



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 9, 2018 – 02:54 am GMT

PDB ID : 4IQJ
Title : Structure of PolIIIalpha-Tauc-DNA complex suggests an atomic model of the replisome
Authors : Liu, B.; Lin, J.; Steitz, T.
Deposited on : 2013-01-11
Resolution : 3.20 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467
Mogul : 1.7.3 (157068), CSD as539be (2018)
Xtrriage (Phenix) : 1.13
EDS : trunk30967
Percentile statistics : 20171227.v01 (using entries in the PDB archive December 27th 2017)
Refmac : 5.8.0158
CCP4 : 7.0 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : trunk30967

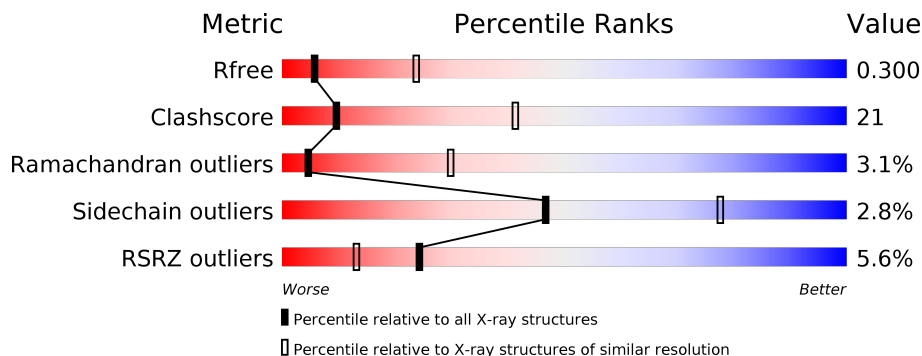
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.20 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.



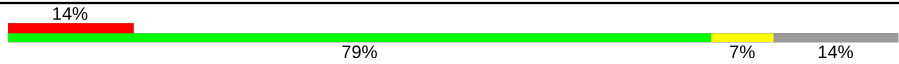

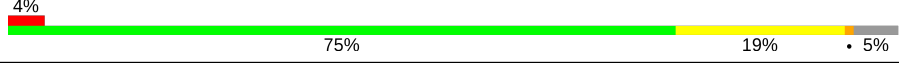
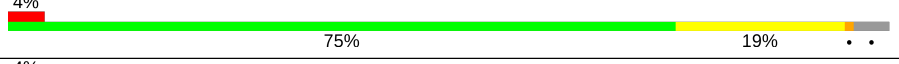

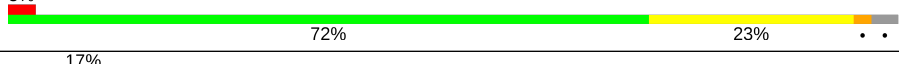
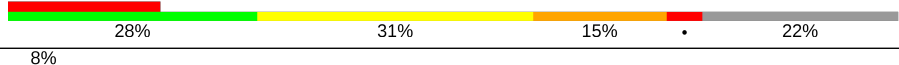
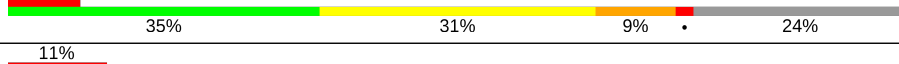
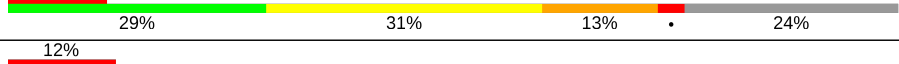
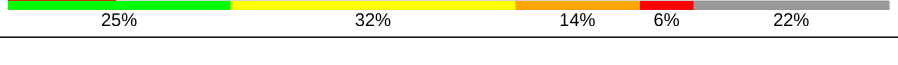
| Metric | Whole archive (#Entries) | Similar resolution (#Entries, resolution range(Å)) |
|-----------------------|-----------------------------|---|
| R_{free} | 111664 | 1121 (3.22-3.18) |
| Clashscore | 122126 | 1091 (3.20-3.20) |
| Ramachandran outliers | 120053 | 1074 (3.20-3.20) |
| Sidechain outliers | 120020 | 1073 (3.20-3.20) |
| RSRZ outliers | 108989 | 1083 (3.22-3.18) |

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. 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 | E | 20 | |
| 1 | G | 20 | |
| 1 | K | 20 | |
| 2 | F | 28 | |
| 2 | H | 28 | |
| 2 | J | 28 | |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|--|
| 2 | L | 28 |  |
| 3 | I | 21 |  |
| 4 | A | 1220 |  |
| 4 | B | 1220 |  |
| 4 | C | 1220 |  |
| 4 | D | 1220 |  |
| 5 | M | 177 |  |
| 5 | N | 177 |  |
| 5 | O | 177 |  |
| 5 | P | 177 |  |

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 |
|-----|------|-------|-----|-----------|----------|---------|------------------|
| 6 | DOC | I | 101 | - | - | - | X |

2 Entry composition [i](#)

There are 8 unique types of molecules in this entry. The entry contains 45265 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 DNA chain called DNA (5'-D(P*CP*GP*AP*AP*AP*CP*GP*AP*CP*GP*GP*CP*CP*AP*GP*TP*GP*CP*CP*A)-3').

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|-----|----|---------|---------|-------|
| 1 | E | 20 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 411 | 193 | 83 | 115 | 20 | | | |
| 1 | G | 20 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 411 | 193 | 83 | 115 | 20 | | | |
| 1 | K | 20 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 411 | 193 | 83 | 115 | 20 | | | |

- Molecule 2 is a DNA chain called DNA (5'-D(*TP*TP*TP*TP*TP*TP*TP*GP*TP*GP*GP*CP*AP*CP*TP*GP*GP*CP*CP*GP*TP*CP*GP*TP*TP*TP*CP*G)-3').

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|-----|----|---------|---------|-------|
| 2 | F | 20 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 409 | 194 | 70 | 125 | 20 | | | |
| 2 | H | 27 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 551 | 264 | 87 | 173 | 27 | | | |
| 2 | J | 23 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 471 | 224 | 79 | 145 | 23 | | | |
| 2 | L | 24 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 491 | 234 | 81 | 152 | 24 | | | |

- Molecule 3 is a DNA chain called DNA (5'-D(P*CP*GP*AP*AP*AP*CP*GP*AP*CP*GP*GP*CP*CP*AP*GP*TP*GP*CP*CP*AP*(DOC))-3').

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|-----|----|---------|---------|-------|
| 3 | I | 20 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 411 | 193 | 83 | 115 | 20 | | | |

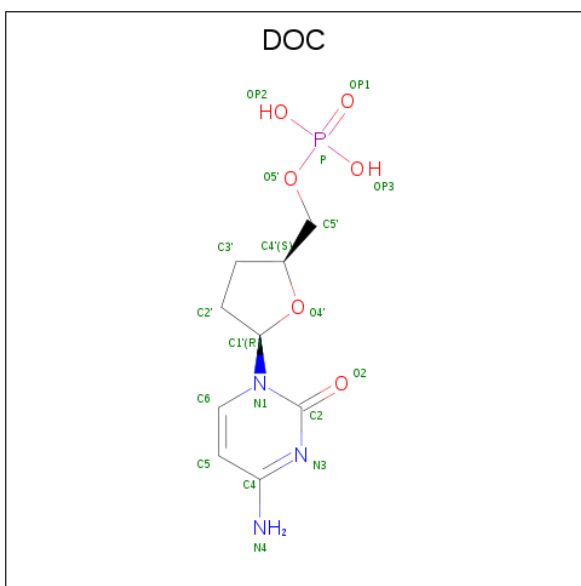
- Molecule 4 is a protein called DNA polymerase III subunit alpha.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|---------------|-----------|-----------|-----------|---------|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 4 | A | 1164 | Total 9280 | C 5918 | N 1620 | O 1714 | S 28 | 0 | 0 | 0 |
| 4 | B | 1167 | Total 9295 | C 5926 | N 1623 | O 1716 | S 30 | 0 | 0 | 0 |
| 4 | C | 1166 | Total 9293 | C 5930 | N 1621 | O 1714 | S 28 | 0 | 0 | 0 |
| 4 | D | 1185 | Total 9445 | C 6026 | N 1651 | O 1738 | S 30 | 0 | 0 | 0 |

- Molecule 5 is a protein called C-terminal domain of the DNA polymerase III subunit tau.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|---------------|----------|----------|----------|--------|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 5 | M | 138 | Total 1103 | C 702 | N 203 | O 197 | S 1 | 0 | 0 | 0 |
| 5 | N | 135 | Total 1078 | C 687 | N 200 | O 190 | S 1 | 0 | 0 | 0 |
| 5 | O | 135 | Total 1078 | C 687 | N 200 | O 190 | S 1 | 0 | 0 | 0 |
| 5 | P | 138 | Total 1093 | C 695 | N 203 | O 194 | S 1 | 0 | 0 | 0 |

- Molecule 6 is 2',3'-DIDEOXYCYTIDINE-5'-MONOPHOSPHATE (three-letter code: DOC) (formula: C₉H₁₄N₃O₆P).



| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf |
|-----|-------|----------|-------------|--------|--------|--------|--------|---------|---------|
| | | | Total | C | N | O | P | | |
| 6 | I | 1 | Total 18 | C 9 | N 3 | O 5 | P 1 | 0 | 0 |

- Molecule 7 is ZINC ION (three-letter code: ZN) (formula: Zn).

| Mol | Chain | Residues | Atoms | | ZeroOcc | AltConf |
|-----|-------|----------|------------|---------|---------|---------|
| 7 | B | 3 | Total 3 | Zn 3 | 0 | 0 |
| 7 | A | 3 | Total 3 | Zn 3 | 0 | 0 |
| 7 | D | 3 | Total 3 | Zn 3 | 0 | 0 |
| 7 | C | 3 | Total 3 | Zn 3 | 0 | 0 |

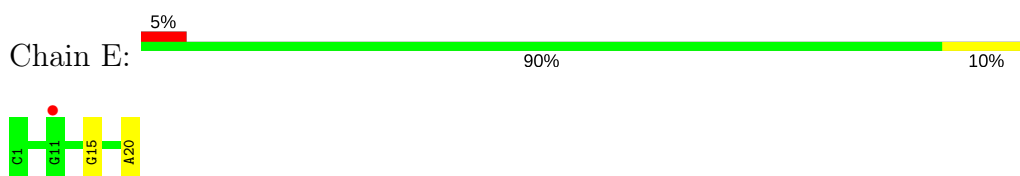
- Molecule 8 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

| Mol | Chain | Residues | Atoms | | ZeroOcc | AltConf |
|-----|-------|----------|------------|---------|---------|---------|
| 8 | B | 1 | Total 1 | Mg 1 | 0 | 0 |
| 8 | A | 1 | Total 1 | Mg 1 | 0 | 0 |
| 8 | D | 1 | Total 1 | Mg 1 | 0 | 0 |
| 8 | C | 1 | Total 1 | Mg 1 | 0 | 0 |

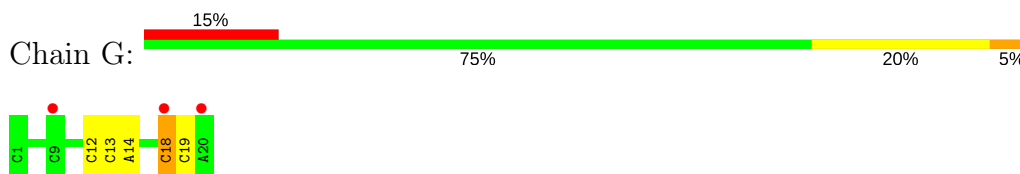
3 Residue-property plots [i](#)

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

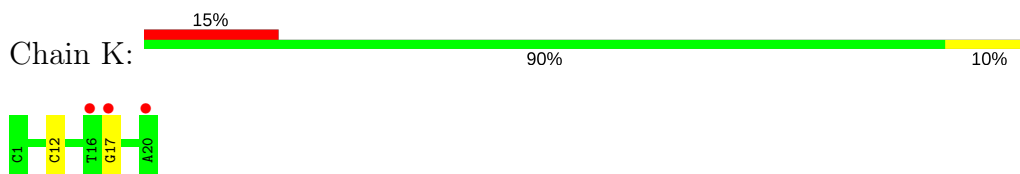
- Molecule 1: DNA (5'-D(P*CP*GP*AP*AP*AP*CP*GP*AP*CP*GP*GP*CP*CP*AP*GP*T P*GP*CP*CP*A)-3')



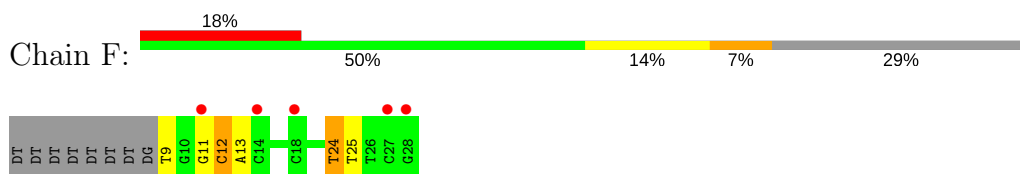
- Molecule 1: DNA (5'-D(P*CP*GP*AP*AP*AP*CP*GP*AP*CP*GP*GP*CP*CP*AP*GP*T P*GP*CP*CP*A)-3')



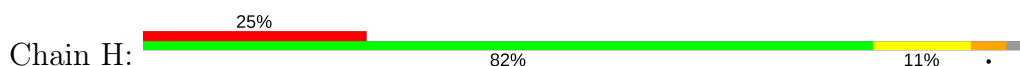
- Molecule 1: DNA (5'-D(P*CP*GP*AP*AP*AP*CP*GP*AP*CP*GP*GP*CP*CP*AP*GP*T P*GP*CP*CP*A)-3')

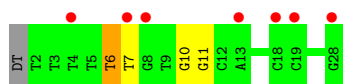


- Molecule 2: DNA (5'-D(*TP*TP*TP*TP*TP*TP*TP*GP*TP*GP*GP*CP*AP*CP*TP*GP *GP*CP*CP*GP*TP*CP*GP*TP*TP*TP*CP*G)-3')

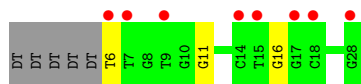


- Molecule 2: DNA (5'-D(*TP*TP*TP*TP*TP*TP*TP*GP*TP*GP*GP*CP*AP*CP*TP*GP *GP*CP*CP*GP*TP*CP*GP*TP*TP*TP*CP*G)-3')

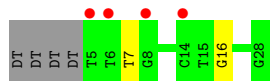
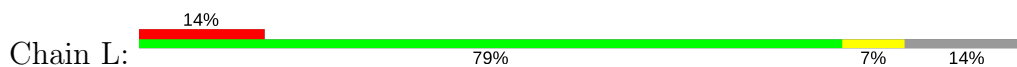




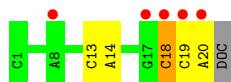
- Molecule 2: DNA (5'-D(*TP*TP*TP*TP*TP*TP*TP*GP*TP*GP*GP*CP*AP*CP*TP*GP*GP*CP*CP*GP*TP*CP*GP*TP*TP*TP*CP*G)-3')



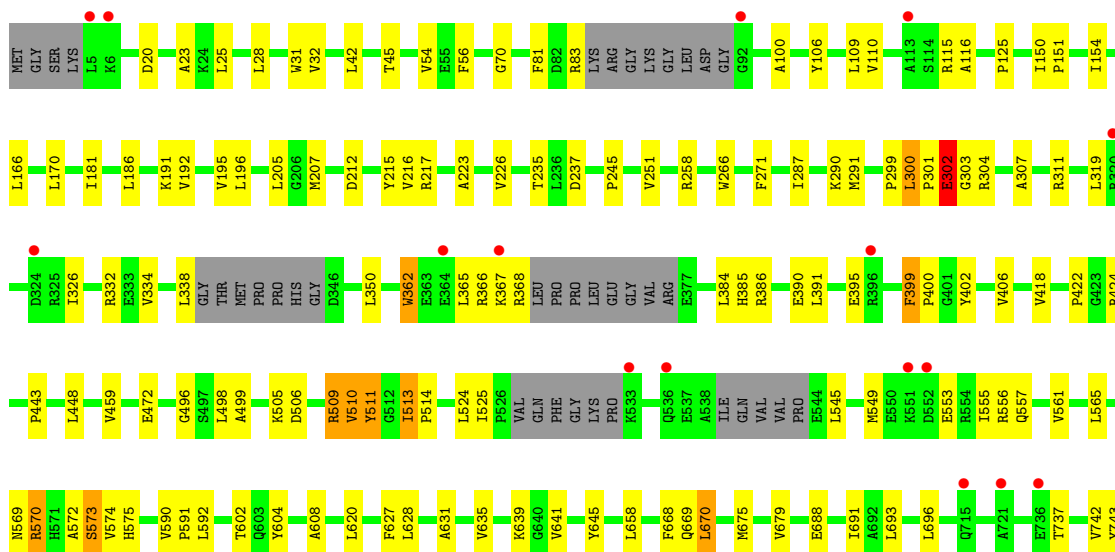
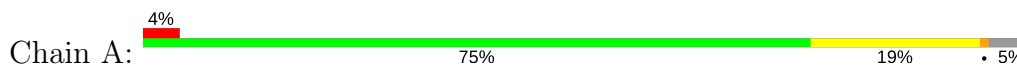
- Molecule 2: DNA (5'-D(*TP*TP*TP*TP*TP*TP*TP*GP*TP*GP*GP*CP*AP*CP*TP*GP*GP*CP*CP*GP*TP*CP*GP*TP*TP*TP*CP*G)-3')

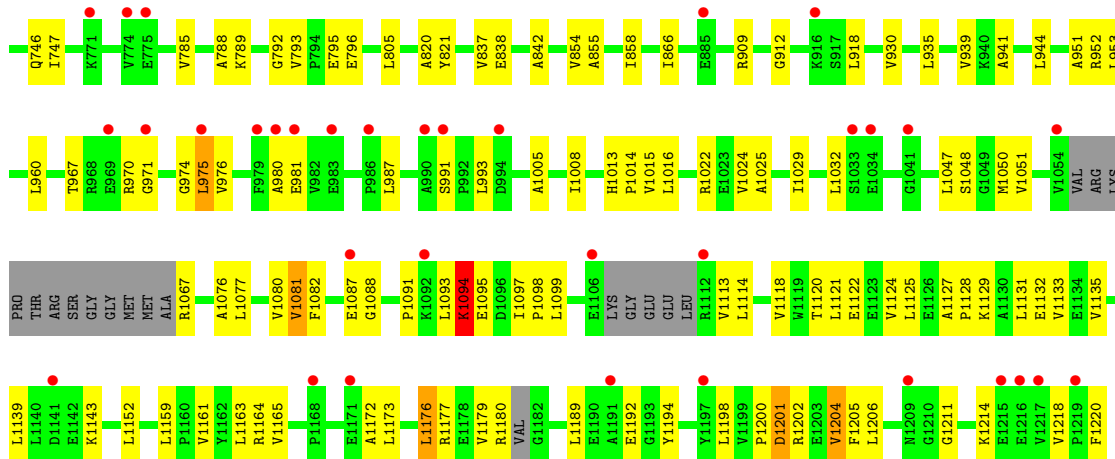


- Molecule 3: DNA (5'-D(P*CP*GP*AP*AP*AP*CP*GP*AP*CP*GP*GP*CP*CP*AP*GP*TP*GP*CP*CP*AP*(DOC))-3')

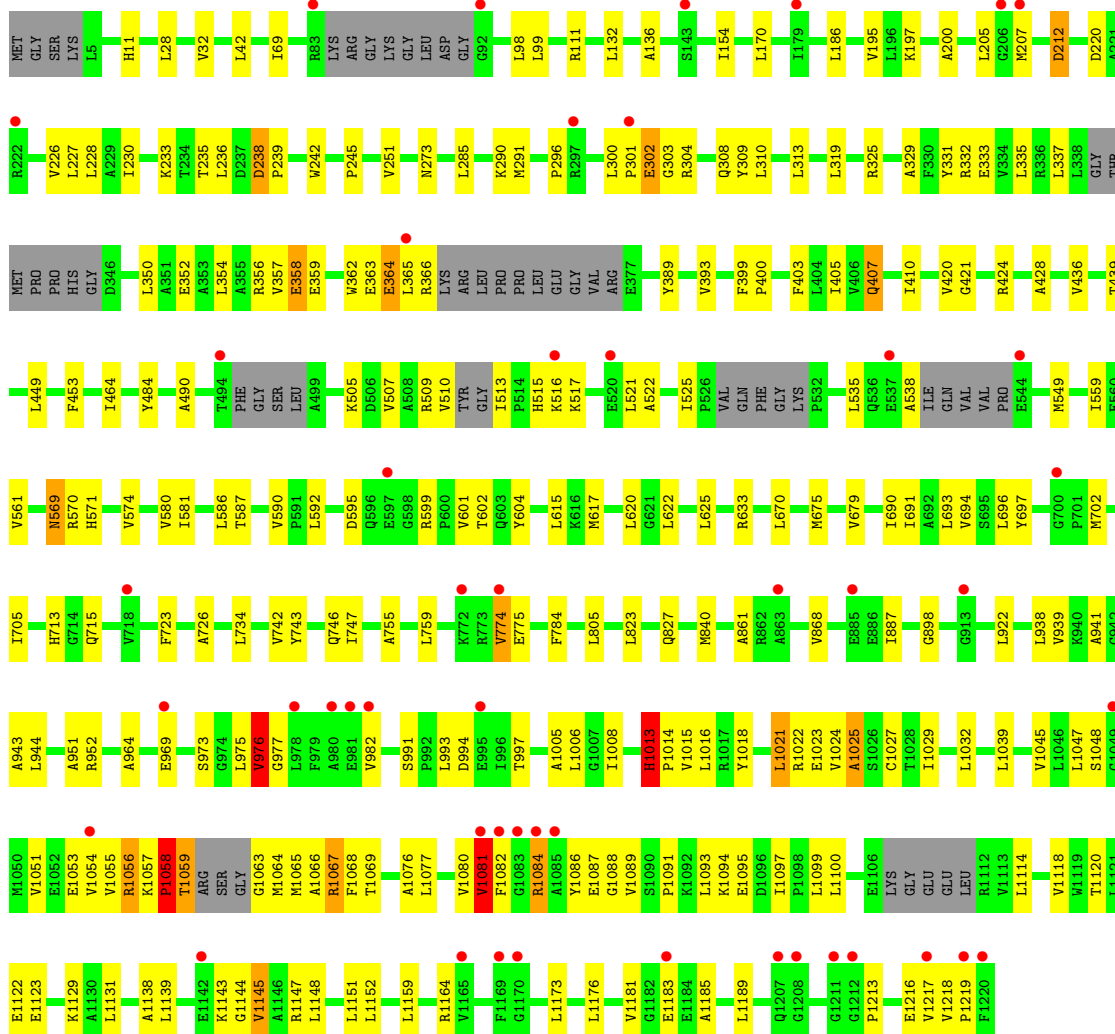
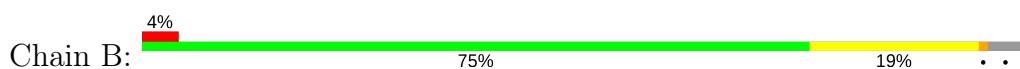


- Molecule 4: DNA polymerase III subunit alpha

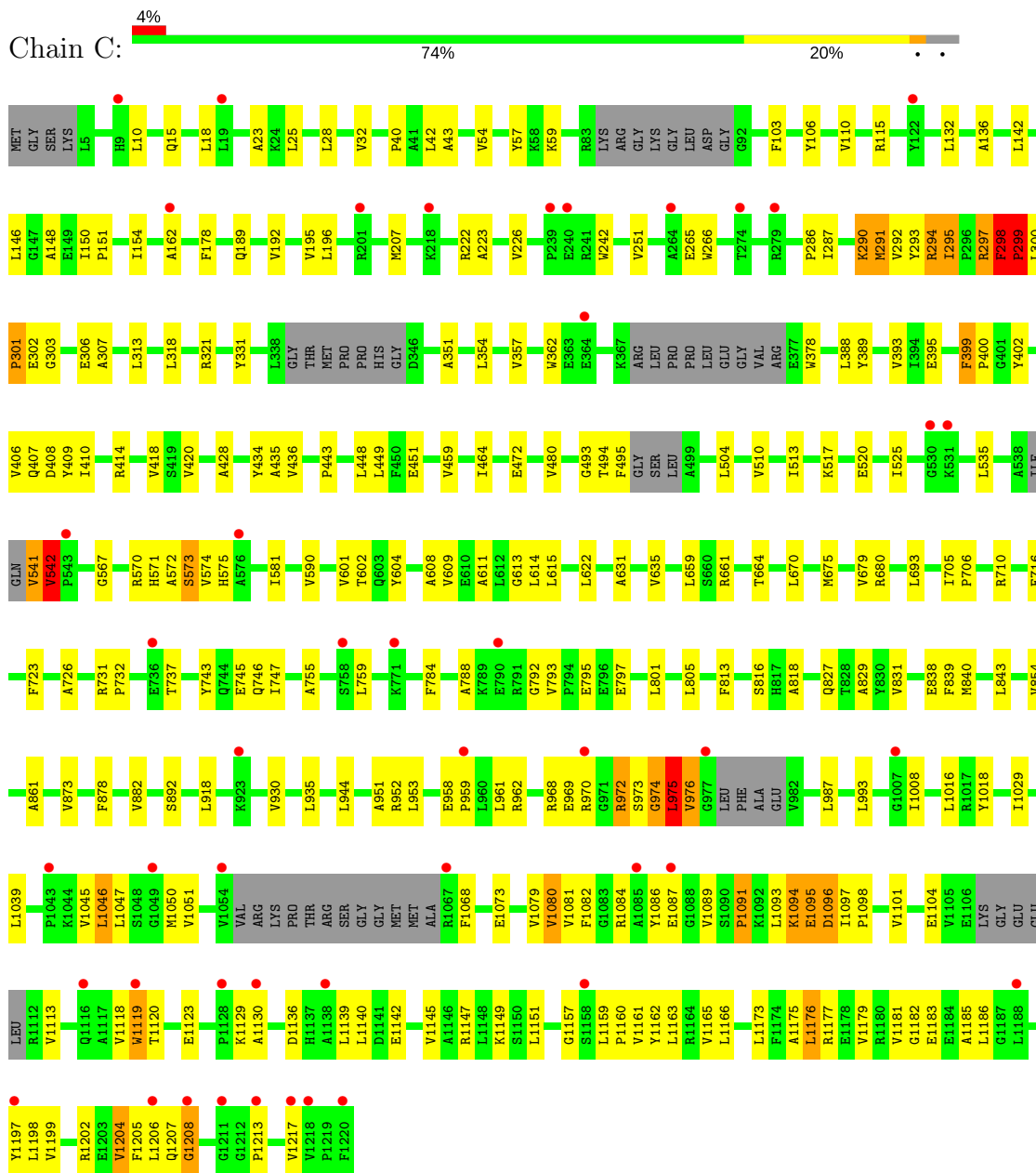




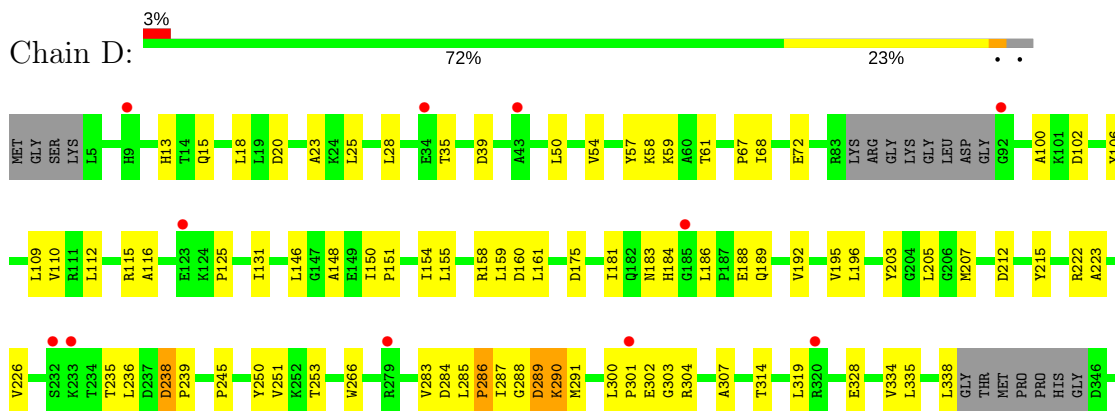
● Molecule 4: DNA polymerase III subunit alpha

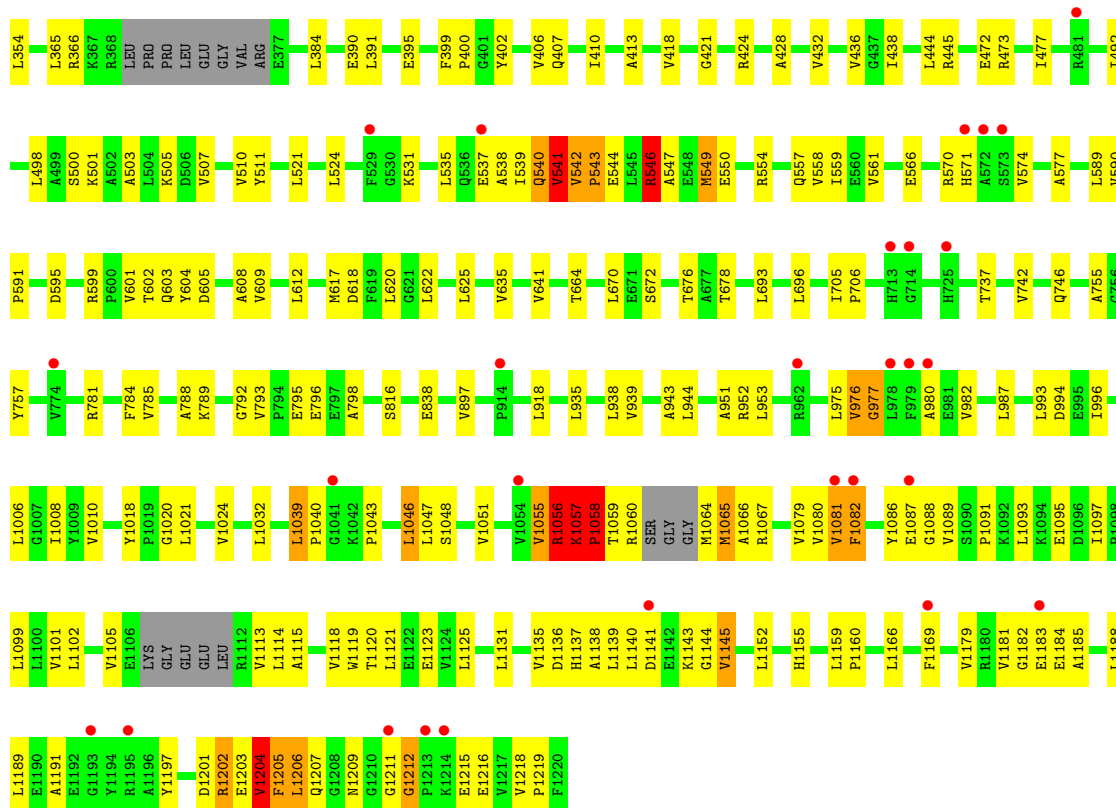


● Molecule 4: DNA polymerase III subunit alpha

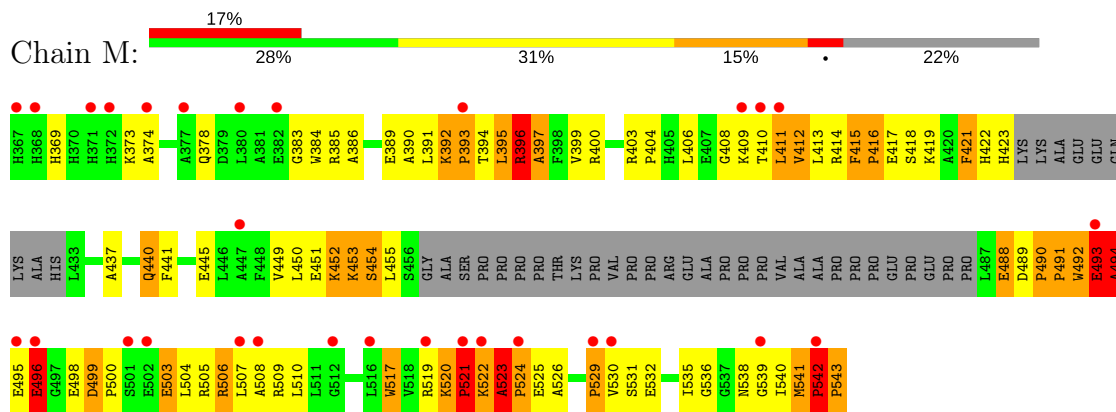


● Molecule 4: DNA polymerase III subunit alpha

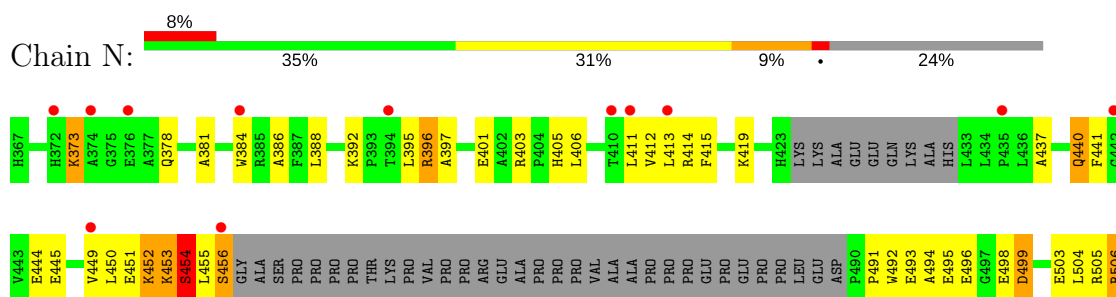


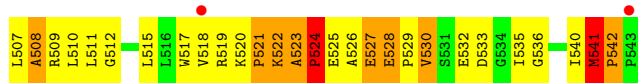


● Molecule 5: C-terminal domain of the DNA polymerase III subunit tau

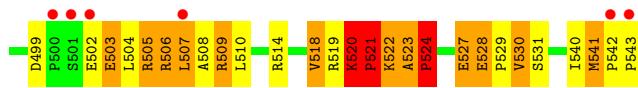
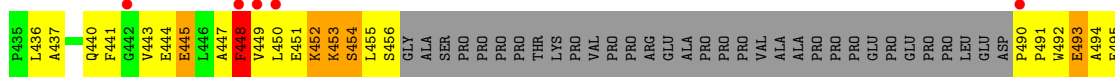
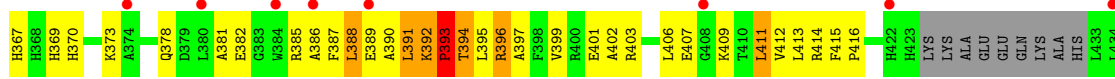
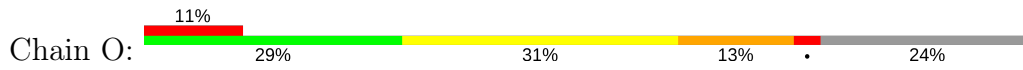


