



Full wwPDB NMR Structure Validation Report ⓘ

Apr 20, 2024 – 11:50 PM EDT

PDB ID : 2L5H
Title : Solution Structure of the H189Q mutant of the Enzyme I dimer Using Residual Dipolar Couplings and Small Angle X-Ray Scattering
Authors : Takayama, Y.D.; Schwieters, C.D.; Grishaev, A.; Guirlando, R.; Clore, G.
Deposited on : 2010-11-01

This is a Full wwPDB NMR 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/NMRValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
wwPDB-RCI : v_1n_11_5_13_A (Berjanski et al., 2005)
PANAV : Wang et al. (2010)
wwPDB-ShiftChecker : v1.2
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36.2

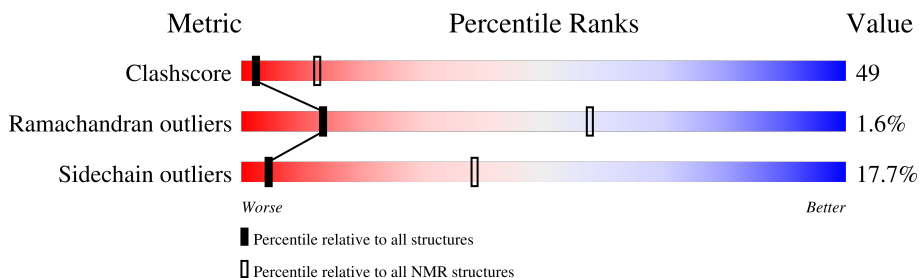
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

SOLUTION NMR, SOLUTION SCATTERING

The overall completeness of chemical shifts assignment was not calculated.

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) | NMR archive (#Entries) |
|-----------------------|--------------------------|------------------------|
| Clashscore | 158937 | 12864 |
| Ramachandran outliers | 154571 | 11451 |
| Sidechain outliers | 154315 | 11428 |

The table below summarises the geometric issues observed across the polymeric chains and their fit to the experimental data. The red, orange, yellow and green segments indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. A cyan segment indicates the fraction of residues that are not part of the well-defined cores, and a grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1 | A | 573 | |
| 1 | B | 573 | |

2 Ensemble composition and analysis

This entry contains 2 models. Identification of well-defined residues and clustering analysis are not possible.

3 Entry composition

There is only 1 type of molecule in this entry. The entry contains 17910 atoms, of which 9028 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called Phosphoenolpyruvate-protein phosphotransferase.

| Mol | Chain | Residues | Atoms | | | | | | Trace |
|-----|-------|----------|-------|------|------|-----|-----|----|-------|
| | | | Total | C | H | N | O | S | |
| 1 | A | 573 | 8955 | 2789 | 4514 | 756 | 875 | 21 | 0 |
| 1 | B | 573 | 8955 | 2789 | 4514 | 756 | 875 | 21 | 0 |

There are 2 discrepancies between the modelled and reference sequences:

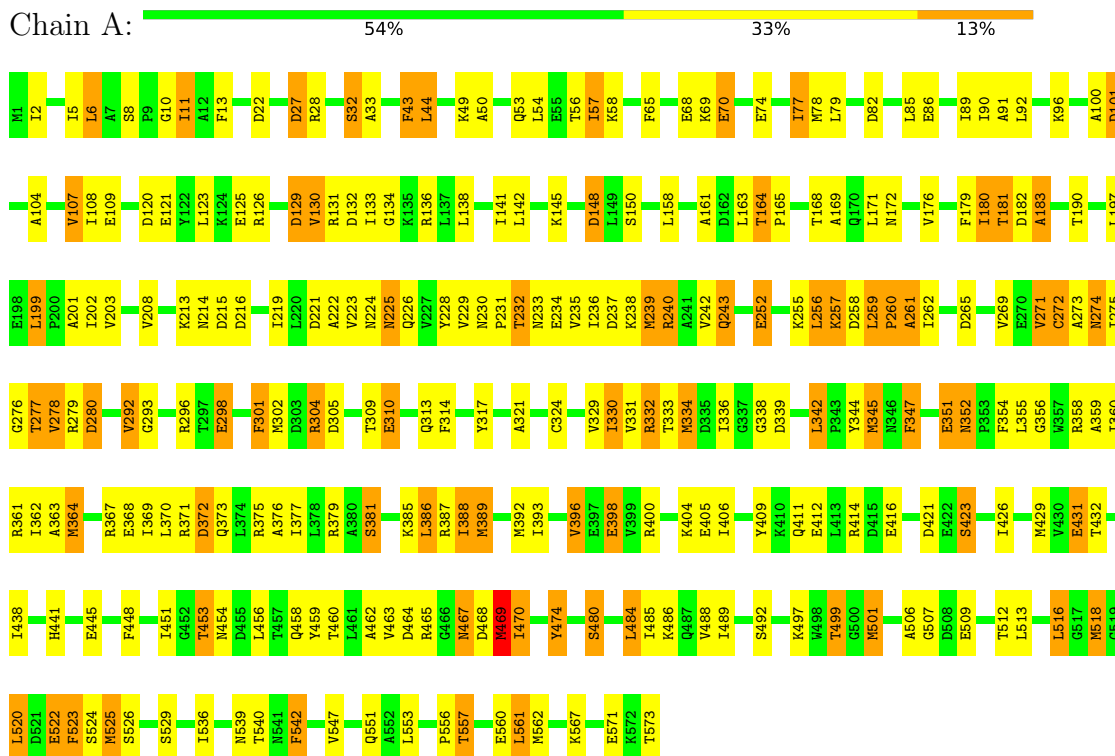
| Chain | Residue | Modelled | Actual | Comment | Reference |
|-------|---------|----------|--------|---------------------|------------|
| A | 189 | GLN | HIS | engineered mutation | UNP P08839 |
| B | 189 | GLN | HIS | engineered mutation | UNP P08839 |

4 Residue-property plots [i](#)

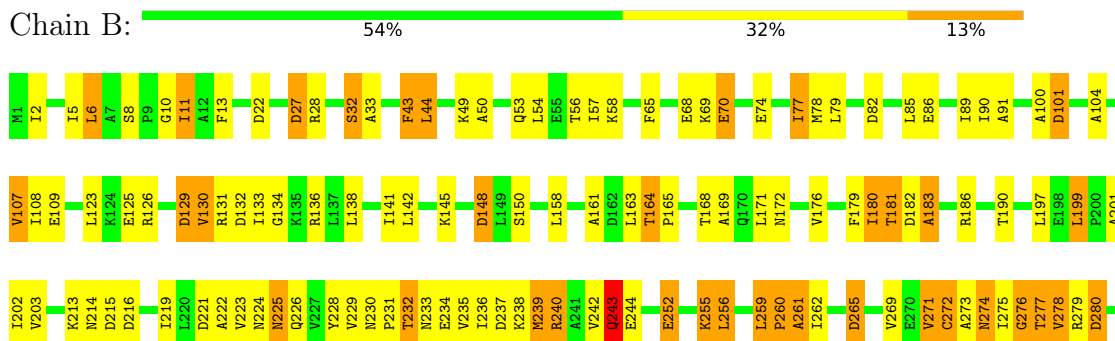
4.1 Average score per residue in the NMR ensemble

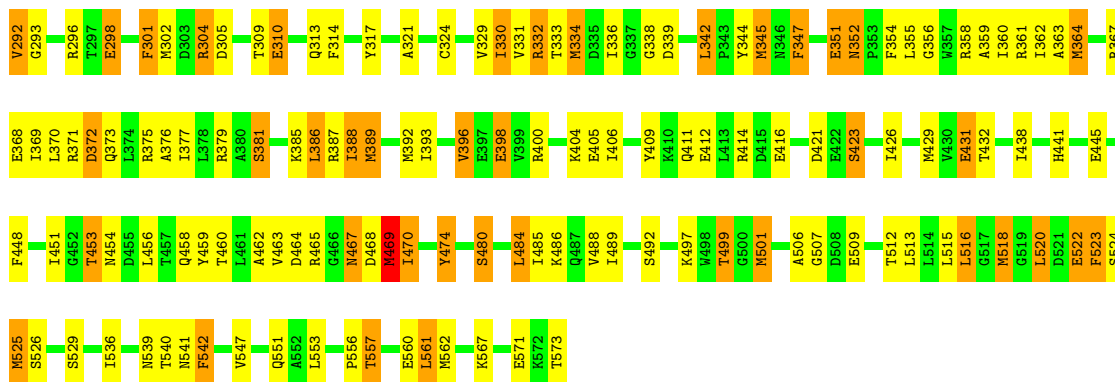
These plots are provided for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic is the same as shown in the summary in section 1 of this report. The second graphic shows the sequence where residues are colour-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. Stretches of 2 or more consecutive residues without any outliers are shown as green connectors. Residues which are classified as ill-defined in the NMR ensemble, are shown in cyan with an underline colour-coded according to the previous scheme. Residues which were present in the experimental sample, but not modelled in the final structure are shown in grey.

- Molecule 1: Phosphoenolpyruvate-protein phosphotransferase



- Molecule 1: Phosphoenolpyruvate-protein phosphotransferase



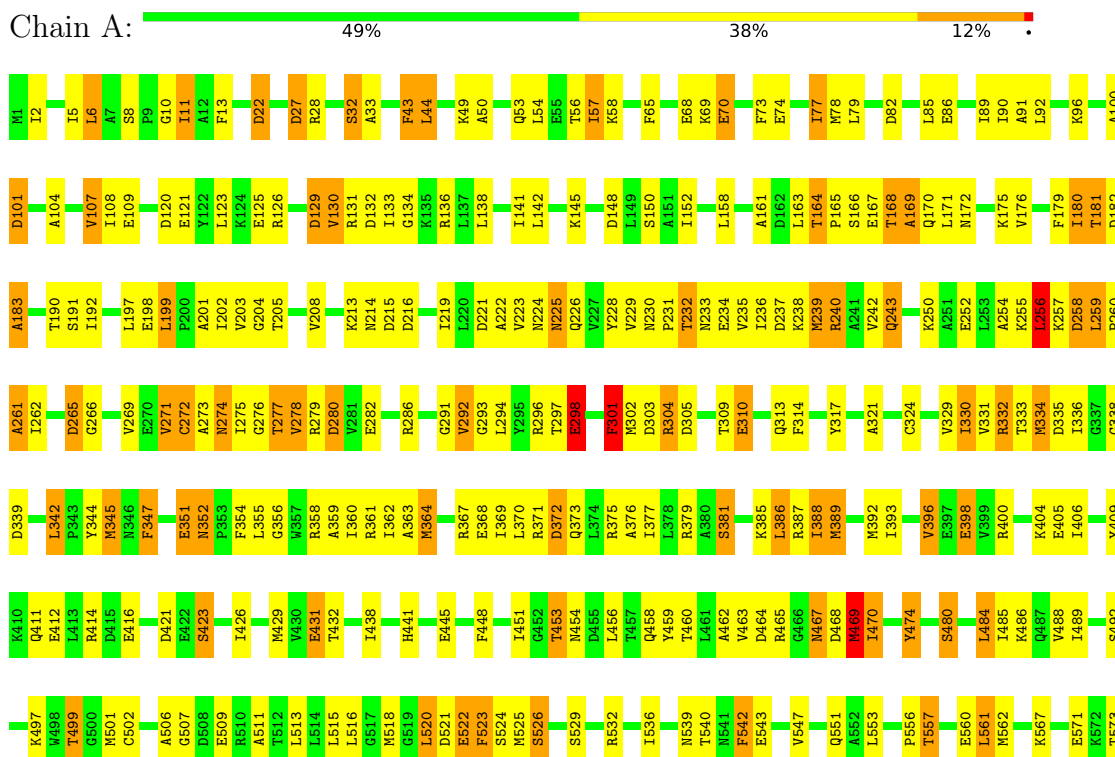


4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

4.2.1 Score per residue for model 1

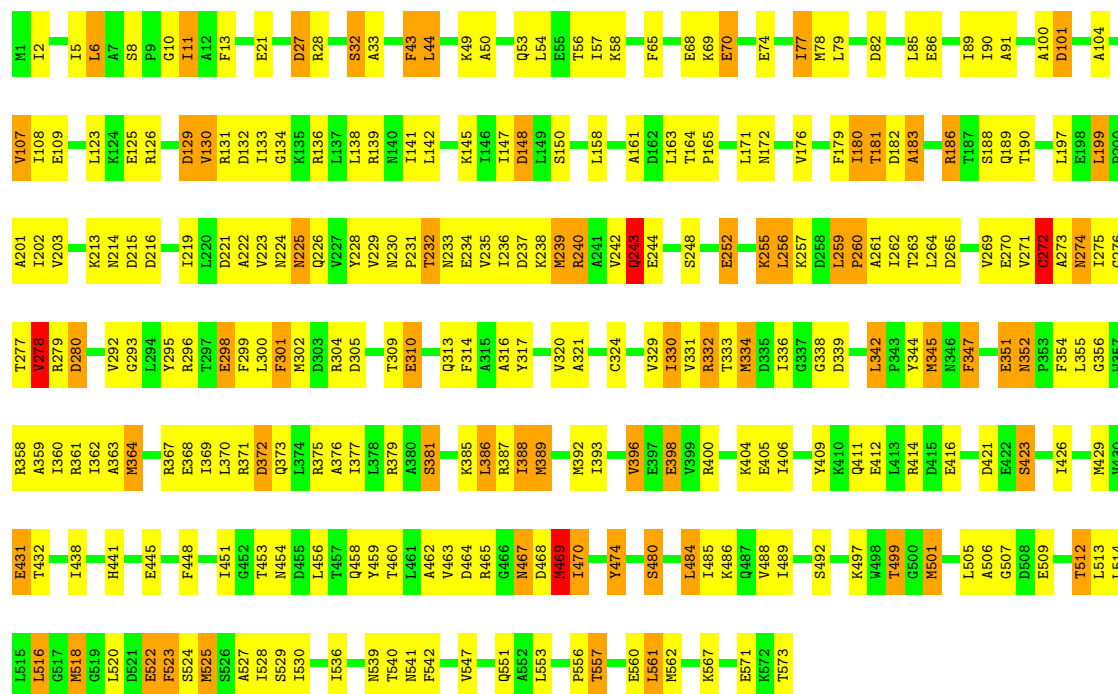
- Molecule 1: Phosphoenolpyruvate-protein phosphotransferase



- Molecule 1: Phosphoenolpyruvate-protein phosphotransferase



Chain B:  52% 36% 11%



5 Refinement protocol and experimental data overview

The models were refined using the following method: *simulated annealing*.

Of the 120 calculated structures, 2 were deposited, based on the following criterion: *target function*.

The following table shows the software used for structure solution, optimisation and refinement.

| Software name | Classification | Version |
|---------------|--------------------|---------|
| Xplor-NIH | structure solution | 2.25 |
| Xplor-NIH | refinement | 2.25 |

No chemical shift data was provided.

6 Model quality i

6.1 Standard geometry i

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

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|------------------------|-------------|-----------------------|
| | | RMSZ | #Z>5 | RMSZ | #Z>5 |
| 1 | A | 1.04±0.00 | 10±0/4493 (0.2± 0.0%) | 0.91±0.01 | 7±1/6058 (0.1± 0.0%) |
| 1 | B | 1.04±0.00 | 10±0/4493 (0.2± 0.0%) | 0.90±0.01 | 6±0/6058 (0.1± 0.0%) |
| All | All | 1.04 | 40/17972 (0.2%) | 0.90 | 26/24232 (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 | Planarity |
|-----|-------|-----------|-----------|
| 1 | B | 0.0±0.0 | 0.5±0.5 |
| All | All | 0 | 1 |

All unique bond outliers are listed below. They are sorted according to the Z-score of the worst occurrence in the ensemble.

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) | Models | |
|-----|-------|-----|------|-------|-------|-------------|----------|--------|-------|
| | | | | | | | | Worst | Total |
| 1 | A | 562 | MET | CG-SD | 7.12 | 1.99 | 1.81 | 1 | 2 |
| 1 | B | 562 | MET | CG-SD | 7.08 | 1.99 | 1.81 | 1 | 2 |
| 1 | B | 169 | ALA | CA-CB | -6.82 | 1.38 | 1.52 | 1 | 1 |
| 1 | B | 345 | MET | SD-CE | 6.55 | 2.14 | 1.77 | 1 | 2 |
| 1 | A | 345 | MET | SD-CE | 6.54 | 2.14 | 1.77 | 1 | 2 |
| 1 | A | 469 | MET | SD-CE | 6.45 | 2.13 | 1.77 | 1 | 2 |
| 1 | B | 469 | MET | SD-CE | 6.45 | 2.13 | 1.77 | 1 | 2 |
| 1 | A | 169 | ALA | CA-CB | -6.38 | 1.39 | 1.52 | 1 | 1 |
| 1 | A | 364 | MET | CG-SD | 6.37 | 1.97 | 1.81 | 1 | 2 |
| 1 | B | 364 | MET | CG-SD | 6.31 | 1.97 | 1.81 | 1 | 2 |
| 1 | B | 345 | MET | CG-SD | 6.05 | 1.96 | 1.81 | 1 | 2 |
| 1 | A | 345 | MET | CG-SD | 6.02 | 1.96 | 1.81 | 1 | 2 |
| 1 | A | 334 | MET | CG-SD | 5.80 | 1.96 | 1.81 | 1 | 2 |
| 1 | A | 501 | MET | CG-SD | 5.77 | 1.96 | 1.81 | 2 | 1 |
| 1 | B | 334 | MET | CG-SD | 5.75 | 1.96 | 1.81 | 1 | 2 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) | Models | |
|-----|-------|-----|------|-------|-------|-------------|----------|--------|-------|
| | | | | | | | | Worst | Total |
| 1 | B | 501 | MET | CG-SD | 5.70 | 1.96 | 1.81 | 2 | 1 |
| 1 | A | 298 | GLU | C-O | -5.55 | 1.12 | 1.23 | 1 | 1 |
| 1 | A | 239 | MET | CG-SD | 5.45 | 1.95 | 1.81 | 1 | 2 |
| 1 | B | 239 | MET | CG-SD | 5.41 | 1.95 | 1.81 | 1 | 2 |
| 1 | B | 298 | GLU | C-O | -5.36 | 1.13 | 1.23 | 1 | 1 |
| 1 | B | 272 | CYS | CB-SG | -5.34 | 1.73 | 1.81 | 2 | 1 |
| 1 | A | 272 | CYS | CB-SG | -5.28 | 1.73 | 1.81 | 2 | 1 |
| 1 | A | 364 | MET | SD-CE | 5.04 | 2.06 | 1.77 | 1 | 2 |
| 1 | B | 364 | MET | SD-CE | 5.03 | 2.06 | 1.77 | 1 | 2 |

All unique angle outliers are listed below. They are sorted according to the Z-score of the worst occurrence in the ensemble.

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) | Models | |
|-----|-------|-----|------|-----------|--------|-------------|----------|--------|-------|
| | | | | | | | | Worst | Total |
| 1 | A | 561 | LEU | CA-CB-CG | 10.52 | 139.50 | 115.30 | 1 | 2 |
| 1 | B | 561 | LEU | CA-CB-CG | 10.52 | 139.49 | 115.30 | 1 | 2 |
| 1 | B | 164 | THR | N-CA-CB | -10.29 | 90.75 | 110.30 | 1 | 1 |
| 1 | A | 164 | THR | N-CA-CB | -10.12 | 91.08 | 110.30 | 1 | 1 |
| 1 | A | 164 | THR | CB-CA-C | 9.54 | 137.36 | 111.60 | 1 | 1 |
| 1 | B | 164 | THR | CB-CA-C | 9.50 | 137.26 | 111.60 | 1 | 1 |
| 1 | A | 169 | ALA | N-CA-CB | 6.77 | 119.58 | 110.10 | 1 | 1 |
| 1 | A | 243 | GLN | CB-CA-C | -6.45 | 97.50 | 110.40 | 1 | 2 |
| 1 | B | 243 | GLN | CB-CA-C | -5.88 | 98.64 | 110.40 | 1 | 2 |
| 1 | A | 301 | PHE | CB-CG-CD2 | -5.77 | 116.76 | 120.80 | 1 | 1 |
| 1 | A | 278 | VAL | CB-CA-C | -5.45 | 101.05 | 111.40 | 2 | 1 |
| 1 | B | 278 | VAL | CB-CA-C | -5.44 | 101.06 | 111.40 | 2 | 1 |
| 1 | B | 300 | LEU | CA-CB-CG | 5.32 | 127.54 | 115.30 | 2 | 1 |
| 1 | A | 414 | ARG | NE-CZ-NH2 | -5.31 | 117.64 | 120.30 | 1 | 2 |
| 1 | B | 414 | ARG | NE-CZ-NH2 | -5.31 | 117.64 | 120.30 | 1 | 2 |
| 1 | A | 300 | LEU | CA-CB-CG | 5.31 | 127.51 | 115.30 | 2 | 1 |
| 1 | B | 338 | GLY | N-CA-C | -5.03 | 100.52 | 113.10 | 1 | 2 |
| 1 | A | 338 | GLY | N-CA-C | -5.03 | 100.52 | 113.10 | 1 | 2 |

There are no chirality outliers.

