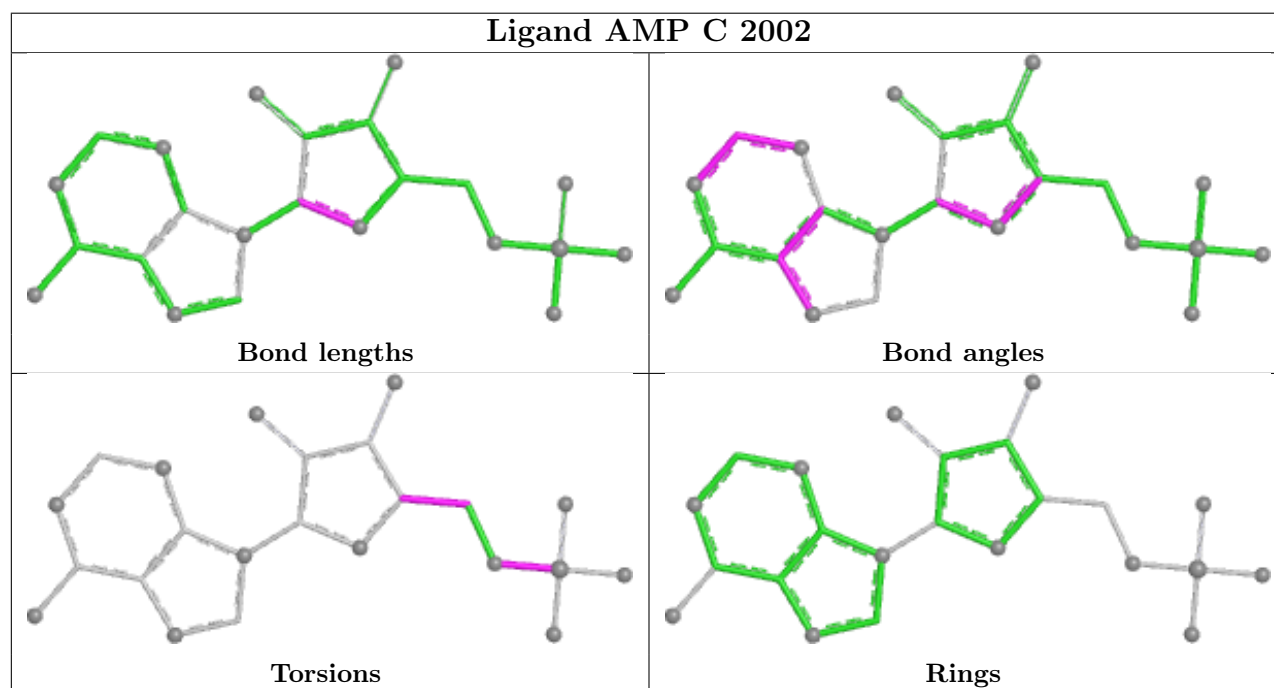
| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|-----|-------|------|------|---------|--------------|
| 4 | C | 2002 | AMP | 2 | 0 |
| 3 | O | 1008 | FLC | 5 | 0 |
| 3 | A | 1001 | FLC | 5 | 0 |
| 3 | E | 1003 | FLC | 4 | 0 |
| 3 | M | 1007 | FLC | 5 | 0 |
| 4 | M | 2007 | AMP | 3 | 0 |
| 3 | C | 1002 | FLC | 4 | 0 |
| 3 | K | 1006 | FLC | 3 | 0 |

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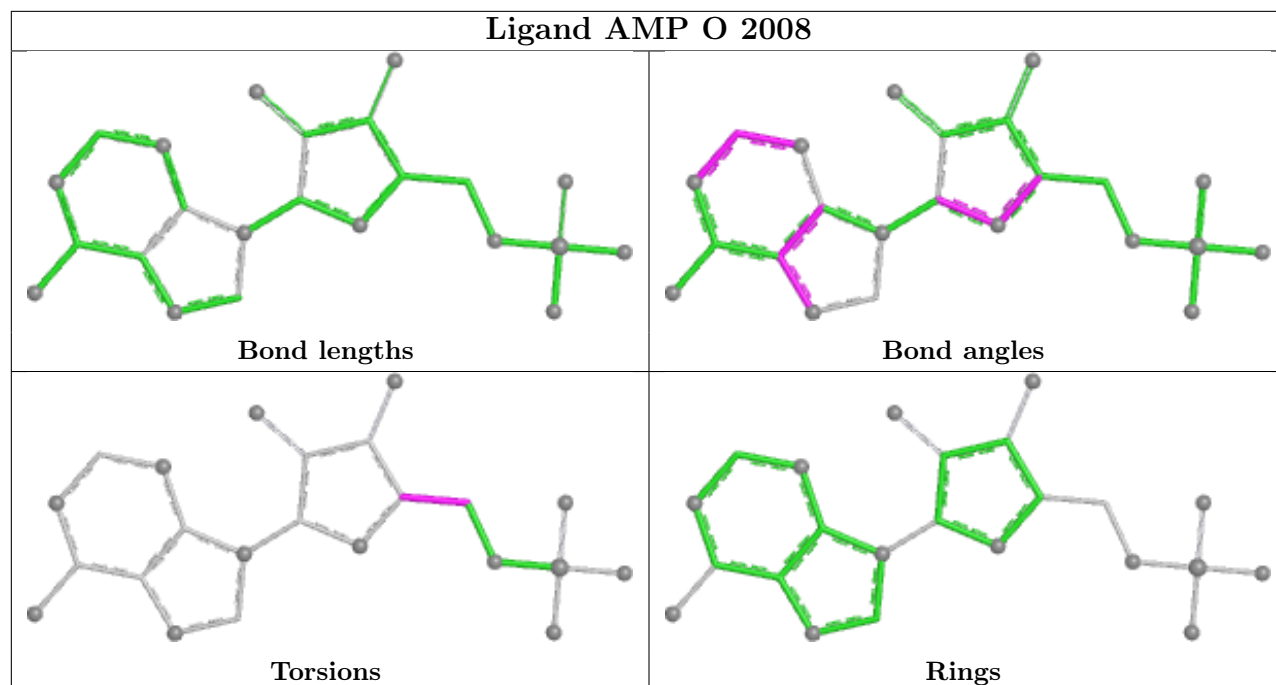
Continued from previous page...

| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|-----|-------|------|------|---------|--------------|
| 4 | E | 2003 | AMP | 6 | 0 |
| 4 | I | 2005 | AMP | 3 | 0 |
| 4 | G | 2004 | AMP | 1 | 0 |
| 4 | A | 2001 | AMP | 2 | 0 |
| 3 | I | 1005 | FLC | 5 | 0 |
| 4 | K | 2006 | AMP | 9 | 0 |
| 3 | G | 1004 | FLC | 5 | 0 |