● Molecule 5: C-terminal domain of the DNA polymerase III subunit tau

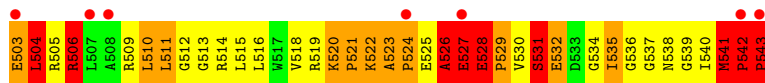
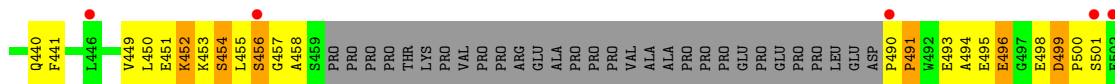
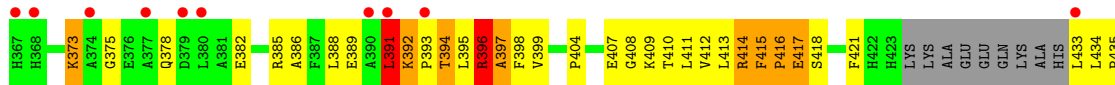
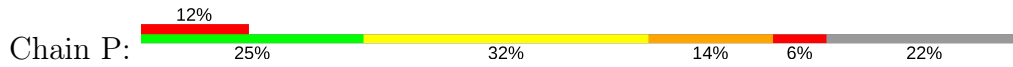




• Molecule 5: C-terminal domain of the DNA polymerase III subunit tau



• Molecule 5: C-terminal domain of the DNA polymerase III subunit tau



4 Data and refinement statistics i

| Property | Value | Source |
|---|---|------------------|
| Space group | P 1 21 1 | Depositor |
| Cell constants a, b, c, α , β , γ | 188.53Å 94.97Å 204.08Å 90.00° 89.97° 90.00° | Depositor |
| Resolution (Å) | 20.00 – 3.20 20.00 – 3.20 | Depositor EDS |
| % Data completeness (in resolution range) | 96.0 (20.00-3.20) 96.0 (20.00-3.20) | Depositor EDS |
| R_{merge} | (Not available) | Depositor |
| R_{sym} | 0.04 | Depositor |
| $\langle I/\sigma(I) \rangle$ ¹ | 15.90 (at 3.22Å) | Xtrriage |
| Refinement program | REFMAC 5.5.0109 | Depositor |
| R, R_{free} | 0.264 , 0.305 0.258 , 0.300 | Depositor DCC |
| R_{free} test set | 5710 reflections (4.99%) | wwPDB-VP |
| Wilson B-factor (Å ²) | 99.9 | Xtrriage |
| Anisotropy | 0.095 | Xtrriage |
| Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²) | 0.26 , 77.2 | EDS |
| L-test for twinning ² | $\langle L \rangle = 0.43$, $\langle L^2 \rangle = 0.25$ | Xtrriage |
| Estimated twinning fraction | 0.018 for h,-k,-l | Xtrriage |
| F_o, F_c correlation | 0.91 | EDS |
| Total number of atoms | 45265 | wwPDB-VP |
| Average B, all atoms (Å ²) | 151.0 | wwPDB-VP |

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.18% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: DOC, ZN, MG

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 | E | 0.31 | 0/462 | 0.78 | 0/710 |
| 1 | G | 0.34 | 0/462 | 0.81 | 1/710 (0.1%) |
| 1 | K | 0.30 | 0/462 | 0.80 | 1/710 (0.1%) |
| 2 | F | 0.31 | 0/456 | 0.88 | 2/702 (0.3%) |
| 2 | H | 0.41 | 0/613 | 0.84 | 1/945 (0.1%) |
| 2 | J | 0.34 | 0/525 | 0.85 | 1/809 (0.1%) |
| 2 | L | 0.38 | 0/547 | 0.80 | 0/843 |
| 3 | I | 0.33 | 0/462 | 0.80 | 1/710 (0.1%) |
| 4 | A | 0.50 | 2/9466 (0.0%) | 0.60 | 5/12781 (0.0%) |
| 4 | B | 0.50 | 1/9480 (0.0%) | 0.61 | 2/12800 (0.0%) |
| 4 | C | 0.51 | 3/9481 (0.0%) | 0.61 | 3/12805 (0.0%) |
| 4 | D | 0.52 | 1/9638 (0.0%) | 0.62 | 10/13019 (0.1%) |
| 5 | M | 0.85 | 7/1133 (0.6%) | 1.06 | 11/1528 (0.7%) |
| 5 | N | 0.63 | 0/1108 | 0.80 | 3/1493 (0.2%) |
| 5 | O | 0.69 | 0/1108 | 0.87 | 5/1493 (0.3%) |
| 5 | P | 0.82 | 2/1123 (0.2%) | 1.05 | 7/1513 (0.5%) |
| All | All | 0.53 | 16/46526 (0.0%) | 0.67 | 53/63571 (0.1%) |

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

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 4 | A | 0 | 1 |
| 4 | B | 0 | 1 |
| 4 | C | 0 | 3 |
| 4 | D | 0 | 4 |
| 5 | M | 0 | 7 |
| 5 | N | 0 | 1 |
| 5 | O | 0 | 2 |

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| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 5 | P | 0 | 7 |
| All | All | 0 | 26 |

All (16) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|------|-------------|----------|
| 5 | P | 543 | PRO | N-CD | 5.93 | 1.56 | 1.47 |
| 5 | M | 524 | PRO | N-CD | 5.75 | 1.55 | 1.47 |
| 5 | M | 416 | PRO | N-CD | 5.70 | 1.55 | 1.47 |
| 4 | A | 31 | TRP | CD2-CE2 | 5.58 | 1.48 | 1.41 |
| 4 | D | 1058 | PRO | N-CD | 5.57 | 1.55 | 1.47 |
| 5 | M | 491 | PRO | N-CD | 5.44 | 1.55 | 1.47 |
| 5 | M | 517 | TRP | CD2-CE2 | 5.43 | 1.47 | 1.41 |
| 5 | M | 543 | PRO | N-CD | 5.33 | 1.55 | 1.47 |
| 4 | B | 1058 | PRO | N-CD | 5.22 | 1.55 | 1.47 |
| 4 | C | 1119 | TRP | CD2-CE2 | 5.21 | 1.47 | 1.41 |
| 5 | P | 524 | PRO | N-CD | 5.20 | 1.55 | 1.47 |
| 4 | C | 242 | TRP | CD2-CE2 | 5.16 | 1.47 | 1.41 |
| 5 | M | 523 | ALA | C-N | 5.14 | 1.44 | 1.34 |
| 4 | A | 362 | TRP | CD2-CE2 | 5.09 | 1.47 | 1.41 |
| 5 | M | 384 | TRP | CD2-CE2 | 5.07 | 1.47 | 1.41 |
| 4 | C | 378 | TRP | CD2-CE2 | 5.03 | 1.47 | 1.41 |

All (53) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-----------|-------|-------------|----------|
| 4 | B | 212 | ASP | CB-CG-OD1 | 9.95 | 127.25 | 118.30 |
| 2 | F | 24 | DT | P-O3'-C3' | 9.83 | 131.50 | 119.70 |
| 5 | P | 541 | MET | C-N-CD | 8.76 | 146.79 | 128.40 |
| 5 | P | 415 | PHE | C-N-CD | 8.45 | 146.15 | 128.40 |
| 5 | M | 541 | MET | C-N-CD | 8.39 | 146.02 | 128.40 |
| 4 | A | 796 | GLU | N-CA-C | -7.96 | 89.50 | 111.00 |
| 1 | G | 18 | DC | P-O3'-C3' | 7.73 | 128.97 | 119.70 |
| 2 | F | 12 | DC | P-O3'-C3' | 7.63 | 128.85 | 119.70 |
| 5 | M | 493 | GLU | N-CA-C | 7.27 | 130.64 | 111.00 |
| 2 | H | 6 | DT | P-O3'-C3' | 7.11 | 128.23 | 119.70 |
| 5 | P | 542 | PRO | CA-N-CD | -7.08 | 101.58 | 111.50 |
| 4 | D | 542 | VAL | N-CA-C | 7.03 | 129.97 | 111.00 |
| 5 | N | 541 | MET | C-N-CD | -6.90 | 105.43 | 120.60 |
| 5 | O | 523 | ALA | C-N-CD | -6.59 | 106.11 | 120.60 |
| 5 | M | 542 | PRO | CA-N-CD | -6.54 | 102.34 | 111.50 |
| 5 | P | 524 | PRO | CA-N-CD | -6.53 | 102.36 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 5 | M | 494 | ALA | N-CA-C | -6.45 | 93.59 | 111.00 |
| 5 | O | 520 | LYS | C-N-CD | 6.27 | 141.57 | 128.40 |
| 5 | P | 416 | PRO | CA-N-CD | -6.22 | 102.80 | 111.50 |
| 5 | O | 524 | PRO | CA-N-CD | -6.15 | 102.89 | 111.50 |
| 4 | C | 298 | PHE | C-N-CD | 6.12 | 141.25 | 128.40 |
| 4 | D | 1212 | GLY | C-N-CD | 6.03 | 141.07 | 128.40 |
| 4 | D | 1058 | PRO | CA-N-CD | -6.00 | 103.11 | 111.50 |
| 4 | C | 295 | ILE | C-N-CD | 5.90 | 140.78 | 128.40 |
| 2 | J | 6 | DT | P-O3'-C3' | 5.89 | 126.77 | 119.70 |
| 5 | M | 520 | LYS | C-N-CD | 5.85 | 140.68 | 128.40 |
| 4 | A | 670 | LEU | N-CA-CB | 5.79 | 121.98 | 110.40 |
| 5 | M | 521 | PRO | CA-N-CD | -5.75 | 103.45 | 111.50 |
| 4 | A | 796 | GLU | N-CA-CB | 5.69 | 120.85 | 110.60 |
| 1 | K | 17 | DG | P-O3'-C3' | 5.69 | 126.53 | 119.70 |
| 5 | P | 526 | ALA | N-CA-C | 5.62 | 126.17 | 111.00 |
| 5 | N | 524 | PRO | CA-N-CD | -5.55 | 103.73 | 111.50 |
| 5 | N | 384 | TRP | N-CA-C | 5.53 | 125.93 | 111.00 |
| 5 | M | 392 | LYS | C-N-CD | -5.52 | 108.45 | 120.60 |
| 5 | M | 542 | PRO | C-N-CD | 5.52 | 140.00 | 128.40 |
| 4 | D | 1056 | ARG | O-C-N | -5.48 | 113.92 | 122.70 |
| 5 | O | 508 | ALA | N-CA-C | 5.37 | 125.51 | 111.00 |
| 5 | M | 490 | PRO | C-N-CD | 5.32 | 139.57 | 128.40 |
| 4 | D | 1056 | ARG | C-N-CA | -5.32 | 108.41 | 121.70 |
| 4 | D | 20 | ASP | CB-CG-OD1 | -5.30 | 113.53 | 118.30 |
| 4 | A | 20 | ASP | CB-CG-OD2 | 5.28 | 123.05 | 118.30 |
| 4 | D | 542 | VAL | N-CA-CB | -5.27 | 99.90 | 111.50 |
| 4 | D | 796 | GLU | N-CA-C | -5.25 | 96.81 | 111.00 |
| 4 | C | 975 | LEU | C-N-CA | -5.21 | 108.68 | 121.70 |
| 5 | O | 521 | PRO | CA-N-CD | -5.20 | 104.21 | 111.50 |
| 4 | D | 1184 | GLU | N-CA-C | -5.11 | 97.19 | 111.00 |
| 5 | P | 542 | PRO | C-N-CD | 5.09 | 139.09 | 128.40 |
| 5 | M | 415 | PHE | C-N-CD | 5.09 | 139.09 | 128.40 |
| 4 | B | 1058 | PRO | CA-N-CD | -5.08 | 104.38 | 111.50 |
| 3 | I | 18 | DC | P-O3'-C3' | 5.08 | 125.79 | 119.70 |
| 4 | A | 212 | ASP | CB-CG-OD1 | 5.07 | 122.86 | 118.30 |
| 4 | D | 212 | ASP | CB-CG-OD1 | 5.05 | 122.85 | 118.30 |
| 5 | M | 541 | MET | N-CA-C | 5.02 | 124.56 | 111.00 |

There are no chirality outliers.

All (26) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-------------------|
| 4 | A | 570 | ARG | Peptide |
| 4 | B | 1084 | ARG | Sidechain |
| 4 | C | 1080 | VAL | Peptide |
| 4 | C | 972 | ARG | Mainchain |
| 4 | C | 974 | GLY | Peptide |
| 4 | D | 1057 | LYS | Peptide |
| 4 | D | 1206 | LEU | Peptide |
| 4 | D | 541 | VAL | Peptide |
| 4 | D | 546 | ARG | Sidechain |
| 5 | M | 396 | ARG | Peptide |
| 5 | M | 397 | ALA | Peptide |
| 5 | M | 412 | VAL | Peptide |
| 5 | M | 493 | GLU | Mainchain,Peptide |
| 5 | M | 494 | ALA | Mainchain |
| 5 | M | 521 | PRO | Peptide |
| 5 | N | 508 | ALA | Peptide |
| 5 | O | 507 | LEU | Peptide |
| 5 | O | 509 | ARG | Sidechain |
| 5 | P | 391 | LEU | Peptide |
| 5 | P | 394 | THR | Peptide |
| 5 | P | 411 | LEU | Mainchain,Peptide |
| 5 | P | 504 | LEU | Peptide |
| 5 | P | 506 | ARG | Peptide |
| 5 | P | 531 | SER | Peptide |

5.2 Too-close contacts [i](#)

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

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 1 | E | 411 | 0 | 222 | 2 | 0 |
| 1 | G | 411 | 0 | 222 | 5 | 0 |
| 1 | K | 411 | 0 | 222 | 1 | 0 |
| 2 | F | 409 | 0 | 227 | 5 | 0 |
| 2 | H | 551 | 0 | 310 | 4 | 0 |
| 2 | J | 471 | 0 | 262 | 2 | 0 |
| 2 | L | 491 | 0 | 274 | 2 | 0 |
| 3 | I | 411 | 0 | 221 | 5 | 0 |
| 4 | A | 9280 | 0 | 9298 | 227 | 2 |
| 4 | B | 9295 | 0 | 9323 | 298 | 3 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 4 | C | 9293 | 0 | 9318 | 274 | 0 |
| 4 | D | 9445 | 0 | 9488 | 387 | 2 |
| 5 | M | 1103 | 0 | 1085 | 176 | 0 |
| 5 | N | 1078 | 0 | 1065 | 134 | 1 |
| 5 | O | 1078 | 0 | 1065 | 143 | 0 |
| 5 | P | 1093 | 0 | 1078 | 208 | 2 |
| 6 | I | 18 | 0 | 12 | 1 | 0 |
| 7 | A | 3 | 0 | 0 | 0 | 0 |
| 7 | B | 3 | 0 | 0 | 0 | 0 |
| 7 | C | 3 | 0 | 0 | 0 | 0 |
| 7 | D | 3 | 0 | 0 | 0 | 0 |
| 8 | A | 1 | 0 | 0 | 0 | 0 |
| 8 | B | 1 | 0 | 0 | 0 | 0 |
| 8 | C | 1 | 0 | 0 | 0 | 0 |
| 8 | D | 1 | 0 | 0 | 0 | 0 |
| All | All | 45265 | 0 | 43692 | 1851 | 7 |

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 21.