All unique planar outliers are listed below.

| Mol | Chain | Res | Type | Group | Models (Total) |
|-----|-------|-----|------|-----------|----------------|
| 1 | B | 276 | GLY | Mainchain | 1 |

6.2 Too-close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in each 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 averaged over the ensemble.

| Mol | Chain | Non-H | H(model) | H(added) | Clashes |
|-----|-------|-------|----------|----------|---------|
| 1 | A | 4441 | 4514 | 4507 | 455±21 |
| 1 | B | 4441 | 4514 | 4507 | 450±20 |
| All | All | 17764 | 18056 | 18028 | 1759 |

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 49.

All unique clashes are listed below, sorted by their clash magnitude.

| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|-----------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:B:314:PHE:CE1 | 1:B:376:ALA:HA | 1.56 | 1.35 | 1 | 2 |
| 1:A:314:PHE:CE1 | 1:A:376:ALA:HA | 1.55 | 1.35 | 1 | 2 |
| 1:B:364:MET:SD | 1:B:364:MET:CE | 1.42 | 2.06 | 1 | 2 |
| 1:A:364:MET:SD | 1:A:364:MET:CE | 1.42 | 2.06 | 1 | 2 |
| 1:B:469:MET:CE | 1:B:469:MET:SD | 1.36 | 2.14 | 1 | 2 |
| 1:A:469:MET:SD | 1:A:469:MET:CE | 1.36 | 2.14 | 1 | 2 |
| 1:A:345:MET:SD | 1:A:345:MET:CE | 1.36 | 2.14 | 1 | 2 |
| 1:B:345:MET:SD | 1:B:345:MET:CE | 1.35 | 2.14 | 1 | 2 |
| 1:A:314:PHE:CE1 | 1:A:376:ALA:CA | 1.26 | 2.19 | 1 | 2 |
| 1:B:314:PHE:CE1 | 1:B:376:ALA:CA | 1.24 | 2.19 | 1 | 2 |
| 1:A:317:TYR:OH | 1:A:373:GLN:NE2 | 1.23 | 1.72 | 2 | 2 |
| 1:B:317:TYR:OH | 1:B:373:GLN:NE2 | 1.22 | 1.73 | 2 | 2 |
| 1:A:73:PHE:CZ | 1:A:169:ALA:HB3 | 1.21 | 1.67 | 1 | 1 |
| 1:B:301:PHE:CE1 | 1:B:342:LEU:CD2 | 1.21 | 2.22 | 1 | 2 |
| 1:B:272:CYS:SG | 1:B:293:GLY:N | 1.21 | 2.13 | 2 | 2 |
| 1:A:301:PHE:CE1 | 1:A:342:LEU:CD2 | 1.21 | 2.22 | 1 | 2 |
| 1:A:272:CYS:SG | 1:A:293:GLY:N | 1.20 | 2.13 | 2 | 2 |
| 1:B:301:PHE:HD1 | 1:B:302:MET:N | 1.20 | 1.34 | 2 | 2 |
| 1:B:301:PHE:CE2 | 1:B:342:LEU:HD21 | 1.19 | 1.72 | 2 | 2 |
| 1:B:73:PHE:CZ | 1:B:169:ALA:HB3 | 1.19 | 1.72 | 1 | 1 |
| 1:A:301:PHE:CE2 | 1:A:342:LEU:HD21 | 1.18 | 1.71 | 2 | 2 |
| 1:A:301:PHE:HD1 | 1:A:302:MET:N | 1.18 | 1.34 | 2 | 2 |
| 1:A:389:MET:SD | 1:A:448:PHE:HZ | 1.16 | 1.63 | 1 | 2 |
| 1:B:389:MET:SD | 1:B:448:PHE:HZ | 1.15 | 1.64 | 1 | 2 |
| 1:A:301:PHE:CD1 | 1:A:342:LEU:HD22 | 1.14 | 1.77 | 1 | 2 |
| 1:A:301:PHE:CZ | 1:A:342:LEU:HD21 | 1.14 | 1.77 | 2 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:314:PHE:CZ | 1:A:376:ALA:HA | 1.13 | 1.78 | 1 | 2 |
| 1:B:301:PHE:CZ | 1:B:342:LEU:HD21 | 1.13 | 1.78 | 2 | 2 |
| 1:A:314:PHE:CD1 | 1:A:376:ALA:HA | 1.12 | 1.77 | 1 | 2 |
| 1:B:314:PHE:CD1 | 1:B:376:ALA:HA | 1.12 | 1.77 | 1 | 2 |
| 1:B:314:PHE:CZ | 1:B:376:ALA:HA | 1.12 | 1.78 | 1 | 2 |
| 1:B:298:GLU:O | 1:B:301:PHE:CD1 | 1.11 | 2.03 | 1 | 1 |
| 1:B:301:PHE:CE1 | 1:B:342:LEU:HD21 | 1.10 | 1.78 | 1 | 1 |
| 1:B:301:PHE:CD1 | 1:B:342:LEU:HD22 | 1.10 | 1.81 | 1 | 2 |
| 1:A:298:GLU:O | 1:A:301:PHE:CD1 | 1.10 | 2.03 | 1 | 1 |
| 1:B:43:PHE:CZ | 1:B:104:ALA:HB2 | 1.09 | 1.82 | 1 | 2 |
| 1:B:298:GLU:CB | 1:B:301:PHE:CZ | 1.09 | 2.35 | 1 | 2 |
| 1:A:43:PHE:CZ | 1:A:104:ALA:HB2 | 1.09 | 1.81 | 1 | 2 |
| 1:B:298:GLU:HA | 1:B:301:PHE:CE2 | 1.09 | 1.81 | 1 | 2 |
| 1:B:523:PHE:CD1 | 1:B:523:PHE:C | 1.08 | 2.24 | 2 | 2 |
| 1:A:298:GLU:HA | 1:A:301:PHE:CE2 | 1.08 | 1.82 | 1 | 2 |
| 1:A:301:PHE:CE1 | 1:A:342:LEU:HD21 | 1.08 | 1.80 | 1 | 1 |
| 1:A:298:GLU:CB | 1:A:301:PHE:CZ | 1.07 | 2.37 | 1 | 2 |
| 1:A:301:PHE:CD1 | 1:A:342:LEU:CD2 | 1.06 | 2.35 | 1 | 2 |
| 1:A:489:ILE:HA | 1:A:499:THR:HG21 | 1.06 | 1.26 | 1 | 2 |
| 1:A:523:PHE:CD1 | 1:A:523:PHE:C | 1.05 | 2.23 | 2 | 2 |
| 1:B:301:PHE:CD1 | 1:B:342:LEU:CD2 | 1.04 | 2.37 | 1 | 2 |
| 1:A:301:PHE:CD1 | 1:A:302:MET:N | 1.03 | 2.26 | 2 | 2 |
| 1:B:73:PHE:CZ | 1:B:169:ALA:CB | 1.03 | 2.41 | 1 | 1 |
| 1:B:388:ILE:C | 1:B:389:MET:SD | 1.03 | 2.38 | 1 | 2 |
| 1:B:301:PHE:CD1 | 1:B:302:MET:N | 1.02 | 2.26 | 2 | 2 |
| 1:B:298:GLU:HB2 | 1:B:301:PHE:CZ | 1.02 | 1.90 | 2 | 2 |
| 1:B:301:PHE:CZ | 1:B:342:LEU:CD2 | 1.02 | 2.41 | 2 | 2 |
| 1:A:73:PHE:CZ | 1:A:169:ALA:CB | 1.02 | 2.41 | 1 | 1 |
| 1:A:301:PHE:CZ | 1:A:342:LEU:CD2 | 1.02 | 2.41 | 2 | 2 |
| 1:A:223:VAL:HG21 | 1:A:242:VAL:HG11 | 1.02 | 1.32 | 2 | 2 |
| 1:B:501:MET:SD | 1:B:515:LEU:HD21 | 1.01 | 1.95 | 1 | 1 |
| 1:B:301:PHE:CE2 | 1:B:336:ILE:CG2 | 1.01 | 2.43 | 1 | 2 |
| 1:A:298:GLU:HB2 | 1:A:301:PHE:CZ | 1.01 | 1.90 | 2 | 2 |
| 1:A:388:ILE:C | 1:A:389:MET:SD | 1.01 | 2.38 | 1 | 2 |
| 1:B:223:VAL:HG21 | 1:B:242:VAL:HG11 | 1.01 | 1.32 | 2 | 2 |
| 1:A:221:ASP:HA | 1:A:239:MET:CE | 1.00 | 1.87 | 1 | 2 |
| 1:A:232:THR:CG2 | 1:A:233:ASN:H | 1.00 | 1.69 | 2 | 2 |
| 1:B:232:THR:CG2 | 1:B:233:ASN:H | 0.99 | 1.69 | 2 | 2 |
| 1:A:301:PHE:CE2 | 1:A:336:ILE:CG2 | 0.99 | 2.45 | 1 | 2 |
| 1:B:232:THR:HG22 | 1:B:233:ASN:N | 0.99 | 1.71 | 1 | 2 |
| 1:B:389:MET:SD | 1:B:448:PHE:CZ | 0.99 | 2.56 | 1 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:B:298:GLU:HA | 1:B:301:PHE:CD2 | 0.99 | 1.93 | 1 | 2 |
| 1:A:389:MET:SD | 1:A:448:PHE:CZ | 0.99 | 2.55 | 1 | 2 |
| 1:B:221:ASP:HA | 1:B:239:MET:CE | 0.99 | 1.87 | 1 | 2 |
| 1:B:232:THR:CG2 | 1:B:233:ASN:N | 0.98 | 2.26 | 1 | 2 |
| 1:A:298:GLU:HA | 1:A:301:PHE:CD2 | 0.98 | 1.92 | 1 | 2 |
| 1:A:232:THR:CG2 | 1:A:233:ASN:N | 0.98 | 2.27 | 2 | 2 |
| 1:A:221:ASP:OD2 | 1:A:225:ASN:N | 0.98 | 1.96 | 2 | 2 |
| 1:A:232:THR:HG22 | 1:A:233:ASN:N | 0.98 | 1.71 | 2 | 2 |
| 1:A:11:ILE:HG13 | 1:A:243:GLN:CB | 0.97 | 1.89 | 2 | 2 |
| 1:B:221:ASP:OD2 | 1:B:225:ASN:N | 0.97 | 1.96 | 1 | 2 |
| 1:A:301:PHE:CE2 | 1:A:336:ILE:HG22 | 0.96 | 1.95 | 2 | 2 |
| 1:B:301:PHE:CE2 | 1:B:336:ILE:HG22 | 0.96 | 1.95 | 2 | 2 |
| 1:B:43:PHE:CZ | 1:B:100:ALA:O | 0.96 | 2.19 | 2 | 2 |
| 1:A:43:PHE:CZ | 1:A:100:ALA:O | 0.96 | 2.19 | 2 | 2 |
| 1:A:492:SER:OG | 1:A:499:THR:HG22 | 0.95 | 1.59 | 1 | 1 |
| 1:B:298:GLU:CB | 1:B:301:PHE:CE2 | 0.95 | 2.49 | 2 | 2 |
| 1:B:11:ILE:HG13 | 1:B:243:GLN:CB | 0.95 | 1.91 | 2 | 2 |
| 1:A:298:GLU:CB | 1:A:301:PHE:CE2 | 0.94 | 2.49 | 2 | 2 |
| 1:A:298:GLU:CA | 1:A:301:PHE:CE2 | 0.94 | 2.50 | 1 | 2 |
| 1:B:298:GLU:CA | 1:B:301:PHE:CE2 | 0.94 | 2.50 | 1 | 2 |
| 1:A:221:ASP:HA | 1:A:239:MET:HE2 | 0.94 | 1.36 | 2 | 2 |
| 1:A:314:PHE:CE1 | 1:A:379:ARG:CB | 0.93 | 2.52 | 1 | 2 |
| 1:B:11:ILE:HG13 | 1:B:243:GLN:HB2 | 0.92 | 1.40 | 1 | 2 |
| 1:A:73:PHE:HZ | 1:A:169:ALA:HB3 | 0.92 | 1.02 | 1 | 1 |
| 1:A:73:PHE:CE2 | 1:A:169:ALA:CB | 0.92 | 2.52 | 1 | 1 |
| 1:B:132:ASP:OD1 | 1:B:164:THR:CB | 0.92 | 2.18 | 1 | 1 |
| 1:B:314:PHE:CE1 | 1:B:379:ARG:CB | 0.92 | 2.52 | 1 | 2 |
| 1:B:136:ARG:NH2 | 1:B:167:GLU:HG3 | 0.92 | 1.80 | 1 | 1 |
| 1:A:132:ASP:OD1 | 1:A:164:THR:HB | 0.91 | 1.65 | 1 | 1 |
| 1:A:132:ASP:OD1 | 1:A:164:THR:CB | 0.91 | 2.18 | 1 | 1 |
| 1:B:132:ASP:OD1 | 1:B:164:THR:HB | 0.91 | 1.65 | 1 | 1 |
| 1:A:456:LEU:HD13 | 1:A:484:LEU:HD21 | 0.90 | 1.43 | 1 | 2 |
| 1:B:43:PHE:CZ | 1:B:104:ALA:CB | 0.90 | 2.54 | 2 | 2 |
| 1:A:43:PHE:CZ | 1:A:104:ALA:CB | 0.90 | 2.54 | 2 | 2 |
| 1:B:73:PHE:HZ | 1:B:169:ALA:HB3 | 0.90 | 1.03 | 1 | 1 |
| 1:B:73:PHE:CE2 | 1:B:169:ALA:CB | 0.90 | 2.54 | 1 | 1 |
| 1:A:523:PHE:CD1 | 1:A:525:MET:SD | 0.89 | 2.66 | 1 | 2 |
| 1:A:272:CYS:SG | 1:A:292:VAL:CA | 0.89 | 2.61 | 1 | 1 |
| 1:B:456:LEU:HD13 | 1:B:484:LEU:HD21 | 0.88 | 1.43 | 1 | 2 |
| 1:B:221:ASP:HA | 1:B:239:MET:HE2 | 0.88 | 1.45 | 1 | 2 |
| 1:B:272:CYS:SG | 1:B:292:VAL:HA | 0.88 | 2.08 | 1 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:B:523:PHE:CD1 | 1:B:525:MET:SD | 0.88 | 2.66 | 1 | 2 |
| 1:A:386:LEU:HD12 | 1:A:387:ARG:N | 0.88 | 1.84 | 1 | 2 |
| 1:B:272:CYS:SG | 1:B:292:VAL:CA | 0.88 | 2.61 | 1 | 1 |
| 1:A:272:CYS:SG | 1:A:292:VAL:HA | 0.88 | 2.08 | 1 | 1 |
| 1:B:386:LEU:HD12 | 1:B:387:ARG:N | 0.88 | 1.82 | 1 | 2 |
| 1:A:484:LEU:HD23 | 1:A:485:ILE:N | 0.88 | 1.84 | 1 | 2 |
| 1:A:228:TYR:HB3 | 1:A:231:PRO:HG3 | 0.88 | 1.45 | 1 | 2 |
| 1:B:73:PHE:CE2 | 1:B:169:ALA:HB1 | 0.87 | 2.04 | 1 | 1 |
| 1:A:43:PHE:CD2 | 1:A:100:ALA:HB1 | 0.87 | 2.04 | 1 | 2 |
| 1:A:11:ILE:HG13 | 1:A:243:GLN:HB2 | 0.87 | 1.45 | 1 | 2 |
| 1:A:314:PHE:CE1 | 1:A:379:ARG:HB2 | 0.87 | 2.05 | 1 | 2 |
| 1:B:523:PHE:CE1 | 1:B:525:MET:SD | 0.87 | 2.67 | 1 | 2 |
| 1:B:359:ALA:O | 1:B:362:ILE:HG22 | 0.87 | 1.70 | 1 | 2 |
| 1:B:484:LEU:HD23 | 1:B:485:ILE:N | 0.87 | 1.84 | 1 | 2 |
| 1:B:523:PHE:C | 1:B:523:PHE:HD1 | 0.87 | 1.73 | 2 | 1 |
| 1:B:515:LEU:HD23 | 1:B:520:LEU:HD13 | 0.87 | 1.45 | 1 | 1 |
| 1:B:43:PHE:CD2 | 1:B:100:ALA:HB1 | 0.86 | 2.05 | 2 | 2 |
| 1:B:228:TYR:HB3 | 1:B:231:PRO:HG3 | 0.86 | 1.45 | 1 | 2 |
| 1:B:314:PHE:CE1 | 1:B:379:ARG:HB2 | 0.86 | 2.05 | 1 | 2 |
| 1:A:523:PHE:CE1 | 1:A:525:MET:SD | 0.85 | 2.68 | 1 | 2 |
| 1:A:331:VAL:O | 1:A:389:MET:HE1 | 0.85 | 1.71 | 1 | 2 |
| 1:B:272:CYS:SG | 1:B:273:ALA:N | 0.85 | 2.50 | 1 | 2 |
| 1:B:388:ILE:HD12 | 1:B:389:MET:N | 0.85 | 1.87 | 1 | 2 |
| 1:A:272:CYS:SG | 1:A:273:ALA:N | 0.84 | 2.50 | 1 | 2 |
| 1:A:388:ILE:HD12 | 1:A:389:MET:N | 0.84 | 1.88 | 1 | 2 |
| 1:A:359:ALA:O | 1:A:362:ILE:HG22 | 0.84 | 1.70 | 1 | 2 |
| 1:A:259:LEU:HD22 | 1:A:259:LEU:H | 0.84 | 1.32 | 1 | 1 |
| 1:A:523:PHE:HD1 | 1:A:524:SER:N | 0.84 | 1.70 | 2 | 1 |
| 1:A:221:ASP:CG | 1:A:226:GLN:H | 0.84 | 1.77 | 1 | 2 |
| 1:B:43:PHE:HZ | 1:B:104:ALA:CB | 0.84 | 1.85 | 1 | 2 |
| 1:B:136:ARG:NH2 | 1:B:167:GLU:CG | 0.83 | 2.41 | 1 | 1 |
| 1:B:176:VAL:HG11 | 1:B:179:PHE:CE1 | 0.83 | 2.08 | 2 | 2 |
| 1:A:43:PHE:HZ | 1:A:104:ALA:CB | 0.83 | 1.85 | 1 | 2 |
| 1:B:331:VAL:O | 1:B:389:MET:HE1 | 0.83 | 1.74 | 1 | 2 |
| 1:B:523:PHE:HD1 | 1:B:524:SER:N | 0.83 | 1.70 | 2 | 1 |
| 1:B:301:PHE:HD1 | 1:B:302:MET:H | 0.83 | 1.16 | 2 | 1 |
| 1:B:221:ASP:CG | 1:B:226:GLN:H | 0.83 | 1.77 | 2 | 2 |
| 1:B:271:VAL:HB | 1:B:523:PHE:CE2 | 0.83 | 2.08 | 2 | 2 |
| 1:A:176:VAL:HG11 | 1:A:179:PHE:CE1 | 0.83 | 2.09 | 2 | 2 |
| 1:A:199:LEU:HD23 | 1:A:199:LEU:O | 0.83 | 1.72 | 2 | 2 |
| 1:A:298:GLU:HB3 | 1:A:301:PHE:CE2 | 0.82 | 2.07 | 2 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:B:259:LEU:H | 1:B:259:LEU:HD22 | 0.82 | 1.33 | 1 | 1 |
| 1:A:271:VAL:HB | 1:A:523:PHE:CE2 | 0.82 | 2.08 | 2 | 2 |
| 1:B:301:PHE:HE2 | 1:B:336:ILE:HG22 | 0.82 | 1.34 | 2 | 1 |
| 1:B:199:LEU:HD23 | 1:B:199:LEU:O | 0.82 | 1.73 | 2 | 2 |
| 1:B:298:GLU:HB3 | 1:B:301:PHE:CE2 | 0.82 | 2.07 | 2 | 2 |
| 1:B:523:PHE:CD1 | 1:B:523:PHE:O | 0.82 | 2.33 | 2 | 2 |
| 1:B:11:ILE:CG1 | 1:B:243:GLN:HB2 | 0.82 | 2.04 | 1 | 2 |
| 1:A:301:PHE:HD1 | 1:A:302:MET:H | 0.82 | 1.17 | 2 | 1 |
| 1:A:314:PHE:CZ | 1:A:376:ALA:CA | 0.81 | 2.54 | 1 | 2 |
| 1:A:474:TYR:CG | 1:A:474:TYR:O | 0.81 | 2.33 | 1 | 2 |
| 1:B:314:PHE:CZ | 1:B:376:ALA:CA | 0.81 | 2.54 | 1 | 2 |
| 1:A:73:PHE:CE2 | 1:A:169:ALA:HB1 | 0.81 | 2.09 | 1 | 1 |
| 1:B:298:GLU:O | 1:B:301:PHE:CE1 | 0.81 | 2.33 | 1 | 1 |
| 1:A:515:LEU:HD23 | 1:A:520:LEU:HD13 | 0.81 | 1.51 | 1 | 1 |
| 1:A:556:PRO:HB3 | 1:B:441:HIS:ND1 | 0.81 | 1.89 | 1 | 2 |
| 1:B:474:TYR:O | 1:B:474:TYR:CG | 0.80 | 2.33 | 1 | 2 |
| 1:B:298:GLU:CA | 1:B:301:PHE:CZ | 0.80 | 2.64 | 1 | 1 |
| 1:A:523:PHE:CD1 | 1:A:523:PHE:O | 0.80 | 2.32 | 2 | 2 |
| 1:A:298:GLU:O | 1:A:301:PHE:CE1 | 0.80 | 2.35 | 1 | 1 |
| 1:B:181:THR:CG2 | 1:B:183:ALA:H | 0.79 | 1.91 | 1 | 2 |
| 1:A:301:PHE:HE2 | 1:A:336:ILE:HG22 | 0.79 | 1.33 | 2 | 1 |