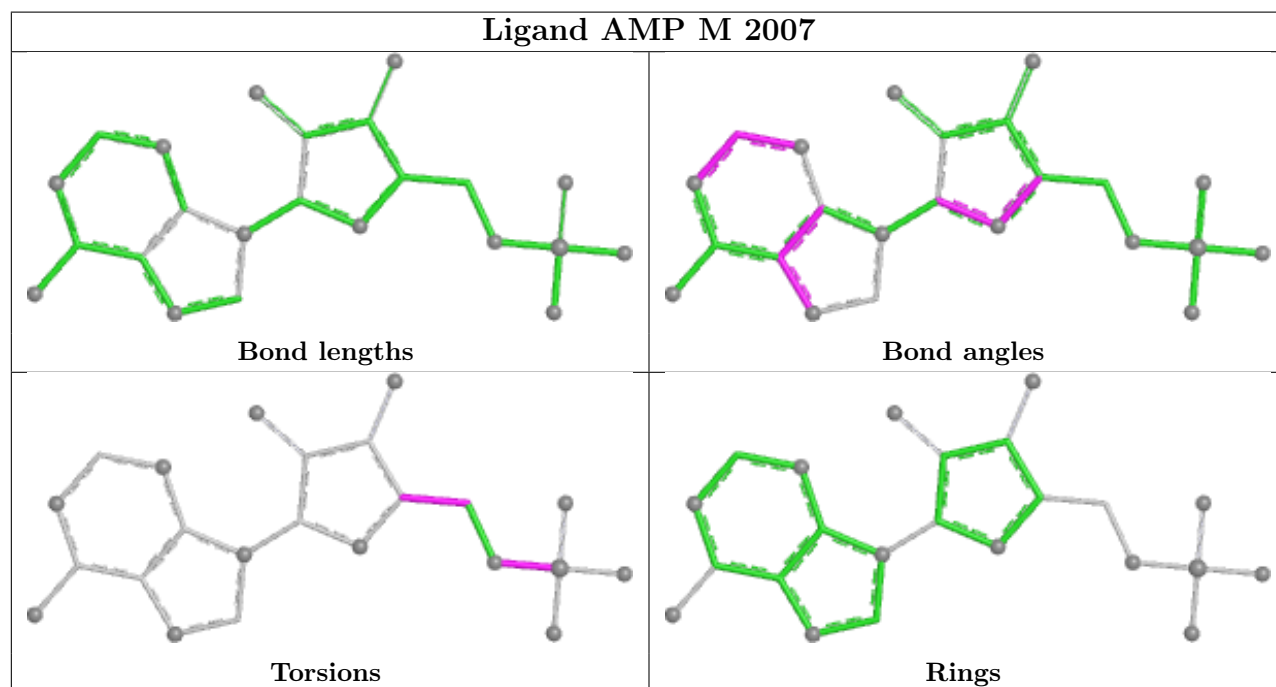
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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



