



Full wwPDB EM Validation Report ⓘ

Apr 27, 2024 – 11:59 am BST

PDB ID : 2W49
EMDB ID : EMD-1561
Title : ISOMETRICALLY CONTRACTING INSECT ASYNCHRONOUS FLIGHT MUSCLE
Authors : Wu, S.; Liu, J.; Reedy, M.C.; Tregear, R.T.; Winkler, H.; Franzini-Armstrong, C.; Sasaki, H.; Lucaveche, C.; Goldman, Y.E.; Reedy, M.K.; Taylor, K.A.
Deposited on : 2008-11-24
Resolution : 35.00 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev92
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : **FAILED**
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36.2

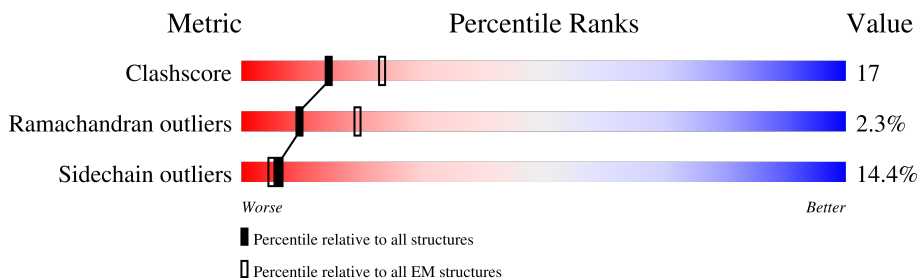
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 35.00 Å.

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




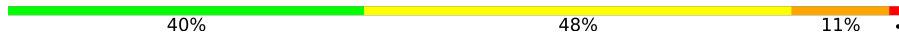
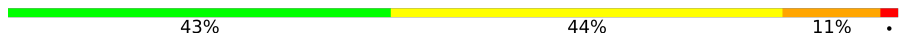








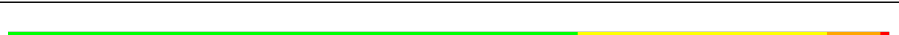

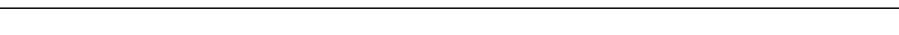
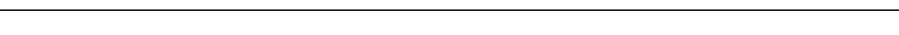
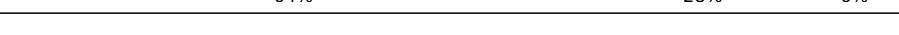

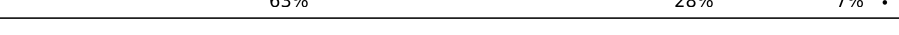







| Metric | Whole archive (#Entries) | EM structures (#Entries) |
|-----------------------|--------------------------|--------------------------|
| Clashscore | 158937 | 4297 |
| Ramachandran outliers | 154571 | 4023 |
| Sidechain outliers | 154315 | 3826 |

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

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1 | 0 | 159 | |
| 1 | 3 | 159 | |
| 1 | 6 | 159 | |
| 1 | 9 | 159 | |
| 2 | 1 | 90 | |
| 2 | 4 | 90 | |
| 2 | 7 | 90 | |
| 2 | Y | 90 | |
| 3 | 2 | 141 | |



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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|---|
| 3 | 5 | 141 |  41% 45% 13% |
| 3 | 8 | 141 |  40% 48% 11% |
| 3 | Z | 141 |  43% 44% 11% |
| 4 | A | 277 |  82% 15% |
| 4 | B | 277 |  81% 17% |
| 4 | C | 277 |  11% 86% |
| 4 | T | 277 |  9% 86% |
| 4 | U | 277 |  81% 17% |
| 4 | V | 277 |  82% 15% |
| 4 | W | 277 |  9% 86% |
| 4 | X | 277 |  11% 86% |
| 5 | D | 372 |  64% 28% 6% |
| 5 | E | 372 |  64% 28% 7% |
| 5 | F | 372 |  63% 29% 6% |
| 5 | G | 372 |  64% 28% 6% |
| 5 | H | 372 |  64% 28% 7% |
| 5 | I | 372 |  63% 28% 7% |
| 5 | J | 372 |  64% 28% 7% |
| 5 | K | 372 |  63% 29% 7% |
| 5 | L | 372 |  63% 29% 6% |
| 5 | M | 372 |  63% 29% 7% |
| 5 | N | 372 |  63% 28% 7% |
| 5 | O | 372 |  63% 29% 6% |
| 5 | P | 372 |  63% 29% 7% |
| 5 | Q | 372 |  64% 28% 7% |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|--|
| 5 | R | 372 |  64% 28% 7% • |
| 5 | S | 372 |  64% 28% 7% • |

2 Entry composition [i](#)

There are 6 unique types of molecules in this entry. The entry contains 69376 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called TROPONIN C, SKELETAL MUSCLE.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| | | | Total | C | N | O | S | | |
| 1 | 0 | 159 | Total | C | N | O | S | 0 | 0 |
| | | | 1252 | 770 | 199 | 272 | 11 | | |
| 1 | 3 | 159 | Total | C | N | O | S | 0 | 0 |
| | | | 1252 | 770 | 199 | 272 | 11 | | |
| 1 | 6 | 159 | Total | C | N | O | S | 0 | 0 |
| | | | 1252 | 770 | 199 | 272 | 11 | | |
| 1 | 9 | 159 | Total | C | N | O | S | 0 | 0 |
| | | | 1252 | 770 | 199 | 272 | 11 | | |

- Molecule 2 is a protein called TROPONIN T, FAST SKELETAL MUSCLE ISOFORMS.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|-------|
| | | | Total | C | N | O | | |
| 2 | 1 | 90 | Total | C | N | O | 0 | 0 |
| | | | 774 | 486 | 146 | 142 | | |
| 2 | 4 | 90 | Total | C | N | O | 0 | 0 |
| | | | 774 | 486 | 146 | 142 | | |
| 2 | 7 | 90 | Total | C | N | O | 0 | 0 |
| | | | 774 | 486 | 146 | 142 | | |
| 2 | Y | 90 | Total | C | N | O | 0 | 0 |
| | | | 774 | 486 | 146 | 142 | | |

- Molecule 3 is a protein called TROPONIN I, FAST SKELETAL MUSCLE.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 3 | 2 | 141 | Total | C | N | O | S | 0 | 0 |
| | | | 1140 | 709 | 214 | 212 | 5 | | |
| 3 | 5 | 141 | Total | C | N | O | S | 0 | 0 |
| | | | 1140 | 709 | 214 | 212 | 5 | | |
| 3 | 8 | 141 | Total | C | N | O | S | 0 | 0 |
| | | | 1140 | 709 | 214 | 212 | 5 | | |
| 3 | Z | 141 | Total | C | N | O | S | 0 | 0 |
| | | | 1140 | 709 | 214 | 212 | 5 | | |

There are 12 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment | Reference |
|-------|---------|----------|--------|----------|------------|
| 2 | 48 | SER | CYS | conflict | UNP P68246 |
| 2 | 64 | SER | CYS | conflict | UNP P68246 |
| 2 | 89 | ILE | ASN | conflict | UNP P68246 |
| 5 | 48 | SER | CYS | conflict | UNP P68246 |
| 5 | 64 | SER | CYS | conflict | UNP P68246 |
| 5 | 89 | ILE | ASN | conflict | UNP P68246 |
| 8 | 48 | SER | CYS | conflict | UNP P68246 |
| 8 | 64 | SER | CYS | conflict | UNP P68246 |
| 8 | 89 | ILE | ASN | conflict | UNP P68246 |
| Z | 48 | SER | CYS | conflict | UNP P68246 |
| Z | 64 | SER | CYS | conflict | UNP P68246 |
| Z | 89 | ILE | ASN | conflict | UNP P68246 |

- Molecule 4 is a protein called TROPOMYOSIN ALPHA-1 CHAIN.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 4 | A | 277 | Total | C | N | O | S | 0 | 0 |
| | | | 2230 | 1362 | 378 | 484 | 6 | | |
| 4 | B | 277 | Total | C | N | O | S | 0 | 0 |
| | | | 2230 | 1362 | 378 | 484 | 6 | | |
| 4 | C | 39 | Total | C | N | O | S | 0 | 0 |
| | | | 316 | 198 | 48 | 69 | 1 | | |
| 4 | T | 39 | Total | C | N | O | S | 0 | 0 |
| | | | 316 | 198 | 48 | 69 | 1 | | |
| 4 | U | 277 | Total | C | N | O | S | 0 | 0 |
| | | | 2230 | 1362 | 378 | 484 | 6 | | |
| 4 | V | 277 | Total | C | N | O | S | 0 | 0 |
| | | | 2230 | 1362 | 378 | 484 | 6 | | |
| 4 | W | 39 | Total | C | N | O | S | 0 | 0 |
| | | | 316 | 198 | 48 | 69 | 1 | | |
| 4 | X | 39 | Total | C | N | O | S | 0 | 0 |
| | | | 316 | 198 | 48 | 69 | 1 | | |

- Molecule 5 is a protein called ACTIN, ALPHA SKELETAL MUSCLE.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| 5 | D | 372 | Total | C | N | O | S | 0 | 0 |
| | | | 2907 | 1836 | 489 | 562 | 20 | | |
| 5 | E | 372 | Total | C | N | O | S | 0 | 0 |
| | | | 2907 | 1836 | 489 | 562 | 20 | | |
| 5 | F | 372 | Total | C | N | O | S | 0 | 0 |
| | | | 2907 | 1836 | 489 | 562 | 20 | | |
| 5 | G | 372 | Total | C | N | O | S | 0 | 0 |
| | | | 2907 | 1836 | 489 | 562 | 20 | | |

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| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| 5 | H | 372 | Total | C | N | O | S | 0 | 0 |
| | | | 2907 | 1836 | 489 | 562 | 20 | | |
| 5 | I | 372 | Total | C | N | O | S | 0 | 0 |
| | | | 2907 | 1836 | 489 | 562 | 20 | | |
| 5 | J | 372 | Total | C | N | O | S | 0 | 0 |
| | | | 2907 | 1836 | 489 | 562 | 20 | | |
| 5 | K | 372 | Total | C | N | O | S | 0 | 0 |
| | | | 2907 | 1836 | 489 | 562 | 20 | | |
| 5 | L | 372 | Total | C | N | O | S | 0 | 0 |
| | | | 2907 | 1836 | 489 | 562 | 20 | | |
| 5 | M | 372 | Total | C | N | O | S | 0 | 0 |
| | | | 2907 | 1836 | 489 | 562 | 20 | | |
| 5 | N | 372 | Total | C | N | O | S | 0 | 0 |
| | | | 2907 | 1836 | 489 | 562 | 20 | | |
| 5 | O | 372 | Total | C | N | O | S | 0 | 0 |
| | | | 2907 | 1836 | 489 | 562 | 20 | | |
| 5 | P | 372 | Total | C | N | O | S | 0 | 0 |
| | | | 2907 | 1836 | 489 | 562 | 20 | | |
| 5 | Q | 372 | Total | C | N | O | S | 0 | 0 |
| | | | 2907 | 1836 | 489 | 562 | 20 | | |
| 5 | R | 372 | Total | C | N | O | S | 0 | 0 |
| | | | 2907 | 1836 | 489 | 562 | 20 | | |
| 5 | S | 372 | Total | C | N | O | S | 0 | 0 |
| | | | 2907 | 1836 | 489 | 562 | 20 | | |

- Molecule 6 is CALCIUM ION (three-letter code: CA) (formula: Ca).

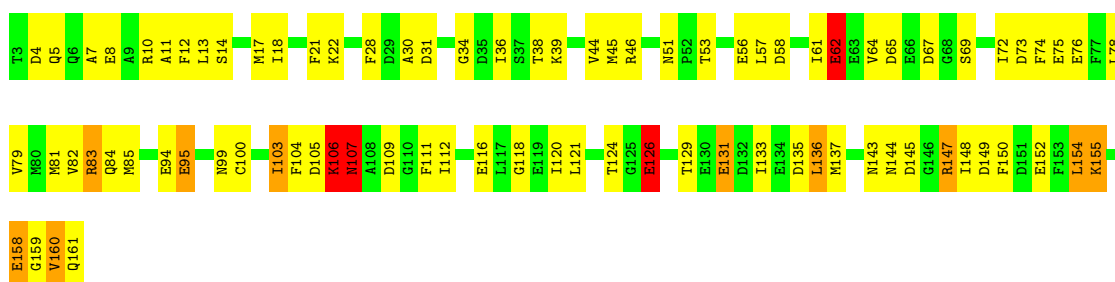
| Mol | Chain | Residues | Atoms | | AltConf |
|-----|-------|----------|-------|----|---------|
| 6 | 0 | 4 | Total | Ca | 0 |
| | | | 4 | 4 | |
| 6 | 3 | 4 | Total | Ca | 0 |
| | | | 4 | 4 | |
| 6 | 6 | 4 | Total | Ca | 0 |
| | | | 4 | 4 | |
| 6 | 9 | 4 | Total | Ca | 0 |
| | | | 4 | 4 | |

3 Residue-property plots [i](#)

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

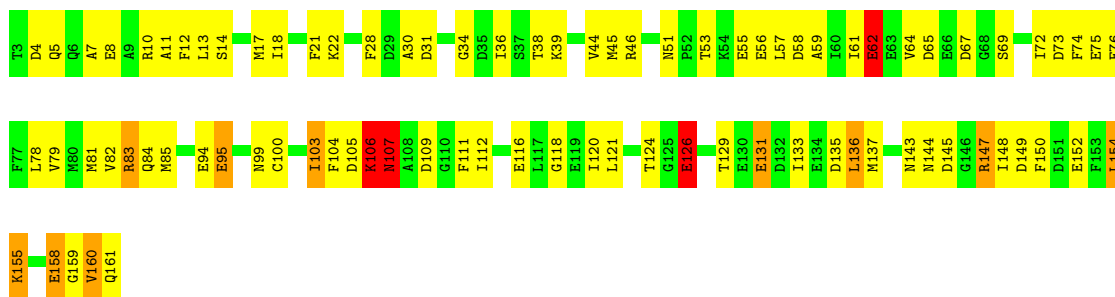
- Molecule 1: TROPONIN C, SKELETAL MUSCLE

Chain 0: 



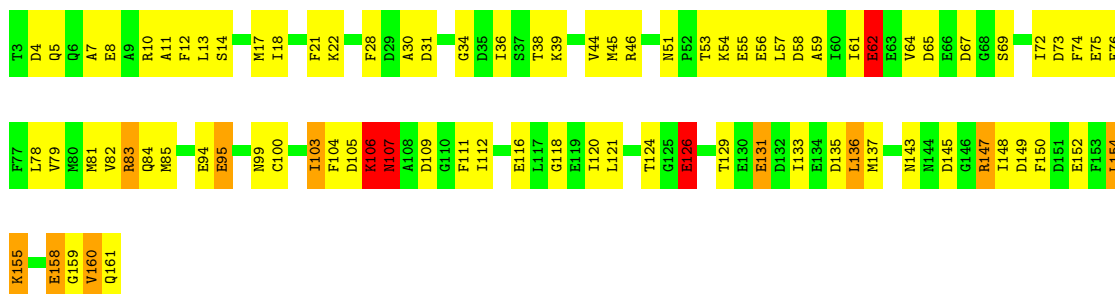
- Molecule 1: TROPONIN C, SKELETAL MUSCLE

Chain 3: 

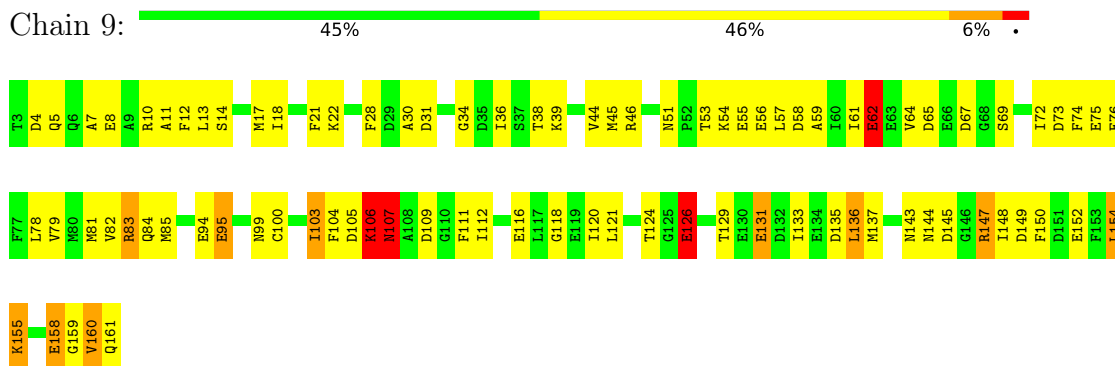


- Molecule 1: TROPONIN C, SKELETAL MUSCLE

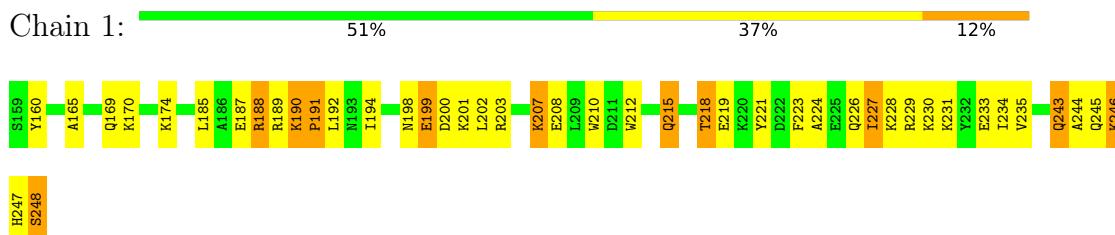
Chain 6: 



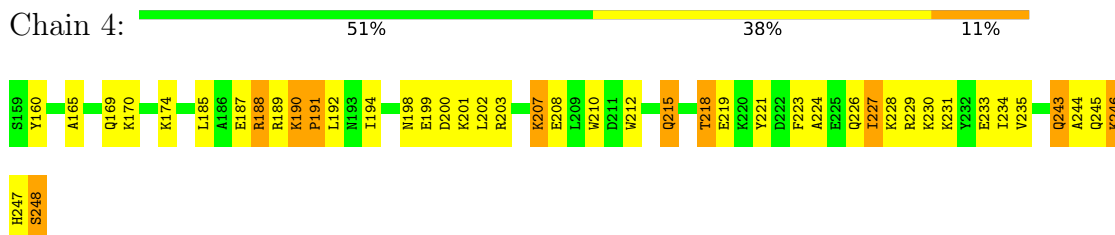
- Molecule 1: TROPONIN C, SKELETAL MUSCLE



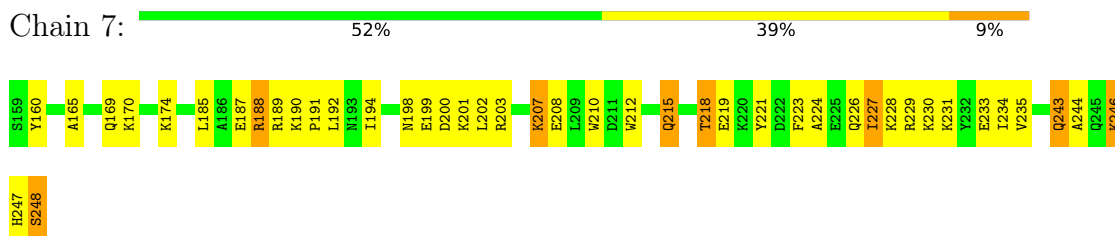
- Molecule 2: TROPONIN T, FAST SKELETAL MUSCLE ISOFORMS



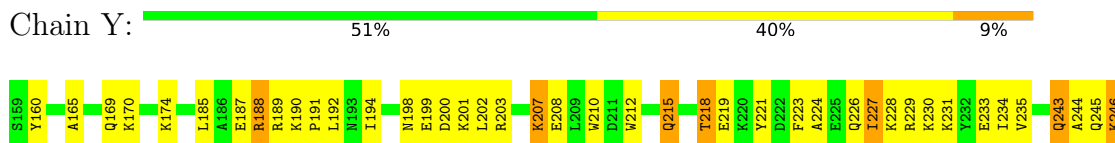
- Molecule 2: TROPONIN T, FAST SKELETAL MUSCLE ISOFORMS



- Molecule 2: TROPONIN T, FAST SKELETAL MUSCLE ISOFORMS



- Molecule 2: TROPONIN T, FAST SKELETAL MUSCLE ISOFORMS



H247
S248

• Molecule 3: TROPONIN I, FAST SKELETAL MUSCLE



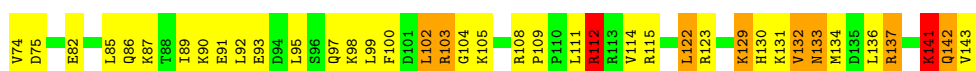
• Molecule 3: TROPONIN I, FAST SKELETAL MUSCLE



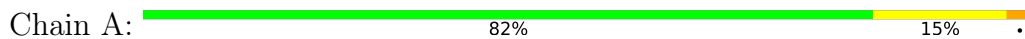
• Molecule 3: TROPONIN I, FAST SKELETAL MUSCLE

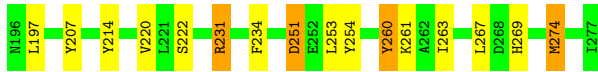


• Molecule 3: TROPONIN I, FAST SKELETAL MUSCLE

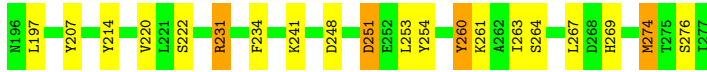
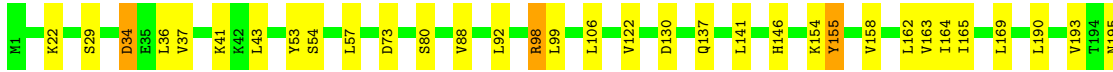
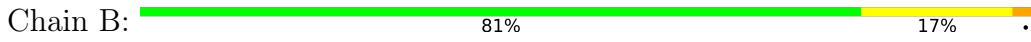


• Molecule 4: TROPOMYOSIN ALPHA-1 CHAIN

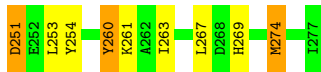
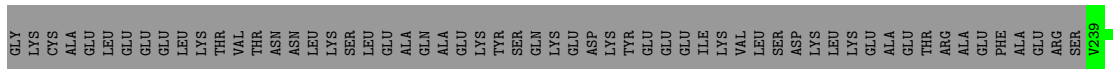
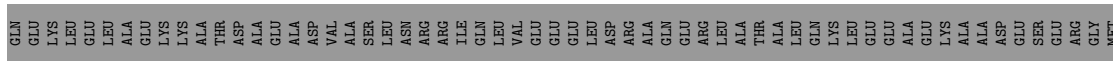
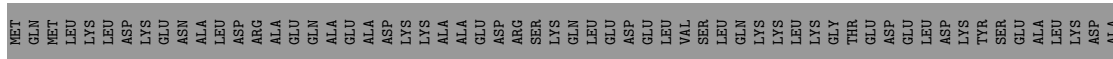




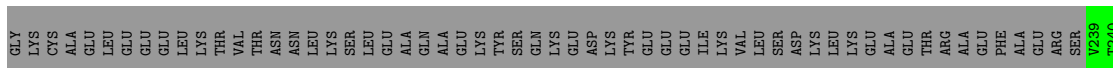
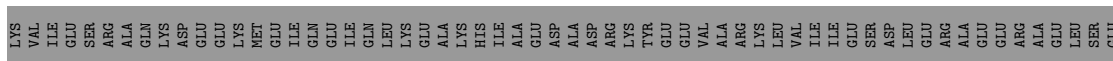
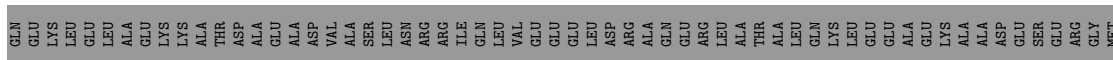
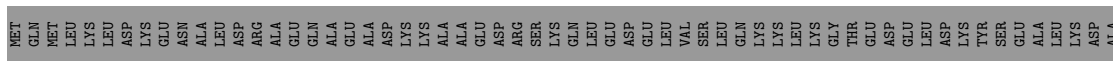
• Molecule 4: TROPOMYOSIN ALPHA-1 CHAIN



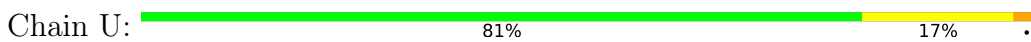
• Molecule 4: TROPOMYOSIN ALPHA-1 CHAIN

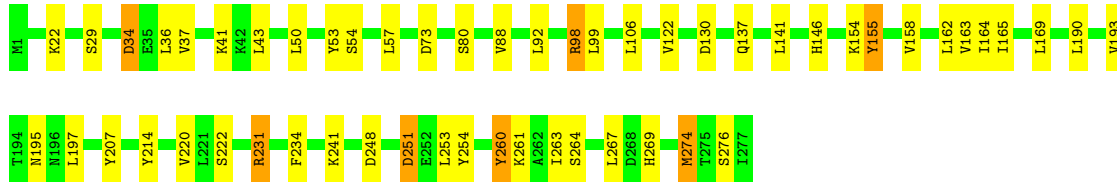


• Molecule 4: TROPOMYOSIN ALPHA-1 CHAIN

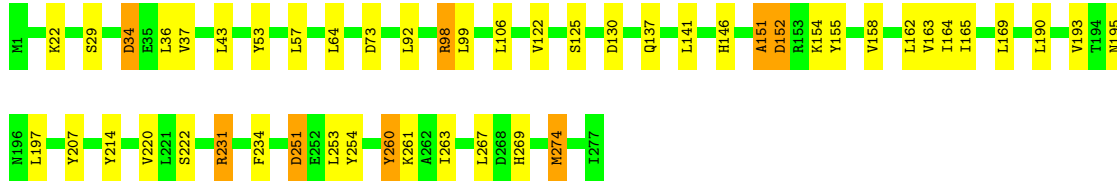
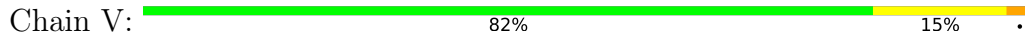


• Molecule 4: TROPOMYOSIN ALPHA-1 CHAIN

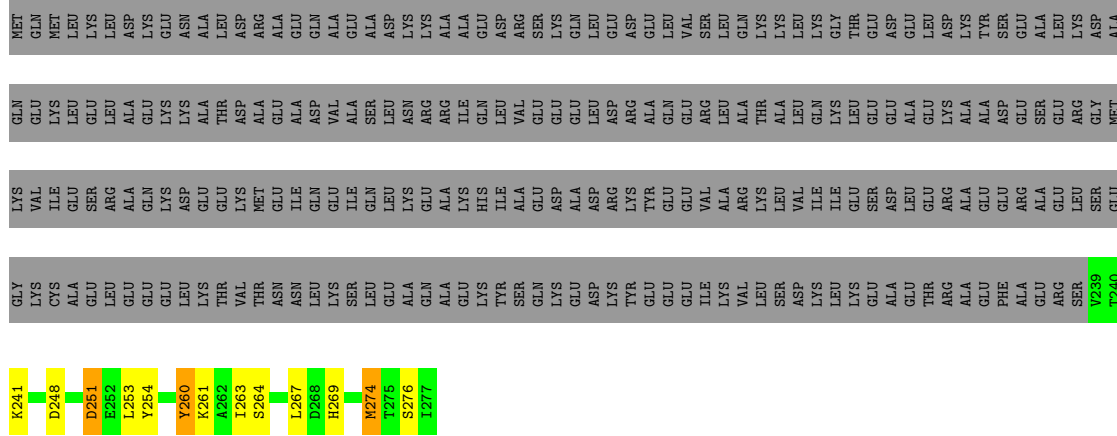




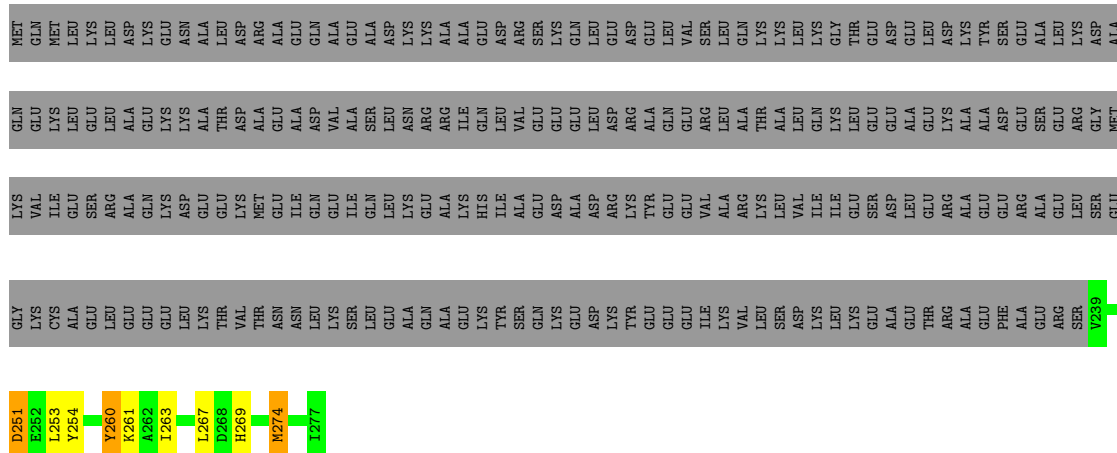
• Molecule 4: TROPOMYOSIN ALPHA-1 CHAIN



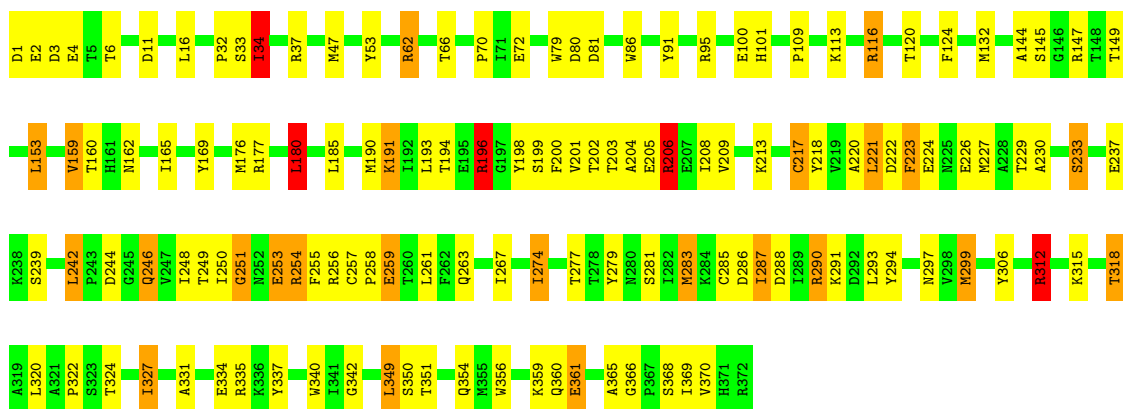
• Molecule 4: TROPOMYOSIN ALPHA-1 CHAIN



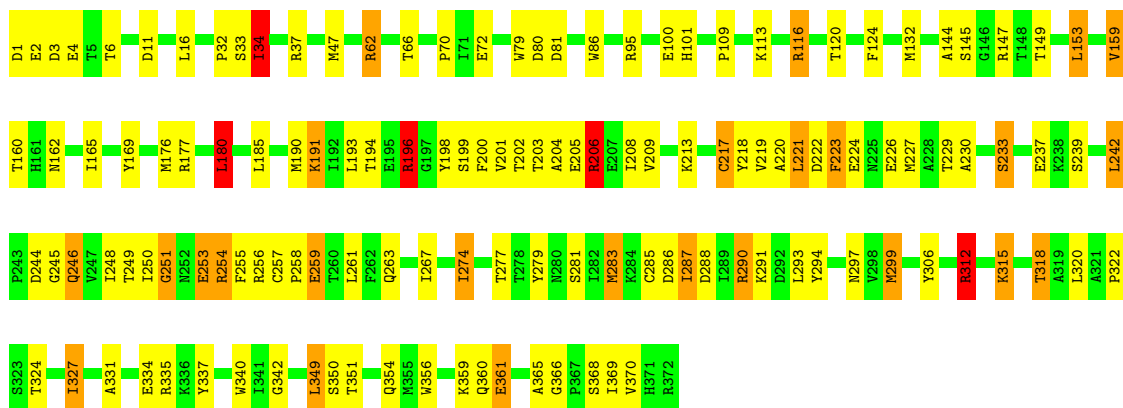
• Molecule 4: TROPOMYOSIN ALPHA-1 CHAIN



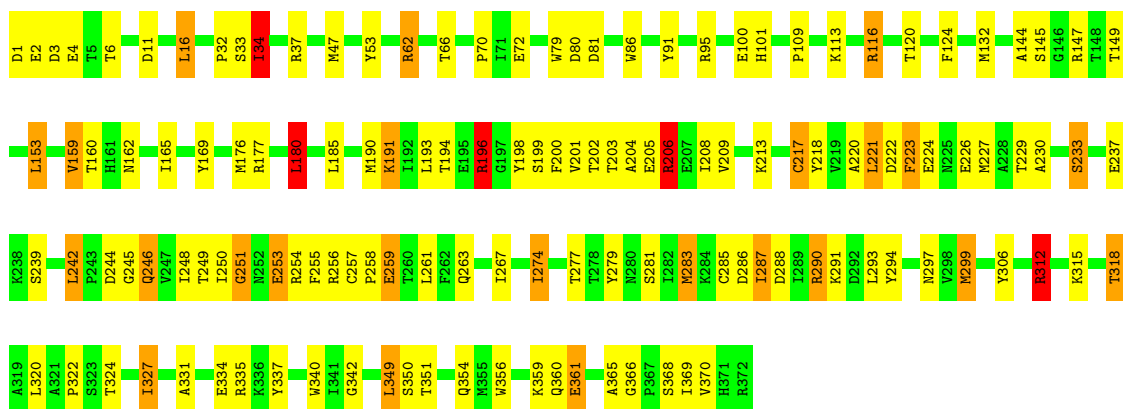
• Molecule 5: ACTIN, ALPHA SKELETAL MUSCLE



• Molecule 5: ACTIN, ALPHA SKELETAL MUSCLE

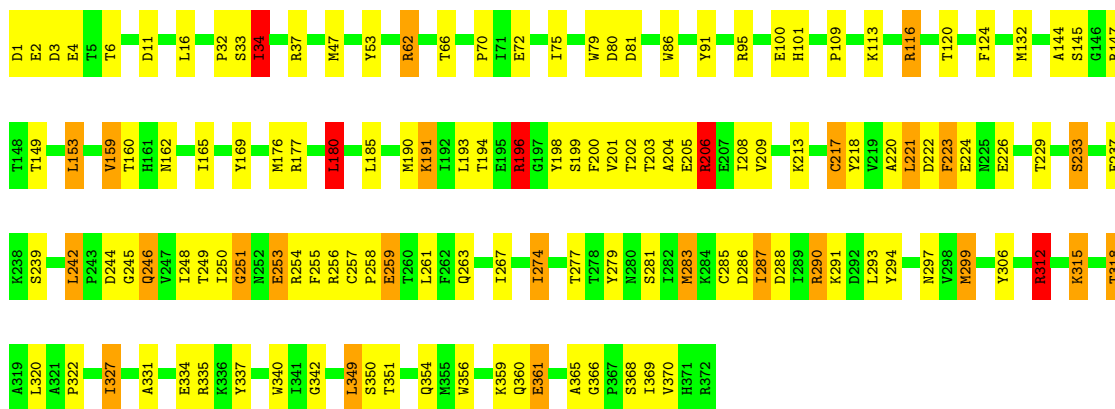


• Molecule 5: ACTIN, ALPHA SKELETAL MUSCLE



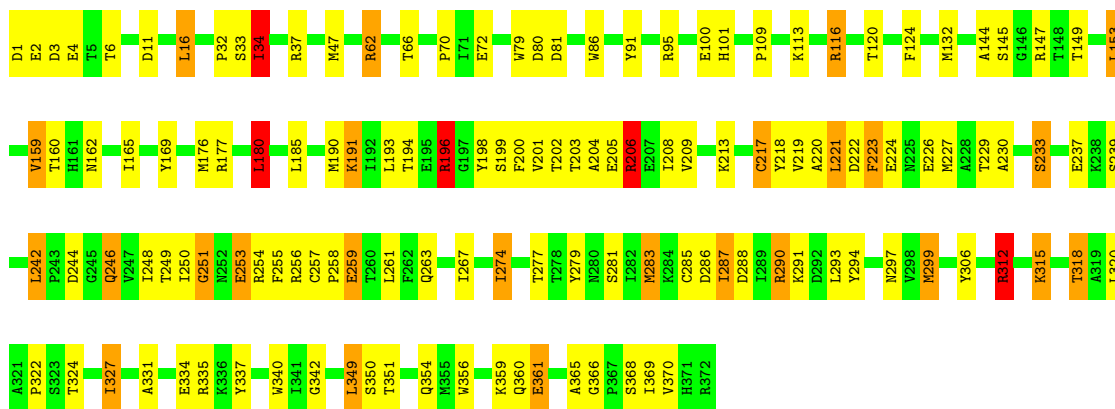
• Molecule 5: ACTIN, ALPHA SKELETAL MUSCLE

Chain G:  64% 28% 6%



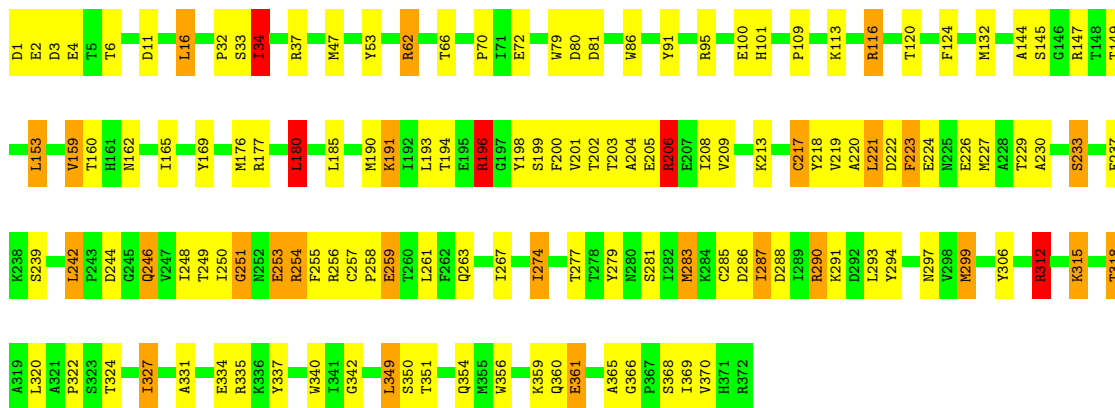
• Molecule 5: ACTIN, ALPHA SKELETAL MUSCLE

Chain H:  64% 28% 7%



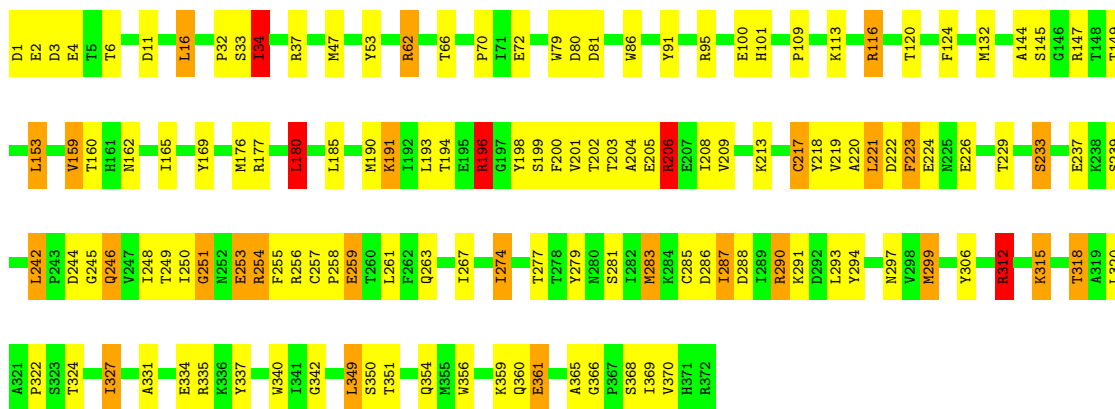
• Molecule 5: ACTIN, ALPHA SKELETAL MUSCLE

Chain I:  63% 28% 7%



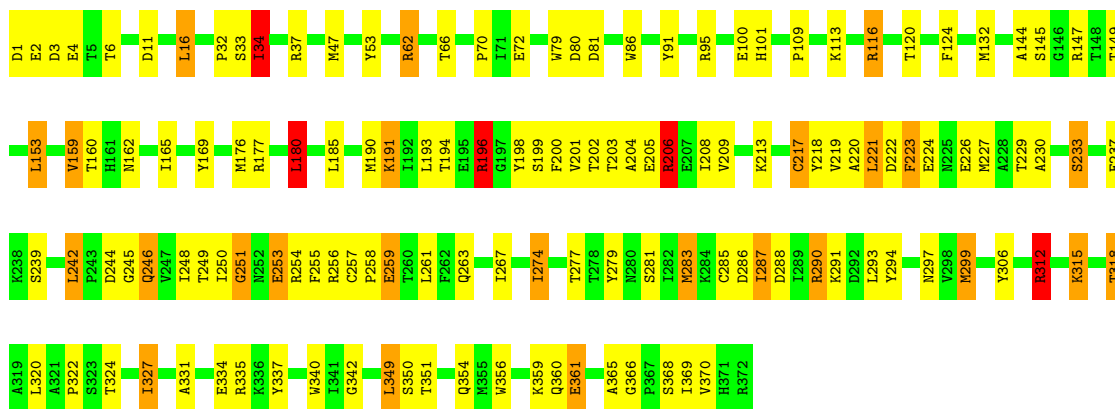
• Molecule 5: ACTIN, ALPHA SKELETAL MUSCLE

Chain J:  64% 28% 7%



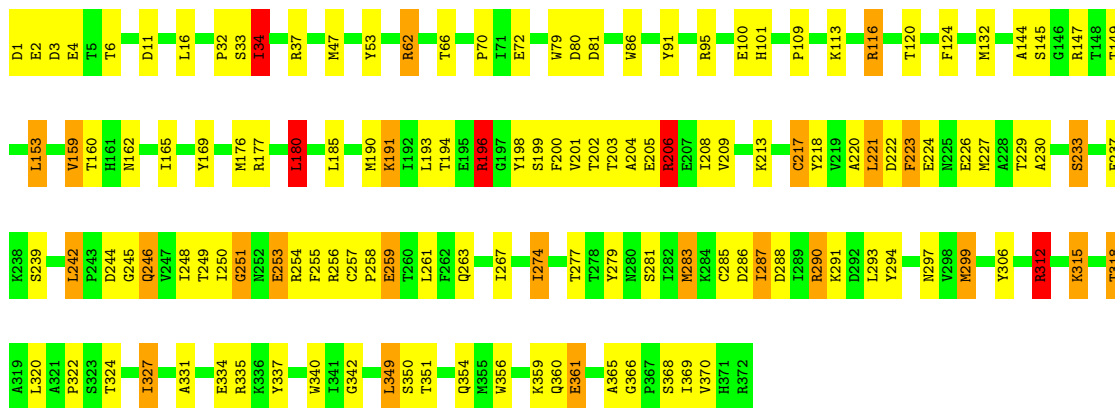
• Molecule 5: ACTIN, ALPHA SKELETAL MUSCLE

Chain K:  63% 29% 7%



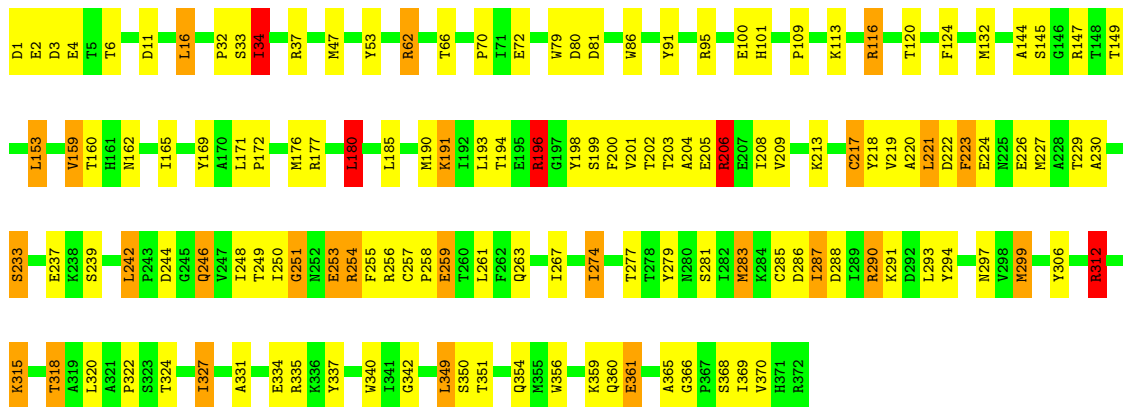
• Molecule 5: ACTIN, ALPHA SKELETAL MUSCLE

Chain L:  63% 29% 6%



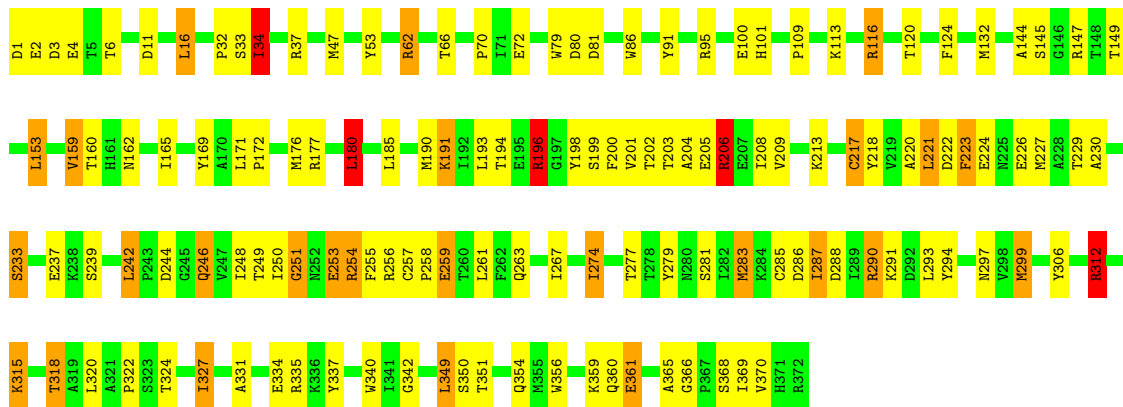
• Molecule 5: ACTIN, ALPHA SKELETAL MUSCLE

Chain M: 63% 29% 7%



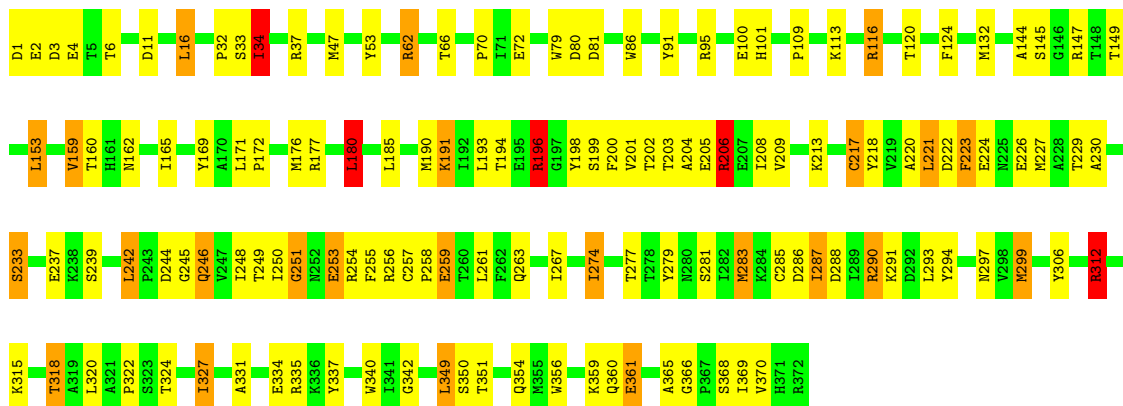
• Molecule 5: ACTIN, ALPHA SKELETAL MUSCLE

Chain N: 63% 28% 7%



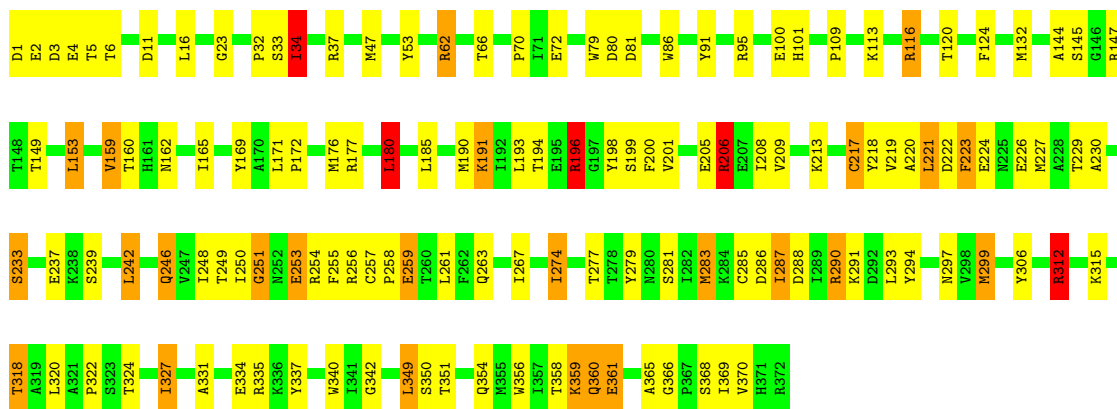
• Molecule 5: ACTIN, ALPHA SKELETAL MUSCLE