All (1851) 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) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:P:528:GLU:CG | 5:P:529:PRO:HD3 | 1.29 | 1.53 |
| 5:O:387:PHE:CE2 | 5:O:441:PHE:CE2 | 2.03 | 1.47 |
| 4:D:1080:VAL:HG11 | 4:D:1082:PHE:CE2 | 1.50 | 1.45 |
| 5:P:523:ALA:CB | 5:P:524:PRO:HA | 1.38 | 1.43 |
| 4:D:1080:VAL:HA | 4:D:1081:VAL:CG2 | 1.47 | 1.41 |
| 4:D:549:MET:CE | 4:D:559:ILE:HD12 | 1.49 | 1.40 |
| 4:D:1082:PHE:CE1 | 4:D:1114:LEU:HG | 1.58 | 1.39 |
| 5:O:519:ARG:HD3 | 5:O:520:LYS:NZ | 1.35 | 1.35 |
| 4:D:1066:ALA:O | 4:D:1081:VAL:HG13 | 1.27 | 1.30 |
| 5:N:523:ALA:CB | 5:N:524:PRO:HA | 1.63 | 1.29 |
| 4:D:1080:VAL:HA | 4:D:1081:VAL:CB | 1.59 | 1.27 |
| 5:P:524:PRO:HD2 | 5:P:525:GLU:O | 1.30 | 1.25 |
| 4:D:1082:PHE:HE1 | 4:D:1114:LEU:CD1 | 1.51 | 1.24 |
| 4:D:1057:LYS:HG2 | 4:D:1064:MET:CA | 1.67 | 1.23 |
| 4:B:1066:ALA:O | 4:B:1081:VAL:HB | 1.32 | 1.22 |
| 4:D:1057:LYS:CG | 4:D:1064:MET:HA | 1.69 | 1.22 |
| 4:D:1082:PHE:HE1 | 4:D:1114:LEU:CG | 1.52 | 1.21 |
| 4:D:549:MET:CE | 4:D:559:ILE:CD1 | 2.19 | 1.21 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:D:1082:PHE:CE1 | 4:D:1114:LEU:CG | 2.23 | 1.21 |
| 5:M:492:TRP:O | 5:M:493:GLU:HG2 | 1.37 | 1.20 |
| 4:B:357:VAL:HG12 | 4:B:358:GLU:HG3 | 1.21 | 1.19 |
| 4:D:1080:VAL:CA | 4:D:1081:VAL:HG23 | 1.72 | 1.19 |
| 5:N:505:ARG:HD3 | 5:N:510:LEU:HD23 | 1.19 | 1.18 |
| 4:A:971:GLY:HA2 | 4:A:975:LEU:CB | 1.74 | 1.17 |
| 4:B:1057:LYS:HE2 | 4:B:1064:MET:HE2 | 1.25 | 1.17 |
| 5:O:519:ARG:CD | 5:O:520:LYS:HZ3 | 1.56 | 1.17 |
| 5:P:524:PRO:HD2 | 5:P:525:GLU:C | 1.63 | 1.17 |
| 4:B:1056:ARG:HG3 | 4:B:1057:LYS:CG | 1.75 | 1.16 |
| 5:O:387:PHE:CZ | 5:O:441:PHE:CE2 | 2.32 | 1.16 |
| 5:O:519:ARG:CD | 5:O:520:LYS:NZ | 2.06 | 1.16 |
| 5:P:528:GLU:CG | 5:P:529:PRO:CD | 2.24 | 1.15 |
| 5:P:523:ALA:HB3 | 5:P:524:PRO:HA | 1.27 | 1.15 |
| 4:D:549:MET:HE3 | 4:D:559:ILE:CD1 | 1.73 | 1.15 |
| 4:C:1080:VAL:HG12 | 4:C:1082:PHE:CD2 | 1.81 | 1.13 |
| 4:B:1066:ALA:O | 4:B:1081:VAL:CB | 1.94 | 1.13 |
| 4:B:357:VAL:HB | 4:B:358:GLU:HB2 | 1.20 | 1.13 |
| 5:P:505:ARG:HB3 | 5:P:510:LEU:HD12 | 1.31 | 1.13 |
| 5:P:523:ALA:CB | 5:P:524:PRO:CA | 2.25 | 1.13 |
| 4:D:1080:VAL:HA | 4:D:1081:VAL:HG23 | 1.23 | 1.12 |
| 5:O:450:LEU:HB3 | 5:O:451:GLU:C | 1.69 | 1.12 |
| 4:B:1159:LEU:HD11 | 4:B:1183:GLU:HG3 | 1.13 | 1.12 |
| 4:A:1080:VAL:CG2 | 4:A:1114:LEU:HA | 1.78 | 1.11 |
| 5:O:388:LEU:HD21 | 5:O:399:VAL:HG23 | 1.33 | 1.11 |
| 5:P:505:ARG:HD2 | 5:P:514:ARG:CZ | 1.81 | 1.10 |
| 4:C:1080:VAL:HG12 | 4:C:1082:PHE:HD2 | 1.02 | 1.10 |
| 5:P:494:ALA:CB | 5:P:495:GLU:HA | 1.79 | 1.10 |
| 5:P:528:GLU:HG3 | 5:P:529:PRO:HD3 | 1.14 | 1.10 |
| 4:D:537:GLU:O | 4:D:540:GLN:HG3 | 1.53 | 1.09 |
| 5:M:421:PHE:CD2 | 5:M:422:HIS:ND1 | 2.20 | 1.09 |
| 5:N:523:ALA:HB1 | 5:N:524:PRO:CA | 1.83 | 1.09 |
| 5:O:387:PHE:CZ | 5:O:441:PHE:CD2 | 2.41 | 1.08 |
| 4:B:1080:VAL:HA | 4:B:1081:VAL:HG22 | 1.11 | 1.08 |
| 4:D:1065:MET:SD | 4:D:1082:PHE:HA | 1.92 | 1.08 |
| 5:N:506:ARG:HB2 | 5:N:510:LEU:HB2 | 1.16 | 1.08 |
| 4:C:1093:LEU:HD11 | 4:C:1097:ILE:CG2 | 1.83 | 1.08 |
| 4:D:1080:VAL:CG1 | 4:D:1082:PHE:CE2 | 2.35 | 1.08 |
| 4:D:1082:PHE:CE1 | 4:D:1114:LEU:CD1 | 2.36 | 1.08 |
| 5:N:494:ALA:CB | 5:N:495:GLU:HA | 1.82 | 1.08 |
| 4:D:537:GLU:HA | 4:D:540:GLN:CG | 1.84 | 1.07 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 5:P:505:ARG:HD2 | 5:P:514:ARG:NH2 | 1.69 | 1.07 |
| 5:P:532:GLU:HA | 5:P:535:ILE:HD13 | 1.36 | 1.07 |
| 5:M:421:PHE:CE2 | 5:M:422:HIS:ND1 | 2.20 | 1.07 |
| 5:N:523:ALA:HB1 | 5:N:524:PRO:HA | 1.32 | 1.07 |
| 5:P:505:ARG:CB | 5:P:510:LEU:HD12 | 1.83 | 1.07 |
| 4:A:1080:VAL:HA | 4:A:1081:VAL:HB | 1.33 | 1.07 |
| 4:D:1080:VAL:CA | 4:D:1081:VAL:CG2 | 2.32 | 1.06 |
| 5:N:505:ARG:CD | 5:N:510:LEU:HD23 | 1.83 | 1.06 |
| 5:P:491:PRO:HB3 | 5:P:540:ILE:HG21 | 1.36 | 1.06 |
| 5:O:450:LEU:HB3 | 5:O:451:GLU:O | 1.54 | 1.06 |
| 4:A:572:ALA:HB1 | 4:A:573:SER:HB2 | 1.36 | 1.06 |
| 4:B:1056:ARG:CG | 4:B:1057:LYS:HG3 | 1.85 | 1.06 |
| 5:P:524:PRO:CD | 5:P:525:GLU:O | 2.03 | 1.06 |
| 4:A:572:ALA:HB1 | 4:A:573:SER:CB | 1.84 | 1.06 |
| 4:B:1057:LYS:HB3 | 4:B:1058:PRO:HA | 1.37 | 1.05 |
| 5:M:507:LEU:H | 5:M:510:LEU:HD22 | 1.14 | 1.05 |
| 5:N:523:ALA:HB3 | 5:N:524:PRO:HA | 1.37 | 1.05 |
| 4:C:292:VAL:O | 4:C:294:ARG:NH2 | 1.88 | 1.05 |
| 5:M:519:ARG:HB3 | 5:M:520:LYS:HB2 | 1.08 | 1.05 |
| 5:N:524:PRO:HD2 | 5:N:525:GLU:HA | 1.30 | 1.05 |
| 4:C:972:ARG:O | 4:C:974:GLY:N | 1.89 | 1.05 |
| 5:N:508:ALA:HA | 5:N:510:LEU:H | 1.19 | 1.05 |
| 4:A:1080:VAL:HG22 | 4:A:1114:LEU:HA | 1.35 | 1.04 |
| 4:D:498:LEU:HD21 | 4:D:503:ALA:HB2 | 1.38 | 1.04 |
| 4:B:1057:LYS:HG2 | 4:B:1064:MET:CA | 1.88 | 1.04 |
| 5:P:412:VAL:HB | 5:P:415:PHE:CD2 | 1.92 | 1.04 |
| 4:B:1066:ALA:O | 4:B:1081:VAL:CG1 | 2.06 | 1.03 |
| 5:O:523:ALA:HB1 | 5:O:524:PRO:HB3 | 1.35 | 1.03 |
| 5:P:528:GLU:HG2 | 5:P:529:PRO:CD | 1.84 | 1.03 |
| 4:B:1057:LYS:CG | 4:B:1064:MET:HA | 1.89 | 1.03 |
| 4:D:1080:VAL:HA | 4:D:1081:VAL:HB | 1.34 | 1.03 |
| 5:P:523:ALA:HB1 | 5:P:524:PRO:HA | 1.05 | 1.02 |
| 4:B:1056:ARG:HD2 | 4:B:1057:LYS:HE3 | 1.42 | 1.02 |
| 4:D:1080:VAL:CA | 4:D:1081:VAL:CB | 2.37 | 1.02 |
| 5:O:388:LEU:HD21 | 5:O:399:VAL:CG2 | 1.89 | 1.02 |
| 4:A:1080:VAL:HG21 | 4:A:1114:LEU:CD2 | 1.90 | 1.02 |
| 5:N:505:ARG:HB3 | 5:N:506:ARG:HB3 | 1.40 | 1.01 |
| 4:D:549:MET:HE3 | 4:D:559:ILE:HD12 | 1.06 | 1.01 |
| 5:P:501:SER:HB3 | 5:P:514:ARG:HD2 | 1.42 | 1.01 |
| 5:O:494:ALA:CB | 5:O:495:GLU:HA | 1.90 | 1.01 |
| 5:O:502:GLU:O | 5:O:503:GLU:HB2 | 1.60 | 1.01 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:A:971:GLY:HA2 | 4:A:975:LEU:HB3 | 1.03 | 1.01 |
| 4:D:1057:LYS:HB3 | 4:D:1058:PRO:HA | 1.43 | 1.01 |
| 4:B:1093:LEU:HD11 | 4:B:1097:ILE:HG21 | 1.39 | 1.00 |
| 5:N:505:ARG:HD2 | 5:N:510:LEU:HB3 | 1.42 | 1.00 |
| 4:D:500:SER:HB3 | 4:D:535:LEU:CD1 | 1.91 | 1.00 |
| 5:P:501:SER:HB2 | 5:P:504:LEU:O | 1.61 | 1.00 |
| 4:B:1080:VAL:HA | 4:B:1081:VAL:CG2 | 1.92 | 1.00 |
| 4:B:1080:VAL:CA | 4:B:1081:VAL:HG22 | 1.91 | 1.00 |
| 4:C:287:ILE:HA | 4:C:291:MET:HB3 | 1.41 | 1.00 |
| 4:A:572:ALA:CB | 4:A:573:SER:HB2 | 1.90 | 0.99 |
| 4:D:501:LYS:HE3 | 4:D:505:LYS:NZ | 1.77 | 0.99 |
| 4:A:1080:VAL:HG21 | 4:A:1114:LEU:HD22 | 1.43 | 0.99 |
| 5:P:505:ARG:CZ | 5:P:532:GLU:OE1 | 2.11 | 0.99 |
| 4:C:1093:LEU:HD11 | 4:C:1097:ILE:CB | 1.93 | 0.99 |
| 4:D:549:MET:HE2 | 4:D:559:ILE:HD12 | 1.44 | 0.99 |
| 4:A:1029:ILE:HG23 | 4:A:1077:LEU:HD13 | 1.44 | 0.99 |
| 4:D:1080:VAL:HG11 | 4:D:1082:PHE:CD2 | 1.98 | 0.99 |
| 5:N:520:LYS:N | 5:N:521:PRO:HD3 | 1.77 | 0.98 |
| 5:P:528:GLU:HG2 | 5:P:529:PRO:HD3 | 1.02 | 0.98 |
| 5:O:387:PHE:CE2 | 5:O:441:PHE:CZ | 2.50 | 0.98 |
| 4:C:1129:LYS:HE2 | 4:C:1183:GLU:OE2 | 1.63 | 0.98 |
| 5:P:506:ARG:HH11 | 5:P:506:ARG:HB2 | 1.28 | 0.97 |
| 5:N:506:ARG:HB2 | 5:N:510:LEU:CB | 1.94 | 0.97 |
| 4:D:1202:ARG:HG2 | 4:D:1202:ARG:HH11 | 1.25 | 0.97 |
| 5:M:519:ARG:CB | 5:M:520:LYS:HB2 | 1.94 | 0.97 |
| 5:M:396:ARG:HA | 5:M:397:ALA:HB3 | 1.44 | 0.97 |
| 5:M:519:ARG:HD3 | 5:M:520:LYS:HE2 | 1.45 | 0.97 |
| 4:D:1059:THR:HG22 | 4:D:1065:MET:HE3 | 1.47 | 0.96 |
| 5:N:494:ALA:HB3 | 5:N:495:GLU:HA | 1.45 | 0.96 |
| 4:B:357:VAL:CG1 | 4:B:358:GLU:HG3 | 1.94 | 0.96 |
| 5:M:396:ARG:HB2 | 5:M:397:ALA:O | 1.65 | 0.96 |
| 5:M:421:PHE:HE2 | 5:M:422:HIS:HD1 | 0.98 | 0.96 |
| 4:C:1080:VAL:HB | 4:C:1082:PHE:N | 1.79 | 0.96 |
| 5:N:523:ALA:CB | 5:N:524:PRO:CA | 2.34 | 0.96 |
| 5:N:524:PRO:HB2 | 5:N:525:GLU:C | 1.84 | 0.96 |
| 5:P:494:ALA:HB3 | 5:P:495:GLU:HA | 1.43 | 0.95 |
| 4:D:284:ASP:HB3 | 4:D:290:LYS:CE | 1.96 | 0.95 |
| 4:B:1057:LYS:HE2 | 4:B:1064:MET:CE | 1.96 | 0.95 |
| 4:D:1080:VAL:CA | 4:D:1081:VAL:HB | 1.96 | 0.95 |
| 4:B:1057:LYS:CE | 4:B:1064:MET:HE2 | 1.96 | 0.95 |
| 4:D:1080:VAL:CG1 | 4:D:1082:PHE:HE2 | 1.76 | 0.95 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:A:971:GLY:CA | 4:A:975:LEU:HB3 | 1.94 | 0.95 |
| 4:C:1093:LEU:HD11 | 4:C:1097:ILE:HG21 | 1.43 | 0.95 |
| 4:D:1082:PHE:CE1 | 4:D:1114:LEU:HD12 | 1.99 | 0.95 |
| 5:M:505:ARG:HB3 | 5:M:506:ARG:HB3 | 1.48 | 0.95 |
| 4:A:1067:ARG:CA | 4:A:1081:VAL:HG21 | 1.97 | 0.94 |
| 4:B:357:VAL:HB | 4:B:358:GLU:CB | 1.96 | 0.94 |
| 5:M:494:ALA:HB1 | 5:M:495:GLU:HA | 1.47 | 0.94 |
| 4:D:1060:ARG:HH11 | 4:D:1060:ARG:HG2 | 1.33 | 0.94 |
| 5:P:528:GLU:HG3 | 5:P:529:PRO:CD | 1.94 | 0.94 |
| 5:N:505:ARG:HB3 | 5:N:506:ARG:CB | 1.96 | 0.94 |
| 4:D:501:LYS:HE3 | 4:D:505:LYS:HZ1 | 1.33 | 0.94 |
| 5:M:525:GLU:HG2 | 5:M:530:VAL:HG23 | 1.47 | 0.94 |
| 4:D:1080:VAL:HG21 | 4:D:1082:PHE:CE2 | 2.03 | 0.93 |
| 5:N:453:LYS:O | 5:N:454:SER:HB2 | 1.64 | 0.93 |
| 5:P:412:VAL:HB | 5:P:415:PHE:HD2 | 1.28 | 0.93 |
| 5:M:419:LYS:HA | 5:M:422:HIS:CD2 | 2.04 | 0.93 |
| 5:P:532:GLU:HA | 5:P:535:ILE:CD1 | 1.98 | 0.93 |
| 5:M:507:LEU:N | 5:M:510:LEU:HD22 | 1.82 | 0.93 |
| 4:D:549:MET:HE1 | 4:D:559:ILE:HG21 | 1.50 | 0.93 |
| 5:M:418:SER:O | 5:M:422:HIS:NE2 | 2.02 | 0.93 |
| 5:P:499:ASP:HB2 | 5:P:515:LEU:HD22 | 1.48 | 0.92 |
| 4:D:284:ASP:HB3 | 4:D:290:LYS:HE3 | 1.48 | 0.92 |
| 5:P:523:ALA:HB3 | 5:P:524:PRO:CA | 1.95 | 0.92 |
| 4:D:1205:PHE:CD1 | 4:D:1206:LEU:HD12 | 2.04 | 0.92 |
| 5:N:505:ARG:NH2 | 5:N:532:GLU:OE1 | 2.02 | 0.92 |
| 4:D:994:ASP:HB2 | 5:P:528:GLU:OE1 | 1.69 | 0.92 |
| 4:A:1067:ARG:HA | 4:A:1081:VAL:HG21 | 1.50 | 0.92 |
| 5:N:541:MET:N | 5:N:542:PRO:HD2 | 1.85 | 0.92 |
| 5:M:413:LEU:C | 5:M:416:PRO:HD2 | 1.89 | 0.92 |
| 5:O:390:ALA:HB3 | 5:O:393:PRO:CG | 2.00 | 0.92 |
| 4:D:1056:ARG:HA | 4:D:1066:ALA:HB2 | 1.52 | 0.92 |
| 5:N:524:PRO:CD | 5:N:525:GLU:HA | 1.98 | 0.91 |
| 5:P:540:ILE:HD12 | 5:P:541:MET:N | 1.85 | 0.91 |
| 4:A:513:ILE:HG22 | 4:A:514:PRO:HD3 | 1.48 | 0.91 |
| 5:M:505:ARG:HB3 | 5:M:506:ARG:CB | 1.99 | 0.91 |
| 5:P:505:ARG:CZ | 5:P:510:LEU:HD13 | 2.00 | 0.91 |
| 5:P:522:LYS:HG3 | 5:P:523:ALA:H | 1.34 | 0.91 |
| 5:N:395:LEU:HA | 5:N:396:ARG:HB2 | 1.51 | 0.91 |
| 5:P:523:ALA:HB1 | 5:P:524:PRO:CA | 1.93 | 0.91 |
| 4:D:1102:LEU:HD12 | 4:D:1206:LEU:HG | 1.52 | 0.91 |
| 5:O:388:LEU:CD2 | 5:O:399:VAL:CG2 | 2.48 | 0.91 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:N:508:ALA:HA | 5:N:510:LEU:N | 1.85 | 0.91 |
| 4:B:1093:LEU:HD11 | 4:B:1097:ILE:CG2 | 2.01 | 0.91 |
| 4:A:747:ILE:HG23 | 4:A:805:LEU:HD22 | 1.51 | 0.90 |
| 4:D:549:MET:HE1 | 4:D:559:ILE:CG2 | 2.01 | 0.90 |
| 4:B:1056:ARG:CD | 4:B:1057:LYS:HE3 | 2.02 | 0.90 |
| 4:B:1159:LEU:CD1 | 4:B:1183:GLU:HG3 | 2.02 | 0.90 |
| 4:D:1102:LEU:CD1 | 4:D:1206:LEU:HG | 2.02 | 0.90 |
| 4:A:1067:ARG:N | 4:A:1081:VAL:HG21 | 1.88 | 0.89 |
| 4:B:1067:ARG:HA | 4:B:1081:VAL:HG21 | 1.54 | 0.89 |
| 4:D:1082:PHE:CZ | 4:D:1114:LEU:HA | 2.07 | 0.89 |
| 4:D:1057:LYS:HB3 | 4:D:1058:PRO:CA | 2.02 | 0.89 |
| 4:C:154:ILE:HD11 | 4:C:195:VAL:HB | 1.54 | 0.88 |
| 4:C:494:THR:N | 4:C:573:SER:O | 2.06 | 0.88 |
| 5:O:494:ALA:HB1 | 5:O:495:GLU:HA | 1.52 | 0.88 |
| 4:A:1133:VAL:CG2 | 4:A:1189:LEU:HD11 | 2.03 | 0.88 |
| 4:D:1006:LEU:HD13 | 4:D:1010:VAL:HG21 | 1.53 | 0.88 |
| 5:P:506:ARG:HB2 | 5:P:506:ARG:NH1 | 1.89 | 0.88 |
| 4:B:1013:HIS:NE2 | 4:B:1016:LEU:HD11 | 1.89 | 0.88 |
| 5:M:506:ARG:C | 5:M:507:LEU:HD22 | 1.94 | 0.88 |
| 4:A:855:ALA:HB2 | 4:A:1008:ILE:HD11 | 1.56 | 0.88 |
| 5:M:519:ARG:HD3 | 5:M:520:LYS:CE | 2.03 | 0.88 |
| 5:M:539:GLY:HA2 | 5:M:542:PRO:HD2 | 1.56 | 0.88 |
| 5:M:492:TRP:O | 5:M:493:GLU:CG | 2.22 | 0.87 |
| 4:D:1066:ALA:O | 4:D:1081:VAL:CG1 | 2.19 | 0.87 |
| 5:M:523:ALA:HB1 | 5:M:524:PRO:O | 1.75 | 0.87 |
| 4:A:1080:VAL:HA | 4:A:1081:VAL:CB | 2.05 | 0.87 |
| 4:B:1057:LYS:HE2 | 4:B:1064:MET:CG | 2.05 | 0.87 |
| 4:B:357:VAL:HG12 | 4:B:358:GLU:CG | 2.05 | 0.87 |
| 5:M:525:GLU:N | 5:M:525:GLU:OE1 | 2.08 | 0.87 |
| 4:C:1080:VAL:CG1 | 4:C:1082:PHE:HD2 | 1.88 | 0.86 |
| 5:N:523:ALA:HB1 | 5:N:524:PRO:C | 1.95 | 0.86 |
| 4:C:1080:VAL:CG1 | 4:C:1113:VAL:O | 2.23 | 0.86 |
| 5:O:387:PHE:HE2 | 5:O:441:PHE:CZ | 1.92 | 0.86 |
| 4:B:1057:LYS:CE | 4:B:1064:MET:HG3 | 2.05 | 0.86 |
| 4:B:1056:ARG:HG3 | 4:B:1057:LYS:HG3 | 0.89 | 0.86 |
| 4:C:1129:LYS:CE | 4:C:1183:GLU:OE2 | 2.23 | 0.86 |
| 5:N:541:MET:N | 5:N:542:PRO:CD | 2.37 | 0.86 |
| 4:D:537:GLU:HA | 4:D:540:GLN:HG2 | 1.57 | 0.86 |
| 5:P:505:ARG:HG3 | 5:P:514:ARG:HE | 1.39 | 0.86 |
| 4:C:968:ARG:O | 4:C:972:ARG:HG3 | 1.75 | 0.85 |
| 4:C:1093:LEU:HD11 | 4:C:1097:ILE:HB | 1.57 | 0.85 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:A:1032:LEU:HD11 | 4:A:1047:LEU:HD11 | 1.59 | 0.85 |
| 4:D:1080:VAL:HG11 | 4:D:1082:PHE:HE2 | 0.90 | 0.85 |
| 5:O:390:ALA:HB3 | 5:O:393:PRO:HG2 | 1.57 | 0.85 |
| 5:O:389:GLU:HB2 | 5:O:445:GLU:HB2 | 1.57 | 0.85 |
| 5:M:421:PHE:HD2 | 5:M:422:HIS:ND1 | 1.72 | 0.85 |
| 5:P:529:PRO:HB2 | 5:P:530:VAL:HA | 1.59 | 0.84 |
| 4:C:298:PHE:CD2 | 4:C:299:PRO:HD2 | 2.12 | 0.84 |
| 5:M:519:ARG:CD | 5:M:520:LYS:HE2 | 2.08 | 0.84 |
| 5:O:450:LEU:CB | 5:O:451:GLU:C | 2.45 | 0.84 |
| 5:M:418:SER:O | 5:M:422:HIS:CD2 | 2.31 | 0.84 |
| 4:A:572:ALA:CA | 4:A:573:SER:HB2 | 2.07 | 0.84 |
| 4:A:1127:ALA:HB1 | 4:A:1128:PRO:HD2 | 1.57 | 0.84 |
| 4:C:970:ARG:HH21 | 4:C:975:LEU:CD2 | 1.90 | 0.84 |
| 4:B:1013:HIS:HB3 | 4:B:1014:PRO:HA | 1.60 | 0.83 |
| 5:M:396:ARG:HB2 | 5:M:397:ALA:C | 1.97 | 0.83 |
| 5:O:387:PHE:HE2 | 5:O:441:PHE:CE2 | 1.91 | 0.83 |
| 5:P:505:ARG:CG | 5:P:514:ARG:HH21 | 1.91 | 0.83 |
| 5:N:506:ARG:HG2 | 5:N:507:LEU:N | 1.92 | 0.83 |
| 4:A:1133:VAL:HG23 | 4:A:1189:LEU:HD11 | 1.60 | 0.83 |
| 4:D:1079:VAL:HG23 | 4:D:1113:VAL:HG11 | 1.60 | 0.83 |
| 5:M:392:LYS:HB3 | 5:M:395:LEU:O | 1.78 | 0.83 |
| 5:O:389:GLU:HB2 | 5:O:445:GLU:CB | 2.09 | 0.83 |
| 5:O:502:GLU:O | 5:O:503:GLU:CB | 2.26 | 0.83 |
| 4:A:513:ILE:HG22 | 4:A:514:PRO:CD | 2.07 | 0.83 |
| 5:P:494:ALA:HB1 | 5:P:495:GLU:HA | 1.61 | 0.83 |
| 5:P:532:GLU:CD | 5:P:535:ILE:HD11 | 1.98 | 0.83 |
| 4:B:570:ARG:HG2 | 4:B:571:HIS:H | 1.44 | 0.82 |
| 5:P:505:ARG:NE | 5:P:510:LEU:CD1 | 2.43 | 0.82 |
| 4:D:1119:TRP:CH2 | 4:D:1206:LEU:HA | 2.14 | 0.82 |
| 4:B:1057:LYS:CE | 4:B:1064:MET:CE | 2.56 | 0.82 |
| 4:B:1089:VAL:HG22 | 4:B:1118:VAL:HG12 | 1.62 | 0.82 |
| 5:M:396:ARG:CA | 5:M:397:ALA:HB3 | 2.10 | 0.82 |
| 5:P:532:GLU:OE2 | 5:P:535:ILE:HD11 | 1.79 | 0.82 |
| 5:M:523:ALA:HB1 | 5:M:524:PRO:C | 2.00 | 0.82 |
| 4:C:541:VAL:HG23 | 4:C:542:VAL:HA | 1.61 | 0.82 |
| 5:O:450:LEU:HB3 | 5:O:451:GLU:HB2 | 1.61 | 0.82 |
| 5:P:396:ARG:O | 5:P:397:ALA:O | 1.96 | 0.82 |
| 4:B:1143:LYS:N | 4:B:1144:GLY:HA2 | 1.94 | 0.81 |
| 4:D:549:MET:HE1 | 4:D:559:ILE:CB | 2.09 | 0.81 |
| 4:D:539:ILE:O | 4:D:541:VAL:HG23 | 1.78 | 0.81 |
| 5:P:501:SER:CB | 5:P:504:LEU:O | 2.28 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:N:527:GLU:N | 5:N:528:GLU:HA | 1.95 | 0.81 |
| 4:B:1054:VAL:HG21 | 4:B:1094:LYS:NZ | 1.96 | 0.81 |
| 5:M:539:GLY:CA | 5:M:542:PRO:HD2 | 2.10 | 0.81 |
| 5:P:539:GLY:O | 5:P:542:PRO:HD2 | 1.80 | 0.81 |
| 4:B:1057:LYS:HG2 | 4:B:1064:MET:HA | 0.93 | 0.81 |
| 4:D:1057:LYS:HE3 | 4:D:1064:MET:N | 1.96 | 0.81 |
| 5:O:387:PHE:HZ | 5:O:441:PHE:CD2 | 1.98 | 0.81 |
| 5:M:418:SER:O | 5:M:422:HIS:CE1 | 2.34 | 0.81 |
| 4:D:1080:VAL:CG1 | 4:D:1082:PHE:CD2 | 2.59 | 0.81 |
| 4:D:549:MET:CE | 4:D:559:ILE:HB | 2.11 | 0.81 |
| 4:D:537:GLU:CA | 4:D:540:GLN:CG | 2.58 | 0.81 |
| 5:M:390:ALA:O | 5:M:391:LEU:HD12 | 1.81 | 0.81 |
| 5:O:450:LEU:CB | 5:O:451:GLU:HB2 | 2.11 | 0.81 |
| 5:O:387:PHE:CE2 | 5:O:441:PHE:HE2 | 1.94 | 0.81 |
| 5:N:453:LYS:O | 5:N:454:SER:CB | 2.21 | 0.80 |
| 4:C:1080:VAL:CG1 | 4:C:1082:PHE:CD2 | 2.62 | 0.80 |
| 5:O:505:ARG:HG2 | 5:O:505:ARG:HH11 | 1.47 | 0.80 |
| 5:M:389:GLU:O | 5:M:390:ALA:HB3 | 1.79 | 0.80 |
| 5:M:408:GLY:HA3 | 5:M:415:PHE:HD1 | 1.46 | 0.80 |
| 4:D:1056:ARG:CA | 4:D:1066:ALA:HB2 | 2.12 | 0.80 |
| 4:D:1079:VAL:O | 4:D:1081:VAL:HG23 | 1.82 | 0.80 |
| 5:P:505:ARG:CD | 5:P:514:ARG:CZ | 2.58 | 0.80 |
| 5:N:520:LYS:N | 5:N:521:PRO:CD | 2.44 | 0.80 |
| 5:N:525:GLU:CG | 5:N:528:GLU:O | 2.30 | 0.80 |
| 4:D:284:ASP:HB3 | 4:D:290:LYS:NZ | 1.95 | 0.80 |
| 5:M:505:ARG:HB3 | 5:M:506:ARG:CA | 2.11 | 0.80 |
| 5:M:524:PRO:HB2 | 5:M:525:GLU:C | 2.02 | 0.80 |
| 5:N:523:ALA:HB1 | 5:N:524:PRO:O | 1.81 | 0.80 |
| 4:A:569:ASN:HA | 4:A:570:ARG:HB3 | 1.60 | 0.80 |
| 5:P:505:ARG:CD | 5:P:514:ARG:NH2 | 2.42 | 0.80 |
| 4:C:301:PRO:HB2 | 4:C:302:GLU:HB2 | 1.64 | 0.80 |
| 4:D:1059:THR:HG22 | 4:D:1065:MET:CE | 2.11 | 0.80 |
| 5:N:506:ARG:HA | 5:N:510:LEU:HD22 | 1.63 | 0.80 |
| 4:C:1080:VAL:HG13 | 4:C:1113:VAL:O | 1.82 | 0.79 |
| 4:C:737:THR:HG21 | 4:C:746:GLN:HE22 | 1.47 | 0.79 |
| 5:O:388:LEU:HD23 | 5:O:394:THR:HG21 | 1.65 | 0.79 |
| 5:P:413:LEU:CA | 5:P:416:PRO:HD2 | 2.13 | 0.79 |
| 4:A:967:THR:HG23 | 4:A:981:GLU:HG2 | 1.64 | 0.79 |
| 5:M:490:PRO:O | 5:M:492:TRP:NE1 | 2.16 | 0.79 |
| 4:A:975:LEU:HD12 | 4:A:975:LEU:O | 1.82 | 0.78 |
| 4:C:1093:LEU:CD1 | 4:C:1097:ILE:HG21 | 2.13 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:P:409:LYS:HG3 | 5:P:410:THR:N | 1.98 | 0.78 |
| 4:B:1054:VAL:CG2 | 4:B:1094:LYS:NZ | 2.46 | 0.78 |
| 4:D:500:SER:HB3 | 4:D:535:LEU:HD13 | 1.64 | 0.78 |
| 4:C:407:GLN:OE1 | 4:C:436:VAL:HG11 | 1.84 | 0.78 |
| 5:P:505:ARG:NE | 5:P:510:LEU:HD13 | 1.98 | 0.78 |
| 5:M:506:ARG:HA | 5:M:510:LEU:HD23 | 1.64 | 0.78 |
| 5:P:490:PRO:HD2 | 5:P:522:LYS:HE3 | 1.63 | 0.78 |
| 4:D:1080:VAL:C | 4:D:1081:VAL:HG23 | 2.01 | 0.78 |
| 4:D:1082:PHE:CZ | 4:D:1114:LEU:CB | 2.65 | 0.78 |
| 4:D:696:LEU:HD21 | 4:D:742:VAL:HG22 | 1.66 | 0.78 |
| 5:M:539:GLY:O | 5:M:542:PRO:HD2 | 1.83 | 0.77 |
| 4:B:1057:LYS:CB | 4:B:1058:PRO:HA | 2.08 | 0.77 |
| 5:M:419:LYS:HA | 5:M:422:HIS:HD2 | 1.49 | 0.77 |
| 5:M:539:GLY:C | 5:M:542:PRO:HD2 | 2.04 | 0.77 |
| 5:N:494:ALA:CB | 5:N:495:GLU:CA | 2.62 | 0.77 |
| 5:M:494:ALA:CB | 5:M:495:GLU:HA | 2.15 | 0.77 |
| 4:C:1051:VAL:HG21 | 4:C:1094:LYS:O | 1.85 | 0.77 |
| 3:I:19:DC:O2 | 2:J:11:DG:N2 | 2.18 | 0.77 |
| 4:D:302:GLU:HB3 | 4:D:303:GLY:CA | 2.14 | 0.77 |
| 4:B:1057:LYS:NZ | 4:B:1064:MET:CE | 2.47 | 0.77 |
| 4:D:549:MET:CE | 4:D:559:ILE:CB | 2.63 | 0.77 |
| 5:M:413:LEU:O | 5:M:417:GLU:HG3 | 1.85 | 0.77 |
| 5:M:505:ARG:HD2 | 5:M:510:LEU:HD23 | 1.66 | 0.77 |
| 5:N:505:ARG:HB3 | 5:N:506:ARG:CA | 2.14 | 0.77 |
| 5:N:494:ALA:HB1 | 5:N:495:GLU:HA | 1.64 | 0.76 |
| 4:D:1082:PHE:HZ | 4:D:1114:LEU:CB | 1.98 | 0.76 |
| 5:M:392:LYS:CG | 5:M:397:ALA:HB2 | 2.16 | 0.76 |
| 5:M:521:PRO:HG2 | 5:M:522:LYS:O | 1.85 | 0.76 |
| 5:M:394:THR:O | 5:M:395:LEU:HB2 | 1.84 | 0.76 |
| 5:P:511:LEU:O | 5:P:515:LEU:HD23 | 1.85 | 0.76 |
| 5:P:494:ALA:CB | 5:P:495:GLU:CA | 2.60 | 0.76 |
| 5:O:507:LEU:H | 5:O:507:LEU:HD23 | 1.50 | 0.76 |
| 5:O:519:ARG:CD | 5:O:520:LYS:HZ2 | 1.96 | 0.76 |
| 4:C:970:ARG:O | 4:C:973:SER:N | 2.18 | 0.76 |
| 5:P:412:VAL:O | 5:P:415:PHE:N | 2.17 | 0.76 |
| 5:O:390:ALA:CB | 5:O:393:PRO:HG2 | 2.14 | 0.75 |
| 5:P:491:PRO:HB3 | 5:P:540:ILE:CG2 | 2.15 | 0.75 |
| 4:B:1013:HIS:CD2 | 4:B:1016:LEU:HD11 | 2.21 | 0.75 |
| 4:B:1056:ARG:HG2 | 4:B:1056:ARG:HH11 | 1.50 | 0.75 |
| 4:B:1057:LYS:HE3 | 4:B:1064:MET:HG3 | 1.66 | 0.75 |
| 5:P:524:PRO:CD | 5:P:525:GLU:C | 2.52 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:A:971:GLY:CA | 4:A:975:LEU:CB | 2.61 | 0.75 |
| 4:B:1084:ARG:HD2 | 4:B:1089:VAL:CG1 | 2.17 | 0.75 |
| 4:B:1056:ARG:HA | 4:B:1066:ALA:HB2 | 1.67 | 0.75 |
| 4:B:1057:LYS:HD3 | 4:B:1063:GLY:O | 1.86 | 0.75 |
| 5:M:540:ILE:O | 5:M:543:PRO:HD3 | 1.85 | 0.75 |
| 4:C:1129:LYS:NZ | 4:C:1183:GLU:OE2 | 2.18 | 0.75 |
| 4:B:1054:VAL:HG23 | 4:B:1094:LYS:CE | 2.16 | 0.75 |
| 5:O:396:ARG:HA | 5:O:397:ALA:C | 2.06 | 0.75 |
| 5:O:519:ARG:NE | 5:O:520:LYS:NZ | 2.35 | 0.75 |
| 4:C:590:VAL:HG13 | 4:C:604:TYR:CD1 | 2.22 | 0.74 |
| 5:O:541:MET:N | 5:O:542:PRO:CD | 2.50 | 0.74 |
| 4:D:542:VAL:HG13 | 4:D:543:PRO:HD3 | 1.67 | 0.74 |
| 4:D:939:VAL:HG22 | 4:D:944:LEU:HD12 | 1.67 | 0.74 |
| 5:N:411:LEU:CB | 5:N:412:VAL:HA | 2.17 | 0.74 |
| 5:P:409:LYS:HG3 | 5:P:410:THR:H | 1.52 | 0.74 |
| 4:B:154:ILE:HD13 | 4:B:195:VAL:HB | 1.69 | 0.74 |
| 4:D:1039:LEU:HD12 | 4:D:1040:PRO:CD | 2.16 | 0.74 |
| 4:D:537:GLU:HA | 4:D:540:GLN:CD | 2.06 | 0.74 |
| 5:M:524:PRO:HD2 | 5:M:525:GLU:HA | 1.69 | 0.74 |
| 5:O:390:ALA:HB3 | 5:O:393:PRO:HG3 | 1.67 | 0.74 |
| 4:B:1057:LYS:NZ | 4:B:1064:MET:HE1 | 2.01 | 0.74 |
| 4:B:679:VAL:HG22 | 4:B:693:LEU:HD21 | 1.69 | 0.74 |
| 5:P:505:ARG:NH2 | 5:P:532:GLU:OE1 | 2.20 | 0.74 |
| 4:A:1051:VAL:HG21 | 4:A:1099:LEU:HD12 | 1.69 | 0.74 |
| 4:D:1080:VAL:CB | 4:D:1081:VAL:HB | 2.17 | 0.74 |
| 5:N:403:ARG:NE | 5:N:437:ALA:HB1 | 2.02 | 0.74 |
| 5:P:522:LYS:HG3 | 5:P:523:ALA:N | 2.02 | 0.74 |
| 5:M:506:ARG:HB2 | 5:M:510:LEU:HB3 | 1.67 | 0.74 |
| 5:P:499:ASP:CB | 5:P:515:LEU:HD22 | 2.17 | 0.73 |
| 4:D:498:LEU:CD2 | 4:D:503:ALA:HB2 | 2.17 | 0.73 |
| 4:D:546:ARG:O | 4:D:546:ARG:HD2 | 1.87 | 0.73 |
| 5:O:411:LEU:CB | 5:O:412:VAL:HA | 2.19 | 0.73 |
| 4:B:1056:ARG:HD2 | 4:B:1057:LYS:CE | 2.17 | 0.73 |
| 5:N:411:LEU:HB2 | 5:N:412:VAL:HA | 1.71 | 0.73 |
| 4:C:1080:VAL:HB | 4:C:1082:PHE:H | 1.52 | 0.73 |
| 4:D:1080:VAL:CB | 4:D:1082:PHE:CD2 | 2.71 | 0.73 |
| 4:D:542:VAL:HG13 | 4:D:543:PRO:CD | 2.19 | 0.73 |
| 5:M:539:GLY:HA2 | 5:M:542:PRO:CD | 2.17 | 0.73 |
| 4:B:1159:LEU:HD11 | 4:B:1183:GLU:CG | 2.07 | 0.73 |
| 4:B:505:LYS:HE3 | 4:B:522:ALA:HB3 | 1.70 | 0.73 |
| 4:D:541:VAL:HG13 | 4:D:544:GLU:HB2 | 1.69 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:O:450:LEU:CA | 5:O:451:GLU:HB2 | 2.18 | 0.73 |
| 4:C:291:MET:HE2 | 4:C:291:MET:O | 1.88 | 0.73 |
| 4:A:980:ALA:C | 4:A:981:GLU:HG3 | 2.09 | 0.73 |
| 4:B:1023:GLU:O | 4:B:1164:ARG:NH2 | 2.22 | 0.73 |
| 5:O:494:ALA:CB | 5:O:495:GLU:CA | 2.67 | 0.73 |
| 5:M:505:ARG:CB | 5:M:506:ARG:HB3 | 2.17 | 0.73 |
| 5:O:507:LEU:N | 5:O:507:LEU:HD23 | 2.04 | 0.73 |
| 5:P:504:LEU:HD12 | 5:P:504:LEU:N | 2.04 | 0.73 |
| 4:A:319:LEU:HD23 | 4:A:326:ILE:HG22 | 1.71 | 0.72 |
| 4:D:289:ASP:OD1 | 4:D:289:ASP:N | 2.22 | 0.72 |
| 4:B:1013:HIS:CE1 | 4:B:1016:LEU:HD11 | 2.24 | 0.72 |
| 4:B:1054:VAL:HG21 | 4:B:1094:LYS:HZ2 | 1.53 | 0.72 |
| 4:D:1082:PHE:CZ | 4:D:1114:LEU:CG | 2.73 | 0.72 |
| 4:D:546:ARG:HD2 | 4:D:546:ARG:C | 2.09 | 0.72 |
| 5:P:505:ARG:HB2 | 5:P:510:LEU:HD12 | 1.72 | 0.72 |
| 4:B:1066:ALA:O | 4:B:1081:VAL:HG11 | 1.87 | 0.72 |
| 5:O:388:LEU:CD2 | 5:O:399:VAL:HG21 | 2.18 | 0.72 |
| 4:D:1135:VAL:HG11 | 4:D:1139:LEU:HD11 | 1.71 | 0.72 |
| 4:B:615:LEU:HD21 | 4:B:617:MET:CE | 2.19 | 0.72 |
| 4:D:1080:VAL:HB | 4:D:1082:PHE:CD2 | 2.24 | 0.72 |
| 4:D:1080:VAL:CG2 | 4:D:1082:PHE:CE2 | 2.72 | 0.72 |
| 5:M:421:PHE:CD2 | 5:M:422:HIS:CE1 | 2.78 | 0.72 |
| 5:N:505:ARG:CB | 5:N:506:ARG:HB3 | 2.18 | 0.72 |
| 5:O:450:LEU:HA | 5:O:451:GLU:HB2 | 1.71 | 0.72 |
| 5:O:505:ARG:NH1 | 5:O:505:ARG:HG2 | 2.01 | 0.72 |
| 4:C:1161:VAL:HG13 | 4:C:1176:LEU:HD23 | 1.71 | 0.72 |
| 4:A:572:ALA:HB1 | 4:A:573:SER:HB3 | 1.70 | 0.71 |
| 4:B:352:GLU:OE1 | 4:B:356:ARG:NH2 | 2.23 | 0.71 |
| 4:C:1161:VAL:CG1 | 4:C:1176:LEU:HD23 | 2.19 | 0.71 |
| 4:D:1080:VAL:HG21 | 4:D:1114:LEU:HA | 1.72 | 0.71 |
| 5:O:519:ARG:HB3 | 5:O:520:LYS:HB2 | 1.71 | 0.71 |
| 4:B:1066:ALA:HB3 | 4:B:1084:ARG:CZ | 2.19 | 0.71 |
| 4:C:1176:LEU:HD22 | 4:C:1179:VAL:HG23 | 1.72 | 0.71 |
| 5:O:411:LEU:HB2 | 5:O:412:VAL:HA | 1.72 | 0.71 |
| 5:P:504:LEU:HB2 | 5:P:505:ARG:HG2 | 1.72 | 0.71 |
| 5:P:504:LEU:HB3 | 5:P:505:ARG:HA | 1.72 | 0.71 |
| 4:B:363:GLU:O | 4:B:366:ARG:HB2 | 1.90 | 0.71 |
| 4:C:407:GLN:CD | 4:C:436:VAL:HG11 | 2.10 | 0.71 |
| 5:O:450:LEU:HB3 | 5:O:451:GLU:CB | 2.20 | 0.71 |
| 4:B:1054:VAL:HG23 | 4:B:1094:LYS:HD3 | 1.71 | 0.71 |
| 4:D:498:LEU:HD21 | 4:D:503:ALA:CB | 2.17 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:P:538:ASN:O | 5:P:541:MET:HB3 | 1.90 | 0.71 |
| 5:N:506:ARG:CB | 5:N:510:LEU:HB2 | 2.09 | 0.71 |
| 4:D:507:VAL:HG12 | 4:D:558:VAL:HG13 | 1.72 | 0.71 |
| 4:A:1029:ILE:HG23 | 4:A:1077:LEU:CD1 | 2.20 | 0.71 |
| 5:M:419:LYS:O | 5:M:423:HIS:CE1 | 2.44 | 0.71 |
| 4:A:1159:LEU:HD12 | 4:A:1159:LEU:O | 1.89 | 0.70 |
| 4:B:525:ILE:HD11 | 4:B:538:ALA:CB | 2.20 | 0.70 |
| 4:D:1119:TRP:HH2 | 4:D:1206:LEU:HA | 1.55 | 0.70 |
| 4:D:537:GLU:O | 4:D:540:GLN:CG | 2.36 | 0.70 |
| 5:O:495:GLU:HG3 | 5:O:503:GLU:HG3 | 1.73 | 0.70 |
| 5:M:507:LEU:O | 5:M:510:LEU:HD13 | 1.90 | 0.70 |
| 4:C:1084:ARG:HG3 | 4:C:1089:VAL:HG22 | 1.73 | 0.70 |
| 4:C:1159:LEU:CD1 | 4:C:1183:GLU:HG3 | 2.22 | 0.70 |
| 5:M:532:GLU:O | 5:M:535:ILE:HG22 | 1.91 | 0.70 |
| 5:N:524:PRO:HB2 | 5:N:525:GLU:CA | 2.20 | 0.70 |
| 5:P:505:ARG:HB3 | 5:P:510:LEU:CD1 | 2.17 | 0.70 |
| 4:C:918:LEU:HD22 | 4:C:953:LEU:CD2 | 2.21 | 0.70 |
| 4:A:1161:VAL:HG21 | 4:A:1179:VAL:CG2 | 2.22 | 0.70 |
| 4:A:788:ALA:HB1 | 4:A:793:VAL:CG2 | 2.22 | 0.70 |
| 4:B:332:ARG:HG3 | 4:B:350:LEU:HD21 | 1.73 | 0.70 |
| 5:O:450:LEU:HB3 | 5:O:451:GLU:CA | 2.21 | 0.70 |
| 4:C:1207:GLN:HB3 | 4:C:1208:GLY:HA2 | 1.73 | 0.70 |
| 5:M:415:PHE:HB2 | 5:M:416:PRO:HD3 | 1.74 | 0.70 |
| 5:P:538:ASN:O | 5:P:542:PRO:HD3 | 1.91 | 0.70 |
| 5:M:506:ARG:HB2 | 5:M:510:LEU:CB | 2.21 | 0.70 |
| 5:P:532:GLU:CA | 5:P:535:ILE:HD13 | 2.18 | 0.70 |
| 4:B:310:LEU:HD13 | 4:B:403:PHE:CD2 | 2.27 | 0.69 |
| 4:C:854:VAL:HG23 | 4:C:1008:ILE:HD13 | 1.72 | 0.69 |
| 5:N:519:ARG:HB3 | 5:N:520:LYS:HB2 | 1.73 | 0.69 |
| 4:C:1176:LEU:HD22 | 4:C:1179:VAL:CG2 | 2.22 | 0.69 |
| 4:D:537:GLU:C | 4:D:540:GLN:HG3 | 2.12 | 0.69 |
| 4:C:951:ALA:HB2 | 4:C:993:LEU:HG | 1.72 | 0.69 |
| 4:D:1082:PHE:CZ | 4:D:1114:LEU:HG | 2.23 | 0.69 |
| 4:D:1082:PHE:CZ | 4:D:1114:LEU:CA | 2.75 | 0.69 |
| 5:M:519:ARG:HB3 | 5:M:520:LYS:CB | 2.04 | 0.69 |
| 4:A:1080:VAL:HG21 | 4:A:1114:LEU:HD23 | 1.73 | 0.69 |
| 4:A:574:VAL:HG12 | 4:A:575:HIS:N | 2.06 | 0.69 |
| 4:D:1080:VAL:CB | 4:D:1082:PHE:CE2 | 2.75 | 0.69 |
| 4:D:50:LEU:HD11 | 4:D:591:PRO:HG3 | 1.75 | 0.69 |
| 4:B:1055:VAL:O | 4:B:1066:ALA:CB | 2.40 | 0.69 |
| 5:M:506:ARG:O | 5:M:507:LEU:HD22 | 1.93 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 5:P:505:ARG:CG | 5:P:514:ARG:NH2 | 2.55 | 0.69 |
| 5:N:520:LYS:H | 5:N:521:PRO:HD3 | 1.53 | 0.69 |
| 4:B:357:VAL:CB | 4:B:358:GLU:HB2 | 2.13 | 0.69 |
| 4:C:970:ARG:HH21 | 4:C:975:LEU:HD21 | 1.58 | 0.69 |
| 4:B:357:VAL:CB | 4:B:358:GLU:HG3 | 2.22 | 0.69 |
| 4:D:590:VAL:HG13 | 4:D:604:TYR:CD1 | 2.27 | 0.69 |
| 4:A:1165:VAL:HG13 | 4:A:1172:ALA:HB3 | 1.75 | 0.68 |
| 4:B:515:HIS:HB2 | 4:B:516:LYS:HA | 1.76 | 0.68 |
| 4:D:492:ILE:HA | 4:D:602:THR:HG22 | 1.75 | 0.68 |
| 5:M:505:ARG:HB3 | 5:M:506:ARG:HA | 1.73 | 0.68 |
| 5:P:494:ALA:HB1 | 5:P:495:GLU:CA | 2.23 | 0.68 |
| 5:P:504:LEU:HB2 | 5:P:505:ARG:CG | 2.23 | 0.68 |
| 4:D:1039:LEU:HD12 | 4:D:1040:PRO:HD2 | 1.74 | 0.68 |
| 4:D:635:VAL:HG12 | 4:D:641:VAL:HG13 | 1.75 | 0.68 |
| 5:M:524:PRO:CD | 5:M:525:GLU:HA | 2.24 | 0.68 |
| 4:C:154:ILE:CG2 | 4:C:192:VAL:HG22 | 2.23 | 0.68 |
| 4:D:116:ALA:HB1 | 4:D:125:PRO:HB2 | 1.76 | 0.68 |
| 4:B:186:LEU:HD21 | 4:B:245:PRO:HB2 | 1.75 | 0.68 |
| 4:D:1202:ARG:HG2 | 4:D:1202:ARG:NH1 | 1.98 | 0.68 |
| 4:D:994:ASP:CB | 5:P:528:GLU:OE1 | 2.42 | 0.68 |
| 4:D:996:ILE:HD12 | 5:P:528:GLU:OE2 | 1.94 | 0.68 |
| 4:A:572:ALA:HA | 4:A:573:SER:HB2 | 1.75 | 0.68 |
| 4:B:1066:ALA:C | 4:B:1081:VAL:HB | 2.14 | 0.68 |
| 4:D:1059:THR:CG2 | 4:D:1065:MET:CE | 2.71 | 0.68 |
| 4:D:538:ALA:O | 4:D:541:VAL:HG22 | 1.93 | 0.68 |
| 5:P:412:VAL:O | 5:P:416:PRO:HD2 | 1.94 | 0.68 |
| 4:B:570:ARG:CG | 4:B:571:HIS:H | 2.03 | 0.68 |
| 4:B:1055:VAL:O | 4:B:1066:ALA:HB1 | 1.93 | 0.67 |
| 5:M:411:LEU:N | 5:M:412:VAL:HG22 | 2.09 | 0.67 |
| 5:O:541:MET:N | 5:O:542:PRO:HD2 | 2.08 | 0.67 |
| 5:P:412:VAL:HB | 5:P:415:PHE:CE2 | 2.29 | 0.67 |
| 4:B:357:VAL:O | 4:B:362:TRP:CZ2 | 2.47 | 0.67 |
| 4:D:1060:ARG:NH1 | 4:D:1060:ARG:HG2 | 2.06 | 0.67 |
| 5:N:412:VAL:O | 5:N:414:ARG:N | 2.27 | 0.67 |
| 5:P:395:LEU:O | 5:P:397:ALA:N | 2.26 | 0.67 |
| 5:M:506:ARG:O | 5:M:507:LEU:HD13 | 1.93 | 0.67 |
| 5:O:494:ALA:HB3 | 5:O:495:GLU:HA | 1.71 | 0.67 |
| 5:P:392:LYS:N | 5:P:393:PRO:CD | 2.58 | 0.67 |
| 5:O:388:LEU:HD23 | 5:O:399:VAL:HG21 | 1.77 | 0.67 |
| 5:P:540:ILE:HD12 | 5:P:540:ILE:C | 2.15 | 0.67 |
| 4:C:151:PRO:O | 4:C:154:ILE:HG22 | 1.94 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:O:518:VAL:HG23 | 5:O:519:ARG:HB2 | 1.76 | 0.67 |
| 5:P:396:ARG:C | 5:P:397:ALA:O | 2.33 | 0.67 |
| 5:P:512:GLY:O | 5:P:516:LEU:HG | 1.93 | 0.67 |
| 4:A:498:LEU:HB3 | 4:A:499:ALA:HB2 | 1.77 | 0.67 |
| 4:B:352:GLU:CG | 4:B:356:ARG:NH2 | 2.58 | 0.67 |
| 4:D:1080:VAL:HG21 | 4:D:1082:PHE:CZ | 2.29 | 0.67 |
| 4:D:549:MET:HE2 | 4:D:559:ILE:HB | 1.75 | 0.67 |
| 5:M:396:ARG:HA | 5:M:397:ALA:CB | 2.22 | 0.67 |
| 4:A:1080:VAL:CG2 | 4:A:1114:LEU:CD2 | 2.72 | 0.66 |
| 4:C:788:ALA:HB1 | 4:C:793:VAL:CG2 | 2.25 | 0.66 |
| 4:C:878:PHE:O | 4:C:892:SER:OG | 2.08 | 0.66 |
| 4:B:1095:GLU:O | 4:B:1097:ILE:HD12 | 1.95 | 0.66 |
| 4:B:670:LEU:HD11 | 4:B:679:VAL:HG21 | 1.75 | 0.66 |
| 4:C:154:ILE:HD13 | 4:C:192:VAL:HA | 1.76 | 0.66 |
| 5:M:505:ARG:CD | 5:M:510:LEU:HD23 | 2.25 | 0.66 |
| 4:A:1080:VAL:CG2 | 4:A:1114:LEU:HD23 | 2.25 | 0.66 |
| 4:A:1131:LEU:HD23 | 4:A:1132:GLU:N | 2.11 | 0.66 |
| 4:A:301:PRO:HA | 4:A:302:GLU:HG2 | 1.77 | 0.66 |
| 4:B:1054:VAL:HG23 | 4:B:1094:LYS:CD | 2.24 | 0.66 |
| 4:B:359:GLU:HA | 4:B:362:TRP:HD1 | 1.59 | 0.66 |
| 4:C:659:LEU:HD11 | 4:C:829:ALA:HB1 | 1.78 | 0.66 |
| 5:M:507:LEU:O | 5:M:510:LEU:HB2 | 1.95 | 0.66 |
| 5:N:494:ALA:HB1 | 5:N:495:GLU:CA | 2.25 | 0.66 |
| 5:O:455:LEU:HA | 5:O:456:SER:C | 2.16 | 0.66 |
| 5:P:389:GLU:O | 5:P:393:PRO:CD | 2.44 | 0.66 |
| 4:B:352:GLU:HG2 | 4:B:356:ARG:NH2 | 2.11 | 0.66 |
| 4:D:1079:VAL:O | 4:D:1081:VAL:CG2 | 2.43 | 0.66 |
| 4:D:1082:PHE:HZ | 4:D:1114:LEU:HB2 | 1.58 | 0.66 |
| 5:P:408:GLY:O | 5:P:409:LYS:C | 2.33 | 0.66 |
| 5:P:456:SER:H | 5:P:457:GLY:HA2 | 1.61 | 0.66 |
| 5:P:499:ASP:CB | 5:P:515:LEU:CD2 | 2.74 | 0.66 |
| 4:C:975:LEU:HD23 | 4:C:975:LEU:C | 2.15 | 0.66 |
| 4:A:975:LEU:HD12 | 4:A:975:LEU:C | 2.16 | 0.66 |
| 4:B:357:VAL:CB | 4:B:358:GLU:CB | 2.73 | 0.66 |
| 4:D:737:THR:HG21 | 4:D:746:GLN:HE22 | 1.60 | 0.66 |
| 5:P:541:MET:HE3 | 5:P:541:MET:O | 1.95 | 0.66 |
| 4:C:1095:GLU:HG2 | 4:C:1096:ASP:N | 2.09 | 0.66 |
| 4:D:1093:LEU:HD22 | 4:D:1099:LEU:CD1 | 2.25 | 0.66 |
| 5:N:518:VAL:HG13 | 5:N:519:ARG:HB2 | 1.78 | 0.66 |
| 5:P:413:LEU:C | 5:P:416:PRO:HD2 | 2.16 | 0.66 |
| 4:A:631:ALA:O | 4:A:635:VAL:HG23 | 1.96 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:B:1057:LYS:CE | 4:B:1064:MET:CG | 2.68 | 0.66 |
| 4:B:226:VAL:HG21 | 4:B:561:VAL:HG13 | 1.78 | 0.66 |
| 4:D:1159:LEU:HD21 | 4:D:1183:GLU:CG | 2.26 | 0.66 |
| 5:N:525:GLU:CD | 5:N:525:GLU:H | 1.99 | 0.66 |
| 4:C:106:TYR:O | 4:C:110:VAL:HG23 | 1.96 | 0.65 |
| 4:C:291:MET:HE1 | 4:C:613:GLY:CA | 2.26 | 0.65 |
| 4:C:747:ILE:HG23 | 4:C:805:LEU:HD22 | 1.78 | 0.65 |
| 4:C:918:LEU:HD22 | 4:C:953:LEU:HD23 | 1.77 | 0.65 |
| 5:M:493:GLU:OE1 | 5:M:517:TRP:CD1 | 2.50 | 0.65 |
| 5:M:523:ALA:CB | 5:M:524:PRO:HA | 2.26 | 0.65 |
| 5:P:531:SER:O | 5:P:534:GLY:N | 2.29 | 0.65 |
| 4:A:980:ALA:O | 4:A:981:GLU:HG3 | 1.96 | 0.65 |
| 4:B:1057:LYS:HE2 | 4:B:1064:MET:CB | 2.26 | 0.65 |
| 4:B:226:VAL:HG21 | 4:B:561:VAL:CG1 | 2.26 | 0.65 |
| 4:B:941:ALA:HB1 | 4:B:1006:LEU:HD11 | 1.78 | 0.65 |
| 4:C:1051:VAL:CG2 | 4:C:1094:LYS:O | 2.43 | 0.65 |
| 4:C:1093:LEU:O | 4:C:1094:LYS:CB | 2.44 | 0.65 |
| 5:M:392:LYS:HG3 | 5:M:397:ALA:HB2 | 1.77 | 0.65 |
| 4:A:668:PHE:O | 4:A:669:GLN:CB | 2.41 | 0.65 |
| 5:O:540:ILE:C | 5:O:542:PRO:HD2 | 2.16 | 0.65 |
| 4:C:1161:VAL:HG12 | 4:C:1176:LEU:CD2 | 2.26 | 0.65 |
| 5:M:507:LEU:H | 5:M:510:LEU:CD2 | 2.00 | 0.65 |
| 5:N:530:VAL:O | 5:N:530:VAL:HG22 | 1.96 | 0.65 |
| 4:A:785:VAL:CG1 | 4:A:795:GLU:HG3 | 2.26 | 0.65 |
| 4:B:1057:LYS:HZ1 | 4:B:1064:MET:HE1 | 1.60 | 0.65 |
| 4:C:1029:ILE:HD13 | 4:C:1047:LEU:HD13 | 1.76 | 0.65 |
| 4:B:300:LEU:HD22 | 4:B:309:TYR:CD2 | 2.32 | 0.65 |
| 4:B:549:MET:HG2 | 4:B:559:ILE:HD12 | 1.79 | 0.65 |
| 4:D:549:MET:HE1 | 4:D:559:ILE:HB | 1.73 | 0.65 |
| 4:A:1133:VAL:HG21 | 4:A:1189:LEU:HD11 | 1.76 | 0.65 |
| 4:A:951:ALA:HB2 | 4:A:993:LEU:CD2 | 2.27 | 0.65 |
| 4:A:980:ALA:O | 4:A:981:GLU:CG | 2.45 | 0.65 |
| 4:B:1008:ILE:O | 4:B:1008:ILE:HD12 | 1.97 | 0.65 |
| 4:D:537:GLU:CA | 4:D:540:GLN:HG2 | 2.25 | 0.65 |
| 5:M:538:ASN:O | 5:M:542:PRO:HD3 | 1.96 | 0.65 |
| 5:N:499:ASP:OD2 | 5:N:515:LEU:HD11 | 1.96 | 0.65 |
| 4:D:1057:LYS:HG2 | 4:D:1064:MET:HA | 0.79 | 0.65 |
| 5:M:421:PHE:HE2 | 5:M:422:HIS:ND1 | 1.73 | 0.65 |
| 5:O:505:ARG:HE | 5:O:507:LEU:HD21 | 1.61 | 0.64 |
| 4:B:1054:VAL:CG2 | 4:B:1094:LYS:HD3 | 2.26 | 0.64 |
| 4:B:535:LEU:HD23 | 4:B:559:ILE:HG23 | 1.78 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:B:570:ARG:HG2 | 4:B:571:HIS:N | 2.12 | 0.64 |
| 4:C:410:ILE:HG23 | 4:C:420:VAL:HG11 | 1.79 | 0.64 |
| 5:M:505:ARG:HD2 | 5:M:510:LEU:CD2 | 2.26 | 0.64 |
| 4:C:154:ILE:HG21 | 4:C:192:VAL:HG22 | 1.79 | 0.64 |
| 4:D:338:LEU:HD11 | 4:D:365:LEU:HD11 | 1.78 | 0.64 |
| 5:O:519:ARG:HD3 | 5:O:520:LYS:HZ3 | 0.65 | 0.64 |
| 4:A:785:VAL:HG11 | 4:A:795:GLU:HG3 | 1.79 | 0.64 |
| 4:D:1064:MET:O | 4:D:1065:MET:HB2 | 1.96 | 0.64 |
| 5:P:521:PRO:O | 5:P:522:LYS:HB3 | 1.96 | 0.64 |
| 5:P:535:ILE:HG12 | 5:P:536:GLY:N | 2.13 | 0.64 |
| 4:B:1021:LEU:HD21 | 4:B:1100:LEU:HD13 | 1.79 | 0.64 |
| 4:B:1080:VAL:HG22 | 4:B:1114:LEU:HA | 1.79 | 0.64 |
| 4:C:590:VAL:HG11 | 4:C:602:THR:HG23 | 1.80 | 0.64 |
| 4:C:291:MET:HE1 | 4:C:613:GLY:HA3 | 1.80 | 0.64 |
| 4:D:1101:VAL:HG22 | 4:D:1118:VAL:HG22 | 1.79 | 0.64 |
| 5:P:391:LEU:C | 5:P:393:PRO:HD3 | 2.17 | 0.64 |
| 5:P:524:PRO:N | 5:P:525:GLU:HA | 2.13 | 0.64 |
| 4:B:1054:VAL:CG2 | 4:B:1094:LYS:HZ3 | 2.11 | 0.64 |
| 5:N:540:ILE:C | 5:N:542:PRO:HD2 | 2.17 | 0.64 |
| 5:P:506:ARG:O | 5:P:510:LEU:HG | 1.98 | 0.64 |
| 4:D:222:ARG:O | 4:D:226:VAL:HG13 | 1.98 | 0.63 |
| 4:D:542:VAL:HG22 | 4:D:543:PRO:HD3 | 1.80 | 0.63 |
| 5:M:495:GLU:HB2 | 5:M:496:GLU:HG2 | 1.79 | 0.63 |