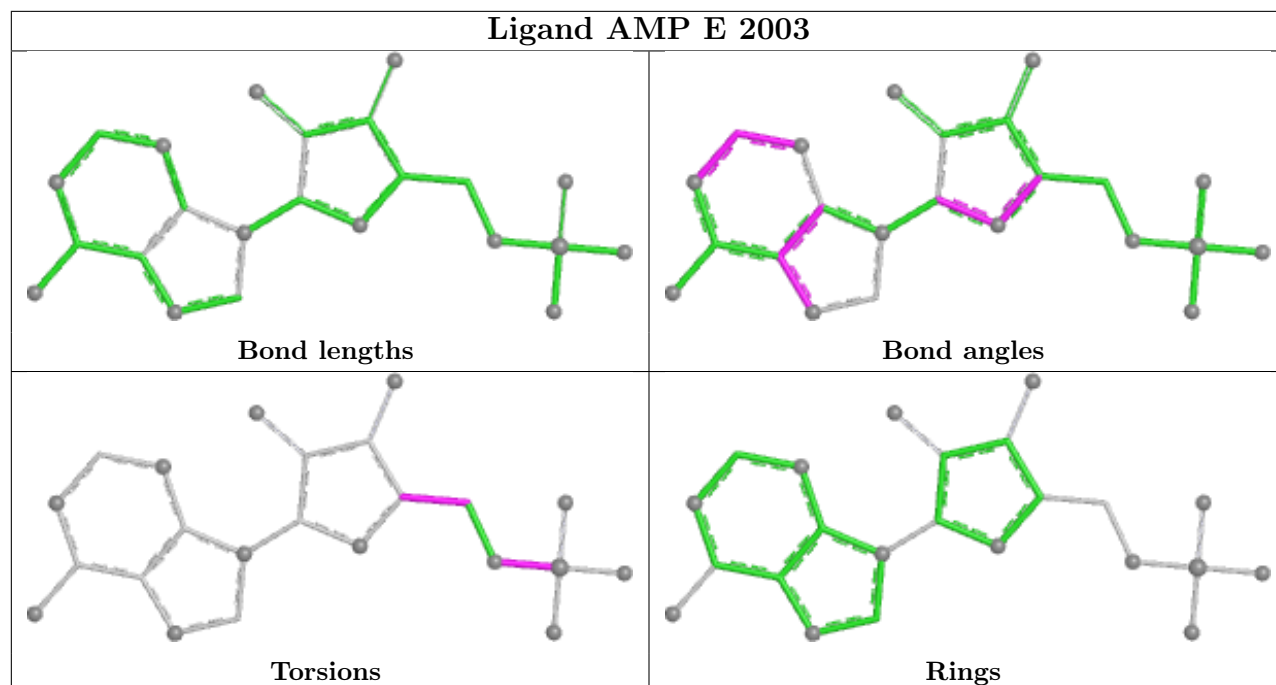
Ligand AMP O 2008



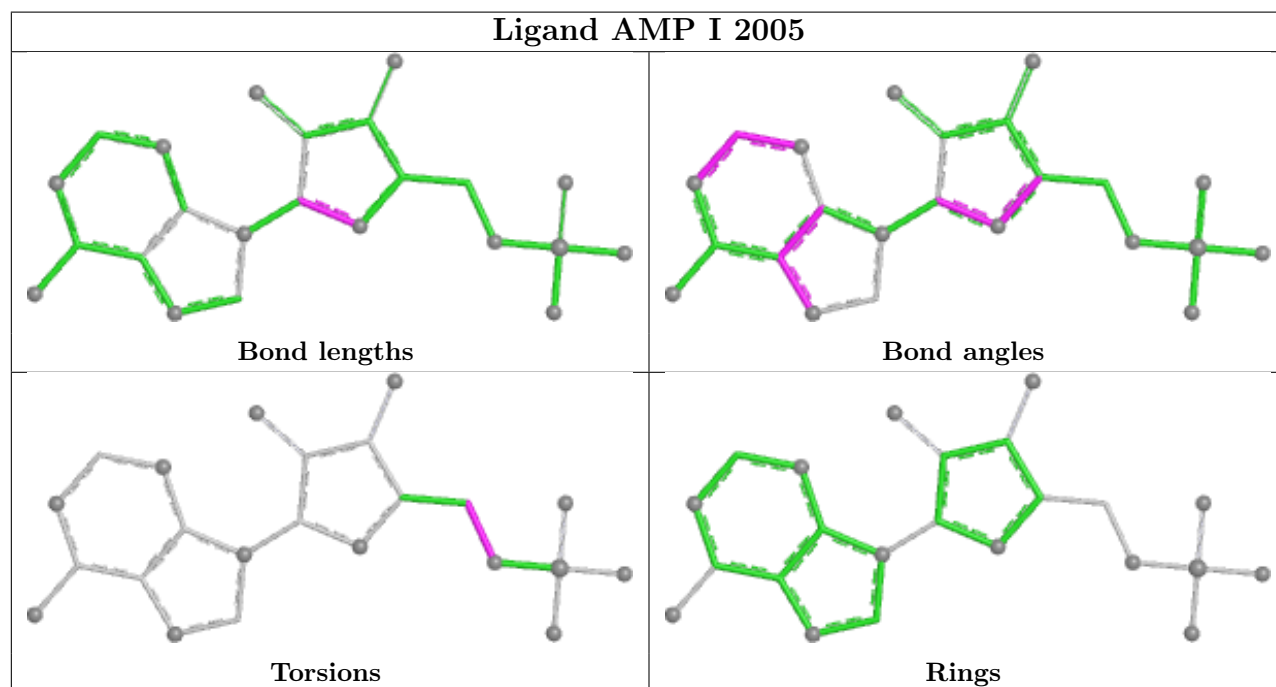
Ligand AMP M 2007



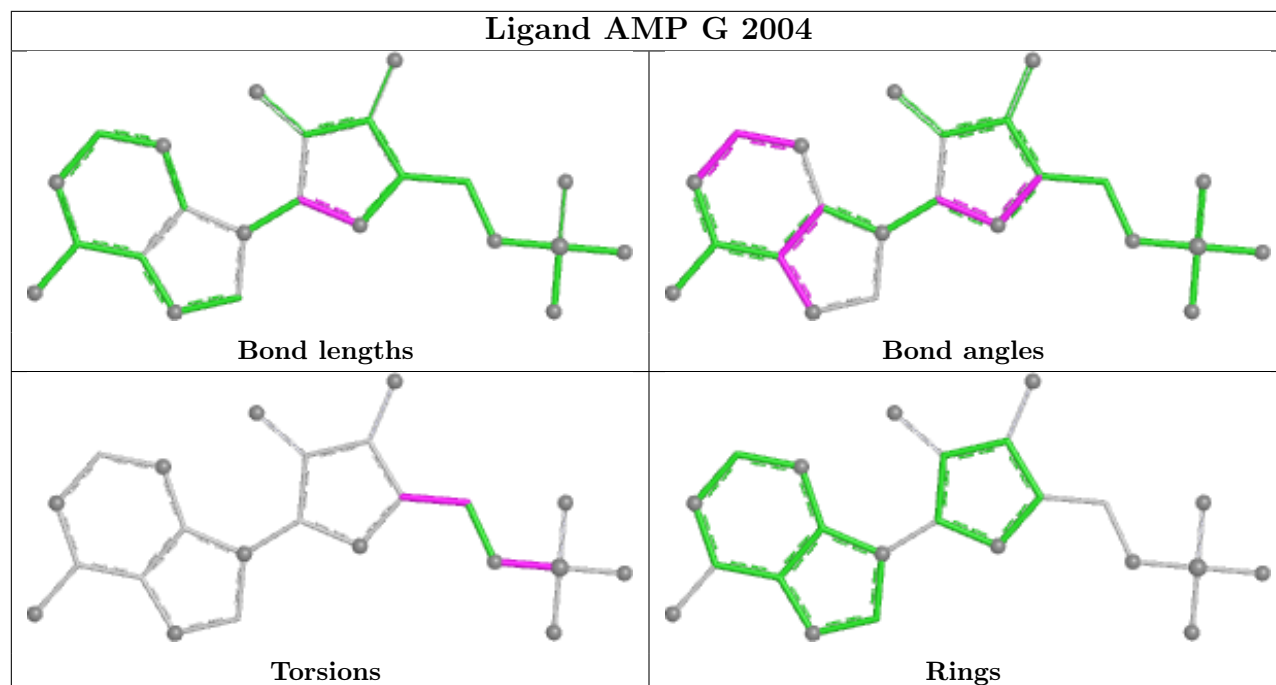
Ligand AMP E 2003



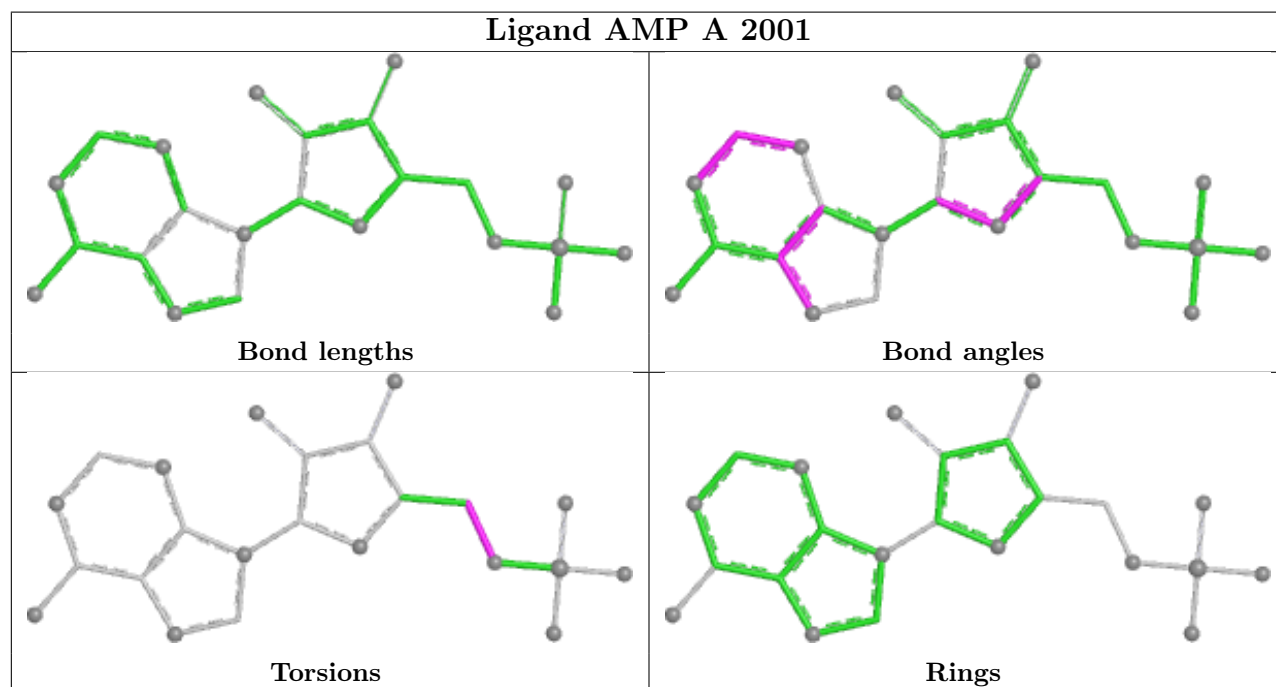
Ligand AMP I 2005

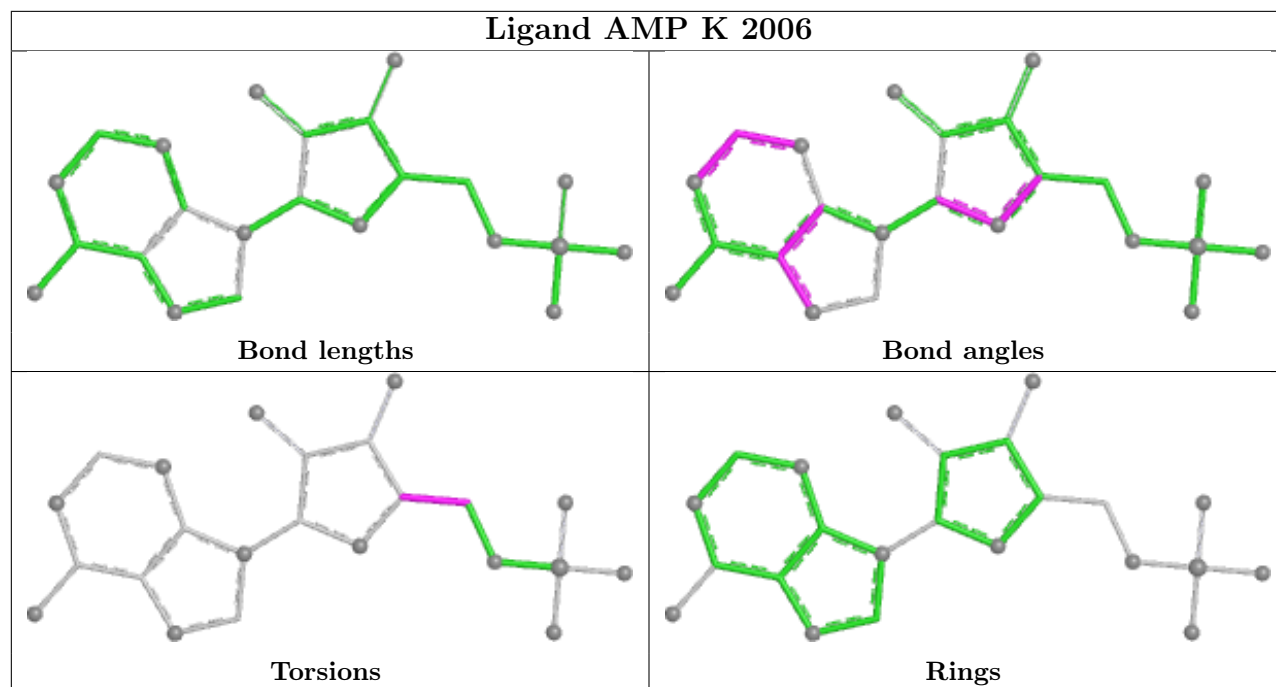


Ligand AMP G 2004



Ligand AMP A 2001





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 ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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 | 329/349 (94%) | 0.60 | 22 (6%) 25 22 | 120, 159, 225, 290 | 0 |
| 1 | C | 338/349 (96%) | 0.57 | 21 (6%) 28 24 | 120, 151, 227, 309 | 0 |
| 1 | E | 338/349 (96%) | 0.28 | 7 (2%) 63 48 | 121, 194, 255, 288 | 0 |
| 1 | G | 329/349 (94%) | -0.00 | 2 (0%) 85 73 | 122, 185, 247, 313 | 0 |
| 1 | I | 329/349 (94%) | 0.00 | 3 (0%) 81 66 | 120, 176, 240, 331 | 0 |
| 1 | K | 337/349 (96%) | 0.29 | 16 (4%) 37 31 | 121, 195, 256, 286 | 0 |