Chain O: 63% 29% 6%



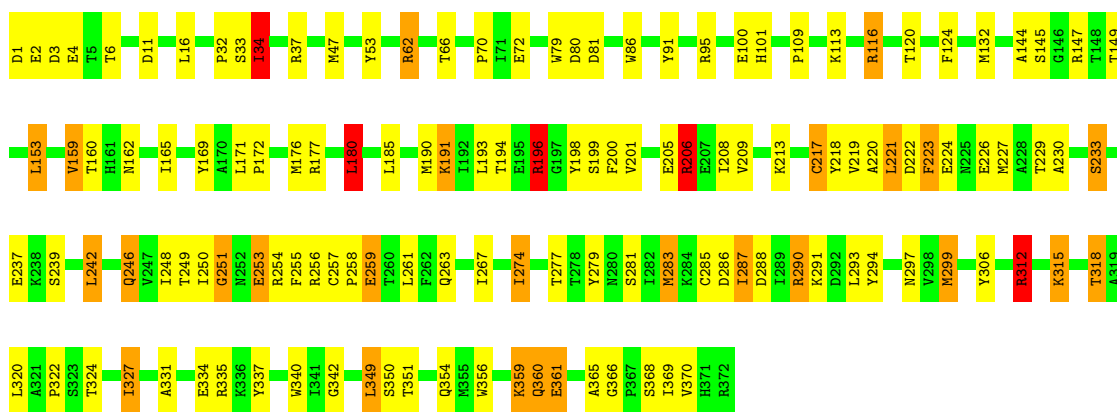
• Molecule 5: ACTIN, ALPHA SKELETAL MUSCLE

Chain P:  63% 29% 7%



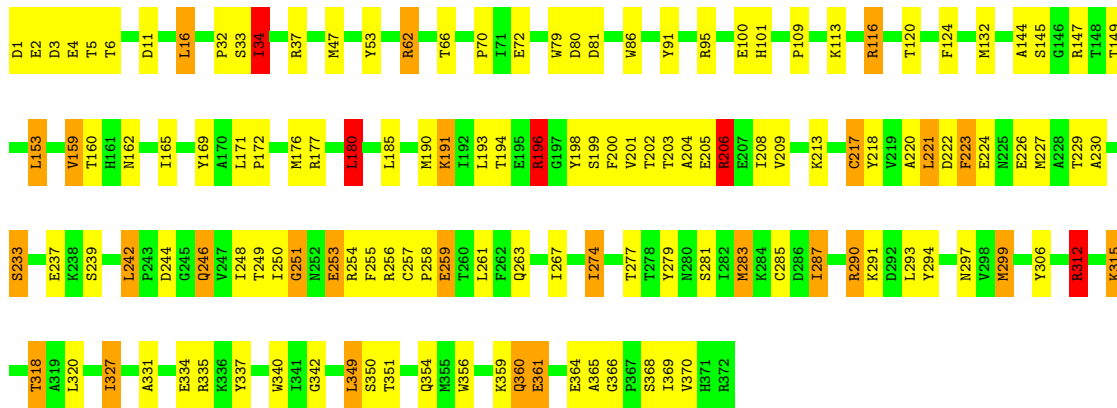
• Molecule 5: ACTIN, ALPHA SKELETAL MUSCLE

Chain Q:  64% 28% 7%



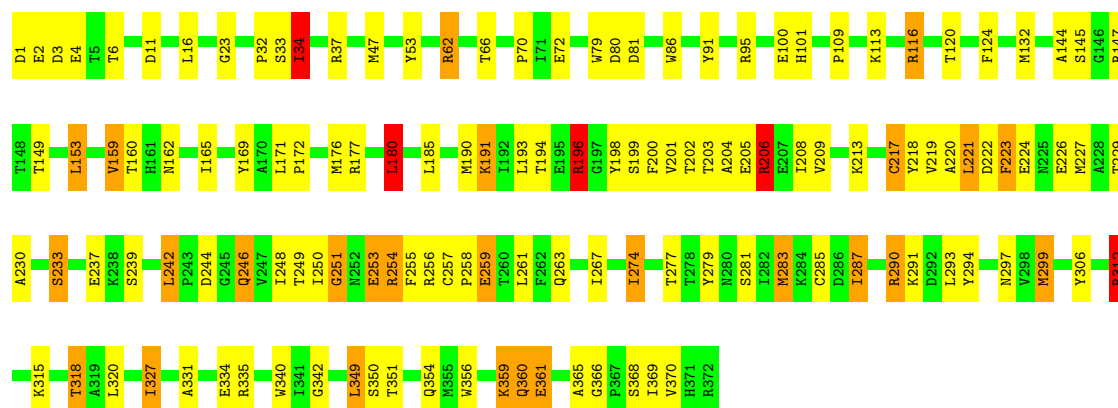
• Molecule 5: ACTIN, ALPHA SKELETAL MUSCLE

Chain R:  64% 28% 7%



• Molecule 5: ACTIN, ALPHA SKELETAL MUSCLE

Chain S:  64% 28% 7%



4 Experimental information

| Property | Value | Source |
|------------------------------------|---|-----------|
| EM reconstruction method | HELICAL | Depositor |
| Imposed symmetry | HELICAL, twist=Not provided°, rise=Not provided Å, axial sym=Not provided | Depositor |
| Number of segments used | Not provided | |
| Resolution determination method | FSC 0.5 CUT-OFF | Depositor |
| CTF correction method | Not provided | |
| Microscope | FEI/PHILIPS CM300FEG/T | Depositor |
| Voltage (kV) | 300 | Depositor |
| Electron dose ($e^-/\text{Å}^2$) | Not provided | |
| Minimum defocus (nm) | Not provided | |
| Maximum defocus (nm) | Not provided | |
| Magnification | Not provided | |
| Image detector | TVIPS TEMCAM-F224 (2k x 2k) | Depositor |

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:
CA

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 | 0 | 0.55 | 0/1264 | 0.67 | 1/1687 (0.1%) |
| 1 | 3 | 0.55 | 0/1264 | 0.67 | 1/1687 (0.1%) |
| 1 | 6 | 0.55 | 0/1264 | 0.67 | 1/1687 (0.1%) |
| 1 | 9 | 0.55 | 0/1264 | 0.67 | 1/1687 (0.1%) |
| 2 | 1 | 0.57 | 0/786 | 0.59 | 0/1046 |
| 2 | 4 | 0.57 | 0/786 | 0.59 | 0/1046 |
| 2 | 7 | 0.57 | 0/786 | 0.59 | 0/1046 |
| 2 | Y | 0.57 | 0/786 | 0.59 | 0/1046 |
| 3 | 2 | 0.53 | 0/1152 | 0.71 | 0/1535 |
| 3 | 5 | 0.53 | 0/1152 | 0.70 | 0/1535 |
| 3 | 8 | 0.53 | 0/1152 | 0.70 | 0/1535 |
| 3 | Z | 0.53 | 0/1152 | 0.70 | 0/1535 |
| 4 | A | 3.01 | 15/2238 (0.7%) | 1.82 | 48/2983 (1.6%) |
| 4 | B | 3.60 | 9/2238 (0.4%) | 1.86 | 45/2983 (1.5%) |
| 4 | C | 7.01 | 7/318 (2.2%) | 2.35 | 13/425 (3.1%) |
| 4 | T | 7.04 | 7/318 (2.2%) | 2.26 | 12/425 (2.8%) |
| 4 | U | 3.60 | 9/2238 (0.4%) | 1.85 | 46/2983 (1.5%) |
| 4 | V | 3.01 | 15/2238 (0.7%) | 1.82 | 48/2983 (1.6%) |
| 4 | W | 7.04 | 7/318 (2.2%) | 2.26 | 12/425 (2.8%) |
| 4 | X | 7.01 | 7/318 (2.2%) | 2.34 | 13/425 (3.1%) |
| 5 | D | 0.89 | 2/2969 (0.1%) | 1.64 | 51/4023 (1.3%) |
| 5 | E | 0.89 | 2/2969 (0.1%) | 1.64 | 49/4023 (1.2%) |
| 5 | F | 0.89 | 2/2969 (0.1%) | 1.64 | 52/4023 (1.3%) |
| 5 | G | 0.89 | 2/2969 (0.1%) | 1.64 | 52/4023 (1.3%) |
| 5 | H | 0.89 | 2/2969 (0.1%) | 1.64 | 51/4023 (1.3%) |
| 5 | I | 0.89 | 2/2969 (0.1%) | 1.64 | 51/4023 (1.3%) |
| 5 | J | 0.89 | 2/2969 (0.1%) | 1.64 | 51/4023 (1.3%) |
| 5 | K | 0.89 | 2/2969 (0.1%) | 1.64 | 50/4023 (1.2%) |
| 5 | L | 0.89 | 2/2969 (0.1%) | 1.64 | 50/4023 (1.2%) |
| 5 | M | 0.89 | 2/2969 (0.1%) | 1.64 | 50/4023 (1.2%) |
| 5 | N | 0.89 | 2/2969 (0.1%) | 1.64 | 52/4023 (1.3%) |
| 5 | O | 0.89 | 1/2969 (0.0%) | 1.64 | 52/4023 (1.3%) |

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|------------------|-------------|-------------------|
| | | RMSZ | # Z >5 | RMSZ | # Z >5 |
| 5 | P | 0.89 | 1/2969 (0.0%) | 1.64 | 51/4023 (1.3%) |
| 5 | Q | 0.89 | 2/2969 (0.1%) | 1.64 | 51/4023 (1.3%) |
| 5 | R | 0.89 | 2/2969 (0.1%) | 1.64 | 51/4023 (1.3%) |
| 5 | S | 0.89 | 2/2969 (0.1%) | 1.64 | 49/4023 (1.2%) |
| All | All | 1.70 | 106/70536 (0.2%) | 1.56 | 1054/95072 (1.1%) |

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 | 4 |
| 4 | B | 0 | 5 |
| 4 | C | 0 | 2 |
| 4 | T | 0 | 2 |
| 4 | U | 0 | 5 |
| 4 | V | 0 | 4 |
| 4 | W | 0 | 2 |
| 4 | X | 0 | 2 |
| 5 | D | 0 | 1 |
| 5 | E | 0 | 1 |
| 5 | F | 0 | 1 |
| 5 | G | 0 | 1 |
| 5 | H | 0 | 1 |
| 5 | I | 0 | 1 |
| 5 | J | 0 | 1 |
| 5 | K | 0 | 1 |
| 5 | L | 0 | 1 |
| 5 | M | 0 | 1 |
| 5 | N | 0 | 1 |
| 5 | O | 0 | 1 |
| 5 | P | 0 | 1 |
| 5 | Q | 0 | 1 |
| 5 | R | 0 | 1 |
| 5 | S | 0 | 1 |
| All | All | 0 | 42 |

All (106) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|-------|--------|-------------|----------|
| 4 | T | 260 | TYR | CA-CB | 110.52 | 3.97 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|--------|-------------|----------|
| 4 | U | 260 | TYR | CA-CB | 110.51 | 3.97 | 1.53 |
| 4 | B | 260 | TYR | CA-CB | 110.50 | 3.97 | 1.53 |
| 4 | W | 260 | TYR | CA-CB | 110.48 | 3.97 | 1.53 |
| 4 | C | 260 | TYR | CA-CB | 110.21 | 3.96 | 1.53 |
| 4 | V | 260 | TYR | CA-CB | 110.19 | 3.96 | 1.53 |
| 4 | X | 260 | TYR | CA-CB | 110.18 | 3.96 | 1.53 |
| 4 | A | 260 | TYR | CA-CB | 110.16 | 3.96 | 1.53 |
| 4 | U | 155 | TYR | CA-CB | 109.44 | 3.94 | 1.53 |
| 4 | B | 155 | TYR | CA-CB | 109.43 | 3.94 | 1.53 |
| 4 | A | 260 | TYR | CG-CD1 | 31.73 | 1.80 | 1.39 |
| 4 | C | 260 | TYR | CG-CD1 | 31.71 | 1.80 | 1.39 |
| 4 | X | 260 | TYR | CG-CD1 | 31.63 | 1.80 | 1.39 |
| 4 | V | 260 | TYR | CG-CD1 | 31.62 | 1.80 | 1.39 |
| 4 | W | 260 | TYR | CG-CD1 | 31.59 | 1.80 | 1.39 |
| 4 | B | 260 | TYR | CG-CD1 | 31.58 | 1.80 | 1.39 |
| 4 | T | 260 | TYR | CG-CD1 | 31.57 | 1.80 | 1.39 |
| 4 | U | 260 | TYR | CG-CD1 | 31.55 | 1.80 | 1.39 |
| 4 | A | 155 | TYR | CG-CD2 | 26.19 | 1.73 | 1.39 |
| 4 | V | 155 | TYR | CG-CD2 | 26.14 | 1.73 | 1.39 |
| 4 | W | 260 | TYR | CE1-CZ | 25.72 | 1.72 | 1.38 |
| 4 | U | 260 | TYR | CE1-CZ | 25.72 | 1.72 | 1.38 |
| 4 | B | 260 | TYR | CE1-CZ | 25.63 | 1.71 | 1.38 |
| 4 | T | 260 | TYR | CE1-CZ | 25.63 | 1.71 | 1.38 |
| 4 | V | 155 | TYR | CE2-CZ | 25.59 | 1.71 | 1.38 |
| 4 | A | 155 | TYR | CE2-CZ | 25.53 | 1.71 | 1.38 |
| 4 | C | 260 | TYR | CE1-CZ | 25.22 | 1.71 | 1.38 |
| 4 | X | 260 | TYR | CE1-CZ | 25.21 | 1.71 | 1.38 |
| 4 | A | 260 | TYR | CE1-CZ | 25.20 | 1.71 | 1.38 |
| 4 | V | 260 | TYR | CE1-CZ | 25.20 | 1.71 | 1.38 |
| 4 | V | 155 | TYR | CE1-CZ | 24.87 | 1.70 | 1.38 |
| 4 | A | 155 | TYR | CE1-CZ | 24.87 | 1.70 | 1.38 |
| 4 | A | 155 | TYR | CD2-CE2 | 23.49 | 1.74 | 1.39 |
| 4 | V | 155 | TYR | CD2-CE2 | 23.41 | 1.74 | 1.39 |
| 4 | T | 260 | TYR | CD1-CE1 | 22.19 | 1.72 | 1.39 |
| 4 | U | 260 | TYR | CD1-CE1 | 22.14 | 1.72 | 1.39 |
| 4 | W | 260 | TYR | CD1-CE1 | 22.12 | 1.72 | 1.39 |
| 4 | B | 260 | TYR | CD1-CE1 | 22.12 | 1.72 | 1.39 |
| 4 | V | 260 | TYR | CD1-CE1 | 21.94 | 1.72 | 1.39 |
| 4 | X | 260 | TYR | CD1-CE1 | 21.91 | 1.72 | 1.39 |
| 4 | C | 260 | TYR | CD1-CE1 | 21.81 | 1.72 | 1.39 |
| 4 | A | 260 | TYR | CD1-CE1 | 21.80 | 1.72 | 1.39 |
| 4 | A | 155 | TYR | CG-CD1 | 21.64 | 1.67 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 4 | V | 155 | TYR | CG-CD1 | 21.56 | 1.67 | 1.39 |
| 4 | W | 260 | TYR | CG-CD2 | 21.36 | 1.67 | 1.39 |
| 4 | B | 260 | TYR | CG-CD2 | 21.35 | 1.67 | 1.39 |
| 4 | T | 260 | TYR | CG-CD2 | 21.35 | 1.67 | 1.39 |
| 4 | U | 260 | TYR | CG-CD2 | 21.34 | 1.66 | 1.39 |
| 4 | W | 260 | TYR | CE2-CZ | 21.01 | 1.65 | 1.38 |
| 4 | U | 260 | TYR | CE2-CZ | 20.97 | 1.65 | 1.38 |
| 4 | B | 260 | TYR | CE2-CZ | 20.97 | 1.65 | 1.38 |
| 4 | X | 260 | TYR | CG-CD2 | 20.97 | 1.66 | 1.39 |
| 4 | T | 260 | TYR | CE2-CZ | 20.94 | 1.65 | 1.38 |
| 4 | V | 260 | TYR | CG-CD2 | 20.93 | 1.66 | 1.39 |
| 4 | A | 260 | TYR | CG-CD2 | 20.89 | 1.66 | 1.39 |
| 4 | C | 260 | TYR | CG-CD2 | 20.89 | 1.66 | 1.39 |
| 4 | A | 260 | TYR | CE2-CZ | 20.43 | 1.65 | 1.38 |
| 4 | C | 260 | TYR | CE2-CZ | 20.43 | 1.65 | 1.38 |
| 4 | V | 260 | TYR | CE2-CZ | 20.43 | 1.65 | 1.38 |
| 4 | X | 260 | TYR | CE2-CZ | 20.41 | 1.65 | 1.38 |
| 4 | A | 155 | TYR | CD1-CE1 | 19.48 | 1.68 | 1.39 |
| 4 | V | 155 | TYR | CD1-CE1 | 19.43 | 1.68 | 1.39 |
| 4 | B | 260 | TYR | CD2-CE2 | 16.93 | 1.64 | 1.39 |
| 4 | T | 260 | TYR | CD2-CE2 | 16.92 | 1.64 | 1.39 |
| 4 | U | 260 | TYR | CD2-CE2 | 16.86 | 1.64 | 1.39 |
| 4 | W | 260 | TYR | CD2-CE2 | 16.81 | 1.64 | 1.39 |
| 4 | V | 260 | TYR | CD2-CE2 | 16.57 | 1.64 | 1.39 |
| 4 | X | 260 | TYR | CD2-CE2 | 16.56 | 1.64 | 1.39 |
| 4 | A | 260 | TYR | CD2-CE2 | 16.52 | 1.64 | 1.39 |
| 4 | C | 260 | TYR | CD2-CE2 | 16.50 | 1.64 | 1.39 |
| 4 | V | 155 | TYR | CA-CB | 7.03 | 1.69 | 1.53 |
| 4 | A | 155 | TYR | CA-CB | 7.03 | 1.69 | 1.53 |
| 5 | G | 259 | GLU | CG-CD | 6.27 | 1.61 | 1.51 |
| 5 | M | 259 | GLU | CG-CD | 6.25 | 1.61 | 1.51 |
| 5 | H | 259 | GLU | CG-CD | 6.25 | 1.61 | 1.51 |
| 5 | P | 259 | GLU | CG-CD | 6.24 | 1.61 | 1.51 |
| 5 | J | 259 | GLU | CG-CD | 6.24 | 1.61 | 1.51 |
| 5 | N | 259 | GLU | CG-CD | 6.23 | 1.61 | 1.51 |
| 5 | I | 259 | GLU | CG-CD | 6.23 | 1.61 | 1.51 |
| 5 | E | 259 | GLU | CG-CD | 6.23 | 1.61 | 1.51 |
| 5 | L | 259 | GLU | CG-CD | 6.23 | 1.61 | 1.51 |
| 5 | K | 259 | GLU | CG-CD | 6.21 | 1.61 | 1.51 |
| 5 | O | 259 | GLU | CG-CD | 6.20 | 1.61 | 1.51 |
| 5 | S | 259 | GLU | CG-CD | 6.19 | 1.61 | 1.51 |
| 5 | D | 259 | GLU | CG-CD | 6.18 | 1.61 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 5 | Q | 259 | GLU | CG-CD | 6.17 | 1.61 | 1.51 |
| 5 | R | 259 | GLU | CG-CD | 6.16 | 1.61 | 1.51 |
| 5 | F | 259 | GLU | CG-CD | 6.10 | 1.61 | 1.51 |
| 4 | U | 155 | TYR | CD1-CE1 | -6.00 | 1.30 | 1.39 |
| 4 | B | 155 | TYR | CD1-CE1 | -5.97 | 1.30 | 1.39 |
| 4 | V | 155 | TYR | CB-CG | 5.75 | 1.60 | 1.51 |
| 4 | A | 155 | TYR | CB-CG | 5.73 | 1.60 | 1.51 |
| 5 | D | 259 | GLU | CB-CG | 5.12 | 1.61 | 1.52 |
| 5 | F | 259 | GLU | CB-CG | 5.08 | 1.61 | 1.52 |
| 5 | G | 259 | GLU | CB-CG | 5.08 | 1.61 | 1.52 |
| 5 | S | 259 | GLU | CB-CG | 5.07 | 1.61 | 1.52 |
| 5 | Q | 259 | GLU | CB-CG | 5.06 | 1.61 | 1.52 |
| 5 | E | 259 | GLU | CB-CG | 5.05 | 1.61 | 1.52 |
| 5 | K | 259 | GLU | CB-CG | 5.04 | 1.61 | 1.52 |
| 5 | N | 259 | GLU | CB-CG | 5.04 | 1.61 | 1.52 |
| 5 | M | 259 | GLU | CB-CG | 5.04 | 1.61 | 1.52 |
| 5 | H | 259 | GLU | CB-CG | 5.03 | 1.61 | 1.52 |
| 5 | L | 259 | GLU | CB-CG | 5.03 | 1.61 | 1.52 |
| 5 | R | 259 | GLU | CB-CG | 5.03 | 1.61 | 1.52 |
| 5 | I | 259 | GLU | CB-CG | 5.03 | 1.61 | 1.52 |
| 5 | J | 259 | GLU | CB-CG | 5.02 | 1.61 | 1.52 |