| 4:B:509:ARG:HA | 4:B:513:ILE:HG21 | 1.79 | 0.63 |
| 5:M:415:PHE:O | 5:M:418:SER:HB3 | 1.98 | 0.63 |
| 5:M:413:LEU:O | 5:M:416:PRO:HD2 | 1.97 | 0.63 |
| 5:N:525:GLU:HG3 | 5:N:529:PRO:HA | 1.79 | 0.63 |
| 4:D:302:GLU:HB3 | 4:D:303:GLY:C | 2.19 | 0.63 |
| 5:P:413:LEU:HA | 5:P:416:PRO:HD2 | 1.79 | 0.63 |
| 4:A:1025:ALA:HB2 | 4:A:1048:SER:OG | 1.98 | 0.63 |
| 4:B:1057:LYS:HE2 | 4:B:1064:MET:HB2 | 1.81 | 0.63 |
| 4:C:299:PRO:HG2 | 4:C:300:LEU:H | 1.64 | 0.63 |
| 4:D:1136:ASP:OD2 | 4:D:1166:LEU:HD11 | 1.99 | 0.63 |
| 4:D:897:VAL:HG21 | 4:D:938:LEU:HD13 | 1.80 | 0.63 |
| 4:D:1205:PHE:HD1 | 4:D:1206:LEU:HD12 | 1.61 | 0.63 |
| 4:A:1135:VAL:HG13 | 4:A:1194:TYR:CE1 | 2.34 | 0.63 |
| 4:D:406:VAL:HG22 | 4:D:617:MET:HE1 | 1.81 | 0.63 |
| 5:O:504:LEU:HD13 | 5:O:514:ARG:HH22 | 1.63 | 0.63 |
| 5:O:505:ARG:HH11 | 5:O:505:ARG:CG | 2.11 | 0.63 |
| 5:O:523:ALA:HB1 | 5:O:524:PRO:CB | 2.20 | 0.63 |
| 5:P:505:ARG:HG3 | 5:P:514:ARG:NE | 2.13 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:B:1151:LEU:HD13 | 4:B:1189:LEU:HD13 | 1.80 | 0.62 |
| 4:B:449:LEU:HD22 | 4:B:759:LEU:HD21 | 1.80 | 0.62 |
| 4:B:670:LEU:HD12 | 4:B:675:MET:HG3 | 1.79 | 0.62 |
| 4:D:547:ALA:O | 4:D:550:GLU:N | 2.29 | 0.62 |
| 5:N:411:LEU:N | 5:N:412:VAL:HG22 | 2.14 | 0.62 |
| 5:P:532:GLU:O | 5:P:535:ILE:HG12 | 1.98 | 0.62 |
| 4:A:1076:ALA:O | 4:A:1077:LEU:HD12 | 1.99 | 0.62 |
| 4:A:918:LEU:HD22 | 4:A:953:LEU:HD23 | 1.80 | 0.62 |
| 4:D:226:VAL:CG1 | 4:D:510:VAL:HG11 | 2.29 | 0.62 |
| 4:D:50:LEU:O | 4:D:50:LEU:HD12 | 1.99 | 0.62 |
| 5:P:416:PRO:HG2 | 5:P:417:GLU:N | 2.14 | 0.62 |
| 4:D:1039:LEU:HD12 | 4:D:1040:PRO:HD3 | 1.80 | 0.62 |
| 4:D:635:VAL:CG1 | 4:D:641:VAL:HG13 | 2.30 | 0.62 |
| 5:P:513:GLY:HA2 | 5:P:516:LEU:HD12 | 1.79 | 0.62 |
| 4:A:1161:VAL:HG21 | 4:A:1179:VAL:HG21 | 1.80 | 0.62 |
| 4:D:181:ILE:HD12 | 4:D:207:MET:CE | 2.30 | 0.62 |
| 5:M:523:ALA:HB1 | 5:M:524:PRO:CA | 2.28 | 0.62 |
| 5:P:505:ARG:CD | 5:P:514:ARG:NE | 2.62 | 0.62 |
| 5:P:522:LYS:CG | 5:P:523:ALA:N | 2.62 | 0.62 |
| 4:B:1056:ARG:CG | 4:B:1056:ARG:HH11 | 2.13 | 0.62 |
| 4:C:968:ARG:O | 4:C:972:ARG:CG | 2.48 | 0.62 |
| 5:N:499:ASP:OD1 | 5:N:515:LEU:HD21 | 1.99 | 0.62 |
| 4:B:1018:TYR:OH | 5:N:530:VAL:HG12 | 2.00 | 0.62 |
| 5:O:388:LEU:HD23 | 5:O:399:VAL:CG2 | 2.30 | 0.62 |
| 5:P:537:GLY:O | 5:P:540:ILE:HG13 | 1.99 | 0.62 |
| 4:B:354:LEU:O | 4:B:362:TRP:CZ2 | 2.52 | 0.62 |
| 5:O:506:ARG:O | 5:O:510:LEU:HD22 | 2.00 | 0.62 |
| 4:B:1064:MET:HE3 | 4:B:1087:GLU:OE1 | 2.00 | 0.62 |
| 4:B:1066:ALA:HB3 | 4:B:1084:ARG:NH1 | 2.15 | 0.62 |
| 4:B:976:VAL:HG11 | 4:C:115:ARG:HD3 | 1.82 | 0.62 |
| 4:C:1094:LYS:N | 4:C:1094:LYS:HD2 | 2.14 | 0.62 |
| 4:D:1135:VAL:CG1 | 4:D:1139:LEU:HD11 | 2.29 | 0.62 |
| 4:D:284:ASP:CB | 4:D:290:LYS:HE3 | 2.25 | 0.62 |
| 4:D:302:GLU:HB3 | 4:D:303:GLY:HA3 | 1.80 | 0.62 |
| 4:A:974:GLY:O | 4:A:975:LEU:HB3 | 1.98 | 0.61 |
| 4:C:854:VAL:CG2 | 4:C:1008:ILE:HD13 | 2.30 | 0.61 |
| 5:N:526:ALA:C | 5:N:528:GLU:HA | 2.20 | 0.61 |
| 5:P:525:GLU:H | 5:P:525:GLU:CD | 2.03 | 0.61 |
| 4:B:615:LEU:HD21 | 4:B:617:MET:HE2 | 1.80 | 0.61 |
| 4:D:1006:LEU:CD1 | 4:D:1010:VAL:HG21 | 2.27 | 0.61 |
| 4:D:664:THR:OG1 | 4:D:676:THR:HG22 | 1.98 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:D:539:ILE:C | 4:D:541:VAL:HG23 | 2.19 | 0.61 |
| 4:D:498:LEU:HD23 | 4:D:566:GLU:HA | 1.81 | 0.61 |
| 5:M:535:ILE:HG23 | 5:M:536:GLY:N | 2.15 | 0.61 |
| 4:D:501:LYS:HE3 | 4:D:505:LYS:HZ2 | 1.63 | 0.61 |
| 5:P:413:LEU:HA | 5:P:416:PRO:CD | 2.31 | 0.61 |
| 4:A:1139:LEU:HD12 | 4:A:1143:LYS:HE3 | 1.81 | 0.61 |
| 4:A:668:PHE:O | 4:A:669:GLN:HB2 | 2.01 | 0.61 |
| 4:B:1080:VAL:CB | 4:B:1081:VAL:HG22 | 2.29 | 0.61 |
| 4:C:1093:LEU:O | 4:C:1094:LYS:HG2 | 2.00 | 0.61 |
| 4:C:675:MET:O | 4:C:679:VAL:HG23 | 2.00 | 0.61 |
| 4:C:1081:VAL:HG13 | 4:C:1081:VAL:O | 2.01 | 0.61 |
| 5:M:408:GLY:CA | 5:M:415:PHE:HD1 | 2.13 | 0.61 |
| 4:A:181:ILE:CD1 | 4:A:207:MET:HE3 | 2.31 | 0.61 |
| 4:B:670:LEU:HD11 | 4:B:679:VAL:CG2 | 2.30 | 0.61 |
| 4:D:181:ILE:HD12 | 4:D:207:MET:HE2 | 1.83 | 0.61 |
| 5:O:494:ALA:HB3 | 5:O:495:GLU:CA | 2.29 | 0.61 |
| 4:B:1089:VAL:HG22 | 4:B:1118:VAL:CG1 | 2.28 | 0.61 |
| 5:O:450:LEU:CA | 5:O:451:GLU:CB | 2.77 | 0.61 |
| 4:B:1084:ARG:HD2 | 4:B:1089:VAL:HG12 | 1.82 | 0.61 |
| 4:D:795:GLU:HG2 | 4:D:795:GLU:O | 2.00 | 0.61 |
| 4:C:1093:LEU:C | 4:C:1094:LYS:HG2 | 2.21 | 0.61 |
| 5:N:411:LEU:H | 5:N:412:VAL:HG22 | 1.66 | 0.61 |
| 4:A:1161:VAL:CG2 | 4:A:1179:VAL:HG22 | 2.31 | 0.60 |
| 4:D:1181:VAL:HG11 | 4:D:1185:ALA:HB3 | 1.84 | 0.60 |
| 4:D:549:MET:HE3 | 4:D:559:ILE:HD13 | 1.77 | 0.60 |
| 5:O:519:ARG:CB | 5:O:520:LYS:HB2 | 2.31 | 0.60 |
| 4:B:1032:LEU:HD22 | 4:B:1077:LEU:HD11 | 1.84 | 0.60 |
| 4:B:1064:MET:HG2 | 4:B:1084:ARG:HH21 | 1.66 | 0.60 |
| 4:B:1066:ALA:HB3 | 4:B:1084:ARG:NH2 | 2.15 | 0.60 |
| 4:C:291:MET:CE | 4:C:613:GLY:HA3 | 2.30 | 0.60 |
| 4:D:1204:VAL:HG22 | 4:D:1205:PHE:N | 2.16 | 0.60 |
| 4:C:299:PRO:HG2 | 4:C:300:LEU:N | 2.16 | 0.60 |
| 5:O:450:LEU:HA | 5:O:451:GLU:CB | 2.30 | 0.60 |
| 5:O:450:LEU:CB | 5:O:451:GLU:O | 2.41 | 0.60 |
| 4:A:1080:VAL:HB | 4:A:1082:PHE:N | 2.15 | 0.60 |
| 5:M:409:LYS:HB3 | 5:M:412:VAL:HG21 | 1.83 | 0.60 |
| 5:P:409:LYS:CG | 5:P:410:THR:H | 2.10 | 0.60 |
| 5:P:539:GLY:C | 5:P:542:PRO:HD2 | 2.22 | 0.60 |
| 4:B:1054:VAL:CG2 | 4:B:1094:LYS:CD | 2.79 | 0.60 |
| 5:M:390:ALA:C | 5:M:391:LEU:HD12 | 2.21 | 0.60 |
| 4:A:1032:LEU:HD11 | 4:A:1047:LEU:CD1 | 2.30 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:D:507:VAL:CG1 | 4:D:558:VAL:HG13 | 2.31 | 0.60 |
| 5:M:421:PHE:HD2 | 5:M:422:HIS:CE1 | 2.18 | 0.60 |
| 4:A:443:PRO:HA | 4:A:448:LEU:HD12 | 1.83 | 0.60 |
| 4:D:549:MET:CE | 4:D:559:ILE:CG1 | 2.79 | 0.60 |
| 5:M:499:ASP:HB3 | 5:M:500:PRO:HA | 1.83 | 0.60 |
| 4:A:1161:VAL:CG2 | 4:A:1179:VAL:CG2 | 2.80 | 0.60 |
| 4:B:1056:ARG:CG | 4:B:1057:LYS:CG | 2.63 | 0.60 |
| 4:B:1054:VAL:CG2 | 4:B:1094:LYS:CE | 2.80 | 0.60 |
| 4:D:1046:LEU:HD22 | 4:D:1205:PHE:CE2 | 2.36 | 0.59 |
| 4:D:300:LEU:HD22 | 4:D:304:ARG:HB2 | 1.84 | 0.59 |
| 5:O:388:LEU:HD23 | 5:O:394:THR:CG2 | 2.32 | 0.59 |
| 4:B:1057:LYS:NZ | 4:B:1064:MET:HE2 | 2.16 | 0.59 |
| 4:D:1209:ASN:O | 4:D:1211:GLY:N | 2.31 | 0.59 |
| 4:B:774:VAL:HG12 | 4:B:775:GLU:HG3 | 1.83 | 0.59 |
| 4:C:298:PHE:CG | 4:C:299:PRO:CD | 2.85 | 0.59 |
| 4:D:537:GLU:CA | 4:D:540:GLN:HG3 | 2.31 | 0.59 |
| 4:C:970:ARG:HH21 | 4:C:975:LEU:CD1 | 2.15 | 0.59 |
| 4:D:1081:VAL:HG12 | 4:D:1081:VAL:O | 2.02 | 0.59 |
| 5:P:397:ALA:HA | 5:P:398:PHE:O | 2.03 | 0.59 |
| 4:A:1152:LEU:HD13 | 4:A:1179:VAL:HG21 | 1.83 | 0.59 |
| 4:D:1067:ARG:HA | 4:D:1081:VAL:HG22 | 1.84 | 0.59 |
| 4:D:1204:VAL:O | 4:D:1205:PHE:HD1 | 1.85 | 0.59 |
| 5:N:525:GLU:HG3 | 5:N:528:GLU:O | 2.01 | 0.59 |
| 4:A:1165:VAL:CG1 | 4:A:1172:ALA:HB3 | 2.32 | 0.59 |
| 4:B:747:ILE:HG23 | 4:B:805:LEU:HD22 | 1.84 | 0.59 |
| 4:C:292:VAL:HG12 | 4:C:293:TYR:N | 2.17 | 0.59 |
| 5:P:412:VAL:C | 5:P:416:PRO:HD2 | 2.22 | 0.59 |
| 5:P:413:LEU:HA | 5:P:416:PRO:CG | 2.32 | 0.59 |
| 5:P:505:ARG:HG2 | 5:P:514:ARG:HH21 | 1.65 | 0.59 |
| 2:F:9:DT:O4 | 4:A:511:TYR:HA | 2.02 | 0.59 |
| 4:C:839:PHE:CE2 | 4:C:843:LEU:HD11 | 2.38 | 0.59 |
| 4:D:334:VAL:HG21 | 4:D:384:LEU:HD11 | 1.84 | 0.59 |
| 4:A:226:VAL:HG21 | 4:A:561:VAL:HG11 | 1.85 | 0.59 |
| 4:B:1013:HIS:CE1 | 4:B:1016:LEU:HD21 | 2.36 | 0.59 |
| 4:B:389:TYR:O | 4:B:393:VAL:HG23 | 2.02 | 0.59 |
| 4:C:57:TYR:CE2 | 4:C:287:ILE:HD11 | 2.38 | 0.59 |
| 5:N:525:GLU:HG2 | 5:N:528:GLU:O | 2.02 | 0.59 |
| 5:N:529:PRO:CA | 5:N:530:VAL:HB | 2.33 | 0.59 |
| 4:B:333:GLU:O | 4:B:337:LEU:HD12 | 2.03 | 0.59 |
| 4:D:300:LEU:HD22 | 4:D:304:ARG:CB | 2.32 | 0.59 |
| 5:O:519:ARG:CG | 5:O:520:LYS:HB2 | 2.32 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:A:1087:GLU:HG3 | 4:A:1088:GLY:HA3 | 1.83 | 0.59 |
| 4:D:100:ALA:HB2 | 4:D:109:LEU:HD12 | 1.84 | 0.59 |
| 5:O:389:GLU:HB2 | 5:O:445:GLU:HB3 | 1.85 | 0.59 |
| 5:O:494:ALA:HB3 | 5:O:495:GLU:CD | 2.22 | 0.59 |
| 4:B:1084:ARG:HD2 | 4:B:1089:VAL:HG11 | 1.84 | 0.58 |
| 4:C:975:LEU:HD23 | 4:C:976:VAL:N | 2.18 | 0.58 |
| 4:B:319:LEU:HD23 | 4:B:319:LEU:C | 2.22 | 0.58 |
| 4:C:1207:GLN:HB3 | 4:C:1208:GLY:CA | 2.32 | 0.58 |
| 4:A:1161:VAL:HG22 | 4:A:1179:VAL:HG22 | 1.84 | 0.58 |
| 4:B:976:VAL:HG21 | 4:C:115:ARG:CZ | 2.34 | 0.58 |
| 4:C:298:PHE:CG | 4:C:299:PRO:HD2 | 2.37 | 0.58 |
| 4:D:1166:LEU:O | 4:D:1166:LEU:HD12 | 2.02 | 0.58 |
| 4:B:233:LYS:HG2 | 4:B:510:VAL:HG11 | 1.85 | 0.58 |
| 4:C:428:ALA:HB3 | 4:C:816:SER:HB2 | 1.85 | 0.58 |
| 5:M:389:GLU:O | 5:M:390:ALA:CB | 2.49 | 0.58 |
| 5:M:525:GLU:CD | 5:M:525:GLU:H | 2.03 | 0.58 |
| 5:N:450:LEU:HB3 | 5:N:451:GLU:HB2 | 1.85 | 0.58 |
| 5:O:395:LEU:CB | 5:O:396:ARG:HB2 | 2.34 | 0.58 |
| 5:M:524:PRO:N | 5:M:525:GLU:HA | 2.18 | 0.58 |
| 5:P:456:SER:N | 5:P:457:GLY:HA2 | 2.18 | 0.58 |
| 4:A:1093:LEU:HD13 | 4:A:1099:LEU:HG | 1.85 | 0.58 |
| 4:A:639:LYS:O | 4:A:641:VAL:HG23 | 2.03 | 0.58 |
| 4:A:669:GLN:HE22 | 4:A:821:TYR:HB3 | 1.69 | 0.58 |
| 4:C:1165:VAL:O | 4:C:1165:VAL:HG13 | 2.04 | 0.58 |
| 4:D:1119:TRP:CZ2 | 4:D:1206:LEU:HA | 2.38 | 0.58 |
| 5:M:412:VAL:O | 5:M:414:ARG:N | 2.37 | 0.58 |
| 5:P:413:LEU:O | 5:P:417:GLU:HB2 | 2.03 | 0.58 |
| 4:C:290:LYS:O | 4:C:291:MET:HG3 | 2.03 | 0.58 |
| 4:D:1082:PHE:HZ | 4:D:1114:LEU:CA | 2.16 | 0.58 |
| 5:M:421:PHE:CE2 | 5:M:422:HIS:CE1 | 2.91 | 0.58 |
| 5:N:395:LEU:HA | 5:N:396:ARG:CB | 2.29 | 0.58 |
| 5:N:406:LEU:HD22 | 5:N:419:LYS:HG2 | 1.86 | 0.58 |
| 5:P:493:GLU:O | 5:P:504:LEU:HD13 | 2.04 | 0.58 |
| 4:C:659:LEU:HD11 | 4:C:829:ALA:CB | 2.33 | 0.58 |
| 5:P:524:PRO:HG2 | 5:P:526:ALA:HB2 | 1.86 | 0.58 |
| 5:P:529:PRO:CB | 5:P:530:VAL:HA | 2.30 | 0.58 |
| 4:C:1051:VAL:HG12 | 4:C:1068:PHE:CD1 | 2.39 | 0.57 |
| 4:D:1059:THR:CG2 | 4:D:1065:MET:HE3 | 2.25 | 0.57 |
| 5:M:421:PHE:CD2 | 5:M:422:HIS:N | 2.72 | 0.57 |
| 5:P:456:SER:H | 5:P:457:GLY:CA | 2.17 | 0.57 |
| 4:A:1093:LEU:HD23 | 4:A:1094:LYS:O | 2.04 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:A:1204:VAL:HG12 | 4:A:1205:PHE:H | 1.69 | 0.57 |
| 4:C:1129:LYS:HE2 | 4:C:1198:LEU:HD21 | 1.86 | 0.57 |
| 4:C:418:VAL:HG13 | 4:C:472:GLU:HB2 | 1.85 | 0.57 |
| 4:D:285:LEU:O | 4:D:287:ILE:N | 2.37 | 0.57 |
| 5:M:408:GLY:HA3 | 5:M:415:PHE:CD1 | 2.35 | 0.57 |
| 5:O:529:PRO:HA | 5:O:530:VAL:HB | 1.86 | 0.57 |
| 4:A:1080:VAL:CG2 | 4:A:1114:LEU:CA | 2.70 | 0.57 |
| 4:A:32:VAL:HG21 | 4:A:42:LEU:HD22 | 1.86 | 0.57 |
| 4:B:1067:ARG:CA | 4:B:1081:VAL:HG21 | 2.32 | 0.57 |
| 5:N:518:VAL:HG22 | 5:N:519:ARG:HG3 | 1.86 | 0.57 |
| 4:D:1201:ASP:O | 4:D:1204:VAL:HG12 | 2.03 | 0.57 |
| 5:M:419:LYS:CA | 5:M:422:HIS:CD2 | 2.84 | 0.57 |
| 5:O:453:LYS:O | 5:O:454:SER:HB3 | 2.04 | 0.57 |
| 4:A:307:ALA:HB1 | 4:A:395:GLU:HG2 | 1.86 | 0.57 |
| 4:B:1056:ARG:HG3 | 4:B:1057:LYS:CD | 2.34 | 0.57 |
| 4:C:541:VAL:N | 4:C:542:VAL:HG13 | 2.19 | 0.57 |
| 4:D:951:ALA:HB2 | 4:D:993:LEU:HG | 1.86 | 0.57 |
| 5:M:523:ALA:HB1 | 5:M:524:PRO:HA | 1.87 | 0.57 |
| 5:O:490:PRO:HD2 | 5:O:522:LYS:HD2 | 1.86 | 0.57 |
| 4:A:1204:VAL:HG12 | 4:A:1205:PHE:N | 2.20 | 0.57 |
| 4:C:1161:VAL:CG1 | 4:C:1176:LEU:CD2 | 2.83 | 0.57 |
| 4:B:354:LEU:O | 4:B:362:TRP:CH2 | 2.58 | 0.57 |
| 4:D:1212:GLY:O | 4:D:1216:GLU:HG2 | 2.04 | 0.57 |
| 4:D:418:VAL:HG13 | 4:D:472:GLU:HB2 | 1.85 | 0.57 |
| 5:M:524:PRO:HG2 | 5:M:526:ALA:CB | 2.35 | 0.57 |
| 5:O:403:ARG:HE | 5:O:437:ALA:HB3 | 1.70 | 0.57 |
| 4:B:525:ILE:HD11 | 4:B:538:ALA:HB2 | 1.86 | 0.57 |
| 4:D:1119:TRP:CZ2 | 4:D:1206:LEU:CA | 2.88 | 0.57 |
| 4:D:1144:GLY:HA2 | 4:D:1145:VAL:HG13 | 1.85 | 0.57 |
| 4:D:159:LEU:HD22 | 4:D:195:VAL:HG11 | 1.86 | 0.57 |
| 5:M:403:ARG:HE | 5:M:437:ALA:HB3 | 1.70 | 0.57 |
| 1:E:20:DA:N6 | 4:A:510:VAL:O | 2.38 | 0.57 |
| 4:B:28:LEU:HD11 | 4:B:251:VAL:HG21 | 1.86 | 0.57 |
| 4:B:357:VAL:CG1 | 4:B:358:GLU:CG | 2.75 | 0.57 |
| 4:C:1093:LEU:C | 4:C:1094:LYS:CG | 2.67 | 0.57 |
| 4:D:935:LEU:O | 4:D:939:VAL:HG23 | 2.05 | 0.57 |
| 5:M:406:LEU:HA | 5:M:419:LYS:HG2 | 1.86 | 0.57 |
| 5:M:523:ALA:CB | 5:M:524:PRO:CA | 2.83 | 0.57 |
| 5:O:392:LYS:HA | 5:O:393:PRO:C | 2.25 | 0.57 |
| 5:M:392:LYS:HG2 | 5:M:397:ALA:HB2 | 1.87 | 0.57 |
| 4:D:226:VAL:HG12 | 4:D:510:VAL:HG11 | 1.86 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:P:493:GLU:HB2 | 5:P:494:ALA:HA | 1.86 | 0.56 |
| 5:P:539:GLY:HA2 | 5:P:542:PRO:HD2 | 1.86 | 0.56 |
| 4:A:386:ARG:NH1 | 4:A:390:GLU:OE1 | 2.38 | 0.56 |
| 4:A:590:VAL:HG11 | 4:A:602:THR:HG23 | 1.87 | 0.56 |
| 4:B:490:ALA:O | 4:B:580:VAL:HG12 | 2.05 | 0.56 |
| 4:D:444:LEU:HD12 | 4:D:445:ARG:N | 2.21 | 0.56 |
| 5:M:413:LEU:CA | 5:M:416:PRO:HD2 | 2.35 | 0.56 |
| 5:O:395:LEU:N | 5:O:396:ARG:O | 2.37 | 0.56 |
| 5:O:518:VAL:HA | 5:O:519:ARG:HG3 | 1.88 | 0.56 |
| 4:C:1162:TYR:C | 4:C:1163:LEU:HD12 | 2.26 | 0.56 |
| 4:C:1159:LEU:HD11 | 4:C:1183:GLU:HG3 | 1.88 | 0.56 |
| 4:D:1055:VAL:HB | 4:D:1066:ALA:HB1 | 1.88 | 0.56 |
| 4:D:975:LEU:CB | 4:D:980:ALA:HB2 | 2.35 | 0.56 |
| 5:O:530:VAL:O | 5:O:530:VAL:HG13 | 2.05 | 0.56 |
| 5:P:392:LYS:N | 5:P:393:PRO:HD3 | 2.20 | 0.56 |
| 4:C:331:TYR:CD2 | 4:C:354:LEU:HD11 | 2.40 | 0.56 |
| 4:D:1032:LEU:HD12 | 4:D:1047:LEU:HD11 | 1.87 | 0.56 |
| 4:D:106:TYR:O | 4:D:110:VAL:HG23 | 2.04 | 0.56 |
| 4:D:67:PRO:O | 4:D:68:ILE:HD13 | 2.04 | 0.56 |
| 4:B:132:LEU:O | 4:B:136:ALA:HB2 | 2.05 | 0.56 |
| 4:B:235:THR:HG22 | 4:B:236:LEU:H | 1.70 | 0.56 |
| 5:N:505:ARG:HH22 | 5:N:532:GLU:CD | 2.09 | 0.56 |
| 5:O:402:ALA:O | 5:O:406:LEU:HD13 | 2.05 | 0.56 |
| 5:P:389:GLU:HG2 | 5:P:393:PRO:HG2 | 1.87 | 0.56 |
| 5:M:418:SER:C | 5:M:422:HIS:NE2 | 2.58 | 0.56 |
| 5:N:505:ARG:HD2 | 5:N:510:LEU:CB | 2.26 | 0.56 |
| 5:P:540:ILE:O | 5:P:543:PRO:HD3 | 2.04 | 0.56 |
| 4:B:357:VAL:CB | 4:B:358:GLU:CG | 2.84 | 0.56 |
| 5:M:506:ARG:HA | 5:M:510:LEU:CD2 | 2.33 | 0.56 |
| 4:D:535:LEU:O | 4:D:539:ILE:HG12 | 2.06 | 0.56 |
| 4:D:54:VAL:HG11 | 4:D:608:ALA:HB1 | 1.87 | 0.56 |
| 5:P:399:VAL:HG11 | 5:P:441:PHE:CZ | 2.40 | 0.56 |
| 4:A:737:THR:HG21 | 4:A:746:GLN:HE22 | 1.69 | 0.56 |
| 4:D:192:VAL:HG12 | 4:D:196:LEU:CD1 | 2.35 | 0.56 |
| 4:D:287:ILE:O | 4:D:290:LYS:HG3 | 2.05 | 0.56 |
| 4:A:1080:VAL:HG22 | 4:A:1113:VAL:O | 2.05 | 0.56 |
| 4:D:1080:VAL:HG12 | 4:D:1081:VAL:HB | 1.87 | 0.56 |
| 4:D:1205:PHE:CE1 | 4:D:1206:LEU:CD1 | 2.89 | 0.56 |
| 4:D:188:GLU:O | 4:D:192:VAL:HG23 | 2.06 | 0.56 |
| 5:P:525:GLU:O | 5:P:526:ALA:HB3 | 2.06 | 0.56 |
| 5:O:392:LYS:HD2 | 5:O:397:ALA:HB3 | 1.88 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:C:295:ILE:HG23 | 4:C:295:ILE:O | 2.05 | 0.55 |
| 4:D:1204:VAL:HG22 | 4:D:1205:PHE:H | 1.71 | 0.55 |
| 5:N:504:LEU:HD13 | 5:N:535:ILE:HD12 | 1.88 | 0.55 |
| 5:O:506:ARG:O | 5:O:510:LEU:HB2 | 2.06 | 0.55 |
| 5:P:518:VAL:HA | 5:P:519:ARG:HG3 | 1.87 | 0.55 |
| 4:A:300:LEU:N | 4:A:301:PRO:CD | 2.70 | 0.55 |
| 5:N:505:ARG:HD2 | 5:N:510:LEU:HD23 | 1.78 | 0.55 |
| 5:N:529:PRO:HA | 5:N:530:VAL:HB | 1.88 | 0.55 |
| 4:C:351:ALA:HA | 4:C:354:LEU:HD12 | 1.87 | 0.55 |
| 5:N:395:LEU:HD23 | 5:N:396:ARG:CB | 2.36 | 0.55 |
| 5:N:529:PRO:CB | 5:N:530:VAL:HB | 2.36 | 0.55 |
| 4:A:1133:VAL:HG13 | 4:A:1163:LEU:HD12 | 1.88 | 0.55 |
| 4:A:399:PHE:N | 4:A:400:PRO:CD | 2.70 | 0.55 |
| 5:P:451:GLU:O | 5:P:452:LYS:HB2 | 2.07 | 0.55 |
| 5:P:504:LEU:CB | 5:P:505:ARG:HG2 | 2.36 | 0.55 |
| 4:C:590:VAL:HG11 | 4:C:602:THR:CG2 | 2.37 | 0.55 |
| 4:D:1102:LEU:CD1 | 4:D:1206:LEU:CG | 2.82 | 0.55 |
| 4:D:975:LEU:HB3 | 4:D:980:ALA:HB2 | 1.88 | 0.55 |
| 4:B:1123:GLU:HG2 | 4:B:1216:GLU:HB3 | 1.88 | 0.55 |
| 4:D:1051:VAL:HG21 | 4:D:1093:LEU:CD2 | 2.37 | 0.55 |
| 4:D:286:PRO:HA | 4:D:290:LYS:HB2 | 1.89 | 0.55 |
| 4:D:500:SER:HB3 | 4:D:535:LEU:HD12 | 1.86 | 0.55 |
| 5:P:499:ASP:HB3 | 5:P:515:LEU:CD2 | 2.37 | 0.55 |
| 4:D:1079:VAL:C | 4:D:1081:VAL:HG23 | 2.26 | 0.55 |
| 4:B:1093:LEU:HD22 | 4:B:1099:LEU:HG | 1.89 | 0.55 |
| 4:B:569:ASN:O | 4:B:570:ARG:HB3 | 2.07 | 0.55 |
| 4:C:1079:VAL:HG12 | 4:C:1080:VAL:N | 2.22 | 0.55 |
| 4:C:1093:LEU:CD1 | 4:C:1097:ILE:HB | 2.34 | 0.55 |
| 5:M:535:ILE:O | 5:M:538:ASN:HB3 | 2.07 | 0.55 |
| 4:B:1056:ARG:CG | 4:B:1057:LYS:CD | 2.84 | 0.55 |
| 4:D:664:THR:HG21 | 4:D:670:LEU:HD13 | 1.89 | 0.55 |
| 5:O:505:ARG:HH12 | 5:O:506:ARG:NH1 | 2.05 | 0.55 |
| 5:P:529:PRO:HB2 | 5:P:530:VAL:CA | 2.32 | 0.55 |
| 4:C:788:ALA:HB1 | 4:C:793:VAL:HG21 | 1.89 | 0.54 |
| 1:G:19:DC:N4 | 2:H:10:DG:C6 | 2.75 | 0.54 |
| 5:P:396:ARG:O | 5:P:397:ALA:C | 2.45 | 0.54 |
| 5:P:498:GLU:HB2 | 5:P:499:ASP:HA | 1.90 | 0.54 |
| 4:A:170:LEU:HD21 | 4:A:205:LEU:HD22 | 1.89 | 0.54 |
| 4:D:982:VAL:HG13 | 4:D:982:VAL:O | 2.07 | 0.54 |
| 5:M:394:THR:O | 5:M:394:THR:HG22 | 2.06 | 0.54 |
| 5:P:493:GLU:O | 5:P:504:LEU:CD1 | 2.55 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:A:1177:ARG:O | 4:A:1179:VAL:HG13 | 2.07 | 0.54 |
| 4:A:970:ARG:O | 4:A:974:GLY:O | 2.24 | 0.54 |
| 4:B:1099:LEU:HD22 | 4:B:1118:VAL:HG22 | 1.90 | 0.54 |
| 4:B:670:LEU:HD12 | 4:B:675:MET:CG | 2.37 | 0.54 |
| 4:B:696:LEU:HD21 | 4:B:742:VAL:HG22 | 1.89 | 0.54 |
| 4:D:537:GLU:C | 4:D:540:GLN:CG | 2.74 | 0.54 |
| 4:B:1053:GLU:HB3 | 4:B:1068:PHE:HA | 1.89 | 0.54 |
| 4:C:154:ILE:CD1 | 4:C:195:VAL:HB | 2.33 | 0.54 |
| 5:M:419:LYS:O | 5:M:423:HIS:CD2 | 2.60 | 0.54 |
| 5:M:450:LEU:HB3 | 5:M:451:GLU:C | 2.28 | 0.54 |
| 4:A:1013:HIS:CD2 | 4:A:1015:VAL:HG12 | 2.42 | 0.54 |
| 4:B:951:ALA:HB2 | 4:B:993:LEU:HG | 1.90 | 0.54 |
| 5:M:541:MET:O | 5:M:543:PRO:HD2 | 2.08 | 0.54 |
| 4:A:1080:VAL:HG23 | 4:A:1114:LEU:HA | 1.81 | 0.54 |
| 4:A:918:LEU:HD22 | 4:A:953:LEU:CD2 | 2.38 | 0.54 |
| 4:C:723:PHE:HB3 | 4:C:726:ALA:HB3 | 1.88 | 0.54 |
| 4:D:1218:VAL:HB | 4:D:1219:PRO:HD3 | 1.88 | 0.54 |
| 4:D:287:ILE:HG22 | 4:D:288:GLY:N | 2.22 | 0.54 |
| 4:A:555:ILE:HD12 | 4:A:555:ILE:C | 2.28 | 0.54 |
| 4:B:410:ILE:HG23 | 4:B:420:VAL:HG11 | 1.88 | 0.54 |
| 4:C:146:LEU:HD11 | 4:C:189:GLN:HG2 | 1.90 | 0.54 |
| 4:D:1087:GLU:HB3 | 4:D:1088:GLY:HA3 | 1.88 | 0.54 |
| 5:P:395:LEU:C | 5:P:397:ALA:N | 2.61 | 0.54 |
| 4:C:1093:LEU:O | 4:C:1094:LYS:HB2 | 2.08 | 0.54 |
| 4:D:1057:LYS:CB | 4:D:1058:PRO:CA | 2.83 | 0.54 |
| 4:B:1058:PRO:HG2 | 4:B:1059:THR:N | 2.22 | 0.54 |
| 4:C:854:VAL:HG23 | 4:C:1008:ILE:HG21 | 1.89 | 0.54 |
| 5:M:519:ARG:HD3 | 5:M:520:LYS:HE3 | 1.90 | 0.54 |
| 4:C:854:VAL:CG2 | 4:C:1008:ILE:HG21 | 2.38 | 0.54 |
| 4:C:1205:PHE:O | 4:C:1206:LEU:HG | 2.08 | 0.54 |
| 4:C:287:ILE:CA | 4:C:291:MET:HB3 | 2.27 | 0.54 |
| 4:D:1080:VAL:CG2 | 4:D:1115:ALA:H | 2.21 | 0.54 |
| 4:A:1099:LEU:HD13 | 4:A:1118:VAL:HG11 | 1.90 | 0.53 |
| 4:D:1095:GLU:O | 4:D:1097:ILE:HD12 | 2.08 | 0.53 |
| 4:D:589:LEU:HG | 4:D:612:LEU:HD21 | 1.90 | 0.53 |
| 4:D:672:SER:O | 4:D:676:THR:HG23 | 2.08 | 0.53 |
| 3:I:20:DA:C2 | 6:I:101:DOC:C2 | 2.91 | 0.53 |
| 4:A:951:ALA:HB2 | 4:A:993:LEU:HD21 | 1.90 | 0.53 |
| 4:B:1080:VAL:HA | 4:B:1081:VAL:CB | 2.37 | 0.53 |
| 4:D:1159:LEU:HD21 | 4:D:1183:GLU:HG2 | 1.90 | 0.53 |
| 4:D:546:ARG:NH1 | 4:D:550:GLU:OE2 | 2.41 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:B:1057:LYS:CB | 4:B:1058:PRO:CA | 2.84 | 0.53 |
| 4:B:590:VAL:HG13 | 4:B:604:TYR:CD1 | 2.43 | 0.53 |
| 4:C:28:LEU:HD11 | 4:C:251:VAL:HG21 | 1.90 | 0.53 |
| 4:C:631:ALA:O | 4:C:635:VAL:HG23 | 2.08 | 0.53 |
| 5:N:395:LEU:HD23 | 5:N:396:ARG:CD | 2.38 | 0.53 |
| 4:B:308:GLN:HE21 | 4:B:356:ARG:HA | 1.74 | 0.53 |
| 4:D:28:LEU:CD1 | 4:D:251:VAL:HG21 | 2.39 | 0.53 |
| 4:D:535:LEU:O | 4:D:538:ALA:HB3 | 2.08 | 0.53 |
| 4:D:788:ALA:HB1 | 4:D:793:VAL:CG2 | 2.38 | 0.53 |
| 4:A:170:LEU:HD21 | 4:A:205:LEU:CD2 | 2.38 | 0.53 |
| 4:C:1051:VAL:HG22 | 4:C:1097:ILE:O | 2.07 | 0.53 |
| 4:D:1089:VAL:HG12 | 4:D:1091:PRO:HD3 | 1.89 | 0.53 |
| 4:D:1144:GLY:HA2 | 4:D:1145:VAL:CG1 | 2.38 | 0.53 |
| 4:D:1205:PHE:CD1 | 4:D:1206:LEU:CD1 | 2.85 | 0.53 |
| 4:A:1067:ARG:N | 4:A:1081:VAL:CG2 | 2.67 | 0.53 |
| 4:A:691:ILE:HG22 | 4:A:743:TYR:OH | 2.09 | 0.53 |
| 4:D:115:ARG:NH1 | 4:D:131:ILE:HD12 | 2.23 | 0.53 |
| 4:A:319:LEU:HD23 | 4:A:326:ILE:O | 2.08 | 0.53 |
| 4:A:459:VAL:HG13 | 4:A:459:VAL:O | 2.09 | 0.53 |
| 4:C:513:ILE:HG23 | 4:C:517:LYS:NZ | 2.24 | 0.53 |
| 4:C:541:VAL:N | 4:C:542:VAL:HG22 | 2.23 | 0.53 |
| 4:B:319:LEU:HD23 | 4:B:319:LEU:O | 2.08 | 0.53 |
| 5:O:409:LYS:HD3 | 5:O:412:VAL:HG21 | 1.91 | 0.53 |
| 4:C:318:LEU:HD12 | 4:C:435:ALA:HB1 | 1.91 | 0.53 |
| 5:M:396:ARG:CB | 5:M:397:ALA:HB3 | 2.39 | 0.53 |
| 5:N:378:GLN:HA | 5:N:381:ALA:HB3 | 1.91 | 0.53 |
| 5:O:416:PRO:HB3 | 5:O:436:LEU:HD21 | 1.91 | 0.53 |
| 5:O:453:LYS:O | 5:O:454:SER:CB | 2.56 | 0.53 |
| 4:B:1181:VAL:CG1 | 4:B:1185:ALA:HB3 | 2.38 | 0.52 |
| 4:B:230:ILE:HG12 | 4:B:507:VAL:HG13 | 1.91 | 0.52 |
| 4:C:1129:LYS:O | 4:C:1159:LEU:HD22 | 2.10 | 0.52 |
| 4:D:1205:PHE:O | 4:D:1206:LEU:HD12 | 2.09 | 0.52 |
| 4:D:952:ARG:HD3 | 4:D:987:LEU:HD23 | 1.91 | 0.52 |
| 4:A:1121:LEU:HD11 | 4:A:1125:LEU:HD11 | 1.90 | 0.52 |
| 4:C:1081:VAL:HG23 | 4:C:1084:ARG:HB3 | 1.91 | 0.52 |
| 4:C:54:VAL:HG23 | 4:C:604:TYR:CE2 | 2.45 | 0.52 |
| 4:D:148:ALA:HB3 | 4:D:151:PRO:CG | 2.38 | 0.52 |
| 4:D:158:ARG:HG2 | 4:D:161:LEU:HD22 | 1.91 | 0.52 |
| 5:N:505:ARG:CD | 5:N:510:LEU:CD2 | 2.75 | 0.52 |
| 4:A:1080:VAL:CA | 4:A:1081:VAL:HB | 2.21 | 0.52 |
| 4:A:952:ARG:HD3 | 4:A:987:LEU:HD23 | 1.90 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:C:1213:PRO:O | 4:C:1217:VAL:HG23 | 2.09 | 0.52 |
| 4:C:970:ARG:HE | 4:C:975:LEU:HD13 | 1.74 | 0.52 |
| 4:D:1065:MET:HG3 | 4:D:1081:VAL:O | 2.09 | 0.52 |
| 4:D:498:LEU:HD22 | 4:D:570:ARG:HH21 | 1.74 | 0.52 |
| 5:N:512:GLY:HA2 | 5:N:515:LEU:HD13 | 1.91 | 0.52 |
| 4:A:1135:VAL:HG21 | 4:A:1163:LEU:HD11 | 1.91 | 0.52 |
| 4:B:1013:HIS:HB3 | 4:B:1014:PRO:CA | 2.37 | 0.52 |
| 2:F:24:DT:H1' | 2:F:25:DT:H5'' | 1.90 | 0.52 |
| 5:M:403:ARG:HG2 | 5:M:437:ALA:HB1 | 1.92 | 0.52 |
| 4:A:332:ARG:HG3 | 4:A:350:LEU:HD21 | 1.90 | 0.52 |
| 4:A:951:ALA:HB2 | 4:A:993:LEU:HG | 1.92 | 0.52 |
| 4:C:1129:LYS:CE | 4:C:1198:LEU:HD21 | 2.40 | 0.52 |
| 4:C:970:ARG:NH2 | 4:C:975:LEU:CD1 | 2.73 | 0.52 |
| 4:D:788:ALA:HB1 | 4:D:793:VAL:HG21 | 1.91 | 0.52 |
| 5:N:455:LEU:N | 5:N:456:SER:CB | 2.72 | 0.52 |
| 5:O:521:PRO:HD2 | 5:O:522:LYS:H | 1.73 | 0.52 |
| 4:A:154:ILE:HD13 | 4:A:195:VAL:HB | 1.92 | 0.52 |
| 4:A:569:ASN:HA | 4:A:570:ARG:CB | 2.34 | 0.52 |
| 4:A:574:VAL:CG1 | 4:A:575:HIS:N | 2.73 | 0.52 |
| 4:D:1055:VAL:HG21 | 4:D:1067:ARG:C | 2.29 | 0.52 |
| 4:D:1051:VAL:HB | 4:D:1093:LEU:HD23 | 1.92 | 0.52 |
| 4:A:1016:LEU:HD23 | 4:A:1022:ARG:HD2 | 1.92 | 0.52 |
| 4:C:1093:LEU:CD1 | 4:C:1097:ILE:CG2 | 2.71 | 0.52 |
| 4:C:1166:LEU:O | 4:C:1166:LEU:HD12 | 2.10 | 0.52 |
| 4:D:112:LEU:CD2 | 4:D:131:ILE:HG22 | 2.38 | 0.52 |
| 5:M:385:ARG:HB2 | 5:M:386:ALA:HA | 1.91 | 0.52 |
| 4:B:1122:GLU:OE2 | 5:N:530:VAL:HG11 | 2.09 | 0.52 |
| 5:P:499:ASP:HB3 | 5:P:515:LEU:HD21 | 1.92 | 0.52 |
| 5:P:524:PRO:N | 5:P:525:GLU:CA | 2.73 | 0.52 |
| 4:A:424:ARG:CZ | 4:A:620:LEU:HD22 | 2.39 | 0.52 |
| 4:B:1055:VAL:O | 4:B:1066:ALA:HB2 | 2.08 | 0.52 |
| 5:O:395:LEU:HB2 | 5:O:396:ARG:O | 2.09 | 0.52 |
| 4:A:1081:VAL:O | 4:A:1081:VAL:HG12 | 2.09 | 0.52 |
| 4:C:1182:GLY:O | 4:C:1183:GLU:HB2 | 2.10 | 0.52 |
| 4:C:574:VAL:HG12 | 4:C:575:HIS:O | 2.09 | 0.52 |
| 5:M:505:ARG:CB | 5:M:506:ARG:CA | 2.82 | 0.52 |
| 5:M:524:PRO:HG2 | 5:M:526:ALA:HB3 | 1.92 | 0.52 |
| 5:N:524:PRO:CB | 5:N:525:GLU:CA | 2.86 | 0.52 |
| 4:A:1051:VAL:HB | 4:A:1093:LEU:HD22 | 1.92 | 0.52 |
| 4:A:1080:VAL:CA | 4:A:1081:VAL:CB | 2.85 | 0.52 |
| 4:A:1159:LEU:HD11 | 4:A:1180:ARG:HD2 | 1.92 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:A:561:VAL:O | 4:A:565:LEU:HD13 | 2.10 | 0.52 |
| 4:D:1102:LEU:HD11 | 4:D:1206:LEU:HG | 1.87 | 0.52 |
| 5:N:395:LEU:CA | 5:N:396:ARG:HB2 | 2.31 | 0.52 |
| 5:P:504:LEU:CB | 5:P:505:ARG:HA | 2.36 | 0.52 |
| 4:B:615:LEU:HD21 | 4:B:617:MET:HE3 | 1.92 | 0.51 |
| 4:C:1080:VAL:HB | 4:C:1081:VAL:C | 2.29 | 0.51 |
| 4:D:1152:LEU:HD22 | 4:D:1181:VAL:HG21 | 1.92 | 0.51 |
| 4:D:537:GLU:HB3 | 4:D:540:GLN:NE2 | 2.26 | 0.51 |
| 1:E:15:DG:O6 | 2:F:13:DA:N6 | 2.43 | 0.51 |
| 5:O:519:ARG:HB3 | 5:O:520:LYS:CB | 2.40 | 0.51 |
| 5:P:450:LEU:HB3 | 5:P:451:GLU:C | 2.30 | 0.51 |
| 4:B:1056:ARG:C | 4:B:1057:LYS:HG3 | 2.26 | 0.51 |
| 4:B:1147:ARG:HG3 | 4:B:1148:LEU:HD12 | 1.92 | 0.51 |
| 4:C:292:VAL:CG1 | 4:C:293:TYR:N | 2.73 | 0.51 |
| 5:M:415:PHE:HB2 | 5:M:416:PRO:CD | 2.41 | 0.51 |
| 4:A:1214:LYS:O | 4:A:1218:VAL:HG23 | 2.09 | 0.51 |
| 4:A:291:MET:O | 4:A:291:MET:HG2 | 2.10 | 0.51 |
| 4:A:971:GLY:HA2 | 4:A:975:LEU:HB2 | 1.85 | 0.51 |
| 4:C:293:TYR:N | 4:C:293:TYR:CD1 | 2.78 | 0.51 |
| 5:M:535:ILE:CG2 | 5:M:536:GLY:N | 2.72 | 0.51 |
| 5:N:455:LEU:HA | 5:N:456:SER:C | 2.30 | 0.51 |
| 5:O:407:GLU:OE1 | 5:O:436:LEU:HD22 | 2.10 | 0.51 |
| 4:B:1056:ARG:CZ | 4:B:1056:ARG:HB2 | 2.38 | 0.51 |
| 4:C:293:TYR:HD1 | 4:C:293:TYR:N | 2.07 | 0.51 |
| 4:C:399:PHE:N | 4:C:400:PRO:CD | 2.74 | 0.51 |
| 4:C:813:PHE:CE2 | 4:C:818:ALA:HB2 | 2.45 | 0.51 |
| 4:D:1120:THR:HG22 | 4:D:1121:LEU:H | 1.76 | 0.51 |
| 5:P:416:PRO:HG2 | 5:P:417:GLU:H | 1.75 | 0.51 |
| 4:A:795:GLU:HG2 | 4:A:795:GLU:O | 2.10 | 0.51 |
| 4:B:357:VAL:HB | 4:B:358:GLU:CG | 2.41 | 0.51 |
| 4:C:301:PRO:HB2 | 4:C:302:GLU:CB | 2.38 | 0.51 |
| 4:D:1057:LYS:CE | 4:D:1064:MET:N | 2.71 | 0.51 |
| 4:D:1159:LEU:CD2 | 4:D:1183:GLU:CG | 2.88 | 0.51 |
| 4:D:549:MET:CE | 4:D:559:ILE:HD13 | 2.32 | 0.51 |
| 4:B:690:ILE:O | 4:B:694:VAL:HG23 | 2.10 | 0.51 |
| 4:B:982:VAL:O | 4:B:982:VAL:HG13 | 2.11 | 0.51 |
| 4:D:1152:LEU:HB3 | 4:D:1179:VAL:HG11 | 1.93 | 0.51 |
| 5:N:494:ALA:HB1 | 5:N:495:GLU:C | 2.30 | 0.51 |
| 5:N:505:ARG:HB3 | 5:N:506:ARG:HA | 1.89 | 0.51 |
| 5:N:508:ALA:CA | 5:N:510:LEU:N | 2.67 | 0.51 |
| 5:P:539:GLY:HA2 | 5:P:542:PRO:CD | 2.41 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:A:980:ALA:C | 4:A:981:GLU:CG | 2.79 | 0.51 |
| 4:B:1027:CYS:O | 4:B:1047:LEU:HD13 | 2.11 | 0.51 |
| 4:B:1151:LEU:HD12 | 4:B:1152:LEU:CD1 | 2.41 | 0.51 |
| 4:B:407:GLN:HG3 | 4:B:436:VAL:HG12 | 1.92 | 0.51 |
| 4:C:1181:VAL:CG1 | 4:C:1185:ALA:HB3 | 2.41 | 0.51 |
| 4:C:504:LEU:HD12 | 4:C:525:ILE:HD11 | 1.92 | 0.51 |
| 4:C:54:VAL:HG23 | 4:C:604:TYR:CZ | 2.45 | 0.51 |
| 4:D:146:LEU:HD11 | 4:D:189:GLN:HG3 | 1.92 | 0.51 |
| 5:N:395:LEU:HD23 | 5:N:396:ARG:HD2 | 1.92 | 0.51 |
| 4:D:1125:LEU:HD13 | 5:P:530:VAL:CG1 | 2.40 | 0.51 |
| 5:N:495:GLU:HB2 | 5:N:496:GLU:HB2 | 1.91 | 0.51 |
| 5:P:539:GLY:CA | 5:P:542:PRO:HD2 | 2.41 | 0.51 |
| 4:A:106:TYR:O | 4:A:110:VAL:HG23 | 2.10 | 0.51 |
| 4:B:1055:VAL:CG1 | 4:B:1066:ALA:HA | 2.41 | 0.51 |
| 4:C:1161:VAL:HG12 | 4:C:1176:LEU:HD21 | 1.93 | 0.51 |
| 4:C:951:ALA:HB2 | 4:C:993:LEU:CG | 2.41 | 0.51 |
| 4:C:976:VAL:O | 4:C:976:VAL:HG13 | 2.10 | 0.51 |
| 4:C:952:ARG:HD3 | 4:C:987:LEU:HD23 | 1.93 | 0.51 |
| 4:D:1080:VAL:CG1 | 4:D:1081:VAL:HB | 2.39 | 0.51 |
| 5:M:406:LEU:HD22 | 5:M:419:LYS:HG2 | 1.92 | 0.51 |
| 5:N:524:PRO:HD2 | 5:N:525:GLU:CA | 2.21 | 0.51 |
| 5:O:447:ALA:O | 5:O:448:PHE:CD1 | 2.64 | 0.51 |
| 5:P:528:GLU:H | 5:P:529:PRO:CD | 2.23 | 0.51 |
| 4:A:25:LEU:HD21 | 4:A:56:PHE:HA | 1.93 | 0.51 |
| 4:C:226:VAL:HG12 | 4:C:510:VAL:HG11 | 1.92 | 0.51 |
| 5:M:543:PRO:O | 5:M:543:PRO:HG2 | 2.11 | 0.51 |
| 4:C:975:LEU:HD23 | 4:C:976:VAL:HA | 1.93 | 0.50 |
| 5:P:499:ASP:HB2 | 5:P:515:LEU:CD2 | 2.27 | 0.50 |
| 4:B:1024:VAL:O | 4:B:1025:ALA:C | 2.49 | 0.50 |
| 4:B:1027:CYS:SG | 4:B:1045:VAL:HG11 | 2.51 | 0.50 |
| 4:B:1058:PRO:HG2 | 4:B:1059:THR:H | 1.76 | 0.50 |
| 4:B:1058:PRO:CG | 4:B:1059:THR:N | 2.73 | 0.50 |
| 4:C:223:ALA:O | 4:C:226:VAL:HG22 | 2.12 | 0.50 |
| 4:C:918:LEU:HD22 | 4:C:953:LEU:HD22 | 1.92 | 0.50 |
| 4:D:1080:VAL:C | 4:D:1081:VAL:CG2 | 2.74 | 0.50 |
| 4:D:1080:VAL:N | 4:D:1081:VAL:HG23 | 2.23 | 0.50 |
| 5:N:510:LEU:O | 5:N:511:LEU:C | 2.49 | 0.50 |
| 5:O:505:ARG:NE | 5:O:507:LEU:HD21 | 2.24 | 0.50 |
| 4:A:1093:LEU:HD11 | 4:A:1097:ILE:HG22 | 1.93 | 0.50 |
| 4:C:154:ILE:HD11 | 4:C:195:VAL:CB | 2.36 | 0.50 |
| 4:D:1159:LEU:CD1 | 4:D:1183:GLU:HG3 | 2.41 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:I:14:DA:C2 | 2:J:16:DG:N2 | 2.80 | 0.50 |
| 4:A:362:TRP:CE3 | 4:A:365:LEU:HD12 | 2.47 | 0.50 |
| 4:B:1151:LEU:HD12 | 4:B:1152:LEU:HD12 | 1.92 | 0.50 |
| 4:B:227:LEU:HA | 4:B:230:ILE:HD12 | 1.92 | 0.50 |
| 4:B:405:ILE:HG23 | 4:B:484:TYR:OH | 2.11 | 0.50 |
| 4:B:515:HIS:HB2 | 4:B:516:LYS:CA | 2.40 | 0.50 |
| 4:C:1089:VAL:HG23 | 4:C:1091:PRO:HD3 | 1.94 | 0.50 |
| 4:C:1093:LEU:O | 4:C:1094:LYS:CG | 2.59 | 0.50 |
| 4:D:537:GLU:HB3 | 4:D:540:GLN:HE21 | 1.76 | 0.50 |
| 5:N:440:GLN:CB | 5:N:441:PHE:HA | 2.41 | 0.50 |
| 4:A:186:LEU:HD21 | 4:A:245:PRO:HB2 | 1.93 | 0.50 |
| 4:D:1082:PHE:CZ | 4:D:1114:LEU:HB2 | 2.39 | 0.50 |
| 5:M:369:HIS:O | 5:M:378:GLN:NE2 | 2.44 | 0.50 |
| 5:O:494:ALA:HB3 | 5:O:495:GLU:CG | 2.42 | 0.50 |
| 4:A:1093:LEU:HD13 | 4:A:1099:LEU:CG | 2.41 | 0.50 |
| 4:C:1093:LEU:HD12 | 4:C:1097:ILE:HD12 | 1.92 | 0.50 |
| 4:C:1136:ASP:O | 4:C:1139:LEU:HD23 | 2.11 | 0.50 |
| 4:C:604:TYR:HB3 | 4:C:608:ALA:HB3 | 1.93 | 0.50 |
| 5:M:406:LEU:HD22 | 5:M:419:LYS:CG | 2.42 | 0.50 |
| 5:M:419:LYS:O | 5:M:423:HIS:NE2 | 2.45 | 0.50 |
| 5:N:440:GLN:HB2 | 5:N:441:PHE:HB2 | 1.92 | 0.50 |
| 4:C:406:VAL:HG11 | 4:C:464:ILE:HG21 | 1.94 | 0.50 |
| 4:C:970:ARG:NE | 4:C:975:LEU:HD13 | 2.26 | 0.50 |
| 4:D:1159:LEU:CD2 | 4:D:1183:GLU:HG3 | 2.42 | 0.50 |
| 5:O:385:ARG:HB2 | 5:O:386:ALA:HA | 1.94 | 0.50 |
| 5:P:505:ARG:CG | 5:P:514:ARG:HE | 2.17 | 0.50 |
| 4:B:922:LEU:CD1 | 4:B:964:ALA:HB2 | 2.42 | 0.50 |
| 4:D:542:VAL:CG1 | 4:D:543:PRO:HD3 | 2.40 | 0.50 |
| 5:O:390:ALA:O | 5:O:391:LEU:O | 2.29 | 0.50 |
| 4:B:1218:VAL:N | 4:B:1219:PRO:HD2 | 2.27 | 0.50 |
| 5:N:395:LEU:CA | 5:N:396:ARG:CB | 2.89 | 0.50 |
| 5:P:501:SER:OG | 5:P:504:LEU:O | 2.29 | 0.50 |
| 4:A:116:ALA:HB1 | 4:A:125:PRO:HB2 | 1.94 | 0.49 |
| 4:A:366:ARG:HD3 | 4:A:385:HIS:NE2 | 2.27 | 0.49 |
| 4:B:352:GLU:HG2 | 4:B:356:ARG:CZ | 2.41 | 0.49 |
| 5:M:538:ASN:O | 5:M:541:MET:HB3 | 2.12 | 0.49 |
| 5:P:542:PRO:C | 5:P:543:PRO:OXT | 2.51 | 0.49 |
| 4:A:1152:LEU:HD13 | 4:A:1179:VAL:CG2 | 2.41 | 0.49 |
| 4:A:513:ILE:CG2 | 4:A:514:PRO:CD | 2.85 | 0.49 |
| 4:A:789:LYS:HE3 | 4:A:795:GLU:OE1 | 2.12 | 0.49 |
| 4:B:1027:CYS:SG | 4:B:1045:VAL:CG1 | 3.00 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:B:32:VAL:HG21 | 4:B:42:LEU:HD22 | 1.95 | 0.49 |
| 4:C:1173:LEU:HD13 | 4:C:1202:ARG:HH22 | 1.78 | 0.49 |
| 2:L:7:DT:OP2 | 4:D:1067:ARG:NH1 | 2.45 | 0.49 |
| 4:D:635:VAL:HG22 | 4:D:838:GLU:HG3 | 1.94 | 0.49 |
| 4:A:590:VAL:CG1 | 4:A:602:THR:HG23 | 2.42 | 0.49 |
| 4:A:628:LEU:HD22 | 4:A:645:TYR:CE2 | 2.47 | 0.49 |
| 4:D:154:ILE:C | 4:D:154:ILE:HD12 | 2.33 | 0.49 |
| 4:B:1099:LEU:HD23 | 4:B:1120:THR:HA | 1.93 | 0.49 |
| 4:B:590:VAL:CG1 | 4:B:602:THR:HG23 | 2.42 | 0.49 |
| 4:C:961:LEU:HD12 | 4:C:962:ARG:N | 2.27 | 0.49 |
| 4:D:1067:ARG:HA | 4:D:1081:VAL:CG2 | 2.42 | 0.49 |
| 4:D:23:ALA:HB2 | 4:D:215:TYR:HA | 1.94 | 0.49 |
| 5:M:499:ASP:HB3 | 5:M:500:PRO:CA | 2.42 | 0.49 |
| 5:N:395:LEU:HD23 | 5:N:396:ARG:HB3 | 1.93 | 0.49 |
| 5:O:452:LYS:HZ2 | 5:O:509:ARG:CZ | 2.25 | 0.49 |
| 5:O:527:GLU:N | 5:O:528:GLU:HA | 2.26 | 0.49 |
| 4:B:1068:PHE:H | 4:B:1081:VAL:HG11 | 1.75 | 0.49 |
| 4:C:132:LEU:O | 4:C:136:ALA:HB2 | 2.12 | 0.49 |
| 4:C:28:LEU:CD1 | 4:C:251:VAL:HG21 | 2.42 | 0.49 |
| 4:C:32:VAL:HG21 | 4:C:42:LEU:HD22 | 1.94 | 0.49 |
| 4:C:661:ARG:O | 4:C:680:ARG:NH1 | 2.46 | 0.49 |
| 5:P:389:GLU:O | 5:P:393:PRO:HD2 | 2.13 | 0.49 |
| 4:B:1055:VAL:HG12 | 4:B:1056:ARG:N | 2.26 | 0.49 |
| 4:B:1057:LYS:HE2 | 4:B:1064:MET:SD | 2.51 | 0.49 |
| 4:C:148:ALA:HB3 | 4:C:151:PRO:CG | 2.42 | 0.49 |
| 5:P:453:LYS:O | 5:P:454:SER:HB3 | 2.13 | 0.49 |
| 4:A:1098:PRO:CG | 4:A:1121:LEU:HD22 | 2.42 | 0.49 |
| 4:B:675:MET:HE1 | 4:B:697:TYR:HB3 | 1.94 | 0.49 |
| 4:D:319:LEU:HD11 | 4:D:328:GLU:OE2 | 2.13 | 0.49 |
| 5:O:412:VAL:O | 5:O:414:ARG:N | 2.45 | 0.49 |
| 5:N:526:ALA:O | 5:N:527:GLU:HB2 | 2.13 | 0.49 |
| 5:O:403:ARG:HG2 | 5:O:437:ALA:HB1 | 1.95 | 0.49 |
| 5:O:505:ARG:NH1 | 5:O:506:ARG:NH1 | 2.60 | 0.49 |
| 5:P:417:GLU:O | 5:P:418:SER:C | 2.51 | 0.49 |
| 5:P:541:MET:C | 5:P:543:PRO:HD3 | 2.33 | 0.49 |
| 4:A:1098:PRO:HG2 | 4:A:1121:LEU:HD22 | 1.95 | 0.49 |
| 4:A:181:ILE:HD13 | 4:A:266:TRP:CZ3 | 2.48 | 0.49 |
| 4:A:54:VAL:HG13 | 4:A:287:ILE:HD11 | 1.94 | 0.49 |
| 4:A:854:VAL:O | 4:A:858:ILE:HG23 | 2.13 | 0.49 |
| 4:C:307:ALA:HB1 | 4:C:395:GLU:CD | 2.32 | 0.49 |
| 4:D:1202:ARG:NH1 | 4:D:1202:ARG:CG | 2.73 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:O:390:ALA:C | 5:O:393:PRO:HG2 | 2.33 | 0.49 |
| 5:P:504:LEU:CD1 | 5:P:504:LEU:N | 2.73 | 0.49 |
| 4:A:1122:GLU:HB3 | 4:A:1220:PHE:CD1 | 2.48 | 0.49 |
| 5:N:498:GLU:HB2 | 5:N:499:ASP:HA | 1.95 | 0.49 |
| 5:O:395:LEU:HB3 | 5:O:396:ARG:HB2 | 1.95 | 0.49 |
| 5:P:522:LYS:CG | 5:P:523:ALA:H | 2.13 | 0.49 |
| 4:C:362:TRP:CD1 | 4:C:388:LEU:HD13 | 2.48 | 0.48 |
| 4:D:1020:GLY:O | 4:D:1024:VAL:HG23 | 2.13 | 0.48 |
| 4:D:1065:MET:SD | 4:D:1082:PHE:CA | 2.83 | 0.48 |
| 4:D:996:ILE:CD1 | 5:P:528:GLU:OE2 | 2.59 | 0.48 |
| 4:A:1014:PRO:HB2 | 4:A:1050:MET:HE3 | 1.95 | 0.48 |
| 4:B:358:GLU:C | 4:B:362:TRP:CD1 | 2.86 | 0.48 |
| 4:C:975:LEU:HD23 | 4:C:976:VAL:CA | 2.42 | 0.48 |
| 5:P:382:GLU:HG3 | 5:P:388:LEU:HD21 | 1.94 | 0.48 |
| 5:P:518:VAL:HG13 | 5:P:519:ARG:HB2 | 1.93 | 0.48 |
| 4:A:1189:LEU:O | 4:A:1189:LEU:HD23 | 2.12 | 0.48 |
| 4:A:1014:PRO:HB2 | 4:A:1050:MET:CE | 2.44 | 0.48 |
| 4:A:1164:ARG:HG2 | 4:A:1173:LEU:HD21 | 1.94 | 0.48 |
| 4:A:970:ARG:HG3 | 4:A:980:ALA:HA | 1.95 | 0.48 |
| 4:B:1181:VAL:HG13 | 4:B:1185:ALA:HB3 | 1.95 | 0.48 |
| 4:D:1046:LEU:HD13 | 4:D:1205:PHE:HD2 | 1.78 | 0.48 |
| 4:D:335:LEU:HD21 | 4:D:354:LEU:HG | 1.94 | 0.48 |
| 4:D:549:MET:HE2 | 4:D:559:ILE:CB | 2.39 | 0.48 |
| 5:M:505:ARG:HD2 | 5:M:510:LEU:CG | 2.43 | 0.48 |
| 5:P:494:ALA:HB1 | 5:P:495:GLU:C | 2.34 | 0.48 |