| 1:A:292:VAL:CG1 | 1:A:329:VAL:HG12 | 0.79 | 2.07 | 1 | 1 |
| 1:B:259:LEU:N | 1:B:259:LEU:HD13 | 0.79 | 1.92 | 1 | 1 |
| 1:B:314:PHE:CD1 | 1:B:376:ALA:CA | 0.79 | 2.58 | 1 | 2 |
| 1:A:259:LEU:HD13 | 1:A:259:LEU:N | 0.79 | 1.91 | 1 | 1 |
| 1:A:243:GLN:HG3 | 1:A:244:GLU:N | 0.79 | 1.92 | 2 | 1 |
| 1:B:389:MET:CG | 1:B:448:PHE:CZ | 0.79 | 2.65 | 1 | 2 |
| 1:A:389:MET:CG | 1:A:448:PHE:CZ | 0.78 | 2.66 | 1 | 2 |
| 1:B:272:CYS:SG | 1:B:291:GLY:O | 0.78 | 2.41 | 1 | 1 |
| 1:B:388:ILE:O | 1:B:389:MET:SD | 0.78 | 2.42 | 1 | 2 |
| 1:B:272:CYS:SG | 1:B:292:VAL:C | 0.78 | 2.62 | 1 | 1 |
| 1:B:438:ILE:CG2 | 1:B:441:HIS:HB2 | 0.78 | 2.08 | 1 | 2 |
| 1:A:272:CYS:SG | 1:A:291:GLY:O | 0.78 | 2.41 | 1 | 1 |
| 1:A:181:THR:CG2 | 1:A:183:ALA:H | 0.77 | 1.91 | 2 | 2 |
| 1:A:272:CYS:SG | 1:A:292:VAL:C | 0.77 | 2.62 | 1 | 1 |
| 1:B:314:PHE:CE1 | 1:B:379:ARG:HB3 | 0.77 | 2.14 | 1 | 2 |
| 1:A:438:ILE:CG2 | 1:A:441:HIS:HB2 | 0.77 | 2.08 | 1 | 2 |
| 1:B:136:ARG:HH22 | 1:B:167:GLU:HG3 | 0.77 | 1.35 | 1 | 1 |
| 1:B:292:VAL:CG1 | 1:B:329:VAL:HG12 | 0.77 | 2.08 | 1 | 1 |
| 1:A:13:PHE:CZ | 1:A:240:ARG:HD2 | 0.77 | 2.15 | 1 | 2 |
| 1:A:136:ARG:NH2 | 1:A:167:GLU:HG3 | 0.77 | 1.93 | 1 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:298:GLU:CA | 1:A:301:PHE:CZ | 0.77 | 2.67 | 1 | 2 |
| 1:A:388:ILE:O | 1:A:389:MET:SD | 0.77 | 2.43 | 1 | 2 |
| 1:B:13:PHE:CZ | 1:B:240:ARG:HD2 | 0.77 | 2.15 | 2 | 2 |
| 1:B:301:PHE:CE1 | 1:B:342:LEU:HD22 | 0.77 | 2.13 | 2 | 2 |
| 1:A:301:PHE:CE1 | 1:A:342:LEU:HD22 | 0.76 | 2.13 | 2 | 2 |
| 1:A:314:PHE:CE1 | 1:A:379:ARG:HB3 | 0.76 | 2.14 | 1 | 2 |
| 1:B:295:TYR:CZ | 1:B:320:VAL:HG21 | 0.76 | 2.16 | 2 | 1 |
| 1:A:295:TYR:CZ | 1:A:320:VAL:HG21 | 0.76 | 2.16 | 2 | 1 |
| 1:A:73:PHE:HE2 | 1:A:169:ALA:HB1 | 0.74 | 1.42 | 1 | 1 |
| 1:A:275:ILE:HG23 | 1:A:280:ASP:CB | 0.74 | 2.12 | 2 | 2 |
| 1:B:73:PHE:HE2 | 1:B:169:ALA:HB1 | 0.74 | 1.40 | 1 | 1 |
| 1:B:275:ILE:HG23 | 1:B:280:ASP:CB | 0.74 | 2.12 | 2 | 2 |
| 1:B:275:ILE:HG23 | 1:B:280:ASP:HB2 | 0.74 | 1.57 | 1 | 2 |
| 1:A:11:ILE:CG1 | 1:A:243:GLN:HB2 | 0.74 | 2.12 | 2 | 2 |
| 1:A:86:GLU:O | 1:A:90:ILE:HG23 | 0.74 | 1.83 | 1 | 2 |
| 1:B:352:ASN:OD1 | 1:B:355:LEU:HD12 | 0.74 | 1.82 | 1 | 2 |
| 1:B:243:GLN:HG3 | 1:B:244:GLU:N | 0.74 | 1.96 | 2 | 1 |
| 1:A:223:VAL:HG21 | 1:A:242:VAL:CG1 | 0.73 | 2.13 | 1 | 2 |
| 1:B:86:GLU:O | 1:B:90:ILE:HG23 | 0.73 | 1.83 | 2 | 2 |
| 1:A:352:ASN:OD1 | 1:A:355:LEU:HD12 | 0.73 | 1.82 | 1 | 2 |
| 1:B:507:GLY:HA2 | 1:B:525:MET:SD | 0.73 | 2.23 | 1 | 2 |
| 1:B:228:TYR:CB | 1:B:231:PRO:HG3 | 0.73 | 2.14 | 2 | 2 |
| 1:A:228:TYR:CD1 | 1:A:235:VAL:HG11 | 0.73 | 2.19 | 2 | 2 |
| 1:A:232:THR:O | 1:A:236:ILE:HG13 | 0.73 | 1.84 | 2 | 2 |
| 1:A:295:TYR:OH | 1:A:320:VAL:HG21 | 0.73 | 1.84 | 2 | 1 |
| 1:A:362:ILE:CG2 | 1:A:363:ALA:N | 0.72 | 2.52 | 1 | 2 |
| 1:A:129:ASP:CG | 1:A:165:PRO:HG2 | 0.72 | 2.05 | 2 | 1 |
| 1:A:275:ILE:HG23 | 1:A:280:ASP:HB2 | 0.72 | 1.61 | 2 | 2 |
| 1:A:301:PHE:HE2 | 1:A:336:ILE:CG2 | 0.72 | 1.97 | 2 | 2 |
| 1:B:228:TYR:CD1 | 1:B:235:VAL:HG11 | 0.72 | 2.19 | 2 | 2 |
| 1:B:295:TYR:OH | 1:B:320:VAL:HG21 | 0.72 | 1.84 | 2 | 1 |
| 1:A:228:TYR:CB | 1:A:231:PRO:HG3 | 0.72 | 2.14 | 2 | 2 |
| 1:B:232:THR:O | 1:B:236:ILE:HG13 | 0.72 | 1.84 | 2 | 2 |
| 1:A:302:MET:O | 1:A:302:MET:SD | 0.72 | 2.47 | 1 | 2 |
| 1:B:136:ARG:HH22 | 1:B:167:GLU:CG | 0.72 | 1.97 | 1 | 1 |
| 1:B:272:CYS:SG | 1:B:293:GLY:CA | 0.72 | 2.77 | 2 | 1 |
| 1:A:441:HIS:ND1 | 1:B:556:PRO:HB3 | 0.72 | 1.99 | 1 | 2 |
| 1:A:272:CYS:SG | 1:A:293:GLY:CA | 0.72 | 2.78 | 2 | 1 |
| 1:B:129:ASP:CG | 1:B:165:PRO:HG2 | 0.72 | 2.05 | 2 | 1 |
| 1:A:523:PHE:C | 1:A:523:PHE:HD1 | 0.72 | 1.73 | 2 | 2 |
| 1:B:223:VAL:HG21 | 1:B:242:VAL:CG1 | 0.72 | 2.14 | 2 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:B:302:MET:O | 1:B:302:MET:SD | 0.72 | 2.47 | 1 | 2 |
| 1:B:314:PHE:CD1 | 1:B:376:ALA:O | 0.72 | 2.42 | 1 | 2 |
| 1:B:362:ILE:CG2 | 1:B:363:ALA:N | 0.72 | 2.52 | 1 | 2 |
| 1:A:301:PHE:CD2 | 1:A:342:LEU:HD21 | 0.71 | 2.20 | 2 | 1 |
| 1:A:274:ASN:HD22 | 1:A:275:ILE:N | 0.71 | 1.83 | 1 | 2 |
| 1:B:431:GLU:HA | 1:B:456:LEU:HG | 0.71 | 1.62 | 1 | 2 |
| 1:B:331:VAL:O | 1:B:389:MET:CE | 0.71 | 2.39 | 1 | 2 |
| 1:B:362:ILE:HG23 | 1:B:363:ALA:N | 0.71 | 2.00 | 1 | 2 |
| 1:A:57:ILE:CG1 | 1:A:170:GLN:HB3 | 0.71 | 2.15 | 1 | 1 |
| 1:A:362:ILE:HG23 | 1:A:363:ALA:N | 0.71 | 2.00 | 1 | 2 |
| 1:A:507:GLY:HA2 | 1:A:525:MET:SD | 0.71 | 2.24 | 1 | 2 |
| 1:A:431:GLU:HA | 1:A:456:LEU:HG | 0.71 | 1.62 | 1 | 2 |
| 1:B:221:ASP:HA | 1:B:239:MET:HE1 | 0.71 | 1.62 | 1 | 2 |
| 1:B:272:CYS:HG | 1:B:292:VAL:HA | 0.71 | 1.44 | 1 | 1 |
| 1:A:219:ILE:HD11 | 1:A:236:ILE:HG12 | 0.71 | 1.62 | 2 | 2 |
| 1:A:314:PHE:CD1 | 1:A:376:ALA:O | 0.71 | 2.42 | 1 | 2 |
| 1:B:108:ILE:HD12 | 1:B:109:GLU:N | 0.71 | 2.01 | 2 | 2 |
| 1:A:43:PHE:CE2 | 1:A:100:ALA:HB1 | 0.71 | 2.21 | 1 | 2 |
| 1:B:219:ILE:HD11 | 1:B:236:ILE:HG12 | 0.71 | 1.62 | 1 | 2 |
| 1:A:275:ILE:CG2 | 1:A:276:GLY:N | 0.71 | 2.53 | 2 | 2 |
| 1:A:314:PHE:CE1 | 1:A:376:ALA:C | 0.71 | 2.64 | 1 | 2 |
| 1:A:330:ILE:HG23 | 1:A:389:MET:HE2 | 0.70 | 1.61 | 1 | 2 |
| 1:A:511:ALA:HB1 | 1:A:515:LEU:CD1 | 0.70 | 2.15 | 1 | 1 |
| 1:B:107:VAL:CG1 | 1:B:108:ILE:N | 0.70 | 2.54 | 2 | 2 |
| 1:B:298:GLU:HB3 | 1:B:301:PHE:CZ | 0.70 | 2.18 | 1 | 1 |
| 1:A:331:VAL:O | 1:A:389:MET:CE | 0.70 | 2.39 | 1 | 2 |
| 1:A:567:LYS:O | 1:A:571:GLU:HG3 | 0.70 | 1.87 | 1 | 2 |
| 1:B:501:MET:SD | 1:B:515:LEU:CD2 | 0.70 | 2.79 | 1 | 1 |
| 1:A:314:PHE:CZ | 1:A:375:ARG:C | 0.70 | 2.65 | 1 | 2 |
| 1:A:107:VAL:CG1 | 1:A:108:ILE:N | 0.70 | 2.54 | 1 | 2 |
| 1:A:298:GLU:CA | 1:A:301:PHE:CD2 | 0.70 | 2.75 | 2 | 2 |
| 1:A:171:LEU:HD21 | 1:A:179:PHE:CE1 | 0.70 | 2.21 | 1 | 2 |
| 1:A:314:PHE:CZ | 1:A:376:ALA:N | 0.70 | 2.59 | 1 | 2 |
| 1:B:171:LEU:HD21 | 1:B:179:PHE:CE1 | 0.70 | 2.21 | 1 | 2 |
| 1:B:314:PHE:CE1 | 1:B:376:ALA:C | 0.70 | 2.64 | 1 | 2 |
| 1:B:43:PHE:CE2 | 1:B:100:ALA:HB1 | 0.70 | 2.21 | 1 | 2 |
| 1:A:292:VAL:HG11 | 1:A:329:VAL:HG12 | 0.70 | 1.63 | 1 | 1 |
| 1:B:314:PHE:CZ | 1:B:375:ARG:C | 0.70 | 2.65 | 1 | 2 |
| 1:B:314:PHE:CZ | 1:B:376:ALA:N | 0.70 | 2.59 | 1 | 2 |
| 1:B:301:PHE:HE2 | 1:B:336:ILE:CG2 | 0.69 | 1.97 | 2 | 2 |
| 1:B:567:LYS:O | 1:B:571:GLU:HG3 | 0.69 | 1.87 | 1 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:B:275:ILE:CG2 | 1:B:276:GLY:N | 0.69 | 2.54 | 2 | 2 |
| 1:A:255:LYS:O | 1:A:257:LYS:N | 0.69 | 2.25 | 2 | 1 |
| 1:A:228:TYR:CG | 1:A:235:VAL:HG11 | 0.69 | 2.23 | 1 | 2 |
| 1:A:271:VAL:HG23 | 1:A:523:PHE:CZ | 0.69 | 2.22 | 1 | 1 |
| 1:B:13:PHE:CE2 | 1:B:240:ARG:HD2 | 0.69 | 2.23 | 2 | 2 |
| 1:B:43:PHE:CG | 1:B:100:ALA:HB1 | 0.69 | 2.22 | 2 | 2 |
| 1:B:57:ILE:CG1 | 1:B:170:GLN:HB3 | 0.69 | 2.16 | 1 | 1 |
| 1:B:232:THR:HG23 | 1:B:233:ASN:H | 0.69 | 1.48 | 2 | 2 |
| 1:B:511:ALA:HB1 | 1:B:515:LEU:CD1 | 0.69 | 2.17 | 1 | 1 |
| 1:A:108:ILE:HD12 | 1:A:109:GLU:N | 0.69 | 2.03 | 2 | 2 |
| 1:A:129:ASP:OD1 | 1:A:129:ASP:N | 0.69 | 2.26 | 2 | 2 |
| 1:B:228:TYR:CG | 1:B:235:VAL:HG11 | 0.69 | 2.23 | 1 | 2 |
| 1:B:372:ASP:CG | 1:B:373:GLN:N | 0.69 | 2.45 | 1 | 2 |
| 1:B:298:GLU:CA | 1:B:301:PHE:CD2 | 0.69 | 2.75 | 2 | 1 |
| 1:A:13:PHE:CE2 | 1:A:240:ARG:HD2 | 0.69 | 2.22 | 1 | 2 |
| 1:A:43:PHE:CG | 1:A:100:ALA:HB1 | 0.69 | 2.22 | 2 | 2 |
| 1:A:272:CYS:HG | 1:A:292:VAL:HA | 0.69 | 1.46 | 1 | 1 |
| 1:A:314:PHE:CD1 | 1:A:376:ALA:CA | 0.69 | 2.58 | 1 | 2 |
| 1:A:556:PRO:HB3 | 1:B:441:HIS:CG | 0.69 | 2.23 | 1 | 2 |
| 1:A:130:VAL:O | 1:A:133:ILE:HG22 | 0.68 | 1.88 | 2 | 2 |
| 1:B:130:VAL:O | 1:B:133:ILE:HG22 | 0.68 | 1.88 | 1 | 2 |
| 1:B:301:PHE:CD2 | 1:B:342:LEU:HD21 | 0.68 | 2.20 | 2 | 1 |
| 1:B:301:PHE:CD1 | 1:B:342:LEU:HD21 | 0.68 | 2.15 | 1 | 1 |
| 1:B:386:LEU:HD12 | 1:B:386:LEU:C | 0.68 | 2.08 | 1 | 2 |
| 1:A:163:LEU:HB2 | 1:A:190:THR:HG21 | 0.68 | 1.66 | 1 | 1 |
| 1:B:129:ASP:OD1 | 1:B:129:ASP:N | 0.68 | 2.26 | 1 | 2 |
| 1:A:372:ASP:CG | 1:A:373:GLN:N | 0.68 | 2.45 | 1 | 2 |
| 1:B:301:PHE:CD1 | 1:B:301:PHE:C | 0.68 | 2.65 | 2 | 2 |
| 1:A:298:GLU:HB3 | 1:A:301:PHE:CZ | 0.67 | 2.21 | 1 | 1 |
| 1:A:352:ASN:HD22 | 1:A:352:ASN:C | 0.67 | 1.91 | 1 | 2 |
| 1:B:163:LEU:HB2 | 1:B:190:THR:HG21 | 0.67 | 1.64 | 1 | 1 |
| 1:A:330:ILE:HG23 | 1:A:389:MET:CE | 0.67 | 2.20 | 1 | 2 |
| 1:B:13:PHE:CG | 1:B:240:ARG:NH1 | 0.67 | 2.63 | 2 | 2 |
| 1:B:331:VAL:N | 1:B:389:MET:HE3 | 0.67 | 2.05 | 1 | 2 |
| 1:B:271:VAL:HG23 | 1:B:523:PHE:CZ | 0.67 | 2.24 | 1 | 1 |
| 1:B:370:LEU:HD13 | 1:B:370:LEU:O | 0.67 | 1.89 | 1 | 2 |
| 1:B:259:LEU:N | 1:B:260:PRO:CD | 0.67 | 2.58 | 2 | 1 |
| 1:A:352:ASN:CG | 1:B:352:ASN:CG | 0.67 | 2.53 | 1 | 2 |
| 1:A:370:LEU:HD13 | 1:A:370:LEU:O | 0.67 | 1.90 | 1 | 2 |
| 1:A:13:PHE:CG | 1:A:240:ARG:NH1 | 0.67 | 2.63 | 1 | 2 |
| 1:B:181:THR:HG22 | 1:B:183:ALA:H | 0.67 | 1.50 | 2 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:B:489:ILE:HA | 1:B:499:THR:HG21 | 0.67 | 1.64 | 1 | 2 |
| 1:B:536:ILE:O | 1:B:540:THR:HG23 | 0.67 | 1.89 | 1 | 1 |
| 1:A:259:LEU:N | 1:A:260:PRO:CD | 0.67 | 2.57 | 2 | 1 |
| 1:A:232:THR:HG23 | 1:A:233:ASN:H | 0.67 | 1.48 | 1 | 2 |
| 1:B:292:VAL:HG11 | 1:B:329:VAL:HG12 | 0.67 | 1.64 | 1 | 1 |
| 1:A:389:MET:HG3 | 1:A:448:PHE:CE1 | 0.66 | 2.25 | 1 | 2 |
| 1:B:10:GLY:O | 1:B:222:ALA:HB3 | 0.66 | 1.90 | 1 | 2 |
| 1:A:314:PHE:CE1 | 1:A:375:ARG:O | 0.66 | 2.48 | 1 | 2 |
| 1:A:389:MET:HG3 | 1:A:448:PHE:CZ | 0.66 | 2.25 | 1 | 2 |
| 1:B:232:THR:HG22 | 1:B:234:GLU:H | 0.66 | 1.51 | 1 | 2 |
| 1:A:232:THR:HG22 | 1:A:234:GLU:H | 0.66 | 1.50 | 2 | 2 |
| 1:B:221:ASP:O | 1:B:223:VAL:HG22 | 0.66 | 1.90 | 1 | 2 |
| 1:B:389:MET:HG3 | 1:B:448:PHE:CE1 | 0.66 | 2.25 | 1 | 2 |
| 1:A:301:PHE:CD1 | 1:A:342:LEU:HD21 | 0.66 | 2.15 | 1 | 1 |
| 1:A:10:GLY:O | 1:A:222:ALA:HB3 | 0.66 | 1.90 | 1 | 2 |
| 1:A:132:ASP:OD1 | 1:A:164:THR:OG1 | 0.66 | 2.13 | 1 | 2 |
| 1:A:536:ILE:O | 1:A:540:THR:HG23 | 0.66 | 1.91 | 1 | 1 |
| 1:B:230:ASN:N | 1:B:231:PRO:CD | 0.66 | 2.59 | 2 | 2 |
| 1:B:301:PHE:CZ | 1:B:336:ILE:HG22 | 0.66 | 2.25 | 1 | 1 |
| 1:B:314:PHE:CE1 | 1:B:375:ARG:O | 0.66 | 2.49 | 1 | 2 |
| 1:A:230:ASN:N | 1:A:231:PRO:CD | 0.66 | 2.59 | 2 | 2 |
| 1:A:331:VAL:N | 1:A:389:MET:HE3 | 0.66 | 2.06 | 1 | 2 |
| 1:A:301:PHE:CD1 | 1:A:301:PHE:C | 0.66 | 2.65 | 2 | 2 |
| 1:B:389:MET:HG3 | 1:B:448:PHE:CZ | 0.66 | 2.25 | 1 | 2 |
| 1:A:507:GLY:CA | 1:A:525:MET:SD | 0.65 | 2.85 | 1 | 2 |
| 1:B:230:ASN:N | 1:B:231:PRO:HD3 | 0.65 | 2.06 | 2 | 2 |
| 1:B:330:ILE:HG23 | 1:B:389:MET:HE2 | 0.65 | 1.68 | 1 | 2 |
| 1:B:507:GLY:CA | 1:B:525:MET:SD | 0.65 | 2.84 | 1 | 2 |
| 1:A:271:VAL:HG12 | 1:A:523:PHE:CD2 | 0.65 | 2.27 | 2 | 1 |
| 1:A:221:ASP:O | 1:A:223:VAL:HG22 | 0.65 | 1.90 | 1 | 2 |
| 1:A:377:ILE:HG22 | 1:A:386:LEU:HD21 | 0.65 | 1.66 | 1 | 2 |
| 1:A:6:LEU:C | 1:A:6:LEU:HD13 | 0.65 | 2.12 | 1 | 2 |
| 1:B:330:ILE:HG23 | 1:B:389:MET:CE | 0.65 | 2.22 | 1 | 2 |
| 1:A:406:ILE:HD13 | 1:A:426:ILE:HD13 | 0.65 | 1.68 | 1 | 2 |
| 1:B:406:ILE:HD13 | 1:B:426:ILE:HD13 | 0.65 | 1.68 | 1 | 2 |
| 1:B:492:SER:OG | 1:B:499:THR:CG2 | 0.65 | 2.44 | 1 | 1 |
| 1:B:6:LEU:HD13 | 1:B:6:LEU:C | 0.65 | 2.12 | 2 | 2 |
| 1:A:181:THR:HG22 | 1:A:183:ALA:H | 0.65 | 1.50 | 2 | 2 |
| 1:B:43:PHE:CE2 | 1:B:104:ALA:HB2 | 0.65 | 2.27 | 1 | 2 |
| 1:B:314:PHE:CD1 | 1:B:379:ARG:HB3 | 0.65 | 2.26 | 1 | 2 |