All (1054) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-----------|--------|-------------|----------|
| 4 | B | 155 | TYR | CB-CG-CD1 | -26.75 | 104.95 | 121.00 |
| 4 | U | 155 | TYR | CB-CG-CD1 | -26.69 | 104.99 | 121.00 |
| 4 | V | 260 | TYR | CB-CG-CD2 | -21.14 | 108.31 | 121.00 |
| 4 | X | 260 | TYR | CB-CG-CD2 | -21.11 | 108.33 | 121.00 |
| 4 | C | 260 | TYR | CB-CG-CD2 | -21.07 | 108.36 | 121.00 |
| 4 | A | 260 | TYR | CB-CG-CD2 | -21.02 | 108.39 | 121.00 |
| 4 | U | 260 | TYR | CB-CG-CD2 | -20.34 | 108.80 | 121.00 |
| 4 | W | 260 | TYR | CB-CG-CD2 | -20.30 | 108.82 | 121.00 |
| 4 | T | 260 | TYR | CB-CG-CD2 | -20.27 | 108.84 | 121.00 |
| 4 | B | 260 | TYR | CB-CG-CD2 | -20.26 | 108.84 | 121.00 |
| 4 | B | 231 | ARG | NE-CZ-NH2 | -17.07 | 111.76 | 120.30 |
| 4 | U | 231 | ARG | NE-CZ-NH2 | -16.97 | 111.81 | 120.30 |
| 4 | C | 274 | MET | CA-CB-CG | 16.40 | 141.18 | 113.30 |
| 4 | A | 274 | MET | CA-CB-CG | 16.39 | 141.17 | 113.30 |
| 4 | X | 274 | MET | CA-CB-CG | 16.38 | 141.15 | 113.30 |
| 4 | V | 274 | MET | CA-CB-CG | 16.38 | 141.14 | 113.30 |
| 4 | V | 231 | ARG | NE-CZ-NH1 | 15.89 | 128.25 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|--------|-------------|----------|
| 4 | A | 231 | ARG | NE-CZ-NH1 | 15.88 | 128.24 | 120.30 |
| 4 | T | 274 | MET | CA-CB-CG | 15.38 | 139.45 | 113.30 |
| 4 | B | 274 | MET | CA-CB-CG | 15.37 | 139.43 | 113.30 |
| 4 | W | 274 | MET | CA-CB-CG | 15.35 | 139.40 | 113.30 |
| 4 | U | 274 | MET | CA-CB-CG | 15.35 | 139.39 | 113.30 |
| 4 | B | 231 | ARG | NE-CZ-NH1 | 14.06 | 127.33 | 120.30 |
| 4 | U | 231 | ARG | NE-CZ-NH1 | 14.05 | 127.32 | 120.30 |
| 4 | U | 98 | ARG | NE-CZ-NH2 | -13.65 | 113.47 | 120.30 |
| 4 | B | 98 | ARG | NE-CZ-NH2 | -13.65 | 113.47 | 120.30 |
| 4 | A | 98 | ARG | NE-CZ-NH2 | -13.50 | 113.55 | 120.30 |
| 4 | V | 98 | ARG | NE-CZ-NH2 | -13.42 | 113.59 | 120.30 |
| 4 | V | 231 | ARG | CD-NE-CZ | -11.56 | 107.42 | 123.60 |
| 4 | A | 231 | ARG | CD-NE-CZ | -11.55 | 107.43 | 123.60 |
| 4 | V | 231 | ARG | NE-CZ-NH2 | -11.32 | 114.64 | 120.30 |
| 4 | A | 231 | ARG | NE-CZ-NH2 | -11.30 | 114.65 | 120.30 |
| 4 | T | 253 | LEU | N-CA-C | 10.19 | 138.51 | 111.00 |
| 4 | B | 253 | LEU | N-CA-C | 10.18 | 138.47 | 111.00 |
| 4 | U | 155 | TYR | CG-CD1-CE1 | -10.18 | 113.16 | 121.30 |
| 4 | W | 253 | LEU | N-CA-C | 10.18 | 138.48 | 111.00 |
| 4 | U | 253 | LEU | N-CA-C | 10.17 | 138.45 | 111.00 |
| 4 | B | 155 | TYR | CG-CD1-CE1 | -10.14 | 113.19 | 121.30 |
| 4 | V | 155 | TYR | CA-CB-CG | 10.09 | 132.57 | 113.40 |
| 4 | A | 155 | TYR | CA-CB-CG | 10.08 | 132.56 | 113.40 |
| 4 | V | 253 | LEU | N-CA-C | 9.81 | 137.49 | 111.00 |
| 4 | C | 253 | LEU | N-CA-C | 9.81 | 137.48 | 111.00 |
| 4 | A | 253 | LEU | N-CA-C | 9.80 | 137.47 | 111.00 |
| 4 | X | 253 | LEU | N-CA-C | 9.79 | 137.44 | 111.00 |
| 5 | N | 356 | TRP | CD1-CG-CD2 | 9.26 | 113.71 | 106.30 |
| 5 | G | 356 | TRP | CD1-CG-CD2 | 9.21 | 113.67 | 106.30 |
| 5 | R | 356 | TRP | CD1-CG-CD2 | 9.19 | 113.65 | 106.30 |
| 5 | M | 356 | TRP | CD1-CG-CD2 | 9.18 | 113.64 | 106.30 |
| 5 | K | 356 | TRP | CD1-CG-CD2 | 9.15 | 113.62 | 106.30 |
| 5 | F | 356 | TRP | CD1-CG-CD2 | 9.14 | 113.61 | 106.30 |
| 5 | O | 356 | TRP | CD1-CG-CD2 | 9.11 | 113.59 | 106.30 |
| 5 | D | 356 | TRP | CD1-CG-CD2 | 9.09 | 113.58 | 106.30 |
| 5 | L | 356 | TRP | CD1-CG-CD2 | 9.09 | 113.57 | 106.30 |
| 5 | J | 356 | TRP | CD1-CG-CD2 | 9.08 | 113.56 | 106.30 |
| 5 | S | 356 | TRP | CD1-CG-CD2 | 9.07 | 113.56 | 106.30 |
| 4 | U | 92 | LEU | N-CA-C | 9.05 | 135.44 | 111.00 |
| 4 | B | 92 | LEU | N-CA-C | 9.05 | 135.43 | 111.00 |
| 5 | E | 356 | TRP | CD1-CG-CD2 | 9.05 | 113.54 | 106.30 |
| 5 | P | 356 | TRP | CD1-CG-CD2 | 9.04 | 113.54 | 106.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 5 | Q | 356 | TRP | CD1-CG-CD2 | 9.03 | 113.52 | 106.30 |
| 5 | I | 356 | TRP | CD1-CG-CD2 | 9.02 | 113.52 | 106.30 |
| 5 | H | 356 | TRP | CD1-CG-CD2 | 9.02 | 113.51 | 106.30 |
| 5 | I | 177 | ARG | NE-CZ-NH2 | -8.85 | 115.87 | 120.30 |
| 5 | M | 177 | ARG | NE-CZ-NH2 | -8.83 | 115.88 | 120.30 |
| 4 | A | 92 | LEU | N-CA-C | 8.82 | 134.82 | 111.00 |
| 4 | V | 92 | LEU | N-CA-C | 8.81 | 134.78 | 111.00 |
| 4 | V | 253 | LEU | CB-CG-CD1 | -8.77 | 96.10 | 111.00 |
| 4 | X | 253 | LEU | CB-CG-CD1 | -8.76 | 96.11 | 111.00 |
| 4 | A | 253 | LEU | CB-CG-CD1 | -8.75 | 96.12 | 111.00 |
| 4 | C | 253 | LEU | CB-CG-CD1 | -8.75 | 96.12 | 111.00 |
| 5 | O | 177 | ARG | NE-CZ-NH2 | -8.73 | 115.94 | 120.30 |
| 5 | P | 177 | ARG | NE-CZ-NH2 | -8.72 | 115.94 | 120.30 |
| 5 | J | 177 | ARG | NE-CZ-NH2 | -8.71 | 115.94 | 120.30 |
| 5 | Q | 177 | ARG | NE-CZ-NH2 | -8.68 | 115.96 | 120.30 |
| 5 | G | 177 | ARG | NE-CZ-NH2 | -8.67 | 115.97 | 120.30 |
| 5 | H | 177 | ARG | NE-CZ-NH2 | -8.66 | 115.97 | 120.30 |
| 4 | V | 260 | TYR | CB-CG-CD1 | 8.66 | 126.20 | 121.00 |
| 4 | C | 260 | TYR | CB-CG-CD1 | 8.66 | 126.19 | 121.00 |
| 4 | X | 260 | TYR | CB-CG-CD1 | 8.66 | 126.19 | 121.00 |
| 5 | F | 177 | ARG | NE-CZ-NH2 | -8.64 | 115.98 | 120.30 |
| 4 | A | 260 | TYR | CB-CG-CD1 | 8.63 | 126.18 | 121.00 |
| 5 | J | 86 | TRP | CD1-CG-CD2 | 8.61 | 113.19 | 106.30 |
| 5 | K | 177 | ARG | NE-CZ-NH2 | -8.60 | 116.00 | 120.30 |
| 5 | P | 86 | TRP | CD1-CG-CD2 | 8.59 | 113.17 | 106.30 |
| 5 | D | 177 | ARG | NE-CZ-NH2 | -8.57 | 116.01 | 120.30 |
| 5 | L | 86 | TRP | CD1-CG-CD2 | 8.56 | 113.15 | 106.30 |
| 5 | E | 177 | ARG | NE-CZ-NH2 | -8.55 | 116.02 | 120.30 |
| 5 | Q | 86 | TRP | CD1-CG-CD2 | 8.55 | 113.14 | 106.30 |
| 5 | L | 177 | ARG | NE-CZ-NH2 | -8.55 | 116.03 | 120.30 |
| 5 | H | 86 | TRP | CD1-CG-CD2 | 8.53 | 113.12 | 106.30 |
| 5 | O | 86 | TRP | CD1-CG-CD2 | 8.52 | 113.11 | 106.30 |
| 5 | E | 86 | TRP | CD1-CG-CD2 | 8.50 | 113.10 | 106.30 |
| 5 | D | 86 | TRP | CD1-CG-CD2 | 8.49 | 113.09 | 106.30 |
| 5 | S | 177 | ARG | NE-CZ-NH2 | -8.49 | 116.05 | 120.30 |
| 5 | M | 86 | TRP | CD1-CG-CD2 | 8.49 | 113.09 | 106.30 |
| 5 | F | 86 | TRP | CD1-CG-CD2 | 8.47 | 113.07 | 106.30 |
| 5 | N | 86 | TRP | CD1-CG-CD2 | 8.47 | 113.08 | 106.30 |
| 5 | R | 86 | TRP | CD1-CG-CD2 | 8.46 | 113.07 | 106.30 |
| 5 | S | 86 | TRP | CD1-CG-CD2 | 8.46 | 113.07 | 106.30 |
| 5 | I | 86 | TRP | CD1-CG-CD2 | 8.46 | 113.06 | 106.30 |
| 5 | R | 177 | ARG | NE-CZ-NH2 | -8.44 | 116.08 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 5 | K | 86 | TRP | CD1-CG-CD2 | 8.44 | 113.05 | 106.30 |
| 5 | G | 86 | TRP | CD1-CG-CD2 | 8.43 | 113.04 | 106.30 |
| 4 | V | 197 | LEU | CB-CG-CD1 | -8.39 | 96.73 | 111.00 |
| 4 | U | 92 | LEU | CB-CG-CD1 | -8.34 | 96.82 | 111.00 |
| 4 | A | 197 | LEU | CB-CG-CD1 | -8.34 | 96.82 | 111.00 |
| 4 | B | 92 | LEU | CB-CG-CD1 | -8.34 | 96.82 | 111.00 |
| 4 | A | 36 | LEU | CD1-CG-CD2 | 8.25 | 135.24 | 110.50 |
| 4 | A | 197 | LEU | CD1-CG-CD2 | 8.24 | 135.22 | 110.50 |
| 4 | V | 36 | LEU | CD1-CG-CD2 | 8.23 | 135.20 | 110.50 |
| 4 | V | 197 | LEU | CD1-CG-CD2 | 8.23 | 135.19 | 110.50 |
| 5 | N | 177 | ARG | NE-CZ-NH2 | -8.22 | 116.19 | 120.30 |
| 5 | N | 356 | TRP | CE2-CD2-CG | -8.14 | 100.78 | 107.30 |
| 5 | M | 356 | TRP | CE2-CD2-CG | -8.08 | 100.83 | 107.30 |
| 5 | G | 356 | TRP | CE2-CD2-CG | -8.06 | 100.86 | 107.30 |
| 4 | V | 155 | TYR | N-CA-CB | 8.04 | 125.06 | 110.60 |
| 5 | D | 356 | TRP | CE2-CD2-CG | -8.03 | 100.88 | 107.30 |
| 4 | A | 155 | TYR | N-CA-CB | 8.01 | 125.02 | 110.60 |
| 5 | F | 356 | TRP | CE2-CD2-CG | -8.01 | 100.89 | 107.30 |
| 5 | L | 356 | TRP | CE2-CD2-CG | -7.98 | 100.91 | 107.30 |
| 5 | J | 356 | TRP | CE2-CD2-CG | -7.98 | 100.91 | 107.30 |
| 4 | B | 169 | LEU | CB-CG-CD1 | -7.98 | 97.44 | 111.00 |
| 5 | S | 356 | TRP | CE2-CD2-CG | -7.97 | 100.92 | 107.30 |
| 5 | R | 356 | TRP | CE2-CD2-CG | -7.97 | 100.92 | 107.30 |
| 5 | P | 356 | TRP | CE2-CD2-CG | -7.96 | 100.94 | 107.30 |
| 5 | K | 356 | TRP | CE2-CD2-CG | -7.95 | 100.94 | 107.30 |
| 5 | Q | 356 | TRP | CE2-CD2-CG | -7.95 | 100.94 | 107.30 |
| 4 | U | 169 | LEU | CB-CG-CD1 | -7.95 | 97.48 | 111.00 |
| 5 | O | 356 | TRP | CE2-CD2-CG | -7.95 | 100.94 | 107.30 |
| 5 | E | 356 | TRP | CE2-CD2-CG | -7.91 | 100.98 | 107.30 |
| 5 | I | 356 | TRP | CE2-CD2-CG | -7.88 | 100.99 | 107.30 |
| 4 | A | 169 | LEU | CB-CG-CD1 | -7.87 | 97.63 | 111.00 |
| 4 | V | 169 | LEU | CB-CG-CD1 | -7.86 | 97.64 | 111.00 |
| 4 | B | 36 | LEU | CD1-CG-CD2 | 7.86 | 134.07 | 110.50 |
| 4 | U | 36 | LEU | CD1-CG-CD2 | 7.85 | 134.06 | 110.50 |
| 5 | H | 356 | TRP | CE2-CD2-CG | -7.85 | 101.02 | 107.30 |
| 4 | V | 92 | LEU | CB-CG-CD1 | -7.84 | 97.67 | 111.00 |
| 4 | U | 169 | LEU | CD1-CG-CD2 | 7.83 | 133.98 | 110.50 |
| 5 | J | 312 | ARG | NE-CZ-NH2 | 7.82 | 124.21 | 120.30 |
| 4 | B | 169 | LEU | CD1-CG-CD2 | 7.82 | 133.95 | 110.50 |
| 4 | A | 92 | LEU | CB-CG-CD1 | -7.81 | 97.72 | 111.00 |
| 4 | A | 190 | LEU | CD1-CG-CD2 | 7.77 | 133.81 | 110.50 |
| 5 | S | 312 | ARG | NE-CZ-NH2 | 7.77 | 124.18 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 5 | F | 312 | ARG | NE-CZ-NH2 | 7.76 | 124.18 | 120.30 |
| 4 | V | 190 | LEU | CD1-CG-CD2 | 7.76 | 133.78 | 110.50 |
| 4 | B | 92 | LEU | CD1-CG-CD2 | 7.74 | 133.73 | 110.50 |
| 4 | U | 92 | LEU | CD1-CG-CD2 | 7.73 | 133.70 | 110.50 |
| 5 | M | 312 | ARG | NE-CZ-NH2 | 7.72 | 124.16 | 120.30 |
| 5 | I | 312 | ARG | NE-CZ-NH2 | 7.69 | 124.14 | 120.30 |
| 5 | K | 312 | ARG | NE-CZ-NH2 | 7.69 | 124.15 | 120.30 |
| 5 | L | 312 | ARG | NE-CZ-NH2 | 7.69 | 124.14 | 120.30 |
| 5 | O | 312 | ARG | NE-CZ-NH2 | 7.69 | 124.14 | 120.30 |
| 5 | Q | 312 | ARG | NE-CZ-NH2 | 7.69 | 124.14 | 120.30 |
| 5 | M | 86 | TRP | CE2-CD2-CG | -7.66 | 101.17 | 107.30 |
| 5 | E | 312 | ARG | NE-CZ-NH2 | 7.66 | 124.13 | 120.30 |
| 4 | V | 169 | LEU | CD1-CG-CD2 | 7.66 | 133.47 | 110.50 |
| 5 | L | 86 | TRP | CE2-CD2-CG | -7.65 | 101.18 | 107.30 |
| 5 | D | 312 | ARG | NE-CZ-NH2 | 7.65 | 124.12 | 120.30 |
| 5 | J | 86 | TRP | CE2-CD2-CG | -7.65 | 101.18 | 107.30 |
| 5 | N | 312 | ARG | NE-CZ-NH2 | 7.64 | 124.12 | 120.30 |
| 5 | P | 312 | ARG | NE-CZ-NH2 | 7.64 | 124.12 | 120.30 |
| 5 | H | 312 | ARG | NE-CZ-NH2 | 7.63 | 124.11 | 120.30 |
| 5 | R | 312 | ARG | NE-CZ-NH2 | 7.63 | 124.11 | 120.30 |
| 4 | A | 169 | LEU | CD1-CG-CD2 | 7.63 | 133.38 | 110.50 |
| 5 | S | 86 | TRP | CE2-CD2-CG | -7.62 | 101.20 | 107.30 |
| 5 | P | 86 | TRP | CE2-CD2-CG | -7.61 | 101.21 | 107.30 |
| 5 | H | 86 | TRP | CE2-CD2-CG | -7.60 | 101.22 | 107.30 |
| 5 | O | 86 | TRP | CE2-CD2-CG | -7.56 | 101.25 | 107.30 |
| 5 | D | 86 | TRP | CE2-CD2-CG | -7.56 | 101.25 | 107.30 |
| 4 | T | 260 | TYR | CB-CG-CD1 | 7.56 | 125.53 | 121.00 |
| 4 | B | 260 | TYR | CB-CG-CD1 | 7.54 | 125.52 | 121.00 |
| 5 | E | 86 | TRP | CE2-CD2-CG | -7.54 | 101.27 | 107.30 |
| 5 | G | 312 | ARG | NE-CZ-NH2 | 7.54 | 124.07 | 120.30 |
| 5 | R | 86 | TRP | CE2-CD2-CG | -7.53 | 101.27 | 107.30 |
| 5 | N | 86 | TRP | CE2-CD2-CG | -7.52 | 101.28 | 107.30 |
| 5 | I | 86 | TRP | CE2-CD2-CG | -7.51 | 101.29 | 107.30 |
| 5 | K | 86 | TRP | CE2-CD2-CG | -7.51 | 101.30 | 107.30 |
| 4 | U | 260 | TYR | CB-CG-CD1 | 7.51 | 125.50 | 121.00 |
| 5 | Q | 86 | TRP | CE2-CD2-CG | -7.50 | 101.30 | 107.30 |
| 5 | F | 86 | TRP | CE2-CD2-CG | -7.49 | 101.31 | 107.30 |
| 4 | W | 260 | TYR | CB-CG-CD1 | 7.46 | 125.47 | 121.00 |
| 4 | A | 92 | LEU | CD1-CG-CD2 | 7.45 | 132.86 | 110.50 |
| 5 | G | 86 | TRP | CE2-CD2-CG | -7.45 | 101.34 | 107.30 |
| 5 | S | 254 | ARG | NE-CZ-NH2 | -7.45 | 116.57 | 120.30 |
| 4 | V | 92 | LEU | CD1-CG-CD2 | 7.43 | 132.80 | 110.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 5 | N | 233 | SER | CA-C-N | -7.41 | 100.91 | 117.20 |
| 5 | D | 180 | LEU | CA-CB-CG | 7.40 | 132.32 | 115.30 |
| 4 | U | 197 | LEU | CD1-CG-CD2 | 7.40 | 132.69 | 110.50 |
| 5 | E | 254 | ARG | NE-CZ-NH2 | -7.39 | 116.60 | 120.30 |
| 5 | O | 233 | SER | CA-C-N | -7.38 | 100.96 | 117.20 |
| 5 | O | 254 | ARG | NE-CZ-NH2 | -7.38 | 116.61 | 120.30 |
| 5 | F | 233 | SER | CA-C-N | -7.38 | 100.97 | 117.20 |
| 4 | B | 197 | LEU | CD1-CG-CD2 | 7.38 | 132.62 | 110.50 |
| 5 | G | 180 | LEU | CA-CB-CG | 7.38 | 132.26 | 115.30 |
| 5 | M | 233 | SER | CA-C-N | -7.37 | 100.98 | 117.20 |
| 5 | P | 233 | SER | CA-C-N | -7.37 | 100.98 | 117.20 |
| 5 | S | 233 | SER | CA-C-N | -7.37 | 100.99 | 117.20 |
| 5 | G | 233 | SER | CA-C-N | -7.37 | 100.99 | 117.20 |
| 5 | R | 180 | LEU | CA-CB-CG | 7.37 | 132.25 | 115.30 |
| 5 | L | 233 | SER | CA-C-N | -7.37 | 101.00 | 117.20 |
| 5 | S | 180 | LEU | CA-CB-CG | 7.36 | 132.24 | 115.30 |
| 5 | J | 180 | LEU | CA-CB-CG | 7.36 | 132.23 | 115.30 |
| 5 | I | 233 | SER | CA-C-N | -7.36 | 101.01 | 117.20 |
| 5 | J | 233 | SER | CA-C-N | -7.36 | 101.02 | 117.20 |
| 5 | D | 233 | SER | CA-C-N | -7.36 | 101.02 | 117.20 |
| 5 | E | 233 | SER | CA-C-N | -7.35 | 101.02 | 117.20 |
| 5 | H | 180 | LEU | CA-CB-CG | 7.35 | 132.21 | 115.30 |
| 5 | Q | 233 | SER | CA-C-N | -7.35 | 101.03 | 117.20 |
| 5 | F | 180 | LEU | CA-CB-CG | 7.35 | 132.20 | 115.30 |
| 5 | H | 254 | ARG | NE-CZ-NH2 | -7.35 | 116.63 | 120.30 |
| 5 | K | 233 | SER | CA-C-N | -7.34 | 101.04 | 117.20 |
| 5 | P | 180 | LEU | CA-CB-CG | 7.34 | 132.19 | 115.30 |
| 5 | R | 233 | SER | CA-C-N | -7.34 | 101.04 | 117.20 |
| 5 | J | 254 | ARG | NE-CZ-NH2 | -7.34 | 116.63 | 120.30 |
| 5 | K | 180 | LEU | CA-CB-CG | 7.34 | 132.19 | 115.30 |
| 5 | O | 180 | LEU | CA-CB-CG | 7.34 | 132.18 | 115.30 |
| 5 | L | 180 | LEU | CA-CB-CG | 7.34 | 132.18 | 115.30 |
| 5 | M | 180 | LEU | CA-CB-CG | 7.33 | 132.16 | 115.30 |
| 5 | G | 79 | TRP | CD1-CG-CD2 | 7.33 | 112.16 | 106.30 |
| 5 | N | 180 | LEU | CA-CB-CG | 7.33 | 132.15 | 115.30 |
| 5 | E | 180 | LEU | CA-CB-CG | 7.32 | 132.14 | 115.30 |
| 5 | H | 233 | SER | CA-C-N | -7.32 | 101.10 | 117.20 |
| 5 | R | 79 | TRP | CD1-CG-CD2 | 7.30 | 112.14 | 106.30 |
| 5 | Q | 180 | LEU | CA-CB-CG | 7.30 | 132.08 | 115.30 |
| 5 | L | 254 | ARG | NE-CZ-NH2 | -7.28 | 116.66 | 120.30 |
| 5 | I | 180 | LEU | CA-CB-CG | 7.28 | 132.05 | 115.30 |
| 5 | Q | 79 | TRP | CD1-CG-CD2 | 7.28 | 112.12 | 106.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 5 | P | 79 | TRP | CD1-CG-CD2 | 7.27 | 112.12 | 106.30 |
| 5 | J | 79 | TRP | CD1-CG-CD2 | 7.27 | 112.12 | 106.30 |
| 5 | K | 79 | TRP | CD1-CG-CD2 | 7.27 | 112.11 | 106.30 |
| 4 | B | 141 | LEU | CD1-CG-CD2 | 7.27 | 132.30 | 110.50 |
| 5 | Q | 254 | ARG | NE-CZ-NH2 | -7.26 | 116.67 | 120.30 |
| 4 | U | 141 | LEU | CD1-CG-CD2 | 7.26 | 132.28 | 110.50 |
| 5 | M | 79 | TRP | CD1-CG-CD2 | 7.25 | 112.10 | 106.30 |
| 5 | I | 254 | ARG | NE-CZ-NH2 | -7.25 | 116.67 | 120.30 |
| 5 | N | 79 | TRP | CD1-CG-CD2 | 7.24 | 112.09 | 106.30 |
| 5 | F | 254 | ARG | NE-CZ-NH2 | -7.23 | 116.69 | 120.30 |
| 5 | I | 79 | TRP | CD1-CG-CD2 | 7.23 | 112.08 | 106.30 |
| 5 | N | 254 | ARG | NE-CZ-NH2 | -7.22 | 116.69 | 120.30 |
| 5 | H | 79 | TRP | CD1-CG-CD2 | 7.21 | 112.07 | 106.30 |
| 5 | D | 79 | TRP | CD1-CG-CD2 | 7.21 | 112.07 | 106.30 |
| 4 | A | 197 | LEU | N-CA-C | 7.21 | 130.46 | 111.00 |
| 5 | L | 79 | TRP | CD1-CG-CD2 | 7.21 | 112.06 | 106.30 |
| 5 | M | 254 | ARG | NE-CZ-NH2 | -7.21 | 116.70 | 120.30 |
| 5 | P | 254 | ARG | NE-CZ-NH2 | -7.20 | 116.70 | 120.30 |
| 5 | Q | 340 | TRP | CE2-CD2-CG | -7.20 | 101.54 | 107.30 |
| 5 | L | 340 | TRP | CE2-CD2-CG | -7.19 | 101.54 | 107.30 |
| 4 | V | 43 | LEU | CD1-CG-CD2 | 7.19 | 132.07 | 110.50 |
| 4 | A | 43 | LEU | CD1-CG-CD2 | 7.19 | 132.07 | 110.50 |
| 4 | V | 197 | LEU | N-CA-C | 7.19 | 130.41 | 111.00 |
| 5 | O | 79 | TRP | CD1-CG-CD2 | 7.19 | 112.05 | 106.30 |
| 5 | H | 340 | TRP | CE2-CD2-CG | -7.18 | 101.56 | 107.30 |
| 5 | S | 79 | TRP | CD1-CG-CD2 | 7.17 | 112.04 | 106.30 |
| 5 | F | 79 | TRP | CD1-CG-CD2 | 7.17 | 112.03 | 106.30 |
| 5 | G | 79 | TRP | CE2-CD2-CG | -7.16 | 101.58 | 107.30 |
| 5 | S | 340 | TRP | CE2-CD2-CG | -7.15 | 101.58 | 107.30 |
| 5 | E | 79 | TRP | CD1-CG-CD2 | 7.14 | 112.02 | 106.30 |
| 5 | G | 254 | ARG | NE-CZ-NH2 | -7.14 | 116.73 | 120.30 |
| 5 | L | 79 | TRP | CE2-CD2-CG | -7.14 | 101.59 | 107.30 |
| 5 | N | 340 | TRP | CE2-CD2-CG | -7.14 | 101.59 | 107.30 |
| 5 | L | 206 | ARG | NE-CZ-NH1 | 7.14 | 123.87 | 120.30 |
| 5 | K | 254 | ARG | NE-CZ-NH2 | -7.13 | 116.73 | 120.30 |
| 5 | J | 79 | TRP | CE2-CD2-CG | -7.13 | 101.59 | 107.30 |
| 5 | G | 340 | TRP | CE2-CD2-CG | -7.13 | 101.60 | 107.30 |
| 5 | D | 254 | ARG | NE-CZ-NH2 | -7.12 | 116.74 | 120.30 |
| 5 | K | 79 | TRP | CE2-CD2-CG | -7.11 | 101.61 | 107.30 |
| 5 | M | 340 | TRP | CE2-CD2-CG | -7.11 | 101.61 | 107.30 |
| 4 | U | 155 | TYR | CB-CG-CD2 | 7.11 | 125.27 | 121.00 |
| 5 | H | 206 | ARG | NE-CZ-NH1 | 7.11 | 123.86 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 4 | T | 253 | LEU | CB-CG-CD1 | -7.10 | 98.92 | 111.00 |
| 5 | O | 340 | TRP | CE2-CD2-CG | -7.10 | 101.62 | 107.30 |
| 4 | W | 253 | LEU | CB-CG-CD1 | -7.10 | 98.93 | 111.00 |
| 4 | U | 253 | LEU | CB-CG-CD1 | -7.10 | 98.94 | 111.00 |
| 5 | E | 340 | TRP | CE2-CD2-CG | -7.09 | 101.62 | 107.30 |
| 5 | R | 79 | TRP | CE2-CD2-CG | -7.09 | 101.63 | 107.30 |
| 5 | H | 340 | TRP | CD1-CG-CD2 | 7.09 | 111.97 | 106.30 |
| 4 | B | 43 | LEU | CD1-CG-CD2 | 7.09 | 131.76 | 110.50 |
| 5 | Q | 79 | TRP | CE2-CD2-CG | -7.09 | 101.63 | 107.30 |
| 5 | N | 79 | TRP | CE2-CD2-CG | -7.08 | 101.63 | 107.30 |
| 5 | Q | 340 | TRP | CD1-CG-CD2 | 7.08 | 111.97 | 106.30 |
| 4 | B | 253 | LEU | CB-CG-CD1 | -7.08 | 98.96 | 111.00 |
| 5 | S | 206 | ARG | NE-CZ-NH1 | 7.08 | 123.84 | 120.30 |
| 4 | A | 141 | LEU | CD1-CG-CD2 | 7.07 | 131.72 | 110.50 |
| 4 | V | 141 | LEU | CD1-CG-CD2 | 7.07 | 131.72 | 110.50 |
| 5 | F | 340 | TRP | CE2-CD2-CG | -7.07 | 101.64 | 107.30 |
| 5 | M | 206 | ARG | NE-CZ-NH1 | 7.07 | 123.84 | 120.30 |
| 5 | J | 47 | MET | CA-CB-CG | -7.07 | 101.28 | 113.30 |
| 5 | O | 206 | ARG | NE-CZ-NH1 | 7.07 | 123.83 | 120.30 |
| 4 | U | 43 | LEU | CD1-CG-CD2 | 7.07 | 131.71 | 110.50 |
| 4 | U | 169 | LEU | N-CA-C | 7.07 | 130.08 | 111.00 |
| 5 | R | 340 | TRP | CE2-CD2-CG | -7.07 | 101.65 | 107.30 |
| 5 | O | 79 | TRP | CE2-CD2-CG | -7.06 | 101.65 | 107.30 |
| 5 | P | 340 | TRP | CE2-CD2-CG | -7.06 | 101.65 | 107.30 |
| 5 | E | 47 | MET | CA-CB-CG | -7.06 | 101.30 | 113.30 |
| 5 | P | 206 | ARG | NE-CZ-NH1 | 7.06 | 123.83 | 120.30 |
| 5 | I | 340 | TRP | CE2-CD2-CG | -7.06 | 101.66 | 107.30 |
| 5 | P | 79 | TRP | CE2-CD2-CG | -7.05 | 101.66 | 107.30 |
| 5 | K | 340 | TRP | CE2-CD2-CG | -7.05 | 101.66 | 107.30 |
| 5 | M | 79 | TRP | CE2-CD2-CG | -7.05 | 101.66 | 107.30 |
| 5 | S | 47 | MET | CA-CB-CG | -7.04 | 101.32 | 113.30 |
| 5 | D | 340 | TRP | CE2-CD2-CG | -7.04 | 101.67 | 107.30 |
| 4 | T | 251 | ASP | CB-CG-OD1 | 7.04 | 124.64 | 118.30 |
| 5 | D | 47 | MET | CA-CB-CG | -7.04 | 101.33 | 113.30 |
| 5 | L | 47 | MET | CA-CB-CG | -7.04 | 101.33 | 113.30 |
| 5 | P | 47 | MET | CA-CB-CG | -7.04 | 101.33 | 113.30 |
| 5 | D | 79 | TRP | CE2-CD2-CG | -7.03 | 101.67 | 107.30 |
| 5 | F | 79 | TRP | CE2-CD2-CG | -7.03 | 101.67 | 107.30 |
| 5 | O | 47 | MET | CA-CB-CG | -7.03 | 101.34 | 113.30 |
| 5 | F | 206 | ARG | NE-CZ-NH1 | 7.03 | 123.81 | 120.30 |
| 4 | B | 169 | LEU | N-CA-C | 7.02 | 129.97 | 111.00 |
| 5 | I | 47 | MET | CA-CB-CG | -7.02 | 101.37 | 113.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 4 | B | 190 | LEU | CD1-CG-CD2 | 7.02 | 131.55 | 110.50 |
| 5 | E | 79 | TRP | CE2-CD2-CG | -7.02 | 101.69 | 107.30 |
| 4 | B | 197 | LEU | CB-CG-CD1 | -7.01 | 99.08 | 111.00 |
| 5 | M | 47 | MET | CA-CB-CG | -7.01 | 101.38 | 113.30 |
| 5 | K | 47 | MET | CA-CB-CG | -7.01 | 101.38 | 113.30 |
| 5 | S | 79 | TRP | CE2-CD2-CG | -7.00 | 101.70 | 107.30 |
| 4 | C | 251 | ASP | CB-CG-OD1 | 7.00 | 124.60 | 118.30 |
| 5 | F | 340 | TRP | CD1-CG-CD2 | 7.00 | 111.90 | 106.30 |
| 4 | U | 190 | LEU | CD1-CG-CD2 | 7.00 | 131.51 | 110.50 |
| 4 | B | 251 | ASP | CB-CG-OD1 | 7.00 | 124.60 | 118.30 |
| 4 | U | 197 | LEU | CB-CG-CD1 | -7.00 | 99.10 | 111.00 |
| 4 | U | 251 | ASP | CB-CG-OD1 | 7.00 | 124.60 | 118.30 |
| 4 | W | 251 | ASP | CB-CG-OD1 | 7.00 | 124.60 | 118.30 |
| 4 | V | 251 | ASP | CB-CG-OD1 | 7.00 | 124.60 | 118.30 |
| 5 | G | 47 | MET | CA-CB-CG | -7.00 | 101.40 | 113.30 |
| 5 | N | 47 | MET | CA-CB-CG | -7.00 | 101.40 | 113.30 |
| 5 | R | 254 | ARG | NE-CZ-NH2 | -7.00 | 116.80 | 120.30 |
| 5 | H | 79 | TRP | CE2-CD2-CG | -7.00 | 101.70 | 107.30 |
| 5 | J | 206 | ARG | NE-CZ-NH1 | 7.00 | 123.80 | 120.30 |
| 4 | A | 251 | ASP | CB-CG-OD1 | 6.99 | 124.59 | 118.30 |
| 4 | X | 251 | ASP | CB-CG-OD1 | 6.99 | 124.59 | 118.30 |
| 5 | G | 206 | ARG | NE-CZ-NH1 | 6.99 | 123.80 | 120.30 |
| 5 | Q | 47 | MET | CA-CB-CG | -6.99 | 101.42 | 113.30 |
| 5 | H | 47 | MET | CA-CB-CG | -6.99 | 101.42 | 113.30 |
| 5 | I | 79 | TRP | CE2-CD2-CG | -6.98 | 101.72 | 107.30 |
| 5 | R | 206 | ARG | NE-CZ-NH1 | 6.98 | 123.79 | 120.30 |
| 5 | I | 206 | ARG | NE-CZ-NH1 | 6.98 | 123.79 | 120.30 |
| 5 | N | 206 | ARG | NE-CZ-NH1 | 6.98 | 123.79 | 120.30 |
| 5 | E | 206 | ARG | NE-CZ-NH1 | 6.98 | 123.79 | 120.30 |
| 5 | R | 47 | MET | CA-CB-CG | -6.97 | 101.44 | 113.30 |
| 5 | J | 340 | TRP | CE2-CD2-CG | -6.97 | 101.72 | 107.30 |
| 5 | Q | 206 | ARG | NE-CZ-NH1 | 6.97 | 123.79 | 120.30 |
| 4 | B | 155 | TYR | CB-CG-CD2 | 6.97 | 125.18 | 121.00 |
| 5 | F | 47 | MET | CA-CB-CG | -6.96 | 101.46 | 113.30 |
| 5 | R | 340 | TRP | CD1-CG-CD2 | 6.96 | 111.87 | 106.30 |
| 5 | K | 206 | ARG | NE-CZ-NH1 | 6.96 | 123.78 | 120.30 |
| 5 | G | 340 | TRP | CD1-CG-CD2 | 6.94 | 111.85 | 106.30 |
| 5 | M | 340 | TRP | CD1-CG-CD2 | 6.94 | 111.85 | 106.30 |
| 5 | O | 340 | TRP | CD1-CG-CD2 | 6.94 | 111.85 | 106.30 |
| 4 | V | 169 | LEU | N-CA-C | 6.92 | 129.70 | 111.00 |
| 5 | L | 340 | TRP | CD1-CG-CD2 | 6.92 | 111.84 | 106.30 |
| 5 | D | 340 | TRP | CD1-CG-CD2 | 6.91 | 111.83 | 106.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 5 | E | 340 | TRP | CD1-CG-CD2 | 6.91 | 111.83 | 106.30 |
| 5 | P | 340 | TRP | CD1-CG-CD2 | 6.91 | 111.83 | 106.30 |
| 5 | J | 340 | TRP | CD1-CG-CD2 | 6.90 | 111.82 | 106.30 |
| 5 | S | 340 | TRP | CD1-CG-CD2 | 6.89 | 111.81 | 106.30 |
| 4 | A | 169 | LEU | N-CA-C | 6.89 | 129.61 | 111.00 |
| 5 | I | 340 | TRP | CD1-CG-CD2 | 6.89 | 111.81 | 106.30 |
| 5 | K | 340 | TRP | CD1-CG-CD2 | 6.87 | 111.79 | 106.30 |
| 5 | D | 206 | ARG | NE-CZ-NH1 | 6.86 | 123.73 | 120.30 |
| 5 | N | 340 | TRP | CD1-CG-CD2 | 6.86 | 111.78 | 106.30 |
| 5 | Q | 169 | TYR | CB-CG-CD2 | -6.76 | 116.94 | 121.00 |
| 5 | D | 169 | TYR | CB-CG-CD2 | -6.76 | 116.94 | 121.00 |
| 5 | J | 169 | TYR | CB-CG-CD2 | -6.73 | 116.96 | 121.00 |
| 5 | S | 169 | TYR | CB-CG-CD2 | -6.71 | 116.97 | 121.00 |
| 4 | U | 34 | ASP | CB-CG-OD1 | 6.70 | 124.33 | 118.30 |
| 4 | B | 34 | ASP | CB-CG-OD1 | 6.68 | 124.31 | 118.30 |
| 5 | O | 169 | TYR | CB-CG-CD2 | -6.67 | 117.00 | 121.00 |
| 5 | H | 169 | TYR | CB-CG-CD2 | -6.64 | 117.01 | 121.00 |
| 5 | F | 169 | TYR | CB-CG-CD2 | -6.61 | 117.03 | 121.00 |
| 5 | L | 169 | TYR | CB-CG-CD2 | -6.60 | 117.04 | 121.00 |
| 5 | E | 169 | TYR | CB-CG-CD2 | -6.58 | 117.05 | 121.00 |
| 5 | N | 169 | TYR | CB-CG-CD2 | -6.57 | 117.06 | 121.00 |
| 5 | E | 283 | MET | CG-SD-CE | 6.56 | 110.70 | 100.20 |
| 5 | M | 283 | MET | CG-SD-CE | 6.55 | 110.68 | 100.20 |
| 5 | D | 283 | MET | CG-SD-CE | 6.54 | 110.67 | 100.20 |
| 5 | L | 283 | MET | CG-SD-CE | 6.54 | 110.67 | 100.20 |
| 5 | S | 283 | MET | CG-SD-CE | 6.54 | 110.67 | 100.20 |
| 5 | F | 283 | MET | CG-SD-CE | 6.54 | 110.66 | 100.20 |
| 5 | N | 283 | MET | CG-SD-CE | 6.54 | 110.66 | 100.20 |
| 5 | K | 283 | MET | CG-SD-CE | 6.53 | 110.65 | 100.20 |
| 5 | R | 283 | MET | CG-SD-CE | 6.53 | 110.65 | 100.20 |
| 5 | H | 283 | MET | CG-SD-CE | 6.53 | 110.65 | 100.20 |
| 5 | P | 283 | MET | CG-SD-CE | 6.53 | 110.65 | 100.20 |
| 5 | R | 169 | TYR | CB-CG-CD2 | -6.53 | 117.08 | 121.00 |
| 5 | D | 196 | ARG | NE-CZ-NH1 | 6.52 | 123.56 | 120.30 |
| 5 | I | 283 | MET | CG-SD-CE | 6.52 | 110.63 | 100.20 |
| 5 | Q | 283 | MET | CG-SD-CE | 6.52 | 110.63 | 100.20 |
| 5 | P | 169 | TYR | CB-CG-CD2 | -6.52 | 117.09 | 121.00 |
| 5 | J | 283 | MET | CG-SD-CE | 6.51 | 110.62 | 100.20 |
| 5 | G | 283 | MET | CG-SD-CE | 6.51 | 110.62 | 100.20 |
| 5 | R | 196 | ARG | NE-CZ-NH1 | 6.51 | 123.56 | 120.30 |
| 5 | O | 283 | MET | CG-SD-CE | 6.50 | 110.59 | 100.20 |
| 5 | P | 159 | VAL | CB-CA-C | -6.49 | 99.08 | 111.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-----------|-------|-------------|----------|
| 5 | G | 159 | VAL | CB-CA-C | -6.48 | 99.08 | 111.40 |
| 5 | K | 196 | ARG | NE-CZ-NH1 | 6.48 | 123.54 | 120.30 |
| 5 | O | 196 | ARG | NE-CZ-NH1 | 6.48 | 123.54 | 120.30 |
| 5 | R | 159 | VAL | CB-CA-C | -6.48 | 99.08 | 111.40 |
| 4 | V | 34 | ASP | CB-CG-OD1 | 6.48 | 124.13 | 118.30 |
| 4 | A | 130 | ASP | CA-C-N | 6.48 | 131.45 | 117.20 |
| 5 | L | 196 | ARG | NE-CZ-NH1 | 6.48 | 123.54 | 120.30 |
| 5 | F | 159 | VAL | CB-CA-C | -6.47 | 99.10 | 111.40 |
| 5 | D | 159 | VAL | CB-CA-C | -6.47 | 99.10 | 111.40 |
| 5 | J | 159 | VAL | CB-CA-C | -6.47 | 99.11 | 111.40 |
| 5 | Q | 159 | VAL | CB-CA-C | -6.47 | 99.11 | 111.40 |
| 5 | K | 169 | TYR | CB-CG-CD2 | -6.47 | 117.12 | 121.00 |
| 4 | V | 130 | ASP | CA-C-N | 6.46 | 131.42 | 117.20 |
| 5 | H | 159 | VAL | CB-CA-C | -6.46 | 99.12 | 111.40 |
| 5 | S | 196 | ARG | NE-CZ-NH1 | 6.46 | 123.53 | 120.30 |
| 5 | H | 34 | ILE | CA-CB-CG2 | -6.46 | 97.99 | 110.90 |
| 5 | K | 159 | VAL | CB-CA-C | -6.46 | 99.13 | 111.40 |
| 5 | N | 159 | VAL | CB-CA-C | -6.46 | 99.13 | 111.40 |
| 5 | M | 159 | VAL | CB-CA-C | -6.45 | 99.14 | 111.40 |
| 5 | S | 159 | VAL | CB-CA-C | -6.45 | 99.14 | 111.40 |
| 5 | P | 196 | ARG | NE-CZ-NH1 | 6.45 | 123.53 | 120.30 |
| 5 | I | 159 | VAL | CB-CA-C | -6.44 | 99.16 | 111.40 |
| 5 | G | 169 | TYR | CB-CG-CD2 | -6.44 | 117.14 | 121.00 |
| 5 | L | 159 | VAL | CB-CA-C | -6.44 | 99.17 | 111.40 |
| 5 | O | 159 | VAL | CB-CA-C | -6.43 | 99.17 | 111.40 |
| 5 | J | 196 | ARG | NE-CZ-NH1 | 6.43 | 123.52 | 120.30 |
| 5 | P | 34 | ILE | CA-CB-CG2 | -6.43 | 98.05 | 110.90 |
| 5 | N | 34 | ILE | CA-CB-CG2 | -6.42 | 98.05 | 110.90 |
| 5 | I | 34 | ILE | CA-CB-CG2 | -6.42 | 98.05 | 110.90 |
| 5 | J | 34 | ILE | CA-CB-CG2 | -6.42 | 98.06 | 110.90 |
| 4 | A | 154 | LYS | CA-CB-CG | 6.41 | 127.51 | 113.40 |
| 5 | S | 34 | ILE | CA-CB-CG2 | -6.41 | 98.07 | 110.90 |
| 5 | E | 159 | VAL | CB-CA-C | -6.41 | 99.22 | 111.40 |
| 5 | F | 34 | ILE | CA-CB-CG2 | -6.41 | 98.08 | 110.90 |
| 5 | L | 34 | ILE | CA-CB-CG2 | -6.41 | 98.08 | 110.90 |
| 5 | R | 34 | ILE | CA-CB-CG2 | -6.40 | 98.09 | 110.90 |
| 4 | A | 34 | ASP | CB-CG-OD1 | 6.40 | 124.06 | 118.30 |
| 4 | V | 154 | LYS | CA-CB-CG | 6.40 | 127.48 | 113.40 |
| 5 | F | 196 | ARG | NE-CZ-NH1 | 6.39 | 123.50 | 120.30 |
| 5 | M | 34 | ILE | CA-CB-CG2 | -6.39 | 98.11 | 110.90 |
| 5 | E | 34 | ILE | CA-CB-CG2 | -6.39 | 98.11 | 110.90 |
| 5 | Q | 34 | ILE | CA-CB-CG2 | -6.39 | 98.12 | 110.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 5 | K | 34 | ILE | CA-CB-CG2 | -6.39 | 98.12 | 110.90 |
| 5 | D | 34 | ILE | CA-CB-CG2 | -6.39 | 98.13 | 110.90 |
| 5 | G | 34 | ILE | CA-CB-CG2 | -6.38 | 98.14 | 110.90 |
| 5 | I | 196 | ARG | NE-CZ-NH1 | 6.38 | 123.49 | 120.30 |
| 5 | M | 169 | TYR | CB-CG-CD2 | -6.36 | 117.18 | 121.00 |
| 4 | B | 197 | LEU | N-CA-C | 6.36 | 128.17 | 111.00 |
| 5 | N | 196 | ARG | NE-CZ-NH1 | 6.35 | 123.47 | 120.30 |
| 5 | O | 34 | ILE | CA-CB-CG2 | -6.35 | 98.21 | 110.90 |
| 4 | B | 155 | TYR | CD1-CG-CD2 | 6.34 | 124.88 | 117.90 |
| 5 | D | 217 | CYS | CA-CB-SG | -6.34 | 102.59 | 114.00 |
| 5 | E | 217 | CYS | CA-CB-SG | -6.34 | 102.59 | 114.00 |
| 5 | M | 196 | ARG | NE-CZ-NH1 | 6.32 | 123.46 | 120.30 |
| 4 | U | 197 | LEU | N-CA-C | 6.32 | 128.08 | 111.00 |
| 4 | A | 154 | LYS | N-CA-CB | -6.32 | 99.23 | 110.60 |
| 5 | P | 217 | CYS | CA-CB-SG | -6.32 | 102.63 | 114.00 |
| 4 | V | 154 | LYS | N-CA-CB | -6.30 | 99.25 | 110.60 |
| 5 | J | 217 | CYS | CA-CB-SG | -6.30 | 102.66 | 114.00 |
| 5 | M | 217 | CYS | CA-CB-SG | -6.30 | 102.66 | 114.00 |
| 5 | E | 196 | ARG | NE-CZ-NH1 | 6.30 | 123.45 | 120.30 |
| 5 | Q | 217 | CYS | CA-CB-SG | -6.29 | 102.67 | 114.00 |
| 5 | I | 217 | CYS | CA-CB-SG | -6.29 | 102.67 | 114.00 |
| 5 | N | 217 | CYS | CA-CB-SG | -6.29 | 102.68 | 114.00 |
| 5 | K | 217 | CYS | CA-CB-SG | -6.28 | 102.69 | 114.00 |
| 5 | R | 217 | CYS | CA-CB-SG | -6.28 | 102.70 | 114.00 |
| 4 | U | 154 | LYS | C-N-CA | 6.28 | 137.40 | 121.70 |
| 5 | G | 217 | CYS | CA-CB-SG | -6.28 | 102.70 | 114.00 |
| 5 | H | 217 | CYS | CA-CB-SG | -6.28 | 102.70 | 114.00 |
| 5 | O | 217 | CYS | CA-CB-SG | -6.27 | 102.71 | 114.00 |
| 5 | F | 217 | CYS | CA-CB-SG | -6.26 | 102.72 | 114.00 |
| 4 | B | 154 | LYS | C-N-CA | 6.26 | 137.35 | 121.70 |
| 4 | U | 130 | ASP | CA-C-N | 6.25 | 130.94 | 117.20 |
| 5 | H | 196 | ARG | NE-CZ-NH1 | 6.24 | 123.42 | 120.30 |
| 5 | L | 217 | CYS | CA-CB-SG | -6.24 | 102.77 | 114.00 |
| 5 | S | 217 | CYS | CA-CB-SG | -6.24 | 102.77 | 114.00 |
| 4 | U | 155 | TYR | CD1-CG-CD2 | 6.24 | 124.76 | 117.90 |
| 5 | G | 196 | ARG | NE-CZ-NH1 | 6.23 | 123.41 | 120.30 |
| 4 | B | 130 | ASP | CA-C-N | 6.23 | 130.90 | 117.20 |
| 4 | B | 155 | TYR | CZ-CE2-CD2 | -6.18 | 114.24 | 119.80 |
| 5 | Q | 196 | ARG | NE-CZ-NH1 | 6.18 | 123.39 | 120.30 |
| 5 | I | 169 | TYR | CB-CG-CD2 | -6.18 | 117.29 | 121.00 |
| 4 | U | 155 | TYR | CZ-CE2-CD2 | -6.16 | 114.26 | 119.80 |
| 5 | F | 259 | GLU | CA-CB-CG | 6.15 | 126.93 | 113.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 5 | S | 259 | GLU | CA-CB-CG | 6.15 | 126.92 | 113.40 |
| 5 | L | 259 | GLU | CA-CB-CG | 6.13 | 126.89 | 113.40 |
| 5 | K | 259 | GLU | CA-CB-CG | 6.13 | 126.89 | 113.40 |
| 5 | M | 259 | GLU | CA-CB-CG | 6.13 | 126.89 | 113.40 |
| 5 | D | 259 | GLU | CA-CB-CG | 6.13 | 126.88 | 113.40 |
| 5 | G | 259 | GLU | CA-CB-CG | 6.13 | 126.88 | 113.40 |
| 5 | P | 259 | GLU | CA-CB-CG | 6.13 | 126.88 | 113.40 |
| 5 | Q | 259 | GLU | CA-CB-CG | 6.13 | 126.88 | 113.40 |
| 5 | N | 259 | GLU | CA-CB-CG | 6.12 | 126.87 | 113.40 |
| 5 | J | 259 | GLU | CA-CB-CG | 6.12 | 126.87 | 113.40 |
| 5 | O | 259 | GLU | CA-CB-CG | 6.12 | 126.87 | 113.40 |
| 5 | D | 335 | ARG | NE-CZ-NH2 | -6.12 | 117.24 | 120.30 |
| 5 | H | 259 | GLU | CA-CB-CG | 6.12 | 126.86 | 113.40 |
| 5 | R | 259 | GLU | CA-CB-CG | 6.12 | 126.86 | 113.40 |
| 4 | U | 155 | TYR | CA-CB-CG | 6.11 | 125.01 | 113.40 |
| 5 | I | 259 | GLU | CA-CB-CG | 6.11 | 126.83 | 113.40 |
| 5 | E | 259 | GLU | CA-CB-CG | 6.11 | 126.83 | 113.40 |
| 4 | B | 155 | TYR | CA-CB-CG | 6.10 | 125.00 | 113.40 |
| 5 | F | 16 | LEU | CA-CB-CG | 6.08 | 129.28 | 115.30 |
| 5 | M | 16 | LEU | CA-CB-CG | 6.07 | 129.25 | 115.30 |
| 5 | H | 335 | ARG | NE-CZ-NH2 | -6.06 | 117.27 | 120.30 |
| 5 | F | 116 | ARG | NE-CZ-NH1 | 6.06 | 123.33 | 120.30 |
| 5 | P | 16 | LEU | CA-CB-CG | 6.06 | 129.24 | 115.30 |
| 5 | D | 349 | LEU | CA-C-N | -6.06 | 103.87 | 117.20 |
| 4 | V | 154 | LYS | C-N-CA | 6.06 | 136.84 | 121.70 |
| 4 | A | 154 | LYS | C-N-CA | 6.05 | 136.84 | 121.70 |
| 5 | K | 349 | LEU | CA-C-N | -6.05 | 103.88 | 117.20 |
| 5 | O | 16 | LEU | CA-CB-CG | 6.05 | 129.22 | 115.30 |
| 5 | I | 16 | LEU | CA-CB-CG | 6.05 | 129.22 | 115.30 |
| 5 | D | 16 | LEU | CA-CB-CG | 6.05 | 129.21 | 115.30 |
| 5 | H | 349 | LEU | CA-C-N | -6.05 | 103.89 | 117.20 |
| 5 | N | 16 | LEU | CA-CB-CG | 6.04 | 129.20 | 115.30 |
| 5 | P | 79 | TRP | CG-CD2-CE3 | 6.04 | 139.34 | 133.90 |
| 5 | F | 335 | ARG | NE-CZ-NH2 | -6.04 | 117.28 | 120.30 |
| 5 | N | 79 | TRP | CG-CD2-CE3 | 6.04 | 139.34 | 133.90 |
| 5 | H | 16 | LEU | CA-CB-CG | 6.04 | 129.18 | 115.30 |
| 5 | K | 16 | LEU | CA-CB-CG | 6.04 | 129.18 | 115.30 |
| 5 | S | 349 | LEU | CA-C-N | -6.04 | 103.92 | 117.20 |
| 5 | L | 16 | LEU | CA-CB-CG | 6.03 | 129.18 | 115.30 |
| 5 | R | 349 | LEU | CA-C-N | -6.03 | 103.92 | 117.20 |
| 5 | J | 16 | LEU | CA-CB-CG | 6.03 | 129.17 | 115.30 |
| 5 | Q | 16 | LEU | CA-CB-CG | 6.03 | 129.17 | 115.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 5 | N | 335 | ARG | NE-CZ-NH2 | -6.03 | 117.28 | 120.30 |
| 5 | S | 16 | LEU | CA-CB-CG | 6.03 | 129.16 | 115.30 |