| 1 | M | 339/349 (97%) | 0.51 | 19 (5%) 31 26 | 120, 151, 210, 264 | 0 |
| 1 | O | 330/349 (94%) | 0.56 | 25 (7%) 21 20 | 120, 159, 234, 295 | 0 |
| 2 | B | 347/354 (98%) | 0.75 | 29 (8%) 18 17 | 120, 162, 233, 325 | 0 |
| 2 | D | 347/354 (98%) | 0.47 | 18 (5%) 34 28 | 121, 185, 269, 309 | 0 |
| 2 | F | 347/354 (98%) | 0.23 | 7 (2%) 64 49 | 129, 234, 299, 325 | 0 |
| 2 | H | 346/354 (97%) | 0.39 | 15 (4%) 40 32 | 123, 237, 317, 353 | 0 |
| 2 | J | 347/354 (98%) | 0.37 | 15 (4%) 40 32 | 124, 229, 302, 357 | 0 |
| 2 | L | 346/354 (97%) | 0.20 | 5 (1%) 73 58 | 137, 230, 289, 322 | 0 |
| 2 | N | 347/354 (98%) | 0.55 | 27 (7%) 20 19 | 120, 186, 270, 304 | 0 |
| 2 | P | 347/354 (98%) | 0.77 | 34 (9%) 14 14 | 120, 162, 234, 316 | 0 |
| All | All | 5443/5624 (96%) | 0.41 | 265 (4%) 36 29 | 120, 185, 276, 357 | 0 |

All (265) RSRZ outliers are listed below:

| Mol | Chain | Res | Type | RSRZ |
|-----|-------|-----|------|------|
| 2 | P | 85 | LYS | 6.5 |
| 1 | M | 23 | ILE | 6.0 |
| 2 | B | 296 | THR | 5.7 |
| 2 | P | 86 | GLY | 5.3 |
| 2 | D | 276 | ILE | 5.3 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|-----|------|------|
| 1 | C | 77 | LEU | 5.2 |
| 2 | H | 44 | PHE | 5.2 |
| 2 | N | 111 | ALA | 5.1 |
| 1 | M | 81 | TRP | 5.1 |
| 1 | C | 81 | TRP | 5.0 |
| 2 | P | 323 | LEU | 4.8 |
| 2 | P | 84 | LEU | 4.7 |
| 2 | H | 40 | VAL | 4.7 |
| 2 | P | 299 | LEU | 4.7 |
| 1 | M | 33 | THR | 4.5 |
| 2 | N | 276 | ILE | 4.5 |
| 2 | B | 84 | LEU | 4.5 |
| 2 | B | 323 | LEU | 4.4 |
| 1 | A | 232 | VAL | 4.3 |
| 2 | P | 296 | THR | 4.1 |
| 2 | B | 85 | LYS | 4.1 |
| 1 | M | 77 | LEU | 4.0 |
| 2 | B | 240 | SER | 3.9 |
| 1 | E | 260 | ALA | 3.8 |
| 2 | N | 324 | SER | 3.7 |
| 1 | C | 30 | LYS | 3.7 |
| 2 | H | 59 | SER | 3.6 |
| 2 | F | 241 | VAL | 3.6 |
| 1 | C | 23 | ILE | 3.5 |
| 2 | D | 30 | ASP | 3.5 |
| 2 | B | 310 | GLY | 3.5 |
| 1 | A | 143 | SER | 3.5 |
| 2 | H | 240 | SER | 3.5 |
| 2 | B | 299 | LEU | 3.4 |
| 2 | L | 241 | VAL | 3.4 |
| 2 | N | 265 | THR | 3.4 |
| 2 | N | 32 | ILE | 3.4 |
| 1 | C | 33 | THR | 3.4 |
| 2 | L | 264 | LEU | 3.4 |
| 2 | D | 115 | PRO | 3.3 |
| 1 | C | 239 | TYR | 3.3 |
| 2 | B | 232 | PRO | 3.3 |
| 1 | C | 234 | VAL | 3.3 |
| 1 | O | 135 | GLU | 3.3 |
| 1 | I | 304 | LEU | 3.3 |
| 2 | B | 239 | VAL | 3.3 |
| 2 | P | 87 | PRO | 3.2 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|-----|------|------|
| 2 | H | 320 | ASN | 3.2 |
| 1 | C | 67 | VAL | 3.2 |
| 2 | J | 40 | VAL | 3.2 |
| 2 | P | 187 | VAL | 3.2 |
| 2 | D | 192 | ILE | 3.2 |
| 2 | P | 240 | SER | 3.2 |
| 1 | A | 242 | ILE | 3.1 |
| 1 | M | 67 | VAL | 3.1 |
| 1 | O | 342 | ILE | 3.1 |
| 1 | M | 273 | SER | 3.1 |
| 2 | P | 88 | LEU | 3.1 |
| 1 | A | 135 | GLU | 3.1 |
| 2 | P | 318 | ILE | 3.1 |
| 2 | D | 279 | ALA | 3.1 |
| 2 | N | 192 | ILE | 3.1 |
| 1 | K | 260 | ALA | 3.0 |
| 2 | F | 264 | LEU | 3.0 |
| 1 | O | 232 | VAL | 3.0 |
| 2 | B | 187 | VAL | 3.0 |
| 1 | M | 80 | LEU | 3.0 |
| 1 | K | 247 | GLY | 3.0 |
| 1 | M | 243 | LEU | 3.0 |
| 2 | B | 250 | LEU | 3.0 |
| 2 | H | 302 | SER | 3.0 |
| 2 | P | 238 | ALA | 3.0 |
| 1 | C | 197 | ILE | 3.0 |
| 1 | E | 131 | ASN | 3.0 |
| 2 | B | 238 | ALA | 3.0 |
| 1 | C | 243 | LEU | 2.9 |
| 2 | B | 228 | VAL | 2.9 |
| 1 | O | 276 | VAL | 2.9 |
| 1 | I | 46 | PRO | 2.9 |
| 1 | O | 277 | GLY | 2.9 |
| 2 | B | 319 | GLN | 2.9 |
| 1 | M | 131 | ASN | 2.9 |
| 1 | C | 330 | GLY | 2.9 |
| 1 | C | 233 | LEU | 2.9 |
| 2 | B | 242 | CYS | 2.8 |
| 2 | B | 287 | ILE | 2.8 |
| 1 | A | 277 | GLY | 2.8 |
| 2 | P | 185 | ILE | 2.8 |
| 2 | D | 165 | SER | 2.8 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|-----|------|------|
| 2 | P | 141 | GLU | 2.8 |
| 2 | B | 264 | LEU | 2.8 |
| 1 | C | 49 | TRP | 2.8 |
| 1 | K | 33 | THR | 2.8 |
| 1 | M | 93 | LEU | 2.8 |
| 1 | M | 234 | VAL | 2.8 |
| 2 | D | 304 | MET | 2.7 |
| 1 | O | 346 | LEU | 2.7 |
| 2 | D | 274 | ILE | 2.7 |
| 2 | N | 266 | PRO | 2.7 |
| 2 | N | 149 | VAL | 2.7 |
| 2 | J | 240 | SER | 2.7 |
| 2 | H | 229 | VAL | 2.7 |
| 2 | L | 240 | SER | 2.7 |
| 2 | N | 264 | LEU | 2.7 |
| 2 | D | 8 | ILE | 2.7 |
| 2 | B | 185 | ILE | 2.7 |
| 2 | N | 36 | ILE | 2.7 |
| 1 | K | 77 | LEU | 2.7 |
| 1 | K | 170 | ALA | 2.7 |
| 2 | F | 134 | ILE | 2.7 |
| 2 | P | 206 | GLU | 2.6 |
| 2 | P | 298 | LEU | 2.6 |
| 1 | A | 260 | ALA | 2.6 |
| 2 | H | 125 | THR | 2.6 |
| 2 | N | 323 | LEU | 2.6 |
| 2 | F | 77 | ILE | 2.6 |
| 1 | K | 169 | PHE | 2.6 |
| 2 | J | 125 | THR | 2.6 |
| 1 | K | 311 | ILE | 2.6 |
| 2 | H | 138 | THR | 2.6 |
| 2 | D | 273 | LYS | 2.6 |
| 2 | P | 217 | GLU | 2.6 |
| 1 | A | 346 | LEU | 2.6 |
| 2 | P | 159 | LEU | 2.6 |
| 1 | M | 49 | TRP | 2.6 |
| 2 | B | 144 | GLY | 2.6 |
| 2 | P | 300 | LEU | 2.6 |
| 1 | I | 45 | ILE | 2.5 |
| 1 | O | 67 | VAL | 2.5 |
| 2 | B | 276 | ILE | 2.5 |
| 1 | C | 260 | ALA | 2.5 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|-----|------|------|
| 1 | A | 160 | GLU | 2.5 |
| 1 | M | 274 | ARG | 2.5 |
| 2 | D | 111 | ALA | 2.5 |
| 2 | H | 299 | LEU | 2.5 |
| 1 | G | 174 | ASN | 2.5 |
| 2 | P | 183 | ARG | 2.5 |
| 1 | A | 275 | HIS | 2.5 |
| 1 | E | 311 | ILE | 2.5 |
| 1 | O | 272 | GLY | 2.5 |
| 1 | A | 233 | LEU | 2.5 |
| 1 | M | 100 | GLN | 2.5 |
| 2 | J | 67 | THR | 2.5 |
| 2 | J | 59 | SER | 2.5 |
| 2 | J | 282 | GLY | 2.5 |
| 2 | N | 14 | LYS | 2.5 |
| 2 | B | 254 | ASN | 2.5 |
| 1 | O | 38 | THR | 2.5 |
| 1 | K | 49 | TRP | 2.5 |
| 1 | O | 330 | GLY | 2.4 |
| 2 | N | 144 | GLY | 2.4 |
| 1 | A | 220 | SER | 2.4 |
| 1 | O | 220 | SER | 2.4 |
| 2 | P | 295 | PRO | 2.4 |
| 1 | O | 80 | LEU | 2.4 |
| 2 | D | 149 | VAL | 2.4 |
| 2 | P | 287 | ILE | 2.4 |
| 1 | G | 46 | PRO | 2.4 |
| 2 | B | 132 | VAL | 2.4 |
| 2 | P | 186 | VAL | 2.4 |
| 1 | E | 85 | ALA | 2.4 |
| 2 | J | 229 | VAL | 2.4 |
| 2 | N | 119 | ILE | 2.4 |
| 2 | N | 304 | MET | 2.4 |
| 2 | B | 300 | LEU | 2.4 |
| 1 | O | 132 | THR | 2.4 |
| 2 | P | 90 | THR | 2.4 |
| 2 | J | 108 | GLY | 2.4 |
| 1 | O | 266 | TYR | 2.4 |
| 2 | P | 246 | TYR | 2.4 |
| 2 | N | 8 | ILE | 2.4 |
| 2 | P | 157 | ILE | 2.4 |
| 1 | K | 85 | ALA | 2.3 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|-----|------|------|
| 2 | P | 319 | GLN | 2.3 |
| 1 | A | 97 | LEU | 2.3 |
| 1 | C | 218 | ASN | 2.3 |
| 2 | J | 254 | ASN | 2.3 |
| 1 | K | 81 | TRP | 2.3 |
| 2 | J | 66 | LEU | 2.3 |
| 2 | D | 260 | GLY | 2.3 |
| 1 | O | 268 | VAL | 2.3 |
| 2 | N | 240 | SER | 2.3 |
| 1 | K | 250 | LEU | 2.3 |
| 2 | B | 246 | TYR | 2.3 |
| 2 | B | 318 | ILE | 2.3 |
| 1 | M | 136 | PHE | 2.3 |
| 1 | A | 201 | ILE | 2.3 |
| 1 | O | 197 | ILE | 2.3 |
| 1 | O | 279 | ASP | 2.3 |
| 2 | H | 254 | ASN | 2.3 |
| 2 | D | 275 | SER | 2.3 |
| 1 | K | 243 | LEU | 2.2 |
| 2 | P | 196 | ALA | 2.2 |
| 1 | E | 107 | VAL | 2.2 |
| 1 | E | 223 | ALA | 2.2 |
| 2 | F | 155 | GLN | 2.2 |
| 1 | M | 26 | ASP | 2.2 |
| 1 | C | 127 | VAL | 2.2 |
| 2 | N | 33 | GLY | 2.2 |
| 2 | P | 228 | VAL | 2.2 |
| 2 | N | 261 | SER | 2.2 |
| 2 | F | 305 | MET | 2.2 |
| 1 | A | 39 | ILE | 2.2 |
| 1 | O | 26 | ASP | 2.2 |
| 1 | O | 254 | PRO | 2.2 |
| 2 | N | 274 | ILE | 2.2 |
| 1 | A | 223 | ALA | 2.2 |
| 1 | O | 262 | PHE | 2.2 |
| 2 | D | 159 | LEU | 2.2 |
| 1 | A | 106 | ASN | 2.2 |
| 2 | H | 106 | THR | 2.2 |
| 1 | K | 107 | VAL | 2.1 |
| 2 | L | 282 | GLY | 2.1 |
| 2 | P | 354 | LEU | 2.1 |
| 1 | A | 268 | VAL | 2.1 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|-----|------|------|
| 1 | C | 181 | VAL | 2.1 |
| 1 | A | 266 | TYR | 2.1 |
| 1 | C | 236 | PRO | 2.1 |
| 1 | A | 303 | GLY | 2.1 |
| 1 | O | 151 | LEU | 2.1 |
| 2 | H | 83 | ALA | 2.1 |
| 2 | N | 143 | SER | 2.1 |
| 2 | N | 159 | LEU | 2.1 |
| 1 | A | 279 | ASP | 2.1 |
| 2 | J | 106 | THR | 2.1 |
| 2 | J | 138 | THR | 2.1 |
| 2 | N | 293 | ALA | 2.1 |
| 2 | P | 191 | THR | 2.1 |
| 1 | O | 189 | LEU | 2.1 |
| 1 | M | 244 | GLY | 2.1 |
| 1 | C | 273 | SER | 2.1 |
| 2 | D | 32 | ILE | 2.1 |
| 2 | B | 306 | LEU | 2.1 |
| 2 | H | 230 | THR | 2.1 |
| 2 | P | 99 | LEU | 2.1 |
| 2 | J | 107 | PHE | 2.1 |
| 1 | A | 259 | GLY | 2.1 |
| 1 | M | 252 | GLY | 2.1 |
| 2 | B | 153 | VAL | 2.1 |
| 1 | A | 54 | ILE | 2.1 |
| 2 | N | 224 | SER | 2.1 |
| 1 | C | 136 | PHE | 2.1 |
| 1 | O | 32 | ILE | 2.0 |
| 1 | O | 242 | ILE | 2.0 |
| 2 | B | 311 | LEU | 2.0 |
| 2 | P | 302 | SER | 2.0 |
| 2 | B | 141 | GLU | 2.0 |
| 2 | N | 112 | ASN | 2.0 |
| 1 | M | 105 | ALA | 2.0 |
| 1 | O | 258 | ALA | 2.0 |
| 2 | P | 250 | LEU | 2.0 |
| 2 | H | 258 | SER | 2.0 |
| 2 | J | 7 | SER | 2.0 |
| 1 | E | 49 | TRP | 2.0 |
| 1 | K | 219 | ALA | 2.0 |
| 1 | K | 223 | ALA | 2.0 |
| 2 | F | 263 | GLY | 2.0 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|-----|------|------|
| 2 | L | 243 | PRO | 2.0 |
| 2 | N | 263 | GLY | 2.0 |
| 2 | J | 58 | VAL | 2.0 |
| 2 | D | 36 | ILE | 2.0 |
| 1 | K | 274 | ARG | 2.0 |
| 2 | D | 144 | GLY | 2.0 |
| 1 | C | 82 | HIS | 2.0 |
| 2 | N | 285 | PRO | 2.0 |