| 1:A:230:ASN:N | 1:A:231:PRO:HD3 | 0.64 | 2.06 | 2 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:275:ILE:CG2 | 1:A:277:THR:H | 0.64 | 2.05 | 2 | 2 |
| 1:A:377:ILE:HG22 | 1:A:386:LEU:CD2 | 0.64 | 2.22 | 1 | 2 |
| 1:B:454:ASN:O | 1:B:458:GLN:NE2 | 0.64 | 2.31 | 1 | 2 |
| 1:B:456:LEU:HD22 | 1:B:484:LEU:HD11 | 0.64 | 1.69 | 1 | 2 |
| 1:B:132:ASP:OD1 | 1:B:164:THR:OG1 | 0.64 | 2.14 | 1 | 2 |
| 1:B:386:LEU:HD12 | 1:B:387:ARG:CA | 0.64 | 2.22 | 1 | 2 |
| 1:B:255:LYS:O | 1:B:257:LYS:N | 0.64 | 2.30 | 2 | 1 |
| 1:A:314:PHE:CD1 | 1:A:379:ARG:HB3 | 0.64 | 2.26 | 1 | 2 |
| 1:B:274:ASN:HD22 | 1:B:275:ILE:N | 0.64 | 1.89 | 1 | 2 |
| 1:B:377:ILE:HG22 | 1:B:386:LEU:CD2 | 0.64 | 2.23 | 1 | 2 |
| 1:A:454:ASN:O | 1:A:458:GLN:NE2 | 0.64 | 2.31 | 1 | 2 |
| 1:B:271:VAL:HG12 | 1:B:523:PHE:CD2 | 0.64 | 2.27 | 2 | 1 |
| 1:A:386:LEU:HD12 | 1:A:387:ARG:C | 0.64 | 2.13 | 1 | 2 |
| 1:A:255:LYS:O | 1:A:256:LEU:O | 0.64 | 2.15 | 1 | 1 |
| 1:A:43:PHE:CD2 | 1:A:100:ALA:CB | 0.64 | 2.81 | 2 | 2 |
| 1:B:275:ILE:CG2 | 1:B:277:THR:H | 0.64 | 2.05 | 2 | 2 |
| 1:B:377:ILE:HG22 | 1:B:386:LEU:HD21 | 0.64 | 1.69 | 1 | 2 |
| 1:B:314:PHE:CE1 | 1:B:376:ALA:O | 0.63 | 2.52 | 1 | 2 |
| 1:A:171:LEU:HD11 | 1:A:176:VAL:HG21 | 0.63 | 1.70 | 2 | 1 |
| 1:B:232:THR:HG22 | 1:B:233:ASN:H | 0.63 | 1.34 | 2 | 1 |
| 1:A:275:ILE:HG22 | 1:A:276:GLY:N | 0.63 | 2.08 | 2 | 2 |
| 1:B:125:GLU:O | 1:B:129:ASP:OD1 | 0.63 | 2.17 | 1 | 2 |
| 1:B:264:LEU:C | 1:B:264:LEU:HD23 | 0.63 | 2.13 | 2 | 1 |
| 1:A:386:LEU:HD12 | 1:A:386:LEU:C | 0.63 | 2.14 | 1 | 2 |
| 1:A:456:LEU:HD22 | 1:A:484:LEU:HD11 | 0.63 | 1.69 | 1 | 2 |
| 1:B:104:ALA:O | 1:B:107:VAL:HG12 | 0.63 | 1.94 | 2 | 2 |
| 1:A:314:PHE:CE1 | 1:A:376:ALA:O | 0.63 | 2.52 | 1 | 2 |
| 1:A:332:ARG:NE | 1:A:429:MET:SD | 0.63 | 2.72 | 1 | 2 |
| 1:A:352:ASN:OD1 | 1:A:355:LEU:CD1 | 0.63 | 2.47 | 1 | 2 |
| 1:B:43:PHE:CD2 | 1:B:100:ALA:CB | 0.63 | 2.82 | 1 | 2 |
| 1:A:104:ALA:O | 1:A:107:VAL:HG12 | 0.63 | 1.94 | 2 | 2 |
| 1:A:125:GLU:O | 1:A:129:ASP:OD1 | 0.63 | 2.17 | 2 | 2 |
| 1:A:301:PHE:CZ | 1:A:336:ILE:HG22 | 0.63 | 2.28 | 1 | 1 |
| 1:A:392:MET:N | 1:A:431:GLU:OE2 | 0.63 | 2.32 | 1 | 2 |
| 1:B:275:ILE:HG22 | 1:B:276:GLY:N | 0.63 | 2.08 | 2 | 2 |
| 1:B:171:LEU:HD11 | 1:B:176:VAL:HG21 | 0.63 | 1.71 | 2 | 1 |
| 1:A:240:ARG:O | 1:A:243:GLN:HB3 | 0.62 | 1.93 | 1 | 1 |
| 1:A:264:LEU:HD23 | 1:A:264:LEU:C | 0.62 | 2.14 | 2 | 1 |
| 1:A:11:ILE:HG13 | 1:A:243:GLN:CA | 0.62 | 2.24 | 2 | 2 |
| 1:A:296:ARG:NH2 | 1:A:335:ASP:HB3 | 0.62 | 2.09 | 1 | 1 |
| 1:A:441:HIS:CG | 1:B:556:PRO:HB3 | 0.62 | 2.28 | 1 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:B:221:ASP:OD2 | 1:B:224:ASN:C | 0.62 | 2.37 | 2 | 2 |
| 1:B:275:ILE:HG22 | 1:B:277:THR:H | 0.62 | 1.54 | 2 | 1 |
| 1:B:352:ASN:OD1 | 1:B:355:LEU:CD1 | 0.62 | 2.47 | 1 | 2 |
| 1:A:43:PHE:CE2 | 1:A:104:ALA:HB2 | 0.62 | 2.27 | 1 | 2 |
| 1:A:389:MET:CG | 1:A:448:PHE:CE1 | 0.62 | 2.82 | 1 | 2 |
| 1:B:332:ARG:NE | 1:B:429:MET:SD | 0.62 | 2.72 | 1 | 2 |
| 1:A:221:ASP:OD2 | 1:A:224:ASN:C | 0.62 | 2.38 | 1 | 2 |
| 1:B:228:TYR:HB3 | 1:B:231:PRO:CG | 0.62 | 2.25 | 2 | 2 |
| 1:B:392:MET:N | 1:B:431:GLU:OE2 | 0.62 | 2.32 | 1 | 2 |
| 1:B:513:LEU:HD22 | 1:B:540:THR:HG21 | 0.62 | 1.72 | 1 | 1 |
| 1:B:11:ILE:HG13 | 1:B:243:GLN:CA | 0.62 | 2.25 | 2 | 2 |
| 1:B:336:ILE:HD12 | 1:B:336:ILE:O | 0.62 | 1.95 | 1 | 2 |
| 1:B:389:MET:CG | 1:B:448:PHE:CE1 | 0.62 | 2.82 | 1 | 2 |
| 1:A:501:MET:SD | 1:A:515:LEU:HD21 | 0.61 | 2.34 | 1 | 1 |
| 1:B:389:MET:SD | 1:B:389:MET:N | 0.61 | 2.73 | 1 | 2 |
| 1:A:386:LEU:HD12 | 1:A:387:ARG:CA | 0.61 | 2.25 | 1 | 2 |
| 1:A:489:ILE:O | 1:A:492:SER:HB2 | 0.61 | 1.95 | 1 | 2 |
| 1:B:296:ARG:NH2 | 1:B:335:ASP:HB3 | 0.61 | 2.09 | 1 | 1 |
| 1:B:523:PHE:CZ | 1:B:525:MET:CE | 0.61 | 2.83 | 2 | 1 |
| 1:A:336:ILE:O | 1:A:336:ILE:HD12 | 0.61 | 1.95 | 1 | 2 |
| 1:B:238:LYS:O | 1:B:242:VAL:HG23 | 0.61 | 1.96 | 2 | 2 |
| 1:B:438:ILE:HG22 | 1:B:438:ILE:O | 0.61 | 1.95 | 1 | 2 |
| 1:A:513:LEU:HD22 | 1:A:540:THR:HG21 | 0.61 | 1.70 | 1 | 1 |
| 1:B:243:GLN:CG | 1:B:244:GLU:N | 0.61 | 2.63 | 2 | 2 |
| 1:A:352:ASN:C | 1:A:352:ASN:ND2 | 0.61 | 2.54 | 1 | 2 |
| 1:B:386:LEU:HD12 | 1:B:387:ARG:C | 0.61 | 2.15 | 1 | 2 |
| 1:A:275:ILE:HG22 | 1:A:277:THR:H | 0.61 | 1.54 | 2 | 1 |
| 1:B:22:ASP:OD1 | 1:B:145:LYS:NZ | 0.61 | 2.34 | 1 | 1 |
| 1:B:352:ASN:C | 1:B:352:ASN:HD22 | 0.61 | 1.96 | 1 | 2 |
| 1:A:221:ASP:HA | 1:A:239:MET:HE1 | 0.60 | 1.67 | 1 | 2 |
| 1:A:238:LYS:O | 1:A:242:VAL:HG23 | 0.60 | 1.96 | 1 | 2 |
| 1:A:389:MET:SD | 1:A:389:MET:N | 0.60 | 2.74 | 1 | 2 |
| 1:A:438:ILE:HG22 | 1:A:438:ILE:O | 0.60 | 1.96 | 1 | 2 |
| 1:A:22:ASP:OD1 | 1:A:145:LYS:NZ | 0.60 | 2.34 | 1 | 1 |
| 1:A:77:ILE:CG2 | 1:A:78:MET:N | 0.60 | 2.65 | 1 | 2 |
| 1:A:356:GLY:O | 1:A:361:ARG:NH2 | 0.60 | 2.34 | 1 | 2 |
| 1:A:107:VAL:HG13 | 1:A:108:ILE:N | 0.60 | 2.11 | 2 | 2 |
| 1:B:489:ILE:O | 1:B:492:SER:HB2 | 0.60 | 1.95 | 1 | 2 |
| 1:A:298:GLU:O | 1:A:301:PHE:CG | 0.60 | 2.53 | 1 | 1 |
| 1:A:492:SER:CB | 1:A:499:THR:HG22 | 0.60 | 2.27 | 1 | 1 |
| 1:B:77:ILE:CG2 | 1:B:78:MET:N | 0.60 | 2.65 | 2 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:B:107:VAL:HG13 | 1:B:108:ILE:N | 0.59 | 2.11 | 2 | 2 |
| 1:B:298:GLU:C | 1:B:301:PHE:CE1 | 0.59 | 2.76 | 1 | 1 |
| 1:A:228:TYR:HB3 | 1:A:231:PRO:CG | 0.59 | 2.25 | 1 | 2 |
| 1:B:221:ASP:OD1 | 1:B:222:ALA:N | 0.59 | 2.36 | 1 | 2 |
| 1:A:523:PHE:CZ | 1:A:525:MET:CE | 0.59 | 2.85 | 2 | 1 |
| 1:B:352:ASN:C | 1:B:352:ASN:ND2 | 0.59 | 2.56 | 1 | 2 |
| 1:A:221:ASP:OD1 | 1:A:222:ALA:N | 0.59 | 2.36 | 1 | 2 |
| 1:A:43:PHE:CE2 | 1:A:100:ALA:O | 0.59 | 2.56 | 2 | 2 |
| 1:A:371:ARG:NH1 | 1:A:375:ARG:HH11 | 0.59 | 1.96 | 1 | 2 |
| 1:B:259:LEU:HD22 | 1:B:259:LEU:N | 0.59 | 2.11 | 1 | 1 |
| 1:B:301:PHE:HE2 | 1:B:336:ILE:HG23 | 0.59 | 1.57 | 1 | 1 |
| 1:B:356:GLY:O | 1:B:361:ARG:NH2 | 0.59 | 2.36 | 1 | 2 |
| 1:B:389:MET:N | 1:B:389:MET:CE | 0.59 | 2.66 | 1 | 2 |
| 1:B:523:PHE:CE1 | 1:B:525:MET:CE | 0.59 | 2.85 | 1 | 1 |
| 1:A:523:PHE:CE1 | 1:A:525:MET:CE | 0.59 | 2.86 | 1 | 1 |
| 1:B:265:ASP:OD1 | 1:B:265:ASP:N | 0.58 | 2.34 | 1 | 1 |
| 1:B:506:ALA:C | 1:B:525:MET:SD | 0.58 | 2.81 | 1 | 2 |
| 1:B:523:PHE:CD1 | 1:B:524:SER:N | 0.58 | 2.57 | 2 | 1 |
| 1:A:438:ILE:HG22 | 1:A:441:HIS:HB2 | 0.58 | 1.75 | 1 | 2 |
| 1:B:259:LEU:H | 1:B:259:LEU:CD2 | 0.58 | 2.10 | 1 | 1 |
| 1:B:438:ILE:HG23 | 1:B:441:HIS:HB2 | 0.58 | 1.74 | 1 | 2 |
| 1:B:133:ILE:CG2 | 1:B:134:GLY:N | 0.58 | 2.67 | 1 | 2 |
| 1:A:421:ASP:OD1 | 1:A:423:SER:HB2 | 0.58 | 1.99 | 1 | 2 |
| 1:B:371:ARG:NH1 | 1:B:375:ARG:HH11 | 0.58 | 1.96 | 1 | 2 |
| 1:A:474:TYR:O | 1:A:474:TYR:CD2 | 0.58 | 2.57 | 1 | 2 |
| 1:B:43:PHE:HZ | 1:B:100:ALA:O | 0.58 | 1.74 | 2 | 2 |
| 1:A:389:MET:N | 1:A:389:MET:CE | 0.58 | 2.67 | 1 | 2 |
| 1:B:421:ASP:OD1 | 1:B:423:SER:HB2 | 0.58 | 1.99 | 1 | 2 |
| 1:A:133:ILE:CG2 | 1:A:134:GLY:N | 0.58 | 2.67 | 1 | 2 |
| 1:A:336:ILE:HD12 | 1:A:336:ILE:C | 0.58 | 2.19 | 1 | 2 |
| 1:B:243:GLN:HG2 | 1:B:244:GLU:N | 0.58 | 2.14 | 1 | 1 |
| 1:B:372:ASP:OD1 | 1:B:373:GLN:N | 0.57 | 2.37 | 1 | 2 |
| 1:B:316:ALA:O | 1:B:320:VAL:HG23 | 0.57 | 1.99 | 2 | 1 |
| 1:B:489:ILE:HG12 | 1:B:499:THR:HG21 | 0.57 | 1.75 | 2 | 1 |
| 1:A:298:GLU:C | 1:A:301:PHE:CE1 | 0.57 | 2.78 | 1 | 1 |
| 1:B:43:PHE:CE2 | 1:B:100:ALA:O | 0.57 | 2.57 | 1 | 2 |
| 1:B:474:TYR:O | 1:B:474:TYR:CD2 | 0.57 | 2.57 | 1 | 2 |
| 1:A:11:ILE:HD13 | 1:A:11:ILE:H | 0.57 | 1.60 | 2 | 2 |
| 1:A:389:MET:HE1 | 1:A:389:MET:N | 0.57 | 2.14 | 1 | 2 |
| 1:B:265:ASP:OD1 | 1:B:541:ASN:HA | 0.57 | 1.98 | 1 | 1 |
| 1:B:272:CYS:HG | 1:B:292:VAL:CA | 0.57 | 2.10 | 1 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:B:298:GLU:O | 1:B:301:PHE:CG | 0.57 | 2.57 | 1 | 1 |
| 1:A:506:ALA:C | 1:A:525:MET:SD | 0.57 | 2.82 | 1 | 2 |
| 1:B:11:ILE:HD13 | 1:B:11:ILE:N | 0.57 | 2.15 | 2 | 2 |
| 1:A:489:ILE:HG12 | 1:A:499:THR:HG21 | 0.57 | 1.75 | 2 | 1 |
| 1:B:11:ILE:HD13 | 1:B:11:ILE:H | 0.57 | 1.60 | 1 | 2 |
| 1:A:13:PHE:CD2 | 1:A:240:ARG:NH1 | 0.57 | 2.73 | 1 | 2 |
| 1:A:352:ASN:OD1 | 1:B:352:ASN:OD1 | 0.57 | 2.21 | 1 | 2 |
| 1:A:260:PRO:O | 1:A:262:ILE:N | 0.57 | 2.38 | 2 | 1 |
| 1:B:260:PRO:O | 1:B:262:ILE:N | 0.57 | 2.38 | 2 | 1 |
| 1:B:13:PHE:CD2 | 1:B:240:ARG:NH1 | 0.57 | 2.73 | 2 | 2 |
| 1:B:336:ILE:HD12 | 1:B:336:ILE:C | 0.57 | 2.19 | 1 | 2 |
| 1:B:456:LEU:CD2 | 1:B:484:LEU:HD11 | 0.57 | 2.30 | 1 | 2 |
| 1:A:316:ALA:O | 1:A:320:VAL:HG23 | 0.57 | 1.99 | 2 | 1 |
| 1:A:259:LEU:HD23 | 1:A:262:ILE:HG21 | 0.57 | 1.77 | 1 | 1 |
| 1:A:387:ARG:O | 1:A:389:MET:HE3 | 0.57 | 1.99 | 1 | 2 |
| 1:A:456:LEU:CD2 | 1:A:484:LEU:HD11 | 0.57 | 2.30 | 1 | 2 |
| 1:B:507:GLY:CA | 1:B:525:MET:HG2 | 0.56 | 2.30 | 2 | 2 |
| 1:A:11:ILE:HD13 | 1:A:11:ILE:N | 0.56 | 2.15 | 1 | 2 |
| 1:A:136:ARG:NH2 | 1:A:167:GLU:CG | 0.56 | 2.69 | 1 | 1 |
| 1:A:486:LYS:HD2 | 1:A:553:LEU:HD13 | 0.56 | 1.76 | 1 | 2 |
| 1:B:486:LYS:HD2 | 1:B:553:LEU:HD13 | 0.56 | 1.75 | 1 | 2 |
| 1:A:259:LEU:H | 1:A:259:LEU:CD2 | 0.56 | 2.08 | 1 | 1 |
| 1:B:412:GLU:O | 1:B:416:GLU:HG3 | 0.56 | 2.01 | 1 | 2 |
| 1:A:352:ASN:CG | 1:B:352:ASN:ND2 | 0.56 | 2.58 | 1 | 2 |
| 1:A:331:VAL:N | 1:A:389:MET:CE | 0.55 | 2.69 | 1 | 2 |
| 1:A:372:ASP:OD1 | 1:A:373:GLN:N | 0.55 | 2.38 | 1 | 2 |
| 1:B:181:THR:CG2 | 1:B:182:ASP:N | 0.55 | 2.69 | 2 | 2 |
| 1:B:240:ARG:O | 1:B:243:GLN:HG3 | 0.55 | 2.01 | 2 | 1 |
| 1:A:412:GLU:O | 1:A:416:GLU:HG3 | 0.55 | 2.01 | 1 | 2 |
| 1:A:278:VAL:HG13 | 1:A:279:ARG:N | 0.55 | 2.17 | 2 | 1 |
| 1:B:295:TYR:CE1 | 1:B:320:VAL:HG11 | 0.55 | 2.36 | 2 | 1 |
| 1:A:161:ALA:O | 1:A:182:ASP:OD1 | 0.55 | 2.25 | 2 | 2 |
| 1:B:301:PHE:CE2 | 1:B:336:ILE:HG23 | 0.55 | 2.29 | 1 | 1 |
| 1:A:13:PHE:CD1 | 1:A:13:PHE:N | 0.55 | 2.74 | 1 | 2 |
| 1:A:43:PHE:CZ | 1:A:100:ALA:C | 0.55 | 2.80 | 2 | 2 |
| 1:A:507:GLY:CA | 1:A:525:MET:HG2 | 0.55 | 2.30 | 2 | 2 |
| 1:B:301:PHE:CE2 | 1:B:342:LEU:CD2 | 0.55 | 2.66 | 2 | 1 |
| 1:A:136:ARG:HH21 | 1:A:167:GLU:HG3 | 0.55 | 1.57 | 1 | 1 |
| 1:B:470:ILE:HD12 | 1:B:470:ILE:H | 0.55 | 1.61 | 1 | 2 |
| 1:A:53:GLN:O | 1:A:56:THR:OG1 | 0.55 | 2.24 | 1 | 2 |
| 1:A:370:LEU:HD13 | 1:A:370:LEU:C | 0.55 | 2.23 | 1 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:398:GLU:N | 1:A:398:GLU:OE1 | 0.55 | 2.40 | 1 | 2 |
| 1:B:331:VAL:N | 1:B:389:MET:CE | 0.55 | 2.69 | 1 | 2 |
| 1:A:438:ILE:HG23 | 1:A:441:HIS:HB2 | 0.55 | 1.77 | 1 | 2 |
| 1:A:181:THR:HG23 | 1:A:182:ASP:N | 0.55 | 2.17 | 2 | 2 |
| 1:B:13:PHE:N | 1:B:13:PHE:CD1 | 0.54 | 2.75 | 1 | 2 |
| 1:B:43:PHE:CZ | 1:B:100:ALA:C | 0.54 | 2.80 | 1 | 2 |
| 1:B:43:PHE:CE2 | 1:B:100:ALA:CA | 0.54 | 2.90 | 1 | 2 |
| 1:B:161:ALA:O | 1:B:182:ASP:OD1 | 0.54 | 2.25 | 1 | 2 |
| 1:B:276:GLY:O | 1:B:277:THR:HG22 | 0.54 | 2.02 | 1 | 1 |
| 1:B:296:ARG:HE | 1:B:298:GLU:CD | 0.54 | 2.06 | 1 | 1 |
| 1:A:295:TYR:CE1 | 1:A:320:VAL:HG11 | 0.54 | 2.37 | 2 | 1 |
| 1:A:43:PHE:CE2 | 1:A:100:ALA:CB | 0.54 | 2.90 | 2 | 2 |
| 1:A:226:GLN:NE2 | 1:A:228:TYR:OH | 0.54 | 2.40 | 1 | 2 |
| 1:B:398:GLU:OE1 | 1:B:398:GLU:N | 0.54 | 2.41 | 1 | 2 |
| 1:A:355:LEU:CD2 | 1:B:462:ALA:HA | 0.54 | 2.32 | 1 | 2 |
| 1:B:226:GLN:NE2 | 1:B:228:TYR:OH | 0.54 | 2.40 | 1 | 2 |
| 1:A:181:THR:CG2 | 1:A:182:ASP:N | 0.54 | 2.69 | 2 | 2 |
| 1:B:181:THR:HG23 | 1:B:182:ASP:N | 0.54 | 2.17 | 1 | 2 |
| 1:B:259:LEU:HD23 | 1:B:262:ILE:HG21 | 0.54 | 1.79 | 1 | 1 |