| 5 | E | 16 | LEU | CA-CB-CG | 6.02 | 129.16 | 115.30 |
| 5 | I | 349 | LEU | CA-C-N | -6.02 | 103.95 | 117.20 |
| 5 | R | 16 | LEU | CA-CB-CG | 6.02 | 129.15 | 115.30 |
| 5 | L | 349 | LEU | CA-C-N | -6.02 | 103.96 | 117.20 |
| 5 | P | 349 | LEU | CA-C-N | -6.02 | 103.96 | 117.20 |
| 5 | G | 16 | LEU | CA-CB-CG | 6.01 | 129.13 | 115.30 |
| 5 | G | 349 | LEU | CA-C-N | -6.01 | 103.98 | 117.20 |
| 5 | N | 349 | LEU | CA-C-N | -6.01 | 103.98 | 117.20 |
| 5 | Q | 79 | TRP | CG-CD2-CE3 | 6.01 | 139.31 | 133.90 |
| 5 | J | 349 | LEU | CA-C-N | -6.01 | 103.99 | 117.20 |
| 5 | O | 349 | LEU | CA-C-N | -6.01 | 103.99 | 117.20 |
| 5 | K | 79 | TRP | CG-CD2-CE3 | 6.00 | 139.30 | 133.90 |
| 5 | K | 254 | ARG | NE-CZ-NH1 | 6.00 | 123.30 | 120.30 |
| 5 | E | 349 | LEU | CA-C-N | -5.99 | 104.02 | 117.20 |
| 5 | O | 79 | TRP | CG-CD2-CE3 | 5.99 | 139.29 | 133.90 |
| 5 | F | 349 | LEU | CA-C-N | -5.99 | 104.03 | 117.20 |
| 5 | E | 79 | TRP | CG-CD2-CE3 | 5.98 | 139.28 | 133.90 |
| 5 | G | 79 | TRP | CG-CD2-CE3 | 5.98 | 139.28 | 133.90 |
| 5 | K | 335 | ARG | NE-CZ-NH2 | -5.98 | 117.31 | 120.30 |
| 5 | R | 335 | ARG | NE-CZ-NH2 | -5.98 | 117.31 | 120.30 |
| 5 | Q | 349 | LEU | CA-C-N | -5.97 | 104.06 | 117.20 |
| 5 | R | 79 | TRP | CG-CD2-CE3 | 5.97 | 139.27 | 133.90 |
| 5 | M | 79 | TRP | CG-CD2-CE3 | 5.96 | 139.27 | 133.90 |
| 5 | Q | 335 | ARG | NE-CZ-NH2 | -5.96 | 117.32 | 120.30 |
| 5 | M | 349 | LEU | CA-C-N | -5.94 | 104.12 | 117.20 |
| 5 | M | 335 | ARG | NE-CZ-NH2 | -5.94 | 117.33 | 120.30 |
| 5 | J | 79 | TRP | CG-CD2-CE3 | 5.93 | 139.23 | 133.90 |
| 5 | K | 116 | ARG | NE-CZ-NH1 | 5.92 | 123.26 | 120.30 |
| 5 | F | 79 | TRP | CG-CD2-CE3 | 5.92 | 139.23 | 133.90 |
| 5 | H | 79 | TRP | CG-CD2-CE3 | 5.91 | 139.22 | 133.90 |
| 5 | I | 79 | TRP | CG-CD2-CE3 | 5.91 | 139.22 | 133.90 |
| 5 | S | 79 | TRP | CG-CD2-CE3 | 5.91 | 139.22 | 133.90 |
| 5 | E | 335 | ARG | NE-CZ-NH2 | -5.90 | 117.35 | 120.30 |
| 5 | L | 79 | TRP | CG-CD2-CE3 | 5.90 | 139.21 | 133.90 |
| 4 | C | 274 | MET | N-CA-CB | 5.90 | 121.22 | 110.60 |
| 4 | A | 274 | MET | N-CA-CB | 5.89 | 121.20 | 110.60 |
| 5 | J | 335 | ARG | NE-CZ-NH2 | -5.88 | 117.36 | 120.30 |
| 1 | 3 | 107 | ASN | N-CA-C | -5.88 | 95.12 | 111.00 |
| 5 | R | 200 | PHE | CA-C-N | -5.88 | 104.26 | 117.20 |
| 5 | H | 254 | ARG | NE-CZ-NH1 | 5.88 | 123.24 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 5 | K | 200 | PHE | CA-C-N | -5.88 | 104.27 | 117.20 |
| 4 | V | 274 | MET | N-CA-CB | 5.88 | 121.18 | 110.60 |
| 5 | N | 200 | PHE | CA-C-N | -5.87 | 104.28 | 117.20 |
| 4 | X | 274 | MET | N-CA-CB | 5.87 | 121.17 | 110.60 |
| 5 | M | 200 | PHE | CA-C-N | -5.87 | 104.29 | 117.20 |
| 5 | R | 116 | ARG | NE-CZ-NH1 | 5.87 | 123.23 | 120.30 |
| 4 | U | 22 | LYS | CB-CG-CD | -5.87 | 96.35 | 111.60 |
| 4 | B | 22 | LYS | CB-CG-CD | -5.86 | 96.36 | 111.60 |
| 5 | M | 116 | ARG | NE-CZ-NH1 | 5.86 | 123.23 | 120.30 |
| 5 | R | 254 | ARG | NE-CZ-NH1 | 5.86 | 123.23 | 120.30 |
| 5 | H | 200 | PHE | CA-C-N | -5.86 | 104.31 | 117.20 |
| 5 | Q | 200 | PHE | CA-C-N | -5.86 | 104.31 | 117.20 |
| 1 | 0 | 107 | ASN | N-CA-C | -5.85 | 95.20 | 111.00 |
| 5 | F | 200 | PHE | CA-C-N | -5.85 | 104.33 | 117.20 |
| 5 | G | 200 | PHE | CA-C-N | -5.85 | 104.33 | 117.20 |
| 5 | E | 200 | PHE | CA-C-N | -5.84 | 104.35 | 117.20 |
| 1 | 6 | 107 | ASN | N-CA-C | -5.84 | 95.24 | 111.00 |
| 5 | J | 200 | PHE | CA-C-N | -5.84 | 104.36 | 117.20 |
| 5 | O | 200 | PHE | CA-C-N | -5.84 | 104.36 | 117.20 |
| 4 | V | 36 | LEU | CB-CG-CD1 | -5.84 | 101.08 | 111.00 |
| 5 | D | 79 | TRP | CG-CD2-CE3 | 5.83 | 139.15 | 133.90 |
| 4 | A | 36 | LEU | CB-CG-CD1 | -5.83 | 101.09 | 111.00 |
| 5 | D | 116 | ARG | NE-CZ-NH1 | 5.83 | 123.21 | 120.30 |
| 1 | 9 | 107 | ASN | N-CA-C | -5.83 | 95.27 | 111.00 |
| 5 | L | 200 | PHE | CA-C-N | -5.83 | 104.38 | 117.20 |
| 5 | E | 95 | ARG | CA-CB-CG | 5.82 | 126.21 | 113.40 |
| 4 | A | 151 | ALA | CA-C-N | 5.82 | 130.01 | 117.20 |
| 5 | O | 254 | ARG | NE-CZ-NH1 | 5.82 | 123.21 | 120.30 |
| 5 | D | 200 | PHE | CA-C-N | -5.82 | 104.40 | 117.20 |
| 5 | P | 200 | PHE | CA-C-N | -5.82 | 104.40 | 117.20 |
| 5 | I | 200 | PHE | CA-C-N | -5.82 | 104.41 | 117.20 |
| 5 | O | 335 | ARG | NE-CZ-NH2 | -5.82 | 117.39 | 120.30 |
| 4 | V | 151 | ALA | CA-C-N | 5.82 | 129.99 | 117.20 |
| 5 | L | 95 | ARG | CA-CB-CG | 5.81 | 126.19 | 113.40 |
| 5 | S | 95 | ARG | CA-CB-CG | 5.81 | 126.19 | 113.40 |
| 5 | S | 200 | PHE | CA-C-N | -5.81 | 104.41 | 117.20 |
| 5 | G | 254 | ARG | NE-CZ-NH1 | 5.80 | 123.20 | 120.30 |
| 5 | I | 95 | ARG | CA-CB-CG | 5.80 | 126.17 | 113.40 |
| 5 | E | 254 | ARG | NE-CZ-NH1 | 5.80 | 123.20 | 120.30 |
| 5 | M | 95 | ARG | CA-CB-CG | 5.79 | 126.15 | 113.40 |
| 5 | I | 335 | ARG | NE-CZ-NH2 | -5.79 | 117.40 | 120.30 |
| 5 | J | 95 | ARG | CA-CB-CG | 5.79 | 126.14 | 113.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 5 | N | 95 | ARG | CA-CB-CG | 5.79 | 126.15 | 113.40 |
| 5 | D | 95 | ARG | CA-CB-CG | 5.79 | 126.13 | 113.40 |
| 4 | A | 274 | MET | CB-CA-C | -5.79 | 98.83 | 110.40 |
| 4 | C | 274 | MET | CB-CA-C | -5.78 | 98.83 | 110.40 |
| 5 | G | 335 | ARG | NE-CZ-NH2 | -5.78 | 117.41 | 120.30 |
| 5 | Q | 95 | ARG | CA-CB-CG | 5.78 | 126.12 | 113.40 |
| 5 | J | 254 | ARG | NE-CZ-NH1 | 5.78 | 123.19 | 120.30 |
| 5 | K | 95 | ARG | CA-CB-CG | 5.77 | 126.10 | 113.40 |
| 5 | F | 95 | ARG | CA-CB-CG | 5.77 | 126.10 | 113.40 |
| 4 | V | 274 | MET | CB-CA-C | -5.77 | 98.86 | 110.40 |
| 5 | J | 116 | ARG | NE-CZ-NH1 | 5.77 | 123.18 | 120.30 |
| 5 | P | 95 | ARG | CA-CB-CG | 5.77 | 126.09 | 113.40 |
| 5 | G | 95 | ARG | CA-CB-CG | 5.76 | 126.08 | 113.40 |
| 5 | O | 95 | ARG | CA-CB-CG | 5.76 | 126.07 | 113.40 |
| 5 | M | 254 | ARG | NE-CZ-NH1 | 5.75 | 123.18 | 120.30 |
| 5 | P | 335 | ARG | NE-CZ-NH2 | -5.75 | 117.43 | 120.30 |
| 4 | W | 253 | LEU | CD1-CG-CD2 | 5.75 | 127.74 | 110.50 |
| 4 | X | 274 | MET | CB-CA-C | -5.75 | 98.90 | 110.40 |
| 4 | U | 253 | LEU | CD1-CG-CD2 | 5.75 | 127.73 | 110.50 |
| 5 | Q | 116 | ARG | NE-CZ-NH1 | 5.74 | 123.17 | 120.30 |
| 5 | N | 116 | ARG | NE-CZ-NH1 | 5.74 | 123.17 | 120.30 |
| 4 | T | 253 | LEU | CD1-CG-CD2 | 5.74 | 127.72 | 110.50 |
| 5 | H | 95 | ARG | CA-CB-CG | 5.74 | 126.02 | 113.40 |
| 4 | B | 253 | LEU | CD1-CG-CD2 | 5.73 | 127.70 | 110.50 |
| 5 | G | 116 | ARG | NE-CZ-NH1 | 5.73 | 123.17 | 120.30 |
| 5 | R | 95 | ARG | CA-CB-CG | 5.73 | 126.01 | 113.40 |
| 5 | Q | 254 | ARG | NE-CZ-NH1 | 5.73 | 123.16 | 120.30 |
| 5 | P | 335 | ARG | CA-CB-CG | 5.72 | 125.99 | 113.40 |
| 5 | I | 335 | ARG | CA-CB-CG | 5.72 | 125.98 | 113.40 |
| 5 | K | 335 | ARG | CA-CB-CG | 5.72 | 125.98 | 113.40 |
| 5 | P | 116 | ARG | NE-CZ-NH1 | 5.72 | 123.16 | 120.30 |
| 5 | Q | 335 | ARG | CA-CB-CG | 5.72 | 125.98 | 113.40 |
| 5 | D | 335 | ARG | CA-CB-CG | 5.71 | 125.96 | 113.40 |
| 5 | R | 335 | ARG | CA-CB-CG | 5.71 | 125.96 | 113.40 |
| 5 | F | 254 | ARG | NE-CZ-NH1 | 5.71 | 123.15 | 120.30 |
| 5 | N | 335 | ARG | CA-CB-CG | 5.71 | 125.95 | 113.40 |
| 5 | J | 335 | ARG | CA-CB-CG | 5.71 | 125.95 | 113.40 |
| 5 | N | 254 | ARG | NE-CZ-NH1 | 5.70 | 123.15 | 120.30 |
| 5 | O | 335 | ARG | CA-CB-CG | 5.70 | 125.94 | 113.40 |
| 5 | M | 335 | ARG | CA-CB-CG | 5.70 | 125.93 | 113.40 |
| 5 | F | 335 | ARG | CA-CB-CG | 5.69 | 125.93 | 113.40 |
| 5 | S | 335 | ARG | NE-CZ-NH2 | -5.69 | 117.45 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 5 | E | 279 | TYR | CB-CG-CD2 | -5.69 | 117.58 | 121.00 |
| 5 | G | 335 | ARG | CA-CB-CG | 5.69 | 125.91 | 113.40 |
| 5 | S | 254 | ARG | NE-CZ-NH1 | 5.68 | 123.14 | 120.30 |
| 5 | E | 335 | ARG | CA-CB-CG | 5.68 | 125.89 | 113.40 |
| 5 | H | 335 | ARG | CA-CB-CG | 5.68 | 125.89 | 113.40 |
| 5 | N | 356 | TRP | CG-CD2-CE3 | 5.68 | 139.01 | 133.90 |
| 5 | L | 335 | ARG | CA-CB-CG | 5.67 | 125.88 | 113.40 |
| 5 | D | 254 | ARG | NE-CZ-NH1 | 5.67 | 123.13 | 120.30 |
| 5 | S | 335 | ARG | CA-CB-CG | 5.67 | 125.86 | 113.40 |
| 5 | E | 294 | TYR | CB-CG-CD2 | -5.66 | 117.60 | 121.00 |
| 4 | U | 155 | TYR | CD1-CE1-CZ | 5.65 | 124.89 | 119.80 |
| 5 | L | 279 | TYR | CB-CG-CD2 | -5.65 | 117.61 | 121.00 |
| 5 | N | 279 | TYR | CB-CG-CD2 | -5.65 | 117.61 | 121.00 |
| 5 | P | 294 | TYR | CB-CG-CD2 | -5.65 | 117.61 | 121.00 |
| 5 | H | 116 | ARG | NE-CZ-NH1 | 5.63 | 123.12 | 120.30 |
| 5 | G | 294 | TYR | CB-CG-CD2 | -5.63 | 117.62 | 121.00 |
| 5 | S | 116 | ARG | NE-CZ-NH1 | 5.63 | 123.11 | 120.30 |
| 5 | L | 254 | ARG | NE-CZ-NH1 | 5.62 | 123.11 | 120.30 |
| 5 | F | 294 | TYR | CB-CG-CD2 | -5.62 | 117.63 | 121.00 |
| 5 | E | 356 | TRP | CG-CD2-CE3 | 5.62 | 138.96 | 133.90 |
| 5 | R | 356 | TRP | CG-CD2-CE3 | 5.62 | 138.96 | 133.90 |
| 5 | M | 356 | TRP | CG-CD2-CE3 | 5.61 | 138.95 | 133.90 |
| 5 | I | 254 | ARG | NE-CZ-NH1 | 5.61 | 123.11 | 120.30 |
| 5 | S | 279 | TYR | CB-CG-CD2 | -5.61 | 117.63 | 121.00 |
| 5 | K | 356 | TRP | CG-CD2-CE3 | 5.61 | 138.95 | 133.90 |
| 5 | G | 356 | TRP | CG-CD2-CE3 | 5.61 | 138.95 | 133.90 |
| 5 | L | 113 | LYS | CA-CB-CG | 5.61 | 125.73 | 113.40 |
| 5 | S | 113 | LYS | CA-CB-CG | 5.61 | 125.73 | 113.40 |
| 5 | F | 356 | TRP | CG-CD2-CE3 | 5.60 | 138.94 | 133.90 |
| 5 | L | 116 | ARG | NE-CZ-NH1 | 5.60 | 123.10 | 120.30 |
| 5 | Q | 113 | LYS | CA-CB-CG | 5.60 | 125.72 | 113.40 |
| 5 | F | 113 | LYS | CA-CB-CG | 5.60 | 125.71 | 113.40 |
| 5 | G | 113 | LYS | CA-CB-CG | 5.60 | 125.71 | 113.40 |
| 5 | M | 113 | LYS | CA-CB-CG | 5.59 | 125.71 | 113.40 |
| 5 | H | 113 | LYS | CA-CB-CG | 5.59 | 125.70 | 113.40 |
| 5 | P | 254 | ARG | NE-CZ-NH1 | 5.59 | 123.09 | 120.30 |
| 5 | J | 113 | LYS | CA-CB-CG | 5.59 | 125.69 | 113.40 |
| 5 | P | 113 | LYS | CA-CB-CG | 5.59 | 125.69 | 113.40 |
| 5 | D | 294 | TYR | CB-CG-CD2 | -5.58 | 117.65 | 121.00 |
| 5 | L | 356 | TRP | CG-CD2-CE3 | 5.58 | 138.92 | 133.90 |
| 5 | D | 254 | ARG | N-CA-CB | -5.58 | 100.56 | 110.60 |
| 5 | N | 113 | LYS | CA-CB-CG | 5.58 | 125.67 | 113.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 5 | R | 113 | LYS | CA-CB-CG | 5.58 | 125.67 | 113.40 |
| 5 | O | 116 | ARG | NE-CZ-NH1 | 5.57 | 123.09 | 120.30 |
| 5 | I | 113 | LYS | CA-CB-CG | 5.56 | 125.64 | 113.40 |
| 5 | R | 254 | ARG | N-CA-CB | -5.56 | 100.59 | 110.60 |
| 5 | K | 113 | LYS | CA-CB-CG | 5.56 | 125.63 | 113.40 |
| 5 | O | 113 | LYS | CA-CB-CG | 5.56 | 125.63 | 113.40 |
| 5 | E | 116 | ARG | NE-CZ-NH1 | 5.56 | 123.08 | 120.30 |
| 5 | N | 294 | TYR | CB-CG-CD2 | -5.56 | 117.67 | 121.00 |
| 5 | E | 113 | LYS | CA-CB-CG | 5.56 | 125.63 | 113.40 |
| 5 | J | 11 | ASP | CB-CG-OD1 | 5.56 | 123.30 | 118.30 |
| 4 | T | 267 | LEU | N-CA-C | 5.56 | 126.00 | 111.00 |
| 5 | L | 335 | ARG | NE-CZ-NH2 | -5.55 | 117.52 | 120.30 |
| 5 | D | 356 | TRP | CG-CD2-CE3 | 5.55 | 138.90 | 133.90 |
| 4 | B | 267 | LEU | N-CA-C | 5.55 | 125.98 | 111.00 |
| 5 | J | 254 | ARG | N-CA-CB | -5.55 | 100.61 | 110.60 |
| 5 | S | 356 | TRP | CG-CD2-CE3 | 5.55 | 138.89 | 133.90 |
| 4 | V | 197 | LEU | CA-CB-CG | -5.55 | 102.53 | 115.30 |
| 5 | K | 11 | ASP | CB-CG-OD1 | 5.55 | 123.29 | 118.30 |
| 5 | L | 294 | TYR | CB-CG-CD2 | -5.54 | 117.67 | 121.00 |
| 5 | M | 11 | ASP | CB-CG-OD1 | 5.54 | 123.29 | 118.30 |
| 5 | N | 254 | ARG | N-CA-CB | -5.54 | 100.62 | 110.60 |
| 5 | P | 279 | TYR | CB-CG-CD2 | -5.54 | 117.67 | 121.00 |
| 5 | Q | 279 | TYR | CB-CG-CD2 | -5.54 | 117.67 | 121.00 |
| 5 | M | 254 | ARG | N-CA-CB | -5.54 | 100.63 | 110.60 |
| 5 | F | 254 | ARG | N-CA-CB | -5.54 | 100.63 | 110.60 |
| 5 | K | 254 | ARG | N-CA-CB | -5.54 | 100.63 | 110.60 |
| 4 | A | 197 | LEU | CA-CB-CG | -5.54 | 102.57 | 115.30 |
| 5 | O | 254 | ARG | N-CA-CB | -5.54 | 100.64 | 110.60 |
| 5 | H | 147 | ARG | NE-CZ-NH2 | -5.53 | 117.53 | 120.30 |
| 5 | I | 279 | TYR | CB-CG-CD2 | -5.53 | 117.68 | 121.00 |
| 5 | K | 279 | TYR | CB-CG-CD2 | -5.53 | 117.68 | 121.00 |
| 5 | P | 254 | ARG | N-CA-CB | -5.53 | 100.64 | 110.60 |
| 5 | G | 254 | ARG | N-CA-CB | -5.53 | 100.65 | 110.60 |
| 5 | S | 254 | ARG | N-CA-CB | -5.53 | 100.64 | 110.60 |
| 4 | V | 253 | LEU | CA-CB-CG | -5.53 | 102.58 | 115.30 |
| 4 | X | 253 | LEU | CA-CB-CG | -5.53 | 102.58 | 115.30 |
| 4 | B | 36 | LEU | CB-CG-CD1 | -5.53 | 101.60 | 111.00 |
| 5 | R | 294 | TYR | CB-CG-CD2 | -5.53 | 117.68 | 121.00 |
| 5 | D | 113 | LYS | CA-CB-CG | 5.53 | 125.56 | 113.40 |
| 5 | J | 356 | TRP | CG-CD2-CE3 | 5.53 | 138.87 | 133.90 |
| 5 | Q | 254 | ARG | N-CA-CB | -5.53 | 100.66 | 110.60 |
| 5 | S | 294 | TYR | CB-CG-CD2 | -5.53 | 117.69 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 5 | L | 11 | ASP | CB-CG-OD1 | 5.52 | 123.27 | 118.30 |
| 4 | A | 154 | LYS | N-CA-C | 5.52 | 125.91 | 111.00 |
| 5 | L | 254 | ARG | N-CA-CB | -5.52 | 100.66 | 110.60 |
| 5 | Q | 147 | ARG | NE-CZ-NH2 | -5.52 | 117.54 | 120.30 |
| 5 | I | 116 | ARG | NE-CZ-NH1 | 5.52 | 123.06 | 120.30 |
| 4 | U | 267 | LEU | N-CA-C | 5.52 | 125.90 | 111.00 |
| 5 | F | 11 | ASP | CB-CG-OD1 | 5.52 | 123.27 | 118.30 |
| 5 | H | 294 | TYR | CB-CG-CD2 | -5.52 | 117.69 | 121.00 |
| 5 | I | 254 | ARG | N-CA-CB | -5.52 | 100.67 | 110.60 |
| 4 | U | 36 | LEU | CB-CG-CD1 | -5.52 | 101.62 | 111.00 |
| 4 | C | 253 | LEU | CA-CB-CG | -5.51 | 102.62 | 115.30 |
| 5 | E | 254 | ARG | N-CA-CB | -5.51 | 100.67 | 110.60 |
| 5 | O | 356 | TRP | CG-CD2-CE3 | 5.51 | 138.86 | 133.90 |
| 4 | B | 155 | TYR | CD1-CE1-CZ | 5.51 | 124.76 | 119.80 |
| 5 | H | 11 | ASP | CB-CG-OD1 | 5.51 | 123.26 | 118.30 |
| 4 | W | 267 | LEU | N-CA-C | 5.51 | 125.88 | 111.00 |
| 4 | A | 253 | LEU | CA-CB-CG | -5.51 | 102.63 | 115.30 |
| 5 | G | 279 | TYR | CB-CG-CD2 | -5.51 | 117.69 | 121.00 |
| 5 | I | 294 | TYR | CB-CG-CD2 | -5.51 | 117.69 | 121.00 |
| 5 | H | 254 | ARG | N-CA-CB | -5.51 | 100.69 | 110.60 |
| 5 | O | 279 | TYR | CB-CG-CD2 | -5.50 | 117.70 | 121.00 |
| 4 | V | 154 | LYS | N-CA-C | 5.50 | 125.86 | 111.00 |
| 4 | W | 274 | MET | N-CA-CB | 5.49 | 120.49 | 110.60 |
| 4 | U | 274 | MET | N-CA-CB | 5.49 | 120.49 | 110.60 |
| 5 | H | 279 | TYR | CB-CG-CD2 | -5.49 | 117.70 | 121.00 |
| 5 | R | 279 | TYR | CB-CG-CD2 | -5.49 | 117.71 | 121.00 |
| 5 | E | 11 | ASP | CB-CG-OD1 | 5.49 | 123.24 | 118.30 |
| 5 | J | 279 | TYR | CB-CG-CD2 | -5.49 | 117.71 | 121.00 |
| 5 | H | 356 | TRP | CG-CD2-CE3 | 5.49 | 138.84 | 133.90 |
| 5 | P | 11 | ASP | CB-CG-OD1 | 5.48 | 123.23 | 118.30 |
| 5 | M | 294 | TYR | CB-CG-CD2 | -5.48 | 117.71 | 121.00 |
| 5 | K | 294 | TYR | CB-CG-CD2 | -5.48 | 117.71 | 121.00 |
| 5 | S | 11 | ASP | CB-CG-OD1 | 5.48 | 123.23 | 118.30 |
| 5 | M | 279 | TYR | CB-CG-CD2 | -5.47 | 117.72 | 121.00 |
| 4 | V | 22 | LYS | CB-CG-CD | -5.47 | 97.38 | 111.60 |
| 4 | V | 73 | ASP | CA-CB-CG | 5.46 | 125.42 | 113.40 |
| 5 | D | 11 | ASP | CB-CG-OD1 | 5.46 | 123.22 | 118.30 |
| 5 | I | 356 | TRP | CG-CD2-CE3 | 5.46 | 138.81 | 133.90 |
| 5 | O | 335 | ARG | NE-CZ-NH1 | 5.46 | 123.03 | 120.30 |
| 4 | A | 22 | LYS | CB-CG-CD | -5.46 | 97.41 | 111.60 |
| 5 | D | 279 | TYR | CB-CG-CD2 | -5.46 | 117.72 | 121.00 |
| 4 | B | 274 | MET | N-CA-CB | 5.46 | 120.42 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 5 | E | 335 | ARG | NE-CZ-NH1 | 5.46 | 123.03 | 120.30 |
| 4 | T | 274 | MET | N-CA-CB | 5.45 | 120.42 | 110.60 |
| 4 | A | 73 | ASP | CA-CB-CG | 5.45 | 125.39 | 113.40 |
| 5 | I | 11 | ASP | CB-CG-OD1 | 5.45 | 123.20 | 118.30 |
| 4 | T | 274 | MET | CB-CA-C | -5.44 | 99.51 | 110.40 |
| 5 | G | 356 | TRP | CB-CG-CD1 | -5.44 | 119.93 | 127.00 |
| 4 | B | 274 | MET | CB-CA-C | -5.44 | 99.52 | 110.40 |
| 5 | R | 356 | TRP | CB-CG-CD1 | -5.44 | 119.93 | 127.00 |
| 5 | D | 147 | ARG | NE-CZ-NH2 | -5.43 | 117.58 | 120.30 |
| 5 | G | 11 | ASP | CB-CG-OD1 | 5.43 | 123.19 | 118.30 |
| 4 | U | 274 | MET | CB-CA-C | -5.43 | 99.54 | 110.40 |
| 5 | S | 356 | TRP | CB-CG-CD1 | -5.43 | 119.94 | 127.00 |
| 5 | J | 294 | TYR | CB-CG-CD2 | -5.43 | 117.74 | 121.00 |
| 5 | R | 79 | TRP | CB-CG-CD1 | -5.42 | 119.95 | 127.00 |
| 5 | O | 294 | TYR | CB-CG-CD2 | -5.42 | 117.75 | 121.00 |
| 5 | P | 356 | TRP | CG-CD2-CE3 | 5.42 | 138.78 | 133.90 |
| 5 | S | 147 | ARG | NE-CZ-NH2 | -5.42 | 117.59 | 120.30 |
| 5 | L | 356 | TRP | CB-CG-CD1 | -5.42 | 119.95 | 127.00 |
| 5 | D | 79 | TRP | CB-CG-CD1 | -5.42 | 119.95 | 127.00 |
| 5 | Q | 356 | TRP | CG-CD2-CE3 | 5.42 | 138.78 | 133.90 |
| 5 | S | 79 | TRP | CB-CG-CD1 | -5.42 | 119.95 | 127.00 |
| 5 | K | 356 | TRP | CB-CG-CD1 | -5.42 | 119.95 | 127.00 |
| 5 | R | 11 | ASP | CB-CG-OD1 | 5.42 | 123.18 | 118.30 |
| 4 | W | 274 | MET | CB-CA-C | -5.42 | 99.56 | 110.40 |
| 5 | M | 356 | TRP | CB-CG-CD1 | -5.42 | 119.96 | 127.00 |
| 4 | U | 73 | ASP | CA-CB-CG | 5.42 | 125.31 | 113.40 |
| 4 | B | 73 | ASP | CA-CB-CG | 5.41 | 125.31 | 113.40 |
| 5 | J | 356 | TRP | CB-CG-CD1 | -5.41 | 119.97 | 127.00 |
| 4 | U | 169 | LEU | CB-CA-C | -5.41 | 99.92 | 110.20 |
| 5 | O | 356 | TRP | CB-CG-CD1 | -5.41 | 119.97 | 127.00 |
| 5 | N | 356 | TRP | CG-CD1-NE1 | -5.41 | 104.69 | 110.10 |
| 5 | G | 356 | TRP | CG-CD1-NE1 | -5.40 | 104.70 | 110.10 |
| 5 | O | 11 | ASP | CB-CG-OD1 | 5.40 | 123.16 | 118.30 |
| 5 | Q | 294 | TYR | CB-CG-CD2 | -5.40 | 117.76 | 121.00 |
| 5 | H | 79 | TRP | CB-CG-CD1 | -5.40 | 119.98 | 127.00 |
| 5 | G | 79 | TRP | CB-CG-CD1 | -5.40 | 119.98 | 127.00 |
| 5 | N | 356 | TRP | CB-CG-CD1 | -5.40 | 119.98 | 127.00 |
| 5 | P | 356 | TRP | CG-CD1-NE1 | -5.40 | 104.70 | 110.10 |
| 5 | H | 356 | TRP | CB-CG-CD1 | -5.40 | 119.99 | 127.00 |
| 5 | M | 79 | TRP | CB-CG-CD1 | -5.39 | 119.99 | 127.00 |
| 4 | B | 260 | TYR | CA-C-O | -5.39 | 108.78 | 120.10 |
| 5 | J | 356 | TRP | CG-CD1-NE1 | -5.39 | 104.71 | 110.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 5 | K | 356 | TRP | CG-CD1-NE1 | -5.39 | 104.71 | 110.10 |
| 4 | B | 169 | LEU | CB-CA-C | -5.39 | 99.96 | 110.20 |
| 5 | L | 79 | TRP | CB-CG-CD1 | -5.39 | 119.99 | 127.00 |
| 5 | P | 356 | TRP | CB-CG-CD1 | -5.39 | 120.00 | 127.00 |
| 5 | N | 11 | ASP | CB-CG-OD1 | 5.38 | 123.14 | 118.30 |
| 5 | J | 251 | GLY | CA-C-N | -5.38 | 105.36 | 117.20 |
| 5 | Q | 11 | ASP | CB-CG-OD1 | 5.38 | 123.14 | 118.30 |
| 5 | I | 79 | TRP | CB-CG-CD1 | -5.38 | 120.01 | 127.00 |
| 5 | L | 356 | TRP | CG-CD1-NE1 | -5.38 | 104.72 | 110.10 |
| 5 | Q | 356 | TRP | CB-CG-CD1 | -5.38 | 120.01 | 127.00 |
| 5 | Q | 356 | TRP | CG-CD1-NE1 | -5.38 | 104.72 | 110.10 |
| 5 | F | 335 | ARG | NE-CZ-NH1 | 5.38 | 122.99 | 120.30 |
| 5 | J | 79 | TRP | CB-CG-CD1 | -5.38 | 120.01 | 127.00 |
| 5 | L | 251 | GLY | CA-C-N | -5.38 | 105.37 | 117.20 |
| 5 | Q | 251 | GLY | CA-C-N | -5.37 | 105.38 | 117.20 |
| 5 | S | 251 | GLY | CA-C-N | -5.37 | 105.38 | 117.20 |
| 5 | O | 79 | TRP | CB-CG-CD1 | -5.37 | 120.02 | 127.00 |
| 4 | X | 253 | LEU | CD1-CG-CD2 | 5.37 | 126.62 | 110.50 |
| 5 | E | 356 | TRP | CB-CG-CD1 | -5.37 | 120.02 | 127.00 |
| 4 | T | 260 | TYR | CA-C-O | -5.37 | 108.82 | 120.10 |
| 5 | G | 251 | GLY | CA-C-N | -5.37 | 105.39 | 117.20 |
| 5 | P | 79 | TRP | CB-CG-CD1 | -5.37 | 120.02 | 127.00 |
| 5 | P | 251 | GLY | CA-C-N | -5.37 | 105.39 | 117.20 |
| 5 | K | 79 | TRP | CB-CG-CD1 | -5.37 | 120.03 | 127.00 |
| 5 | M | 251 | GLY | CA-C-N | -5.37 | 105.39 | 117.20 |
| 5 | R | 356 | TRP | CG-CD1-NE1 | -5.37 | 104.73 | 110.10 |
| 5 | F | 356 | TRP | CB-CG-CD1 | -5.36 | 120.03 | 127.00 |
| 5 | H | 356 | TRP | CG-CD1-NE1 | -5.36 | 104.74 | 110.10 |
| 5 | F | 79 | TRP | CB-CG-CD1 | -5.36 | 120.03 | 127.00 |
| 4 | A | 137 | GLN | CA-CB-CG | -5.36 | 101.61 | 113.40 |
| 5 | N | 335 | ARG | NE-CZ-NH1 | 5.36 | 122.98 | 120.30 |
| 5 | O | 251 | GLY | CA-C-N | -5.36 | 105.41 | 117.20 |
| 5 | Q | 79 | TRP | CB-CG-CD1 | -5.36 | 120.03 | 127.00 |
| 5 | F | 251 | GLY | CA-C-N | -5.36 | 105.41 | 117.20 |
| 4 | U | 260 | TYR | CA-C-O | -5.36 | 108.86 | 120.10 |
| 4 | V | 137 | GLN | CA-CB-CG | -5.36 | 101.62 | 113.40 |
| 4 | V | 253 | LEU | CD1-CG-CD2 | 5.36 | 126.57 | 110.50 |
| 4 | C | 253 | LEU | CD1-CG-CD2 | 5.35 | 126.56 | 110.50 |
| 5 | I | 356 | TRP | CB-CG-CD1 | -5.35 | 120.04 | 127.00 |
| 5 | M | 356 | TRP | CG-CD1-NE1 | -5.35 | 104.75 | 110.10 |
| 5 | S | 356 | TRP | CG-CD1-NE1 | -5.35 | 104.75 | 110.10 |
| 5 | G | 176 | MET | CG-SD-CE | 5.35 | 108.76 | 100.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 4 | V | 169 | LEU | CB-CA-C | -5.35 | 100.03 | 110.20 |
| 5 | D | 251 | GLY | CA-C-N | -5.35 | 105.43 | 117.20 |
| 5 | E | 251 | GLY | CA-C-N | -5.35 | 105.43 | 117.20 |
| 4 | W | 260 | TYR | CA-C-O | -5.35 | 108.87 | 120.10 |
| 5 | F | 279 | TYR | CB-CG-CD2 | -5.35 | 117.79 | 121.00 |
| 4 | A | 253 | LEU | CD1-CG-CD2 | 5.34 | 126.53 | 110.50 |
| 5 | E | 356 | TRP | CG-CD1-NE1 | -5.34 | 104.76 | 110.10 |
| 5 | N | 251 | GLY | CA-C-N | -5.34 | 105.45 | 117.20 |
| 5 | D | 356 | TRP | CG-CD1-NE1 | -5.34 | 104.76 | 110.10 |
| 5 | F | 356 | TRP | CG-CD1-NE1 | -5.34 | 104.76 | 110.10 |
| 5 | I | 251 | GLY | CA-C-N | -5.33 | 105.46 | 117.20 |
| 5 | E | 147 | ARG | NE-CZ-NH2 | -5.33 | 117.63 | 120.30 |
| 5 | K | 251 | GLY | CA-C-N | -5.33 | 105.47 | 117.20 |
| 5 | Q | 176 | MET | CG-SD-CE | 5.33 | 108.73 | 100.20 |
| 5 | R | 176 | MET | CG-SD-CE | 5.33 | 108.73 | 100.20 |
| 5 | O | 356 | TRP | CG-CD1-NE1 | -5.33 | 104.77 | 110.10 |
| 5 | Q | 335 | ARG | NE-CZ-NH1 | 5.33 | 122.97 | 120.30 |
| 5 | I | 356 | TRP | CG-CD1-NE1 | -5.33 | 104.77 | 110.10 |
| 5 | J | 176 | MET | CG-SD-CE | 5.33 | 108.72 | 100.20 |
| 5 | H | 251 | GLY | CA-C-N | -5.32 | 105.49 | 117.20 |
| 5 | K | 176 | MET | CG-SD-CE | 5.32 | 108.72 | 100.20 |
| 5 | R | 251 | GLY | CA-C-N | -5.32 | 105.49 | 117.20 |
| 5 | O | 147 | ARG | NE-CZ-NH2 | -5.32 | 117.64 | 120.30 |
| 5 | F | 176 | MET | CG-SD-CE | 5.32 | 108.71 | 100.20 |
| 5 | R | 147 | ARG | NE-CZ-NH2 | -5.32 | 117.64 | 120.30 |
| 5 | E | 79 | TRP | CB-CG-CD1 | -5.31 | 120.10 | 127.00 |
| 5 | N | 176 | MET | CG-SD-CE | 5.31 | 108.70 | 100.20 |
| 5 | O | 176 | MET | CG-SD-CE | 5.31 | 108.70 | 100.20 |
| 4 | A | 169 | LEU | CB-CA-C | -5.31 | 100.11 | 110.20 |
| 5 | D | 356 | TRP | CB-CG-CD1 | -5.31 | 120.10 | 127.00 |
| 5 | N | 79 | TRP | CB-CG-CD1 | -5.31 | 120.10 | 127.00 |
| 4 | C | 260 | TYR | CA-C-O | -5.31 | 108.95 | 120.10 |
| 5 | M | 176 | MET | CG-SD-CE | 5.31 | 108.69 | 100.20 |
| 5 | D | 176 | MET | CG-SD-CE | 5.30 | 108.69 | 100.20 |
| 4 | X | 260 | TYR | CA-C-O | -5.30 | 108.97 | 120.10 |
| 5 | Q | 337 | TYR | CB-CG-CD1 | -5.30 | 117.82 | 121.00 |
| 5 | S | 176 | MET | CG-SD-CE | 5.30 | 108.68 | 100.20 |
| 4 | V | 260 | TYR | CA-C-O | -5.29 | 108.98 | 120.10 |
| 5 | J | 91 | TYR | CB-CG-CD2 | -5.29 | 117.83 | 121.00 |
| 5 | L | 176 | MET | CG-SD-CE | 5.29 | 108.67 | 100.20 |
| 4 | U | 155 | TYR | CB-CA-C | 5.29 | 120.98 | 110.40 |
| 4 | B | 155 | TYR | CB-CA-C | 5.29 | 120.97 | 110.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 5 | S | 335 | ARG | NE-CZ-NH1 | 5.29 | 122.94 | 120.30 |
| 5 | I | 176 | MET | CG-SD-CE | 5.28 | 108.66 | 100.20 |
| 4 | A | 260 | TYR | CA-C-O | -5.28 | 109.01 | 120.10 |
| 5 | J | 147 | ARG | NE-CZ-NH2 | -5.27 | 117.66 | 120.30 |
| 5 | P | 147 | ARG | NE-CZ-NH2 | -5.27 | 117.66 | 120.30 |
| 5 | M | 147 | ARG | NE-CZ-NH2 | -5.27 | 117.66 | 120.30 |
| 5 | F | 91 | TYR | CB-CG-CD2 | -5.27 | 117.84 | 121.00 |
| 5 | H | 176 | MET | CG-SD-CE | 5.27 | 108.62 | 100.20 |
| 4 | A | 152 | ASP | N-CA-C | 5.26 | 125.21 | 111.00 |
| 5 | Q | 91 | TYR | CB-CG-CD2 | -5.26 | 117.84 | 121.00 |
| 5 | P | 176 | MET | CG-SD-CE | 5.26 | 108.62 | 100.20 |
| 4 | U | 137 | GLN | CA-CB-CG | -5.26 | 101.82 | 113.40 |
| 5 | G | 335 | ARG | NE-CZ-NH1 | 5.26 | 122.93 | 120.30 |
| 5 | I | 147 | ARG | NE-CZ-NH2 | -5.26 | 117.67 | 120.30 |
| 5 | L | 147 | ARG | NE-CZ-NH2 | -5.26 | 117.67 | 120.30 |
| 4 | B | 137 | GLN | CA-CB-CG | -5.25 | 101.84 | 113.40 |
| 5 | D | 53 | TYR | CB-CG-CD1 | -5.25 | 117.85 | 121.00 |
| 5 | E | 176 | MET | CG-SD-CE | 5.25 | 108.60 | 100.20 |
| 5 | F | 53 | TYR | CB-CG-CD1 | -5.25 | 117.85 | 121.00 |
| 5 | P | 335 | ARG | NE-CZ-NH1 | 5.24 | 122.92 | 120.30 |
| 4 | V | 152 | ASP | N-CA-C | 5.23 | 125.13 | 111.00 |
| 5 | G | 147 | ARG | NE-CZ-NH2 | -5.23 | 117.69 | 120.30 |
| 5 | H | 335 | ARG | NE-CZ-NH1 | 5.23 | 122.92 | 120.30 |
| 5 | K | 147 | ARG | NE-CZ-NH2 | -5.23 | 117.69 | 120.30 |
| 4 | W | 248 | ASP | CA-CB-CG | 5.22 | 124.89 | 113.40 |
| 5 | D | 335 | ARG | NE-CZ-NH1 | 5.22 | 122.91 | 120.30 |
| 5 | D | 91 | TYR | CB-CG-CD2 | -5.22 | 117.87 | 121.00 |
| 5 | I | 337 | TYR | CB-CG-CD1 | -5.21 | 117.87 | 121.00 |
| 5 | L | 290 | ARG | CA-C-N | 5.21 | 128.66 | 117.20 |
| 5 | G | 62 | ARG | NE-CZ-NH1 | 5.20 | 122.90 | 120.30 |
| 5 | M | 335 | ARG | NE-CZ-NH1 | 5.20 | 122.90 | 120.30 |
| 5 | Q | 86 | TRP | CG-CD1-NE1 | -5.20 | 104.90 | 110.10 |
| 4 | U | 248 | ASP | CA-CB-CG | 5.20 | 124.84 | 113.40 |
| 5 | S | 290 | ARG | CA-C-N | 5.20 | 128.63 | 117.20 |
| 4 | B | 248 | ASP | CA-CB-CG | 5.19 | 124.82 | 113.40 |
| 5 | O | 290 | ARG | CA-C-N | 5.19 | 128.61 | 117.20 |
| 5 | P | 290 | ARG | CA-C-N | 5.18 | 128.61 | 117.20 |
| 5 | R | 290 | ARG | CA-C-N | 5.18 | 128.60 | 117.20 |
| 5 | I | 290 | ARG | CA-C-N | 5.18 | 128.59 | 117.20 |
| 5 | E | 290 | ARG | CA-C-N | 5.18 | 128.59 | 117.20 |
| 5 | G | 337 | TYR | CB-CG-CD1 | -5.18 | 117.89 | 121.00 |
| 5 | N | 337 | TYR | CB-CG-CD1 | -5.18 | 117.89 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-----------|-------|-------------|----------|
| 4 | T | 248 | ASP | CA-CB-CG | 5.18 | 124.79 | 113.40 |
| 5 | F | 147 | ARG | NE-CZ-NH2 | -5.17 | 117.71 | 120.30 |
| 5 | F | 337 | TYR | CB-CG-CD1 | -5.17 | 117.90 | 121.00 |
| 5 | Q | 290 | ARG | CA-C-N | 5.17 | 128.58 | 117.20 |
| 5 | H | 337 | TYR | CB-CG-CD1 | -5.17 | 117.90 | 121.00 |
| 5 | K | 290 | ARG | CA-C-N | 5.17 | 128.56 | 117.20 |
| 4 | X | 267 | LEU | N-CA-C | 5.16 | 124.94 | 111.00 |
| 5 | F | 290 | ARG | CA-C-N | 5.16 | 128.56 | 117.20 |
| 5 | J | 290 | ARG | CA-C-N | 5.16 | 128.55 | 117.20 |
| 5 | N | 290 | ARG | CA-C-N | 5.16 | 128.56 | 117.20 |
| 5 | I | 335 | ARG | NE-CZ-NH1 | 5.16 | 122.88 | 120.30 |
| 5 | G | 290 | ARG | CA-C-N | 5.16 | 128.55 | 117.20 |
| 5 | Q | 53 | TYR | CB-CG-CD1 | -5.16 | 117.91 | 121.00 |
| 4 | V | 267 | LEU | N-CA-C | 5.16 | 124.92 | 111.00 |
| 5 | F | 62 | ARG | NE-CZ-NH1 | 5.15 | 122.88 | 120.30 |
| 5 | O | 337 | TYR | CB-CG-CD1 | -5.15 | 117.91 | 121.00 |
| 5 | I | 91 | TYR | CB-CG-CD2 | -5.15 | 117.91 | 121.00 |
| 5 | M | 290 | ARG | CA-C-N | 5.15 | 128.52 | 117.20 |
| 5 | P | 91 | TYR | CB-CG-CD2 | -5.15 | 117.91 | 121.00 |
| 5 | H | 290 | ARG | CA-C-N | 5.14 | 128.52 | 117.20 |
| 4 | A | 267 | LEU | N-CA-C | 5.14 | 124.88 | 111.00 |
| 5 | J | 337 | TYR | CB-CG-CD1 | -5.14 | 117.92 | 121.00 |
| 5 | O | 53 | TYR | CB-CG-CD1 | -5.14 | 117.92 | 121.00 |
| 5 | R | 53 | TYR | CB-CG-CD1 | -5.14 | 117.92 | 121.00 |
| 5 | D | 290 | ARG | CA-C-N | 5.14 | 128.50 | 117.20 |
| 5 | S | 91 | TYR | CB-CG-CD2 | -5.14 | 117.92 | 121.00 |
| 5 | I | 62 | ARG | NE-CZ-NH1 | 5.14 | 122.87 | 120.30 |
| 4 | C | 267 | LEU | N-CA-C | 5.13 | 124.86 | 111.00 |
| 5 | N | 147 | ARG | NE-CZ-NH2 | -5.13 | 117.73 | 120.30 |
| 4 | X | 274 | MET | CG-SD-CE | 5.13 | 108.41 | 100.20 |
| 4 | V | 274 | MET | CG-SD-CE | 5.13 | 108.41 | 100.20 |
| 5 | M | 337 | TYR | CB-CG-CD1 | -5.13 | 117.92 | 121.00 |
| 5 | O | 91 | TYR | CB-CG-CD2 | -5.12 | 117.93 | 121.00 |
| 5 | N | 53 | TYR | CB-CG-CD1 | -5.12 | 117.93 | 121.00 |
| 4 | A | 274 | MET | CG-SD-CE | 5.12 | 108.39 | 100.20 |
| 4 | C | 274 | MET | CG-SD-CE | 5.12 | 108.39 | 100.20 |
| 5 | K | 53 | TYR | CB-CG-CD1 | -5.12 | 117.93 | 121.00 |
| 5 | L | 335 | ARG | NE-CZ-NH1 | 5.12 | 122.86 | 120.30 |
| 5 | S | 62 | ARG | CA-CB-CG | 5.11 | 124.65 | 113.40 |
| 5 | E | 337 | TYR | CB-CG-CD1 | -5.11 | 117.93 | 121.00 |
| 5 | N | 62 | ARG | CA-CB-CG | 5.11 | 124.64 | 113.40 |
| 5 | G | 53 | TYR | CB-CG-CD1 | -5.11 | 117.94 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 5 | J | 335 | ARG | NE-CZ-NH1 | 5.10 | 122.85 | 120.30 |
| 4 | B | 92 | LEU | CB-CA-C | -5.10 | 100.51 | 110.20 |
| 5 | P | 53 | TYR | CB-CG-CD1 | -5.10 | 117.94 | 121.00 |
| 5 | S | 53 | TYR | CB-CG-CD1 | -5.10 | 117.94 | 121.00 |
| 5 | R | 337 | TYR | CB-CG-CD1 | -5.10 | 117.94 | 121.00 |
| 5 | J | 86 | TRP | CG-CD1-NE1 | -5.10 | 105.00 | 110.10 |
| 5 | G | 86 | TRP | CG-CD1-NE1 | -5.09 | 105.00 | 110.10 |
| 5 | M | 53 | TYR | CB-CG-CD1 | -5.09 | 117.94 | 121.00 |
| 5 | N | 86 | TRP | CG-CD1-NE1 | -5.09 | 105.00 | 110.10 |
| 5 | N | 191 | LYS | CA-C-N | 5.09 | 128.41 | 117.20 |
| 5 | F | 62 | ARG | CA-CB-CG | 5.09 | 124.61 | 113.40 |
| 5 | L | 62 | ARG | CA-CB-CG | 5.09 | 124.60 | 113.40 |
| 5 | E | 62 | ARG | CA-CB-CG | 5.09 | 124.60 | 113.40 |
| 5 | D | 62 | ARG | CA-CB-CG | 5.09 | 124.59 | 113.40 |
| 5 | F | 191 | LYS | CA-C-N | 5.09 | 128.39 | 117.20 |
| 5 | G | 91 | TYR | CB-CG-CD2 | -5.09 | 117.95 | 121.00 |
| 5 | N | 91 | TYR | CB-CG-CD2 | -5.09 | 117.95 | 121.00 |
| 5 | O | 62 | ARG | CA-CB-CG | 5.09 | 124.59 | 113.40 |
| 5 | J | 62 | ARG | CA-CB-CG | 5.08 | 124.59 | 113.40 |
| 5 | P | 86 | TRP | CG-CD1-NE1 | -5.08 | 105.02 | 110.10 |
| 5 | H | 91 | TYR | CB-CG-CD2 | -5.08 | 117.95 | 121.00 |
| 5 | M | 91 | TYR | CB-CG-CD2 | -5.08 | 117.95 | 121.00 |
| 5 | L | 53 | TYR | CB-CG-CD1 | -5.08 | 117.95 | 121.00 |
| 5 | Q | 62 | ARG | CA-CB-CG | 5.08 | 124.58 | 113.40 |
| 5 | R | 62 | ARG | CA-CB-CG | 5.08 | 124.58 | 113.40 |
| 5 | I | 62 | ARG | CA-CB-CG | 5.08 | 124.58 | 113.40 |
| 5 | D | 337 | TYR | CB-CG-CD1 | -5.08 | 117.95 | 121.00 |
| 5 | K | 62 | ARG | CA-CB-CG | 5.08 | 124.57 | 113.40 |
| 5 | K | 335 | ARG | NE-CZ-NH1 | 5.08 | 122.84 | 120.30 |
| 5 | K | 337 | TYR | CB-CG-CD1 | -5.08 | 117.95 | 121.00 |
| 5 | P | 62 | ARG | CA-CB-CG | 5.08 | 124.57 | 113.40 |
| 5 | I | 191 | LYS | CA-C-N | 5.08 | 128.37 | 117.20 |
| 5 | M | 62 | ARG | CA-CB-CG | 5.08 | 124.57 | 113.40 |
| 5 | O | 86 | TRP | CG-CD1-NE1 | -5.08 | 105.03 | 110.10 |
| 5 | H | 191 | LYS | CA-C-N | 5.07 | 128.36 | 117.20 |
| 5 | J | 191 | LYS | CA-C-N | 5.07 | 128.36 | 117.20 |
| 5 | D | 86 | TRP | CG-CD1-NE1 | -5.07 | 105.03 | 110.10 |
| 5 | J | 53 | TYR | CB-CG-CD1 | -5.07 | 117.96 | 121.00 |
| 5 | O | 191 | LYS | CA-C-N | 5.07 | 128.35 | 117.20 |
| 5 | G | 62 | ARG | CA-CB-CG | 5.07 | 124.54 | 113.40 |
| 5 | G | 191 | LYS | CA-C-N | 5.07 | 128.34 | 117.20 |
| 4 | U | 92 | LEU | CB-CA-C | -5.06 | 100.58 | 110.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 5 | I | 53 | TYR | CB-CG-CD1 | -5.06 | 117.96 | 121.00 |
| 5 | M | 191 | LYS | CA-C-N | 5.06 | 128.33 | 117.20 |
| 5 | P | 337 | TYR | CB-CG-CD1 | -5.06 | 117.96 | 121.00 |
| 5 | R | 86 | TRP | CG-CD1-NE1 | -5.06 | 105.04 | 110.10 |
| 4 | V | 64 | LEU | N-CA-C | 5.06 | 124.66 | 111.00 |
| 5 | D | 191 | LYS | CA-C-N | 5.06 | 128.32 | 117.20 |
| 5 | H | 62 | ARG | CA-CB-CG | 5.05 | 124.52 | 113.40 |
| 5 | L | 191 | LYS | CA-C-N | 5.05 | 128.31 | 117.20 |
| 5 | R | 335 | ARG | NE-CZ-NH1 | 5.05 | 122.83 | 120.30 |
| 4 | A | 64 | LEU | N-CA-C | 5.05 | 124.63 | 111.00 |
| 5 | L | 337 | TYR | CB-CG-CD1 | -5.05 | 117.97 | 121.00 |
| 5 | E | 191 | LYS | CA-C-N | 5.04 | 128.30 | 117.20 |
| 5 | R | 191 | LYS | CA-C-N | 5.04 | 128.30 | 117.20 |
| 5 | K | 191 | LYS | CA-C-N | 5.04 | 128.30 | 117.20 |
| 5 | O | 62 | ARG | NE-CZ-NH1 | 5.04 | 122.82 | 120.30 |
| 5 | N | 62 | ARG | NE-CZ-NH1 | 5.04 | 122.82 | 120.30 |
| 5 | S | 191 | LYS | CA-C-N | 5.03 | 128.27 | 117.20 |
| 5 | L | 91 | TYR | CB-CG-CD2 | -5.03 | 117.98 | 121.00 |
| 4 | V | 155 | TYR | N-CA-C | -5.03 | 97.41 | 111.00 |
| 5 | R | 91 | TYR | CB-CG-CD2 | -5.03 | 117.98 | 121.00 |
| 5 | F | 86 | TRP | CG-CD1-NE1 | -5.03 | 105.07 | 110.10 |
| 4 | U | 50 | LEU | N-CA-C | 5.03 | 124.58 | 111.00 |
| 4 | A | 155 | TYR | N-CA-C | -5.02 | 97.44 | 111.00 |
| 5 | K | 91 | TYR | CB-CG-CD2 | -5.02 | 117.99 | 121.00 |
| 5 | P | 191 | LYS | CA-C-N | 5.02 | 128.25 | 117.20 |
| 5 | Q | 191 | LYS | CA-C-N | 5.02 | 128.25 | 117.20 |
| 5 | H | 86 | TRP | CG-CD1-NE1 | -5.02 | 105.08 | 110.10 |
| 5 | E | 86 | TRP | CG-CD1-NE1 | -5.02 | 105.08 | 110.10 |
| 5 | H | 62 | ARG | NE-CZ-NH1 | 5.01 | 122.80 | 120.30 |