| 4:D:1205:PHE:CE1 | 4:D:1206:LEU:HD12 | 2.45 | 0.48 |
| 5:N:493:GLU:HB2 | 5:N:494:ALA:HA | 1.95 | 0.48 |
| 4:A:1124:VAL:HG13 | 4:A:1200:PRO:CG | 2.42 | 0.48 |
| 4:C:1080:VAL:CB | 4:C:1082:PHE:H | 2.23 | 0.48 |
| 4:C:679:VAL:HG22 | 4:C:693:LEU:HD21 | 1.96 | 0.48 |
| 4:D:1119:TRP:CH2 | 4:D:1206:LEU:CA | 2.93 | 0.48 |
| 4:D:755:ALA:HB2 | 4:D:784:PHE:CD1 | 2.49 | 0.48 |
| 4:A:574:VAL:HG12 | 4:A:575:HIS:H | 1.76 | 0.48 |
| 4:B:1064:MET:CE | 4:B:1087:GLU:OE1 | 2.62 | 0.48 |
| 4:B:356:ARG:O | 4:B:357:VAL:CG1 | 2.62 | 0.48 |
| 4:D:589:LEU:HD21 | 4:D:612:LEU:HG | 1.96 | 0.48 |
| 4:A:28:LEU:HD11 | 4:A:251:VAL:HG21 | 1.96 | 0.48 |
| 4:C:1051:VAL:HG12 | 4:C:1068:PHE:CE1 | 2.48 | 0.48 |
| 4:C:300:LEU:HB3 | 4:C:302:GLU:O | 2.14 | 0.48 |
| 4:C:570:ARG:C | 4:C:571:HIS:CG | 2.87 | 0.48 |
| 5:M:411:LEU:CB | 5:M:412:VAL:HA | 2.43 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:N:527:GLU:N | 5:N:528:GLU:CA | 2.70 | 0.48 |
| 5:P:535:ILE:HG12 | 5:P:536:GLY:H | 1.79 | 0.48 |
| 4:C:1101:VAL:HG22 | 4:C:1118:VAL:HG12 | 1.94 | 0.48 |
| 5:M:524:PRO:HB2 | 5:M:525:GLU:O | 2.14 | 0.48 |
| 5:N:523:ALA:HB3 | 5:N:524:PRO:CA | 2.24 | 0.48 |
| 5:N:525:GLU:HG3 | 5:N:530:VAL:HA | 1.95 | 0.48 |
| 4:A:311:ARG:HG2 | 4:A:391:LEU:HD13 | 1.94 | 0.48 |
| 4:A:620:LEU:HD12 | 4:A:620:LEU:N | 2.29 | 0.48 |
| 4:B:1056:ARG:NH1 | 4:B:1056:ARG:CG | 2.73 | 0.48 |
| 4:B:424:ARG:NE | 4:B:620:LEU:HD22 | 2.28 | 0.48 |
| 4:C:1086:TYR:HB2 | 4:C:1087:GLU:C | 2.35 | 0.48 |
| 4:C:970:ARG:NH2 | 4:C:975:LEU:HD21 | 2.28 | 0.48 |
| 4:D:1099:LEU:HD23 | 4:D:1120:THR:HA | 1.95 | 0.48 |
| 4:D:13:HIS:NE2 | 4:D:72:GLU:OE1 | 2.47 | 0.48 |
| 5:N:522:LYS:HG2 | 5:N:523:ALA:H | 1.78 | 0.48 |
| 4:C:1096:ASP:O | 4:C:1097:ILE:HG13 | 2.14 | 0.47 |
| 4:C:207:MET:HE3 | 4:C:266:TRP:CZ3 | 2.49 | 0.47 |
| 5:M:419:LYS:O | 5:M:423:HIS:CG | 2.66 | 0.47 |
| 4:B:941:ALA:CB | 4:B:1006:LEU:HD11 | 2.45 | 0.47 |
| 4:B:356:ARG:O | 4:B:357:VAL:HG13 | 2.13 | 0.47 |
| 4:B:517:LYS:O | 4:B:521:LEU:HD13 | 2.13 | 0.47 |
| 4:D:154:ILE:HD11 | 4:D:192:VAL:HG22 | 1.96 | 0.47 |
| 4:D:307:ALA:HB1 | 4:D:395:GLU:CD | 2.34 | 0.47 |
| 5:M:492:TRP:CZ3 | 5:M:495:GLU:O | 2.68 | 0.47 |
| 4:A:498:LEU:HB3 | 4:A:499:ALA:CB | 2.43 | 0.47 |
| 4:A:525:ILE:H | 4:A:525:ILE:HD12 | 1.79 | 0.47 |
| 4:C:1157:GLY:HA3 | 4:C:1182:GLY:HA2 | 1.95 | 0.47 |
| 4:C:389:TYR:O | 4:C:393:VAL:HG23 | 2.14 | 0.47 |
| 4:D:15:GLN:N | 4:D:23:ALA:O | 2.47 | 0.47 |
| 4:D:314:THR:HG21 | 4:D:391:LEU:HD11 | 1.96 | 0.47 |
| 2:F:11:DG:H2'' | 2:F:12:DC:C6 | 2.49 | 0.47 |
| 5:O:523:ALA:CB | 5:O:524:PRO:HB3 | 2.25 | 0.47 |
| 4:A:1051:VAL:CG2 | 4:A:1099:LEU:HD12 | 2.43 | 0.47 |
| 4:B:951:ALA:HB2 | 4:B:993:LEU:CD2 | 2.45 | 0.47 |
| 4:C:287:ILE:HG22 | 4:C:611:ALA:O | 2.14 | 0.47 |
| 4:D:1140:LEU:HG | 4:D:1144:GLY:HA3 | 1.97 | 0.47 |
| 4:D:574:VAL:HG22 | 4:D:601:VAL:HG21 | 1.95 | 0.47 |
| 4:D:918:LEU:HD22 | 4:D:953:LEU:CD2 | 2.44 | 0.47 |
| 5:P:525:GLU:HB2 | 5:P:528:GLU:O | 2.14 | 0.47 |
| 4:B:354:LEU:O | 4:B:362:TRP:HZ2 | 1.98 | 0.47 |
| 4:B:590:VAL:HG11 | 4:B:602:THR:HG23 | 1.97 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:C:1140:LEU:HD12 | 4:C:1142:GLU:H | 1.80 | 0.47 |
| 4:C:969:GLU:O | 4:C:973:SER:N | 2.40 | 0.47 |
| 4:D:203:TYR:HB2 | 4:D:205:LEU:HD13 | 1.96 | 0.47 |
| 4:D:622:LEU:HD23 | 4:D:625:LEU:HD13 | 1.97 | 0.47 |
| 5:M:505:ARG:CB | 5:M:506:ARG:HA | 2.39 | 0.47 |
| 5:N:508:ALA:HB1 | 5:N:509:ARG:C | 2.35 | 0.47 |
| 5:P:505:ARG:CG | 5:P:514:ARG:NE | 2.76 | 0.47 |
| 4:A:553:GLU:O | 4:A:556:ARG:HG2 | 2.13 | 0.47 |
| 4:B:1029:ILE:HD13 | 4:B:1047:LEU:HD21 | 1.96 | 0.47 |
| 4:C:480:VAL:HG11 | 4:C:581:ILE:HD11 | 1.95 | 0.47 |
| 4:D:302:GLU:OE2 | 4:D:304:ARG:NH1 | 2.47 | 0.47 |
| 4:D:557:GLN:O | 4:D:561:VAL:HG23 | 2.14 | 0.47 |
| 5:M:506:ARG:HB2 | 5:M:510:LEU:HB2 | 1.95 | 0.47 |
| 5:P:417:GLU:HG2 | 5:P:421:PHE:CE2 | 2.50 | 0.47 |
| 4:D:181:ILE:CD1 | 4:D:207:MET:HE3 | 2.45 | 0.47 |
| 5:M:418:SER:O | 5:M:422:HIS:CG | 2.68 | 0.47 |
| 4:A:1173:LEU:HD12 | 4:A:1202:ARG:HD2 | 1.95 | 0.47 |
| 4:A:939:VAL:HG22 | 4:A:944:LEU:HD12 | 1.97 | 0.47 |
| 4:B:1080:VAL:HG21 | 4:B:1114:LEU:HD22 | 1.96 | 0.47 |
| 4:C:1094:LYS:N | 4:C:1094:LYS:CD | 2.72 | 0.47 |
| 4:D:1099:LEU:HD22 | 4:D:1118:VAL:CG1 | 2.44 | 0.47 |
| 4:D:235:THR:HG22 | 4:D:236:LEU:H | 1.80 | 0.47 |
| 4:D:399:PHE:N | 4:D:400:PRO:CD | 2.77 | 0.47 |
| 1:K:12:DC:N4 | 2:L:16:DG:O6 | 2.48 | 0.47 |
| 5:P:528:GLU:HG3 | 5:P:529:PRO:CG | 2.43 | 0.47 |
| 4:B:238:ASP:HB3 | 4:B:239:PRO:CA | 2.44 | 0.47 |
| 4:C:1176:LEU:HD12 | 4:C:1177:ARG:N | 2.30 | 0.47 |
| 4:D:1093:LEU:HD11 | 4:D:1097:ILE:HG22 | 1.97 | 0.47 |
| 2:F:12:DC:C4 | 2:F:13:DA:C6 | 3.02 | 0.47 |
| 4:C:1197:TYR:CD2 | 4:C:1199:VAL:HG12 | 2.50 | 0.47 |
| 4:C:495:PHE:CD1 | 4:C:572:ALA:HB2 | 2.50 | 0.47 |
| 4:D:1211:GLY:N | 4:D:1212:GLY:HA2 | 2.30 | 0.47 |
| 4:D:511:TYR:O | 4:D:554:ARG:NH2 | 2.47 | 0.47 |
| 5:M:453:LYS:O | 5:M:454:SER:CB | 2.63 | 0.47 |
| 5:N:403:ARG:HE | 5:N:437:ALA:HB1 | 1.80 | 0.47 |
| 5:N:505:ARG:CB | 5:N:506:ARG:CA | 2.85 | 0.47 |
| 5:O:390:ALA:CB | 5:O:393:PRO:CG | 2.78 | 0.47 |
| 5:P:505:ARG:NE | 5:P:510:LEU:HD12 | 2.29 | 0.47 |
| 5:P:506:ARG:NH1 | 5:P:506:ARG:CB | 2.72 | 0.47 |
| 4:B:331:TYR:O | 4:B:335:LEU:HD13 | 2.15 | 0.47 |
| 4:C:1080:VAL:HG11 | 4:C:1113:VAL:O | 2.10 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:C:970:ARG:NH2 | 4:C:975:LEU:HD11 | 2.30 | 0.47 |
| 4:D:1043:PRO:HD2 | 4:D:1105:VAL:HG23 | 1.96 | 0.47 |
| 4:D:793:VAL:HG21 | 4:D:798:ALA:HB2 | 1.97 | 0.47 |
| 2:H:6:DT:H2" | 2:H:7:DT:OP2 | 2.15 | 0.47 |
| 5:M:411:LEU:H | 5:M:412:VAL:HG22 | 1.76 | 0.47 |
| 5:P:395:LEU:HG | 5:P:396:ARG:N | 2.29 | 0.47 |
| 4:B:675:MET:O | 4:B:679:VAL:HG23 | 2.14 | 0.46 |
| 4:B:734:LEU:HD23 | 4:B:746:GLN:NE2 | 2.29 | 0.46 |
| 4:B:922:LEU:HD13 | 4:B:964:ALA:HB2 | 1.96 | 0.46 |
| 4:C:710:ARG:NH1 | 4:C:716:GLU:OE1 | 2.48 | 0.46 |
| 4:C:590:VAL:CG1 | 4:C:602:THR:HG23 | 2.45 | 0.46 |
| 4:D:1079:VAL:HG23 | 4:D:1113:VAL:CG1 | 2.40 | 0.46 |
| 5:M:373:LYS:O | 5:M:374:ALA:HB3 | 2.15 | 0.46 |
| 5:O:378:GLN:HA | 5:O:381:ALA:HB2 | 1.97 | 0.46 |
| 4:B:840:MET:HG2 | 4:B:861:ALA:HB2 | 1.96 | 0.46 |
| 4:D:1060:ARG:O | 4:D:1060:ARG:HG3 | 2.16 | 0.46 |
| 4:D:1064:MET:O | 4:D:1065:MET:HE2 | 2.16 | 0.46 |
| 4:D:1082:PHE:CE2 | 4:D:1113:VAL:O | 2.69 | 0.46 |
| 4:D:595:ASP:OD1 | 4:D:599:ARG:N | 2.44 | 0.46 |
| 5:M:525:GLU:HB3 | 5:M:529:PRO:CD | 2.44 | 0.46 |
| 5:O:395:LEU:HB2 | 5:O:396:ARG:HB2 | 1.97 | 0.46 |
| 5:O:529:PRO:HB2 | 5:O:530:VAL:HG12 | 1.96 | 0.46 |
| 5:P:455:LEU:HA | 5:P:456:SER:HB2 | 1.96 | 0.46 |
| 4:A:1099:LEU:HD23 | 4:A:1120:THR:HA | 1.97 | 0.46 |
| 4:A:1161:VAL:HG11 | 4:A:1179:VAL:HG23 | 1.98 | 0.46 |
| 4:C:504:LEU:CD1 | 4:C:525:ILE:HD11 | 2.45 | 0.46 |
| 4:B:197:LYS:HG3 | 4:B:207:MET:HE1 | 1.98 | 0.46 |
| 4:B:399:PHE:N | 4:B:400:PRO:CD | 2.78 | 0.46 |
| 4:B:994:ASP:OD1 | 4:B:997:THR:HG22 | 2.16 | 0.46 |
| 4:D:215:TYR:CE1 | 4:D:250:TYR:HB3 | 2.50 | 0.46 |
| 4:D:549:MET:HE2 | 4:D:559:ILE:CG1 | 2.44 | 0.46 |
| 5:M:419:LYS:HD2 | 5:M:419:LYS:HA | 1.61 | 0.46 |
| 5:M:519:ARG:NE | 5:M:520:LYS:HE2 | 2.30 | 0.46 |
| 4:A:549:MET:HA | 4:A:555:ILE:CD1 | 2.45 | 0.46 |
| 4:A:837:VAL:HA | 4:A:866:ILE:HD13 | 1.97 | 0.46 |
| 4:B:1054:VAL:HG23 | 4:B:1094:LYS:HE2 | 1.95 | 0.46 |
| 4:B:622:LEU:HD23 | 4:B:625:LEU:HD13 | 1.97 | 0.46 |
| 4:C:291:MET:CE | 4:C:613:GLY:CA | 2.92 | 0.46 |
| 4:D:406:VAL:HG12 | 4:D:410:ILE:HD12 | 1.97 | 0.46 |
| 5:O:520:LYS:HG2 | 5:O:520:LYS:O | 2.16 | 0.46 |
| 4:A:258:ARG:HG2 | 4:A:271:PHE:CZ | 2.51 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:B:28:LEU:CD1 | 4:B:251:VAL:HG21 | 2.45 | 0.46 |
| 4:C:1147:ARG:O | 4:C:1151:LEU:HD13 | 2.15 | 0.46 |
| 4:C:1162:TYR:CD2 | 4:C:1175:ALA:HB2 | 2.50 | 0.46 |
| 4:D:1057:LYS:HB3 | 4:D:1058:PRO:CB | 2.45 | 0.46 |
| 4:D:1160:PRO:CG | 4:D:1201:ASP:OD2 | 2.63 | 0.46 |
| 4:D:57:TYR:CD2 | 4:D:287:ILE:HD12 | 2.50 | 0.46 |
| 4:B:331:TYR:HB3 | 4:B:350:LEU:HD23 | 1.97 | 0.46 |
| 4:B:702:MET:HG3 | 4:B:705:ILE:HD12 | 1.97 | 0.46 |
| 4:B:98:LEU:O | 4:B:99:LEU:HD23 | 2.16 | 0.46 |
| 4:D:1155:HIS:NE2 | 4:D:1188:LEU:HD21 | 2.31 | 0.46 |
| 4:D:938:LEU:HG | 4:D:943:ALA:HB3 | 1.97 | 0.46 |
| 5:O:411:LEU:H | 5:O:412:VAL:HG22 | 1.81 | 0.46 |
| 5:P:412:VAL:O | 5:P:415:PHE:HB2 | 2.16 | 0.46 |
| 5:P:495:GLU:H | 5:P:496:GLU:HG2 | 1.81 | 0.46 |
| 4:B:233:LYS:CG | 4:B:510:VAL:HG11 | 2.45 | 0.46 |
| 4:C:28:LEU:O | 4:C:32:VAL:HG23 | 2.16 | 0.46 |
| 4:C:602:THR:HG22 | 4:C:604:TYR:H | 1.79 | 0.46 |
| 4:D:223:ALA:O | 4:D:226:VAL:HG22 | 2.15 | 0.46 |
| 4:D:789:LYS:HG3 | 4:D:795:GLU:HB2 | 1.98 | 0.46 |
| 2:H:10:DG:H2" | 2:H:11:DG:C8 | 2.51 | 0.46 |
| 5:O:451:GLU:O | 5:O:452:LYS:HB3 | 2.16 | 0.46 |
| 4:A:1164:ARG:NH1 | 4:A:1173:LEU:HD11 | 2.31 | 0.46 |
| 4:A:402:TYR:O | 4:A:406:VAL:HG23 | 2.16 | 0.46 |
| 4:B:357:VAL:HA | 4:B:358:GLU:HG3 | 1.98 | 0.46 |
| 4:C:443:PRO:HA | 4:C:448:LEU:HD12 | 1.97 | 0.46 |
| 4:C:525:ILE:HD11 | 4:C:535:LEU:HD21 | 1.98 | 0.46 |
| 4:D:207:MET:HE3 | 4:D:266:TRP:CZ3 | 2.51 | 0.46 |
| 1:G:14:DA:OP1 | 4:B:898:GLY:HA2 | 2.16 | 0.46 |
| 5:M:524:PRO:HD2 | 5:M:526:ALA:N | 2.30 | 0.46 |
| 5:N:536:GLY:O | 5:N:540:ILE:HG12 | 2.16 | 0.46 |
| 5:P:541:MET:C | 5:P:543:PRO:CD | 2.85 | 0.46 |
| 4:A:1189:LEU:HD23 | 4:A:1194:TYR:O | 2.16 | 0.45 |
| 4:A:226:VAL:HG21 | 4:A:561:VAL:CG1 | 2.47 | 0.45 |
| 4:A:604:TYR:HB3 | 4:A:608:ALA:HB3 | 1.98 | 0.45 |
| 4:B:1016:LEU:C | 4:B:1016:LEU:HD12 | 2.36 | 0.45 |
| 4:B:308:GLN:NE2 | 4:B:356:ARG:HA | 2.30 | 0.45 |
| 4:B:595:ASP:OD1 | 4:B:599:ARG:N | 2.49 | 0.45 |
| 4:C:298:PHE:CZ | 4:C:408:ASP:HB2 | 2.51 | 0.45 |
| 4:D:678:THR:HG22 | 4:D:693:LEU:HD11 | 1.98 | 0.45 |
| 4:D:785:VAL:HG13 | 4:D:795:GLU:HG3 | 1.97 | 0.45 |
| 5:O:521:PRO:O | 5:O:522:LYS:CB | 2.63 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:A:524:LEU:HD22 | 4:A:545:LEU:HD22 | 1.97 | 0.45 |
| 4:B:586:LEU:HD13 | 4:B:592:LEU:HD21 | 1.98 | 0.45 |
| 4:B:723:PHE:HB3 | 4:B:726:ALA:HB3 | 1.99 | 0.45 |
| 4:C:951:ALA:HB2 | 4:C:993:LEU:CD2 | 2.46 | 0.45 |
| 4:D:1080:VAL:CG2 | 4:D:1114:LEU:HA | 2.44 | 0.45 |
| 5:M:450:LEU:HB3 | 5:M:451:GLU:HB2 | 1.97 | 0.45 |
| 4:A:557:GLN:O | 4:A:561:VAL:HG23 | 2.17 | 0.45 |
| 4:A:658:LEU:C | 4:A:658:LEU:HD23 | 2.37 | 0.45 |
| 4:B:1055:VAL:HG12 | 4:B:1066:ALA:HA | 1.98 | 0.45 |
| 4:B:1051:VAL:HG21 | 4:B:1093:LEU:HD23 | 1.97 | 0.45 |
| 4:B:939:VAL:HG22 | 4:B:944:LEU:HD12 | 1.99 | 0.45 |
| 4:C:297:ARG:HD3 | 4:C:306:GLU:OE2 | 2.16 | 0.45 |
| 4:C:743:TYR:H | 4:C:746:GLN:HE21 | 1.64 | 0.45 |
| 4:A:511:TYR:HB3 | 4:A:513:ILE:HD11 | 1.99 | 0.45 |
| 4:B:1015:VAL:HG13 | 4:B:1016:LEU:N | 2.30 | 0.45 |
| 4:D:1043:PRO:O | 4:D:1105:VAL:HG22 | 2.16 | 0.45 |
| 5:M:525:GLU:HB3 | 5:M:529:PRO:HD2 | 1.98 | 0.45 |
| 5:M:541:MET:C | 5:M:543:PRO:CD | 2.85 | 0.45 |
| 5:O:389:GLU:CB | 5:O:445:GLU:HB3 | 2.46 | 0.45 |
| 5:O:529:PRO:CA | 5:O:530:VAL:HB | 2.46 | 0.45 |
| 4:A:302:GLU:O | 4:A:304:ARG:N | 2.49 | 0.45 |
| 4:B:1057:LYS:HZ3 | 4:B:1064:MET:CE | 2.28 | 0.45 |
| 4:B:1086:TYR:N | 4:B:1087:GLU:HA | 2.31 | 0.45 |
| 4:B:238:ASP:HB3 | 4:B:239:PRO:HA | 1.99 | 0.45 |
| 4:C:25:LEU:HD23 | 4:C:59:LYS:HD2 | 1.99 | 0.45 |
| 4:C:797:GLU:O | 4:C:801:LEU:N | 2.45 | 0.45 |
| 4:D:1137:HIS:O | 4:D:1139:LEU:N | 2.48 | 0.45 |
| 5:N:498:GLU:CB | 5:N:499:ASP:CA | 2.94 | 0.45 |
| 5:N:528:GLU:H | 5:N:529:PRO:CD | 2.29 | 0.45 |
| 5:P:494:ALA:HB1 | 5:P:495:GLU:O | 2.15 | 0.45 |
| 4:C:590:VAL:HG13 | 4:C:604:TYR:CE1 | 2.52 | 0.45 |
| 5:M:488:GLU:HA | 5:M:489:ASP:HA | 1.71 | 0.45 |
| 5:N:386:ALA:HB1 | 5:N:388:LEU:HG | 1.98 | 0.45 |
| 5:N:506:ARG:HD3 | 5:N:506:ARG:N | 2.31 | 0.45 |
| 5:O:450:LEU:CB | 5:O:451:GLU:CA | 2.90 | 0.45 |
| 4:A:1127:ALA:HB1 | 4:A:1128:PRO:CD | 2.37 | 0.45 |
| 4:A:418:VAL:HG22 | 4:A:472:GLU:HB3 | 1.99 | 0.45 |
| 4:B:1131:LEU:CD2 | 4:B:1181:VAL:HG21 | 2.47 | 0.45 |
| 4:B:421:GLY:N | 4:B:625:LEU:HD21 | 2.31 | 0.45 |
| 4:B:755:ALA:HB2 | 4:B:784:PHE:CD1 | 2.51 | 0.45 |
| 4:C:1029:ILE:CD1 | 4:C:1047:LEU:HD13 | 2.44 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:C:1145:VAL:HG13 | 4:C:1149:LYS:HD2 | 1.98 | 0.45 |
| 5:M:451:GLU:O | 5:M:452:LYS:HG2 | 2.16 | 0.45 |
| 5:M:507:LEU:HD22 | 5:M:507:LEU:N | 2.31 | 0.45 |
| 5:N:506:ARG:CA | 5:N:510:LEU:HD22 | 2.42 | 0.45 |
| 4:A:1205:PHE:O | 4:A:1206:LEU:HD12 | 2.16 | 0.45 |
| 4:B:1143:LYS:N | 4:B:1144:GLY:CA | 2.74 | 0.45 |
| 4:B:358:GLU:O | 4:B:362:TRP:CD1 | 2.70 | 0.45 |
| 4:B:69:ILE:HD11 | 4:B:285:LEU:HD11 | 1.97 | 0.45 |
| 4:C:755:ALA:HB2 | 4:C:784:PHE:CD1 | 2.52 | 0.45 |
| 4:C:840:MET:HG2 | 4:C:861:ALA:HB2 | 1.99 | 0.45 |
| 5:O:394:THR:HG21 | 5:O:399:VAL:CG2 | 2.47 | 0.45 |
| 5:P:434:LEU:N | 5:P:435:PRO:CD | 2.80 | 0.45 |
| 4:A:23:ALA:HB2 | 4:A:215:TYR:HA | 1.99 | 0.45 |
| 4:A:549:MET:HA | 4:A:555:ILE:HD13 | 1.98 | 0.45 |
| 4:C:1095:GLU:HG2 | 4:C:1096:ASP:HB2 | 1.99 | 0.45 |
| 4:C:570:ARG:O | 4:C:571:HIS:CG | 2.70 | 0.45 |
| 4:D:1080:VAL:CG1 | 4:D:1082:PHE:HD2 | 2.25 | 0.45 |
| 4:D:591:PRO:HG2 | 4:D:603:GLN:HB2 | 1.98 | 0.45 |
| 4:D:58:LYS:HA | 4:D:61:THR:HG22 | 1.99 | 0.45 |
| 5:O:387:PHE:CD2 | 5:O:387:PHE:O | 2.70 | 0.45 |
| 4:C:1207:GLN:CB | 4:C:1208:GLY:CA | 2.94 | 0.44 |
| 4:D:1140:LEU:CG | 4:D:1144:GLY:HA3 | 2.46 | 0.44 |
| 4:D:1160:PRO:HG3 | 4:D:1201:ASP:OD2 | 2.16 | 0.44 |
| 5:M:490:PRO:O | 5:M:492:TRP:CD1 | 2.70 | 0.44 |
| 5:O:369:HIS:CE1 | 5:O:370:HIS:NE2 | 2.84 | 0.44 |
| 5:P:412:VAL:O | 5:P:415:PHE:HD2 | 1.99 | 0.44 |
| 5:P:499:ASP:HB3 | 5:P:500:PRO:HA | 1.99 | 0.44 |
| 4:B:333:GLU:O | 4:B:337:LEU:CD1 | 2.65 | 0.44 |
| 5:M:390:ALA:C | 5:M:391:LEU:CD1 | 2.85 | 0.44 |
| 4:B:1029:ILE:HG21 | 4:B:1076:ALA:N | 2.33 | 0.44 |
| 4:C:300:LEU:HD13 | 4:C:303:GLY:HA2 | 1.99 | 0.44 |
| 4:D:1051:VAL:CB | 4:D:1093:LEU:HD23 | 2.47 | 0.44 |
| 4:D:696:LEU:HD21 | 4:D:742:VAL:CG2 | 2.40 | 0.44 |
| 4:D:785:VAL:CG1 | 4:D:795:GLU:HG3 | 2.46 | 0.44 |
| 5:N:454:SER:HA | 5:N:456:SER:HB2 | 1.99 | 0.44 |
| 5:N:494:ALA:HB1 | 5:N:495:GLU:O | 2.17 | 0.44 |
| 5:N:524:PRO:N | 5:N:525:GLU:HA | 2.28 | 0.44 |
| 5:P:412:VAL:O | 5:P:415:PHE:CD2 | 2.70 | 0.44 |
| 4:A:941:ALA:HB2 | 4:A:1005:ALA:HB1 | 2.00 | 0.44 |
| 4:A:191:LYS:O | 4:A:195:VAL:HG23 | 2.17 | 0.44 |
| 4:B:170:LEU:HD21 | 4:B:205:LEU:CD2 | 2.47 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:B:235:THR:HG22 | 4:B:236:LEU:N | 2.30 | 0.44 |
| 4:B:230:ILE:CG1 | 4:B:507:VAL:HG13 | 2.48 | 0.44 |
| 4:C:449:LEU:HD13 | 4:C:745:GLU:HB3 | 2.00 | 0.44 |
| 4:C:838:GLU:HB3 | 4:C:882:VAL:HG21 | 2.00 | 0.44 |
| 4:D:238:ASP:HB3 | 4:D:239:PRO:CA | 2.47 | 0.44 |
| 5:N:508:ALA:HB2 | 5:N:511:LEU:HG | 1.99 | 0.44 |
| 5:O:370:HIS:CE1 | 5:O:401:GLU:HG3 | 2.52 | 0.44 |
| 4:C:1104:GLU:O | 4:C:1113:VAL:HG13 | 2.17 | 0.44 |
| 4:D:1205:PHE:O | 4:D:1205:PHE:CD1 | 2.70 | 0.44 |
| 5:M:490:PRO:O | 5:M:492:TRP:CE2 | 2.70 | 0.44 |
| 5:N:517:TRP:HH2 | 5:N:524:PRO:HD3 | 1.82 | 0.44 |
| 4:A:1024:VAL:HG11 | 4:A:1205:PHE:CE2 | 2.53 | 0.44 |
| 4:A:688:GLU:OE1 | 4:A:688:GLU:N | 2.50 | 0.44 |
| 4:B:1087:GLU:HB3 | 4:B:1088:GLY:HA3 | 2.00 | 0.44 |
| 4:B:679:VAL:HG22 | 4:B:693:LEU:CD2 | 2.43 | 0.44 |
| 4:D:150:ILE:N | 4:D:151:PRO:HD2 | 2.32 | 0.44 |
| 4:D:284:ASP:HB3 | 4:D:290:LYS:HZ2 | 1.81 | 0.44 |
| 4:D:421:GLY:N | 4:D:625:LEU:HD21 | 2.33 | 0.44 |
| 4:D:781:ARG:O | 4:D:785:VAL:HG23 | 2.18 | 0.44 |
| 5:M:505:ARG:HD2 | 5:M:510:LEU:HG | 2.00 | 0.44 |
| 5:N:455:LEU:CA | 5:N:456:SER:C | 2.86 | 0.44 |
| 5:N:508:ALA:HB2 | 5:N:511:LEU:H | 1.82 | 0.44 |
| 5:P:512:GLY:O | 5:P:516:LEU:CD1 | 2.65 | 0.44 |
| 4:A:1095:GLU:O | 4:A:1097:ILE:HD12 | 2.18 | 0.44 |
| 4:A:301:PRO:HA | 4:A:302:GLU:O | 2.18 | 0.44 |
| 4:A:951:ALA:HB2 | 4:A:993:LEU:CG | 2.48 | 0.44 |
| 4:B:111:ARG:HG2 | 4:B:587:THR:HG22 | 2.00 | 0.44 |
| 4:B:302:GLU:CD | 4:B:304:ARG:NH1 | 2.71 | 0.44 |
| 4:C:1130:ALA:HB1 | 4:C:1160:PRO:O | 2.18 | 0.44 |
| 4:C:54:VAL:HG11 | 4:C:608:ALA:HB1 | 1.98 | 0.44 |
| 4:D:1188:LEU:HD12 | 4:D:1189:LEU:N | 2.33 | 0.44 |
| 4:D:181:ILE:CD1 | 4:D:207:MET:CE | 2.95 | 0.44 |
| 5:M:423:HIS:N | 5:M:423:HIS:ND1 | 2.63 | 0.44 |
| 5:O:394:THR:HG21 | 5:O:399:VAL:HG21 | 2.00 | 0.44 |
| 5:O:493:GLU:HB2 | 5:O:494:ALA:HA | 2.00 | 0.44 |
| 4:A:365:LEU:O | 4:A:368:ARG:HB2 | 2.18 | 0.44 |
| 4:A:635:VAL:HG22 | 4:A:838:GLU:HG3 | 1.99 | 0.44 |
| 4:B:823:LEU:CD2 | 4:B:827:GLN:NE2 | 2.80 | 0.44 |
| 4:C:1081:VAL:O | 4:C:1082:PHE:CD1 | 2.70 | 0.44 |
| 4:C:1205:PHE:O | 4:C:1206:LEU:HD23 | 2.18 | 0.44 |
| 4:D:1203:GLU:O | 4:D:1205:PHE:CE1 | 2.70 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:D:1204:VAL:O | 4:D:1205:PHE:CD1 | 2.69 | 0.44 |
| 5:O:392:LYS:CD | 5:O:397:ALA:HB3 | 2.48 | 0.44 |
| 5:P:382:GLU:CG | 5:P:388:LEU:HD21 | 2.48 | 0.44 |
| 5:P:541:MET:CE | 5:P:541:MET:C | 2.85 | 0.44 |
| 4:C:1204:VAL:HG12 | 4:C:1205:PHE:H | 1.83 | 0.44 |
| 4:C:15:GLN:NE2 | 4:C:567:GLY:O | 2.50 | 0.44 |
| 4:C:705:ILE:N | 4:C:706:PRO:CD | 2.81 | 0.44 |
| 4:D:501:LYS:O | 4:D:505:LYS:HG3 | 2.18 | 0.44 |
| 5:N:511:LEU:O | 5:N:515:LEU:HD12 | 2.18 | 0.44 |
| 4:A:45:THR:HG22 | 4:A:70:GLY:HA3 | 2.00 | 0.43 |
| 4:B:1080:VAL:HG11 | 4:B:1082:PHE:CE2 | 2.53 | 0.43 |
| 4:B:525:ILE:HD11 | 4:B:538:ALA:HB3 | 1.98 | 0.43 |
| 4:C:1093:LEU:CD1 | 4:C:1097:ILE:HD12 | 2.47 | 0.43 |
| 4:C:1182:GLY:O | 4:C:1183:GLU:CB | 2.66 | 0.43 |
| 4:C:737:THR:HG21 | 4:C:746:GLN:NE2 | 2.26 | 0.43 |
| 4:C:970:ARG:HH21 | 4:C:975:LEU:HD22 | 1.76 | 0.43 |
| 5:M:491:PRO:O | 5:M:492:TRP:CD2 | 2.70 | 0.43 |
| 5:P:450:LEU:HB3 | 5:P:451:GLU:HB2 | 1.99 | 0.43 |
| 4:B:11:HIS:CD2 | 4:B:212:ASP:OD1 | 2.70 | 0.43 |
| 4:C:146:LEU:HD11 | 4:C:189:GLN:CG | 2.47 | 0.43 |
| 4:C:418:VAL:HG22 | 4:C:472:GLU:HB3 | 2.00 | 0.43 |
| 4:C:731:ARG:HB3 | 4:C:732:PRO:HD3 | 2.00 | 0.43 |
| 4:D:1131:LEU:HD12 | 4:D:1197:TYR:O | 2.17 | 0.43 |
| 4:D:18:LEU:HD13 | 4:D:571:HIS:HA | 2.00 | 0.43 |
| 4:D:302:GLU:HB3 | 4:D:304:ARG:N | 2.32 | 0.43 |
| 5:M:419:LYS:HD2 | 5:M:422:HIS:CD2 | 2.52 | 0.43 |
| 5:M:406:LEU:HD11 | 5:M:440:GLN:NE2 | 2.33 | 0.43 |
| 5:P:505:ARG:HG3 | 5:P:514:ARG:HH21 | 1.79 | 0.43 |
| 5:P:505:ARG:NH1 | 5:P:532:GLU:OE1 | 2.48 | 0.43 |
| 4:D:1205:PHE:C | 4:D:1205:PHE:CD1 | 2.90 | 0.43 |
| 4:D:307:ALA:HB1 | 4:D:395:GLU:HG2 | 1.99 | 0.43 |
| 4:D:542:VAL:CG2 | 4:D:543:PRO:HD3 | 2.48 | 0.43 |
| 5:M:491:PRO:C | 5:M:492:TRP:CG | 2.91 | 0.43 |
| 5:M:529:PRO:CB | 5:M:530:VAL:HA | 2.48 | 0.43 |
| 5:N:498:GLU:HB3 | 5:N:499:ASP:C | 2.39 | 0.43 |
| 5:N:506:ARG:HG2 | 5:N:507:LEU:H | 1.76 | 0.43 |
| 4:A:696:LEU:HD21 | 4:A:742:VAL:HG22 | 2.01 | 0.43 |
| 4:B:1145:VAL:HG22 | 4:B:1145:VAL:O | 2.17 | 0.43 |
| 4:B:226:VAL:HG21 | 4:B:561:VAL:HG11 | 1.97 | 0.43 |
| 4:C:930:VAL:HG12 | 4:C:935:LEU:HG | 2.00 | 0.43 |
| 4:D:1093:LEU:HD11 | 4:D:1097:ILE:CG2 | 2.48 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:D:577:ALA:HB1 | 4:D:618:ASP:HB3 | 2.00 | 0.43 |
| 5:N:401:GLU:O | 5:N:405:HIS:CD2 | 2.71 | 0.43 |
| 4:A:555:ILE:HD12 | 4:A:556:ARG:N | 2.34 | 0.43 |
| 4:B:424:ARG:CD | 4:B:620:LEU:HD22 | 2.48 | 0.43 |
| 4:D:1093:LEU:HD22 | 4:D:1099:LEU:HD11 | 2.00 | 0.43 |
| 5:N:440:GLN:HB2 | 5:N:441:PHE:CB | 2.47 | 0.43 |
| 5:O:542:PRO:N | 5:O:543:PRO:CD | 2.82 | 0.43 |
| 5:P:504:LEU:HB2 | 5:P:505:ARG:HG3 | 1.96 | 0.43 |
| 4:B:570:ARG:CG | 4:B:571:HIS:N | 2.73 | 0.43 |
| 4:B:938:LEU:HG | 4:B:943:ALA:HB3 | 2.01 | 0.43 |
| 4:C:635:VAL:HG22 | 4:C:838:GLU:HG3 | 1.99 | 0.43 |
| 4:D:35:THR:HG23 | 4:D:253:THR:HG22 | 2.00 | 0.43 |
| 4:A:151:PRO:HB3 | 4:A:192:VAL:HG11 | 2.01 | 0.43 |
| 4:A:192:VAL:HG12 | 4:A:196:LEU:HD12 | 2.00 | 0.43 |
| 4:B:868:VAL:HG22 | 4:B:887:ILE:HB | 2.01 | 0.43 |
| 4:C:290:LYS:O | 4:C:291:MET:CG | 2.67 | 0.43 |
| 4:C:297:ARG:CZ | 4:C:306:GLU:HB2 | 2.49 | 0.43 |
| 4:C:574:VAL:HG22 | 4:C:601:VAL:HG21 | 2.00 | 0.43 |
| 4:D:155:LEU:HD13 | 4:D:192:VAL:HG22 | 2.01 | 0.43 |
| 4:D:390:GLU:OE2 | 4:D:432:VAL:HG23 | 2.19 | 0.43 |
| 5:N:518:VAL:HA | 5:N:519:ARG:HG3 | 1.99 | 0.43 |
| 5:O:502:GLU:O | 5:O:503:GLU:CG | 2.66 | 0.43 |
| 4:A:788:ALA:HB1 | 4:A:793:VAL:HG22 | 2.00 | 0.43 |
| 4:C:1080:VAL:CB | 4:C:1082:PHE:CD2 | 3.01 | 0.43 |
| 4:C:150:ILE:HG23 | 4:C:162:ALA:HB1 | 2.00 | 0.43 |
| 4:C:357:VAL:HB | 4:C:362:TRP:CH2 | 2.53 | 0.43 |
| 5:M:489:ASP:O | 5:M:490:PRO:C | 2.57 | 0.43 |
| 5:M:524:PRO:HG2 | 5:M:526:ALA:HB2 | 2.01 | 0.43 |
| 4:A:366:ARG:O | 4:A:368:ARG:N | 2.43 | 0.43 |
| 4:A:930:VAL:HG12 | 4:A:935:LEU:HG | 2.01 | 0.43 |
| 4:B:300:LEU:O | 4:B:302:GLU:N | 2.52 | 0.43 |
| 4:D:473:ARG:NH1 | 4:D:477:ILE:HD11 | 2.34 | 0.43 |
| 5:M:504:LEU:HD13 | 5:M:536:GLY:HA2 | 2.00 | 0.43 |
| 4:A:1099:LEU:HD22 | 4:A:1118:VAL:HG12 | 2.01 | 0.43 |
| 4:A:1099:LEU:CD2 | 4:A:1120:THR:HG22 | 2.48 | 0.43 |
| 4:C:1176:LEU:CD1 | 4:C:1177:ARG:N | 2.81 | 0.43 |
| 4:D:1181:VAL:HG12 | 4:D:1182:GLY:N | 2.34 | 0.43 |
| 5:M:391:LEU:O | 5:M:392:LYS:C | 2.57 | 0.43 |
| 4:A:334:VAL:HG21 | 4:A:384:LEU:HD11 | 2.00 | 0.42 |
| 4:A:338:LEU:HD11 | 4:A:365:LEU:HD11 | 2.02 | 0.42 |
| 4:A:572:ALA:CB | 4:A:573:SER:CB | 2.63 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:C:1079:VAL:CG1 | 4:C:1080:VAL:N | 2.82 | 0.42 |
| 4:C:493:GLY:HA2 | 4:C:573:SER:O | 2.19 | 0.42 |
| 4:D:100:ALA:HB2 | 4:D:109:LEU:CD1 | 2.49 | 0.42 |
| 5:P:504:LEU:CB | 5:P:505:ARG:CG | 2.94 | 0.42 |
| 4:A:150:ILE:HD11 | 4:A:166:LEU:HA | 2.02 | 0.42 |
| 4:A:971:GLY:HA3 | 4:A:975:LEU:HD22 | 1.69 | 0.42 |
| 4:B:1129:LYS:O | 4:B:1159:LEU:HD22 | 2.18 | 0.42 |
| 4:B:352:GLU:CD | 4:B:356:ARG:NH2 | 2.72 | 0.42 |
| 4:D:1057:LYS:CD | 4:D:1064:MET:N | 2.82 | 0.42 |
| 5:M:403:ARG:HE | 5:M:437:ALA:CB | 2.32 | 0.42 |
| 4:B:574:VAL:HG22 | 4:B:601:VAL:HG21 | 2.00 | 0.42 |
| 4:C:459:VAL:O | 4:C:459:VAL:HG23 | 2.19 | 0.42 |
| 5:O:493:GLU:O | 5:O:504:LEU:HD12 | 2.19 | 0.42 |
| 5:O:519:ARG:HG2 | 5:O:520:LYS:HB2 | 1.98 | 0.42 |
| 5:P:385:ARG:HB3 | 5:P:386:ALA:HA | 2.02 | 0.42 |
| 5:P:503:GLU:HB3 | 5:P:504:LEU:HD12 | 2.00 | 0.42 |
| 4:B:230:ILE:CD1 | 4:B:507:VAL:HG22 | 2.49 | 0.42 |
| 4:C:1119:TRP:CD1 | 4:C:1123:GLU:HB2 | 2.54 | 0.42 |
| 4:D:428:ALA:HB3 | 4:D:816:SER:HB2 | 2.01 | 0.42 |
| 5:N:440:GLN:CB | 5:N:441:PHE:CA | 2.97 | 0.42 |
| 4:A:28:LEU:CD1 | 4:A:251:VAL:HG21 | 2.50 | 0.42 |
| 4:B:1213:PRO:O | 4:B:1217:VAL:HG23 | 2.19 | 0.42 |
| 4:C:1096:ASP:O | 4:C:1097:ILE:CG1 | 2.67 | 0.42 |
| 4:C:103:PHE:CE1 | 4:C:286:PRO:HD3 | 2.54 | 0.42 |
| 4:C:827:GLN:O | 4:C:831:VAL:HG23 | 2.19 | 0.42 |
| 4:D:1080:VAL:HG23 | 4:D:1115:ALA:H | 1.83 | 0.42 |
| 4:D:1086:TYR:HB2 | 4:D:1087:GLU:C | 2.40 | 0.42 |
| 5:M:440:GLN:CB | 5:M:441:PHE:HA | 2.50 | 0.42 |
| 5:M:490:PRO:HB2 | 5:M:492:TRP:CD1 | 2.55 | 0.42 |
| 5:M:494:ALA:CB | 5:M:503:GLU:OE2 | 2.68 | 0.42 |
| 5:O:392:LYS:HA | 5:O:394:THR:N | 2.34 | 0.42 |
| 5:O:450:LEU:HA | 5:O:451:GLU:HG3 | 2.01 | 0.42 |
| 5:P:455:LEU:N | 5:P:456:SER:HA | 2.33 | 0.42 |
| 5:P:498:GLU:HB2 | 5:P:499:ASP:CA | 2.49 | 0.42 |
| 4:A:675:MET:O | 4:A:679:VAL:HG23 | 2.20 | 0.42 |
| 4:B:1093:LEU:HG | 4:B:1097:ILE:HB | 2.01 | 0.42 |
| 4:B:357:VAL:CA | 4:B:358:GLU:HG3 | 2.49 | 0.42 |
| 4:B:952:ARG:NH1 | 5:N:373:LYS:HB3 | 2.34 | 0.42 |
| 4:B:976:VAL:HG21 | 4:C:115:ARG:NH1 | 2.34 | 0.42 |
| 4:C:1050:MET:HE3 | 4:C:1098:PRO:HD3 | 2.02 | 0.42 |
| 4:C:321:ARG:HD3 | 4:C:434:TYR:CE2 | 2.54 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---------------------------|-------------------|--------------------------|-------------------|
| 4:C:609:VAL:HG13 | 4:C:614:LEU:HD12 | 2.01 | 0.42 |
| 4:D:1119:TRP:HZ2 | 4:D:1206:LEU:C | 2.22 | 0.42 |
| 4:D:186:LEU:HD21 | 4:D:245:PRO:HB2 | 2.01 | 0.42 |
| 5:O:452:LYS:HZ2 | 5:O:509:ARG:NH2 | 2.18 | 0.42 |
| 5:P:505:ARG:CZ | 5:P:510:LEU:CD1 | 2.80 | 0.42 |
| 5:P:532:GLU:HA | 5:P:535:ILE:HD11 | 1.93 | 0.42 |
| 4:A:975:LEU:C | 4:A:975:LEU:CD1 | 2.87 | 0.42 |
| 4:C:570:ARG:C | 4:C:571:HIS:ND1 | 2.72 | 0.42 |
| 4:D:1102:LEU:HD11 | 4:D:1206:LEU:CG | 2.46 | 0.42 |
| 4:B:313:LEU:HB3 | 4:B:436:VAL:HG13 | 2.02 | 0.42 |
| 4:C:321:ARG:HD3 | 4:C:434:TYR:CZ | 2.55 | 0.42 |
| 4:C:541:VAL:CG2 | 4:C:542:VAL:HA | 2.40 | 0.42 |
| 4:D:102:ASP:C | 4:D:283:VAL:HG22 | 2.40 | 0.42 |
| 4:D:1082:PHE:CZ | 4:D:1113:VAL:O | 2.73 | 0.42 |
| 4:D:226:VAL:HB | 4:D:510:VAL:HG21 | 2.01 | 0.42 |
| 4:D:424:ARG:NH1 | 4:D:620:LEU:HD22 | 2.35 | 0.42 |
| 4:D:554:ARG:O | 4:D:558:VAL:HG23 | 2.20 | 0.42 |
| 5:M:495:GLU:N | 5:M:496:GLU:C | 2.73 | 0.42 |
| 4:A:237:ASP:N | 4:A:237:ASP:OD1 | 2.53 | 0.42 |
| 4:B:364:GLU:C | 4:B:366:ARG:H | 2.23 | 0.42 |
| 4:C:406:VAL:HA | 4:C:409:TYR:CE2 | 2.55 | 0.42 |
| 4:D:897:VAL:CG2 | 4:D:938:LEU:HD13 | 2.49 | 0.42 |
| 5:N:504:LEU:CD1 | 5:N:535:ILE:HD12 | 2.50 | 0.42 |
| 5:O:395:LEU:H | 5:O:396:ARG:C | 2.23 | 0.42 |
| 5:O:455:LEU:N | 5:O:456:SER:HB3 | 2.35 | 0.42 |
| 4:A:1161:VAL:HG23 | 4:A:1176:LEU:HD11 | 2.02 | 0.42 |
| 4:B:1069:THR:HG23 | 4:B:1077:LEU:O | 2.19 | 0.42 |
| 4:B:602:THR:HG22 | 4:B:604:TYR:H | 1.84 | 0.42 |
| 4:C:1082:PHE:C | 4:C:1084:ARG:N | 2.73 | 0.42 |
| 4:D:1093:LEU:HD22 | 4:D:1099:LEU:HD12 | 2.01 | 0.42 |
| 3:I:18:DC:H2 [?] | 3:I:19:DC:C6 | 2.55 | 0.42 |
| 5:M:383:GLY:O | 5:M:386:ALA:HB2 | 2.20 | 0.42 |
| 5:M:498:GLU:HB2 | 5:M:499:ASP:HA | 2.02 | 0.42 |
| 5:N:524:PRO:CB | 5:N:525:GLU:HA | 2.49 | 0.42 |
| 5:O:443:VAL:HG13 | 5:O:444:GLU:N | 2.35 | 0.42 |
| 5:O:505:ARG:HH12 | 5:O:506:ARG:HH12 | 1.67 | 0.42 |
| 5:P:524:PRO:HD2 | 5:P:526:ALA:CB | 2.50 | 0.42 |
| 5:P:527:GLU:N | 5:P:528:GLU:HA | 2.35 | 0.42 |
| 4:B:200:ALA:HB3 | 4:B:207:MET:CE | 2.50 | 0.41 |
| 4:B:335:LEU:HD12 | 4:B:354:LEU:HD21 | 2.02 | 0.41 |
| 4:C:1016:LEU:HD21 | 4:C:1073:GLU:CD | 2.40 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:C:1186:LEU:C | 4:C:1186:LEU:HD23 | 2.40 | 0.41 |
| 4:C:958:GLU:HB3 | 4:C:959:PRO:HD3 | 2.02 | 0.41 |
| 4:D:1024:VAL:HG12 | 4:D:1046:LEU:CD1 | 2.50 | 0.41 |
| 4:D:498:LEU:HD13 | 4:D:570:ARG:HE | 1.85 | 0.41 |
| 4:D:952:ARG:HD2 | 5:P:375:GLY:H | 1.85 | 0.41 |
| 5:M:524:PRO:HD2 | 5:M:525:GLU:CA | 2.46 | 0.41 |
| 5:N:440:GLN:HB3 | 5:N:441:PHE:HA | 2.02 | 0.41 |
| 5:P:540:ILE:CD1 | 5:P:540:ILE:C | 2.85 | 0.41 |
| 4:B:1021:LEU:HD22 | 4:B:1048:SER:CB | 2.50 | 0.41 |
| 4:B:691:ILE:HG22 | 4:B:743:TYR:OH | 2.20 | 0.41 |
| 4:C:192:VAL:HG12 | 4:C:196:LEU:CD1 | 2.49 | 0.41 |
| 4:C:18:LEU:HD13 | 4:C:571:HIS:HB3 | 2.01 | 0.41 |
| 4:D:25:LEU:HD23 | 4:D:59:LYS:HD2 | 2.02 | 0.41 |
| 4:D:402:TYR:O | 4:D:406:VAL:HG23 | 2.20 | 0.41 |
| 4:D:705:ILE:HB | 4:D:706:PRO:HD3 | 2.01 | 0.41 |
| 4:D:939:VAL:CG2 | 4:D:944:LEU:HD12 | 2.44 | 0.41 |
| 5:M:400:ARG:O | 5:M:404:PRO:CD | 2.68 | 0.41 |
| 5:N:452:LYS:O | 5:N:453:LYS:C | 2.58 | 0.41 |
| 5:P:416:PRO:CG | 5:P:417:GLU:N | 2.80 | 0.41 |
| 5:P:522:LYS:O | 5:P:523:ALA:C | 2.57 | 0.41 |
| 4:A:909:ARG:O | 4:A:912:GLY:O | 2.37 | 0.41 |
| 4:C:142:LEU:HD23 | 4:C:178:PHE:HB2 | 2.02 | 0.41 |
| 4:C:297:ARG:HA | 4:C:297:ARG:HD3 | 1.97 | 0.41 |
| 4:C:410:ILE:HG22 | 4:C:414:ARG:NH1 | 2.35 | 0.41 |
| 4:D:1123:GLU:HG2 | 4:D:1216:GLU:HB3 | 2.02 | 0.41 |
| 4:D:413:ALA:HB1 | 4:D:418:VAL:HB | 2.01 | 0.41 |
| 5:M:393:PRO:O | 5:M:394:THR:CB | 2.68 | 0.41 |
| 5:O:521:PRO:HG2 | 5:O:523:ALA:H | 1.83 | 0.41 |
| 5:P:528:GLU:H | 5:P:528:GLU:HG2 | 1.58 | 0.41 |
| 4:A:216:VAL:HG12 | 4:A:217:ARG:HG3 | 2.02 | 0.41 |
| 4:B:1008:ILE:HD12 | 4:B:1008:ILE:C | 2.40 | 0.41 |
| 4:B:1021:LEU:HD22 | 4:B:1048:SER:OG | 2.20 | 0.41 |
| 4:B:941:ALA:HB2 | 4:B:1005:ALA:HB1 | 2.02 | 0.41 |
| 4:C:1045:VAL:HG12 | 4:C:1046:LEU:N | 2.36 | 0.41 |
| 4:C:313:LEU:CD1 | 4:C:407:GLN:NE2 | 2.83 | 0.41 |
| 4:C:574:VAL:HG22 | 4:C:601:VAL:CG2 | 2.50 | 0.41 |
| 4:D:605:ASP:O | 4:D:609:VAL:HG23 | 2.20 | 0.41 |
| 4:A:1129:LYS:HB3 | 4:A:1198:LEU:HG | 2.01 | 0.41 |
| 4:B:1089:VAL:CG2 | 4:B:1118:VAL:HG12 | 2.44 | 0.41 |
| 4:B:453:PHE:CZ | 4:B:464:ILE:HD11 | 2.54 | 0.41 |
| 4:D:1008:ILE:O | 4:D:1010:VAL:N | 2.54 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:D:110:VAL:HG13 | 4:D:591:PRO:N | 2.35 | 0.41 |
| 4:D:300:LEU:HD22 | 4:D:304:ARG:HB3 | 2.01 | 0.41 |
| 4:D:407:GLN:HG3 | 4:D:436:VAL:CG1 | 2.51 | 0.41 |
| 1:G:18:DC:H1' | 1:G:19:DC:C5 | 2.56 | 0.41 |
| 1:G:19:DC:C4 | 2:H:10:DG:C6 | 3.08 | 0.41 |
| 5:N:505:ARG:HD2 | 5:N:510:LEU:CD2 | 2.46 | 0.41 |
| 5:O:367:HIS:CE1 | 5:O:401:GLU:HG2 | 2.55 | 0.41 |
| 5:P:412:VAL:CB | 5:P:415:PHE:HD2 | 2.14 | 0.41 |
| 5:P:404:PRO:HA | 5:P:433:LEU:HD13 | 2.02 | 0.41 |
| 4:B:1032:LEU:CD2 | 4:B:1077:LEU:HD11 | 2.50 | 0.41 |
| 5:M:419:LYS:O | 5:M:423:HIS:ND1 | 2.53 | 0.41 |
| 5:M:538:ASN:O | 5:M:542:PRO:CD | 2.66 | 0.41 |
| 5:N:506:ARG:CG | 5:N:507:LEU:N | 2.73 | 0.41 |
| 5:O:396:ARG:CA | 5:O:397:ALA:C | 2.84 | 0.41 |
| 5:P:519:ARG:HB3 | 5:P:520:LYS:CB | 2.50 | 0.41 |
| 4:A:1099:LEU:HD22 | 4:A:1118:VAL:CG1 | 2.51 | 0.41 |
| 4:B:1047:LEU:HD12 | 4:B:1048:SER:H | 1.85 | 0.41 |
| 4:D:1099:LEU:HD22 | 4:D:1118:VAL:HG13 | 2.02 | 0.41 |
| 1:G:12:DC:H2'' | 1:G:13:DC:C6 | 2.55 | 0.41 |
| 5:N:507:LEU:HD23 | 5:N:507:LEU:N | 2.35 | 0.41 |
| 5:N:504:LEU:HD11 | 5:N:536:GLY:HA2 | 2.02 | 0.41 |
| 5:P:407:GLU:O | 5:P:415:PHE:HB3 | 2.20 | 0.41 |
| 4:A:223:ALA:O | 4:A:226:VAL:HG22 | 2.21 | 0.41 |
| 4:A:679:VAL:HG22 | 4:A:693:LEU:CD2 | 2.51 | 0.41 |
| 4:A:81:PHE:O | 4:A:83:ARG:HG3 | 2.21 | 0.41 |
| 4:B:296:PRO:HG2 | 4:B:581:ILE:HG22 | 2.03 | 0.41 |
| 4:B:329:ALA:O | 4:B:333:GLU:HG3 | 2.21 | 0.41 |
| 4:B:357:VAL:CA | 4:B:358:GLU:CB | 2.99 | 0.41 |
| 4:D:1008:ILE:O | 4:D:1010:VAL:HG23 | 2.20 | 0.41 |
| 4:D:1057:LYS:HG2 | 4:D:1064:MET:N | 2.28 | 0.41 |
| 4:D:1059:THR:HG23 | 4:D:1064:MET:O | 2.21 | 0.41 |
| 5:P:395:LEU:HG | 5:P:396:ARG:H | 1.85 | 0.41 |
| 4:A:555:ILE:CD1 | 4:A:555:ILE:C | 2.89 | 0.41 |
| 4:B:1054:VAL:HG13 | 4:B:1054:VAL:O | 2.20 | 0.41 |
| 4:C:664:THR:HG21 | 4:C:670:LEU:HD13 | 2.02 | 0.41 |
| 4:D:410:ILE:CD1 | 4:D:438:ILE:HG23 | 2.50 | 0.41 |
| 5:N:530:VAL:O | 5:N:530:VAL:CG2 | 2.66 | 0.41 |
| 5:P:373:LYS:HG2 | 5:P:378:GLN:HB2 | 2.03 | 0.41 |
| 5:P:520:LYS:N | 5:P:521:PRO:HD3 | 2.36 | 0.41 |
| 4:A:627:PHE:CE1 | 4:A:842:ALA:HB3 | 2.55 | 0.41 |
| 4:B:1080:VAL:HG11 | 4:B:1082:PHE:CD2 | 2.55 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:B:362:TRP:O | 4:B:363:GLU:C | 2.59 | 0.41 |
| 4:C:10:LEU:HA | 4:C:43:ALA:HB3 | 2.03 | 0.41 |
| 4:C:873:VAL:HG11 | 4:C:944:LEU:HD21 | 2.02 | 0.41 |
| 4:D:1021:LEU:HB3 | 4:D:1048:SER:HB2 | 2.02 | 0.41 |
| 4:D:1093:LEU:HD21 | 4:D:1097:ILE:O | 2.21 | 0.41 |
| 4:D:1204:VAL:HG13 | 4:D:1205:PHE:H | 1.86 | 0.41 |
| 5:P:526:ALA:O | 5:P:527:GLU:CB | 2.69 | 0.41 |
| 5:P:526:ALA:O | 5:P:527:GLU:HG3 | 2.21 | 0.41 |
| 4:A:100:ALA:HB2 | 4:A:109:LEU:HD12 | 2.02 | 0.41 |
| 4:B:228:LEU:HD22 | 4:B:242:TRP:CE3 | 2.55 | 0.41 |
| 4:C:222:ARG:O | 4:C:226:VAL:HG13 | 2.21 | 0.41 |
| 4:C:451:GLU:CD | 4:C:759:LEU:HD23 | 2.41 | 0.41 |
| 4:C:451:GLU:N | 4:C:451:GLU:OE1 | 2.53 | 0.41 |
| 4:D:1065:MET:HB2 | 4:D:1065:MET:HE3 | 1.83 | 0.41 |
| 4:D:521:LEU:HA | 4:D:524:LEU:HD23 | 2.03 | 0.41 |
| 5:M:392:LYS:NZ | 5:M:399:VAL:HG21 | 2.36 | 0.41 |
| 5:M:408:GLY:C | 5:M:415:PHE:HD1 | 2.25 | 0.41 |
| 5:O:490:PRO:CD | 5:O:522:LYS:HD2 | 2.51 | 0.41 |
| 5:P:540:ILE:O | 5:P:543:PRO:CD | 2.69 | 0.41 |
| 4:A:422:PRO:HG2 | 4:A:820:ALA:HB1 | 2.03 | 0.40 |
| 4:A:918:LEU:HD23 | 4:A:960:LEU:CD1 | 2.50 | 0.40 |
| 4:B:1081:VAL:O | 4:B:1081:VAL:HG23 | 2.20 | 0.40 |
| 4:B:302:GLU:OE2 | 4:B:304:ARG:NH1 | 2.54 | 0.40 |
| 4:B:428:ALA:HA | 4:B:439:THR:HG21 | 2.03 | 0.40 |
| 4:D:1065:MET:HB3 | 4:D:1066:ALA:H | 1.18 | 0.40 |
| 5:O:519:ARG:CZ | 5:O:520:LYS:HZ1 | 2.33 | 0.40 |
| 5:O:542:PRO:N | 5:O:543:PRO:HD3 | 2.36 | 0.40 |
| 5:P:528:GLU:N | 5:P:529:PRO:CD | 2.82 | 0.40 |
| 4:A:591:PRO:C | 4:A:592:LEU:HD12 | 2.41 | 0.40 |
| 4:B:1056:ARG:CA | 4:B:1066:ALA:HB2 | 2.46 | 0.40 |
| 4:B:509:ARG:CA | 4:B:513:ILE:HG21 | 2.49 | 0.40 |
| 4:D:1140:LEU:HD11 | 4:D:1144:GLY:HA3 | 2.02 | 0.40 |
| 4:D:1207:GLN:O | 4:D:1207:GLN:HG3 | 2.20 | 0.40 |
| 4:D:1207:GLN:O | 4:D:1207:GLN:CG | 2.70 | 0.40 |
| 5:N:450:LEU:HB3 | 5:N:451:GLU:C | 2.42 | 0.40 |
| 5:N:450:LEU:CB | 5:N:451:GLU:HB2 | 2.50 | 0.40 |
| 5:N:495:GLU:HB2 | 5:N:496:GLU:CG | 2.51 | 0.40 |
| 5:O:415:PHE:HB2 | 5:O:416:PRO:HD3 | 2.02 | 0.40 |
| 5:O:519:ARG:NE | 5:O:520:LYS:HZ1 | 2.18 | 0.40 |
| 5:P:504:LEU:CB | 5:P:505:ARG:CA | 2.99 | 0.40 |
| 4:A:498:LEU:HB3 | 4:A:499:ALA:CA | 2.51 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 4:A:505:LYS:HB3 | 4:A:509:ARG:HB2 | 2.04 | 0.40 |
| 4:C:1094:LYS:CE | 4:C:1094:LYS:CA | 2.98 | 0.40 |
| 4:D:1205:PHE:O | 4:D:1206:LEU:CG | 2.70 | 0.40 |
| 4:D:678:THR:CG2 | 4:D:693:LEU:HD11 | 2.52 | 0.40 |
| 5:M:453:LYS:O | 5:M:454:SER:HB3 | 2.22 | 0.40 |
| 5:O:373:LYS:HG2 | 5:O:378:GLN:HB2 | 2.02 | 0.40 |
| 5:P:498:GLU:CB | 5:P:499:ASP:CA | 3.00 | 0.40 |
| 5:P:504:LEU:HD12 | 5:P:504:LEU:H | 1.82 | 0.40 |
| 5:P:512:GLY:O | 5:P:516:LEU:CG | 2.66 | 0.40 |
| 4:A:1124:VAL:HG13 | 4:A:1200:PRO:HG2 | 2.04 | 0.40 |
| 4:B:1093:LEU:HD22 | 4:B:1099:LEU:CG | 2.52 | 0.40 |
| 4:B:620:LEU:N | 4:B:620:LEU:HD12 | 2.36 | 0.40 |
| 4:C:15:GLN:N | 4:C:23:ALA:O | 2.54 | 0.40 |
| 4:D:1058:PRO:O | 4:D:1058:PRO:CD | 2.70 | 0.40 |
| 4:D:1120:THR:HG22 | 4:D:1121:LEU:N | 2.36 | 0.40 |
| 4:D:1188:LEU:O | 4:D:1191:ALA:HB3 | 2.20 | 0.40 |
| 4:D:918:LEU:HD22 | 4:D:953:LEU:HD23 | 2.04 | 0.40 |
| 3:I:13:DC:H1' | 3:I:14:DA:C8 | 2.57 | 0.40 |
| 5:M:409:LYS:HB2 | 5:M:415:PHE:HE1 | 1.87 | 0.40 |
| 5:M:508:ALA:O | 5:M:509:ARG:HB2 | 2.21 | 0.40 |
| 5:P:525:GLU:CD | 5:P:525:GLU:N | 2.72 | 0.40 |
| 4:B:574:VAL:HG22 | 4:B:601:VAL:CG2 | 2.52 | 0.40 |
| 4:C:402:TYR:HE1 | 4:C:615:LEU:HD11 | 1.87 | 0.40 |
| 4:C:788:ALA:HB1 | 4:C:793:VAL:HG22 | 1.99 | 0.40 |
| 4:D:1057:LYS:CB | 4:D:1058:PRO:HA | 2.29 | 0.40 |
| 4:D:183:ASN:OD1 | 4:D:184:HIS:O | 2.39 | 0.40 |
| 4:D:976:VAL:HG23 | 4:D:977:GLY:H | 1.87 | 0.40 |
| 5:M:414:ARG:HA | 5:M:417:GLU:CD | 2.41 | 0.40 |
| 5:O:518:VAL:CG2 | 5:O:519:ARG:HB2 | 2.46 | 0.40 |