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

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](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(\AA^2) | Q<0.9 |
|-----|------|-------|------|-------|------|------|-----------------------------|-------|
| 4 | AMP | G | 2004 | 23/23 | 0.77 | 0.14 | 164,164,164,164 | 0 |
| 4 | AMP | K | 2006 | 23/23 | 0.77 | 0.19 | 240,240,240,240 | 0 |
| 3 | FLC | C | 1002 | 13/13 | 0.79 | 0.18 | 179,179,179,179 | 0 |
| 4 | AMP | A | 2001 | 23/23 | 0.79 | 0.15 | 150,150,150,150 | 0 |
| 4 | AMP | O | 2008 | 23/23 | 0.79 | 0.14 | 135,135,135,135 | 0 |
| 4 | AMP | E | 2003 | 23/23 | 0.83 | 0.15 | 215,215,215,215 | 0 |
| 4 | AMP | C | 2002 | 23/23 | 0.85 | 0.14 | 148,148,148,148 | 0 |
| 3 | FLC | G | 1004 | 13/13 | 0.86 | 0.09 | 192,192,192,192 | 0 |
| 3 | FLC | I | 1005 | 13/13 | 0.86 | 0.12 | 185,185,185,185 | 0 |
| 3 | FLC | M | 1007 | 13/13 | 0.86 | 0.16 | 158,158,158,158 | 0 |
| 3 | FLC | A | 1001 | 13/13 | 0.87 | 0.20 | 121,121,121,121 | 0 |
| 4 | AMP | M | 2007 | 23/23 | 0.87 | 0.12 | 137,137,137,137 | 0 |
| 4 | AMP | I | 2005 | 23/23 | 0.87 | 0.10 | 162,162,162,162 | 0 |
| 3 | FLC | E | 1003 | 13/13 | 0.88 | 0.09 | 173,173,173,173 | 0 |
| 3 | FLC | O | 1008 | 13/13 | 0.88 | 0.16 | 148,148,148,148 | 0 |