There are no chirality outliers.

All (42) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 4 | A | 231 | ARG | Sidechain |
| 4 | A | 260 | TYR | Sidechain |
| 4 | A | 261 | LYS | Mainchain |
| 4 | A | 98 | ARG | Sidechain |
| 4 | B | 155 | TYR | Sidechain |
| 4 | B | 231 | ARG | Sidechain |
| 4 | B | 260 | TYR | Sidechain |
| 4 | B | 261 | LYS | Mainchain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 4 | B | 98 | ARG | Sidechain |
| 4 | C | 260 | TYR | Sidechain |
| 4 | C | 261 | LYS | Mainchain |
| 5 | D | 62 | ARG | Sidechain |
| 5 | E | 62 | ARG | Sidechain |
| 5 | F | 62 | ARG | Sidechain |
| 5 | G | 62 | ARG | Sidechain |
| 5 | H | 62 | ARG | Sidechain |
| 5 | I | 62 | ARG | Sidechain |
| 5 | J | 62 | ARG | Sidechain |
| 5 | K | 62 | ARG | Sidechain |
| 5 | L | 62 | ARG | Sidechain |
| 5 | M | 62 | ARG | Sidechain |
| 5 | N | 62 | ARG | Sidechain |
| 5 | O | 62 | ARG | Sidechain |
| 5 | P | 62 | ARG | Sidechain |
| 5 | Q | 62 | ARG | Sidechain |
| 5 | R | 62 | ARG | Sidechain |
| 5 | S | 62 | ARG | Sidechain |
| 4 | T | 260 | TYR | Sidechain |
| 4 | T | 261 | LYS | Mainchain |
| 4 | U | 155 | TYR | Sidechain |
| 4 | U | 231 | ARG | Sidechain |
| 4 | U | 260 | TYR | Sidechain |
| 4 | U | 261 | LYS | Mainchain |
| 4 | U | 98 | ARG | Sidechain |
| 4 | V | 231 | ARG | Sidechain |
| 4 | V | 260 | TYR | Sidechain |
| 4 | V | 261 | LYS | Mainchain |
| 4 | V | 98 | ARG | Sidechain |
| 4 | W | 260 | TYR | Sidechain |
| 4 | W | 261 | LYS | Mainchain |
| 4 | X | 260 | TYR | Sidechain |
| 4 | X | 261 | LYS | Mainchain |

5.2 Too-close contacts

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

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 1 | 0 | 1252 | 0 | 1172 | 102 | 0 |
| 1 | 3 | 1252 | 0 | 1172 | 80 | 0 |
| 1 | 6 | 1252 | 0 | 1172 | 95 | 0 |
| 1 | 9 | 1252 | 0 | 1172 | 76 | 0 |
| 2 | 1 | 774 | 0 | 797 | 48 | 0 |
| 2 | 4 | 774 | 0 | 796 | 51 | 0 |
| 2 | 7 | 774 | 0 | 797 | 48 | 0 |
| 2 | Y | 774 | 0 | 791 | 49 | 0 |
| 3 | 2 | 1140 | 0 | 1201 | 104 | 0 |
| 3 | 5 | 1140 | 0 | 1201 | 93 | 0 |
| 3 | 8 | 1140 | 0 | 1199 | 88 | 0 |
| 3 | Z | 1140 | 0 | 1201 | 86 | 0 |
| 4 | A | 2230 | 0 | 2227 | 0 | 0 |
| 4 | B | 2230 | 0 | 2227 | 0 | 0 |
| 4 | C | 316 | 0 | 314 | 0 | 0 |
| 4 | T | 316 | 0 | 312 | 0 | 0 |
| 4 | U | 2230 | 0 | 2227 | 0 | 0 |
| 4 | V | 2230 | 0 | 2227 | 0 | 0 |
| 4 | W | 316 | 0 | 307 | 0 | 0 |
| 4 | X | 316 | 0 | 314 | 0 | 0 |
| 5 | D | 2907 | 0 | 2862 | 101 | 0 |
| 5 | E | 2907 | 0 | 2862 | 101 | 0 |
| 5 | F | 2907 | 0 | 2864 | 101 | 0 |
| 5 | G | 2907 | 0 | 2864 | 98 | 0 |
| 5 | H | 2907 | 0 | 2864 | 103 | 0 |
| 5 | I | 2907 | 0 | 2864 | 102 | 0 |
| 5 | J | 2907 | 0 | 2864 | 103 | 0 |
| 5 | K | 2907 | 0 | 2864 | 103 | 0 |
| 5 | L | 2907 | 0 | 2864 | 97 | 0 |
| 5 | M | 2907 | 0 | 2864 | 104 | 0 |
| 5 | N | 2907 | 0 | 2864 | 105 | 0 |
| 5 | O | 2907 | 0 | 2864 | 104 | 0 |
| 5 | P | 2907 | 0 | 2860 | 120 | 0 |
| 5 | Q | 2907 | 0 | 2863 | 116 | 0 |
| 5 | R | 2907 | 0 | 2863 | 115 | 0 |
| 5 | S | 2907 | 0 | 2862 | 94 | 0 |
| 6 | 0 | 4 | 0 | 0 | 0 | 0 |
| 6 | 3 | 4 | 0 | 0 | 0 | 0 |
| 6 | 6 | 4 | 0 | 0 | 0 | 0 |
| 6 | 9 | 4 | 0 | 0 | 0 | 0 |
| All | All | 69376 | 0 | 68638 | 2028 | 0 |

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 17.