All (7) 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) |
|-----------------|------------------------|--------------------------|-------------------|
| 4:D:175:ASP:OD1 | 5:P:414:ARG:NH1[2_655] | 1.84 | 0.36 |
| 4:A:115:ARG:NE | 4:A:976:VAL:CG1[2_555] | 1.90 | 0.30 |
| 4:A:115:ARG:NH2 | 4:A:976:VAL:CG2[2_555] | 1.95 | 0.25 |
| 4:D:160:ASP:N | 5:N:454:SER:OG[1_545] | 2.01 | 0.19 |
| 4:B:363:GLU:OE2 | 4:B:969:GLU:OE2[1_545] | 2.01 | 0.19 |
| 4:B:715:GLN:OE1 | 5:P:413:LEU:CD2[2_655] | 2.05 | 0.15 |
| 4:B:273:ASN:OD1 | 4:B:1057:LYS:O[2_646] | 2.16 | 0.04 |

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|-----------------|------------|----------|----------|-------------|----|
| 4 | A | 1146/1220 (94%) | 1036 (90%) | 87 (8%) | 23 (2%) | 8 | 42 |
| 4 | B | 1147/1220 (94%) | 1051 (92%) | 76 (7%) | 20 (2%) | 10 | 46 |
| 4 | C | 1148/1220 (94%) | 1056 (92%) | 79 (7%) | 13 (1%) | 16 | 56 |
| 4 | D | 1173/1220 (96%) | 1062 (90%) | 94 (8%) | 17 (1%) | 12 | 50 |
| 5 | M | 132/177 (75%) | 84 (64%) | 31 (24%) | 17 (13%) | 0 | 1 |
| 5 | N | 129/177 (73%) | 76 (59%) | 28 (22%) | 25 (19%) | 0 | 0 |
| 5 | O | 129/177 (73%) | 77 (60%) | 28 (22%) | 24 (19%) | 0 | 0 |
| 5 | P | 132/177 (75%) | 80 (61%) | 33 (25%) | 19 (14%) | 0 | 1 |
| All | All | 5136/5588 (92%) | 4522 (88%) | 456 (9%) | 158 (3%) | 4 | 30 |