| 1:B:513:LEU:CD2 | 1:B:540:THR:HG21 | 0.54 | 2.33 | 1 | 1 |
| 1:A:43:PHE:CE2 | 1:A:100:ALA:CA | 0.54 | 2.90 | 2 | 2 |
| 1:A:405:GLU:HG3 | 1:A:409:TYR:CE2 | 0.54 | 2.38 | 1 | 2 |
| 1:B:484:LEU:HD23 | 1:B:484:LEU:C | 0.54 | 2.23 | 1 | 2 |
| 1:A:301:PHE:CE2 | 1:A:336:ILE:HG23 | 0.54 | 2.33 | 1 | 1 |
| 1:B:43:PHE:CE2 | 1:B:100:ALA:CB | 0.54 | 2.91 | 2 | 2 |
| 1:B:509:GLU:OE2 | 1:B:532:ARG:NH1 | 0.54 | 2.38 | 1 | 1 |
| 1:B:278:VAL:HG13 | 1:B:279:ARG:N | 0.54 | 2.17 | 2 | 1 |
| 1:A:101:ASP:OD1 | 1:A:101:ASP:N | 0.54 | 2.41 | 2 | 2 |
| 1:A:221:ASP:OD2 | 1:A:226:GLN:N | 0.54 | 2.40 | 1 | 2 |
| 1:A:470:ILE:HD12 | 1:A:470:ILE:H | 0.54 | 1.62 | 1 | 2 |
| 1:B:389:MET:N | 1:B:389:MET:HE1 | 0.54 | 2.17 | 1 | 2 |
| 1:A:43:PHE:HZ | 1:A:100:ALA:O | 0.54 | 1.75 | 2 | 2 |
| 1:A:296:ARG:HE | 1:A:298:GLU:CD | 0.53 | 2.07 | 1 | 1 |
| 1:B:339:ASP:OD1 | 1:B:465:ARG:NH2 | 0.53 | 2.41 | 1 | 2 |
| 1:B:470:ILE:HD12 | 1:B:470:ILE:N | 0.53 | 2.18 | 1 | 2 |
| 1:A:514:LEU:O | 1:A:518:MET:SD | 0.53 | 2.66 | 2 | 1 |
| 1:B:514:LEU:O | 1:B:518:MET:SD | 0.53 | 2.67 | 2 | 1 |
| 1:B:53:GLN:O | 1:B:56:THR:OG1 | 0.53 | 2.24 | 2 | 2 |
| 1:B:101:ASP:N | 1:B:101:ASP:OD1 | 0.53 | 2.41 | 2 | 2 |
| 1:B:370:LEU:HD13 | 1:B:370:LEU:C | 0.53 | 2.22 | 1 | 2 |
| 1:B:492:SER:OG | 1:B:499:THR:HG23 | 0.53 | 2.02 | 1 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:132:ASP:OD2 | 1:A:166:SER:CB | 0.53 | 2.56 | 1 | 1 |
| 1:A:484:LEU:HD23 | 1:A:484:LEU:C | 0.53 | 2.23 | 1 | 2 |
| 1:B:405:GLU:HG3 | 1:B:409:TYR:CE2 | 0.53 | 2.38 | 1 | 2 |
| 1:A:269:VAL:HG13 | 1:A:521:ASP:C | 0.53 | 2.23 | 1 | 1 |
| 1:B:431:GLU:N | 1:B:431:GLU:OE1 | 0.53 | 2.41 | 1 | 2 |
| 1:A:276:GLY:O | 1:A:277:THR:HG22 | 0.53 | 2.02 | 1 | 1 |
| 1:A:297:THR:OG1 | 1:A:317:TYR:OH | 0.53 | 2.27 | 1 | 1 |
| 1:A:470:ILE:HD12 | 1:A:470:ILE:N | 0.53 | 2.19 | 1 | 2 |
| 1:A:501:MET:SD | 1:A:520:LEU:HD11 | 0.53 | 2.43 | 1 | 1 |
| 1:A:199:LEU:O | 1:A:199:LEU:CD2 | 0.53 | 2.52 | 2 | 1 |
| 1:A:301:PHE:CE2 | 1:A:342:LEU:CD2 | 0.53 | 2.66 | 2 | 1 |
| 1:B:352:ASN:OD1 | 1:B:355:LEU:CG | 0.53 | 2.57 | 1 | 2 |
| 1:A:269:VAL:CG1 | 1:A:270:GLU:N | 0.53 | 2.71 | 2 | 1 |
| 1:A:339:ASP:OD1 | 1:A:465:ARG:NH2 | 0.53 | 2.42 | 1 | 2 |
| 1:B:132:ASP:OD2 | 1:B:166:SER:CB | 0.53 | 2.57 | 1 | 1 |
| 1:B:269:VAL:HG13 | 1:B:521:ASP:C | 0.53 | 2.23 | 1 | 1 |
| 1:B:507:GLY:HA2 | 1:B:525:MET:CE | 0.53 | 2.33 | 1 | 1 |
| 1:A:123:LEU:CD2 | 1:A:123:LEU:N | 0.53 | 2.72 | 2 | 2 |
| 1:A:431:GLU:N | 1:A:431:GLU:OE1 | 0.53 | 2.42 | 1 | 2 |
| 1:B:438:ILE:HG22 | 1:B:441:HIS:HB2 | 0.53 | 1.77 | 1 | 2 |
| 1:A:507:GLY:HA2 | 1:A:525:MET:CE | 0.52 | 2.34 | 1 | 1 |
| 1:B:123:LEU:N | 1:B:123:LEU:CD2 | 0.52 | 2.72 | 2 | 2 |
| 1:B:221:ASP:OD2 | 1:B:226:GLN:N | 0.52 | 2.40 | 2 | 2 |
| 1:B:221:ASP:CA | 1:B:239:MET:CE | 0.52 | 2.78 | 1 | 2 |
| 1:A:386:LEU:CD1 | 1:A:387:ARG:O | 0.52 | 2.57 | 1 | 2 |
| 1:B:511:ALA:HB1 | 1:B:515:LEU:HD12 | 0.52 | 1.82 | 1 | 1 |
| 1:A:352:ASN:ND2 | 1:B:352:ASN:CG | 0.52 | 2.62 | 1 | 2 |
| 1:B:199:LEU:O | 1:B:199:LEU:CD2 | 0.52 | 2.53 | 2 | 1 |
| 1:B:229:VAL:C | 1:B:231:PRO:HD3 | 0.52 | 2.25 | 1 | 2 |
| 1:B:79:LEU:O | 1:B:82:ASP:OD1 | 0.52 | 2.27 | 1 | 2 |
| 1:B:507:GLY:N | 1:B:525:MET:SD | 0.52 | 2.83 | 1 | 1 |
| 1:B:296:ARG:NE | 1:B:298:GLU:OE2 | 0.52 | 2.43 | 1 | 1 |
| 1:B:269:VAL:CG1 | 1:B:270:GLU:N | 0.52 | 2.71 | 2 | 1 |
| 1:A:85:LEU:HD21 | 1:A:89:ILE:HD12 | 0.52 | 1.82 | 2 | 2 |
| 1:A:259:LEU:N | 1:A:259:LEU:CD1 | 0.52 | 2.62 | 1 | 1 |
| 1:A:314:PHE:CZ | 1:A:375:ARG:O | 0.52 | 2.62 | 1 | 2 |
| 1:B:68:GLU:HB2 | 1:B:286:ARG:NH2 | 0.52 | 2.20 | 1 | 1 |
| 1:A:292:VAL:HG13 | 1:A:329:VAL:HG12 | 0.52 | 1.81 | 1 | 1 |
| 1:A:272:CYS:HG | 1:A:292:VAL:CA | 0.52 | 2.14 | 1 | 1 |
| 1:B:43:PHE:HZ | 1:B:104:ALA:HB3 | 0.52 | 1.64 | 2 | 2 |
| 1:B:314:PHE:CZ | 1:B:375:ARG:O | 0.52 | 2.62 | 1 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:79:LEU:O | 1:A:82:ASP:OD1 | 0.52 | 2.28 | 2 | 2 |
| 1:A:309:THR:O | 1:A:313:GLN:CG | 0.51 | 2.58 | 1 | 2 |
| 1:B:74:GLU:O | 1:B:77:ILE:HG22 | 0.51 | 2.05 | 2 | 2 |
| 1:B:123:LEU:N | 1:B:123:LEU:HD22 | 0.51 | 2.20 | 2 | 2 |
| 1:A:229:VAL:C | 1:A:231:PRO:HD3 | 0.51 | 2.25 | 2 | 2 |
| 1:A:431:GLU:OE1 | 1:A:432:THR:N | 0.51 | 2.44 | 1 | 2 |
| 1:B:158:LEU:HD21 | 1:B:163:LEU:HD11 | 0.51 | 1.83 | 1 | 2 |
| 1:B:296:ARG:HH21 | 1:B:335:ASP:HB3 | 0.51 | 1.66 | 1 | 1 |
| 1:A:272:CYS:HG | 1:A:273:ALA:N | 0.51 | 2.02 | 2 | 1 |
| 1:B:309:THR:O | 1:B:313:GLN:CG | 0.51 | 2.59 | 1 | 2 |
| 1:B:387:ARG:O | 1:B:389:MET:HE3 | 0.51 | 2.05 | 1 | 2 |
| 1:B:557:THR:HB | 1:B:560:GLU:OE1 | 0.51 | 2.05 | 1 | 2 |
| 1:A:68:GLU:HB2 | 1:A:286:ARG:NH2 | 0.51 | 2.20 | 1 | 1 |
| 1:A:123:LEU:N | 1:A:123:LEU:HD22 | 0.51 | 2.21 | 2 | 2 |
| 1:A:507:GLY:N | 1:A:525:MET:SD | 0.51 | 2.84 | 1 | 1 |
| 1:B:271:VAL:CB | 1:B:523:PHE:CE2 | 0.51 | 2.90 | 2 | 2 |
| 1:B:321:ALA:O | 1:B:324:CYS:SG | 0.51 | 2.66 | 2 | 2 |
| 1:B:451:ILE:HG23 | 1:B:456:LEU:HD12 | 0.51 | 1.83 | 1 | 2 |
| 1:B:489:ILE:HA | 1:B:499:THR:CG2 | 0.51 | 2.35 | 1 | 1 |
| 1:A:232:THR:HG22 | 1:A:233:ASN:H | 0.51 | 1.34 | 1 | 2 |
| 1:A:302:MET:O | 1:A:302:MET:CG | 0.51 | 2.59 | 2 | 2 |
| 1:B:57:ILE:CD1 | 1:B:170:GLN:HB3 | 0.51 | 2.36 | 1 | 1 |
| 1:B:292:VAL:HG13 | 1:B:329:VAL:HG12 | 0.51 | 1.82 | 1 | 1 |
| 1:B:271:VAL:HG23 | 1:B:271:VAL:O | 0.51 | 2.06 | 2 | 1 |
| 1:A:11:ILE:N | 1:A:11:ILE:CD1 | 0.51 | 2.74 | 2 | 2 |
| 1:A:296:ARG:HH21 | 1:A:335:ASP:HB3 | 0.51 | 1.66 | 1 | 1 |
| 1:B:431:GLU:OE1 | 1:B:432:THR:N | 0.51 | 2.44 | 1 | 2 |
| 1:B:507:GLY:HA3 | 1:B:525:MET:HG2 | 0.51 | 1.83 | 2 | 2 |
| 1:A:271:VAL:HG23 | 1:A:271:VAL:O | 0.51 | 2.06 | 2 | 1 |
| 1:A:265:ASP:OD1 | 1:A:265:ASP:N | 0.51 | 2.38 | 1 | 1 |
| 1:A:507:GLY:HA3 | 1:A:525:MET:HG2 | 0.51 | 1.83 | 2 | 2 |
| 1:B:158:LEU:O | 1:B:180:ILE:HG23 | 0.51 | 2.06 | 1 | 2 |
| 1:B:11:ILE:N | 1:B:11:ILE:CD1 | 0.50 | 2.74 | 1 | 2 |
| 1:A:243:GLN:O | 1:A:243:GLN:NE2 | 0.50 | 2.44 | 2 | 1 |
| 1:B:272:CYS:SG | 1:B:293:GLY:HA3 | 0.50 | 2.46 | 2 | 1 |
| 1:A:163:LEU:CB | 1:A:190:THR:HG21 | 0.50 | 2.36 | 1 | 1 |
| 1:A:352:ASN:OD1 | 1:A:355:LEU:CG | 0.50 | 2.59 | 1 | 2 |
| 1:A:431:GLU:CA | 1:A:456:LEU:HG | 0.50 | 2.35 | 1 | 2 |
| 1:A:43:PHE:HZ | 1:A:104:ALA:HB3 | 0.50 | 1.63 | 1 | 2 |
| 1:A:271:VAL:CB | 1:A:523:PHE:CE2 | 0.50 | 2.90 | 2 | 2 |
| 1:A:314:PHE:CG | 1:A:376:ALA:HA | 0.50 | 2.37 | 1 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:400:ARG:NH2 | 1:A:445:GLU:OE2 | 0.50 | 2.45 | 1 | 2 |
| 1:A:453:THR:OG1 | 1:A:501:MET:CE | 0.50 | 2.59 | 1 | 1 |
| 1:A:147:ILE:HG23 | 1:A:148:ASP:N | 0.50 | 2.21 | 2 | 1 |
| 1:A:541:ASN:N | 1:A:541:ASN:HD22 | 0.50 | 2.05 | 2 | 1 |
| 1:B:219:ILE:CD1 | 1:B:236:ILE:HG12 | 0.50 | 2.36 | 2 | 2 |
| 1:A:272:CYS:SG | 1:A:293:GLY:HA3 | 0.50 | 2.47 | 2 | 1 |
| 1:A:272:CYS:SG | 1:A:273:ALA:O | 0.50 | 2.69 | 2 | 1 |
| 1:A:74:GLU:O | 1:A:77:ILE:HG22 | 0.50 | 2.06 | 1 | 2 |
| 1:A:259:LEU:HD22 | 1:A:259:LEU:N | 0.50 | 2.11 | 1 | 1 |
| 1:A:301:PHE:HE2 | 1:A:336:ILE:HG23 | 0.50 | 1.60 | 1 | 1 |
| 1:A:334:MET:SD | 1:A:369:ILE:CG2 | 0.50 | 3.00 | 1 | 2 |
| 1:B:274:ASN:HD22 | 1:B:274:ASN:C | 0.50 | 2.10 | 1 | 1 |
| 1:B:240:ARG:O | 1:B:243:GLN:CG | 0.50 | 2.60 | 2 | 1 |
| 1:A:57:ILE:CD1 | 1:A:170:GLN:HB3 | 0.50 | 2.36 | 1 | 1 |
| 1:A:202:ILE:HD12 | 1:A:205:THR:HG22 | 0.50 | 1.83 | 1 | 1 |
| 1:A:556:PRO:HB3 | 1:B:441:HIS:CE1 | 0.50 | 2.41 | 1 | 2 |
| 1:B:132:ASP:OD2 | 1:B:136:ARG:NH1 | 0.50 | 2.45 | 2 | 2 |
| 1:B:302:MET:O | 1:B:302:MET:CG | 0.50 | 2.59 | 2 | 2 |
| 1:B:464:ASP:OD2 | 1:B:467:ASN:N | 0.50 | 2.45 | 1 | 2 |
| 1:B:492:SER:CB | 1:B:499:THR:HG23 | 0.50 | 2.36 | 1 | 1 |
| 1:A:269:VAL:HG13 | 1:A:521:ASP:O | 0.50 | 2.07 | 1 | 1 |
| 1:B:265:ASP:OD2 | 1:B:542:PHE:N | 0.50 | 2.45 | 1 | 1 |
| 1:B:386:LEU:CD1 | 1:B:387:ARG:C | 0.50 | 2.80 | 1 | 2 |
| 1:B:272:CYS:SG | 1:B:273:ALA:O | 0.50 | 2.70 | 2 | 1 |
| 1:A:464:ASP:OD1 | 1:A:467:ASN:N | 0.50 | 2.44 | 1 | 2 |
| 1:A:557:THR:HB | 1:A:560:GLU:OE1 | 0.50 | 2.05 | 1 | 2 |
| 1:B:202:ILE:HD12 | 1:B:205:THR:HG22 | 0.50 | 1.83 | 1 | 1 |
| 1:B:330:ILE:HG22 | 1:B:330:ILE:O | 0.50 | 2.07 | 1 | 2 |
| 1:B:509:GLU:O | 1:B:512:THR:CG2 | 0.50 | 2.60 | 2 | 1 |
| 1:B:541:ASN:N | 1:B:541:ASN:HD22 | 0.50 | 2.05 | 2 | 1 |
| 1:A:132:ASP:OD2 | 1:A:136:ARG:NH1 | 0.49 | 2.45 | 1 | 2 |
| 1:A:132:ASP:OD2 | 1:A:166:SER:HB2 | 0.49 | 2.07 | 1 | 1 |
| 1:A:181:THR:CG2 | 1:A:183:ALA:N | 0.49 | 2.72 | 1 | 2 |
| 1:A:219:ILE:CD1 | 1:A:236:ILE:HG12 | 0.49 | 2.36 | 1 | 2 |
| 1:A:453:THR:OG1 | 1:A:501:MET:HE2 | 0.49 | 2.07 | 1 | 1 |
| 1:A:462:ALA:HA | 1:B:355:LEU:CD2 | 0.49 | 2.37 | 1 | 2 |
| 1:B:303:ASP:O | 1:B:304:ARG:HD3 | 0.49 | 2.07 | 1 | 1 |
| 1:B:333:THR:HG22 | 1:B:334:MET:N | 0.49 | 2.22 | 1 | 2 |
| 1:B:334:MET:SD | 1:B:369:ILE:CG2 | 0.49 | 3.00 | 1 | 2 |
| 1:A:240:ARG:O | 1:A:243:GLN:CG | 0.49 | 2.60 | 2 | 1 |
| 1:A:274:ASN:ND2 | 1:A:275:ILE:N | 0.49 | 2.60 | 2 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:57:ILE:HD11 | 1:A:170:GLN:HB3 | 0.49 | 1.84 | 1 | 1 |
| 1:A:511:ALA:CB | 1:A:515:LEU:CD1 | 0.49 | 2.89 | 1 | 1 |
| 1:B:57:ILE:HD11 | 1:B:170:GLN:HB3 | 0.49 | 1.83 | 1 | 1 |
| 1:B:181:THR:CG2 | 1:B:183:ALA:N | 0.49 | 2.71 | 1 | 2 |
| 1:B:147:ILE:HG23 | 1:B:148:ASP:N | 0.49 | 2.22 | 2 | 1 |
| 1:B:274:ASN:ND2 | 1:B:275:ILE:N | 0.49 | 2.60 | 2 | 1 |
| 1:A:132:ASP:OD1 | 1:A:136:ARG:NH1 | 0.49 | 2.45 | 2 | 2 |
| 1:A:459:TYR:HB3 | 1:B:459:TYR:O | 0.49 | 2.07 | 1 | 2 |
| 1:A:469:MET:SD | 1:A:469:MET:N | 0.49 | 2.85 | 1 | 2 |
| 1:B:85:LEU:HD21 | 1:B:89:ILE:HD12 | 0.49 | 1.83 | 2 | 2 |
| 1:B:182:ASP:OD1 | 1:B:182:ASP:C | 0.49 | 2.50 | 1 | 2 |
| 1:B:269:VAL:HG13 | 1:B:521:ASP:O | 0.49 | 2.07 | 1 | 1 |
| 1:B:400:ARG:NH2 | 1:B:445:GLU:OE2 | 0.49 | 2.45 | 1 | 2 |
| 1:A:542:PHE:CD1 | 1:A:543:GLU:N | 0.49 | 2.81 | 1 | 1 |
| 1:B:431:GLU:CA | 1:B:456:LEU:HG | 0.49 | 2.35 | 1 | 2 |
| 1:B:458:GLN:OE1 | 1:B:463:VAL:O | 0.49 | 2.31 | 1 | 2 |
| 1:A:509:GLU:O | 1:A:512:THR:CG2 | 0.49 | 2.60 | 2 | 1 |
| 1:A:182:ASP:OD1 | 1:A:182:ASP:C | 0.49 | 2.50 | 2 | 2 |
| 1:A:303:ASP:O | 1:A:304:ARG:HD3 | 0.49 | 2.08 | 1 | 1 |
| 1:A:386:LEU:CD1 | 1:A:387:ARG:C | 0.49 | 2.80 | 1 | 2 |
| 1:A:492:SER:CB | 1:A:499:THR:CG2 | 0.49 | 2.91 | 1 | 1 |
| 1:A:451:ILE:HG23 | 1:A:456:LEU:HD12 | 0.49 | 1.83 | 1 | 2 |
| 1:B:469:MET:SD | 1:B:469:MET:N | 0.49 | 2.86 | 1 | 2 |
| 1:B:542:PHE:CD1 | 1:B:543:GLU:N | 0.49 | 2.81 | 1 | 1 |
| 1:B:259:LEU:H | 1:B:260:PRO:CD | 0.49 | 2.20 | 2 | 1 |
| 1:B:275:ILE:CG1 | 1:B:280:ASP:HB3 | 0.49 | 2.37 | 2 | 1 |
| 1:A:333:THR:HG22 | 1:A:334:MET:N | 0.49 | 2.22 | 1 | 2 |
| 1:A:347:PHE:CD1 | 1:A:347:PHE:C | 0.49 | 2.85 | 1 | 2 |
| 1:B:492:SER:OG | 1:B:499:THR:HG22 | 0.49 | 2.07 | 1 | 1 |
| 1:A:527:ALA:O | 1:A:530:ILE:HG13 | 0.49 | 2.08 | 2 | 1 |
| 1:A:330:ILE:O | 1:A:330:ILE:HG22 | 0.49 | 2.08 | 1 | 2 |
| 1:A:511:ALA:HB1 | 1:A:515:LEU:HD12 | 0.49 | 1.83 | 1 | 1 |
| 1:B:176:VAL:CG1 | 1:B:179:PHE:CE1 | 0.49 | 2.92 | 2 | 2 |
| 1:B:221:ASP:C | 1:B:223:VAL:N | 0.49 | 2.66 | 2 | 2 |
| 1:B:333:THR:HG22 | 1:B:334:MET:H | 0.49 | 1.68 | 1 | 2 |
| 1:B:275:ILE:CG2 | 1:B:276:GLY:H | 0.49 | 2.21 | 2 | 1 |
| 1:A:233:ASN:O | 1:A:237:ASP:OD2 | 0.49 | 2.31 | 2 | 2 |
| 1:B:90:ILE:HG13 | 1:B:91:ALA:N | 0.49 | 2.22 | 2 | 2 |
| 1:B:233:ASN:O | 1:B:237:ASP:OD2 | 0.49 | 2.31 | 1 | 2 |
| 1:A:221:ASP:C | 1:A:223:VAL:N | 0.49 | 2.67 | 2 | 2 |