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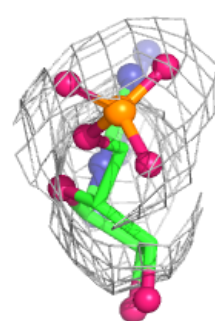
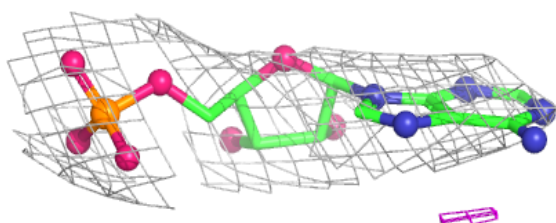
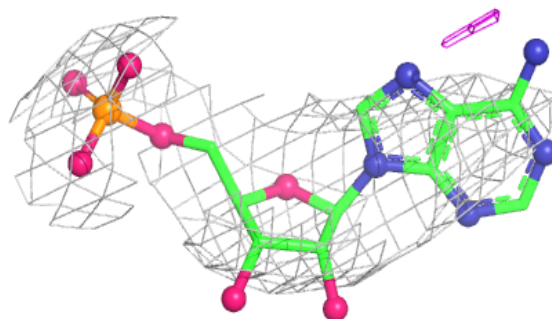
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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(\AA^2) | Q<0.9 |
|-----|------|-------|------|-------|------|------|-----------------------------|-------|
| 3 | FLC | K | 1006 | 13/13 | 0.90 | 0.10 | 155,155,155,155 | 0 |

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

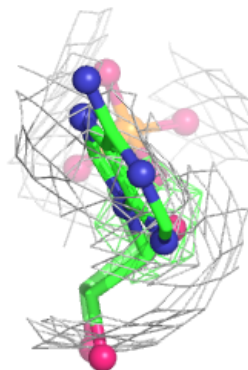
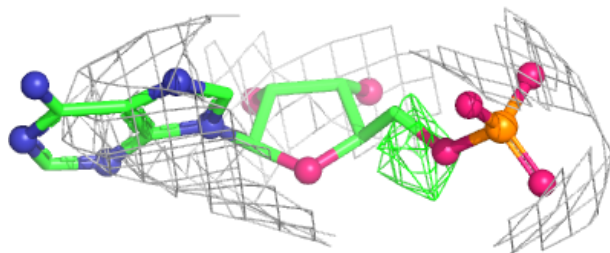
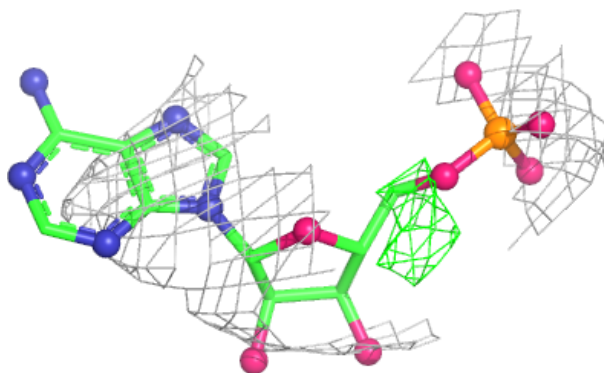
Electron density around AMP G 2004:

2mF_o-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

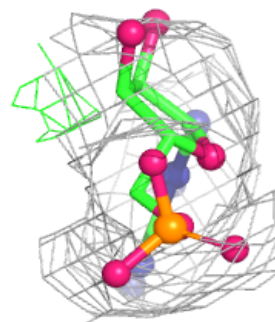
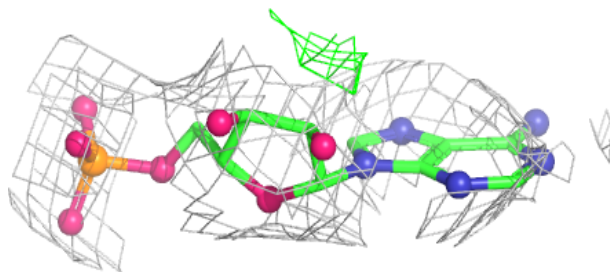
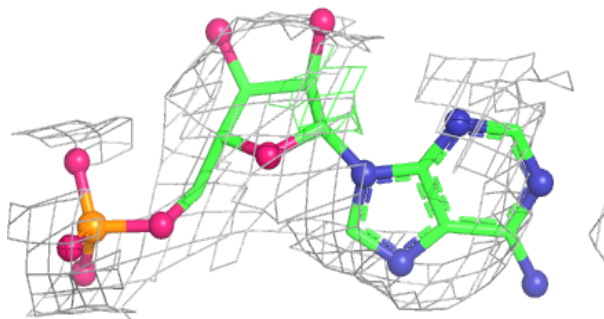


Electron density around AMP K 2006:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

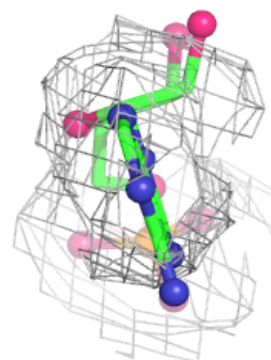
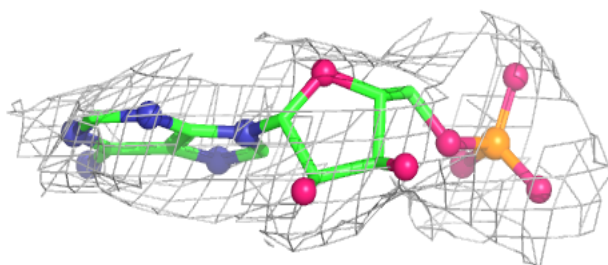
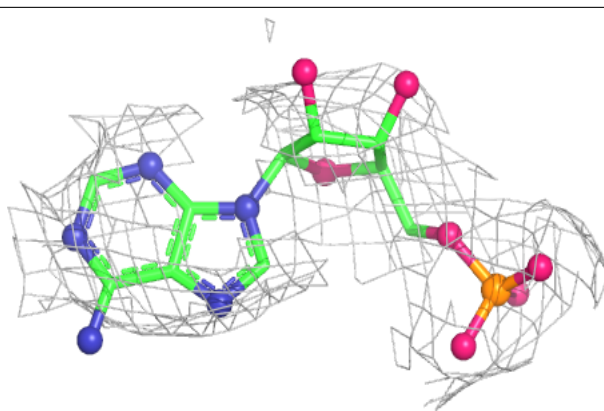
**Electron density around AMP A 2001:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