All (2028) 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) |
|-----------------|-----------------|--------------------------|-------------------|
| 3:2:100:PHE:CG | 5:R:5:THR:HG22 | 1.40 | 1.54 |
| 3:5:97:GLN:HE22 | 5:Q:4:GLU:CG | 1.19 | 1.49 |
| 1:0:62:GLU:CG | 5:P:360:GLN:HB2 | 1.52 | 1.40 |
| 1:0:62:GLU:CG | 5:P:359:LYS:HD2 | 1.52 | 1.38 |
| 3:5:97:GLN:NE2 | 5:Q:4:GLU:CG | 1.85 | 1.37 |
| 1:9:62:GLU:OE2 | 5:S:359:LYS:HD3 | 1.22 | 1.33 |
| 1:0:62:GLU:CB | 5:P:359:LYS:CD | 1.76 | 1.32 |
| 1:0:62:GLU:HB2 | 5:P:359:LYS:CD | 0.92 | 1.32 |
| 1:0:62:GLU:OE2 | 5:P:358:THR:HB | 1.21 | 1.31 |
| 3:5:97:GLN:NE2 | 5:Q:4:GLU:HG3 | 1.45 | 1.28 |
| 1:0:62:GLU:OE1 | 5:P:359:LYS:CE | 1.82 | 1.26 |
| 3:8:97:GLN:HA | 5:S:4:GLU:OE2 | 1.36 | 1.25 |
| 3:2:100:PHE:CG | 5:R:5:THR:CG2 | 2.06 | 1.24 |
| 1:3:59:ALA:N | 5:R:360:GLN:HG3 | 1.50 | 1.23 |
| 1:0:62:GLU:OE1 | 5:P:359:LYS:HE3 | 1.36 | 1.23 |
| 5:L:322:PRO:CB | 5:N:244:ASP:OD2 | 1.88 | 1.22 |
| 5:N:322:PRO:CB | 5:R:244:ASP:OD2 | 1.88 | 1.22 |
| 5:E:244:ASP:OD2 | 5:Q:322:PRO:CB | 1.88 | 1.22 |
| 5:O:322:PRO:CB | 5:S:244:ASP:OD2 | 1.88 | 1.22 |
| 5:D:322:PRO:CB | 5:F:244:ASP:OD2 | 1.88 | 1.21 |
| 5:F:322:PRO:CB | 5:H:244:ASP:OD2 | 1.88 | 1.21 |
| 5:I:322:PRO:CB | 5:K:244:ASP:OD2 | 1.88 | 1.21 |
| 5:E:322:PRO:CB | 5:G:244:ASP:OD2 | 1.88 | 1.21 |
| 5:J:322:PRO:CB | 5:L:244:ASP:OD2 | 1.88 | 1.21 |
| 5:K:322:PRO:CB | 5:M:244:ASP:OD2 | 1.88 | 1.21 |
| 5:H:322:PRO:CB | 5:J:244:ASP:OD2 | 1.88 | 1.20 |
| 5:D:244:ASP:OD2 | 5:P:322:PRO:CB | 1.88 | 1.20 |
| 5:D:322:PRO:HB2 | 5:F:244:ASP:OD2 | 1.41 | 1.20 |
| 5:M:322:PRO:CB | 5:O:244:ASP:OD2 | 1.88 | 1.20 |
| 5:F:322:PRO:HB2 | 5:H:244:ASP:OD2 | 1.41 | 1.20 |
| 5:G:322:PRO:CB | 5:I:244:ASP:OD2 | 1.88 | 1.19 |
| 5:H:322:PRO:HB2 | 5:J:244:ASP:OD2 | 1.41 | 1.19 |
| 5:I:322:PRO:HB2 | 5:K:244:ASP:OD2 | 1.41 | 1.19 |
| 5:L:322:PRO:HB2 | 5:N:244:ASP:OD2 | 1.41 | 1.19 |
| 5:K:322:PRO:HB2 | 5:M:244:ASP:OD2 | 1.41 | 1.18 |
| 5:G:322:PRO:HB2 | 5:I:244:ASP:OD2 | 1.41 | 1.18 |
| 5:D:244:ASP:OD2 | 5:P:322:PRO:HB2 | 1.41 | 1.18 |
| 5:N:322:PRO:HB2 | 5:R:244:ASP:OD2 | 1.41 | 1.17 |
| 5:O:322:PRO:HB2 | 5:S:244:ASP:OD2 | 1.41 | 1.17 |
| 5:J:322:PRO:HB2 | 5:L:244:ASP:OD2 | 1.41 | 1.17 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:M:322:PRO:HB2 | 5:O:244:ASP:OD2 | 1.41 | 1.17 |
| 3:5:97:GLN:NE2 | 5:Q:4:GLU:CD | 1.95 | 1.17 |
| 5:E:322:PRO:HB2 | 5:G:244:ASP:OD2 | 1.41 | 1.17 |
| 1:0:62:GLU:HG2 | 5:P:360:GLN:CB | 1.73 | 1.16 |
| 5:F:290:ARG:NH2 | 5:H:202:THR:HG23 | 1.61 | 1.16 |
| 5:L:290:ARG:NH2 | 5:N:202:THR:HG23 | 1.61 | 1.16 |
| 5:D:290:ARG:NH2 | 5:F:202:THR:HG23 | 1.61 | 1.16 |
| 5:D:202:THR:HG23 | 5:P:290:ARG:NH2 | 1.61 | 1.15 |
| 5:H:290:ARG:NH2 | 5:J:202:THR:HG23 | 1.61 | 1.15 |
| 1:0:62:GLU:CB | 5:P:359:LYS:HD3 | 1.47 | 1.15 |
| 5:E:244:ASP:OD2 | 5:Q:322:PRO:HB2 | 1.41 | 1.15 |
| 5:J:290:ARG:NH2 | 5:L:202:THR:HG23 | 1.61 | 1.15 |
| 5:K:290:ARG:NH2 | 5:M:202:THR:HG23 | 1.61 | 1.15 |
| 5:M:290:ARG:NH2 | 5:O:202:THR:HG23 | 1.61 | 1.15 |
| 5:O:290:ARG:NH2 | 5:S:202:THR:HG23 | 1.61 | 1.15 |
| 5:E:202:THR:HG23 | 5:Q:290:ARG:NH2 | 1.61 | 1.15 |
| 1:6:55:GLU:O | 5:Q:360:GLN:NE2 | 1.78 | 1.14 |
| 5:I:290:ARG:NH2 | 5:K:202:THR:HG23 | 1.61 | 1.14 |
| 1:0:62:GLU:CD | 5:P:359:LYS:HD2 | 1.65 | 1.14 |
| 5:N:290:ARG:NH2 | 5:R:202:THR:HG23 | 1.61 | 1.13 |
| 5:G:290:ARG:NH2 | 5:I:202:THR:HG23 | 1.61 | 1.13 |
| 5:E:290:ARG:NH2 | 5:G:202:THR:HG23 | 1.61 | 1.13 |
| 5:E:287:ILE:HG21 | 5:G:205:GLU:HG2 | 1.18 | 1.11 |
| 5:F:287:ILE:HG21 | 5:H:205:GLU:HG2 | 1.18 | 1.10 |
| 5:H:287:ILE:HG21 | 5:J:205:GLU:HG2 | 1.18 | 1.10 |
| 5:N:287:ILE:HG21 | 5:R:205:GLU:HG2 | 1.18 | 1.10 |
| 1:0:62:GLU:CB | 5:P:359:LYS:HD2 | 1.53 | 1.09 |
| 5:D:287:ILE:HG21 | 5:F:205:GLU:HG2 | 1.18 | 1.09 |
| 5:G:287:ILE:HG21 | 5:I:205:GLU:HG2 | 1.18 | 1.09 |
| 5:E:205:GLU:HG2 | 5:Q:287:ILE:HG21 | 1.18 | 1.09 |
| 5:E:290:ARG:CZ | 5:G:202:THR:HG21 | 1.83 | 1.09 |
| 5:G:290:ARG:CZ | 5:I:202:THR:HG21 | 1.83 | 1.09 |
| 5:N:290:ARG:CZ | 5:R:202:THR:HG21 | 1.83 | 1.09 |
| 1:0:62:GLU:HG2 | 5:P:360:GLN:HB2 | 1.12 | 1.09 |
| 5:L:290:ARG:CZ | 5:N:202:THR:HG21 | 1.83 | 1.09 |
| 5:D:205:GLU:HG2 | 5:P:287:ILE:HG21 | 1.18 | 1.09 |
| 5:I:290:ARG:CZ | 5:K:202:THR:HG21 | 1.83 | 1.09 |
| 5:J:287:ILE:HG21 | 5:L:205:GLU:HG2 | 1.18 | 1.09 |
| 5:K:290:ARG:CZ | 5:M:202:THR:HG21 | 1.83 | 1.09 |
| 5:E:202:THR:HG21 | 5:Q:290:ARG:CZ | 1.83 | 1.09 |
| 5:P:5:THR:CG2 | 3:Z:105:LYS:HB2 | 1.81 | 1.09 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:O:287:ILE:HG21 | 5:S:205:GLU:HG2 | 1.18 | 1.08 |
| 5:O:290:ARG:CZ | 5:S:202:THR:HG21 | 1.83 | 1.08 |
| 5:D:290:ARG:CZ | 5:F:202:THR:HG21 | 1.83 | 1.08 |
| 5:F:290:ARG:CZ | 5:H:202:THR:HG21 | 1.83 | 1.08 |
| 5:J:290:ARG:CZ | 5:L:202:THR:HG21 | 1.83 | 1.08 |
| 5:M:290:ARG:CZ | 5:O:202:THR:HG21 | 1.83 | 1.08 |
| 1:O:58:ASP:O | 5:P:360:GLN:HG3 | 1.54 | 1.08 |
| 3:2:105:LYS:HG3 | 5:R:1:ASP:OD1 | 1.50 | 1.08 |
| 5:H:290:ARG:CZ | 5:J:202:THR:HG21 | 1.83 | 1.07 |
| 5:M:3:ASP:HA | 5:M:6:THR:HB | 1.36 | 1.07 |
| 5:O:3:ASP:HA | 5:O:6:THR:HB | 1.36 | 1.07 |
| 5:I:287:ILE:HG21 | 5:K:205:GLU:HG2 | 1.18 | 1.07 |
| 5:M:287:ILE:HG21 | 5:O:205:GLU:HG2 | 1.18 | 1.07 |
| 5:S:3:ASP:HA | 5:S:6:THR:HB | 1.36 | 1.07 |
| 5:D:202:THR:HG21 | 5:P:290:ARG:CZ | 1.83 | 1.07 |
| 5:L:287:ILE:HG21 | 5:N:205:GLU:HG2 | 1.18 | 1.07 |
| 5:K:287:ILE:HG21 | 5:M:205:GLU:HG2 | 1.18 | 1.07 |
| 5:K:3:ASP:HA | 5:K:6:THR:HB | 1.36 | 1.07 |
| 1:O:62:GLU:HG3 | 5:P:360:GLN:HB2 | 1.35 | 1.06 |
| 5:H:3:ASP:HA | 5:H:6:THR:HB | 1.36 | 1.05 |
| 5:F:3:ASP:HA | 5:F:6:THR:HB | 1.36 | 1.05 |
| 5:I:3:ASP:HA | 5:I:6:THR:HB | 1.36 | 1.05 |
| 5:D:3:ASP:HA | 5:D:6:THR:HB | 1.36 | 1.05 |
| 3:8:141:LYS:H | 3:8:141:LYS:HD2 | 1.20 | 1.04 |
| 5:J:3:ASP:HA | 5:J:6:THR:HB | 1.36 | 1.04 |
| 1:O:62:GLU:HG2 | 5:P:360:GLN:N | 1.72 | 1.04 |
| 5:P:3:ASP:HA | 5:P:6:THR:HB | 1.36 | 1.03 |
| 3:Z:141:LYS:H | 3:Z:141:LYS:HD2 | 1.20 | 1.03 |
| 3:5:141:LYS:H | 3:5:141:LYS:HD2 | 1.20 | 1.03 |
| 5:N:3:ASP:HA | 5:N:6:THR:HB | 1.36 | 1.02 |
| 3:2:141:LYS:H | 3:2:141:LYS:HD2 | 1.20 | 1.02 |
| 5:L:3:ASP:HA | 5:L:6:THR:HB | 1.36 | 1.02 |
| 5:G:290:ARG:CZ | 5:I:202:THR:CG2 | 2.38 | 1.02 |
| 5:Q:3:ASP:HA | 5:Q:6:THR:HB | 1.36 | 1.02 |
| 5:R:3:ASP:HA | 5:R:6:THR:HB | 1.36 | 1.02 |
| 5:E:3:ASP:HA | 5:E:6:THR:HB | 1.36 | 1.02 |
| 5:E:290:ARG:CZ | 5:G:202:THR:CG2 | 2.38 | 1.02 |
| 5:I:290:ARG:CZ | 5:K:202:THR:CG2 | 2.38 | 1.02 |
| 5:P:5:THR:HG22 | 3:Z:100:PHE:HE1 | 1.25 | 1.02 |
| 5:G:3:ASP:HA | 5:G:6:THR:HB | 1.36 | 1.01 |
| 5:N:290:ARG:CZ | 5:R:202:THR:CG2 | 2.38 | 1.01 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:E:202:THR:CG2 | 5:Q:290:ARG:CZ | 2.38 | 1.01 |
| 5:P:5:THR:HG21 | 3:Z:105:LYS:HB2 | 1.01 | 1.01 |
| 1:0:62:GLU:CD | 5:P:359:LYS:CD | 2.28 | 1.01 |
| 5:F:290:ARG:CZ | 5:H:202:THR:CG2 | 2.38 | 1.01 |
| 5:K:290:ARG:CZ | 5:M:202:THR:CG2 | 2.38 | 1.01 |
| 5:D:290:ARG:CZ | 5:F:202:THR:CG2 | 2.38 | 1.01 |
| 5:H:290:ARG:CZ | 5:J:202:THR:CG2 | 2.38 | 1.01 |
| 5:O:290:ARG:CZ | 5:S:202:THR:CG2 | 2.38 | 1.01 |
| 5:M:290:ARG:CZ | 5:O:202:THR:CG2 | 2.38 | 1.00 |
| 5:D:202:THR:CG2 | 5:P:290:ARG:CZ | 2.38 | 1.00 |
| 5:G:287:ILE:HB | 5:I:204:ALA:H | 1.27 | 1.00 |
| 5:K:287:ILE:HB | 5:M:204:ALA:H | 1.27 | 1.00 |
| 5:F:290:ARG:NH2 | 5:H:202:THR:CG2 | 2.25 | 1.00 |
| 5:H:290:ARG:NH2 | 5:J:202:THR:CG2 | 2.25 | 1.00 |
| 5:M:290:ARG:NH2 | 5:O:202:THR:CG2 | 2.25 | 1.00 |
| 1:0:62:GLU:OE1 | 5:P:359:LYS:NZ | 1.92 | 1.00 |
| 5:D:202:THR:CG2 | 5:P:290:ARG:NH2 | 2.25 | 1.00 |
| 5:D:204:ALA:H | 5:P:287:ILE:HB | 1.27 | 1.00 |
| 5:D:290:ARG:NH2 | 5:F:202:THR:CG2 | 2.25 | 1.00 |
| 5:J:290:ARG:CZ | 5:L:202:THR:CG2 | 2.38 | 1.00 |
| 5:O:287:ILE:HB | 5:S:204:ALA:H | 1.27 | 1.00 |
| 5:O:290:ARG:NH2 | 5:S:202:THR:CG2 | 2.25 | 1.00 |
| 3:2:97:GLN:HE22 | 5:R:4:GLU:HG3 | 1.26 | 1.00 |
| 5:E:204:ALA:H | 5:Q:287:ILE:HB | 1.27 | 1.00 |
| 5:F:287:ILE:HB | 5:H:204:ALA:H | 1.27 | 1.00 |
| 5:J:290:ARG:NH2 | 5:L:202:THR:CG2 | 2.25 | 1.00 |
| 5:K:290:ARG:NH2 | 5:M:202:THR:CG2 | 2.25 | 1.00 |
| 5:L:290:ARG:CZ | 5:N:202:THR:CG2 | 2.38 | 1.00 |
| 5:L:290:ARG:NH2 | 5:N:202:THR:CG2 | 2.25 | 0.99 |
| 5:I:290:ARG:NH2 | 5:K:202:THR:CG2 | 2.25 | 0.99 |
| 5:J:287:ILE:HB | 5:L:204:ALA:H | 1.27 | 0.99 |
| 5:G:290:ARG:NH2 | 5:I:202:THR:CG2 | 2.25 | 0.99 |
| 5:N:290:ARG:NH2 | 5:R:202:THR:CG2 | 2.25 | 0.99 |
| 5:D:287:ILE:HB | 5:F:204:ALA:H | 1.26 | 0.98 |
| 5:O:286:ASP:OD1 | 5:S:203:THR:HG22 | 1.64 | 0.98 |
| 5:E:286:ASP:OD1 | 5:G:203:THR:HG22 | 1.64 | 0.98 |
| 5:N:286:ASP:OD1 | 5:R:203:THR:HG22 | 1.64 | 0.98 |
| 5:G:322:PRO:HB3 | 5:I:244:ASP:OD2 | 1.64 | 0.98 |
| 5:K:286:ASP:OD1 | 5:M:203:THR:HG22 | 1.64 | 0.98 |
| 5:D:203:THR:HG22 | 5:P:286:ASP:OD1 | 1.64 | 0.98 |
| 5:D:322:PRO:HB3 | 5:F:244:ASP:OD2 | 1.64 | 0.98 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:E:322:PRO:HB3 | 5:G:244:ASP:OD2 | 1.63 | 0.98 |
| 5:I:322:PRO:HB3 | 5:K:244:ASP:OD2 | 1.64 | 0.98 |
| 1:O:62:GLU:HG2 | 5:P:360:GLN:CA | 1.93 | 0.98 |
| 5:L:287:ILE:HB | 5:N:204:ALA:H | 1.27 | 0.98 |
| 5:F:286:ASP:OD1 | 5:H:203:THR:HG22 | 1.64 | 0.98 |
| 5:H:287:ILE:HB | 5:J:204:ALA:H | 1.26 | 0.98 |
| 5:I:286:ASP:OD1 | 5:K:203:THR:HG22 | 1.64 | 0.98 |
| 5:K:322:PRO:HB3 | 5:M:244:ASP:OD2 | 1.64 | 0.98 |
| 5:N:287:ILE:HB | 5:R:204:ALA:H | 1.27 | 0.98 |
| 5:O:322:PRO:HB3 | 5:S:244:ASP:OD2 | 1.64 | 0.98 |
| 5:F:322:PRO:HB3 | 5:H:244:ASP:OD2 | 1.64 | 0.98 |
| 5:D:244:ASP:OD2 | 5:P:322:PRO:HB3 | 1.64 | 0.97 |
| 5:M:322:PRO:HB3 | 5:O:244:ASP:OD2 | 1.64 | 0.97 |
| 5:E:290:ARG:NH2 | 5:G:202:THR:CG2 | 2.25 | 0.97 |
| 5:J:286:ASP:OD1 | 5:L:203:THR:HG22 | 1.64 | 0.97 |
| 5:H:322:PRO:HB3 | 5:J:244:ASP:OD2 | 1.64 | 0.97 |
| 5:I:287:ILE:HB | 5:K:204:ALA:H | 1.27 | 0.97 |
| 5:E:202:THR:CG2 | 5:Q:290:ARG:NH2 | 2.25 | 0.97 |
| 5:L:286:ASP:OD1 | 5:N:203:THR:HG22 | 1.64 | 0.97 |
| 5:E:287:ILE:HB | 5:G:204:ALA:H | 1.27 | 0.97 |
| 1:9:55:GLU:HA | 5:S:360:GLN:CD | 1.71 | 0.97 |
| 5:E:203:THR:HG22 | 5:Q:286:ASP:OD1 | 1.64 | 0.97 |
| 1:9:55:GLU:HA | 5:S:360:GLN:OE1 | 1.64 | 0.97 |
| 5:E:244:ASP:OD2 | 5:Q:322:PRO:HB3 | 1.64 | 0.97 |
| 5:M:287:ILE:HB | 5:O:204:ALA:H | 1.27 | 0.96 |
| 5:G:286:ASP:OD1 | 5:I:203:THR:HG22 | 1.64 | 0.96 |
| 5:D:286:ASP:OD1 | 5:F:203:THR:HG22 | 1.64 | 0.96 |
| 5:M:286:ASP:OD1 | 5:O:203:THR:HG22 | 1.64 | 0.96 |
| 5:J:322:PRO:HB3 | 5:L:244:ASP:OD2 | 1.64 | 0.96 |
| 1:6:58:ASP:HB2 | 5:Q:360:GLN:NE2 | 1.80 | 0.96 |
| 3:Z:53:LEU:HD13 | 3:Z:53:LEU:H | 1.31 | 0.95 |
| 1:O:58:ASP:C | 5:P:360:GLN:HG3 | 1.80 | 0.95 |
| 1:O:62:GLU:CG | 5:P:360:GLN:CB | 2.38 | 0.95 |
| 1:O:62:GLU:OE2 | 5:P:358:THR:CB | 2.15 | 0.95 |
| 1:9:62:GLU:OE2 | 5:S:359:LYS:CD | 2.14 | 0.95 |
| 1:O:62:GLU:CD | 5:P:359:LYS:CE | 2.33 | 0.95 |
| 5:J:288:ASP:HA | 5:L:204:ALA:HB2 | 1.49 | 0.95 |
| 5:H:286:ASP:OD1 | 5:J:203:THR:HG22 | 1.64 | 0.95 |
| 5:H:288:ASP:HA | 5:J:204:ALA:HB2 | 1.49 | 0.95 |
| 1:O:62:GLU:HB2 | 5:P:359:LYS:HD2 | 1.16 | 0.95 |
| 3:8:53:LEU:HD13 | 3:8:53:LEU:H | 1.31 | 0.95 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------|--------------------------|-------------------|
| 5:L:288:ASP:HA | 5:N:204:ALA:HB2 | 1.49 | 0.95 |
| 3:5:53:LEU:HD13 | 3:5:53:LEU:H | 1.31 | 0.95 |
| 5:F:288:ASP:HA | 5:H:204:ALA:HB2 | 1.49 | 0.95 |
| 5:L:322:PRO:HB3 | 5:N:244:ASP:OD2 | 1.64 | 0.95 |
| 5:M:288:ASP:HA | 5:O:204:ALA:HB2 | 1.49 | 0.95 |
| 5:N:288:ASP:HA | 5:R:204:ALA:HB2 | 1.49 | 0.95 |
| 5:O:288:ASP:HA | 5:S:204:ALA:HB2 | 1.49 | 0.95 |
| 5:D:204:ALA:HB2 | 5:P:288:ASP:HA | 1.49 | 0.94 |
| 5:K:288:ASP:HA | 5:M:204:ALA:HB2 | 1.49 | 0.94 |
| 3:2:53:LEU:HD13 | 3:2:53:LEU:H | 1.31 | 0.94 |
| 5:D:288:ASP:HA | 5:F:204:ALA:HB2 | 1.49 | 0.94 |
| 5:G:288:ASP:HA | 5:I:204:ALA:HB2 | 1.48 | 0.94 |
| 5:I:288:ASP:HA | 5:K:204:ALA:HB2 | 1.49 | 0.94 |
| 5:E:204:ALA:HB2 | 5:Q:288:ASP:HA | 1.49 | 0.94 |
| 5:E:288:ASP:HA | 5:G:204:ALA:HB2 | 1.49 | 0.94 |
| 5:N:322:PRO:HB3 | 5:R:244:ASP:OD2 | 1.64 | 0.94 |
| 5:P:5:THR:HG21 | 3:Z:105:LYS:CB | 1.97 | 0.93 |
| 2:Y:198:ASN:HB3 | 2:Y:201:LYS:HB2 | 1.54 | 0.90 |
| 2:4:198:ASN:HB3 | 2:4:201:LYS:HB2 | 1.53 | 0.89 |
| 1:0:61:ILE:HD12 | 5:P:360:GLN:HE21 | 1.35 | 0.89 |
| 1:6:55:GLU:HA | 5:Q:360:GLN:NE2 | 1.88 | 0.88 |
| 2:7:198:ASN:HB3 | 2:7:201:LYS:HB2 | 1.54 | 0.87 |
| 1:0:62:GLU:HG2 | 5:P:360:GLN:H | 1.35 | 0.87 |
| 3:2:105:LYS:CG | 5:R:1:ASP:OD1 | 2.21 | 0.87 |
| 2:1:198:ASN:HB3 | 2:1:201:LYS:HB2 | 1.54 | 0.86 |
| 3:8:97:GLN:HA | 5:S:4:GLU:CD | 1.95 | 0.86 |
| 5:L:322:PRO:HB2 | 5:N:244:ASP:CG | 1.96 | 0.86 |
| 5:E:244:ASP:CG | 5:Q:322:PRO:HB2 | 1.96 | 0.86 |
| 3:2:105:LYS:HG3 | 5:R:1:ASP:CG | 1.96 | 0.85 |
| 5:M:322:PRO:HB2 | 5:O:244:ASP:CG | 1.96 | 0.85 |
| 5:N:322:PRO:HB2 | 5:R:244:ASP:CG | 1.96 | 0.85 |
| 5:J:322:PRO:HB2 | 5:L:244:ASP:CG | 1.96 | 0.85 |
| 1:6:55:GLU:HA | 5:Q:360:GLN:CD | 1.97 | 0.85 |
| 5:D:244:ASP:CG | 5:P:322:PRO:HB2 | 1.96 | 0.85 |
| 3:2:100:PHE:CD1 | 5:R:5:THR:CG2 | 0.80 | 0.85 |
| 1:6:55:GLU:CA | 5:Q:360:GLN:NE2 | 2.40 | 0.85 |
| 5:E:322:PRO:HB2 | 5:G:244:ASP:CG | 1.96 | 0.85 |
| 5:I:287:ILE:CG2 | 5:K:205:GLU:HG2 | 2.07 | 0.85 |
| 5:N:287:ILE:CG2 | 5:R:205:GLU:HG2 | 2.07 | 0.85 |
| 1:6:55:GLU:C | 5:Q:360:GLN:NE2 | 2.30 | 0.84 |
| 5:L:287:ILE:CG2 | 5:N:205:GLU:HG2 | 2.07 | 0.84 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------|--------------------------|-------------------|
| 5:F:322:PRO:HB2 | 5:H:244:ASP:CG | 1.96 | 0.84 |
| 5:H:322:PRO:HB2 | 5:J:244:ASP:CG | 1.96 | 0.84 |
| 5:I:322:PRO:HB2 | 5:K:244:ASP:CG | 1.96 | 0.84 |
| 5:D:322:PRO:HB2 | 5:F:244:ASP:CG | 1.96 | 0.84 |
| 5:O:322:PRO:HB2 | 5:S:244:ASP:CG | 1.96 | 0.84 |
| 5:G:322:PRO:HB2 | 5:I:244:ASP:CG | 1.96 | 0.84 |
| 5:K:322:PRO:HB2 | 5:M:244:ASP:CG | 1.96 | 0.84 |
| 5:N:237:GLU:HA | 5:N:251:GLY:HA2 | 1.60 | 0.84 |
| 1:9:121:LEU:O | 1:9:124:THR:HG22 | 1.78 | 0.84 |
| 5:H:287:ILE:CG2 | 5:J:205:GLU:HG2 | 2.07 | 0.84 |
| 5:L:237:GLU:HA | 5:L:251:GLY:HA2 | 1.60 | 0.84 |
| 5:F:237:GLU:HA | 5:F:251:GLY:HA2 | 1.60 | 0.83 |
| 5:M:287:ILE:CG2 | 5:O:205:GLU:HG2 | 2.07 | 0.83 |
| 1:0:121:LEU:O | 1:0:124:THR:HG22 | 1.78 | 0.83 |
| 5:H:237:GLU:HA | 5:H:251:GLY:HA2 | 1.60 | 0.83 |
| 5:J:287:ILE:CG2 | 5:L:205:GLU:HG2 | 2.07 | 0.83 |
| 5:Q:237:GLU:HA | 5:Q:251:GLY:HA2 | 1.60 | 0.83 |
| 5:R:237:GLU:HA | 5:R:251:GLY:HA2 | 1.60 | 0.83 |
| 1:3:121:LEU:O | 1:3:124:THR:HG22 | 1.78 | 0.83 |
| 5:J:237:GLU:HA | 5:J:251:GLY:HA2 | 1.60 | 0.83 |
| 5:D:237:GLU:HA | 5:D:251:GLY:HA2 | 1.60 | 0.83 |
| 5:G:287:ILE:CG2 | 5:I:205:GLU:HG2 | 2.07 | 0.83 |
| 5:K:287:ILE:CG2 | 5:M:205:GLU:HG2 | 2.07 | 0.83 |
| 3:2:100:PHE:CD1 | 5:R:5:THR:HG21 | 1.41 | 0.83 |
| 5:D:287:ILE:CG2 | 5:F:205:GLU:HG2 | 2.07 | 0.83 |
| 5:S:237:GLU:HA | 5:S:251:GLY:HA2 | 1.60 | 0.83 |
| 5:O:287:ILE:CG2 | 5:S:205:GLU:HG2 | 2.07 | 0.83 |
| 3:2:100:PHE:CB | 5:R:4:GLU:OE2 | 2.27 | 0.82 |
| 5:E:237:GLU:HA | 5:E:251:GLY:HA2 | 1.60 | 0.82 |
| 5:P:237:GLU:HA | 5:P:251:GLY:HA2 | 1.60 | 0.82 |
| 1:6:121:LEU:O | 1:6:124:THR:HG22 | 1.78 | 0.82 |
| 5:O:237:GLU:HA | 5:O:251:GLY:HA2 | 1.60 | 0.82 |
| 5:F:287:ILE:CG2 | 5:H:205:GLU:HG2 | 2.07 | 0.82 |
| 5:H:286:ASP:OD1 | 5:J:203:THR:CG2 | 2.28 | 0.82 |
| 5:J:286:ASP:OD1 | 5:L:203:THR:CG2 | 2.28 | 0.81 |
| 5:D:205:GLU:HG2 | 5:P:287:ILE:CG2 | 2.07 | 0.81 |
| 5:G:237:GLU:HA | 5:G:251:GLY:HA2 | 1.60 | 0.81 |
| 5:M:237:GLU:HA | 5:M:251:GLY:HA2 | 1.60 | 0.81 |
| 5:D:203:THR:CG2 | 5:P:286:ASP:OD1 | 2.28 | 0.81 |
| 5:E:205:GLU:HG2 | 5:Q:287:ILE:CG2 | 2.07 | 0.81 |
| 5:F:286:ASP:OD1 | 5:H:203:THR:CG2 | 2.28 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:G:286:ASP:OD1 | 5:I:203:THR:CG2 | 2.28 | 0.81 |
| 5:L:286:ASP:OD1 | 5:N:203:THR:CG2 | 2.28 | 0.81 |
| 5:I:237:GLU:HA | 5:I:251:GLY:HA2 | 1.60 | 0.81 |
| 5:K:237:GLU:HA | 5:K:251:GLY:HA2 | 1.60 | 0.81 |
| 5:M:286:ASP:OD1 | 5:O:203:THR:CG2 | 2.28 | 0.81 |
| 5:D:223:PHE:HE1 | 5:D:255:PHE:HB2 | 1.46 | 0.81 |
| 5:E:203:THR:CG2 | 5:Q:286:ASP:OD1 | 2.28 | 0.81 |
| 5:E:286:ASP:OD1 | 5:G:203:THR:CG2 | 2.28 | 0.81 |
| 5:F:223:PHE:HE1 | 5:F:255:PHE:HB2 | 1.46 | 0.81 |
| 5:Q:223:PHE:HE1 | 5:Q:255:PHE:HB2 | 1.46 | 0.81 |
| 5:D:286:ASP:OD1 | 5:F:203:THR:CG2 | 2.28 | 0.80 |
| 5:K:286:ASP:OD1 | 5:M:203:THR:CG2 | 2.28 | 0.80 |
| 5:M:223:PHE:HE1 | 5:M:255:PHE:HB2 | 1.46 | 0.80 |
| 3:2:100:PHE:HB2 | 5:R:4:GLU:OE2 | 1.81 | 0.80 |
| 1:6:55:GLU:HA | 5:Q:360:GLN:OE1 | 1.82 | 0.80 |
| 3:8:141:LYS:H | 3:8:141:LYS:CD | 1.94 | 0.80 |
| 5:P:5:THR:HG22 | 3:Z:100:PHE:CE1 | 2.13 | 0.80 |
| 5:I:286:ASP:OD1 | 5:K:203:THR:CG2 | 2.28 | 0.80 |
| 5:J:290:ARG:NH1 | 5:L:202:THR:HG21 | 1.97 | 0.80 |
| 5:N:286:ASP:OD1 | 5:R:203:THR:CG2 | 2.28 | 0.80 |
| 5:P:223:PHE:HE1 | 5:P:255:PHE:HB2 | 1.46 | 0.80 |
| 5:E:202:THR:HG21 | 5:Q:290:ARG:NH1 | 1.97 | 0.80 |
| 5:E:223:PHE:HE1 | 5:E:255:PHE:HB2 | 1.46 | 0.80 |
| 5:K:223:PHE:HE1 | 5:K:255:PHE:HB2 | 1.46 | 0.80 |
| 5:L:290:ARG:NH1 | 5:N:202:THR:HG21 | 1.97 | 0.80 |
| 5:D:202:THR:HG21 | 5:P:290:ARG:NH1 | 1.97 | 0.80 |
| 5:H:290:ARG:NH1 | 5:J:202:THR:HG21 | 1.96 | 0.80 |
| 5:O:223:PHE:HE1 | 5:O:255:PHE:HB2 | 1.46 | 0.80 |
| 5:O:286:ASP:OD1 | 5:S:203:THR:CG2 | 2.28 | 0.80 |
| 5:H:223:PHE:HE1 | 5:H:255:PHE:HB2 | 1.46 | 0.80 |
| 5:E:290:ARG:NH1 | 5:G:202:THR:HG21 | 1.97 | 0.80 |
| 5:O:290:ARG:NH1 | 5:S:202:THR:HG21 | 1.97 | 0.79 |
| 5:R:223:PHE:HE1 | 5:R:255:PHE:HB2 | 1.46 | 0.79 |
| 5:D:290:ARG:NH1 | 5:F:202:THR:HG21 | 1.97 | 0.79 |
| 5:G:290:ARG:NH1 | 5:I:202:THR:HG21 | 1.97 | 0.79 |
| 5:N:290:ARG:NH1 | 5:R:202:THR:HG21 | 1.97 | 0.79 |
| 3:2:141:LYS:H | 3:2:141:LYS:CD | 1.94 | 0.79 |
| 5:J:223:PHE:HE1 | 5:J:255:PHE:HB2 | 1.46 | 0.79 |
| 5:I:223:PHE:HE1 | 5:I:255:PHE:HB2 | 1.46 | 0.79 |
| 5:G:223:PHE:HE1 | 5:G:255:PHE:HB2 | 1.46 | 0.79 |
| 5:I:290:ARG:NH1 | 5:K:202:THR:HG21 | 1.97 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------|--------------------------|-------------------|
| 5:M:290:ARG:NH1 | 5:O:202:THR:HG21 | 1.97 | 0.79 |
| 5:F:290:ARG:NH1 | 5:H:202:THR:HG21 | 1.97 | 0.79 |
| 5:N:223:PHE:HE1 | 5:N:255:PHE:HB2 | 1.46 | 0.79 |
| 5:S:223:PHE:HE1 | 5:S:255:PHE:HB2 | 1.46 | 0.79 |
| 3:2:97:GLN:HE22 | 5:R:4:GLU:CG | 1.96 | 0.79 |
| 5:K:290:ARG:NH1 | 5:M:202:THR:HG21 | 1.97 | 0.78 |
| 3:5:97:GLN:CD | 5:Q:4:GLU:CG | 2.50 | 0.78 |
| 5:L:223:PHE:HE1 | 5:L:255:PHE:HB2 | 1.46 | 0.78 |
| 3:5:142:GLN:HG2 | 3:5:143:VAL:HG23 | 1.65 | 0.78 |
| 3:5:141:LYS:H | 3:5:141:LYS:CD | 1.94 | 0.78 |
| 1:6:58:ASP:HB2 | 5:Q:360:GLN:CG | 2.13 | 0.78 |
| 3:8:142:GLN:HG2 | 3:8:143:VAL:HG23 | 1.65 | 0.78 |
| 3:2:142:GLN:HG2 | 3:2:143:VAL:HG23 | 1.65 | 0.78 |
| 3:2:141:LYS:HD2 | 3:2:141:LYS:N | 1.99 | 0.78 |
| 3:2:100:PHE:CD1 | 5:R:5:THR:HG23 | 0.91 | 0.78 |
| 3:5:141:LYS:HD2 | 3:5:141:LYS:N | 1.99 | 0.78 |
| 5:D:204:ALA:N | 5:P:287:ILE:HB | 1.99 | 0.78 |
| 5:K:287:ILE:HB | 5:M:204:ALA:N | 1.99 | 0.78 |
| 5:M:287:ILE:HB | 5:O:204:ALA:N | 1.99 | 0.77 |
| 5:E:223:PHE:HD2 | 5:E:312:ARG:HH21 | 1.32 | 0.77 |
| 3:Z:142:GLN:HG2 | 3:Z:143:VAL:HG23 | 1.65 | 0.77 |
| 1:0:61:ILE:HD12 | 5:P:360:GLN:NE2 | 1.98 | 0.77 |
| 3:5:97:GLN:HE22 | 5:Q:4:GLU:HG3 | 0.61 | 0.77 |
| 5:Q:223:PHE:HD2 | 5:Q:312:ARG:HH21 | 1.33 | 0.77 |
| 5:R:223:PHE:HD2 | 5:R:312:ARG:HH21 | 1.33 | 0.77 |
| 5:N:223:PHE:HD2 | 5:N:312:ARG:HH21 | 1.33 | 0.77 |
| 5:G:223:PHE:HD2 | 5:G:312:ARG:HH21 | 1.33 | 0.77 |
| 5:I:223:PHE:HD2 | 5:I:312:ARG:HH21 | 1.33 | 0.77 |
| 5:J:223:PHE:HD2 | 5:J:312:ARG:HH21 | 1.33 | 0.77 |
| 5:I:287:ILE:HB | 5:K:204:ALA:N | 1.99 | 0.77 |
| 5:E:287:ILE:HB | 5:G:204:ALA:N | 1.99 | 0.77 |
| 5:L:223:PHE:HD2 | 5:L:312:ARG:HH21 | 1.33 | 0.77 |
| 5:S:223:PHE:HD2 | 5:S:312:ARG:HH21 | 1.32 | 0.77 |
| 3:Z:141:LYS:H | 3:Z:141:LYS:CD | 1.94 | 0.77 |
| 5:E:204:ALA:N | 5:Q:287:ILE:HB | 1.99 | 0.76 |
| 5:H:223:PHE:HD2 | 5:H:312:ARG:HH21 | 1.33 | 0.76 |
| 5:D:287:ILE:HB | 5:F:204:ALA:N | 1.99 | 0.76 |
| 5:E:287:ILE:CG2 | 5:G:205:GLU:HG2 | 2.07 | 0.76 |
| 5:K:223:PHE:HD2 | 5:K:312:ARG:HH21 | 1.33 | 0.76 |
| 5:F:223:PHE:HD2 | 5:F:312:ARG:HH21 | 1.33 | 0.76 |
| 5:O:223:PHE:HD2 | 5:O:312:ARG:HH21 | 1.33 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:G:287:ILE:HB | 5:I:204:ALA:N | 1.99 | 0.76 |
| 5:M:223:PHE:HD2 | 5:M:312:ARG:HH21 | 1.33 | 0.76 |
| 5:H:287:ILE:HB | 5:J:204:ALA:N | 1.99 | 0.76 |
| 5:J:287:ILE:HB | 5:L:204:ALA:N | 1.99 | 0.76 |
| 5:O:287:ILE:HB | 5:S:204:ALA:N | 1.99 | 0.76 |
| 5:L:287:ILE:HB | 5:N:204:ALA:N | 1.99 | 0.76 |
| 5:P:223:PHE:HD2 | 5:P:312:ARG:HH21 | 1.33 | 0.76 |
| 5:D:223:PHE:HD2 | 5:D:312:ARG:HH21 | 1.33 | 0.75 |
| 5:N:287:ILE:HB | 5:R:204:ALA:N | 1.99 | 0.75 |
| 5:P:5:THR:CG2 | 3:Z:100:PHE:HE1 | 1.98 | 0.75 |
| 5:F:287:ILE:HB | 5:H:204:ALA:N | 1.99 | 0.75 |
| 1:6:65:ASP:HA | 1:6:76:GLU:OE2 | 1.86 | 0.75 |
| 1:0:58:ASP:C | 5:P:360:GLN:CG | 2.53 | 0.75 |
| 3:5:97:GLN:OE1 | 5:Q:4:GLU:HG2 | 1.87 | 0.75 |
| 5:H:253:GLU:HA | 5:H:256:ARG:HG3 | 1.69 | 0.75 |
| 5:M:290:ARG:HH22 | 5:O:202:THR:HG23 | 1.52 | 0.74 |
| 5:P:253:GLU:HA | 5:P:256:ARG:HG3 | 1.69 | 0.74 |
| 3:Z:141:LYS:HD2 | 3:Z:141:LYS:N | 1.99 | 0.74 |
| 5:S:253:GLU:HA | 5:S:256:ARG:HG3 | 1.70 | 0.74 |
| 1:3:65:ASP:HA | 1:3:76:GLU:OE2 | 1.86 | 0.74 |
| 5:F:253:GLU:HA | 5:F:256:ARG:HG3 | 1.69 | 0.74 |
| 5:J:253:GLU:HA | 5:J:256:ARG:HG3 | 1.69 | 0.74 |
| 5:O:253:GLU:HA | 5:O:256:ARG:HG3 | 1.70 | 0.74 |
| 3:8:141:LYS:HD2 | 3:8:141:LYS:N | 1.99 | 0.74 |
| 5:D:290:ARG:HH22 | 5:F:202:THR:HG23 | 1.52 | 0.74 |
| 1:6:58:ASP:HB2 | 5:Q:360:GLN:CD | 2.08 | 0.74 |
| 5:D:202:THR:HG23 | 5:P:290:ARG:HH22 | 1.52 | 0.74 |
| 5:D:253:GLU:HA | 5:D:256:ARG:HG3 | 1.70 | 0.74 |
| 5:K:253:GLU:HA | 5:K:256:ARG:HG3 | 1.69 | 0.74 |
| 5:M:253:GLU:HA | 5:M:256:ARG:HG3 | 1.69 | 0.74 |
| 1:0:65:ASP:HA | 1:0:76:GLU:OE2 | 1.86 | 0.74 |
| 1:6:53:THR:OG1 | 1:6:56:GLU:HG3 | 1.88 | 0.74 |
| 5:K:290:ARG:NH1 | 5:M:202:THR:CG2 | 2.51 | 0.74 |
| 5:N:253:GLU:HA | 5:N:256:ARG:HG3 | 1.69 | 0.74 |
| 1:9:65:ASP:HA | 1:9:76:GLU:OE2 | 1.86 | 0.74 |
| 5:N:290:ARG:NH1 | 5:R:202:THR:CG2 | 2.51 | 0.74 |
| 5:D:202:THR:CG2 | 5:P:290:ARG:NH1 | 2.51 | 0.74 |
| 5:E:288:ASP:H | 5:G:203:THR:HG22 | 1.53 | 0.73 |
| 5:L:253:GLU:HA | 5:L:256:ARG:HG3 | 1.70 | 0.73 |
| 3:2:105:LYS:HA | 5:R:1:ASP:OD2 | 1.88 | 0.73 |
| 2:4:207:LYS:HZ2 | 2:4:208:GLU:HA | 1.54 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:G:290:ARG:NH1 | 5:I:202:THR:CG2 | 2.51 | 0.73 |
| 5:H:290:ARG:NH1 | 5:J:202:THR:CG2 | 2.51 | 0.73 |
| 1:3:155:LYS:HA | 1:3:155:LYS:HE3 | 1.69 | 0.73 |
| 1:9:155:LYS:HA | 1:9:155:LYS:HE3 | 1.69 | 0.73 |
| 5:E:202:THR:CG2 | 5:Q:290:ARG:NH1 | 2.51 | 0.73 |
| 1:6:54:LYS:O | 5:Q:360:GLN:NE2 | 2.21 | 0.73 |
| 5:I:288:ASP:H | 5:K:203:THR:HG22 | 1.54 | 0.73 |
| 5:I:253:GLU:HA | 5:I:256:ARG:HG3 | 1.69 | 0.73 |
| 5:M:288:ASP:H | 5:O:203:THR:HG22 | 1.54 | 0.73 |
| 5:Q:253:GLU:HA | 5:Q:256:ARG:HG3 | 1.69 | 0.73 |
| 3:2:105:LYS:CB | 5:R:1:ASP:OD1 | 2.37 | 0.73 |
| 5:G:253:GLU:HA | 5:G:256:ARG:HG3 | 1.69 | 0.73 |
| 5:J:290:ARG:NH1 | 5:L:202:THR:CG2 | 2.51 | 0.73 |
| 5:J:288:ASP:H | 5:L:203:THR:HG22 | 1.54 | 0.73 |
| 5:D:288:ASP:H | 5:F:203:THR:HG22 | 1.53 | 0.73 |
| 5:R:253:GLU:HA | 5:R:256:ARG:HG3 | 1.69 | 0.73 |
| 1:9:53:THR:OG1 | 1:9:56:GLU:HG3 | 1.88 | 0.73 |
| 5:K:290:ARG:HH22 | 5:M:202:THR:HG23 | 1.52 | 0.73 |
| 2:7:207:LYS:HZ2 | 2:7:208:GLU:HA | 1.53 | 0.73 |
| 5:D:290:ARG:NH1 | 5:F:202:THR:CG2 | 2.51 | 0.73 |
| 5:E:253:GLU:HA | 5:E:256:ARG:HG3 | 1.69 | 0.73 |
| 5:M:290:ARG:NH1 | 5:O:202:THR:CG2 | 2.51 | 0.73 |
| 5:L:288:ASP:H | 5:N:203:THR:HG22 | 1.54 | 0.72 |
| 5:N:288:ASP:H | 5:R:203:THR:HG22 | 1.54 | 0.72 |
| 1:3:59:ALA:H | 5:R:360:GLN:HG3 | 1.53 | 0.72 |
| 5:D:203:THR:HG22 | 5:P:288:ASP:H | 1.53 | 0.72 |
| 5:E:290:ARG:NH1 | 5:G:202:THR:CG2 | 2.51 | 0.72 |
| 5:O:288:ASP:H | 5:S:203:THR:HG22 | 1.53 | 0.72 |
| 1:0:53:THR:OG1 | 1:0:56:GLU:HG3 | 1.88 | 0.72 |
| 1:3:59:ALA:N | 5:R:360:GLN:CG | 2.43 | 0.72 |
| 1:3:53:THR:OG1 | 1:3:56:GLU:HG3 | 1.88 | 0.72 |
| 5:R:3:ASP:HA | 5:R:6:THR:CB | 2.18 | 0.72 |
| 1:6:58:ASP:HB2 | 5:Q:360:GLN:HE21 | 1.54 | 0.72 |
| 1:6:155:LYS:HA | 1:6:155:LYS:HE3 | 1.69 | 0.72 |
| 5:H:288:ASP:H | 5:J:203:THR:HG22 | 1.53 | 0.72 |
| 5:I:290:ARG:NH1 | 5:K:202:THR:CG2 | 2.51 | 0.72 |
| 5:O:3:ASP:HA | 5:O:6:THR:CB | 2.18 | 0.72 |
| 5:P:3:ASP:HA | 5:P:6:THR:CB | 2.18 | 0.72 |
| 2:1:207:LYS:HZ2 | 2:1:208:GLU:HA | 1.55 | 0.72 |
| 5:F:288:ASP:H | 5:H:203:THR:HG22 | 1.53 | 0.72 |
| 5:S:3:ASP:HA | 5:S:6:THR:CB | 2.18 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:0:155:LYS:HA | 1:0:155:LYS:HE3 | 1.69 | 0.72 |
| 1:6:62:GLU:OE1 | 5:Q:359:LYS:NZ | 2.21 | 0.72 |
| 5:D:3:ASP:HA | 5:D:6:THR:CB | 2.17 | 0.72 |
| 5:K:288:ASP:H | 5:M:203:THR:HG22 | 1.53 | 0.72 |
| 5:M:3:ASP:HA | 5:M:6:THR:CB | 2.18 | 0.72 |
| 5:N:290:ARG:HH22 | 5:R:202:THR:HG23 | 1.52 | 0.72 |
| 5:G:288:ASP:H | 5:I:203:THR:HG22 | 1.53 | 0.71 |
| 5:E:202:THR:HG23 | 5:Q:290:ARG:HH22 | 1.52 | 0.71 |
| 3:2:100:PHE:CG | 5:R:5:THR:HG23 | 2.01 | 0.71 |
| 3:2:100:PHE:CD1 | 5:R:5:THR:HG22 | 0.81 | 0.71 |
| 5:J:290:ARG:HH22 | 5:L:202:THR:HG23 | 1.52 | 0.71 |
| 5:E:203:THR:HG22 | 5:Q:288:ASP:H | 1.53 | 0.71 |
| 5:K:3:ASP:HA | 5:K:6:THR:CB | 2.18 | 0.71 |
| 1:3:116:GLU:O | 1:3:120:ILE:HG22 | 1.91 | 0.71 |
| 5:F:3:ASP:HA | 5:F:6:THR:CB | 2.18 | 0.71 |
| 5:L:290:ARG:NH1 | 5:N:202:THR:CG2 | 2.51 | 0.71 |
| 5:Q:3:ASP:HA | 5:Q:6:THR:CB | 2.17 | 0.71 |
| 2:Y:215:GLN:O | 2:Y:218:THR:HG22 | 1.91 | 0.71 |
| 5:N:3:ASP:HA | 5:N:6:THR:CB | 2.18 | 0.71 |
| 2:1:215:GLN:O | 2:1:218:THR:HG22 | 1.91 | 0.71 |
| 1:6:116:GLU:O | 1:6:120:ILE:HG22 | 1.91 | 0.71 |
| 1:9:116:GLU:O | 1:9:120:ILE:HG22 | 1.91 | 0.71 |
| 5:F:290:ARG:NH1 | 5:H:202:THR:CG2 | 2.51 | 0.70 |
| 2:4:215:GLN:O | 2:4:218:THR:HG22 | 1.91 | 0.70 |
| 5:H:3:ASP:HA | 5:H:6:THR:CB | 2.18 | 0.70 |
| 5:I:3:ASP:HA | 5:I:6:THR:CB | 2.17 | 0.70 |
| 5:M:1:ASP:HA | 5:M:4:GLU:HB3 | 1.74 | 0.70 |
| 1:0:62:GLU:CG | 5:P:359:LYS:CD | 2.33 | 0.70 |
| 5:O:1:ASP:HA | 5:O:4:GLU:HB3 | 1.74 | 0.70 |
| 2:7:215:GLN:O | 2:7:218:THR:HG22 | 1.91 | 0.70 |
| 1:0:39:LYS:H | 1:0:39:LYS:HD2 | 1.57 | 0.70 |
| 1:9:39:LYS:H | 1:9:39:LYS:HD2 | 1.57 | 0.70 |
| 1:3:137:MET:HE1 | 1:3:148:ILE:HG13 | 1.72 | 0.70 |
| 5:D:1:ASP:HA | 5:D:4:GLU:HB3 | 1.74 | 0.70 |
| 5:H:1:ASP:HA | 5:H:4:GLU:HB3 | 1.74 | 0.70 |
| 5:P:1:ASP:HA | 5:P:4:GLU:HB3 | 1.74 | 0.70 |
| 5:S:1:ASP:HA | 5:S:4:GLU:HB3 | 1.74 | 0.70 |
| 1:3:58:ASP:C | 5:R:360:GLN:HG3 | 2.11 | 0.70 |
| 3:8:70:LYS:O | 3:8:74:VAL:HG23 | 1.92 | 0.70 |
| 5:F:1:ASP:HA | 5:F:4:GLU:HB3 | 1.74 | 0.70 |
| 5:K:1:ASP:HA | 5:K:4:GLU:HB3 | 1.74 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:L:290:ARG:HH22 | 5:N:202:THR:HG23 | 1.52 | 0.70 |
| 1:0:116:GLU:O | 1:0:120:ILE:HG22 | 1.91 | 0.70 |
| 3:5:70:LYS:O | 3:5:74:VAL:HG23 | 1.92 | 0.70 |
| 5:H:290:ARG:HH22 | 5:J:202:THR:HG23 | 1.52 | 0.70 |
| 5:L:3:ASP:HA | 5:L:6:THR:CB | 2.18 | 0.70 |
| 5:I:1:ASP:HA | 5:I:4:GLU:HB3 | 1.74 | 0.70 |
| 5:J:1:ASP:HA | 5:J:4:GLU:HB3 | 1.74 | 0.70 |
| 5:G:1:ASP:HA | 5:G:4:GLU:HB3 | 1.74 | 0.69 |
| 5:G:3:ASP:HA | 5:G:6:THR:CB | 2.18 | 0.69 |
| 5:J:3:ASP:HA | 5:J:6:THR:CB | 2.18 | 0.69 |
| 3:2:100:PHE:HD1 | 5:R:5:THR:CG2 | 1.35 | 0.69 |
| 5:L:1:ASP:HA | 5:L:4:GLU:HB3 | 1.74 | 0.69 |
| 5:O:290:ARG:NH1 | 5:S:202:THR:CG2 | 2.51 | 0.69 |
| 1:9:137:MET:HE1 | 1:9:148:ILE:HG13 | 1.72 | 0.69 |
| 5:I:290:ARG:HH22 | 5:K:202:THR:HG23 | 1.52 | 0.69 |
| 5:N:1:ASP:HA | 5:N:4:GLU:HB3 | 1.74 | 0.69 |
| 3:2:70:LYS:O | 3:2:74:VAL:HG23 | 1.92 | 0.69 |
| 1:6:55:GLU:CA | 5:Q:360:GLN:HE22 | 2.05 | 0.69 |
| 5:E:290:ARG:HH22 | 5:G:202:THR:HG23 | 1.52 | 0.69 |
| 5:R:1:ASP:HA | 5:R:4:GLU:HB3 | 1.74 | 0.69 |
| 5:E:3:ASP:HA | 5:E:6:THR:CB | 2.17 | 0.69 |
| 5:Q:1:ASP:HA | 5:Q:4:GLU:HB3 | 1.74 | 0.69 |
| 3:Z:70:LYS:O | 3:Z:74:VAL:HG23 | 1.92 | 0.69 |
| 5:D:160:THR:HG21 | 5:D:274:ILE:HD11 | 1.75 | 0.69 |
| 5:E:1:ASP:HA | 5:E:4:GLU:HB3 | 1.74 | 0.69 |
| 5:H:160:THR:HG21 | 5:H:274:ILE:HD11 | 1.75 | 0.69 |
| 5:F:160:THR:HG21 | 5:F:274:ILE:HD11 | 1.76 | 0.68 |
| 5:J:160:THR:HG21 | 5:J:274:ILE:HD11 | 1.76 | 0.68 |
| 5:P:160:THR:HG21 | 5:P:274:ILE:HD11 | 1.76 | 0.68 |
| 5:S:160:THR:HG21 | 5:S:274:ILE:HD11 | 1.75 | 0.68 |
| 1:6:39:LYS:H | 1:6:39:LYS:HD2 | 1.57 | 0.68 |
| 5:F:290:ARG:HH22 | 5:H:202:THR:HG23 | 1.52 | 0.68 |
| 5:L:160:THR:HG21 | 5:L:274:ILE:HD11 | 1.76 | 0.68 |
| 5:O:160:THR:HG21 | 5:O:274:ILE:HD11 | 1.76 | 0.68 |
| 1:0:137:MET:HE1 | 1:0:148:ILE:HG13 | 1.74 | 0.68 |
| 1:6:137:MET:CE | 1:6:148:ILE:HG13 | 2.24 | 0.68 |
| 1:3:59:ALA:CA | 5:R:360:GLN:HG3 | 2.24 | 0.68 |
| 5:M:160:THR:HG21 | 5:M:274:ILE:HD11 | 1.76 | 0.68 |
| 5:G:290:ARG:HH22 | 5:I:202:THR:HG23 | 1.52 | 0.68 |
| 5:N:160:THR:HG21 | 5:N:274:ILE:HD11 | 1.75 | 0.68 |
| 5:Q:153:LEU:HD11 | 5:Q:274:ILE:HG13 | 1.76 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:3:137:MET:CE | 1:3:148:ILE:HG13 | 2.24 | 0.68 |
| 3:5:29:ILE:HD11 | 1:6:99:ASN:HB3 | 1.76 | 0.68 |
| 1:0:99:ASN:HB3 | 3:Z:29:ILE:HD11 | 1.76 | 0.68 |
| 1:3:39:LYS:H | 1:3:39:LYS:HD2 | 1.57 | 0.68 |
| 2:4:244:ALA:HB1 | 3:5:103:ARG:HD2 | 1.76 | 0.68 |
| 5:G:153:LEU:HD11 | 5:G:274:ILE:HG13 | 1.76 | 0.68 |
| 5:K:160:THR:HG21 | 5:K:274:ILE:HD11 | 1.75 | 0.68 |
| 5:N:153:LEU:HD11 | 5:N:274:ILE:HG13 | 1.76 | 0.68 |
| 2:1:244:ALA:HB1 | 3:2:103:ARG:HD2 | 1.76 | 0.68 |
| 5:E:153:LEU:HD11 | 5:E:274:ILE:HG13 | 1.76 | 0.68 |
| 3:2:29:ILE:HD11 | 1:3:99:ASN:HB3 | 1.76 | 0.67 |
| 1:6:58:ASP:HB2 | 5:Q:360:GLN:HG2 | 1.77 | 0.67 |
| 5:R:160:THR:HG21 | 5:R:274:ILE:HD11 | 1.75 | 0.67 |
| 2:Y:244:ALA:HB1 | 3:Z:103:ARG:HD2 | 1.76 | 0.67 |
| 1:0:137:MET:CE | 1:0:148:ILE:HG13 | 2.24 | 0.67 |
| 3:5:108:ARG:HG2 | 1:6:94:GLU:HB3 | 1.76 | 0.67 |
| 5:I:160:THR:HG21 | 5:I:274:ILE:HD11 | 1.75 | 0.67 |
| 1:0:94:GLU:HB3 | 3:Z:108:ARG:HG2 | 1.76 | 0.67 |
| 2:7:244:ALA:HB1 | 3:8:103:ARG:HD2 | 1.76 | 0.67 |
| 3:8:29:ILE:HD11 | 1:9:99:ASN:HB3 | 1.76 | 0.67 |
| 5:R:153:LEU:HD11 | 5:R:274:ILE:HG13 | 1.76 | 0.67 |
| 5:I:153:LEU:HD11 | 5:I:274:ILE:HG13 | 1.76 | 0.67 |
| 5:L:153:LEU:HD11 | 5:L:274:ILE:HG13 | 1.76 | 0.67 |
| 5:Q:160:THR:HG21 | 5:Q:274:ILE:HD11 | 1.76 | 0.67 |
| 5:E:160:THR:HG21 | 5:E:274:ILE:HD11 | 1.76 | 0.67 |
| 5:J:153:LEU:HD11 | 5:J:274:ILE:HG13 | 1.76 | 0.67 |
| 3:8:108:ARG:HG2 | 1:9:94:GLU:HB3 | 1.76 | 0.67 |
| 1:9:137:MET:CE | 1:9:148:ILE:HG13 | 2.24 | 0.67 |
| 5:G:160:THR:HG21 | 5:G:274:ILE:HD11 | 1.76 | 0.67 |
| 5:K:153:LEU:HD11 | 5:K:274:ILE:HG13 | 1.76 | 0.67 |
| 1:6:62:GLU:CD | 5:Q:359:LYS:NZ | 2.48 | 0.66 |
| 5:D:153:LEU:HD11 | 5:D:274:ILE:HG13 | 1.76 | 0.66 |
| 5:O:290:ARG:HH22 | 5:S:202:THR:HG23 | 1.52 | 0.66 |
| 1:6:137:MET:HE1 | 1:6:148:ILE:HG13 | 1.75 | 0.66 |
| 2:Y:207:LYS:HZ2 | 2:Y:208:GLU:HG2 | 1.60 | 0.66 |
| 3:2:108:ARG:HG2 | 1:3:94:GLU:HB3 | 1.76 | 0.66 |
| 5:H:153:LEU:HD11 | 5:H:274:ILE:HG13 | 1.76 | 0.66 |
| 5:M:153:LEU:HD11 | 5:M:274:ILE:HG13 | 1.76 | 0.66 |
| 5:O:153:LEU:HD11 | 5:O:274:ILE:HG13 | 1.76 | 0.66 |
| 5:F:153:LEU:HD11 | 5:F:274:ILE:HG13 | 1.76 | 0.66 |
| 5:S:153:LEU:HD11 | 5:S:274:ILE:HG13 | 1.76 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:4:203:ARG:HH21 | 3:5:53:LEU:HG | 1.61 | 0.66 |
| 3:5:97:GLN:CD | 5:Q:4:GLU:HG2 | 2.16 | 0.65 |
| 2:1:203:ARG:HH21 | 3:2:53:LEU:HG | 1.61 | 0.65 |
| 5:P:153:LEU:HD11 | 5:P:274:ILE:HG13 | 1.76 | 0.65 |
| 1:3:46:ARG:HH11 | 1:3:51:ASN:ND2 | 1.95 | 0.65 |
| 2:7:231:LYS:O | 2:7:235:VAL:HG23 | 1.97 | 0.65 |
| 1:6:46:ARG:HH11 | 1:6:51:ASN:ND2 | 1.95 | 0.65 |
| 3:5:5:LYS:HE2 | 3:5:5:LYS:N | 2.12 | 0.65 |
| 2:Y:231:LYS:O | 2:Y:235:VAL:HG23 | 1.97 | 0.65 |
| 1:9:46:ARG:HH11 | 1:9:51:ASN:ND2 | 1.95 | 0.65 |
| 3:Z:54:PRO:HB2 | 3:Z:59:GLU:HB2 | 1.79 | 0.65 |
| 1:9:55:GLU:CA | 5:S:360:GLN:CD | 2.41 | 0.64 |
| 3:2:5:LYS:HE2 | 3:2:5:LYS:N | 2.12 | 0.64 |
| 3:5:42:ASN:O | 3:5:45:ALA:HB3 | 1.98 | 0.64 |
| 2:1:231:LYS:O | 2:1:235:VAL:HG23 | 1.97 | 0.64 |
| 2:7:203:ARG:HH21 | 3:8:53:LEU:HG | 1.62 | 0.64 |
| 3:8:54:PRO:HB2 | 3:8:59:GLU:HB2 | 1.79 | 0.64 |
| 1:0:46:ARG:HH11 | 1:0:51:ASN:ND2 | 1.95 | 0.64 |
| 5:N:190:MET:SD | 5:N:209:VAL:HG11 | 2.38 | 0.64 |
| 1:6:21:PHE:CD1 | 1:6:81:MET:HG3 | 2.33 | 0.64 |
| 1:9:21:PHE:CD1 | 1:9:81:MET:HG3 | 2.33 | 0.64 |
| 5:R:190:MET:SD | 5:R:209:VAL:HG11 | 2.38 | 0.64 |
| 1:0:21:PHE:CD1 | 1:0:81:MET:HG3 | 2.33 | 0.64 |
| 3:2:42:ASN:O | 3:2:45:ALA:HB3 | 1.98 | 0.64 |
| 5:G:190:MET:SD | 5:G:209:VAL:HG11 | 2.38 | 0.64 |
| 2:4:231:LYS:O | 2:4:235:VAL:HG23 | 1.97 | 0.64 |
| 5:H:190:MET:SD | 5:H:209:VAL:HG11 | 2.38 | 0.64 |
| 3:8:70:LYS:O | 3:8:73:SER:HB3 | 1.99 | 0.63 |
| 2:Y:203:ARG:HH21 | 3:Z:53:LEU:HG | 1.61 | 0.63 |
| 3:2:97:GLN:NE2 | 5:R:4:GLU:CG | 2.61 | 0.63 |
| 3:8:5:LYS:HE2 | 3:8:5:LYS:N | 2.12 | 0.63 |
| 5:L:190:MET:SD | 5:L:209:VAL:HG11 | 2.38 | 0.63 |
| 5:Q:190:MET:SD | 5:Q:209:VAL:HG11 | 2.38 | 0.63 |
| 3:Z:70:LYS:O | 3:Z:73:SER:HB3 | 1.99 | 0.63 |
| 3:8:24:LEU:O | 3:8:27:THR:HG22 | 1.99 | 0.63 |
| 5:L:257:CYS:HB3 | 5:L:258:PRO:HD3 | 1.81 | 0.63 |
| 5:R:257:CYS:HB3 | 5:R:258:PRO:HD3 | 1.81 | 0.63 |
| 3:2:70:LYS:O | 3:2:73:SER:HB3 | 1.98 | 0.63 |
| 5:E:190:MET:SD | 5:E:209:VAL:HG11 | 2.38 | 0.63 |
| 2:Y:207:LYS:HZ2 | 2:Y:208:GLU:HA | 1.61 | 0.63 |
| 3:5:24:LEU:O | 3:5:27:THR:HG22 | 1.99 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:Z:5:LYS:HE2 | 3:Z:5:LYS:N | 2.13 | 0.63 |
| 3:Z:24:LEU:O | 3:Z:27:THR:HG22 | 1.99 | 0.63 |
| 1:3:21:PHE:CD1 | 1:3:81:MET:HG3 | 2.33 | 0.63 |
| 5:I:190:MET:SD | 5:I:209:VAL:HG11 | 2.38 | 0.63 |
| 5:J:257:CYS:HB3 | 5:J:258:PRO:HD3 | 1.81 | 0.63 |
| 5:K:190:MET:SD | 5:K:209:VAL:HG11 | 2.38 | 0.63 |
| 5:Q:257:CYS:HB3 | 5:Q:258:PRO:HD3 | 1.81 | 0.63 |
| 3:2:24:LEU:O | 3:2:27:THR:HG22 | 1.99 | 0.63 |
| 3:2:54:PRO:HB2 | 3:2:59:GLU:HB2 | 1.79 | 0.63 |
| 5:E:257:CYS:HB3 | 5:E:258:PRO:HD3 | 1.81 | 0.63 |
| 5:F:257:CYS:HB3 | 5:F:258:PRO:HD3 | 1.81 | 0.63 |
| 5:N:257:CYS:HB3 | 5:N:258:PRO:HD3 | 1.81 | 0.63 |
| 1:3:4:ASP:O | 1:3:7:ALA:HB3 | 1.99 | 0.63 |
| 1:3:55:GLU:O | 5:R:360:GLN:NE2 | 2.31 | 0.63 |
| 3:5:70:LYS:O | 3:5:73:SER:HB3 | 1.99 | 0.63 |
| 5:J:190:MET:SD | 5:J:209:VAL:HG11 | 2.38 | 0.63 |
| 3:5:45:ALA:O | 3:5:49:PRO:HG3 | 1.99 | 0.63 |
| 1:6:4:ASP:O | 1:6:7:ALA:HB3 | 1.99 | 0.63 |
| 5:G:257:CYS:HB3 | 5:G:258:PRO:HD3 | 1.81 | 0.63 |
| 3:5:54:PRO:HB2 | 3:5:59:GLU:HB2 | 1.79 | 0.62 |
| 5:F:190:MET:SD | 5:F:209:VAL:HG11 | 2.38 | 0.62 |
| 5:O:190:MET:SD | 5:O:209:VAL:HG11 | 2.38 | 0.62 |
| 3:Z:42:ASN:O | 3:Z:45:ALA:HB3 | 1.98 | 0.62 |
| 1:9:4:ASP:O | 1:9:7:ALA:HB3 | 1.99 | 0.62 |
| 3:Z:45:ALA:O | 3:Z:49:PRO:HG3 | 1.99 | 0.62 |
| 3:8:45:ALA:O | 3:8:49:PRO:HG3 | 1.99 | 0.62 |
| 5:H:257:CYS:HB3 | 5:H:258:PRO:HD3 | 1.81 | 0.62 |
| 1:0:57:LEU:O | 1:0:61:ILE:HG13 | 1.99 | 0.62 |
| 1:6:155:LYS:HE3 | 1:6:155:LYS:CA | 2.30 | 0.62 |
| 5:D:257:CYS:HB3 | 5:D:258:PRO:HD3 | 1.81 | 0.62 |
| 5:M:190:MET:SD | 5:M:209:VAL:HG11 | 2.38 | 0.62 |
| 3:5:108:ARG:NH1 | 1:6:95:GLU:OE1 | 2.33 | 0.62 |
| 1:6:121:LEU:HD23 | 1:6:133:ILE:HG12 | 1.81 | 0.62 |
| 3:8:42:ASN:O | 3:8:45:ALA:HB3 | 1.98 | 0.62 |
| 1:9:57:LEU:O | 1:9:61:ILE:HG13 | 1.99 | 0.62 |
| 5:D:190:MET:SD | 5:D:209:VAL:HG11 | 2.38 | 0.62 |
| 5:E:361:GLU:HB3 | 5:E:369:ILE:HG12 | 1.82 | 0.62 |