| 1:A:356:GLY:O | 1:A:361:ARG:CZ | 0.49 | 2.60 | 1 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:387:ARG:O | 1:A:389:MET:CE | 0.49 | 2.60 | 1 | 2 |
| 1:A:489:ILE:HA | 1:A:499:THR:CG2 | 0.49 | 2.18 | 1 | 2 |
| 1:A:509:GLU:OE2 | 1:A:532:ARG:NH1 | 0.49 | 2.39 | 1 | 1 |
| 1:B:387:ARG:O | 1:B:389:MET:CE | 0.49 | 2.60 | 1 | 2 |
| 1:A:147:ILE:CG2 | 1:A:148:ASP:N | 0.49 | 2.76 | 2 | 1 |
| 1:B:147:ILE:CG2 | 1:B:148:ASP:N | 0.49 | 2.76 | 2 | 1 |
| 1:A:158:LEU:HD21 | 1:A:163:LEU:HD11 | 0.48 | 1.84 | 2 | 2 |
| 1:A:168:THR:CG2 | 1:A:190:THR:HG22 | 0.48 | 2.39 | 1 | 1 |
| 1:A:275:ILE:CG2 | 1:A:280:ASP:HB2 | 0.48 | 2.35 | 1 | 1 |
| 1:A:523:PHE:HD1 | 1:A:524:SER:CA | 0.48 | 2.21 | 2 | 1 |
| 1:B:305:ASP:O | 1:B:344:TYR:CD1 | 0.48 | 2.66 | 1 | 2 |
| 1:A:275:ILE:CG2 | 1:A:276:GLY:H | 0.48 | 2.20 | 2 | 1 |
| 1:A:275:ILE:CG1 | 1:A:280:ASP:HB3 | 0.48 | 2.37 | 2 | 1 |
| 1:A:294:LEU:HB2 | 1:A:502:CYS:SG | 0.48 | 2.49 | 1 | 1 |
| 1:A:352:ASN:OD1 | 1:B:352:ASN:ND2 | 0.48 | 2.46 | 1 | 2 |
| 1:B:132:ASP:OD1 | 1:B:136:ARG:NH1 | 0.48 | 2.46 | 2 | 2 |
| 1:A:317:TYR:HH | 1:A:373:GLN:NE2 | 0.48 | 2.00 | 2 | 1 |
| 1:A:513:LEU:CD2 | 1:A:540:THR:HG21 | 0.48 | 2.38 | 1 | 1 |
| 1:A:524:SER:O | 1:A:525:MET:HG3 | 0.48 | 2.08 | 1 | 1 |
| 1:A:557:THR:HG22 | 1:A:560:GLU:H | 0.48 | 1.69 | 1 | 2 |
| 1:B:527:ALA:O | 1:B:530:ILE:HG13 | 0.48 | 2.08 | 2 | 1 |
| 1:A:221:ASP:CA | 1:A:239:MET:CE | 0.48 | 2.78 | 2 | 2 |
| 1:A:305:ASP:O | 1:A:344:TYR:CD1 | 0.48 | 2.66 | 1 | 2 |
| 1:A:456:LEU:HD13 | 1:A:484:LEU:CD2 | 0.48 | 2.30 | 1 | 2 |
| 1:B:68:GLU:OE1 | 1:B:68:GLU:N | 0.48 | 2.41 | 1 | 2 |
| 1:B:272:CYS:HG | 1:B:273:ALA:N | 0.48 | 2.04 | 2 | 1 |
| 1:A:458:GLN:OE1 | 1:A:463:VAL:O | 0.48 | 2.31 | 1 | 2 |
| 1:A:333:THR:HG22 | 1:A:334:MET:H | 0.48 | 1.68 | 1 | 2 |
| 1:A:352:ASN:OD1 | 1:B:352:ASN:CG | 0.48 | 2.52 | 1 | 2 |
| 1:A:501:MET:SD | 1:A:520:LEU:CD1 | 0.48 | 3.02 | 1 | 1 |
| 1:B:132:ASP:OD2 | 1:B:166:SER:HB2 | 0.48 | 2.08 | 1 | 1 |
| 1:A:269:VAL:CG1 | 1:A:270:GLU:O | 0.48 | 2.62 | 2 | 1 |
| 1:B:259:LEU:H | 1:B:260:PRO:HD3 | 0.48 | 1.68 | 2 | 1 |
| 1:A:339:ASP:OD2 | 1:A:465:ARG:NH2 | 0.48 | 2.46 | 1 | 2 |
| 1:B:70:GLU:O | 1:B:70:GLU:OE2 | 0.48 | 2.32 | 1 | 2 |
| 1:B:275:ILE:CG2 | 1:B:280:ASP:HB2 | 0.48 | 2.35 | 1 | 1 |
| 1:A:129:ASP:HA | 1:A:165:PRO:HG2 | 0.47 | 1.85 | 1 | 1 |
| 1:B:10:GLY:O | 1:B:221:ASP:O | 0.47 | 2.32 | 1 | 2 |
| 1:B:163:LEU:CB | 1:B:190:THR:HG21 | 0.47 | 2.36 | 1 | 1 |
| 1:B:221:ASP:O | 1:B:223:VAL:N | 0.47 | 2.47 | 1 | 2 |
| 1:B:347:PHE:CD1 | 1:B:347:PHE:C | 0.47 | 2.85 | 1 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:B:386:LEU:CD1 | 1:B:387:ARG:O | 0.47 | 2.62 | 1 | 2 |
| 1:B:557:THR:HG22 | 1:B:560:GLU:H | 0.47 | 1.69 | 1 | 2 |
| 1:A:278:VAL:CG1 | 1:A:279:ARG:N | 0.47 | 2.77 | 2 | 1 |
| 1:A:198:GLU:OE2 | 1:A:250:LYS:NZ | 0.47 | 2.43 | 1 | 1 |
| 1:B:314:PHE:CE2 | 1:B:376:ALA:HA | 0.47 | 2.40 | 1 | 2 |
| 1:B:356:GLY:O | 1:B:361:ARG:CZ | 0.47 | 2.62 | 1 | 2 |
| 1:A:321:ALA:O | 1:A:324:CYS:SG | 0.47 | 2.67 | 2 | 2 |
| 1:A:381:SER:CB | 1:A:386:LEU:HD23 | 0.47 | 2.39 | 1 | 2 |
| 1:B:269:VAL:CG1 | 1:B:270:GLU:O | 0.47 | 2.62 | 2 | 1 |
| 1:A:339:ASP:CG | 1:A:465:ARG:NH2 | 0.47 | 2.68 | 1 | 2 |
| 1:A:480:SER:OG | 1:B:438:ILE:HG12 | 0.47 | 2.09 | 1 | 2 |
| 1:B:57:ILE:CG2 | 1:B:58:LYS:N | 0.47 | 2.78 | 1 | 2 |
| 1:A:523:PHE:CD1 | 1:A:524:SER:CA | 0.47 | 2.97 | 2 | 1 |
| 1:A:523:PHE:CD1 | 1:A:524:SER:N | 0.47 | 2.57 | 2 | 1 |
| 1:A:501:MET:SD | 1:A:515:LEU:CD2 | 0.47 | 3.02 | 1 | 1 |
| 1:B:339:ASP:CG | 1:B:465:ARG:NH2 | 0.47 | 2.68 | 1 | 2 |
| 1:B:528:ILE:HG22 | 1:B:528:ILE:O | 0.47 | 2.09 | 2 | 1 |
| 1:A:70:GLU:OE2 | 1:A:70:GLU:O | 0.47 | 2.32 | 2 | 2 |
| 1:A:221:ASP:O | 1:A:223:VAL:N | 0.47 | 2.48 | 1 | 2 |
| 1:A:274:ASN:HD22 | 1:A:274:ASN:C | 0.47 | 2.12 | 1 | 1 |
| 1:A:456:LEU:O | 1:A:460:THR:OG1 | 0.47 | 2.30 | 1 | 2 |
| 1:A:295:TYR:OH | 1:A:320:VAL:CG2 | 0.47 | 2.62 | 2 | 1 |
| 1:A:6:LEU:C | 1:A:6:LEU:CD1 | 0.47 | 2.83 | 2 | 2 |
| 1:A:10:GLY:O | 1:A:221:ASP:O | 0.47 | 2.32 | 1 | 2 |
| 1:B:386:LEU:C | 1:B:386:LEU:CD1 | 0.47 | 2.78 | 1 | 2 |
| 1:A:259:LEU:H | 1:A:260:PRO:HD3 | 0.47 | 1.69 | 2 | 1 |
| 1:A:528:ILE:HG22 | 1:A:528:ILE:O | 0.47 | 2.09 | 2 | 1 |
| 1:B:275:ILE:HG22 | 1:B:277:THR:N | 0.47 | 2.24 | 2 | 1 |
| 1:B:523:PHE:CD1 | 1:B:524:SER:CA | 0.47 | 2.97 | 2 | 1 |
| 1:B:523:PHE:HD1 | 1:B:524:SER:CA | 0.47 | 2.21 | 2 | 1 |
| 1:B:27:ASP:OD1 | 1:B:27:ASP:N | 0.47 | 2.48 | 2 | 2 |
| 1:B:314:PHE:CG | 1:B:376:ALA:HA | 0.47 | 2.37 | 1 | 2 |
| 1:B:339:ASP:OD2 | 1:B:465:ARG:NH2 | 0.47 | 2.47 | 1 | 2 |
| 1:B:278:VAL:CG1 | 1:B:279:ARG:N | 0.47 | 2.78 | 2 | 1 |
| 1:A:150:SER:HA | 1:A:172:ASN:ND2 | 0.47 | 2.25 | 1 | 1 |
| 1:A:296:ARG:NE | 1:A:298:GLU:OE2 | 0.47 | 2.45 | 1 | 1 |
| 1:B:370:LEU:C | 1:B:370:LEU:CD1 | 0.47 | 2.84 | 1 | 2 |
| 1:B:524:SER:O | 1:B:525:MET:HG3 | 0.47 | 2.09 | 1 | 1 |
| 1:A:90:ILE:HG13 | 1:A:91:ALA:N | 0.47 | 2.25 | 1 | 2 |
| 1:B:388:ILE:C | 1:B:388:ILE:HD12 | 0.47 | 2.29 | 1 | 2 |
| 1:B:388:ILE:CA | 1:B:389:MET:HE1 | 0.47 | 2.40 | 1 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:255:LYS:C | 1:A:257:LYS:H | 0.47 | 2.13 | 2 | 1 |
| 1:A:507:GLY:HA2 | 1:A:525:MET:HE3 | 0.46 | 1.87 | 1 | 1 |
| 1:B:272:CYS:HG | 1:B:291:GLY:C | 0.46 | 2.06 | 1 | 1 |
| 1:B:358:ARG:H | 1:B:361:ARG:HE | 0.46 | 1.53 | 1 | 2 |
| 1:A:352:ASN:CG | 1:B:352:ASN:OD1 | 0.46 | 2.54 | 1 | 2 |
| 1:B:6:LEU:C | 1:B:6:LEU:CD1 | 0.46 | 2.83 | 1 | 2 |
| 1:B:453:THR:OG1 | 1:B:501:MET:CE | 0.46 | 2.63 | 1 | 1 |
| 1:A:139:ARG:NH2 | 1:A:145:LYS:O | 0.46 | 2.48 | 2 | 1 |
| 1:A:130:VAL:CG1 | 1:A:131:ARG:N | 0.46 | 2.79 | 2 | 2 |
| 1:A:132:ASP:OD2 | 1:A:166:SER:OG | 0.46 | 2.32 | 1 | 1 |
| 1:A:370:LEU:C | 1:A:370:LEU:CD1 | 0.46 | 2.84 | 1 | 2 |
| 1:A:57:ILE:CG2 | 1:A:58:LYS:N | 0.46 | 2.78 | 1 | 2 |
| 1:B:5:ILE:O | 1:B:6:LEU:O | 0.46 | 2.34 | 1 | 2 |
| 1:B:150:SER:HA | 1:B:172:ASN:ND2 | 0.46 | 2.26 | 1 | 1 |
| 1:A:27:ASP:OD1 | 1:A:27:ASP:N | 0.46 | 2.49 | 2 | 1 |
| 1:A:27:ASP:N | 1:A:27:ASP:OD1 | 0.46 | 2.48 | 1 | 1 |
| 1:A:179:PHE:O | 1:A:201:ALA:HB1 | 0.46 | 2.11 | 1 | 2 |
| 1:A:459:TYR:O | 1:B:459:TYR:HB3 | 0.46 | 2.10 | 1 | 2 |
| 1:A:301:PHE:CD2 | 1:A:342:LEU:CD2 | 0.46 | 2.96 | 2 | 1 |
| 1:A:5:ILE:O | 1:A:6:LEU:O | 0.46 | 2.34 | 1 | 2 |
| 1:A:22:ASP:OD2 | 1:A:145:LYS:NZ | 0.46 | 2.48 | 1 | 1 |
| 1:A:158:LEU:O | 1:A:180:ILE:HG23 | 0.46 | 2.10 | 1 | 2 |
| 1:B:22:ASP:OD2 | 1:B:145:LYS:NZ | 0.46 | 2.49 | 1 | 1 |
| 1:B:511:ALA:CB | 1:B:515:LEU:CD1 | 0.46 | 2.90 | 1 | 1 |
| 1:A:68:GLU:OE1 | 1:A:68:GLU:N | 0.46 | 2.41 | 1 | 2 |
| 1:A:332:ARG:CG | 1:A:332:ARG:HH11 | 0.46 | 2.24 | 1 | 2 |
| 1:B:86:GLU:O | 1:B:90:ILE:CG2 | 0.46 | 2.61 | 1 | 2 |
| 1:B:129:ASP:HA | 1:B:165:PRO:HG2 | 0.46 | 1.86 | 1 | 1 |
| 1:A:133:ILE:HG23 | 1:A:134:GLY:N | 0.46 | 2.26 | 2 | 2 |
| 1:A:262:ILE:HG23 | 1:A:262:ILE:O | 0.46 | 2.11 | 2 | 2 |
| 1:B:8:SER:HB3 | 1:B:199:LEU:O | 0.46 | 2.11 | 1 | 1 |
| 1:B:133:ILE:HG23 | 1:B:134:GLY:N | 0.46 | 2.26 | 2 | 2 |
| 1:A:271:VAL:CG1 | 1:A:523:PHE:CD2 | 0.46 | 2.98 | 2 | 1 |
| 1:B:179:PHE:O | 1:B:201:ALA:HB1 | 0.46 | 2.10 | 1 | 2 |
| 1:A:221:ASP:CA | 1:A:239:MET:HE2 | 0.46 | 2.25 | 2 | 1 |
| 1:B:269:VAL:HG12 | 1:B:270:GLU:O | 0.46 | 2.10 | 2 | 1 |
| 1:A:314:PHE:CE2 | 1:A:376:ALA:HA | 0.45 | 2.40 | 1 | 2 |
| 1:A:259:LEU:H | 1:A:260:PRO:CD | 0.45 | 2.21 | 2 | 1 |
| 1:A:292:VAL:HG22 | 1:A:329:VAL:HA | 0.45 | 1.88 | 1 | 1 |
| 1:A:388:ILE:C | 1:A:388:ILE:HD12 | 0.45 | 2.30 | 1 | 2 |
| 1:B:263:THR:CG2 | 1:B:516:LEU:HD11 | 0.45 | 2.41 | 2 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:148:ASP:OD2 | 1:A:150:SER:OG | 0.45 | 2.34 | 2 | 1 |
| 1:B:243:GLN:C | 1:B:243:GLN:CD | 0.45 | 2.75 | 2 | 1 |
| 1:A:314:PHE:HE1 | 1:A:379:ARG:CB | 0.45 | 2.16 | 1 | 2 |
| 1:B:277:THR:O | 1:B:278:VAL:C | 0.45 | 2.54 | 1 | 1 |
| 1:B:388:ILE:C | 1:B:389:MET:CE | 0.45 | 2.84 | 1 | 2 |
| 1:B:456:LEU:HD13 | 1:B:484:LEU:CD2 | 0.45 | 2.30 | 1 | 2 |
| 1:A:86:GLU:O | 1:A:90:ILE:CG2 | 0.45 | 2.61 | 1 | 2 |
| 1:A:438:ILE:CG2 | 1:A:438:ILE:O | 0.45 | 2.64 | 1 | 2 |
| 1:A:468:ASP:OD1 | 1:A:469:MET:SD | 0.45 | 2.74 | 1 | 2 |
| 1:B:468:ASP:OD1 | 1:B:469:MET:SD | 0.45 | 2.74 | 1 | 2 |
| 1:A:269:VAL:HG12 | 1:A:270:GLU:O | 0.45 | 2.11 | 2 | 1 |
| 1:B:275:ILE:HG23 | 1:B:280:ASP:HB3 | 0.45 | 1.88 | 2 | 1 |
| 1:A:333:THR:CG2 | 1:A:334:MET:H | 0.45 | 2.25 | 1 | 2 |
| 1:B:168:THR:CG2 | 1:B:190:THR:HG22 | 0.45 | 2.42 | 1 | 1 |
| 1:B:221:ASP:OD2 | 1:B:224:ASN:N | 0.45 | 2.50 | 1 | 2 |
| 1:B:332:ARG:HH11 | 1:B:332:ARG:CG | 0.45 | 2.24 | 1 | 2 |
| 1:A:21:GLU:OE1 | 1:A:21:GLU:O | 0.45 | 2.34 | 2 | 1 |
| 1:A:8:SER:HB3 | 1:A:199:LEU:O | 0.45 | 2.11 | 1 | 1 |
| 1:A:272:CYS:SG | 1:A:291:GLY:C | 0.45 | 2.95 | 1 | 1 |
| 1:A:525:MET:O | 1:A:526:SER:C | 0.45 | 2.55 | 1 | 1 |
| 1:B:507:GLY:HA2 | 1:B:525:MET:HE3 | 0.45 | 1.87 | 1 | 1 |
| 1:B:44:LEU:HD13 | 1:B:44:LEU:O | 0.45 | 2.12 | 2 | 2 |
| 1:B:54:LEU:O | 1:B:57:ILE:HG22 | 0.45 | 2.12 | 1 | 2 |
| 1:B:314:PHE:HE1 | 1:B:375:ARG:O | 0.45 | 1.94 | 1 | 2 |
| 1:A:507:GLY:N | 1:A:525:MET:HG2 | 0.45 | 2.27 | 1 | 1 |
| 1:B:507:GLY:N | 1:B:525:MET:HG2 | 0.45 | 2.27 | 1 | 1 |
| 1:B:21:GLU:O | 1:B:21:GLU:OE1 | 0.45 | 2.35 | 2 | 1 |
| 1:B:262:ILE:HG23 | 1:B:262:ILE:O | 0.45 | 2.11 | 2 | 1 |
| 1:A:388:ILE:C | 1:A:389:MET:CE | 0.45 | 2.86 | 1 | 2 |
| 1:A:5:ILE:CG2 | 1:A:203:VAL:HG12 | 0.44 | 2.43 | 2 | 2 |
| 1:A:180:ILE:HD11 | 1:A:208:VAL:HG11 | 0.44 | 1.89 | 1 | 2 |
| 1:A:369:ILE:O | 1:A:372:ASP:OD2 | 0.44 | 2.35 | 1 | 2 |
| 1:A:556:PRO:O | 1:B:396:VAL:CG2 | 0.44 | 2.65 | 1 | 2 |
| 1:B:5:ILE:CG2 | 1:B:203:VAL:HG12 | 0.44 | 2.43 | 1 | 2 |
| 1:B:314:PHE:CD1 | 1:B:376:ALA:C | 0.44 | 2.88 | 1 | 2 |
| 1:B:148:ASP:OD2 | 1:B:150:SER:OG | 0.44 | 2.35 | 2 | 1 |
| 1:B:295:TYR:OH | 1:B:320:VAL:CG2 | 0.44 | 2.62 | 2 | 1 |
| 1:A:259:LEU:N | 1:A:259:LEU:CD2 | 0.44 | 2.76 | 1 | 1 |
| 1:A:358:ARG:H | 1:A:361:ARG:HE | 0.44 | 1.54 | 1 | 2 |
| 1:B:259:LEU:N | 1:B:259:LEU:CD1 | 0.44 | 2.63 | 1 | 1 |
| 1:A:263:THR:CG2 | 1:A:516:LEU:HD11 | 0.44 | 2.42 | 2 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:B:139:ARG:NH2 | 1:B:145:LYS:O | 0.44 | 2.51 | 2 | 1 |
| 1:B:275:ILE:HG12 | 1:B:280:ASP:HB3 | 0.44 | 1.89 | 2 | 1 |
| 1:B:301:PHE:CD2 | 1:B:342:LEU:CD2 | 0.44 | 2.96 | 2 | 1 |
| 1:B:292:VAL:HG22 | 1:B:329:VAL:HA | 0.44 | 1.88 | 1 | 1 |
| 1:B:369:ILE:O | 1:B:372:ASP:OD2 | 0.44 | 2.35 | 1 | 2 |
| 1:B:388:ILE:C | 1:B:388:ILE:CD1 | 0.44 | 2.85 | 1 | 2 |
| 1:B:484:LEU:O | 1:B:488:VAL:HG23 | 0.44 | 2.12 | 1 | 2 |
| 1:A:172:ASN:O | 1:A:176:VAL:HG23 | 0.44 | 2.13 | 2 | 1 |
| 1:A:386:LEU:HD12 | 1:A:387:ARG:O | 0.44 | 2.10 | 1 | 2 |
| 1:B:271:VAL:CG1 | 1:B:523:PHE:CD2 | 0.44 | 2.98 | 2 | 1 |
| 1:A:305:ASP:O | 1:A:344:TYR:CE1 | 0.44 | 2.71 | 2 | 2 |
| 1:A:484:LEU:O | 1:A:488:VAL:HG23 | 0.44 | 2.12 | 1 | 2 |
| 1:B:138:LEU:O | 1:B:141:ILE:CG2 | 0.44 | 2.66 | 1 | 2 |
| 1:A:525:MET:CE | 1:A:529:SER:OG | 0.44 | 2.66 | 2 | 1 |
| 1:A:68:GLU:H | 1:A:68:GLU:CD | 0.44 | 2.15 | 1 | 1 |
| 1:B:258:ASP:C | 1:B:259:LEU:HD13 | 0.44 | 2.33 | 1 | 1 |
| 1:B:277:THR:O | 1:B:279:ARG:N | 0.44 | 2.50 | 1 | 1 |
| 1:B:282:GLU:N | 1:B:282:GLU:OE1 | 0.44 | 2.47 | 1 | 1 |
| 1:B:305:ASP:O | 1:B:344:TYR:CE1 | 0.44 | 2.71 | 2 | 2 |
| 1:B:332:ARG:CG | 1:B:332:ARG:NH1 | 0.44 | 2.80 | 1 | 2 |