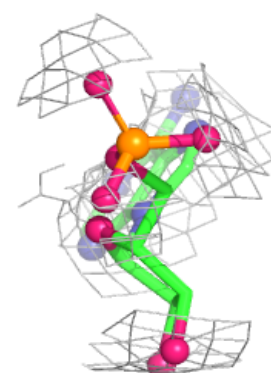
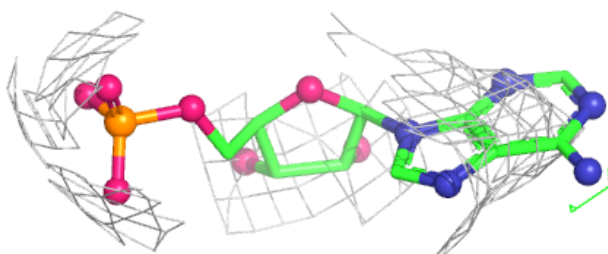
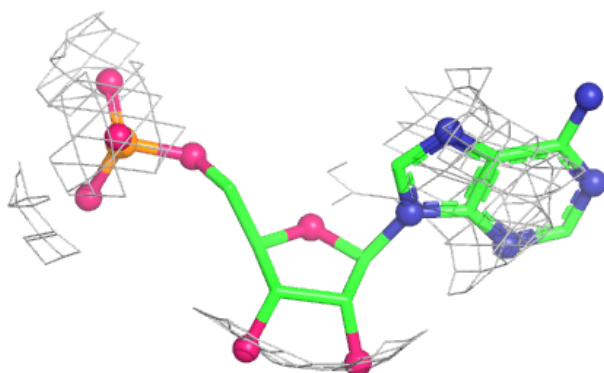


Electron density around AMP O 2008:

$2mF_o - DF_c$ (at 0.7 rmsd) in gray
 $mF_o - DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)

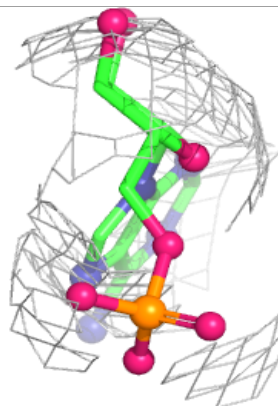
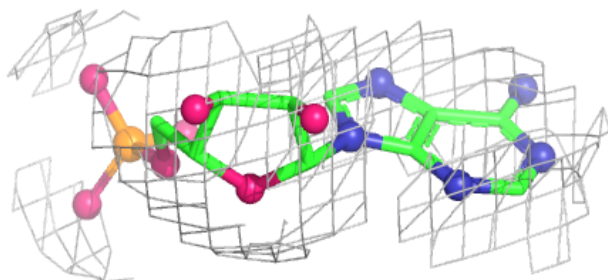
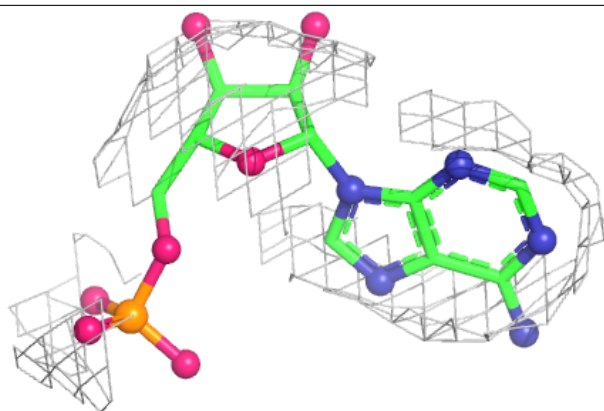
**Electron density around AMP E 2003:**

$2mF_o - DF_c$ (at 0.7 rmsd) in gray
 $mF_o - DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)

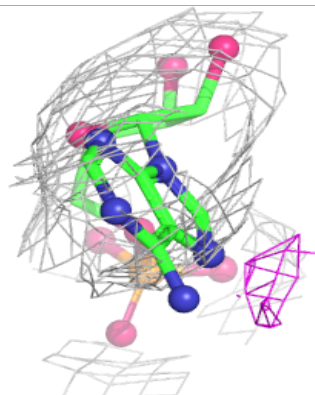
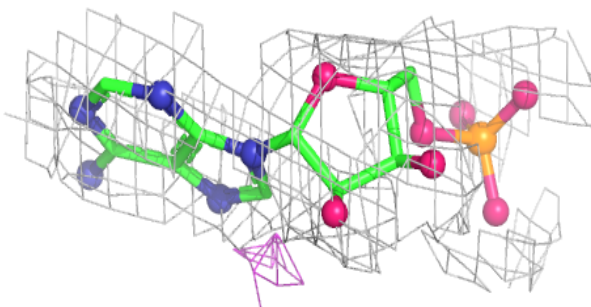
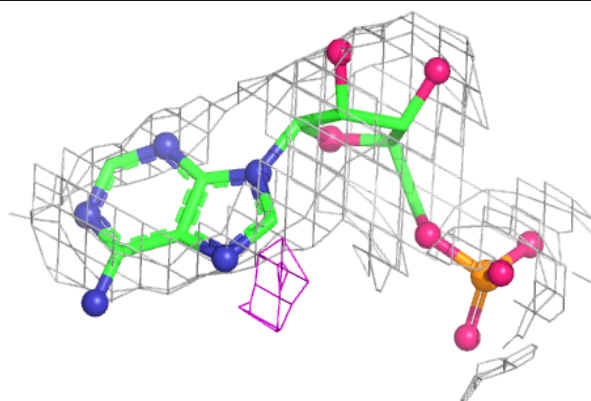


Electron density around AMP C 2002:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

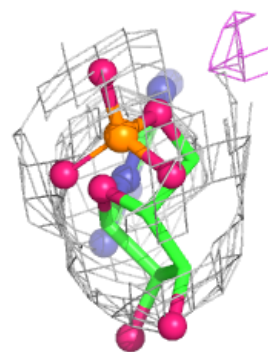
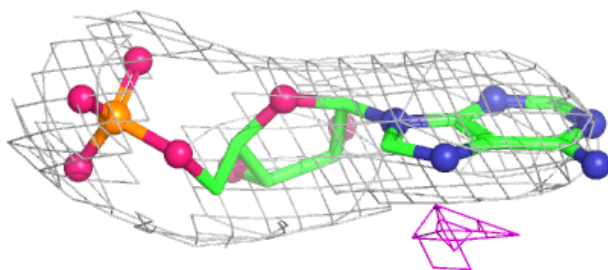
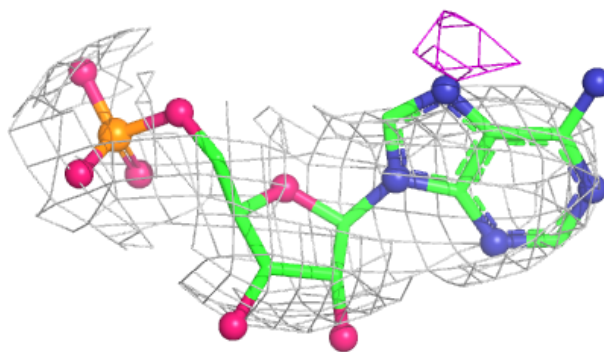
**Electron density around AMP M 2007:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around AMP I 2005:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



6.5 Other polymers [i](#)

There are no such residues in this entry.