All (158) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 4 | A | 506 | ASP |
| 4 | A | 1081 | VAL |
| 4 | A | 1201 | ASP |
| 4 | A | 1204 | VAL |
| 4 | B | 301 | PRO |
| 4 | B | 1058 | PRO |
| 4 | C | 299 | PRO |
| 4 | C | 1204 | VAL |
| 4 | D | 301 | PRO |
| 4 | D | 543 | PRO |
| 4 | D | 1057 | LYS |
| 4 | D | 1065 | MET |
| 4 | D | 1081 | VAL |
| 5 | M | 393 | PRO |
| 5 | M | 452 | LYS |
| 5 | M | 454 | SER |
| 5 | M | 455 | LEU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 5 | M | 493 | GLU |
| 5 | M | 521 | PRO |
| 5 | M | 523 | ALA |
| 5 | N | 396 | ARG |
| 5 | N | 413 | LEU |
| 5 | N | 444 | GLU |
| 5 | N | 445 | GLU |
| 5 | N | 452 | LYS |
| 5 | N | 453 | LYS |
| 5 | N | 454 | SER |
| 5 | N | 492 | TRP |
| 5 | N | 523 | ALA |
| 5 | N | 530 | VAL |
| 5 | N | 542 | PRO |
| 5 | O | 391 | LEU |
| 5 | O | 393 | PRO |
| 5 | O | 413 | LEU |
| 5 | O | 454 | SER |
| 5 | O | 492 | TRP |
| 5 | O | 524 | PRO |
| 5 | O | 530 | VAL |
| 5 | P | 392 | LYS |
| 5 | P | 397 | ALA |
| 5 | P | 452 | LYS |
| 5 | P | 521 | PRO |
| 5 | P | 523 | ALA |
| 5 | P | 527 | GLU |
| 4 | A | 303 | GLY |
| 4 | A | 511 | TYR |
| 4 | A | 1192 | GLU |
| 4 | B | 302 | GLU |
| 4 | B | 1013 | HIS |
| 4 | B | 1025 | ALA |
| 4 | B | 1081 | VAL |
| 4 | B | 1091 | PRO |
| 4 | B | 1176 | LEU |
| 4 | C | 976 | VAL |
| 4 | D | 286 | PRO |
| 4 | D | 977 | GLY |
| 4 | D | 1082 | PHE |
| 4 | D | 1138 | ALA |
| 4 | D | 1204 | VAL |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 5 | M | 449 | VAL |
| 5 | M | 453 | LYS |
| 5 | M | 488 | GLU |
| 5 | N | 373 | LYS |
| 5 | N | 397 | ALA |
| 5 | N | 440 | GLN |
| 5 | N | 491 | PRO |
| 5 | N | 527 | GLU |
| 5 | O | 394 | THR |
| 5 | O | 491 | PRO |
| 5 | O | 518 | VAL |
| 5 | O | 521 | PRO |
| 5 | P | 440 | GLN |
| 5 | P | 449 | VAL |
| 5 | P | 454 | SER |
| 4 | A | 290 | LYS |
| 4 | A | 302 | GLU |
| 4 | A | 367 | LYS |
| 4 | A | 573 | SER |
| 4 | A | 975 | LEU |
| 4 | B | 290 | LYS |
| 4 | B | 291 | MET |
| 4 | B | 365 | LEU |
| 4 | B | 977 | GLY |
| 4 | C | 265 | GLU |
| 4 | C | 298 | PHE |
| 4 | C | 542 | VAL |
| 4 | D | 238 | ASP |
| 4 | D | 1058 | PRO |
| 5 | M | 440 | GLN |
| 5 | M | 445 | GLU |
| 5 | M | 503 | GLU |
| 5 | M | 531 | SER |
| 5 | N | 415 | PHE |
| 5 | N | 503 | GLU |
| 5 | O | 396 | ARG |
| 5 | O | 411 | LEU |
| 5 | O | 440 | GLN |
| 5 | O | 445 | GLU |
| 5 | O | 448 | PHE |
| 5 | O | 493 | GLU |
| 5 | O | 503 | GLU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 5 | O | 527 | GLU |
| 5 | P | 491 | PRO |
| 5 | P | 526 | ALA |
| 4 | A | 513 | ILE |
| 4 | A | 1094 | LYS |
| 4 | B | 238 | ASP |
| 4 | B | 1138 | ALA |
| 4 | C | 290 | LYS |
| 4 | C | 792 | GLY |
| 4 | C | 1176 | LEU |
| 4 | D | 541 | VAL |
| 4 | D | 1141 | ASP |
| 5 | M | 496 | GLU |
| 5 | M | 529 | PRO |
| 5 | N | 392 | LYS |
| 5 | N | 521 | PRO |
| 5 | N | 528 | GLU |
| 5 | N | 541 | MET |
| 5 | O | 452 | LYS |
| 5 | O | 528 | GLU |
| 5 | O | 531 | SER |
| 5 | P | 373 | LYS |
| 5 | P | 391 | LEU |
| 5 | P | 503 | GLU |
| 4 | A | 509 | ARG |
| 4 | A | 510 | VAL |
| 4 | B | 973 | SER |
| 4 | D | 792 | GLY |
| 4 | D | 1056 | ARG |
| 5 | M | 410 | THR |
| 5 | N | 522 | LYS |
| 5 | O | 541 | MET |
| 5 | P | 396 | ARG |
| 5 | P | 529 | PRO |
| 4 | A | 299 | PRO |
| 4 | A | 300 | LEU |
| 4 | A | 1091 | PRO |
| 4 | B | 975 | LEU |
| 4 | C | 1091 | PRO |
| 4 | C | 1208 | GLY |
| 5 | P | 456 | SER |
| 5 | P | 458 | ALA |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 4 | B | 774 | VAL |
| 4 | B | 976 | VAL |
| 5 | N | 449 | VAL |
| 4 | A | 792 | GLY |
| 4 | A | 1211 | GLY |
| 4 | C | 301 | PRO |
| 4 | D | 39 | ASP |
| 4 | A | 399 | PHE |
| 4 | B | 303 | GLY |
| 4 | B | 1145 | VAL |
| 4 | C | 399 | PHE |
| 4 | A | 496 | GLY |
| 5 | O | 449 | VAL |
| 5 | P | 528 | GLU |
| 5 | N | 524 | PRO |