| 1:B:172:ASN:O | 1:B:176:VAL:HG23 | 0.44 | 2.13 | 2 | 1 |
| 1:B:522:GLU:OE1 | 1:B:522:GLU:C | 0.44 | 2.56 | 2 | 1 |
| 1:A:168:THR:HG23 | 1:A:190:THR:HG22 | 0.44 | 1.90 | 1 | 1 |
| 1:A:258:ASP:C | 1:A:259:LEU:HD13 | 0.44 | 2.33 | 1 | 1 |
| 1:B:171:LEU:HD21 | 1:B:179:PHE:HE1 | 0.44 | 1.68 | 1 | 1 |
| 1:A:44:LEU:HD13 | 1:A:44:LEU:O | 0.44 | 2.13 | 2 | 2 |
| 1:A:54:LEU:O | 1:A:57:ILE:HG22 | 0.44 | 2.12 | 1 | 2 |
| 1:A:314:PHE:CD1 | 1:A:376:ALA:C | 0.44 | 2.88 | 1 | 2 |
| 1:B:438:ILE:CG2 | 1:B:438:ILE:O | 0.44 | 2.63 | 1 | 2 |
| 1:A:107:VAL:CG1 | 1:A:108:ILE:H | 0.44 | 2.25 | 2 | 2 |
| 1:A:352:ASN:ND2 | 1:B:352:ASN:OD1 | 0.44 | 2.51 | 1 | 2 |
| 1:B:333:THR:CG2 | 1:B:334:MET:H | 0.44 | 2.25 | 1 | 2 |
| 1:A:277:THR:O | 1:A:279:ARG:N | 0.43 | 2.51 | 1 | 1 |
| 1:A:332:ARG:CG | 1:A:332:ARG:NH1 | 0.43 | 2.81 | 1 | 2 |
| 1:A:467:ASN:CG | 1:A:470:ILE:CD1 | 0.43 | 2.86 | 1 | 2 |
| 1:A:255:LYS:C | 1:A:257:LYS:N | 0.43 | 2.71 | 2 | 1 |
| 1:A:522:GLU:C | 1:A:522:GLU:OE1 | 0.43 | 2.56 | 2 | 1 |
| 1:A:92:LEU:O | 1:A:96:LYS:N | 0.43 | 2.50 | 1 | 2 |
| 1:A:138:LEU:O | 1:A:141:ILE:CG2 | 0.43 | 2.66 | 2 | 2 |
| 1:A:277:THR:O | 1:A:278:VAL:C | 0.43 | 2.54 | 1 | 1 |
| 1:A:310:GLU:O | 1:A:314:PHE:CD2 | 0.43 | 2.71 | 1 | 2 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:B:259:LEU:O | 1:B:260:PRO:O | 0.43 | 2.36 | 2 | 1 |
| 1:A:182:ASP:O | 1:A:183:ALA:O | 0.43 | 2.37 | 2 | 2 |
| 1:A:351:GLU:OE2 | 1:B:464:ASP:OD1 | 0.43 | 2.36 | 1 | 2 |
| 1:B:68:GLU:H | 1:B:68:GLU:CD | 0.43 | 2.14 | 1 | 2 |
| 1:B:381:SER:CB | 1:B:386:LEU:HD23 | 0.43 | 2.43 | 1 | 2 |
| 1:B:467:ASN:CG | 1:B:470:ILE:CD1 | 0.43 | 2.86 | 1 | 2 |
| 1:A:264:LEU:C | 1:A:264:LEU:CD2 | 0.43 | 2.85 | 2 | 1 |
| 1:A:171:LEU:HD21 | 1:A:179:PHE:HE1 | 0.43 | 1.68 | 1 | 1 |
| 1:B:310:GLU:O | 1:B:314:PHE:CD2 | 0.43 | 2.72 | 1 | 2 |
| 1:A:129:ASP:CG | 1:A:165:PRO:CG | 0.43 | 2.82 | 2 | 1 |
| 1:A:125:GLU:OE1 | 1:A:192:ILE:CD1 | 0.43 | 2.66 | 1 | 1 |
| 1:A:221:ASP:OD2 | 1:A:224:ASN:N | 0.43 | 2.51 | 2 | 2 |
| 1:B:272:CYS:SG | 1:B:291:GLY:C | 0.43 | 2.95 | 1 | 1 |
| 1:B:310:GLU:CD | 1:B:310:GLU:H | 0.43 | 2.17 | 1 | 2 |
| 1:B:333:THR:CG2 | 1:B:334:MET:N | 0.43 | 2.82 | 1 | 2 |
| 1:B:525:MET:CE | 1:B:529:SER:OG | 0.43 | 2.67 | 2 | 1 |
| 1:A:68:GLU:HG2 | 1:A:69:LYS:N | 0.43 | 2.29 | 2 | 2 |
| 1:A:539:ASN:OD1 | 1:A:539:ASN:C | 0.43 | 2.57 | 1 | 1 |
| 1:B:221:ASP:CA | 1:B:239:MET:HE1 | 0.43 | 2.40 | 2 | 2 |
| 1:A:396:VAL:CG2 | 1:B:556:PRO:O | 0.43 | 2.66 | 1 | 2 |
| 1:B:107:VAL:CG1 | 1:B:108:ILE:H | 0.43 | 2.25 | 1 | 2 |
| 1:B:381:SER:OG | 1:B:386:LEU:CD2 | 0.43 | 2.67 | 1 | 2 |
| 1:B:525:MET:O | 1:B:526:SER:C | 0.43 | 2.55 | 1 | 1 |
| 1:A:275:ILE:HG22 | 1:A:277:THR:N | 0.43 | 2.25 | 2 | 1 |
| 1:B:182:ASP:O | 1:B:183:ALA:O | 0.43 | 2.37 | 2 | 2 |
| 1:B:314:PHE:HE1 | 1:B:379:ARG:CB | 0.43 | 2.16 | 1 | 2 |
| 1:B:539:ASN:OD1 | 1:B:539:ASN:C | 0.43 | 2.57 | 1 | 1 |
| 1:B:547:VAL:O | 1:B:551:GLN:HG3 | 0.43 | 2.14 | 1 | 2 |
| 1:A:262:ILE:O | 1:A:262:ILE:CG2 | 0.43 | 2.66 | 2 | 1 |
| 1:B:264:LEU:C | 1:B:264:LEU:CD2 | 0.43 | 2.84 | 2 | 1 |
| 1:A:49:LYS:O | 1:A:50:ALA:C | 0.43 | 2.57 | 1 | 2 |
| 1:B:138:LEU:O | 1:B:141:ILE:HG22 | 0.43 | 2.14 | 1 | 2 |
| 1:A:275:ILE:HG12 | 1:A:280:ASP:HB3 | 0.43 | 1.89 | 2 | 1 |
| 1:A:8:SER:CB | 1:A:199:LEU:O | 0.42 | 2.67 | 2 | 2 |
| 1:A:272:CYS:HG | 1:A:291:GLY:C | 0.42 | 2.11 | 1 | 1 |
| 1:B:68:GLU:HG2 | 1:B:69:LYS:N | 0.42 | 2.29 | 2 | 2 |
| 1:B:297:THR:OG1 | 1:B:317:TYR:OH | 0.42 | 2.27 | 1 | 1 |
| 1:A:176:VAL:CG1 | 1:A:179:PHE:CE1 | 0.42 | 2.93 | 2 | 1 |
| 1:B:262:ILE:O | 1:B:262:ILE:CG2 | 0.42 | 2.66 | 2 | 1 |
| 1:A:202:ILE:HD12 | 1:A:205:THR:CG2 | 0.42 | 2.44 | 1 | 1 |
| 1:A:260:PRO:O | 1:A:261:ALA:C | 0.42 | 2.58 | 1 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:441:HIS:CE1 | 1:B:556:PRO:HB3 | 0.42 | 2.48 | 1 | 2 |
| 1:B:202:ILE:HD12 | 1:B:205:THR:CG2 | 0.42 | 2.43 | 1 | 1 |
| 1:B:259:LEU:N | 1:B:259:LEU:CD2 | 0.42 | 2.78 | 1 | 1 |
| 1:A:271:VAL:HG12 | 1:A:523:PHE:HD2 | 0.42 | 1.71 | 2 | 1 |
| 1:A:32:SER:OG | 1:A:33:ALA:N | 0.42 | 2.52 | 2 | 2 |
| 1:A:310:GLU:CD | 1:A:310:GLU:H | 0.42 | 2.17 | 1 | 2 |
| 1:B:32:SER:OG | 1:B:33:ALA:N | 0.42 | 2.52 | 2 | 2 |
| 1:B:130:VAL:CG1 | 1:B:131:ARG:N | 0.42 | 2.82 | 2 | 2 |
| 1:B:507:GLY:CA | 1:B:525:MET:CG | 0.42 | 2.97 | 1 | 2 |
| 1:B:8:SER:CB | 1:B:199:LEU:O | 0.42 | 2.67 | 2 | 2 |
| 1:B:456:LEU:O | 1:B:460:THR:OG1 | 0.42 | 2.31 | 1 | 2 |
| 1:A:259:LEU:O | 1:A:260:PRO:O | 0.42 | 2.37 | 2 | 1 |
| 1:A:523:PHE:O | 1:A:523:PHE:CG | 0.42 | 2.71 | 2 | 1 |
| 1:A:333:THR:CG2 | 1:A:334:MET:N | 0.42 | 2.82 | 1 | 2 |
| 1:A:381:SER:OG | 1:A:386:LEU:CD2 | 0.42 | 2.68 | 1 | 2 |
| 1:B:260:PRO:O | 1:B:261:ALA:C | 0.42 | 2.58 | 1 | 1 |
| 1:B:129:ASP:CG | 1:B:165:PRO:CG | 0.42 | 2.82 | 2 | 1 |
| 1:B:90:ILE:CG1 | 1:B:91:ALA:N | 0.42 | 2.83 | 2 | 2 |
| 1:B:506:ALA:O | 1:B:525:MET:SD | 0.42 | 2.78 | 1 | 1 |
| 1:B:507:GLY:N | 1:B:525:MET:CG | 0.42 | 2.82 | 1 | 1 |
| 1:A:22:ASP:CG | 1:A:145:LYS:NZ | 0.42 | 2.73 | 1 | 1 |
| 1:A:136:ARG:HH22 | 1:A:167:GLU:CD | 0.42 | 2.18 | 1 | 1 |
| 1:A:221:ASP:OD1 | 1:A:226:GLN:N | 0.42 | 2.52 | 1 | 2 |
| 1:A:297:THR:CG2 | 1:A:334:MET:HA | 0.42 | 2.45 | 1 | 1 |
| 1:A:371:ARG:NH1 | 1:A:375:ARG:NH1 | 0.42 | 2.67 | 1 | 2 |
| 1:A:438:ILE:HG12 | 1:B:480:SER:OG | 0.42 | 2.14 | 1 | 2 |
| 1:A:506:ALA:O | 1:A:525:MET:SD | 0.42 | 2.78 | 1 | 1 |
| 1:A:501:MET:SD | 1:A:505:LEU:HB3 | 0.42 | 2.55 | 2 | 1 |
| 1:A:388:ILE:C | 1:A:388:ILE:CD1 | 0.42 | 2.85 | 1 | 2 |
| 1:A:388:ILE:CA | 1:A:389:MET:HE1 | 0.42 | 2.45 | 1 | 2 |
| 1:A:525:MET:HE3 | 1:A:529:SER:HB2 | 0.42 | 1.91 | 1 | 1 |
| 1:A:547:VAL:O | 1:A:551:GLN:HG3 | 0.42 | 2.14 | 1 | 2 |
| 1:B:221:ASP:OD1 | 1:B:226:GLN:N | 0.42 | 2.52 | 2 | 1 |
| 1:A:464:ASP:OD2 | 1:B:351:GLU:OE2 | 0.42 | 2.38 | 1 | 2 |
| 1:B:49:LYS:O | 1:B:50:ALA:C | 0.42 | 2.57 | 1 | 2 |
| 1:A:214:ASN:OD1 | 1:A:214:ASN:O | 0.42 | 2.38 | 1 | 2 |
| 1:A:240:ARG:O | 1:A:243:GLN:HG3 | 0.42 | 2.15 | 2 | 1 |
| 1:A:355:LEU:HD22 | 1:B:462:ALA:HA | 0.41 | 1.91 | 1 | 2 |
| 1:A:507:GLY:CA | 1:A:525:MET:CG | 0.41 | 2.97 | 1 | 2 |
| 1:B:214:ASN:OD1 | 1:B:214:ASN:O | 0.41 | 2.38 | 2 | 2 |
| 1:B:453:THR:OG1 | 1:B:501:MET:HE1 | 0.41 | 2.15 | 1 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:A:248:SER:O | 1:A:252:GLU:OE2 | 0.41 | 2.37 | 2 | 1 |
| 1:A:152:ILE:O | 1:A:175:LYS:NZ | 0.41 | 2.34 | 1 | 1 |
| 1:A:280:ASP:N | 1:A:280:ASP:OD1 | 0.41 | 2.50 | 1 | 1 |
| 1:A:282:GLU:OE1 | 1:A:282:GLU:N | 0.41 | 2.53 | 1 | 1 |
| 1:A:301:PHE:CG | 1:A:342:LEU:CD2 | 0.41 | 2.99 | 1 | 2 |
| 1:B:221:ASP:C | 1:B:223:VAL:H | 0.41 | 2.19 | 2 | 2 |
| 1:B:226:GLN:NE2 | 1:B:228:TYR:CZ | 0.41 | 2.88 | 1 | 2 |
| 1:B:301:PHE:CD2 | 1:B:342:LEU:HD11 | 0.41 | 2.50 | 2 | 1 |
| 1:B:125:GLU:OE1 | 1:B:192:ILE:CD1 | 0.41 | 2.68 | 1 | 1 |
| 1:B:136:ARG:NH1 | 1:B:166:SER:HB2 | 0.41 | 2.31 | 1 | 1 |
| 1:B:297:THR:CG2 | 1:B:334:MET:HA | 0.41 | 2.45 | 1 | 1 |
| 1:B:314:PHE:CE1 | 1:B:375:ARG:C | 0.41 | 2.93 | 1 | 2 |
| 1:B:256:LEU:O | 1:B:257:LYS:C | 0.41 | 2.59 | 2 | 1 |
| 1:B:501:MET:SD | 1:B:505:LEU:HB3 | 0.41 | 2.55 | 2 | 1 |
| 1:A:120:ASP:OD1 | 1:A:121:GLU:N | 0.41 | 2.54 | 2 | 2 |
| 1:A:221:ASP:C | 1:A:223:VAL:H | 0.41 | 2.19 | 1 | 2 |
| 1:A:331:VAL:H | 1:A:389:MET:HE3 | 0.41 | 1.73 | 1 | 2 |
| 1:A:226:GLN:NE2 | 1:A:228:TYR:CZ | 0.41 | 2.88 | 1 | 2 |
| 1:A:271:VAL:HB | 1:A:523:PHE:CD2 | 0.41 | 2.50 | 1 | 1 |
| 1:A:276:GLY:C | 1:A:277:THR:CG2 | 0.41 | 2.89 | 1 | 1 |
| 1:A:309:THR:O | 1:A:313:GLN:HG2 | 0.41 | 2.16 | 1 | 2 |
| 1:B:332:ARG:CZ | 1:B:429:MET:SD | 0.41 | 3.08 | 1 | 2 |
| 1:A:132:ASP:CG | 1:A:136:ARG:NH1 | 0.41 | 2.74 | 2 | 2 |
| 1:A:138:LEU:O | 1:A:141:ILE:HG22 | 0.41 | 2.15 | 2 | 2 |
| 1:B:262:ILE:HD11 | 1:B:266:GLY:HA2 | 0.41 | 1.91 | 1 | 1 |
| 1:B:529:SER:O | 1:B:533:ILE:HG12 | 0.41 | 2.16 | 1 | 1 |
| 1:B:295:TYR:HB3 | 1:B:331:VAL:HA | 0.41 | 1.93 | 2 | 1 |
| 1:A:332:ARG:CZ | 1:A:429:MET:SD | 0.41 | 3.08 | 1 | 2 |
| 1:A:507:GLY:N | 1:A:525:MET:CG | 0.41 | 2.83 | 1 | 1 |
| 1:B:198:GLU:OE2 | 1:B:250:LYS:NZ | 0.41 | 2.49 | 1 | 1 |
| 1:B:388:ILE:HA | 1:B:389:MET:HE1 | 0.41 | 1.93 | 1 | 2 |
| 1:B:520:LEU:CD2 | 1:B:522:GLU:O | 0.41 | 2.68 | 1 | 1 |
| 1:A:295:TYR:HB3 | 1:A:331:VAL:HA | 0.41 | 1.93 | 2 | 1 |
| 1:B:536:ILE:O | 1:B:539:ASN:OD1 | 0.41 | 2.38 | 2 | 1 |
| 1:A:136:ARG:NH1 | 1:A:166:SER:HB2 | 0.41 | 2.31 | 1 | 1 |
| 1:A:136:ARG:CZ | 1:A:166:SER:HB2 | 0.41 | 2.46 | 1 | 1 |
| 1:A:296:ARG:NH2 | 1:A:298:GLU:OE2 | 0.41 | 2.54 | 1 | 1 |
| 1:A:393:ILE:O | 1:A:393:ILE:CG2 | 0.41 | 2.68 | 1 | 2 |
| 1:B:388:ILE:O | 1:B:388:ILE:HG13 | 0.41 | 2.15 | 1 | 2 |
| 1:B:525:MET:HE3 | 1:B:529:SER:HB2 | 0.41 | 1.93 | 1 | 1 |
| 1:A:11:ILE:CG1 | 1:A:243:GLN:CB | 0.41 | 2.74 | 2 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|------------------|------------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:B:186:ARG:C | 1:B:188:SER:H | 0.41 | 2.19 | 2 | 1 |
| 1:B:248:SER:O | 1:B:252:GLU:CD | 0.41 | 2.59 | 2 | 1 |
| 1:A:262:ILE:HD11 | 1:A:266:GLY:HA2 | 0.41 | 1.91 | 1 | 1 |
| 1:A:301:PHE:CD2 | 1:A:342:LEU:HD11 | 0.41 | 2.50 | 2 | 2 |
| 1:A:456:LEU:HD23 | 1:A:456:LEU:HA | 0.41 | 1.79 | 1 | 2 |
| 1:B:92:LEU:O | 1:B:96:LYS:N | 0.41 | 2.50 | 1 | 1 |
| 1:B:296:ARG:NH2 | 1:B:298:GLU:OE2 | 0.41 | 2.53 | 1 | 1 |
| 1:A:256:LEU:O | 1:A:257:LYS:C | 0.41 | 2.58 | 2 | 1 |
| 1:B:179:PHE:CD2 | 1:B:199:LEU:HD11 | 0.41 | 2.51 | 2 | 1 |
| 1:B:248:SER:O | 1:B:252:GLU:OE2 | 0.41 | 2.38 | 2 | 1 |
| 1:A:204:GLY:O | 1:A:205:THR:C | 0.41 | 2.59 | 1 | 1 |
| 1:B:43:PHE:CD1 | 1:B:100:ALA:HB1 | 0.41 | 2.51 | 1 | 1 |
| 1:B:276:GLY:C | 1:B:277:THR:CG2 | 0.41 | 2.90 | 1 | 1 |
| 1:A:536:ILE:O | 1:A:539:ASN:OD1 | 0.41 | 2.38 | 2 | 1 |
| 1:B:176:VAL:HG11 | 1:B:179:PHE:CD1 | 0.41 | 2.49 | 2 | 1 |
| 1:A:367:ARG:O | 1:A:368:GLU:C | 0.40 | 2.60 | 1 | 2 |
| 1:B:136:ARG:CZ | 1:B:166:SER:HB2 | 0.40 | 2.46 | 1 | 1 |
| 1:B:168:THR:HG23 | 1:B:190:THR:HG22 | 0.40 | 1.93 | 1 | 1 |
| 1:A:176:VAL:HG11 | 1:A:179:PHE:CD1 | 0.40 | 2.49 | 2 | 1 |
| 1:B:265:ASP:OD2 | 1:B:541:ASN:OD1 | 0.40 | 2.39 | 2 | 1 |
| 1:B:22:ASP:CG | 1:B:145:LYS:NZ | 0.40 | 2.74 | 1 | 1 |
| 1:B:204:GLY:O | 1:B:205:THR:C | 0.40 | 2.60 | 1 | 1 |
| 1:A:43:PHE:CZ | 1:A:100:ALA:HB1 | 0.40 | 2.51 | 2 | 1 |
| 1:A:129:ASP:OD2 | 1:A:165:PRO:CB | 0.40 | 2.69 | 2 | 1 |
| 1:A:248:SER:O | 1:A:252:GLU:CD | 0.40 | 2.59 | 2 | 1 |
| 1:A:265:ASP:CG | 1:A:542:PHE:H | 0.40 | 2.18 | 1 | 1 |
| 1:A:520:LEU:CD2 | 1:A:522:GLU:O | 0.40 | 2.69 | 1 | 1 |
| 1:A:183:ALA:HB3 | 1:A:203:VAL:CG2 | 0.40 | 2.46 | 2 | 1 |
| 1:B:108:ILE:CD1 | 1:B:109:GLU:N | 0.40 | 2.78 | 2 | 1 |
| 1:B:129:ASP:OD2 | 1:B:165:PRO:CB | 0.40 | 2.70 | 2 | 1 |
| 1:B:132:ASP:CG | 1:B:136:ARG:NH1 | 0.40 | 2.75 | 2 | 1 |
| 1:A:499:THR:O | 1:A:499:THR:OG1 | 0.40 | 2.40 | 1 | 1 |
| 1:B:367:ARG:O | 1:B:368:GLU:C | 0.40 | 2.60 | 1 | 2 |
| 1:A:179:PHE:CE2 | 1:A:199:LEU:CD1 | 0.40 | 3.05 | 2 | 1 |
| 1:B:21:GLU:OE1 | 1:B:21:GLU:C | 0.40 | 2.60 | 2 | 1 |
| 1:B:180:ILE:HD11 | 1:B:208:VAL:HG11 | 0.40 | 1.93 | 1 | 1 |
| 1:B:262:ILE:O | 1:B:262:ILE:HG23 | 0.40 | 2.16 | 1 | 1 |
| 1:B:271:VAL:HB | 1:B:523:PHE:CD2 | 0.40 | 2.50 | 1 | 1 |
| 1:B:363:ALA:HB1 | 1:B:370:LEU:HB2 | 0.40 | 1.94 | 1 | 2 |
| 1:B:393:ILE:O | 1:B:393:ILE:CG2 | 0.40 | 2.68 | 1 | 2 |
| 1:A:179:PHE:CD2 | 1:A:199:LEU:HD11 | 0.40 | 2.51 | 2 | 1 |