| 5:I:361:GLU:HB3 | 5:I:369:ILE:HG12 | 1.82 | 0.62 |
| 5:J:361:GLU:HB3 | 5:J:369:ILE:HG12 | 1.82 | 0.62 |
| 5:K:361:GLU:HB3 | 5:K:369:ILE:HG12 | 1.82 | 0.62 |
| 5:L:361:GLU:HB3 | 5:L:369:ILE:HG12 | 1.82 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:R:361:GLU:HB3 | 5:R:369:ILE:HG12 | 1.82 | 0.62 |
| 5:H:361:GLU:HB3 | 5:H:369:ILE:HG12 | 1.82 | 0.62 |
| 5:I:257:CYS:HB3 | 5:I:258:PRO:HD3 | 1.81 | 0.62 |
| 5:P:190:MET:SD | 5:P:209:VAL:HG11 | 2.38 | 0.62 |
| 5:P:257:CYS:HB3 | 5:P:258:PRO:HD3 | 1.81 | 0.62 |
| 1:0:95:GLU:OE1 | 3:Z:108:ARG:NH1 | 2.33 | 0.62 |
| 3:2:108:ARG:NH1 | 1:3:95:GLU:OE1 | 2.33 | 0.62 |
| 1:9:58:ASP:O | 1:9:62:GLU:HG3 | 2.00 | 0.62 |
| 5:G:361:GLU:HB3 | 5:G:369:ILE:HG12 | 1.82 | 0.62 |
| 5:M:361:GLU:HB3 | 5:M:369:ILE:HG12 | 1.82 | 0.62 |
| 5:N:361:GLU:HB3 | 5:N:369:ILE:HG12 | 1.82 | 0.62 |
| 5:P:361:GLU:HB3 | 5:P:369:ILE:HG12 | 1.82 | 0.62 |
| 5:Q:361:GLU:HB3 | 5:Q:369:ILE:HG12 | 1.82 | 0.62 |
| 5:S:190:MET:SD | 5:S:209:VAL:HG11 | 2.38 | 0.62 |
| 5:S:257:CYS:HB3 | 5:S:258:PRO:HD3 | 1.81 | 0.62 |
| 1:0:155:LYS:HE3 | 1:0:155:LYS:CA | 2.30 | 0.62 |
| 3:8:123:ARG:HH11 | 3:8:123:ARG:HG3 | 1.65 | 0.62 |
| 1:9:14:SER:H | 1:9:17:MET:HG3 | 1.65 | 0.62 |
| 5:S:361:GLU:HB3 | 5:S:369:ILE:HG12 | 1.82 | 0.62 |
| 1:3:58:ASP:O | 1:3:62:GLU:HG3 | 2.00 | 0.62 |
| 1:6:58:ASP:O | 1:6:62:GLU:HG3 | 1.99 | 0.62 |
| 5:D:361:GLU:HB3 | 5:D:369:ILE:HG12 | 1.82 | 0.62 |
| 5:F:361:GLU:HB3 | 5:F:369:ILE:HG12 | 1.82 | 0.62 |
| 5:K:257:CYS:HB3 | 5:K:258:PRO:HD3 | 1.81 | 0.62 |
| 5:M:257:CYS:HB3 | 5:M:258:PRO:HD3 | 1.81 | 0.62 |
| 5:O:257:CYS:HB3 | 5:O:258:PRO:HD3 | 1.81 | 0.62 |
| 3:2:123:ARG:HH11 | 3:2:123:ARG:HG3 | 1.65 | 0.62 |
| 5:O:361:GLU:HB3 | 5:O:369:ILE:HG12 | 1.82 | 0.62 |
| 1:3:57:LEU:O | 1:3:61:ILE:HG13 | 1.99 | 0.61 |
| 1:0:4:ASP:O | 1:0:7:ALA:HB3 | 1.99 | 0.61 |
| 1:0:58:ASP:O | 1:0:62:GLU:HG3 | 2.00 | 0.61 |
| 1:3:121:LEU:HD23 | 1:3:133:ILE:HG12 | 1.81 | 0.61 |
| 3:Z:123:ARG:HG3 | 3:Z:123:ARG:HH11 | 1.65 | 0.61 |
| 3:2:45:ALA:O | 3:2:49:PRO:HG3 | 1.99 | 0.61 |
| 1:6:57:LEU:O | 1:6:61:ILE:HG13 | 1.99 | 0.61 |
| 1:9:121:LEU:HD23 | 1:9:133:ILE:HG12 | 1.81 | 0.61 |
| 1:3:155:LYS:HE3 | 1:3:155:LYS:CA | 2.30 | 0.61 |
| 1:9:155:LYS:HE3 | 1:9:155:LYS:CA | 2.30 | 0.61 |
| 5:P:4:GLU:OE2 | 3:Z:100:PHE:CD1 | 2.53 | 0.61 |
| 1:3:14:SER:H | 1:3:17:MET:HG3 | 1.65 | 0.61 |
| 3:5:14:ARG:O | 3:5:18:LYS:HG3 | 2.01 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:0:121:LEU:HD23 | 1:0:133:ILE:HG12 | 1.81 | 0.61 |
| 2:4:198:ASN:HD21 | 2:4:200:ASP:CG | 2.04 | 0.61 |
| 1:6:14:SER:H | 1:6:17:MET:HG3 | 1.65 | 0.61 |
| 1:0:14:SER:H | 1:0:17:MET:HG3 | 1.65 | 0.61 |
| 3:2:130:HIS:HE1 | 3:2:134:MET:HE3 | 1.66 | 0.61 |
| 3:5:97:GLN:HA | 5:Q:4:GLU:OE2 | 2.00 | 0.61 |
| 3:5:123:ARG:HH11 | 3:5:123:ARG:HG3 | 1.65 | 0.61 |
| 3:8:48:SER:N | 3:8:49:PRO:HD3 | 2.15 | 0.61 |
| 3:8:108:ARG:NH1 | 1:9:95:GLU:OE1 | 2.33 | 0.61 |
| 2:1:198:ASN:HD21 | 2:1:200:ASP:CG | 2.04 | 0.61 |
| 3:2:14:ARG:O | 3:2:18:LYS:HG3 | 2.01 | 0.61 |
| 3:Z:14:ARG:O | 3:Z:18:LYS:HG3 | 2.01 | 0.61 |
| 3:2:48:SER:N | 3:2:49:PRO:HD3 | 2.16 | 0.61 |
| 1:6:62:GLU:CD | 5:Q:359:LYS:HZ3 | 2.02 | 0.61 |
| 3:5:48:SER:N | 3:5:49:PRO:HD3 | 2.16 | 0.60 |
| 5:L:223:PHE:HD2 | 5:L:312:ARG:NH2 | 1.99 | 0.60 |
| 5:Q:223:PHE:HD2 | 5:Q:312:ARG:NH2 | 1.99 | 0.60 |
| 3:8:14:ARG:O | 3:8:18:LYS:HG3 | 2.01 | 0.60 |
| 5:F:223:PHE:HD2 | 5:F:312:ARG:NH2 | 1.99 | 0.60 |
| 1:0:62:GLU:CD | 5:P:359:LYS:HE3 | 2.07 | 0.60 |
| 5:K:223:PHE:HD2 | 5:K:312:ARG:NH2 | 1.99 | 0.60 |
| 5:D:223:PHE:HD2 | 5:D:312:ARG:NH2 | 2.00 | 0.60 |
| 5:P:5:THR:HA | 3:Z:100:PHE:HZ | 1.67 | 0.60 |
| 3:2:5:LYS:HE2 | 3:2:6:LYS:H | 1.67 | 0.60 |
| 3:8:132:VAL:HB | 3:8:134:MET:HE2 | 1.83 | 0.60 |
| 5:I:223:PHE:HD2 | 5:I:312:ARG:NH2 | 1.99 | 0.60 |
| 5:M:223:PHE:HD2 | 5:M:312:ARG:NH2 | 2.00 | 0.60 |
| 3:8:5:LYS:HE2 | 3:8:6:LYS:H | 1.67 | 0.60 |
| 5:D:287:ILE:H | 5:D:287:ILE:HD12 | 1.67 | 0.60 |
| 5:P:223:PHE:HD2 | 5:P:312:ARG:NH2 | 2.00 | 0.60 |
| 5:P:287:ILE:H | 5:P:287:ILE:HD12 | 1.67 | 0.60 |
| 5:J:223:PHE:HD2 | 5:J:312:ARG:NH2 | 1.99 | 0.60 |
| 5:P:5:THR:HA | 3:Z:100:PHE:CZ | 2.35 | 0.60 |
| 2:Y:202:LEU:HB3 | 3:Z:60:LEU:HB3 | 1.83 | 0.60 |
| 3:Z:132:VAL:HB | 3:Z:134:MET:HE2 | 1.84 | 0.60 |
| 2:1:202:LEU:HB3 | 3:2:60:LEU:HB3 | 1.83 | 0.60 |
| 3:2:97:GLN:NE2 | 5:R:4:GLU:HG3 | 2.07 | 0.60 |
| 5:F:287:ILE:H | 5:F:287:ILE:HD12 | 1.67 | 0.60 |
| 5:O:223:PHE:HD2 | 5:O:312:ARG:NH2 | 1.99 | 0.60 |
| 2:Y:198:ASN:HD21 | 2:Y:200:ASP:CG | 2.04 | 0.60 |
| 3:Z:48:SER:N | 3:Z:49:PRO:HD3 | 2.16 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:Q:287:ILE:H | 5:Q:287:ILE:HD12 | 1.67 | 0.60 |
| 3:2:132:VAL:HB | 3:2:134:MET:HE2 | 1.83 | 0.60 |
| 2:7:202:LEU:HB3 | 3:8:60:LEU:HB3 | 1.83 | 0.60 |
| 5:K:287:ILE:H | 5:K:287:ILE:HD12 | 1.67 | 0.60 |
| 5:M:287:ILE:H | 5:M:287:ILE:HD12 | 1.67 | 0.60 |
| 3:8:130:HIS:HE1 | 3:8:134:MET:HE3 | 1.67 | 0.59 |
| 5:H:287:ILE:H | 5:H:287:ILE:HD12 | 1.67 | 0.59 |
| 2:4:202:LEU:HB3 | 3:5:60:LEU:HB3 | 1.83 | 0.59 |
| 3:5:132:VAL:HB | 3:5:134:MET:HE2 | 1.84 | 0.59 |
| 5:G:223:PHE:HD2 | 5:G:312:ARG:NH2 | 2.00 | 0.59 |
| 2:7:198:ASN:HD21 | 2:7:200:ASP:CG | 2.04 | 0.59 |
| 5:J:287:ILE:HD12 | 5:J:287:ILE:H | 1.67 | 0.59 |
| 5:S:223:PHE:HD2 | 5:S:312:ARG:NH2 | 1.99 | 0.59 |
| 2:1:207:LYS:HZ2 | 2:1:208:GLU:HG2 | 1.67 | 0.59 |
| 5:E:287:ILE:H | 5:E:287:ILE:HD12 | 1.67 | 0.59 |
| 5:O:287:ILE:HD12 | 5:O:287:ILE:H | 1.67 | 0.59 |
| 1:3:58:ASP:OD2 | 5:R:364:GLU:OE1 | 2.20 | 0.59 |
| 1:6:59:ALA:HA | 5:Q:359:LYS:HZ2 | 1.67 | 0.59 |
| 1:0:67:ASP:OD2 | 1:0:69:SER:HB3 | 2.03 | 0.59 |
| 5:L:287:ILE:H | 5:L:287:ILE:HD12 | 1.67 | 0.59 |
| 5:R:223:PHE:HD2 | 5:R:312:ARG:NH2 | 1.99 | 0.59 |
| 2:Y:170:LYS:O | 2:Y:174:LYS:HG2 | 2.03 | 0.59 |
| 5:I:287:ILE:H | 5:I:287:ILE:HD12 | 1.67 | 0.59 |
| 5:R:287:ILE:HD12 | 5:R:287:ILE:H | 1.67 | 0.59 |
| 1:6:67:ASP:OD2 | 1:6:69:SER:HB3 | 2.03 | 0.59 |
| 2:7:170:LYS:O | 2:7:174:LYS:HG2 | 2.03 | 0.58 |
| 5:H:223:PHE:HD2 | 5:H:312:ARG:NH2 | 1.99 | 0.58 |
| 2:4:207:LYS:HZ2 | 2:4:208:GLU:HG2 | 1.68 | 0.58 |
| 3:5:5:LYS:HE2 | 3:5:6:LYS:H | 1.67 | 0.58 |
| 5:N:287:ILE:H | 5:N:287:ILE:HD12 | 1.67 | 0.58 |
| 5:S:287:ILE:H | 5:S:287:ILE:HD12 | 1.67 | 0.58 |
| 3:Z:5:LYS:HE2 | 3:Z:6:LYS:H | 1.67 | 0.58 |
| 1:3:67:ASP:OD2 | 1:3:69:SER:HB3 | 2.03 | 0.58 |
| 1:6:58:ASP:CB | 5:Q:360:GLN:NE2 | 2.62 | 0.58 |
| 1:0:150:PHE:CE2 | 1:0:154:LEU:HD21 | 2.39 | 0.58 |
| 5:E:223:PHE:HD2 | 5:E:312:ARG:NH2 | 1.99 | 0.58 |
| 2:4:194:ILE:HG21 | 2:4:201:LYS:HE2 | 1.86 | 0.58 |
| 3:5:54:PRO:CB | 3:5:59:GLU:HB2 | 2.34 | 0.58 |
| 1:9:150:PHE:CE2 | 1:9:154:LEU:HD21 | 2.39 | 0.58 |
| 5:G:287:ILE:HD12 | 5:G:287:ILE:H | 1.67 | 0.58 |
| 2:1:170:LYS:O | 2:1:174:LYS:HG2 | 2.03 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:1:194:ILE:HG21 | 2:1:201:LYS:HE2 | 1.86 | 0.58 |
| 1:3:150:PHE:CE2 | 1:3:154:LEU:HD21 | 2.39 | 0.58 |
| 2:4:210:TRP:CE2 | 3:5:51:LEU:HB2 | 2.39 | 0.58 |
| 1:6:55:GLU:HA | 5:Q:360:GLN:HE22 | 1.61 | 0.58 |
| 1:6:150:PHE:CE2 | 1:6:154:LEU:HD21 | 2.39 | 0.58 |
| 3:5:133:ASN:HD22 | 3:5:133:ASN:N | 2.02 | 0.57 |
| 1:0:62:GLU:CG | 5:P:360:GLN:H | 2.13 | 0.57 |
| 1:9:55:GLU:CA | 5:S:360:GLN:OE1 | 2.47 | 0.57 |
| 1:0:62:GLU:HB2 | 5:P:359:LYS:HD3 | 0.57 | 0.57 |
| 1:9:67:ASP:OD2 | 1:9:69:SER:HB3 | 2.03 | 0.57 |
| 3:2:54:PRO:CB | 3:2:59:GLU:HB2 | 2.34 | 0.57 |
| 2:4:170:LYS:O | 2:4:174:LYS:HG2 | 2.03 | 0.57 |
| 2:7:194:ILE:HG21 | 2:7:201:LYS:HE2 | 1.86 | 0.57 |
| 2:7:210:TRP:CE2 | 3:8:51:LEU:HB2 | 2.39 | 0.57 |
| 2:Y:194:ILE:HG21 | 2:Y:201:LYS:HE2 | 1.86 | 0.57 |
| 2:Y:210:TRP:CE2 | 3:Z:51:LEU:HB2 | 2.39 | 0.57 |
| 3:Z:54:PRO:CB | 3:Z:59:GLU:HB2 | 2.34 | 0.57 |
| 3:8:54:PRO:CB | 3:8:59:GLU:HB2 | 2.34 | 0.57 |
| 1:0:28:PHE:HA | 1:0:44:VAL:HG21 | 1.87 | 0.57 |
| 1:9:28:PHE:HA | 1:9:44:VAL:HG21 | 1.87 | 0.57 |
| 5:N:223:PHE:HD2 | 5:N:312:ARG:NH2 | 1.99 | 0.57 |
| 3:Z:133:ASN:HD22 | 3:Z:133:ASN:N | 2.02 | 0.56 |
| 1:0:39:LYS:HD2 | 1:0:39:LYS:N | 2.21 | 0.56 |
| 1:0:143:ASN:ND2 | 1:0:145:ASP:CG | 2.59 | 0.56 |
| 2:1:210:TRP:CE2 | 3:2:51:LEU:HB2 | 2.39 | 0.56 |
| 1:3:28:PHE:HA | 1:3:44:VAL:HG21 | 1.87 | 0.56 |
| 1:6:143:ASN:ND2 | 1:6:145:ASP:CG | 2.59 | 0.56 |
| 5:H:365:ALA:HB3 | 5:H:369:ILE:HB | 1.88 | 0.56 |
| 1:3:58:ASP:C | 5:R:360:GLN:CG | 2.73 | 0.56 |
| 1:6:28:PHE:HA | 1:6:44:VAL:HG21 | 1.87 | 0.56 |
| 1:9:39:LYS:HD2 | 1:9:39:LYS:N | 2.21 | 0.56 |
| 5:F:365:ALA:HB3 | 5:F:369:ILE:HB | 1.88 | 0.56 |
| 5:L:365:ALA:HB3 | 5:L:369:ILE:HB | 1.88 | 0.56 |
| 1:9:143:ASN:ND2 | 1:9:145:ASP:CG | 2.59 | 0.56 |
| 5:J:365:ALA:HB3 | 5:J:369:ILE:HB | 1.88 | 0.56 |
| 3:2:133:ASN:N | 3:2:133:ASN:HD22 | 2.02 | 0.56 |
| 5:D:365:ALA:HB3 | 5:D:369:ILE:HB | 1.88 | 0.56 |
| 5:S:365:ALA:HB3 | 5:S:369:ILE:HB | 1.88 | 0.56 |
| 1:6:143:ASN:ND2 | 1:6:145:ASP:OD1 | 2.39 | 0.56 |
| 5:O:365:ALA:HB3 | 5:O:369:ILE:HB | 1.88 | 0.56 |
| 5:N:365:ALA:HB3 | 5:N:369:ILE:HB | 1.88 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:3:143:ASN:ND2 | 1:3:145:ASP:OD1 | 2.39 | 0.56 |
| 2:7:207:LYS:HZ2 | 2:7:208:GLU:HG2 | 1.69 | 0.56 |
| 1:9:143:ASN:ND2 | 1:9:145:ASP:OD1 | 2.39 | 0.56 |
| 5:M:365:ALA:HB3 | 5:M:369:ILE:HB | 1.88 | 0.56 |
| 1:0:159:GLY:O | 1:0:160:VAL:C | 2.44 | 0.56 |
| 5:P:365:ALA:HB3 | 5:P:369:ILE:HB | 1.88 | 0.56 |
| 3:8:97:GLN:C | 3:8:99:LEU:H | 2.10 | 0.55 |
| 5:R:365:ALA:HB3 | 5:R:369:ILE:HB | 1.88 | 0.55 |
| 2:7:227:ILE:HD12 | 2:7:227:ILE:C | 2.27 | 0.55 |
| 1:9:159:GLY:O | 1:9:160:VAL:C | 2.44 | 0.55 |
| 5:H:288:ASP:CA | 5:J:204:ALA:HB2 | 2.32 | 0.55 |
| 5:Q:365:ALA:HB3 | 5:Q:369:ILE:HB | 1.88 | 0.55 |
| 1:0:143:ASN:ND2 | 1:0:145:ASP:OD1 | 2.39 | 0.55 |
| 2:1:227:ILE:C | 2:1:227:ILE:HD12 | 2.27 | 0.55 |
| 1:3:143:ASN:ND2 | 1:3:145:ASP:CG | 2.59 | 0.55 |
| 5:K:365:ALA:HB3 | 5:K:369:ILE:HB | 1.88 | 0.55 |
| 1:3:105:ASP:O | 1:3:106:LYS:C | 2.45 | 0.55 |
| 5:E:365:ALA:HB3 | 5:E:369:ILE:HB | 1.88 | 0.55 |
| 5:F:288:ASP:CA | 5:H:204:ALA:HB2 | 2.32 | 0.55 |
| 5:G:365:ALA:HB3 | 5:G:369:ILE:HB | 1.88 | 0.55 |
| 3:8:133:ASN:HD22 | 3:8:133:ASN:N | 2.02 | 0.55 |
| 5:I:365:ALA:HB3 | 5:I:369:ILE:HB | 1.88 | 0.55 |
| 2:Y:227:ILE:C | 2:Y:227:ILE:HD12 | 2.27 | 0.55 |
| 3:5:130:HIS:HE1 | 3:5:134:MET:HE3 | 1.70 | 0.55 |
| 1:6:39:LYS:HD2 | 1:6:39:LYS:N | 2.21 | 0.55 |
| 2:1:243:GLN:HE21 | 1:3:149:ASP:HB3 | 1.72 | 0.55 |
| 2:7:207:LYS:O | 2:7:210:TRP:HB3 | 2.07 | 0.55 |
| 1:0:46:ARG:NH1 | 1:0:51:ASN:HD21 | 2.05 | 0.55 |
| 1:9:105:ASP:O | 1:9:106:LYS:C | 2.45 | 0.55 |
| 5:D:288:ASP:CA | 5:F:204:ALA:HB2 | 2.32 | 0.55 |
| 2:Y:207:LYS:O | 2:Y:210:TRP:HB3 | 2.07 | 0.55 |
| 2:1:202:LEU:H | 2:1:202:LEU:HD22 | 1.73 | 0.54 |
| 3:2:97:GLN:C | 3:2:99:LEU:H | 2.10 | 0.54 |
| 1:3:39:LYS:HD2 | 1:3:39:LYS:N | 2.21 | 0.54 |
| 5:E:288:ASP:CA | 5:G:204:ALA:HB2 | 2.32 | 0.54 |
| 3:Z:130:HIS:HE1 | 3:Z:134:MET:HE3 | 1.71 | 0.54 |
| 3:2:105:LYS:HB2 | 5:R:1:ASP:OD1 | 2.07 | 0.54 |
| 1:3:159:GLY:O | 1:3:160:VAL:C | 2.44 | 0.54 |
| 3:8:91:GLU:O | 3:8:95:LEU:HG | 2.08 | 0.54 |
| 1:9:46:ARG:NH1 | 1:9:51:ASN:HD21 | 2.06 | 0.54 |
| 5:D:204:ALA:HB2 | 5:P:288:ASP:CA | 2.32 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:2:91:GLU:O | 3:2:95:LEU:HG | 2.08 | 0.54 |
| 1:6:159:GLY:O | 1:6:160:VAL:C | 2.44 | 0.54 |
| 2:7:243:GLN:HE21 | 1:9:149:ASP:HB3 | 1.72 | 0.54 |
| 5:O:288:ASP:CA | 5:S:204:ALA:HB2 | 2.32 | 0.54 |
| 2:4:202:LEU:H | 2:4:202:LEU:HD22 | 1.73 | 0.54 |
| 3:5:97:GLN:C | 3:5:99:LEU:H | 2.10 | 0.54 |
| 3:Z:97:GLN:C | 3:Z:99:LEU:H | 2.09 | 0.54 |
| 1:0:149:ASP:HB3 | 2:Y:243:GLN:HE21 | 1.72 | 0.54 |
| 5:M:288:ASP:CA | 5:O:204:ALA:HB2 | 2.32 | 0.54 |
| 1:0:105:ASP:O | 1:0:106:LYS:C | 2.45 | 0.54 |
| 2:4:207:LYS:O | 2:4:210:TRP:HB3 | 2.07 | 0.54 |
| 5:K:288:ASP:CA | 5:M:204:ALA:HB2 | 2.32 | 0.54 |
| 2:1:207:LYS:O | 2:1:210:TRP:HB3 | 2.07 | 0.54 |
| 1:6:105:ASP:O | 1:6:106:LYS:C | 2.45 | 0.54 |
| 5:I:288:ASP:CA | 5:K:204:ALA:HB2 | 2.32 | 0.54 |
| 5:P:23:GLY:HA3 | 3:Z:100:PHE:HE2 | 1.73 | 0.54 |
| 1:6:46:ARG:NH1 | 1:6:51:ASN:HD21 | 2.05 | 0.54 |
| 3:8:100:PHE:HB3 | 5:S:4:GLU:OE2 | 2.08 | 0.54 |
| 3:5:103:ARG:HA | 3:5:103:ARG:HE | 1.73 | 0.54 |
| 1:3:46:ARG:NH1 | 1:3:51:ASN:HD21 | 2.05 | 0.53 |
| 2:4:243:GLN:HE21 | 1:6:149:ASP:HB3 | 1.72 | 0.53 |
| 5:L:185:LEU:HD23 | 5:L:306:TYR:OH | 2.08 | 0.53 |
| 3:2:103:ARG:HA | 3:2:103:ARG:HE | 1.74 | 0.53 |
| 3:5:91:GLU:O | 3:5:95:LEU:HG | 2.08 | 0.53 |
| 2:4:227:ILE:C | 2:4:227:ILE:HD12 | 2.27 | 0.53 |
| 5:N:185:LEU:HD23 | 5:N:306:TYR:OH | 2.09 | 0.53 |
| 1:6:55:GLU:O | 5:Q:360:GLN:CD | 2.45 | 0.53 |
| 5:G:185:LEU:HD23 | 5:G:306:TYR:OH | 2.09 | 0.53 |
| 2:Y:202:LEU:HD22 | 2:Y:202:LEU:H | 1.73 | 0.53 |
| 3:Z:91:GLU:O | 3:Z:95:LEU:HG | 2.08 | 0.53 |
| 5:E:185:LEU:HD23 | 5:E:306:TYR:OH | 2.09 | 0.53 |
| 5:R:185:LEU:HD23 | 5:R:306:TYR:OH | 2.08 | 0.53 |
| 2:7:202:LEU:H | 2:7:202:LEU:HD22 | 1.72 | 0.53 |
| 5:P:185:LEU:HD23 | 5:P:306:TYR:OH | 2.08 | 0.53 |
| 2:Y:207:LYS:HZ2 | 2:Y:208:GLU:CG | 2.21 | 0.53 |
| 3:8:103:ARG:HA | 3:8:103:ARG:HE | 1.73 | 0.53 |
| 1:0:62:GLU:HG3 | 5:P:360:GLN:CB | 2.22 | 0.53 |
| 5:K:185:LEU:HD23 | 5:K:306:TYR:OH | 2.09 | 0.53 |
| 5:O:185:LEU:HD23 | 5:O:306:TYR:OH | 2.09 | 0.53 |
| 5:Q:185:LEU:HD23 | 5:Q:306:TYR:OH | 2.09 | 0.53 |
| 5:S:185:LEU:HD23 | 5:S:306:TYR:OH | 2.08 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:3:84:GLN:O | 1:3:85:MET:C | 2.47 | 0.53 |
| 1:6:58:ASP:CB | 5:Q:360:GLN:HG2 | 2.38 | 0.53 |
| 5:F:185:LEU:HD23 | 5:F:306:TYR:OH | 2.09 | 0.53 |
| 5:M:185:LEU:HD23 | 5:M:306:TYR:OH | 2.09 | 0.53 |
| 5:F:180:LEU:HD22 | 5:F:267:ILE:HD11 | 1.91 | 0.53 |
| 5:J:185:LEU:HD23 | 5:J:306:TYR:OH | 2.09 | 0.53 |
| 5:D:185:LEU:HD23 | 5:D:306:TYR:OH | 2.09 | 0.52 |
| 5:I:180:LEU:HD22 | 5:I:267:ILE:HD11 | 1.92 | 0.52 |
| 1:0:84:GLN:O | 1:0:85:MET:C | 2.47 | 0.52 |
| 5:M:285:CYS:O | 5:M:290:ARG:NH1 | 2.43 | 0.52 |
| 5:D:285:CYS:O | 5:D:290:ARG:NH1 | 2.43 | 0.52 |
| 5:E:180:LEU:HD22 | 5:E:267:ILE:HD11 | 1.92 | 0.52 |
| 5:H:180:LEU:HD22 | 5:H:267:ILE:HD11 | 1.92 | 0.52 |
| 5:I:185:LEU:HD23 | 5:I:306:TYR:OH | 2.09 | 0.52 |
| 5:J:180:LEU:HD22 | 5:J:267:ILE:HD11 | 1.91 | 0.52 |
| 5:N:285:CYS:O | 5:N:290:ARG:NH1 | 2.43 | 0.52 |
| 5:R:285:CYS:O | 5:R:290:ARG:NH1 | 2.42 | 0.52 |
| 3:Z:103:ARG:HA | 3:Z:103:ARG:HE | 1.74 | 0.52 |
| 3:8:23:GLN:O | 3:8:26:VAL:HG12 | 2.10 | 0.52 |
| 5:M:180:LEU:HD22 | 5:M:267:ILE:HD11 | 1.92 | 0.52 |
| 5:O:285:CYS:O | 5:O:290:ARG:NH1 | 2.43 | 0.52 |
| 5:P:180:LEU:HD22 | 5:P:267:ILE:HD11 | 1.92 | 0.52 |
| 5:Q:180:LEU:HD22 | 5:Q:267:ILE:HD11 | 1.92 | 0.52 |
| 3:5:100:PHE:CB | 5:Q:4:GLU:OE2 | 2.58 | 0.52 |
| 5:D:180:LEU:HD22 | 5:D:267:ILE:HD11 | 1.92 | 0.52 |
| 5:H:285:CYS:O | 5:H:290:ARG:NH1 | 2.43 | 0.52 |
| 3:2:23:GLN:O | 3:2:26:VAL:HG12 | 2.10 | 0.52 |
| 3:2:97:GLN:O | 3:2:99:LEU:N | 2.43 | 0.52 |
| 1:9:84:GLN:O | 1:9:85:MET:C | 2.47 | 0.52 |
| 5:H:185:LEU:HD23 | 5:H:306:TYR:OH | 2.09 | 0.52 |
| 5:K:180:LEU:HD22 | 5:K:267:ILE:HD11 | 1.92 | 0.52 |
| 5:O:180:LEU:HD22 | 5:O:267:ILE:HD11 | 1.92 | 0.52 |
| 5:S:180:LEU:HD22 | 5:S:267:ILE:HD11 | 1.92 | 0.52 |
| 3:Z:97:GLN:O | 3:Z:99:LEU:N | 2.43 | 0.52 |
| 5:E:285:CYS:O | 5:E:290:ARG:NH1 | 2.43 | 0.52 |
| 5:G:180:LEU:HD22 | 5:G:267:ILE:HD11 | 1.92 | 0.52 |
| 5:I:285:CYS:O | 5:I:290:ARG:NH1 | 2.43 | 0.52 |
| 5:J:285:CYS:O | 5:J:290:ARG:NH1 | 2.43 | 0.52 |
| 5:L:180:LEU:HD22 | 5:L:267:ILE:HD11 | 1.92 | 0.52 |
| 3:Z:23:GLN:O | 3:Z:26:VAL:HG12 | 2.10 | 0.52 |
| 1:0:143:ASN:HD21 | 1:0:145:ASP:CG | 2.14 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:2:93:GLU:HG2 | 3:2:111:LEU:HD21 | 1.92 | 0.52 |
| 3:5:23:GLN:O | 3:5:26:VAL:HG12 | 2.10 | 0.52 |
| 5:L:285:CYS:O | 5:L:290:ARG:NH1 | 2.43 | 0.52 |
| 5:N:180:LEU:HD22 | 5:N:267:ILE:HD11 | 1.92 | 0.52 |
| 5:S:285:CYS:O | 5:S:290:ARG:NH1 | 2.43 | 0.52 |
| 2:Y:207:LYS:NZ | 2:Y:208:GLU:HA | 2.25 | 0.52 |
| 1:9:106:LYS:O | 1:9:107:ASN:HB3 | 2.09 | 0.52 |
| 5:K:285:CYS:O | 5:K:290:ARG:NH1 | 2.43 | 0.52 |
| 5:Q:285:CYS:O | 5:Q:290:ARG:NH1 | 2.43 | 0.52 |
| 5:R:180:LEU:HD22 | 5:R:267:ILE:HD11 | 1.92 | 0.52 |
| 1:0:106:LYS:O | 1:0:107:ASN:HB3 | 2.09 | 0.52 |
| 3:2:25:ALA:HB1 | 1:3:100:CYS:SG | 2.50 | 0.52 |
| 3:5:25:ALA:HB1 | 1:6:100:CYS:SG | 2.50 | 0.52 |
| 1:3:103:ILE:HG22 | 1:3:104:PHE:CD1 | 2.46 | 0.51 |
| 1:9:143:ASN:HD21 | 1:9:145:ASP:CG | 2.14 | 0.51 |
| 2:1:207:LYS:NZ | 2:1:208:GLU:HA | 2.25 | 0.51 |
| 3:5:93:GLU:HG2 | 3:5:111:LEU:HD21 | 1.92 | 0.51 |
| 1:6:143:ASN:HD21 | 1:6:145:ASP:CG | 2.14 | 0.51 |
| 1:6:103:ILE:HG22 | 1:6:104:PHE:CD1 | 2.46 | 0.51 |
| 5:G:285:CYS:O | 5:G:290:ARG:NH1 | 2.43 | 0.51 |
| 1:3:106:LYS:O | 1:3:107:ASN:HB3 | 2.09 | 0.51 |
| 5:F:285:CYS:O | 5:F:290:ARG:NH1 | 2.43 | 0.51 |
| 5:G:288:ASP:CA | 5:I:204:ALA:HB2 | 2.32 | 0.51 |
| 5:N:287:ILE:HG22 | 5:R:204:ALA:HB3 | 1.92 | 0.51 |
| 1:6:106:LYS:O | 1:6:107:ASN:HB3 | 2.09 | 0.51 |
| 2:7:243:GLN:NE2 | 1:9:149:ASP:HB3 | 2.26 | 0.51 |
| 3:8:25:ALA:HB1 | 1:9:100:CYS:SG | 2.50 | 0.51 |
| 3:8:93:GLU:HG2 | 3:8:111:LEU:HD21 | 1.92 | 0.51 |
| 5:E:204:ALA:HB3 | 5:Q:287:ILE:HG22 | 1.92 | 0.51 |
| 5:M:287:ILE:HG22 | 5:O:204:ALA:HB3 | 1.92 | 0.51 |
| 5:P:285:CYS:O | 5:P:290:ARG:NH1 | 2.43 | 0.51 |
| 1:0:62:GLU:CG | 5:P:360:GLN:N | 2.59 | 0.51 |
| 1:3:143:ASN:HD21 | 1:3:145:ASP:CG | 2.14 | 0.51 |
| 3:5:97:GLN:O | 3:5:99:LEU:N | 2.43 | 0.51 |
| 5:L:287:ILE:HG22 | 5:N:204:ALA:HB3 | 1.92 | 0.51 |
| 1:0:149:ASP:HB3 | 2:Y:243:GLN:NE2 | 2.26 | 0.51 |
| 3:8:97:GLN:O | 3:8:99:LEU:N | 2.43 | 0.51 |
| 3:Z:93:GLU:HG2 | 3:Z:111:LEU:HD21 | 1.92 | 0.51 |
| 1:6:84:GLN:O | 1:6:85:MET:C | 2.47 | 0.51 |
| 5:D:204:ALA:HB3 | 5:P:287:ILE:HG22 | 1.92 | 0.51 |
| 1:0:100:CYS:SG | 3:Z:25:ALA:HB1 | 2.50 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:8:109:PRO:O | 3:8:112:ARG:HG2 | 2.11 | 0.51 |
| 5:E:287:ILE:HG22 | 5:G:204:ALA:HB3 | 1.92 | 0.51 |
| 5:K:287:ILE:HG22 | 5:M:204:ALA:HB3 | 1.92 | 0.51 |
| 5:O:287:ILE:HG22 | 5:S:204:ALA:HB3 | 1.92 | 0.51 |
| 3:Z:109:PRO:O | 3:Z:112:ARG:HG2 | 2.11 | 0.51 |
| 3:8:101:ASP:OD1 | 5:S:23:GLY:HA3 | 2.11 | 0.51 |
| 5:D:287:ILE:HG22 | 5:F:204:ALA:HB3 | 1.92 | 0.50 |
| 5:I:287:ILE:HG22 | 5:K:204:ALA:HB3 | 1.92 | 0.50 |
| 5:J:287:ILE:HG22 | 5:L:204:ALA:HB3 | 1.92 | 0.50 |
| 1:0:103:ILE:HG22 | 1:0:104:PHE:CD1 | 2.45 | 0.50 |
| 5:G:287:ILE:HG22 | 5:I:204:ALA:HB3 | 1.92 | 0.50 |
| 1:9:103:ILE:HG22 | 1:9:104:PHE:CD1 | 2.46 | 0.50 |
| 2:4:243:GLN:NE2 | 1:6:149:ASP:HB3 | 2.26 | 0.50 |
| 3:5:56:SER:N | 3:5:59:GLU:OE1 | 2.39 | 0.50 |
| 5:L:288:ASP:CA | 5:N:204:ALA:HB2 | 2.32 | 0.50 |
| 2:4:188:ARG:NH1 | 3:5:75:ASP:OD2 | 2.45 | 0.50 |
| 5:H:287:ILE:HG22 | 5:J:204:ALA:HB3 | 1.92 | 0.50 |
| 5:I:70:PRO:HG3 | 5:I:81:ASP:HB3 | 1.93 | 0.50 |
| 3:5:109:PRO:O | 3:5:112:ARG:HG2 | 2.11 | 0.50 |
| 3:Z:97:GLN:C | 3:Z:99:LEU:N | 2.65 | 0.50 |
| 3:2:109:PRO:O | 3:2:112:ARG:HG2 | 2.11 | 0.50 |
| 5:F:287:ILE:HG22 | 5:H:204:ALA:HB3 | 1.92 | 0.50 |
| 5:H:318:THR:HA | 5:H:327:ILE:HG12 | 1.94 | 0.50 |
| 1:6:22:LYS:HA | 1:6:74:PHE:CE1 | 2.47 | 0.50 |
| 1:9:54:LYS:O | 5:S:360:GLN:NE2 | 2.45 | 0.50 |
| 2:1:187:GLU:C | 2:1:189:ARG:H | 2.16 | 0.49 |
| 1:6:36:ILE:HD12 | 1:6:72:ILE:HB | 1.94 | 0.49 |
| 3:8:97:GLN:C | 3:8:99:LEU:N | 2.65 | 0.49 |
| 5:E:70:PRO:HG3 | 5:E:81:ASP:HB3 | 1.94 | 0.49 |
| 5:K:318:THR:HA | 5:K:327:ILE:HG12 | 1.94 | 0.49 |
| 2:Y:188:ARG:NH1 | 3:Z:75:ASP:OD2 | 2.45 | 0.49 |
| 1:9:46:ARG:NH1 | 1:9:51:ASN:ND2 | 2.59 | 0.49 |
| 5:E:318:THR:HA | 5:E:327:ILE:HG12 | 1.94 | 0.49 |
| 5:F:318:THR:HA | 5:F:327:ILE:HG12 | 1.94 | 0.49 |
| 5:O:318:THR:HA | 5:O:327:ILE:HG12 | 1.94 | 0.49 |
| 5:S:318:THR:HA | 5:S:327:ILE:HG12 | 1.94 | 0.49 |
| 1:9:22:LYS:HA | 1:9:74:PHE:CE1 | 2.47 | 0.49 |
| 5:G:70:PRO:HG3 | 5:G:81:ASP:HB3 | 1.94 | 0.49 |
| 5:I:318:THR:HA | 5:I:327:ILE:HG12 | 1.95 | 0.49 |
| 5:P:318:THR:HA | 5:P:327:ILE:HG12 | 1.94 | 0.49 |
| 5:Q:70:PRO:HG3 | 5:Q:81:ASP:HB3 | 1.94 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:R:318:THR:HA | 5:R:327:ILE:HG12 | 1.94 | 0.49 |
| 2:Y:207:LYS:NZ | 2:Y:208:GLU:HG2 | 2.27 | 0.49 |
| 2:1:188:ARG:NH1 | 3:2:75:ASP:OD2 | 2.45 | 0.49 |
| 3:5:26:VAL:HG13 | 3:5:27:THR:N | 2.28 | 0.49 |
| 1:6:149:ASP:OD2 | 1:6:152:GLU:HG3 | 2.13 | 0.49 |
| 3:8:56:SER:N | 3:8:59:GLU:OE1 | 2.39 | 0.49 |
| 5:M:318:THR:HA | 5:M:327:ILE:HG12 | 1.94 | 0.49 |
| 5:Q:318:THR:HA | 5:Q:327:ILE:HG12 | 1.94 | 0.49 |
| 1:3:149:ASP:OD2 | 1:3:152:GLU:HG3 | 2.13 | 0.49 |
| 5:D:318:THR:HA | 5:D:327:ILE:HG12 | 1.95 | 0.49 |
| 5:I:124:PHE:CZ | 5:I:132:MET:HG3 | 2.48 | 0.49 |
| 5:J:253:GLU:HA | 5:J:256:ARG:CG | 2.42 | 0.49 |
| 5:K:70:PRO:HG3 | 5:K:81:ASP:HB3 | 1.94 | 0.49 |
| 5:N:318:THR:HA | 5:N:327:ILE:HG12 | 1.94 | 0.49 |
| 3:Z:26:VAL:HG13 | 3:Z:27:THR:N | 2.28 | 0.49 |
| 1:0:22:LYS:HA | 1:0:74:PHE:CE1 | 2.47 | 0.49 |
| 2:1:243:GLN:NE2 | 1:3:149:ASP:HB3 | 2.26 | 0.49 |
| 2:7:188:ARG:NH1 | 3:8:75:ASP:OD2 | 2.45 | 0.49 |
| 3:8:26:VAL:HG13 | 3:8:27:THR:N | 2.28 | 0.49 |
| 3:8:111:LEU:HD22 | 3:8:111:LEU:N | 2.28 | 0.49 |
| 5:G:124:PHE:CZ | 5:G:132:MET:HG3 | 2.48 | 0.49 |
| 5:G:253:GLU:HA | 5:G:256:ARG:CG | 2.42 | 0.49 |
| 5:J:318:THR:HA | 5:J:327:ILE:HG12 | 1.95 | 0.49 |
| 5:K:124:PHE:CZ | 5:K:132:MET:HG3 | 2.48 | 0.49 |
| 5:L:318:THR:HA | 5:L:327:ILE:HG12 | 1.95 | 0.49 |
| 1:0:46:ARG:NH1 | 1:0:51:ASN:ND2 | 2.59 | 0.49 |
| 1:0:103:ILE:HG22 | 1:0:104:PHE:HD1 | 1.78 | 0.49 |
| 2:1:207:LYS:HZ2 | 2:1:208:GLU:CG | 2.26 | 0.49 |
| 1:3:22:LYS:HA | 1:3:74:PHE:CE1 | 2.47 | 0.49 |
| 1:3:118:GLY:HA2 | 1:3:133:ILE:HD13 | 1.95 | 0.49 |
| 2:4:165:ALA:O | 2:4:169:GLN:HG2 | 2.13 | 0.49 |
| 2:4:207:LYS:NZ | 2:4:208:GLU:HG2 | 2.27 | 0.49 |
| 5:G:318:THR:HA | 5:G:327:ILE:HG12 | 1.95 | 0.49 |
| 5:M:124:PHE:CZ | 5:M:132:MET:HG3 | 2.48 | 0.49 |
| 5:P:124:PHE:CZ | 5:P:132:MET:HG3 | 2.48 | 0.49 |
| 3:Z:56:SER:N | 3:Z:59:GLU:OE1 | 2.39 | 0.49 |
| 3:2:26:VAL:HG13 | 3:2:27:THR:N | 2.28 | 0.49 |
| 1:3:36:ILE:HD12 | 1:3:72:ILE:HB | 1.95 | 0.49 |
| 2:4:187:GLU:C | 2:4:189:ARG:H | 2.16 | 0.49 |
| 1:9:103:ILE:HG22 | 1:9:104:PHE:HD1 | 1.78 | 0.49 |
| 5:D:198:TYR:CZ | 5:D:248:ILE:HG13 | 2.48 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:N:70:PRO:HG3 | 5:N:81:ASP:HB3 | 1.94 | 0.49 |
| 5:P:198:TYR:CZ | 5:P:248:ILE:HG13 | 2.48 | 0.49 |
| 5:R:70:PRO:HG3 | 5:R:81:ASP:HB3 | 1.94 | 0.49 |
| 5:S:70:PRO:HG3 | 5:S:81:ASP:HB3 | 1.94 | 0.49 |
| 3:Z:133:ASN:N | 3:Z:133:ASN:ND2 | 2.61 | 0.49 |
| 2:1:207:LYS:NZ | 2:1:208:GLU:HG2 | 2.27 | 0.49 |
| 1:6:118:GLY:HA2 | 1:6:133:ILE:HD13 | 1.95 | 0.49 |
| 2:7:187:GLU:C | 2:7:189:ARG:H | 2.16 | 0.49 |
| 5:F:70:PRO:HG3 | 5:F:81:ASP:HB3 | 1.94 | 0.49 |
| 5:K:198:TYR:CZ | 5:K:248:ILE:HG13 | 2.48 | 0.49 |
| 5:M:198:TYR:CZ | 5:M:248:ILE:HG13 | 2.48 | 0.49 |
| 5:Q:124:PHE:CZ | 5:Q:132:MET:HG3 | 2.48 | 0.49 |
| 5:R:124:PHE:CZ | 5:R:132:MET:HG3 | 2.48 | 0.49 |
| 2:4:194:ILE:HG21 | 2:4:201:LYS:CE | 2.43 | 0.49 |
| 2:7:207:LYS:NZ | 2:7:208:GLU:HG2 | 2.27 | 0.49 |
| 5:D:124:PHE:CZ | 5:D:132:MET:HG3 | 2.48 | 0.49 |
| 5:E:124:PHE:CZ | 5:E:132:MET:HG3 | 2.48 | 0.49 |
| 5:F:120:THR:HG21 | 5:F:370:VAL:HG11 | 1.95 | 0.49 |
| 5:F:213:LYS:O | 5:F:217:CYS:HB2 | 2.13 | 0.49 |
| 5:I:198:TYR:CZ | 5:I:248:ILE:HG13 | 2.48 | 0.49 |
| 5:I:287:ILE:HA | 5:K:202:THR:HG21 | 1.58 | 0.49 |
| 5:P:70:PRO:HG3 | 5:P:81:ASP:HB3 | 1.94 | 0.49 |
| 3:Z:111:LEU:HD22 | 3:Z:111:LEU:N | 2.28 | 0.49 |
| 3:5:111:LEU:HD22 | 3:5:111:LEU:N | 2.28 | 0.48 |
| 1:6:111:PHE:HB3 | 1:6:147:ARG:HB3 | 1.95 | 0.48 |
| 2:7:227:ILE:CD1 | 2:7:231:LYS:HD3 | 2.43 | 0.48 |
| 3:8:96:SER:O | 5:S:4:GLU:OE1 | 2.31 | 0.48 |
| 5:F:124:PHE:CZ | 5:F:132:MET:HG3 | 2.48 | 0.48 |
| 5:F:198:TYR:CZ | 5:F:248:ILE:HG13 | 2.48 | 0.48 |
| 5:G:198:TYR:CZ | 5:G:248:ILE:HG13 | 2.48 | 0.48 |
| 5:M:213:LYS:O | 5:M:217:CYS:HB2 | 2.13 | 0.48 |
| 5:Q:213:LYS:O | 5:Q:217:CYS:HB2 | 2.13 | 0.48 |
| 3:2:97:GLN:C | 3:2:99:LEU:N | 2.65 | 0.48 |
| 5:D:70:PRO:HG3 | 5:D:81:ASP:HB3 | 1.94 | 0.48 |
| 5:D:120:THR:HG21 | 5:D:370:VAL:HG11 | 1.95 | 0.48 |
| 5:H:120:THR:HG21 | 5:H:370:VAL:HG11 | 1.95 | 0.48 |
| 5:H:198:TYR:CZ | 5:H:248:ILE:HG13 | 2.48 | 0.48 |
| 5:K:287:ILE:HA | 5:M:202:THR:HG21 | 1.58 | 0.48 |
| 5:M:287:ILE:HA | 5:O:202:THR:HG21 | 1.58 | 0.48 |
| 5:N:124:PHE:CZ | 5:N:132:MET:HG3 | 2.48 | 0.48 |
| 5:O:124:PHE:CZ | 5:O:132:MET:HG3 | 2.48 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:O:198:TYR:CZ | 5:O:248:ILE:HG13 | 2.48 | 0.48 |
| 2:Y:227:ILE:CD1 | 2:Y:231:LYS:HD3 | 2.43 | 0.48 |
| 3:2:133:ASN:N | 3:2:133:ASN:ND2 | 2.61 | 0.48 |
| 1:6:38:THR:HA | 1:6:61:ILE:HD11 | 1.95 | 0.48 |
| 1:6:59:ALA:N | 5:Q:360:GLN:HG3 | 2.27 | 0.48 |
| 5:D:213:LYS:O | 5:D:217:CYS:HB2 | 2.13 | 0.48 |
| 5:E:198:TYR:CZ | 5:E:248:ILE:HG13 | 2.48 | 0.48 |
| 5:G:120:THR:HG21 | 5:G:370:VAL:HG11 | 1.95 | 0.48 |
| 5:H:70:PRO:HG3 | 5:H:81:ASP:HB3 | 1.94 | 0.48 |
| 5:H:124:PHE:CZ | 5:H:132:MET:HG3 | 2.48 | 0.48 |
| 5:J:120:THR:HG21 | 5:J:370:VAL:HG11 | 1.95 | 0.48 |
| 5:M:70:PRO:HG3 | 5:M:81:ASP:HB3 | 1.94 | 0.48 |
| 5:O:70:PRO:HG3 | 5:O:81:ASP:HB3 | 1.94 | 0.48 |
| 5:R:213:LYS:O | 5:R:217:CYS:HB2 | 2.13 | 0.48 |
| 2:1:194:ILE:HG21 | 2:1:201:LYS:CE | 2.43 | 0.48 |
| 1:3:46:ARG:NH1 | 1:3:51:ASN:ND2 | 2.59 | 0.48 |
| 1:3:111:PHE:HB3 | 1:3:147:ARG:HB3 | 1.96 | 0.48 |
| 2:7:165:ALA:O | 2:7:169:GLN:HG2 | 2.13 | 0.48 |
| 1:9:38:THR:HA | 1:9:61:ILE:HD11 | 1.95 | 0.48 |
| 5:R:198:TYR:CZ | 5:R:248:ILE:HG13 | 2.48 | 0.48 |
| 5:S:120:THR:HG21 | 5:S:370:VAL:HG11 | 1.95 | 0.48 |
| 2:1:165:ALA:O | 2:1:169:GLN:HG2 | 2.13 | 0.48 |
| 3:5:123:ARG:HG3 | 3:5:123:ARG:NH1 | 2.29 | 0.48 |
| 1:6:103:ILE:HG22 | 1:6:104:PHE:HD1 | 1.78 | 0.48 |
| 2:7:207:LYS:NZ | 2:7:208:GLU:HA | 2.25 | 0.48 |
| 1:9:118:GLY:HA2 | 1:9:133:ILE:HD13 | 1.95 | 0.48 |
| 5:E:213:LYS:O | 5:E:217:CYS:HB2 | 2.13 | 0.48 |
| 5:G:213:LYS:O | 5:G:217:CYS:HB2 | 2.13 | 0.48 |
| 5:H:213:LYS:O | 5:H:217:CYS:HB2 | 2.13 | 0.48 |
| 5:J:198:TYR:CZ | 5:J:248:ILE:HG13 | 2.48 | 0.48 |
| 5:Q:198:TYR:CZ | 5:Q:248:ILE:HG13 | 2.48 | 0.48 |
| 5:S:198:TYR:CZ | 5:S:248:ILE:HG13 | 2.48 | 0.48 |
| 2:Y:165:ALA:O | 2:Y:169:GLN:HG2 | 2.13 | 0.48 |
| 2:Y:187:GLU:C | 2:Y:189:ARG:H | 2.16 | 0.48 |
| 1:0:38:THR:HA | 1:0:61:ILE:HD11 | 1.95 | 0.48 |
| 1:0:149:ASP:OD2 | 1:0:152:GLU:HG3 | 2.13 | 0.48 |
| 1:3:103:ILE:HG22 | 1:3:104:PHE:HD1 | 1.78 | 0.48 |
| 3:5:97:GLN:C | 3:5:99:LEU:N | 2.65 | 0.48 |
| 1:6:17:MET:HE2 | 1:6:17:MET:HA | 1.95 | 0.48 |
| 1:9:36:ILE:HD12 | 1:9:72:ILE:HB | 1.95 | 0.48 |
| 5:E:250:ILE:HG23 | 5:E:253:GLU:HG2 | 1.96 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:H:250:ILE:HG23 | 5:H:253:GLU:HG2 | 1.96 | 0.48 |
| 5:J:70:PRO:HG3 | 5:J:81:ASP:HB3 | 1.94 | 0.48 |
| 5:J:124:PHE:CZ | 5:J:132:MET:HG3 | 2.48 | 0.48 |
| 5:J:250:ILE:HG23 | 5:J:253:GLU:HG2 | 1.96 | 0.48 |
| 5:L:70:PRO:HG3 | 5:L:81:ASP:HB3 | 1.94 | 0.48 |
| 5:N:213:LYS:O | 5:N:217:CYS:HB2 | 2.13 | 0.48 |
| 5:P:120:THR:HG21 | 5:P:370:VAL:HG11 | 1.95 | 0.48 |
| 3:2:56:SER:N | 3:2:59:GLU:OE1 | 2.39 | 0.48 |
| 3:2:123:ARG:HG3 | 3:2:123:ARG:NH1 | 2.28 | 0.48 |
| 2:4:227:ILE:CD1 | 2:4:231:LYS:HD3 | 2.43 | 0.48 |
| 3:5:29:ILE:HA | 1:6:103:ILE:HD11 | 1.95 | 0.48 |
| 3:8:102:LEU:O | 3:8:102:LEU:HD23 | 2.14 | 0.48 |
| 1:9:111:PHE:HB3 | 1:9:147:ARG:HB3 | 1.95 | 0.48 |
| 5:F:250:ILE:HG23 | 5:F:253:GLU:HG2 | 1.96 | 0.48 |
| 5:G:250:ILE:HG23 | 5:G:253:GLU:HG2 | 1.96 | 0.48 |
| 5:I:120:THR:HG21 | 5:I:370:VAL:HG11 | 1.95 | 0.48 |
| 5:I:213:LYS:O | 5:I:217:CYS:HB2 | 2.13 | 0.48 |
| 5:J:213:LYS:O | 5:J:217:CYS:HB2 | 2.13 | 0.48 |
| 5:K:213:LYS:O | 5:K:217:CYS:HB2 | 2.13 | 0.48 |
| 5:L:124:PHE:CZ | 5:L:132:MET:HG3 | 2.48 | 0.48 |
| 5:L:213:LYS:O | 5:L:217:CYS:HB2 | 2.13 | 0.48 |
| 5:P:253:GLU:HA | 5:P:256:ARG:CG | 2.42 | 0.48 |
| 5:R:253:GLU:HA | 5:R:256:ARG:CG | 2.42 | 0.48 |
| 5:S:124:PHE:CZ | 5:S:132:MET:HG3 | 2.48 | 0.48 |
| 5:D:250:ILE:HG23 | 5:D:253:GLU:HG2 | 1.96 | 0.48 |
| 5:I:250:ILE:HG23 | 5:I:253:GLU:HG2 | 1.96 | 0.48 |
| 5:N:198:TYR:CZ | 5:N:248:ILE:HG13 | 2.48 | 0.48 |
| 5:N:250:ILE:HG23 | 5:N:253:GLU:HG2 | 1.96 | 0.48 |
| 5:O:120:THR:HG21 | 5:O:370:VAL:HG11 | 1.95 | 0.48 |
| 5:O:213:LYS:O | 5:O:217:CYS:HB2 | 2.13 | 0.48 |
| 3:Z:29:ILE:CG2 | 3:Z:30:GLU:N | 2.77 | 0.48 |
| 1:0:36:ILE:HD12 | 1:0:72:ILE:HB | 1.95 | 0.48 |
| 1:0:111:PHE:HB3 | 1:0:147:ARG:HB3 | 1.95 | 0.48 |
| 3:8:29:ILE:CG2 | 3:8:30:GLU:N | 2.77 | 0.48 |
| 3:8:133:ASN:N | 3:8:133:ASN:ND2 | 2.61 | 0.48 |
| 1:9:149:ASP:OD2 | 1:9:152:GLU:HG3 | 2.13 | 0.48 |
| 5:E:120:THR:HG21 | 5:E:370:VAL:HG11 | 1.95 | 0.48 |
| 5:H:253:GLU:HA | 5:H:256:ARG:CG | 2.42 | 0.48 |
| 5:L:198:TYR:CZ | 5:L:248:ILE:HG13 | 2.48 | 0.48 |
| 5:Q:250:ILE:HG23 | 5:Q:253:GLU:HG2 | 1.96 | 0.48 |
| 5:S:253:GLU:HA | 5:S:256:ARG:CG | 2.42 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:0:118:GLY:HA2 | 1:0:133:ILE:HD13 | 1.95 | 0.48 |
| 3:2:29:ILE:HG22 | 3:2:30:GLU:N | 2.28 | 0.48 |
| 3:2:111:LEU:HD22 | 3:2:111:LEU:N | 2.28 | 0.48 |
| 5:L:120:THR:HG21 | 5:L:370:VAL:HG11 | 1.95 | 0.48 |
| 5:Q:120:THR:HG21 | 5:Q:370:VAL:HG11 | 1.95 | 0.48 |
| 1:6:54:LYS:C | 5:Q:360:GLN:HE22 | 2.17 | 0.47 |
| 2:7:194:ILE:HG21 | 2:7:201:LYS:CE | 2.43 | 0.47 |
| 5:K:120:THR:HG21 | 5:K:370:VAL:HG11 | 1.95 | 0.47 |
| 5:L:250:ILE:HG23 | 5:L:253:GLU:HG2 | 1.96 | 0.47 |
| 5:R:250:ILE:HG23 | 5:R:253:GLU:HG2 | 1.96 | 0.47 |
| 2:Y:194:ILE:HG21 | 2:Y:201:LYS:CE | 2.43 | 0.47 |
| 2:1:227:ILE:CD1 | 2:1:231:LYS:HD3 | 2.43 | 0.47 |
| 2:4:207:LYS:HZ2 | 2:4:208:GLU:CA | 2.25 | 0.47 |
| 2:4:207:LYS:NZ | 2:4:208:GLU:HA | 2.25 | 0.47 |
| 3:5:102:LEU:HD23 | 3:5:102:LEU:O | 2.14 | 0.47 |
| 3:8:29:ILE:HG22 | 3:8:30:GLU:N | 2.28 | 0.47 |
| 5:E:253:GLU:HA | 5:E:256:ARG:CG | 2.42 | 0.47 |
| 5:K:250:ILE:HG23 | 5:K:253:GLU:HG2 | 1.96 | 0.47 |
| 5:N:120:THR:HG21 | 5:N:370:VAL:HG11 | 1.95 | 0.47 |
| 5:S:213:LYS:O | 5:S:217:CYS:HB2 | 2.13 | 0.47 |
| 2:4:223:PHE:O | 2:4:227:ILE:HG23 | 2.15 | 0.47 |
| 2:7:223:PHE:O | 2:7:227:ILE:HG23 | 2.15 | 0.47 |
| 5:M:120:THR:HG21 | 5:M:370:VAL:HG11 | 1.95 | 0.47 |
| 5:M:250:ILE:HG23 | 5:M:253:GLU:HG2 | 1.96 | 0.47 |
| 5:M:253:GLU:HA | 5:M:256:ARG:CG | 2.42 | 0.47 |
| 5:P:250:ILE:HG23 | 5:P:253:GLU:HG2 | 1.96 | 0.47 |
| 5:R:120:THR:HG21 | 5:R:370:VAL:HG11 | 1.95 | 0.47 |
| 3:Z:102:LEU:HD23 | 3:Z:102:LEU:O | 2.14 | 0.47 |
| 2:4:207:LYS:HZ2 | 2:4:208:GLU:CG | 2.27 | 0.47 |
| 3:5:29:ILE:HG22 | 3:5:30:GLU:N | 2.28 | 0.47 |
| 1:6:160:VAL:O | 1:6:161:GLN:OXT | 2.33 | 0.47 |
| 5:J:162:ASN:OD1 | 5:J:277:THR:HG22 | 2.15 | 0.47 |
| 5:L:162:ASN:OD1 | 5:L:277:THR:HG22 | 2.15 | 0.47 |
| 5:P:213:LYS:O | 5:P:217:CYS:HB2 | 2.13 | 0.47 |
| 5:S:250:ILE:HG23 | 5:S:253:GLU:HG2 | 1.96 | 0.47 |
| 2:Y:223:PHE:O | 2:Y:227:ILE:HG23 | 2.15 | 0.47 |
| 3:Z:100:PHE:O | 3:Z:104:GLY:N | 2.48 | 0.47 |
| 1:0:17:MET:HE2 | 1:0:17:MET:HA | 1.96 | 0.47 |
| 3:2:102:LEU:HD23 | 3:2:102:LEU:O | 2.14 | 0.47 |
| 1:3:13:LEU:HB2 | 1:3:18:ILE:CD1 | 2.45 | 0.47 |
| 1:3:38:THR:HA | 1:3:61:ILE:HD11 | 1.95 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:3:73:ASP:OD1 | 1:3:75:GLU:HB2 | 2.15 | 0.47 |
| 3:5:100:PHE:HB3 | 5:Q:4:GLU:OE2 | 2.14 | 0.47 |
| 1:6:137:MET:HE3 | 1:6:148:ILE:HG13 | 1.96 | 0.47 |
| 3:8:100:PHE:O | 3:8:104:GLY:N | 2.48 | 0.47 |
| 5:H:162:ASN:OD1 | 5:H:277:THR:HG22 | 2.15 | 0.47 |
| 3:Z:29:ILE:HG22 | 3:Z:30:GLU:N | 2.28 | 0.47 |
| 1:0:13:LEU:HB2 | 1:0:18:ILE:CD1 | 2.45 | 0.47 |
| 1:0:160:VAL:O | 1:0:161:GLN:OXT | 2.33 | 0.47 |
| 2:1:223:PHE:O | 2:1:227:ILE:HG23 | 2.15 | 0.47 |
| 3:2:29:ILE:CG2 | 3:2:30:GLU:N | 2.77 | 0.47 |
| 3:5:100:PHE:O | 3:5:104:GLY:N | 2.48 | 0.47 |
| 2:7:207:LYS:HZ2 | 2:7:208:GLU:CA | 2.25 | 0.47 |
| 3:8:29:ILE:HA | 1:9:103:ILE:HD11 | 1.95 | 0.47 |
| 1:9:13:LEU:HB2 | 1:9:18:ILE:CD1 | 2.45 | 0.47 |
| 1:9:160:VAL:O | 1:9:161:GLN:OXT | 2.33 | 0.47 |
| 5:K:162:ASN:OD1 | 5:K:277:THR:HG22 | 2.15 | 0.47 |
| 5:N:162:ASN:OD1 | 5:N:277:THR:HG22 | 2.15 | 0.47 |
| 5:O:162:ASN:OD1 | 5:O:277:THR:HG22 | 2.15 | 0.47 |
| 5:O:250:ILE:HG23 | 5:O:253:GLU:HG2 | 1.96 | 0.47 |
| 1:0:103:ILE:HD11 | 3:Z:29:ILE:HA | 1.95 | 0.47 |
| 2:1:234:ILE:O | 2:1:235:VAL:C | 2.53 | 0.47 |
| 3:2:100:PHE:O | 3:2:104:GLY:N | 2.48 | 0.47 |
| 1:3:58:ASP:HB3 | 5:R:364:GLU:OE2 | 2.14 | 0.47 |
| 1:3:160:VAL:O | 1:3:161:GLN:OXT | 2.33 | 0.47 |
| 1:6:13:LEU:HB2 | 1:6:18:ILE:CD1 | 2.45 | 0.47 |
| 5:D:162:ASN:OD1 | 5:D:277:THR:HG22 | 2.15 | 0.47 |
| 5:F:162:ASN:OD1 | 5:F:277:THR:HG22 | 2.15 | 0.47 |
| 5:G:299:MET:HE2 | 5:G:331:ALA:HB2 | 1.96 | 0.47 |
| 5:I:324:THR:O | 5:K:244:ASP:HA | 2.09 | 0.47 |
| 5:J:287:ILE:HA | 5:L:202:THR:HG21 | 1.58 | 0.47 |
| 5:S:162:ASN:OD1 | 5:S:277:THR:HG22 | 2.15 | 0.47 |
| 3:Z:11:THR:HA | 3:Z:14:ARG:HH21 | 1.80 | 0.47 |
| 3:2:29:ILE:HA | 1:3:103:ILE:HD11 | 1.95 | 0.47 |
| 3:5:29:ILE:CG2 | 3:5:30:GLU:N | 2.77 | 0.47 |
| 3:5:92:LEU:HD12 | 3:5:93:GLU:N | 2.30 | 0.47 |
| 3:8:97:GLN:CA | 5:S:4:GLU:OE2 | 2.32 | 0.47 |
| 1:9:73:ASP:OD1 | 1:9:75:GLU:HB2 | 2.15 | 0.47 |
| 1:9:124:THR:HG23 | 1:9:126:GLU:N | 2.30 | 0.47 |
| 5:E:162:ASN:OD1 | 5:E:277:THR:HG22 | 2.15 | 0.47 |
| 5:O:253:GLU:HA | 5:O:256:ARG:CG | 2.42 | 0.47 |
| 5:P:162:ASN:OD1 | 5:P:277:THR:HG22 | 2.15 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:Y:212:TRP:HA | 2:Y:212:TRP:CE3 | 2.50 | 0.47 |
| 1:6:124:THR:HG23 | 1:6:126:GLU:N | 2.30 | 0.47 |
| 5:D:253:GLU:HA | 5:D:256:ARG:CG | 2.42 | 0.47 |
| 5:J:288:ASP:CA | 5:L:204:ALA:HB2 | 2.32 | 0.47 |
| 2:7:212:TRP:HA | 2:7:212:TRP:CE3 | 2.50 | 0.47 |
| 5:Q:162:ASN:OD1 | 5:Q:277:THR:HG22 | 2.15 | 0.47 |
| 5:R:162:ASN:OD1 | 5:R:277:THR:HG22 | 2.15 | 0.47 |
| 3:2:92:LEU:HD12 | 3:2:93:GLU:N | 2.30 | 0.46 |
| 1:3:58:ASP:CG | 5:R:364:GLU:OE1 | 2.54 | 0.46 |
| 5:G:162:ASN:OD1 | 5:G:277:THR:HG22 | 2.15 | 0.46 |
| 5:M:162:ASN:OD1 | 5:M:277:THR:HG22 | 2.15 | 0.46 |
| 2:1:207:LYS:HZ2 | 2:1:208:GLU:CA | 2.26 | 0.46 |
| 1:3:124:THR:HG23 | 1:3:126:GLU:N | 2.30 | 0.46 |
| 2:7:234:ILE:O | 2:7:235:VAL:C | 2.53 | 0.46 |
| 5:I:162:ASN:OD1 | 5:I:277:THR:HG22 | 2.15 | 0.46 |
| 5:K:299:MET:HE2 | 5:K:331:ALA:HB2 | 1.96 | 0.46 |
| 2:Y:221:TYR:CE2 | 3:Z:40:LYS:HG3 | 2.50 | 0.46 |
| 1:0:124:THR:HG23 | 1:0:126:GLU:N | 2.30 | 0.46 |
| 2:4:234:ILE:O | 2:4:235:VAL:C | 2.53 | 0.46 |
| 3:8:11:THR:HA | 3:8:14:ARG:HH21 | 1.80 | 0.46 |
| 1:0:131:GLU:N | 1:0:131:GLU:OE1 | 2.49 | 0.46 |
| 2:1:212:TRP:CE3 | 2:1:212:TRP:HA | 2.50 | 0.46 |
| 1:6:73:ASP:OD1 | 1:6:75:GLU:HB2 | 2.15 | 0.46 |
| 5:F:299:MET:HE2 | 5:F:331:ALA:HB2 | 1.97 | 0.46 |
| 5:H:290:ARG:HH22 | 5:J:202:THR:CG2 | 2.18 | 0.46 |
| 5:N:6:THR:HG22 | 5:N:101:HIS:HA | 1.97 | 0.46 |
| 1:0:73:ASP:OD1 | 1:0:75:GLU:HB2 | 2.15 | 0.46 |
| 1:3:17:MET:HE2 | 1:3:17:MET:HA | 1.96 | 0.46 |
| 2:4:212:TRP:CE3 | 2:4:212:TRP:HA | 2.50 | 0.46 |
| 1:6:58:ASP:CB | 5:Q:360:GLN:HE21 | 2.26 | 0.46 |
| 3:8:92:LEU:HD12 | 3:8:93:GLU:N | 2.30 | 0.46 |
| 2:1:221:TYR:CE2 | 3:2:40:LYS:HG3 | 2.50 | 0.46 |
| 2:4:221:TYR:CE2 | 3:5:40:LYS:HG3 | 2.50 | 0.46 |
| 5:I:299:MET:HE2 | 5:I:331:ALA:HB2 | 1.96 | 0.46 |
| 5:L:6:THR:HG22 | 5:L:101:HIS:HA | 1.97 | 0.46 |
| 5:Q:6:THR:HG22 | 5:Q:101:HIS:HA | 1.97 | 0.46 |
| 5:R:6:THR:HG22 | 5:R:101:HIS:HA | 1.98 | 0.46 |
| 3:5:133:ASN:N | 3:5:133:ASN:ND2 | 2.61 | 0.46 |
| 2:7:221:TYR:CE2 | 3:8:40:LYS:HG3 | 2.50 | 0.46 |