5.3.2 Protein sidechains [i](#)

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

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

| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|-----------------|------------|----------|-------------|----|
| 4 | A | 965/1009 (96%) | 958 (99%) | 7 (1%) | 85 | 95 |
| 4 | B | 968/1009 (96%) | 946 (98%) | 22 (2%) | 53 | 81 |
| 4 | C | 968/1009 (96%) | 949 (98%) | 19 (2%) | 58 | 83 |
| 4 | D | 984/1009 (98%) | 961 (98%) | 23 (2%) | 53 | 81 |
| 5 | M | 112/144 (78%) | 102 (91%) | 10 (9%) | 11 | 38 |
| 5 | N | 109/144 (76%) | 104 (95%) | 5 (5%) | 29 | 67 |
| 5 | O | 109/144 (76%) | 97 (89%) | 12 (11%) | 7 | 29 |
| 5 | P | 110/144 (76%) | 89 (81%) | 21 (19%) | 1 | 9 |
| All | All | 4325/4612 (94%) | 4206 (97%) | 119 (3%) | 47 | 77 |

All (119) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 4 | A | 235 | THR |
| 4 | A | 302 | GLU |
| 4 | A | 670 | LEU |
| 4 | A | 991 | SER |
| 4 | A | 1094 | LYS |
| 4 | A | 1176 | LEU |
| 4 | A | 1201 | ASP |
| 4 | B | 220 | ASP |
| 4 | B | 325 | ARG |
| 4 | B | 358 | GLU |
| 4 | B | 364 | GLU |
| 4 | B | 407 | GLN |
| 4 | B | 569 | ASN |
| 4 | B | 633 | ARG |
| 4 | B | 713 | HIS |
| 4 | B | 976 | VAL |
| 4 | B | 991 | SER |
| 4 | B | 1013 | HIS |
| 4 | B | 1021 | LEU |
| 4 | B | 1022 | ARG |
| 4 | B | 1039 | LEU |
| 4 | B | 1056 | ARG |
| 4 | B | 1058 | PRO |
| 4 | B | 1059 | THR |
| 4 | B | 1065 | MET |
| 4 | B | 1067 | ARG |
| 4 | B | 1081 | VAL |
| 4 | B | 1139 | LEU |
| 4 | B | 1173 | LEU |
| 4 | C | 40 | PRO |
| 4 | C | 291 | MET |
| 4 | C | 294 | ARG |
| 4 | C | 297 | ARG |
| 4 | C | 299 | PRO |
| 4 | C | 520 | GLU |
| 4 | C | 541 | VAL |
| 4 | C | 542 | VAL |
| 4 | C | 573 | SER |
| 4 | C | 622 | LEU |
| 4 | C | 795 | GLU |
| 4 | C | 975 | LEU |
| 4 | C | 1018 | TYR |
| 4 | C | 1039 | LEU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 4 | C | 1046 | LEU |
| 4 | C | 1094 | LYS |
| 4 | C | 1095 | GLU |
| 4 | C | 1096 | ASP |
| 4 | C | 1120 | THR |
| 4 | D | 289 | ASP |
| 4 | D | 290 | LYS |
| 4 | D | 291 | MET |
| 4 | D | 366 | ARG |
| 4 | D | 531 | LYS |
| 4 | D | 540 | GLN |
| 4 | D | 546 | ARG |
| 4 | D | 549 | MET |
| 4 | D | 757 | TYR |
| 4 | D | 976 | VAL |
| 4 | D | 1018 | TYR |
| 4 | D | 1039 | LEU |
| 4 | D | 1046 | LEU |
| 4 | D | 1055 | VAL |
| 4 | D | 1056 | ARG |
| 4 | D | 1058 | PRO |
| 4 | D | 1143 | LYS |
| 4 | D | 1145 | VAL |
| 4 | D | 1169 | PHE |
| 4 | D | 1202 | ARG |
| 4 | D | 1204 | VAL |
| 4 | D | 1205 | PHE |
| 4 | D | 1215 | GLU |
| 5 | M | 395 | LEU |
| 5 | M | 396 | ARG |
| 5 | M | 411 | LEU |
| 5 | M | 421 | PHE |
| 5 | M | 492 | TRP |
| 5 | M | 496 | GLU |
| 5 | M | 499 | ASP |
| 5 | M | 506 | ARG |
| 5 | M | 522 | LYS |
| 5 | M | 542 | PRO |
| 5 | N | 454 | SER |
| 5 | N | 456 | SER |
| 5 | N | 499 | ASP |
| 5 | N | 506 | ARG |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 5 | N | 533 | ASP |
| 5 | O | 382 | GLU |
| 5 | O | 388 | LEU |
| 5 | O | 392 | LYS |
| 5 | O | 393 | PRO |
| 5 | O | 448 | PHE |
| 5 | O | 453 | LYS |
| 5 | O | 499 | ASP |
| 5 | O | 505 | ARG |
| 5 | O | 506 | ARG |
| 5 | O | 520 | LYS |
| 5 | O | 521 | PRO |
| 5 | O | 522 | LYS |
| 5 | P | 394 | THR |
| 5 | P | 396 | ARG |
| 5 | P | 414 | ARG |
| 5 | P | 417 | GLU |
| 5 | P | 496 | GLU |
| 5 | P | 499 | ASP |
| 5 | P | 504 | LEU |
| 5 | P | 506 | ARG |
| 5 | P | 509 | ARG |
| 5 | P | 510 | LEU |
| 5 | P | 511 | LEU |
| 5 | P | 520 | LYS |
| 5 | P | 522 | LYS |
| 5 | P | 527 | GLU |
| 5 | P | 528 | GLU |
| 5 | P | 531 | SER |
| 5 | P | 532 | GLU |
| 5 | P | 535 | ILE |
| 5 | P | 541 | MET |
| 5 | P | 542 | PRO |
| 5 | P | 543 | PRO |

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (26) such sidechains are listed below:

| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 4 | A | 273 | ASN |
| 4 | A | 411 | ASN |
| 4 | A | 669 | GLN |
| 4 | A | 746 | GLN |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 4 | A | 896 | ASN |
| 4 | A | 1013 | HIS |
| 4 | B | 308 | GLN |
| 4 | B | 827 | GLN |
| 4 | B | 874 | ASN |
| 4 | B | 896 | ASN |
| 4 | C | 26 | GLN |
| 4 | C | 407 | GLN |
| 4 | C | 746 | GLN |
| 4 | C | 778 | GLN |
| 4 | D | 411 | ASN |
| 4 | D | 440 | ASN |
| 4 | D | 540 | GLN |
| 4 | D | 799 | ASN |
| 4 | D | 896 | ASN |
| 5 | M | 378 | GLN |
| 5 | M | 440 | GLN |
| 5 | N | 367 | HIS |
| 5 | N | 405 | HIS |
| 5 | N | 423 | HIS |
| 5 | O | 369 | HIS |
| 5 | O | 371 | 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 carbohydrates in this entry.

5.6 Ligand geometry [i](#)

Of 17 ligands modelled in this entry, 16 are monoatomic - leaving 1 for Mogul analysis.

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 |
| 6 | DOC | I | 101 | - | 13,19,20 | 0.66 | 0 | 12,26,29 | 1.59 | 3 (25%) |

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 |
|-----|------|-------|-----|------|---------|-----------|---------|
| 6 | DOC | I | 101 | - | - | 0/3/18/19 | 0/2/2/2 |

There are no bond length outliers.

All (3) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|------|-------------|----------|
| 6 | I | 101 | DOC | O4'-C4'-C3' | 2.35 | 108.71 | 104.80 |
| 6 | I | 101 | DOC | O4'-C1'-N1 | 2.63 | 112.22 | 107.78 |
| 6 | I | 101 | DOC | C3'-C2'-C1' | 2.84 | 106.20 | 102.80 |

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 1 short contact:

| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|-----|-------|-----|------|---------|--------------|
| 6 | I | 101 | DOC | 1 | 0 |

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

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

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

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

| Mol | Chain | Analysed | <RSRZ> | #RSRZ>2 | OWAB(Å ²) | Q<0.9 |
|-----|-------|-----------------|--------|----------------|-----------------------|-------|
| 1 | E | 20/20 (100%) | 0.86 | 1 (5%) 29 16 | 159, 177, 203, 209 | 0 |
| 1 | G | 20/20 (100%) | 0.82 | 3 (15%) 2 1 | 160, 175, 204, 216 | 0 |
| 1 | K | 20/20 (100%) | 0.94 | 3 (15%) 2 1 | 157, 168, 206, 213 | 0 |
| 2 | F | 20/28 (71%) | 1.38 | 5 (25%) 0 0 | 165, 187, 208, 217 | 0 |
| 2 | H | 27/28 (96%) | 1.25 | 7 (25%) 0 0 | 145, 168, 184, 186 | 0 |
| 2 | J | 23/28 (82%) | 1.60 | 8 (34%) 0 0 | 148, 171, 192, 201 | 0 |
| 2 | L | 24/28 (85%) | 1.41 | 4 (16%) 1 1 | 150, 176, 197, 204 | 0 |
| 3 | I | 20/21 (95%) | 1.42 | 5 (25%) 0 0 | 198, 224, 252, 255 | 0 |
| 4 | A | 1164/1220 (95%) | 0.19 | 50 (4%) 35 22 | 109, 140, 177, 212 | 0 |
| 4 | B | 1167/1220 (95%) | 0.21 | 48 (4%) 37 24 | 107, 140, 174, 218 | 0 |
| 4 | C | 1166/1220 (95%) | 0.22 | 46 (3%) 39 26 | 108, 148, 176, 203 | 0 |
| 4 | D | 1185/1220 (97%) | 0.16 | 39 (3%) 46 30 | 111, 145, 175, 230 | 0 |
| 5 | M | 138/177 (77%) | 1.09 | 30 (21%) 0 0 | 159, 176, 196, 209 | 0 |
| 5 | N | 135/177 (76%) | 0.87 | 14 (10%) 6 4 | 143, 169, 187, 203 | 0 |
| 5 | O | 135/177 (76%) | 1.03 | 19 (14%) 2 2 | 155, 181, 206, 227 | 0 |
| 5 | P | 138/177 (77%) | 0.95 | 22 (15%) 2 1 | 139, 177, 202, 226 | 0 |
| All | All | 5402/5781 (93%) | 0.31 | 304 (5%) 24 13 | 107, 147, 186, 255 | 0 |

All (304) RSRZ outliers are listed below:

| Mol | Chain | Res | Type | RSRZ |
|-----|-------|------|------|------|
| 5 | P | 446 | LEU | 9.6 |
| 4 | D | 714 | GLY | 6.0 |
| 4 | D | 1087 | GLU | 5.8 |
| 4 | D | 978 | LEU | 5.4 |
| 4 | B | 1085 | ALA | 5.3 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 4 | B | 978 | LEU | 5.2 |
| 4 | A | 92 | GLY | 5.2 |
| 5 | O | 442 | GLY | 5.2 |
| 4 | A | 980 | ALA | 5.0 |
| 5 | N | 456 | SER | 5.0 |
| 4 | A | 1041 | GLY | 4.9 |
| 5 | O | 374 | ALA | 4.9 |
| 5 | N | 449 | VAL | 4.8 |
| 4 | A | 367 | LYS | 4.8 |
| 5 | N | 410 | THR | 4.8 |
| 4 | B | 1208 | GLY | 4.7 |
| 2 | H | 19 | DC | 4.7 |
| 2 | H | 8 | DG | 4.6 |
| 5 | N | 543 | PRO | 4.6 |
| 2 | F | 27 | DC | 4.4 |
| 5 | M | 367 | HIS | 4.3 |
| 5 | P | 502 | GLU | 4.3 |
| 4 | B | 982 | VAL | 4.3 |
| 3 | I | 19 | DC | 4.2 |
| 5 | M | 542 | PRO | 4.2 |
| 4 | A | 774 | VAL | 4.2 |
| 5 | P | 542 | PRO | 4.2 |
| 4 | D | 1082 | PHE | 4.2 |
| 5 | O | 500 | PRO | 4.2 |
| 4 | C | 530 | GLY | 4.1 |
| 4 | D | 232 | SER | 4.0 |
| 4 | B | 1142 | GLU | 4.0 |
| 5 | P | 507 | LEU | 4.0 |
| 4 | A | 551 | LYS | 4.0 |
| 4 | A | 1215 | GLU | 3.9 |
| 4 | C | 1087 | GLU | 3.9 |
| 4 | B | 969 | GLU | 3.9 |
| 4 | C | 1138 | ALA | 3.8 |
| 5 | P | 527 | GLU | 3.8 |
| 4 | A | 533 | LYS | 3.8 |
| 3 | I | 18 | DC | 3.8 |
| 4 | A | 1219 | PRO | 3.7 |
| 5 | N | 411 | LEU | 3.7 |
| 2 | J | 28 | DG | 3.7 |
| 4 | C | 240 | GLU | 3.7 |
| 5 | P | 490 | PRO | 3.7 |
| 4 | D | 713 | HIS | 3.7 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 4 | D | 1141 | ASP | 3.7 |
| 4 | A | 1216 | GLU | 3.6 |
| 4 | D | 725 | HIS | 3.6 |
| 4 | C | 279 | ARG | 3.6 |
| 5 | O | 384 | TRP | 3.6 |
| 5 | M | 524 | PRO | 3.6 |
| 4 | B | 981 | GLU | 3.6 |
| 5 | O | 408 | GLY | 3.6 |
| 1 | K | 20 | DA | 3.5 |
| 5 | M | 530 | VAL | 3.5 |
| 4 | C | 239 | PRO | 3.5 |
| 4 | A | 979 | PHE | 3.5 |
| 4 | B | 1081 | VAL | 3.5 |
| 4 | B | 1207 | GLN | 3.5 |
| 4 | A | 1087 | GLU | 3.5 |
| 5 | O | 543 | PRO | 3.5 |
| 4 | B | 1083 | GLY | 3.4 |
| 5 | M | 411 | LEU | 3.4 |
| 4 | C | 19 | LEU | 3.4 |
| 4 | C | 531 | LYS | 3.4 |
| 4 | B | 1183 | GLU | 3.4 |
| 1 | K | 16 | DT | 3.4 |
| 2 | L | 8 | DG | 3.4 |
| 4 | D | 1214 | LYS | 3.4 |
| 4 | C | 977 | GLY | 3.3 |
| 4 | D | 980 | ALA | 3.3 |
| 5 | N | 372 | HIS | 3.3 |
| 4 | B | 1212 | GLY | 3.3 |
| 5 | M | 410 | THR | 3.3 |
| 5 | N | 518 | VAL | 3.3 |
| 5 | M | 409 | LYS | 3.3 |
| 5 | M | 539 | GLY | 3.3 |
| 5 | O | 380 | LEU | 3.3 |
| 4 | B | 1054 | VAL | 3.3 |
| 4 | D | 529 | PHE | 3.2 |
| 2 | F | 14 | DC | 3.2 |
| 4 | B | 1169 | PHE | 3.2 |
| 5 | M | 371 | HIS | 3.2 |
| 2 | J | 7 | DT | 3.2 |
| 4 | C | 264 | ALA | 3.2 |
| 5 | P | 377 | ALA | 3.2 |
| 5 | N | 413 | LEU | 3.2 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|------|------|------|
| 5 | M | 372 | HIS | 3.2 |
| 4 | C | 1119 | TRP | 3.1 |
| 5 | M | 495 | GLU | 3.1 |
| 5 | O | 502 | GLU | 3.1 |
| 4 | A | 775 | GLU | 3.1 |
| 4 | A | 990 | ALA | 3.1 |
| 4 | B | 1082 | PHE | 3.1 |
| 4 | B | 92 | GLY | 3.1 |
| 4 | A | 981 | GLU | 3.1 |
| 4 | D | 1081 | VAL | 3.1 |
| 4 | A | 986 | PRO | 3.0 |
| 4 | C | 1218 | VAL | 3.0 |
| 4 | B | 1220 | PHE | 3.0 |
| 4 | C | 1067 | ARG | 3.0 |
| 5 | M | 521 | PRO | 3.0 |
| 5 | P | 391 | LEU | 3.0 |
| 5 | O | 389 | GLU | 3.0 |
| 4 | A | 715 | GLN | 3.0 |
| 5 | M | 502 | GLU | 3.0 |
| 5 | P | 508 | ALA | 2.9 |
| 4 | C | 1054 | VAL | 2.9 |
| 4 | A | 1171 | GLU | 2.9 |
| 4 | B | 1084 | ARG | 2.9 |
| 5 | M | 377 | ALA | 2.9 |
| 5 | O | 450 | LEU | 2.9 |
| 4 | C | 736 | GLU | 2.9 |
| 4 | D | 962 | ARG | 2.9 |
| 2 | J | 14 | DC | 2.9 |
| 4 | D | 774 | VAL | 2.9 |
| 4 | C | 1208 | GLY | 2.9 |
| 4 | A | 916 | LYS | 2.8 |
| 2 | F | 11 | DG | 2.8 |
| 4 | C | 122 | TYR | 2.8 |
| 4 | A | 971 | GLY | 2.8 |
| 4 | A | 1197 | TYR | 2.8 |
| 4 | B | 537 | GLU | 2.8 |
| 5 | M | 382 | GLU | 2.8 |
| 4 | B | 863 | ALA | 2.8 |
| 2 | J | 18 | DC | 2.8 |
| 4 | B | 544 | GLU | 2.8 |
| 5 | P | 503 | GLU | 2.8 |
| 5 | O | 490 | PRO | 2.8 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 4 | A | 736 | GLU | 2.8 |
| 4 | A | 969 | GLU | 2.8 |
| 4 | C | 543 | PRO | 2.8 |
| 4 | A | 991 | SER | 2.7 |
| 4 | D | 320 | ARG | 2.7 |
| 5 | N | 374 | ALA | 2.7 |
| 5 | M | 393 | PRO | 2.7 |
| 5 | P | 393 | PRO | 2.7 |
| 4 | D | 1195 | ARG | 2.7 |
| 5 | M | 501 | SER | 2.7 |
| 5 | M | 516 | LEU | 2.7 |
| 4 | A | 994 | ASP | 2.7 |
| 4 | C | 771 | LYS | 2.7 |
| 4 | D | 1054 | VAL | 2.7 |
| 4 | C | 364 | GLU | 2.7 |
| 4 | A | 1217 | VAL | 2.7 |
| 4 | A | 771 | LYS | 2.7 |
| 5 | M | 493 | GLU | 2.7 |
| 4 | A | 1209 | ASN | 2.7 |
| 4 | A | 1034 | GLU | 2.7 |
| 4 | A | 1112 | ARG | 2.7 |
| 4 | B | 494 | THR | 2.7 |
| 2 | J | 6 | DT | 2.7 |
| 4 | C | 9 | HIS | 2.6 |
| 4 | B | 143 | SER | 2.6 |
| 5 | M | 368 | HIS | 2.6 |
| 1 | G | 9 | DC | 2.6 |
| 4 | B | 1170 | GLY | 2.6 |
| 5 | P | 433 | LEU | 2.6 |
| 4 | A | 1054 | VAL | 2.6 |
| 4 | C | 1206 | LEU | 2.6 |
| 5 | P | 543 | PRO | 2.6 |
| 4 | A | 320 | ARG | 2.6 |
| 4 | B | 222 | ARG | 2.6 |
| 4 | B | 1211 | GLY | 2.6 |
| 4 | D | 233 | LYS | 2.6 |
| 4 | C | 162 | ALA | 2.6 |
| 4 | B | 885 | GLU | 2.6 |
| 5 | O | 542 | PRO | 2.6 |
| 1 | G | 18 | DC | 2.5 |
| 4 | C | 970 | ARG | 2.5 |
| 4 | D | 34 | GLU | 2.5 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 5 | P | 390 | ALA | 2.5 |
| 2 | L | 5 | DT | 2.5 |
| 4 | B | 772 | LYS | 2.5 |
| 4 | A | 1092 | LYS | 2.5 |
| 5 | P | 367 | HIS | 2.5 |
| 5 | N | 384 | TRP | 2.5 |
| 4 | D | 1211 | GLY | 2.5 |
| 2 | H | 28 | DG | 2.5 |
| 4 | B | 700 | GLY | 2.5 |
| 4 | C | 1007 | GLY | 2.5 |
| 4 | A | 6 | LYS | 2.5 |
| 5 | M | 374 | ALA | 2.5 |
| 4 | D | 571 | HIS | 2.5 |
| 4 | D | 573 | SER | 2.5 |
| 5 | O | 422 | HIS | 2.5 |
| 4 | A | 324 | ASP | 2.4 |
| 4 | B | 520 | GLU | 2.4 |
| 4 | D | 537 | GLU | 2.4 |
| 5 | P | 501 | SER | 2.4 |
| 4 | C | 1211 | GLY | 2.4 |
| 2 | F | 28 | DG | 2.4 |
| 5 | M | 447 | ALA | 2.4 |
| 4 | D | 301 | PRO | 2.4 |
| 4 | D | 1183 | GLU | 2.4 |
| 4 | B | 995 | GLU | 2.4 |
| 5 | O | 501 | SER | 2.4 |
| 4 | B | 718 | VAL | 2.4 |
| 5 | M | 529 | PRO | 2.4 |
| 5 | N | 435 | PRO | 2.4 |
| 2 | J | 15 | DT | 2.4 |
| 5 | M | 522 | LYS | 2.4 |
| 4 | A | 5 | LEU | 2.4 |
| 4 | C | 218 | LYS | 2.4 |
| 4 | C | 1128 | PRO | 2.4 |
| 4 | D | 9 | HIS | 2.4 |
| 4 | D | 43 | ALA | 2.3 |
| 2 | H | 18 | DC | 2.3 |
| 2 | L | 14 | DC | 2.3 |
| 4 | C | 1049 | GLY | 2.3 |
| 1 | G | 20 | DA | 2.3 |
| 4 | C | 758 | SER | 2.3 |
| 4 | D | 914 | PRO | 2.3 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 4 | C | 576 | ALA | 2.3 |
| 4 | C | 1197 | TYR | 2.3 |
| 4 | A | 1168 | PRO | 2.3 |
| 4 | D | 572 | ALA | 2.3 |
| 4 | C | 1217 | VAL | 2.3 |
| 4 | B | 83 | ARG | 2.3 |
| 4 | C | 790 | GLU | 2.3 |
| 5 | P | 374 | ALA | 2.3 |
| 4 | B | 206 | GLY | 2.3 |
| 5 | N | 442 | GLY | 2.3 |
| 4 | B | 365 | LEU | 2.3 |
| 5 | M | 380 | LEU | 2.3 |
| 4 | A | 1033 | SER | 2.3 |
| 5 | M | 496 | GLU | 2.3 |
| 3 | I | 20 | DA | 2.3 |
| 4 | C | 1116 | GLN | 2.3 |
| 4 | A | 364 | GLU | 2.2 |
| 5 | O | 434 | LEU | 2.2 |
| 4 | B | 516 | LYS | 2.2 |
| 4 | C | 1220 | PHE | 2.2 |
| 4 | C | 959 | PRO | 2.2 |
| 4 | C | 1130 | ALA | 2.2 |
| 4 | D | 1041 | GLY | 2.2 |
| 4 | D | 1193 | GLY | 2.2 |
| 4 | D | 123 | GLU | 2.2 |
| 5 | P | 368 | HIS | 2.2 |
| 4 | B | 1217 | VAL | 2.2 |
| 5 | M | 519 | ARG | 2.2 |
| 5 | P | 379 | ASP | 2.2 |
| 4 | B | 774 | VAL | 2.2 |
| 4 | A | 113 | ALA | 2.2 |
| 4 | B | 1049 | GLY | 2.2 |
| 5 | P | 524 | PRO | 2.2 |
| 4 | D | 481 | ARG | 2.2 |
| 4 | A | 536 | GLN | 2.2 |
| 4 | A | 1141 | ASP | 2.2 |
| 4 | C | 1213 | PRO | 2.2 |
| 2 | H | 4 | DT | 2.2 |
| 4 | C | 274 | THR | 2.2 |
| 2 | F | 18 | DC | 2.2 |
| 4 | A | 983 | GLU | 2.2 |
| 4 | B | 597 | GLU | 2.2 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 5 | O | 449 | VAL | 2.2 |
| 4 | A | 396 | ARG | 2.2 |
| 5 | O | 507 | LEU | 2.2 |
| 4 | B | 1219 | PRO | 2.2 |
| 4 | D | 979 | PHE | 2.2 |
| 4 | A | 1106 | GLU | 2.1 |
| 4 | D | 279 | ARG | 2.1 |
| 5 | N | 394 | THR | 2.1 |
| 4 | C | 1085 | ALA | 2.1 |
| 2 | H | 7 | DT | 2.1 |
| 1 | E | 11 | DG | 2.1 |
| 2 | J | 17 | DG | 2.1 |
| 4 | B | 179 | ILE | 2.1 |
| 5 | N | 376 | GLU | 2.1 |
| 5 | M | 512 | GLY | 2.1 |
| 4 | B | 301 | PRO | 2.1 |
| 4 | C | 1043 | PRO | 2.1 |
| 4 | A | 721 | ALA | 2.1 |
| 5 | M | 508 | ALA | 2.1 |
| 4 | C | 1188 | LEU | 2.1 |
| 4 | A | 885 | GLU | 2.1 |
| 1 | K | 17 | DG | 2.1 |
| 4 | A | 552 | ASP | 2.1 |
| 4 | D | 92 | GLY | 2.1 |
| 4 | C | 923 | LYS | 2.1 |
| 5 | O | 386 | ALA | 2.1 |
| 5 | P | 380 | LEU | 2.1 |
| 5 | O | 448 | PHE | 2.1 |
| 4 | A | 1191 | ALA | 2.1 |
| 3 | I | 17 | DG | 2.1 |
| 4 | B | 297 | ARG | 2.1 |
| 4 | C | 201 | ARG | 2.1 |
| 2 | H | 13 | DA | 2.0 |
| 4 | C | 1158 | SER | 2.0 |
| 2 | L | 6 | DT | 2.0 |
| 4 | D | 1213 | PRO | 2.0 |
| 4 | B | 980 | ALA | 2.0 |
| 5 | M | 507 | LEU | 2.0 |
| 2 | J | 9 | DT | 2.0 |
| 3 | I | 8 | DA | 2.0 |
| 4 | D | 1169 | PHE | 2.0 |
| 4 | B | 207 | MET | 2.0 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|------|------|------|
| 4 | A | 975 | LEU | 2.0 |
| 4 | B | 913 | GLY | 2.0 |
| 4 | B | 1165 | VAL | 2.0 |
| 5 | P | 456 | SER | 2.0 |
| 4 | D | 185 | GLY | 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 carbohydrates 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(Å ²) | Q<0.9 |
|-----|------|-------|------|-------|------|------|----------------------------|-------|
| 7 | ZN | C | 1301 | 1/1 | 0.76 | 0.14 | 197,197,197,197 | 0 |
| 6 | DOC | I | 101 | 18/19 | 0.77 | 0.44 | 173,185,229,232 | 0 |
| 8 | MG | C | 1304 | 1/1 | 0.79 | 0.07 | 177,177,177,177 | 0 |
| 7 | ZN | D | 1302 | 1/1 | 0.83 | 0.16 | 159,159,159,159 | 0 |
| 7 | ZN | C | 1303 | 1/1 | 0.83 | 0.20 | 179,179,179,179 | 0 |
| 8 | MG | B | 1304 | 1/1 | 0.84 | 0.27 | 132,132,132,132 | 0 |
| 7 | ZN | A | 1302 | 1/1 | 0.85 | 0.20 | 168,168,168,168 | 0 |
| 8 | MG | A | 1304 | 1/1 | 0.85 | 0.17 | 156,156,156,156 | 0 |
| 7 | ZN | B | 1302 | 1/1 | 0.88 | 0.15 | 141,141,141,141 | 0 |
| 7 | ZN | C | 1302 | 1/1 | 0.89 | 0.11 | 158,158,158,158 | 0 |
| 7 | ZN | B | 1303 | 1/1 | 0.90 | 0.21 | 166,166,166,166 | 0 |
| 7 | ZN | A | 1301 | 1/1 | 0.91 | 0.17 | 187,187,187,187 | 0 |
| 7 | ZN | D | 1303 | 1/1 | 0.91 | 0.14 | 176,176,176,176 | 0 |
| 7 | ZN | D | 1301 | 1/1 | 0.93 | 0.11 | 233,233,233,233 | 0 |
| 7 | ZN | A | 1303 | 1/1 | 0.94 | 0.10 | 141,141,141,141 | 0 |
| 8 | MG | D | 1304 | 1/1 | 0.95 | 0.28 | 139,139,139,139 | 0 |
| 7 | ZN | B | 1301 | 1/1 | 0.95 | 0.14 | 163,163,163,163 | 0 |

6.5 Other polymers [i](#)

There are no such residues in this entry.