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| Atom-1 | Atom-2 | Clash(Å) | Distance(Å) | Models | |
|---------------|-----------------|----------|-------------|--------|-------|
| | | | | Worst | Total |
| 1:B:43:PHE:CZ | 1:B:100:ALA:HB1 | 0.40 | 2.51 | 2 | 1 |
| 1:B:541:ASN:N | 1:B:541:ASN:ND2 | 0.40 | 2.70 | 2 | 1 |

6.3 Torsion angles [\(i\)](#)

6.3.1 Protein backbone [\(i\)](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all NMR entries. The Analysed column shows the number of residues for which the backbone conformation was analysed and the total number of residues.

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|------------------|---------------|-------------|------------|-------------|----|
| 1 | A | 571/573 (100%) | 535±1 (94±0%) | 27±1 (5±0%) | 9±0 (2±0%) | 13 | 57 |
| 1 | B | 571/573 (100%) | 536±0 (94±0%) | 26±0 (5±0%) | 9±1 (2±0%) | 13 | 57 |
| All | All | 2284/2292 (100%) | 2141 (94%) | 107 (5%) | 36 (2%) | 13 | 57 |

All 22 unique Ramachandran outliers are listed below. They are sorted by the frequency of occurrence in the ensemble.

| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1 | A | 6 | LEU | 2 |
| 1 | A | 148 | ASP | 2 |
| 1 | A | 183 | ALA | 2 |
| 1 | A | 232 | THR | 2 |
| 1 | A | 256 | LEU | 2 |
| 1 | A | 261 | ALA | 2 |
| 1 | A | 278 | VAL | 2 |
| 1 | B | 6 | LEU | 2 |
| 1 | B | 148 | ASP | 2 |
| 1 | B | 183 | ALA | 2 |
| 1 | B | 232 | THR | 2 |
| 1 | B | 255 | LYS | 2 |
| 1 | B | 261 | ALA | 2 |
| 1 | B | 278 | VAL | 2 |
| 1 | A | 254 | ALA | 1 |
| 1 | A | 257 | LYS | 1 |
| 1 | B | 254 | ALA | 1 |
| 1 | A | 259 | LEU | 1 |
| 1 | A | 260 | PRO | 1 |

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| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1 | B | 256 | LEU | 1 |
| 1 | B | 259 | LEU | 1 |
| 1 | B | 260 | PRO | 1 |

6.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all NMR entries. The Analysed column shows the number of residues for which the sidechain conformation was analysed and the total number of residues.

| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|------------------|---------------|--------------|-------------|----|
| 1 | A | 474/474 (100%) | 390±2 (82±0%) | 84±2 (18±0%) | 4 | 38 |
| 1 | B | 474/474 (100%) | 391±1 (82±0%) | 83±1 (18±0%) | 4 | 39 |
| All | All | 1896/1896 (100%) | 1561 (82%) | 335 (18%) | 4 | 38 |

All 190 unique residues with a non-rotameric sidechain are listed below. They are sorted by the frequency of occurrence in the ensemble.

| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1 | A | 2 | ILE | 2 |
| 1 | A | 11 | ILE | 2 |
| 1 | A | 27 | ASP | 2 |
| 1 | A | 28 | ARG | 2 |
| 1 | A | 32 | SER | 2 |
| 1 | A | 43 | PHE | 2 |
| 1 | A | 44 | LEU | 2 |
| 1 | A | 57 | ILE | 2 |
| 1 | A | 65 | PHE | 2 |
| 1 | A | 70 | GLU | 2 |
| 1 | A | 77 | ILE | 2 |
| 1 | A | 101 | ASP | 2 |
| 1 | A | 107 | VAL | 2 |
| 1 | A | 126 | ARG | 2 |
| 1 | A | 129 | ASP | 2 |
| 1 | A | 130 | VAL | 2 |
| 1 | A | 142 | LEU | 2 |
| 1 | A | 180 | ILE | 2 |
| 1 | A | 181 | THR | 2 |
| 1 | A | 197 | LEU | 2 |
| 1 | A | 199 | LEU | 2 |

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| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1 | A | 213 | LYS | 2 |
| 1 | A | 215 | ASP | 2 |
| 1 | A | 216 | ASP | 2 |
| 1 | A | 225 | ASN | 2 |
| 1 | A | 240 | ARG | 2 |
| 1 | A | 252 | GLU | 2 |
| 1 | A | 272 | CYS | 2 |
| 1 | A | 274 | ASN | 2 |
| 1 | A | 280 | ASP | 2 |
| 1 | A | 292 | VAL | 2 |
| 1 | A | 298 | GLU | 2 |
| 1 | A | 301 | PHE | 2 |
| 1 | A | 304 | ARG | 2 |
| 1 | A | 310 | GLU | 2 |
| 1 | A | 330 | ILE | 2 |
| 1 | A | 332 | ARG | 2 |
| 1 | A | 342 | LEU | 2 |
| 1 | A | 347 | PHE | 2 |
| 1 | A | 351 | GLU | 2 |
| 1 | A | 352 | ASN | 2 |
| 1 | A | 354 | PHE | 2 |
| 1 | A | 360 | ILE | 2 |
| 1 | A | 372 | ASP | 2 |
| 1 | A | 381 | SER | 2 |
| 1 | A | 385 | LYS | 2 |
| 1 | A | 386 | LEU | 2 |
| 1 | A | 388 | ILE | 2 |
| 1 | A | 389 | MET | 2 |
| 1 | A | 396 | VAL | 2 |
| 1 | A | 398 | GLU | 2 |
| 1 | A | 404 | LYS | 2 |
| 1 | A | 411 | GLN | 2 |
| 1 | A | 423 | SER | 2 |
| 1 | A | 431 | GLU | 2 |
| 1 | A | 453 | THR | 2 |
| 1 | A | 467 | ASN | 2 |
| 1 | A | 469 | MET | 2 |
| 1 | A | 470 | ILE | 2 |
| 1 | A | 474 | TYR | 2 |
| 1 | A | 480 | SER | 2 |
| 1 | A | 484 | LEU | 2 |
| 1 | A | 497 | LYS | 2 |

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| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1 | A | 499 | THR | 2 |
| 1 | A | 516 | LEU | 2 |
| 1 | A | 518 | MET | 2 |
| 1 | A | 520 | LEU | 2 |
| 1 | A | 522 | GLU | 2 |
| 1 | A | 523 | PHE | 2 |
| 1 | A | 542 | PHE | 2 |
| 1 | A | 557 | THR | 2 |
| 1 | A | 561 | LEU | 2 |
| 1 | A | 573 | THR | 2 |
| 1 | B | 2 | ILE | 2 |
| 1 | B | 11 | ILE | 2 |
| 1 | B | 27 | ASP | 2 |
| 1 | B | 28 | ARG | 2 |
| 1 | B | 32 | SER | 2 |
| 1 | B | 43 | PHE | 2 |
| 1 | B | 44 | LEU | 2 |
| 1 | B | 65 | PHE | 2 |
| 1 | B | 70 | GLU | 2 |
| 1 | B | 77 | ILE | 2 |
| 1 | B | 101 | ASP | 2 |
| 1 | B | 107 | VAL | 2 |
| 1 | B | 126 | ARG | 2 |
| 1 | B | 129 | ASP | 2 |
| 1 | B | 130 | VAL | 2 |
| 1 | B | 142 | LEU | 2 |
| 1 | B | 180 | ILE | 2 |
| 1 | B | 181 | THR | 2 |
| 1 | B | 197 | LEU | 2 |
| 1 | B | 199 | LEU | 2 |
| 1 | B | 213 | LYS | 2 |
| 1 | B | 215 | ASP | 2 |
| 1 | B | 216 | ASP | 2 |
| 1 | B | 225 | ASN | 2 |
| 1 | B | 240 | ARG | 2 |
| 1 | B | 243 | GLN | 2 |
| 1 | B | 252 | GLU | 2 |
| 1 | B | 272 | CYS | 2 |
| 1 | B | 274 | ASN | 2 |
| 1 | B | 280 | ASP | 2 |
| 1 | B | 292 | VAL | 2 |
| 1 | B | 298 | GLU | 2 |

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| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1 | B | 301 | PHE | 2 |
| 1 | B | 304 | ARG | 2 |
| 1 | B | 310 | GLU | 2 |
| 1 | B | 330 | ILE | 2 |
| 1 | B | 332 | ARG | 2 |
| 1 | B | 342 | LEU | 2 |
| 1 | B | 347 | PHE | 2 |
| 1 | B | 351 | GLU | 2 |
| 1 | B | 352 | ASN | 2 |
| 1 | B | 354 | PHE | 2 |
| 1 | B | 360 | ILE | 2 |
| 1 | B | 372 | ASP | 2 |
| 1 | B | 381 | SER | 2 |
| 1 | B | 385 | LYS | 2 |
| 1 | B | 386 | LEU | 2 |
| 1 | B | 388 | ILE | 2 |
| 1 | B | 389 | MET | 2 |
| 1 | B | 396 | VAL | 2 |
| 1 | B | 398 | GLU | 2 |
| 1 | B | 404 | LYS | 2 |
| 1 | B | 411 | GLN | 2 |
| 1 | B | 423 | SER | 2 |
| 1 | B | 431 | GLU | 2 |
| 1 | B | 453 | THR | 2 |
| 1 | B | 467 | ASN | 2 |
| 1 | B | 469 | MET | 2 |
| 1 | B | 470 | ILE | 2 |
| 1 | B | 474 | TYR | 2 |
| 1 | B | 480 | SER | 2 |
| 1 | B | 484 | LEU | 2 |
| 1 | B | 497 | LYS | 2 |
| 1 | B | 516 | LEU | 2 |
| 1 | B | 518 | MET | 2 |
| 1 | B | 520 | LEU | 2 |
| 1 | B | 522 | GLU | 2 |
| 1 | B | 523 | PHE | 2 |
| 1 | B | 542 | PHE | 2 |
| 1 | B | 557 | THR | 2 |
| 1 | B | 561 | LEU | 2 |
| 1 | B | 573 | THR | 2 |
| 1 | A | 22 | ASP | 1 |
| 1 | A | 168 | THR | 1 |

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| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1 | A | 191 | SER | 1 |
| 1 | A | 256 | LEU | 1 |
| 1 | A | 258 | ASP | 1 |
| 1 | A | 259 | LEU | 1 |
| 1 | A | 265 | ASP | 1 |
| 1 | A | 271 | VAL | 1 |
| 1 | A | 277 | THR | 1 |
| 1 | A | 526 | SER | 1 |
| 1 | B | 22 | ASP | 1 |
| 1 | B | 168 | THR | 1 |
| 1 | B | 191 | SER | 1 |
| 1 | B | 256 | LEU | 1 |
| 1 | B | 259 | LEU | 1 |
| 1 | B | 265 | ASP | 1 |
| 1 | B | 271 | VAL | 1 |
| 1 | B | 277 | THR | 1 |
| 1 | B | 515 | LEU | 1 |
| 1 | B | 526 | SER | 1 |
| 1 | A | 186 | ARG | 1 |
| 1 | A | 189 | GLN | 1 |
| 1 | A | 190 | THR | 1 |
| 1 | A | 202 | ILE | 1 |
| 1 | A | 243 | GLN | 1 |
| 1 | A | 257 | LYS | 1 |
| 1 | A | 296 | ARG | 1 |
| 1 | A | 299 | PHE | 1 |
| 1 | A | 329 | VAL | 1 |
| 1 | A | 512 | THR | 1 |
| 1 | A | 513 | LEU | 1 |
| 1 | A | 525 | MET | 1 |
| 1 | A | 540 | THR | 1 |
| 1 | B | 186 | ARG | 1 |
| 1 | B | 189 | GLN | 1 |
| 1 | B | 190 | THR | 1 |
| 1 | B | 202 | ILE | 1 |
| 1 | B | 296 | ARG | 1 |
| 1 | B | 299 | PHE | 1 |
| 1 | B | 329 | VAL | 1 |
| 1 | B | 499 | THR | 1 |
| 1 | B | 512 | THR | 1 |
| 1 | B | 513 | LEU | 1 |
| 1 | B | 525 | MET | 1 |

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| Mol | Chain | Res | Type | Models (Total) |
|-----|-------|-----|------|----------------|
| 1 | B | 540 | THR | 1 |

6.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

6.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.6 Ligand geometry [i](#)

There are no ligands in this entry.

6.7 Other polymers [i](#)

There are no such molecules in this entry.

6.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

7 Chemical shift validation

No chemical shift data were provided