| 5:F:6:THR:HG22 | 5:F:101:HIS:HA | 1.97 | 0.46 |
| 5:F:253:GLU:HA | 5:F:256:ARG:CG | 2.42 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:F:366:GLY:O | 5:F:369:ILE:HG22 | 2.16 | 0.46 |
| 5:L:366:GLY:O | 5:L:369:ILE:HG22 | 2.16 | 0.46 |
| 2:Y:234:ILE:O | 2:Y:235:VAL:C | 2.53 | 0.46 |
| 1:9:105:ASP:OD1 | 1:9:107:ASN:OD1 | 2.33 | 0.46 |
| 5:H:6:THR:HG22 | 5:H:101:HIS:HA | 1.98 | 0.46 |
| 5:H:190:MET:O | 5:H:194:THR:HG23 | 2.16 | 0.46 |
| 5:I:253:GLU:HA | 5:I:256:ARG:CG | 2.42 | 0.46 |
| 5:J:6:THR:HG22 | 5:J:101:HIS:HA | 1.98 | 0.46 |
| 5:J:190:MET:O | 5:J:194:THR:HG23 | 2.16 | 0.46 |
| 5:J:366:GLY:O | 5:J:369:ILE:HG22 | 2.16 | 0.46 |
| 5:R:366:GLY:O | 5:R:369:ILE:HG22 | 2.16 | 0.46 |
| 3:2:11:THR:HA | 3:2:14:ARG:HH21 | 1.80 | 0.46 |
| 1:6:55:GLU:CA | 5:Q:360:GLN:CD | 2.77 | 0.46 |
| 1:6:131:GLU:OE1 | 1:6:131:GLU:N | 2.49 | 0.46 |
| 5:H:366:GLY:O | 5:H:369:ILE:HG22 | 2.16 | 0.46 |
| 5:Q:299:MET:HE2 | 5:Q:331:ALA:HB2 | 1.98 | 0.46 |
| 3:Z:92:LEU:HD12 | 3:Z:93:GLU:N | 2.30 | 0.46 |
| 3:2:87:LYS:O | 3:2:90:LYS:HB3 | 2.16 | 0.46 |
| 1:3:131:GLU:OE1 | 1:3:131:GLU:N | 2.49 | 0.46 |
| 2:7:207:LYS:HZ2 | 2:7:208:GLU:CG | 2.28 | 0.46 |
| 1:9:131:GLU:OE1 | 1:9:131:GLU:N | 2.49 | 0.46 |
| 5:D:299:MET:HE2 | 5:D:331:ALA:HB2 | 1.96 | 0.46 |
| 5:E:6:THR:HG22 | 5:E:101:HIS:HA | 1.97 | 0.46 |
| 5:N:253:GLU:HA | 5:N:256:ARG:CG | 2.42 | 0.46 |
| 3:5:87:LYS:O | 3:5:90:LYS:HB3 | 2.16 | 0.45 |
| 1:6:105:ASP:OD1 | 1:6:107:ASN:OD1 | 2.33 | 0.45 |
| 5:D:366:GLY:O | 5:D:369:ILE:HG22 | 2.16 | 0.45 |
| 5:L:223:PHE:CD2 | 5:L:259:GLU:HG3 | 2.51 | 0.45 |
| 5:N:366:GLY:O | 5:N:369:ILE:HG22 | 2.16 | 0.45 |
| 5:P:366:GLY:O | 5:P:369:ILE:HG22 | 2.16 | 0.45 |
| 5:Q:366:GLY:O | 5:Q:369:ILE:HG22 | 2.16 | 0.45 |
| 5:S:190:MET:O | 5:S:194:THR:HG23 | 2.16 | 0.45 |
| 5:S:366:GLY:O | 5:S:369:ILE:HG22 | 2.16 | 0.45 |
| 3:2:100:PHE:CG | 5:R:4:GLU:OE2 | 2.68 | 0.45 |
| 2:4:202:LEU:H | 2:4:202:LEU:CD2 | 2.29 | 0.45 |
| 5:D:6:THR:HG22 | 5:D:101:HIS:HA | 1.97 | 0.45 |
| 5:M:6:THR:HG22 | 5:M:101:HIS:HA | 1.97 | 0.45 |
| 5:O:290:ARG:HH22 | 5:S:202:THR:CG2 | 2.18 | 0.45 |
| 5:R:190:MET:O | 5:R:194:THR:HG23 | 2.16 | 0.45 |
| 5:S:223:PHE:CD2 | 5:S:259:GLU:HG3 | 2.51 | 0.45 |
| 1:0:137:MET:HE3 | 1:0:148:ILE:HG13 | 1.98 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------|--------------------------|-------------------|
| 2:1:202:LEU:H | 2:1:202:LEU:CD2 | 2.29 | 0.45 |
| 2:7:202:LEU:H | 2:7:202:LEU:CD2 | 2.29 | 0.45 |
| 5:I:190:MET:O | 5:I:194:THR:HG23 | 2.16 | 0.45 |
| 5:J:223:PHE:CD2 | 5:J:259:GLU:HG3 | 2.52 | 0.45 |
| 5:K:6:THR:HG22 | 5:K:101:HIS:HA | 1.98 | 0.45 |
| 5:L:190:MET:O | 5:L:194:THR:HG23 | 2.16 | 0.45 |
| 5:M:32:PRO:HB2 | 5:M:34:ILE:HD11 | 1.98 | 0.45 |
| 5:N:32:PRO:HB2 | 5:N:34:ILE:HD11 | 1.98 | 0.45 |
| 5:O:32:PRO:HB2 | 5:O:34:ILE:HD11 | 1.98 | 0.45 |
| 5:O:190:MET:O | 5:O:194:THR:HG23 | 2.16 | 0.45 |
| 5:Q:223:PHE:CD2 | 5:Q:259:GLU:HG3 | 2.52 | 0.45 |
| 2:Y:246:LYS:C | 2:Y:248:SER:H | 2.20 | 0.45 |
| 3:5:11:THR:HA | 3:5:14:ARG:HH21 | 1.80 | 0.45 |
| 5:E:204:ALA:HB2 | 5:Q:288:ASP:CA | 2.32 | 0.45 |
| 5:G:6:THR:HG22 | 5:G:101:HIS:HA | 1.97 | 0.45 |
| 5:L:299:MET:HE2 | 5:L:331:ALA:HB2 | 1.98 | 0.45 |
| 5:N:299:MET:HE2 | 5:N:331:ALA:HB2 | 1.99 | 0.45 |
| 3:5:97:GLN:NE2 | 5:Q:4:GLU:OE1 | 2.46 | 0.45 |
| 5:D:32:PRO:HB2 | 5:D:34:ILE:HD11 | 1.98 | 0.45 |
| 5:E:223:PHE:CD2 | 5:E:259:GLU:HG3 | 2.51 | 0.45 |
| 5:G:366:GLY:O | 5:G:369:ILE:HG22 | 2.16 | 0.45 |
| 5:K:32:PRO:HB2 | 5:K:34:ILE:HD11 | 1.98 | 0.45 |
| 5:K:190:MET:O | 5:K:194:THR:HG23 | 2.16 | 0.45 |
| 5:N:223:PHE:CD2 | 5:N:259:GLU:HG3 | 2.51 | 0.45 |
| 5:O:6:THR:HG22 | 5:O:101:HIS:HA | 1.98 | 0.45 |
| 5:P:32:PRO:HB2 | 5:P:34:ILE:HD11 | 1.98 | 0.45 |
| 5:S:6:THR:HG22 | 5:S:101:HIS:HA | 1.98 | 0.45 |
| 5:S:32:PRO:HB2 | 5:S:34:ILE:HD11 | 1.98 | 0.45 |
| 3:Z:24:LEU:O | 3:Z:24:LEU:HD23 | 2.17 | 0.45 |
| 3:Z:87:LYS:O | 3:Z:90:LYS:HB3 | 2.16 | 0.45 |
| 1:0:105:ASP:OD1 | 1:0:107:ASN:OD1 | 2.33 | 0.45 |
| 3:2:100:PHE:CD2 | 5:R:5:THR:HG22 | 2.08 | 0.45 |
| 5:D:223:PHE:CD2 | 5:D:259:GLU:HG3 | 2.52 | 0.45 |
| 5:F:32:PRO:HB2 | 5:F:34:ILE:HD11 | 1.98 | 0.45 |
| 5:G:190:MET:O | 5:G:194:THR:HG23 | 2.16 | 0.45 |
| 5:H:223:PHE:CD2 | 5:H:259:GLU:HG3 | 2.52 | 0.45 |
| 5:I:6:THR:HG22 | 5:I:101:HIS:HA | 1.98 | 0.45 |
| 5:I:223:PHE:CD2 | 5:I:259:GLU:HG3 | 2.51 | 0.45 |
| 5:M:190:MET:O | 5:M:194:THR:HG23 | 2.16 | 0.45 |
| 5:O:223:PHE:CD2 | 5:O:259:GLU:HG3 | 2.52 | 0.45 |
| 5:O:366:GLY:O | 5:O:369:ILE:HG22 | 2.16 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:0:105:ASP:O | 1:0:106:LYS:O | 2.35 | 0.45 |
| 1:3:105:ASP:OD1 | 1:3:107:ASN:OD1 | 2.33 | 0.45 |
| 1:3:107:ASN:HD21 | 1:3:109:ASP:CG | 2.20 | 0.45 |
| 1:9:105:ASP:O | 1:9:106:LYS:O | 2.35 | 0.45 |
| 5:E:366:GLY:O | 5:E:369:ILE:HG22 | 2.16 | 0.45 |
| 5:F:190:MET:O | 5:F:194:THR:HG23 | 2.16 | 0.45 |
| 5:F:223:PHE:CD2 | 5:F:259:GLU:HG3 | 2.52 | 0.45 |
| 5:K:223:PHE:CD2 | 5:K:259:GLU:HG3 | 2.52 | 0.45 |
| 5:K:324:THR:O | 5:M:244:ASP:HA | 2.10 | 0.45 |
| 5:L:253:GLU:HA | 5:L:256:ARG:CG | 2.42 | 0.45 |
| 5:P:223:PHE:CD2 | 5:P:259:GLU:HG3 | 2.52 | 0.45 |
| 5:Q:190:MET:O | 5:Q:194:THR:HG23 | 2.16 | 0.45 |
| 3:5:24:LEU:O | 3:5:24:LEU:HD23 | 2.17 | 0.45 |
| 5:H:299:MET:HE2 | 5:H:331:ALA:HB2 | 1.98 | 0.45 |
| 5:P:6:THR:HG22 | 5:P:101:HIS:HA | 1.98 | 0.45 |
| 5:Q:32:PRO:HB2 | 5:Q:34:ILE:HD11 | 1.98 | 0.45 |
| 5:Q:253:GLU:HA | 5:Q:256:ARG:CG | 2.42 | 0.45 |
| 5:R:32:PRO:HB2 | 5:R:34:ILE:HD11 | 1.98 | 0.45 |
| 2:Y:202:LEU:H | 2:Y:202:LEU:CD2 | 2.29 | 0.45 |
| 3:2:129:LYS:HA | 3:2:129:LYS:NZ | 2.32 | 0.45 |
| 5:E:32:PRO:HB2 | 5:E:34:ILE:HD11 | 1.98 | 0.45 |
| 5:E:299:MET:HE2 | 5:E:331:ALA:HB2 | 1.99 | 0.45 |
| 5:G:223:PHE:CD2 | 5:G:259:GLU:HG3 | 2.51 | 0.45 |
| 5:M:171:LEU:HA | 5:M:172:PRO:HD2 | 1.84 | 0.45 |
| 5:M:223:PHE:CD2 | 5:M:259:GLU:HG3 | 2.52 | 0.45 |
| 5:R:299:MET:HE2 | 5:R:331:ALA:HB2 | 1.99 | 0.45 |
| 2:4:246:LYS:C | 2:4:248:SER:H | 2.20 | 0.45 |
| 1:6:112:ILE:HA | 1:6:116:GLU:OE2 | 2.17 | 0.45 |
| 3:8:11:THR:HG22 | 3:8:14:ARG:HH21 | 1.82 | 0.45 |
| 5:H:324:THR:N | 5:J:245:GLY:CA | 2.71 | 0.45 |
| 5:I:32:PRO:HB2 | 5:I:34:ILE:HD11 | 1.98 | 0.45 |
| 5:K:366:GLY:O | 5:K:369:ILE:HG22 | 2.16 | 0.45 |
| 5:L:32:PRO:HB2 | 5:L:34:ILE:HD11 | 1.98 | 0.45 |
| 3:Z:11:THR:HG22 | 3:Z:14:ARG:HH21 | 1.82 | 0.45 |
| 3:2:137:ARG:H | 3:2:137:ARG:HG2 | 1.49 | 0.44 |
| 3:2:142:GLN:HG2 | 3:2:143:VAL:N | 2.32 | 0.44 |
| 2:4:227:ILE:HD12 | 2:4:228:LYS:N | 2.32 | 0.44 |
| 1:6:105:ASP:O | 1:6:106:LYS:O | 2.35 | 0.44 |
| 3:8:97:GLN:CA | 5:S:4:GLU:CD | 2.79 | 0.44 |
| 5:N:190:MET:O | 5:N:194:THR:HG23 | 2.16 | 0.44 |
| 5:R:223:PHE:HB3 | 5:R:259:GLU:OE2 | 2.18 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:Z:123:ARG:HG3 | 3:Z:123:ARG:NH1 | 2.28 | 0.44 |
| 2:1:227:ILE:HD12 | 2:1:228:LYS:N | 2.33 | 0.44 |
| 2:7:227:ILE:HG22 | 3:8:85:LEU:HG | 1.99 | 0.44 |
| 5:E:190:MET:O | 5:E:194:THR:HG23 | 2.16 | 0.44 |
| 5:G:32:PRO:HB2 | 5:G:34:ILE:HD11 | 1.98 | 0.44 |
| 5:J:223:PHE:HB3 | 5:J:259:GLU:OE2 | 2.18 | 0.44 |
| 5:K:253:GLU:HA | 5:K:256:ARG:CG | 2.42 | 0.44 |
| 5:R:223:PHE:CD2 | 5:R:259:GLU:HG3 | 2.52 | 0.44 |
| 2:Y:227:ILE:HD12 | 2:Y:231:LYS:HD3 | 2.00 | 0.44 |
| 3:2:24:LEU:O | 3:2:24:LEU:HD23 | 2.17 | 0.44 |
| 1:6:107:ASN:HD21 | 1:6:109:ASP:CG | 2.20 | 0.44 |
| 3:8:24:LEU:O | 3:8:24:LEU:HD23 | 2.17 | 0.44 |
| 5:E:223:PHE:HB3 | 5:E:259:GLU:OE2 | 2.18 | 0.44 |
| 5:H:32:PRO:HB2 | 5:H:34:ILE:HD11 | 1.98 | 0.44 |
| 5:H:287:ILE:HA | 5:J:202:THR:HG21 | 1.58 | 0.44 |
| 2:Y:227:ILE:HG22 | 3:Z:85:LEU:HG | 2.00 | 0.44 |
| 5:D:190:MET:O | 5:D:194:THR:HG23 | 2.16 | 0.44 |
| 5:M:220:ALA:HB3 | 5:M:223:PHE:CD1 | 2.53 | 0.44 |
| 5:M:366:GLY:O | 5:M:369:ILE:HG22 | 2.16 | 0.44 |
| 5:P:190:MET:O | 5:P:194:THR:HG23 | 2.16 | 0.44 |
| 5:Q:223:PHE:HB3 | 5:Q:259:GLU:OE2 | 2.18 | 0.44 |
| 1:0:103:ILE:HD13 | 3:Z:28:GLU:HB3 | 2.00 | 0.44 |
| 2:1:227:ILE:HD12 | 2:1:231:LYS:HD3 | 1.99 | 0.44 |
| 2:1:246:LYS:C | 2:1:248:SER:H | 2.20 | 0.44 |
| 1:3:112:ILE:HA | 1:3:116:GLU:OE2 | 2.17 | 0.44 |
| 3:8:28:GLU:HB3 | 1:9:103:ILE:HD13 | 2.00 | 0.44 |
| 5:G:223:PHE:HB3 | 5:G:259:GLU:OE2 | 2.18 | 0.44 |
| 5:J:32:PRO:HB2 | 5:J:34:ILE:HD11 | 1.98 | 0.44 |
| 5:K:220:ALA:HB3 | 5:K:223:PHE:CD1 | 2.53 | 0.44 |
| 5:L:223:PHE:HB3 | 5:L:259:GLU:OE2 | 2.18 | 0.44 |
| 1:3:105:ASP:O | 1:3:106:LYS:O | 2.35 | 0.44 |
| 2:4:226:GLN:O | 2:4:227:ILE:C | 2.56 | 0.44 |
| 2:4:227:ILE:HG22 | 3:5:85:LEU:HG | 2.00 | 0.44 |
| 3:8:53:LEU:H | 3:8:53:LEU:CD1 | 2.10 | 0.44 |
| 3:8:123:ARG:HG3 | 3:8:123:ARG:NH1 | 2.29 | 0.44 |
| 5:D:193:LEU:O | 5:D:198:TYR:HD2 | 2.01 | 0.44 |
| 5:E:193:LEU:O | 5:E:198:TYR:HD2 | 2.01 | 0.44 |
| 5:I:223:PHE:HB3 | 5:I:259:GLU:OE2 | 2.18 | 0.44 |
| 5:J:299:MET:HE2 | 5:J:331:ALA:HB2 | 2.00 | 0.44 |
| 5:N:223:PHE:HB3 | 5:N:259:GLU:OE2 | 2.18 | 0.44 |
| 5:O:220:ALA:HB3 | 5:O:223:PHE:CD1 | 2.53 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:Y:227:ILE:HD12 | 2:Y:228:LYS:N | 2.32 | 0.44 |
| 3:Z:137:ARG:H | 3:Z:137:ARG:HG2 | 1.49 | 0.44 |
| 1:0:112:ILE:HA | 1:0:116:GLU:OE2 | 2.17 | 0.44 |
| 2:1:226:GLN:O | 2:1:227:ILE:C | 2.56 | 0.44 |
| 3:5:129:LYS:NZ | 3:5:129:LYS:HA | 2.32 | 0.44 |
| 1:6:59:ALA:H | 5:Q:360:GLN:HG3 | 1.81 | 0.44 |
| 2:7:246:LYS:C | 2:7:248:SER:H | 2.20 | 0.44 |
| 3:8:87:LYS:O | 3:8:90:LYS:HB3 | 2.16 | 0.44 |
| 1:9:107:ASN:HD21 | 1:9:109:ASP:CG | 2.20 | 0.44 |
| 5:H:223:PHE:HB3 | 5:H:259:GLU:OE2 | 2.18 | 0.44 |
| 5:I:220:ALA:HB3 | 5:I:223:PHE:CD1 | 2.53 | 0.44 |
| 5:I:290:ARG:HH22 | 5:K:202:THR:CG2 | 2.18 | 0.44 |
| 5:K:223:PHE:HB3 | 5:K:259:GLU:OE2 | 2.17 | 0.44 |
| 3:Z:142:GLN:HG2 | 3:Z:143:VAL:N | 2.32 | 0.44 |
| 3:2:18:LYS:O | 3:2:21:MET:HB2 | 2.18 | 0.44 |
| 5:F:223:PHE:HB3 | 5:F:259:GLU:OE2 | 2.18 | 0.44 |
| 5:G:193:LEU:O | 5:G:198:TYR:HD2 | 2.01 | 0.44 |
| 5:I:366:GLY:O | 5:I:369:ILE:HG22 | 2.16 | 0.44 |
| 5:S:223:PHE:HB3 | 5:S:259:GLU:OE2 | 2.18 | 0.44 |
| 3:Z:129:LYS:HA | 3:Z:129:LYS:NZ | 2.32 | 0.44 |
| 2:1:221:TYR:CD2 | 3:2:40:LYS:HG3 | 2.53 | 0.44 |
| 2:1:227:ILE:HG22 | 3:2:85:LEU:HG | 1.99 | 0.44 |
| 3:2:11:THR:HG22 | 3:2:14:ARG:HH21 | 1.82 | 0.44 |
| 2:4:221:TYR:CD2 | 3:5:40:LYS:HG3 | 2.53 | 0.44 |
| 3:5:114:VAL:HG22 | 3:5:115:ARG:O | 2.18 | 0.44 |
| 2:7:227:ILE:HD12 | 2:7:228:LYS:N | 2.32 | 0.44 |
| 2:7:227:ILE:HD12 | 2:7:231:LYS:HD3 | 2.00 | 0.44 |
| 3:8:129:LYS:HA | 3:8:129:LYS:NZ | 2.32 | 0.44 |
| 3:8:142:GLN:HG2 | 3:8:143:VAL:N | 2.32 | 0.44 |
| 5:J:205:GLU:O | 5:J:208:ILE:HG22 | 2.18 | 0.44 |
| 5:M:324:THR:O | 5:O:244:ASP:HA | 2.09 | 0.44 |
| 5:N:205:GLU:O | 5:N:208:ILE:HG22 | 2.18 | 0.44 |
| 5:O:223:PHE:HB3 | 5:O:259:GLU:OE2 | 2.18 | 0.44 |
| 5:P:193:LEU:O | 5:P:198:TYR:HD2 | 2.01 | 0.44 |
| 5:S:193:LEU:O | 5:S:198:TYR:HD2 | 2.01 | 0.44 |
| 5:S:220:ALA:HB3 | 5:S:223:PHE:CD1 | 2.53 | 0.44 |
| 2:Y:226:GLN:O | 2:Y:227:ILE:C | 2.56 | 0.44 |
| 2:1:215:GLN:O | 2:1:219:GLU:HG3 | 2.18 | 0.43 |
| 1:9:112:ILE:HA | 1:9:116:GLU:OE2 | 2.17 | 0.43 |
| 5:D:223:PHE:HB3 | 5:D:259:GLU:OE2 | 2.18 | 0.43 |
| 5:E:287:ILE:N | 5:G:202:THR:CG2 | 2.76 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:I:193:LEU:O | 5:I:198:TYR:HD2 | 2.01 | 0.43 |
| 5:M:223:PHE:HB3 | 5:M:259:GLU:OE2 | 2.18 | 0.43 |
| 5:O:193:LEU:O | 5:O:198:TYR:HD2 | 2.01 | 0.43 |
| 5:P:223:PHE:HB3 | 5:P:259:GLU:OE2 | 2.18 | 0.43 |
| 5:Q:205:GLU:O | 5:Q:208:ILE:HG22 | 2.18 | 0.43 |
| 5:R:205:GLU:O | 5:R:208:ILE:HG22 | 2.18 | 0.43 |
| 2:Y:215:GLN:O | 2:Y:219:GLU:HG3 | 2.18 | 0.43 |
| 2:4:221:TYR:O | 2:4:224:ALA:HB3 | 2.19 | 0.43 |
| 3:5:142:GLN:HG2 | 3:5:143:VAL:N | 2.32 | 0.43 |
| 2:7:187:GLU:O | 2:7:189:ARG:N | 2.52 | 0.43 |
| 2:7:215:GLN:O | 2:7:219:GLU:HG3 | 2.18 | 0.43 |
| 3:8:68:HIS:HA | 3:8:71:ILE:HD12 | 2.00 | 0.43 |
| 5:G:220:ALA:HB3 | 5:G:223:PHE:CD1 | 2.53 | 0.43 |
| 5:L:205:GLU:O | 5:L:208:ILE:HG22 | 2.18 | 0.43 |
| 3:Z:122:LEU:HD23 | 3:Z:134:MET:HE1 | 2.00 | 0.43 |
| 1:0:107:ASN:HD21 | 1:0:109:ASP:CG | 2.20 | 0.43 |
| 3:2:63:LEU:O | 3:2:66:LYS:HB3 | 2.18 | 0.43 |
| 3:5:11:THR:HG22 | 3:5:14:ARG:HH21 | 1.82 | 0.43 |
| 3:5:18:LYS:O | 3:5:21:MET:HB2 | 2.18 | 0.43 |
| 5:F:193:LEU:O | 5:F:198:TYR:HD2 | 2.01 | 0.43 |
| 3:2:28:GLU:HB3 | 1:3:103:ILE:HD13 | 2.00 | 0.43 |
| 3:2:68:HIS:HA | 3:2:71:ILE:HD12 | 2.00 | 0.43 |
| 3:5:141:LYS:CD | 3:5:141:LYS:N | 2.70 | 0.43 |
| 1:6:10:ARG:HH21 | 1:6:75:GLU:CD | 2.22 | 0.43 |
| 2:7:221:TYR:O | 2:7:224:ALA:HB3 | 2.19 | 0.43 |
| 2:7:230:LYS:NZ | 3:8:89:ILE:HG12 | 2.34 | 0.43 |
| 5:D:204:ALA:H | 5:P:287:ILE:CB | 2.15 | 0.43 |
| 5:J:149:THR:HA | 5:J:165:ILE:O | 2.19 | 0.43 |
| 5:J:193:LEU:O | 5:J:198:TYR:HD2 | 2.01 | 0.43 |
| 5:L:149:THR:HA | 5:L:165:ILE:O | 2.18 | 0.43 |
| 5:L:193:LEU:O | 5:L:198:TYR:HD2 | 2.01 | 0.43 |
| 5:Q:149:THR:HA | 5:Q:165:ILE:O | 2.19 | 0.43 |
| 5:R:149:THR:HA | 5:R:165:ILE:O | 2.19 | 0.43 |
| 2:Y:230:LYS:NZ | 3:Z:89:ILE:HG12 | 2.34 | 0.43 |
| 3:Z:85:LEU:CD2 | 3:Z:89:ILE:HG13 | 2.48 | 0.43 |
| 2:1:221:TYR:O | 2:1:224:ALA:HB3 | 2.18 | 0.43 |
| 3:2:114:VAL:HG22 | 3:2:115:ARG:O | 2.18 | 0.43 |
| 1:3:10:ARG:HH21 | 1:3:75:GLU:CD | 2.22 | 0.43 |
| 3:5:63:LEU:O | 3:5:66:LYS:HB3 | 2.18 | 0.43 |
| 3:5:122:LEU:HD23 | 3:5:134:MET:HE1 | 2.00 | 0.43 |
| 2:7:198:ASN:HD22 | 2:7:201:LYS:HB2 | 1.84 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:E:149:THR:HA | 5:E:165:ILE:O | 2.19 | 0.43 |
| 5:E:205:GLU:O | 5:E:208:ILE:HG22 | 2.18 | 0.43 |
| 5:F:149:THR:HA | 5:F:165:ILE:O | 2.19 | 0.43 |
| 5:M:193:LEU:O | 5:M:198:TYR:HD2 | 2.01 | 0.43 |
| 5:M:324:THR:N | 5:O:245:GLY:CA | 2.71 | 0.43 |
| 3:5:53:LEU:HA | 3:5:54:PRO:HD3 | 1.83 | 0.43 |
| 3:5:85:LEU:CD2 | 3:5:89:ILE:HG13 | 2.48 | 0.43 |
| 3:8:58:GLN:O | 3:8:62:GLU:HB2 | 2.19 | 0.43 |
| 5:D:217:CYS:C | 5:D:218:TYR:HD1 | 2.22 | 0.43 |
| 5:E:220:ALA:HB3 | 5:E:223:PHE:CD1 | 2.53 | 0.43 |
| 5:F:205:GLU:O | 5:F:208:ILE:HG22 | 2.18 | 0.43 |
| 5:G:149:THR:HA | 5:G:165:ILE:O | 2.19 | 0.43 |
| 5:I:149:THR:HA | 5:I:165:ILE:O | 2.19 | 0.43 |
| 5:L:220:ALA:HB3 | 5:L:223:PHE:CD1 | 2.53 | 0.43 |
| 5:N:220:ALA:HB3 | 5:N:223:PHE:CD1 | 2.53 | 0.43 |
| 5:Q:193:LEU:O | 5:Q:198:TYR:HD2 | 2.01 | 0.43 |
| 2:Y:198:ASN:HD22 | 2:Y:201:LYS:HB2 | 1.83 | 0.43 |
| 1:0:65:ASP:OD1 | 1:0:69:SER:OG | 2.37 | 0.43 |
| 2:1:198:ASN:HD22 | 2:1:201:LYS:HB2 | 1.84 | 0.43 |
| 2:7:221:TYR:CD2 | 3:8:40:LYS:HG3 | 2.53 | 0.43 |
| 3:8:18:LYS:O | 3:8:21:MET:HB2 | 2.18 | 0.43 |
| 3:8:114:VAL:HG22 | 3:8:115:ARG:O | 2.18 | 0.43 |
| 5:N:149:THR:HA | 5:N:165:ILE:O | 2.19 | 0.43 |
| 5:O:171:LEU:HA | 5:O:172:PRO:HD2 | 1.84 | 0.43 |
| 2:Y:221:TYR:O | 2:Y:224:ALA:HB3 | 2.19 | 0.43 |
| 3:Z:18:LYS:O | 3:Z:21:MET:HB2 | 2.18 | 0.43 |
| 3:Z:68:HIS:HA | 3:Z:71:ILE:HD12 | 2.00 | 0.43 |
| 1:0:74:PHE:O | 1:0:78:LEU:HG | 2.19 | 0.43 |
| 3:2:85:LEU:CD2 | 3:2:89:ILE:HG13 | 2.48 | 0.43 |
| 2:4:215:GLN:O | 2:4:219:GLU:HG3 | 2.18 | 0.43 |
| 2:4:227:ILE:HD12 | 2:4:231:LYS:HD3 | 2.00 | 0.43 |
| 3:5:68:HIS:HA | 3:5:71:ILE:HD12 | 2.00 | 0.43 |
| 5:G:205:GLU:O | 5:G:208:ILE:HG22 | 2.18 | 0.43 |
| 5:H:149:THR:HA | 5:H:165:ILE:O | 2.19 | 0.43 |
| 5:M:315:LYS:HD2 | 5:M:315:LYS:HA | 1.92 | 0.43 |
| 5:N:193:LEU:O | 5:N:198:TYR:HD2 | 2.01 | 0.43 |
| 2:Y:221:TYR:CD2 | 3:Z:40:LYS:HG3 | 2.53 | 0.43 |
| 1:0:136:LEU:HG | 3:Z:14:ARG:HG2 | 2.01 | 0.43 |
| 3:2:58:GLN:O | 3:2:62:GLU:HB2 | 2.18 | 0.43 |
| 1:3:58:ASP:HB3 | 5:R:360:GLN:HG2 | 1.57 | 0.43 |
| 1:3:65:ASP:OD1 | 1:3:69:SER:OG | 2.37 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:5:14:ARG:HG2 | 1:6:136:LEU:HG | 2.01 | 0.43 |
| 3:5:28:GLU:HB3 | 1:6:103:ILE:HD13 | 2.00 | 0.43 |
| 3:8:32:GLU:O | 3:8:36:LYS:HB2 | 2.19 | 0.43 |
| 3:8:85:LEU:CD2 | 3:8:89:ILE:HG13 | 2.48 | 0.43 |
| 1:9:74:PHE:O | 1:9:78:LEU:HG | 2.19 | 0.43 |
| 5:F:217:CYS:C | 5:F:218:TYR:HD1 | 2.22 | 0.43 |
| 5:H:205:GLU:O | 5:H:208:ILE:HG22 | 2.18 | 0.43 |
| 5:P:217:CYS:C | 5:P:218:TYR:HD1 | 2.22 | 0.43 |
| 5:R:217:CYS:C | 5:R:218:TYR:HD1 | 2.22 | 0.43 |
| 5:R:220:ALA:HB3 | 5:R:223:PHE:CD1 | 2.53 | 0.43 |
| 3:Z:32:GLU:O | 3:Z:36:LYS:HB2 | 2.19 | 0.43 |
| 3:Z:114:VAL:HG22 | 3:Z:115:ARG:O | 2.17 | 0.43 |
| 3:2:32:GLU:O | 3:2:36:LYS:HB2 | 2.19 | 0.43 |
| 1:6:65:ASP:OD1 | 1:6:69:SER:OG | 2.37 | 0.43 |
| 2:7:226:GLN:O | 2:7:227:ILE:C | 2.56 | 0.43 |
| 3:8:14:ARG:HG2 | 1:9:136:LEU:HG | 2.01 | 0.43 |
| 5:E:245:GLY:CA | 5:Q:324:THR:N | 2.71 | 0.43 |
| 5:E:315:LYS:HD2 | 5:E:315:LYS:HA | 1.92 | 0.43 |
| 5:K:193:LEU:O | 5:K:198:TYR:HD2 | 2.01 | 0.43 |
| 5:P:220:ALA:HB3 | 5:P:223:PHE:CD1 | 2.53 | 0.43 |
| 3:2:14:ARG:HG2 | 1:3:136:LEU:HG | 2.01 | 0.42 |
| 2:4:198:ASN:HD22 | 2:4:201:LYS:HB2 | 1.84 | 0.42 |
| 3:8:63:LEU:O | 3:8:66:LYS:HB3 | 2.18 | 0.42 |
| 1:9:10:ARG:HH21 | 1:9:75:GLU:CD | 2.22 | 0.42 |
| 5:D:149:THR:HA | 5:D:165:ILE:O | 2.19 | 0.42 |
| 5:J:220:ALA:HB3 | 5:J:223:PHE:CD1 | 2.53 | 0.42 |
| 5:L:180:LEU:HD11 | 5:L:261:LEU:HD23 | 2.01 | 0.42 |
| 5:M:222:ASP:OD1 | 5:M:224:GLU:HB3 | 2.20 | 0.42 |
| 5:N:180:LEU:HD11 | 5:N:261:LEU:HD23 | 2.01 | 0.42 |
| 5:O:149:THR:HA | 5:O:165:ILE:O | 2.19 | 0.42 |
| 5:Q:171:LEU:HA | 5:Q:172:PRO:HD2 | 1.84 | 0.42 |
| 5:Q:180:LEU:HD11 | 5:Q:261:LEU:HD23 | 2.01 | 0.42 |
| 5:R:180:LEU:HD11 | 5:R:261:LEU:HD23 | 2.01 | 0.42 |
| 1:9:65:ASP:OD1 | 1:9:69:SER:OG | 2.37 | 0.42 |
| 5:H:220:ALA:HB3 | 5:H:223:PHE:CD1 | 2.53 | 0.42 |
| 5:I:180:LEU:HD11 | 5:I:261:LEU:HD23 | 2.01 | 0.42 |
| 5:I:324:THR:N | 5:K:245:GLY:CA | 2.71 | 0.42 |
| 5:J:180:LEU:HD11 | 5:J:261:LEU:HD23 | 2.01 | 0.42 |
| 5:K:149:THR:HA | 5:K:165:ILE:O | 2.19 | 0.42 |
| 5:Q:220:ALA:HB3 | 5:Q:223:PHE:CD1 | 2.53 | 0.42 |
| 3:Z:58:GLN:O | 3:Z:62:GLU:HB2 | 2.19 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:3:8:GLU:HA | 1:3:11:ALA:HB3 | 2.01 | 0.42 |
| 3:5:58:GLN:O | 3:5:62:GLU:HB2 | 2.19 | 0.42 |
| 2:7:234:ILE:HG12 | 3:8:92:LEU:HB3 | 2.02 | 0.42 |
| 5:E:180:LEU:HD11 | 5:E:261:LEU:HD23 | 2.01 | 0.42 |
| 5:F:206:ARG:O | 5:F:209:VAL:HG12 | 2.20 | 0.42 |
| 5:H:180:LEU:HD11 | 5:H:261:LEU:HD23 | 2.01 | 0.42 |
| 5:H:206:ARG:O | 5:H:209:VAL:HG12 | 2.20 | 0.42 |
| 5:I:217:CYS:C | 5:I:218:TYR:HD1 | 2.22 | 0.42 |
| 5:K:180:LEU:HD11 | 5:K:261:LEU:HD23 | 2.01 | 0.42 |
| 5:K:217:CYS:C | 5:K:218:TYR:HD1 | 2.22 | 0.42 |
| 5:M:217:CYS:C | 5:M:218:TYR:HD1 | 2.22 | 0.42 |
| 2:Y:234:ILE:HG12 | 3:Z:92:LEU:HB3 | 2.02 | 0.42 |
| 2:4:234:ILE:HG12 | 3:5:92:LEU:HB3 | 2.02 | 0.42 |
| 3:5:32:GLU:O | 3:5:36:LYS:HB2 | 2.19 | 0.42 |
| 3:5:53:LEU:H | 3:5:53:LEU:CD1 | 2.10 | 0.42 |
| 1:6:8:GLU:HA | 1:6:11:ALA:HB3 | 2.01 | 0.42 |
| 1:6:46:ARG:NH1 | 1:6:51:ASN:ND2 | 2.59 | 0.42 |
| 5:D:180:LEU:HD11 | 5:D:261:LEU:HD23 | 2.01 | 0.42 |
| 5:E:206:ARG:O | 5:E:209:VAL:HG12 | 2.20 | 0.42 |
| 5:F:180:LEU:HD11 | 5:F:261:LEU:HD23 | 2.01 | 0.42 |
| 5:I:206:ARG:O | 5:I:209:VAL:HG12 | 2.20 | 0.42 |
| 5:K:222:ASP:OD1 | 5:K:224:GLU:HB3 | 2.19 | 0.42 |
| 5:M:180:LEU:HD11 | 5:M:261:LEU:HD23 | 2.01 | 0.42 |
| 5:O:324:THR:O | 5:S:244:ASP:HA | 2.10 | 0.42 |
| 5:P:180:LEU:HD11 | 5:P:261:LEU:HD23 | 2.01 | 0.42 |
| 5:R:206:ARG:O | 5:R:209:VAL:HG12 | 2.20 | 0.42 |
| 5:S:180:LEU:HD11 | 5:S:261:LEU:HD23 | 2.01 | 0.42 |
| 3:Z:130:HIS:HE1 | 3:Z:134:MET:CE | 2.32 | 0.42 |
| 3:2:100:PHE:HB3 | 5:R:4:GLU:OE2 | 2.16 | 0.42 |
| 3:2:130:HIS:CE1 | 3:2:134:MET:HE3 | 2.51 | 0.42 |
| 1:3:13:LEU:HB2 | 1:3:18:ILE:HD11 | 2.01 | 0.42 |
| 5:D:202:THR:CG2 | 5:P:287:ILE:N | 2.76 | 0.42 |
| 5:D:220:ALA:HB3 | 5:D:223:PHE:CD1 | 2.53 | 0.42 |
| 5:G:180:LEU:HD11 | 5:G:261:LEU:HD23 | 2.01 | 0.42 |
| 5:H:193:LEU:O | 5:H:198:TYR:HD2 | 2.01 | 0.42 |
| 5:I:205:GLU:O | 5:I:208:ILE:HG22 | 2.18 | 0.42 |
| 5:J:206:ARG:O | 5:J:209:VAL:HG12 | 2.19 | 0.42 |
| 5:K:206:ARG:O | 5:K:209:VAL:HG12 | 2.20 | 0.42 |
| 5:M:196:ARG:HH21 | 5:M:249:THR:HG23 | 1.85 | 0.42 |
| 5:M:206:ARG:O | 5:M:209:VAL:HG12 | 2.19 | 0.42 |
| 5:N:217:CYS:C | 5:N:218:TYR:HD1 | 2.22 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:O:180:LEU:HD11 | 5:O:261:LEU:HD23 | 2.02 | 0.42 |
| 5:O:206:ARG:O | 5:O:209:VAL:HG12 | 2.20 | 0.42 |
| 5:P:149:THR:HA | 5:P:165:ILE:O | 2.19 | 0.42 |
| 5:R:193:LEU:O | 5:R:198:TYR:HD2 | 2.01 | 0.42 |
| 2:1:230:LYS:NZ | 3:2:89:ILE:HG12 | 2.34 | 0.42 |
| 1:3:74:PHE:O | 1:3:78:LEU:HG | 2.19 | 0.42 |
| 1:6:74:PHE:O | 1:6:78:LEU:HG | 2.19 | 0.42 |
| 2:7:207:LYS:HG3 | 2:7:208:GLU:N | 2.35 | 0.42 |
| 5:E:222:ASP:OD1 | 5:E:224:GLU:HB3 | 2.19 | 0.42 |
| 5:F:290:ARG:HH22 | 5:H:202:THR:CG2 | 2.18 | 0.42 |
| 5:G:196:ARG:HH21 | 5:G:249:THR:HG23 | 1.85 | 0.42 |
| 5:K:287:ILE:N | 5:M:202:THR:CG2 | 2.76 | 0.42 |
| 5:O:205:GLU:O | 5:O:208:ILE:HG22 | 2.18 | 0.42 |
| 5:Q:193:LEU:HD11 | 5:Q:250:ILE:HG13 | 2.02 | 0.42 |
| 5:Q:196:ARG:HH21 | 5:Q:249:THR:HG23 | 1.85 | 0.42 |
| 3:Z:63:LEU:O | 3:Z:66:LYS:HB3 | 2.18 | 0.42 |
| 1:0:10:ARG:HH21 | 1:0:75:GLU:CD | 2.22 | 0.42 |
| 2:1:234:ILE:HG12 | 3:2:92:LEU:HB3 | 2.02 | 0.42 |
| 3:2:53:LEU:HA | 3:2:54:PRO:HD3 | 1.83 | 0.42 |
| 5:D:193:LEU:HD11 | 5:D:250:ILE:HG13 | 2.02 | 0.42 |
| 5:D:244:ASP:HA | 5:P:324:THR:O | 2.09 | 0.42 |
| 5:H:217:CYS:C | 5:H:218:TYR:HD1 | 2.22 | 0.42 |
| 5:I:196:ARG:HH21 | 5:I:249:THR:HG23 | 1.85 | 0.42 |
| 5:K:205:GLU:O | 5:K:208:ILE:HG22 | 2.18 | 0.42 |
| 5:M:149:THR:HA | 5:M:165:ILE:O | 2.19 | 0.42 |
| 5:N:222:ASP:OD1 | 5:N:224:GLU:HB3 | 2.19 | 0.42 |
| 5:N:287:ILE:HA | 5:R:202:THR:HG21 | 1.58 | 0.42 |
| 5:O:217:CYS:C | 5:O:218:TYR:HD1 | 2.23 | 0.42 |
| 5:S:193:LEU:HD11 | 5:S:250:ILE:HG13 | 2.02 | 0.42 |
| 3:Z:7:ARG:O | 3:Z:7:ARG:HG2 | 2.20 | 0.42 |
| 3:Z:46:GLU:HA | 3:Z:49:PRO:HG3 | 2.02 | 0.42 |
| 2:4:190:LYS:HA | 2:4:191:PRO:HD2 | 1.80 | 0.42 |
| 2:4:230:LYS:NZ | 3:5:89:ILE:HG12 | 2.34 | 0.42 |
| 1:9:59:ALA:HB2 | 5:S:360:GLN:HG3 | 2.02 | 0.42 |
| 5:D:205:GLU:O | 5:D:208:ILE:HG22 | 2.19 | 0.42 |
| 5:D:206:ARG:O | 5:D:209:VAL:HG12 | 2.20 | 0.42 |
| 5:F:196:ARG:HH21 | 5:F:249:THR:HG23 | 1.85 | 0.42 |
| 5:F:220:ALA:HB3 | 5:F:223:PHE:CD1 | 2.53 | 0.42 |
| 5:F:222:ASP:OD1 | 5:F:224:GLU:HB3 | 2.20 | 0.42 |
| 5:G:217:CYS:C | 5:G:218:TYR:HD1 | 2.22 | 0.42 |
| 5:L:217:CYS:C | 5:L:218:TYR:HD1 | 2.22 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:O:193:LEU:HD11 | 5:O:250:ILE:HG13 | 2.02 | 0.42 |
| 5:O:196:ARG:HH21 | 5:O:249:THR:HG23 | 1.85 | 0.42 |
| 5:O:222:ASP:OD1 | 5:O:224:GLU:HB3 | 2.20 | 0.42 |
| 5:O:369:ILE:HG23 | 5:O:370:VAL:N | 2.35 | 0.42 |
| 5:P:171:LEU:HA | 5:P:172:PRO:HD2 | 1.84 | 0.42 |
| 5:Q:217:CYS:C | 5:Q:218:TYR:HD1 | 2.22 | 0.42 |
| 5:R:222:ASP:OD1 | 5:R:224:GLU:HB3 | 2.19 | 0.42 |
| 5:S:149:THR:HA | 5:S:165:ILE:O | 2.19 | 0.42 |
| 5:S:206:ARG:O | 5:S:209:VAL:HG12 | 2.20 | 0.42 |
| 1:O:13:LEU:HB2 | 1:O:18:ILE:HD11 | 2.01 | 0.42 |
| 3:2:46:GLU:HA | 3:2:49:PRO:HG3 | 2.02 | 0.42 |
| 2:7:202:LEU:HD22 | 2:7:202:LEU:N | 2.35 | 0.42 |
| 3:8:7:ARG:O | 3:8:7:ARG:HG2 | 2.20 | 0.42 |
| 5:D:196:ARG:HH21 | 5:D:249:THR:HG23 | 1.85 | 0.42 |
| 5:D:369:ILE:HG23 | 5:D:370:VAL:N | 2.35 | 0.42 |
| 5:F:287:ILE:N | 5:H:202:THR:CG2 | 2.76 | 0.42 |
| 5:F:369:ILE:HG23 | 5:F:370:VAL:N | 2.35 | 0.42 |
| 5:G:193:LEU:HD11 | 5:G:250:ILE:HG13 | 2.02 | 0.42 |
| 5:H:369:ILE:HG23 | 5:H:370:VAL:N | 2.35 | 0.42 |
| 5:J:221:LEU:HA | 5:J:312:ARG:HG2 | 2.02 | 0.42 |
| 5:J:369:ILE:HG23 | 5:J:370:VAL:N | 2.35 | 0.42 |
| 5:K:369:ILE:HG23 | 5:K:370:VAL:N | 2.35 | 0.42 |
| 5:N:206:ARG:O | 5:N:209:VAL:HG12 | 2.20 | 0.42 |
| 5:P:205:GLU:O | 5:P:208:ILE:HG22 | 2.18 | 0.42 |
| 5:Q:206:ARG:O | 5:Q:209:VAL:HG12 | 2.20 | 0.42 |
| 5:Q:222:ASP:OD1 | 5:Q:224:GLU:HB3 | 2.19 | 0.42 |
| 5:R:193:LEU:HD11 | 5:R:250:ILE:HG13 | 2.02 | 0.42 |
| 5:S:217:CYS:C | 5:S:218:TYR:HD1 | 2.22 | 0.42 |
| 3:Z:53:LEU:H | 3:Z:53:LEU:CD1 | 2.10 | 0.42 |
| 2:1:207:LYS:HG3 | 2:1:208:GLU:N | 2.35 | 0.42 |
| 1:3:82:VAL:O | 1:3:83:ARG:C | 2.59 | 0.42 |
| 1:3:137:MET:HE3 | 1:3:148:ILE:HG13 | 1.99 | 0.42 |
| 2:4:207:LYS:HG3 | 2:4:208:GLU:N | 2.35 | 0.42 |
| 3:5:46:GLU:HA | 3:5:49:PRO:HG3 | 2.02 | 0.42 |
| 1:6:150:PHE:O | 1:6:154:LEU:HD22 | 2.20 | 0.42 |
| 3:8:130:HIS:HE1 | 3:8:134:MET:CE | 2.32 | 0.42 |
| 5:D:221:LEU:HA | 5:D:312:ARG:HG2 | 2.02 | 0.42 |
| 5:G:222:ASP:OD1 | 5:G:224:GLU:HB3 | 2.20 | 0.42 |
| 5:G:369:ILE:HG23 | 5:G:370:VAL:N | 2.35 | 0.42 |
| 5:H:221:LEU:HA | 5:H:312:ARG:HG2 | 2.02 | 0.42 |
| 5:J:222:ASP:OD1 | 5:J:224:GLU:HB3 | 2.19 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:K:315:LYS:HD2 | 5:K:315:LYS:HA | 1.92 | 0.42 |
| 5:L:193:LEU:HD11 | 5:L:250:ILE:HG13 | 2.02 | 0.42 |
| 5:L:221:LEU:HA | 5:L:312:ARG:HG2 | 2.02 | 0.42 |
| 5:L:222:ASP:OD1 | 5:L:224:GLU:HB3 | 2.20 | 0.42 |
| 5:M:193:LEU:HD11 | 5:M:250:ILE:HG13 | 2.02 | 0.42 |
| 5:P:222:ASP:OD1 | 5:P:224:GLU:HB3 | 2.19 | 0.42 |
| 5:P:369:ILE:HG23 | 5:P:370:VAL:N | 2.35 | 0.42 |
| 5:R:196:ARG:HH21 | 5:R:249:THR:HG23 | 1.85 | 0.42 |
| 5:S:221:LEU:HA | 5:S:312:ARG:HG2 | 2.02 | 0.42 |
| 3:5:140:LEU:HD12 | 3:5:140:LEU:HA | 1.73 | 0.41 |
| 3:8:46:GLU:HA | 3:8:49:PRO:HG3 | 2.02 | 0.41 |
| 1:9:13:LEU:HB2 | 1:9:18:ILE:HD11 | 2.01 | 0.41 |
| 5:E:193:LEU:HD11 | 5:E:250:ILE:HG13 | 2.02 | 0.41 |
| 5:E:217:CYS:C | 5:E:218:TYR:HD1 | 2.22 | 0.41 |
| 5:F:221:LEU:HA | 5:F:312:ARG:HG2 | 2.02 | 0.41 |
| 5:F:287:ILE:HA | 5:H:202:THR:HG21 | 1.58 | 0.41 |
| 5:H:222:ASP:OD1 | 5:H:224:GLU:HB3 | 2.20 | 0.41 |
| 5:I:193:LEU:HD11 | 5:I:250:ILE:HG13 | 2.02 | 0.41 |
| 5:I:226:GLU:HG3 | 5:I:255:PHE:CE2 | 2.55 | 0.41 |
| 5:L:369:ILE:HG23 | 5:L:370:VAL:N | 2.35 | 0.41 |
| 5:M:205:GLU:O | 5:M:208:ILE:HG22 | 2.18 | 0.41 |
| 5:M:369:ILE:HG23 | 5:M:370:VAL:N | 2.35 | 0.41 |
| 5:N:221:LEU:HA | 5:N:312:ARG:HG2 | 2.02 | 0.41 |
| 5:O:287:ILE:N | 5:S:202:THR:CG2 | 2.76 | 0.41 |
| 5:P:206:ARG:O | 5:P:209:VAL:HG12 | 2.20 | 0.41 |
| 5:P:221:LEU:HA | 5:P:312:ARG:HG2 | 2.02 | 0.41 |
| 5:R:171:LEU:HA | 5:R:172:PRO:HD2 | 1.84 | 0.41 |
| 5:R:369:ILE:HG23 | 5:R:370:VAL:N | 2.35 | 0.41 |
| 5:S:369:ILE:HG23 | 5:S:370:VAL:N | 2.35 | 0.41 |
| 3:2:7:ARG:O | 3:2:7:ARG:HG2 | 2.20 | 0.41 |
| 2:4:245:GLN:O | 2:4:246:LYS:C | 2.59 | 0.41 |
| 3:5:130:HIS:HE1 | 3:5:134:MET:CE | 2.32 | 0.41 |
| 1:6:13:LEU:HB2 | 1:6:18:ILE:HD11 | 2.01 | 0.41 |
| 1:9:8:GLU:HA | 1:9:11:ALA:HB3 | 2.01 | 0.41 |
| 5:D:222:ASP:OD1 | 5:D:224:GLU:HB3 | 2.20 | 0.41 |
| 5:E:204:ALA:H | 5:Q:287:ILE:CB | 2.15 | 0.41 |
| 5:F:193:LEU:HD11 | 5:F:250:ILE:HG13 | 2.02 | 0.41 |
| 5:I:369:ILE:HG23 | 5:I:370:VAL:N | 2.35 | 0.41 |
| 5:J:217:CYS:C | 5:J:218:TYR:HD1 | 2.22 | 0.41 |
| 5:K:193:LEU:HD11 | 5:K:250:ILE:HG13 | 2.02 | 0.41 |
| 5:N:369:ILE:HG23 | 5:N:370:VAL:N | 2.35 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:O:226:GLU:HG3 | 5:O:255:PHE:CE2 | 2.55 | 0.41 |
| 2:Y:212:TRP:HA | 2:Y:212:TRP:HE3 | 1.85 | 0.41 |
| 1:3:58:ASP:CG | 5:R:364:GLU:OE2 | 2.58 | 0.41 |
| 3:5:105:LYS:HG3 | 5:Q:1:ASP:OD1 | 2.20 | 0.41 |
| 1:9:82:VAL:O | 1:9:83:ARG:C | 2.58 | 0.41 |
| 5:E:324:THR:N | 5:G:245:GLY:CA | 2.71 | 0.41 |
| 5:E:369:ILE:HG23 | 5:E:370:VAL:N | 2.35 | 0.41 |
| 5:G:226:GLU:HG3 | 5:G:255:PHE:CE2 | 2.56 | 0.41 |
| 5:H:193:LEU:HD11 | 5:H:250:ILE:HG13 | 2.02 | 0.41 |
| 5:N:193:LEU:HD11 | 5:N:250:ILE:HG13 | 2.02 | 0.41 |
| 5:N:290:ARG:HH22 | 5:R:202:THR:CG2 | 2.18 | 0.41 |
| 5:O:221:LEU:HA | 5:O:312:ARG:HG2 | 2.02 | 0.41 |
| 5:P:193:LEU:HD11 | 5:P:250:ILE:HG13 | 2.02 | 0.41 |
| 5:P:196:ARG:HH21 | 5:P:249:THR:HG23 | 1.85 | 0.41 |
| 5:Q:369:ILE:HG23 | 5:Q:370:VAL:N | 2.35 | 0.41 |
| 3:Z:82:GLU:O | 3:Z:86:GLN:HG3 | 2.20 | 0.41 |
| 5:E:196:ARG:HH21 | 5:E:249:THR:HG23 | 1.85 | 0.41 |
| 5:H:226:GLU:HG3 | 5:H:255:PHE:CE2 | 2.55 | 0.41 |
| 5:J:193:LEU:HD11 | 5:J:250:ILE:HG13 | 2.02 | 0.41 |
| 5:J:196:ARG:HH21 | 5:J:249:THR:HG23 | 1.85 | 0.41 |
| 5:J:226:GLU:HG3 | 5:J:255:PHE:CE2 | 2.55 | 0.41 |
| 5:J:315:LYS:HD2 | 5:J:315:LYS:HA | 1.92 | 0.41 |
| 5:N:227:MET:O | 5:N:230:ALA:HB3 | 2.21 | 0.41 |
| 5:N:288:ASP:CA | 5:R:204:ALA:HB2 | 2.32 | 0.41 |
| 2:1:187:GLU:O | 2:1:189:ARG:N | 2.52 | 0.41 |
| 2:1:190:LYS:HA | 2:1:191:PRO:HD2 | 1.80 | 0.41 |
| 3:2:66:LYS:HE2 | 3:2:66:LYS:HB2 | 1.90 | 0.41 |
| 1:6:82:VAL:O | 1:6:83:ARG:C | 2.59 | 0.41 |
| 2:7:212:TRP:HA | 2:7:212:TRP:HE3 | 1.85 | 0.41 |
| 1:9:17:MET:HE2 | 1:9:17:MET:HA | 2.02 | 0.41 |
| 5:G:206:ARG:O | 5:G:209:VAL:HG12 | 2.20 | 0.41 |
| 5:G:315:LYS:HD2 | 5:G:315:LYS:HA | 1.92 | 0.41 |
| 5:J:324:THR:N | 5:L:245:GLY:CA | 2.71 | 0.41 |
| 5:L:196:ARG:HH21 | 5:L:249:THR:HG23 | 1.85 | 0.41 |
| 5:N:287:ILE:HD11 | 5:R:202:THR:HA | 1.64 | 0.41 |
| 5:S:226:GLU:HG3 | 5:S:255:PHE:CE2 | 2.55 | 0.41 |
| 1:0:8:GLU:HA | 1:0:11:ALA:HB3 | 2.01 | 0.41 |
| 3:2:105:LYS:HA | 5:R:1:ASP:CG | 2.41 | 0.41 |
| 1:3:150:PHE:O | 1:3:154:LEU:HD22 | 2.20 | 0.41 |
| 2:4:230:LYS:HA | 2:4:233:GLU:HG3 | 2.02 | 0.41 |
| 3:5:82:GLU:O | 3:5:86:GLN:HG3 | 2.20 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:8:122:LEU:HD23 | 3:8:134:MET:HE1 | 2.03 | 0.41 |
| 1:9:144:ASN:ND2 | 1:9:144:ASN:O | 2.54 | 0.41 |
| 5:D:227:MET:O | 5:D:230:ALA:HB3 | 2.21 | 0.41 |
| 5:D:324:THR:O | 5:F:244:ASP:HA | 2.10 | 0.41 |
| 5:D:324:THR:N | 5:F:245:GLY:CA | 2.71 | 0.41 |
| 5:E:204:ALA:HA | 5:Q:288:ASP:OD1 | 2.21 | 0.41 |
| 5:E:288:ASP:OD1 | 5:G:204:ALA:HA | 2.21 | 0.41 |
| 5:F:226:GLU:HG3 | 5:F:255:PHE:CE2 | 2.55 | 0.41 |
| 5:I:222:ASP:OD1 | 5:I:224:GLU:HB3 | 2.19 | 0.41 |
| 5:L:226:GLU:HG3 | 5:L:255:PHE:CE2 | 2.55 | 0.41 |
| 5:M:32:PRO:HB2 | 5:M:34:ILE:CD1 | 2.51 | 0.41 |
| 5:M:221:LEU:HA | 5:M:312:ARG:HG2 | 2.02 | 0.41 |
| 5:M:226:GLU:HG3 | 5:M:255:PHE:CE2 | 2.55 | 0.41 |
| 5:P:144:ALA:HB2 | 5:P:342:GLY:CA | 2.51 | 0.41 |
| 5:P:299:MET:HE2 | 5:P:331:ALA:HB2 | 2.01 | 0.41 |
| 5:Q:221:LEU:HA | 5:Q:312:ARG:HG2 | 2.02 | 0.41 |
| 5:Q:227:MET:O | 5:Q:230:ALA:HB3 | 2.21 | 0.41 |
| 5:R:221:LEU:HA | 5:R:312:ARG:HG2 | 2.02 | 0.41 |
| 5:R:226:GLU:HG3 | 5:R:255:PHE:CE2 | 2.55 | 0.41 |
| 5:S:171:LEU:HA | 5:S:172:PRO:HD2 | 1.84 | 0.41 |
| 5:S:196:ARG:HH21 | 5:S:249:THR:HG23 | 1.85 | 0.41 |
| 5:S:222:ASP:OD1 | 5:S:224:GLU:HB3 | 2.20 | 0.41 |
| 2:Y:207:LYS:HG3 | 2:Y:208:GLU:N | 2.35 | 0.41 |
| 1:0:79:VAL:HG12 | 1:0:83:ARG:NE | 2.36 | 0.41 |
| 2:4:187:GLU:O | 2:4:189:ARG:N | 2.51 | 0.41 |
| 3:8:82:GLU:O | 3:8:86:GLN:HG3 | 2.20 | 0.41 |
| 1:9:79:VAL:HG12 | 1:9:83:ARG:NE | 2.36 | 0.41 |
| 1:9:150:PHE:O | 1:9:154:LEU:HD22 | 2.20 | 0.41 |
| 5:D:226:GLU:HG3 | 5:D:255:PHE:CE2 | 2.55 | 0.41 |
| 5:E:227:MET:O | 5:E:230:ALA:HB3 | 2.21 | 0.41 |
| 5:F:32:PRO:HB2 | 5:F:34:ILE:CD1 | 2.51 | 0.41 |
| 5:G:288:ASP:OD1 | 5:I:204:ALA:HA | 2.21 | 0.41 |
| 5:H:196:ARG:HH21 | 5:H:249:THR:HG23 | 1.85 | 0.41 |
| 5:I:315:LYS:HD2 | 5:I:315:LYS:HA | 1.92 | 0.41 |
| 5:K:227:MET:O | 5:K:230:ALA:HB3 | 2.21 | 0.41 |
| 5:L:206:ARG:O | 5:L:209:VAL:HG12 | 2.20 | 0.41 |
| 5:L:227:MET:O | 5:L:230:ALA:HB3 | 2.21 | 0.41 |
| 5:M:287:ILE:HD11 | 5:O:202:THR:HA | 1.64 | 0.41 |
| 5:N:196:ARG:HH21 | 5:N:249:THR:HG23 | 1.85 | 0.41 |
| 5:O:32:PRO:HB2 | 5:O:34:ILE:CD1 | 2.51 | 0.41 |
| 5:O:256:ARG:HH11 | 5:O:256:ARG:HD2 | 1.78 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-----------------|--------------------------|-------------------|
| 5:R:144:ALA:HB2 | 5:R:342:GLY:CA | 2.51 | 0.41 |
| 5:R:315:LYS:HD2 | 5:R:315:LYS:HA | 1.92 | 0.41 |
| 1:0:5:GLN:C | 1:0:7:ALA:N | 2.74 | 0.41 |
| 1:0:82:VAL:O | 1:0:83:ARG:C | 2.59 | 0.41 |
| 3:2:82:GLU:O | 3:2:86:GLN:HG3 | 2.20 | 0.41 |
| 3:5:7:ARG:O | 3:5:7:ARG:HG2 | 2.20 | 0.41 |
| 5:D:32:PRO:HB2 | 5:D:34:ILE:CD1 | 2.51 | 0.41 |
| 5:I:227:MET:O | 5:I:230:ALA:HB3 | 2.21 | 0.41 |
| 5:K:32:PRO:HB2 | 5:K:34:ILE:CD1 | 2.51 | 0.41 |
| 5:P:32:PRO:HB2 | 5:P:34:ILE:CD1 | 2.51 | 0.41 |
| 5:Q:144:ALA:HB2 | 5:Q:342:GLY:CA | 2.51 | 0.41 |
| 5:S:32:PRO:HB2 | 5:S:34:ILE:CD1 | 2.51 | 0.41 |
| 5:S:227:MET:O | 5:S:230:ALA:HB3 | 2.21 | 0.41 |
| 2:1:230:LYS:HA | 2:1:233:GLU:HG3 | 2.02 | 0.41 |
| 3:2:53:LEU:H | 3:2:53:LEU:CD1 | 2.10 | 0.41 |
| 3:2:130:HIS:HE1 | 3:2:134:MET:CE | 2.32 | 0.41 |
| 1:3:79:VAL:HG12 | 1:3:83:ARG:NE | 2.36 | 0.41 |
| 1:6:79:VAL:HG12 | 1:6:83:ARG:NE | 2.36 | 0.41 |
| 2:7:189:ARG:NE | 3:8:72:ASP:OD1 | 2.47 | 0.41 |
| 3:8:100:PHE:CB | 5:S:4:GLU:OE2 | 2.69 | 0.41 |
| 3:8:140:LEU:HD12 | 3:8:140:LEU:HA | 1.72 | 0.41 |
| 1:9:5:GLN:C | 1:9:7:ALA:N | 2.74 | 0.41 |
| 5:D:144:ALA:HB2 | 5:D:342:GLY:CA | 2.51 | 0.41 |
| 5:E:144:ALA:HB2 | 5:E:342:GLY:CA | 2.51 | 0.41 |
| 5:E:221:LEU:HA | 5:E:312:ARG:HG2 | 2.02 | 0.41 |
| 5:G:32:PRO:HB2 | 5:G:34:ILE:CD1 | 2.51 | 0.41 |
| 5:G:287:ILE:CB | 5:I:204:ALA:H | 2.14 | 0.41 |
| 5:H:227:MET:O | 5:H:230:ALA:HB3 | 2.21 | 0.41 |
| 5:H:324:THR:O | 5:J:244:ASP:HA | 2.10 | 0.41 |
| 5:I:32:PRO:HB2 | 5:I:34:ILE:CD1 | 2.51 | 0.41 |
| 5:I:144:ALA:HB2 | 5:I:342:GLY:CA | 2.51 | 0.41 |
| 5:I:221:LEU:HA | 5:I:312:ARG:HG2 | 2.02 | 0.41 |
| 5:I:288:ASP:OD1 | 5:K:204:ALA:HA | 2.21 | 0.41 |
| 5:J:144:ALA:HB2 | 5:J:342:GLY:CA | 2.51 | 0.41 |
| 5:K:144:ALA:HB2 | 5:K:342:GLY:CA | 2.51 | 0.41 |
| 5:K:221:LEU:HA | 5:K:312:ARG:HG2 | 2.02 | 0.41 |
| 5:K:226:GLU:HG3 | 5:K:255:PHE:CE2 | 2.55 | 0.41 |
| 5:L:144:ALA:HB2 | 5:L:342:GLY:CA | 2.51 | 0.41 |
| 5:L:315:LYS:HD2 | 5:L:315:LYS:HA | 1.92 | 0.41 |
| 5:M:227:MET:O | 5:M:230:ALA:HB3 | 2.21 | 0.41 |
| 5:N:144:ALA:HB2 | 5:N:342:GLY:CA | 2.51 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:N:226:GLU:HG3 | 5:N:255:PHE:CE2 | 2.55 | 0.41 |
| 5:N:315:LYS:HD2 | 5:N:315:LYS:HA | 1.92 | 0.41 |
| 5:P:227:MET:O | 5:P:230:ALA:HB3 | 2.21 | 0.41 |
| 5:Q:226:GLU:HG3 | 5:Q:255:PHE:CE2 | 2.55 | 0.41 |
| 5:S:205:GLU:O | 5:S:208:ILE:HG22 | 2.19 | 0.41 |
| 5:S:299:MET:HE2 | 5:S:331:ALA:HB2 | 2.02 | 0.41 |
| 2:Y:198:ASN:CB | 2:Y:201:LYS:HB2 | 2.39 | 0.41 |
| 2:Y:245:GLN:O | 2:Y:246:LYS:C | 2.59 | 0.41 |
| 1:0:144:ASN:O | 1:0:144:ASN:ND2 | 2.54 | 0.41 |
| 1:0:150:PHE:O | 1:0:154:LEU:HD22 | 2.20 | 0.41 |
| 1:0:155:LYS:O | 1:0:158:GLU:HB2 | 2.21 | 0.41 |
| 1:3:144:ASN:O | 1:3:144:ASN:ND2 | 2.54 | 0.41 |
| 1:3:155:LYS:O | 1:3:158:GLU:HB2 | 2.21 | 0.41 |
| 5:D:288:ASP:OD1 | 5:F:204:ALA:HA | 2.21 | 0.41 |
| 5:E:226:GLU:HG3 | 5:E:255:PHE:CE2 | 2.55 | 0.41 |
| 5:F:144:ALA:HB2 | 5:F:342:GLY:CA | 2.51 | 0.41 |
| 5:G:144:ALA:HB2 | 5:G:342:GLY:CA | 2.51 | 0.41 |
| 5:G:221:LEU:HA | 5:G:312:ARG:HG2 | 2.02 | 0.41 |
| 5:H:32:PRO:HB2 | 5:H:34:ILE:CD1 | 2.51 | 0.41 |
| 5:I:219:VAL:HG22 | 5:I:258:PRO:CB | 2.51 | 0.41 |
| 5:J:120:THR:HG21 | 5:J:370:VAL:CG1 | 2.51 | 0.41 |
| 5:K:196:ARG:HH21 | 5:K:249:THR:HG23 | 1.85 | 0.41 |
| 5:N:120:THR:HG21 | 5:N:370:VAL:CG1 | 2.51 | 0.41 |
| 5:N:288:ASP:OD1 | 5:R:204:ALA:HA | 2.21 | 0.41 |
| 5:O:299:MET:HE2 | 5:O:331:ALA:HB2 | 2.02 | 0.41 |
| 5:Q:32:PRO:HB2 | 5:Q:34:ILE:CD1 | 2.51 | 0.41 |
| 5:R:32:PRO:HB2 | 5:R:34:ILE:CD1 | 2.51 | 0.41 |
| 5:R:227:MET:O | 5:R:230:ALA:HB3 | 2.21 | 0.41 |
| 2:Y:202:LEU:HD22 | 2:Y:202:LEU:N | 2.35 | 0.41 |
| 2:1:199:GLU:OE2 | 3:2:56:SER:O | 2.39 | 0.40 |
| 2:1:245:GLN:O | 2:1:246:LYS:C | 2.59 | 0.40 |
| 2:4:202:LEU:HD22 | 2:4:202:LEU:N | 2.35 | 0.40 |
| 5:E:32:PRO:HB2 | 5:E:34:ILE:CD1 | 2.51 | 0.40 |
| 5:F:120:THR:HG21 | 5:F:370:VAL:CG1 | 2.52 | 0.40 |
| 5:F:324:THR:O | 5:H:244:ASP:HA | 2.10 | 0.40 |
| 5:H:315:LYS:HD2 | 5:H:315:LYS:HA | 1.92 | 0.40 |
| 5:J:324:THR:O | 5:L:244:ASP:HA | 2.10 | 0.40 |
| 5:K:219:VAL:HG22 | 5:K:258:PRO:CB | 2.52 | 0.40 |
| 5:L:324:THR:O | 5:N:244:ASP:HA | 2.10 | 0.40 |
| 5:M:144:ALA:HB2 | 5:M:342:GLY:CA | 2.51 | 0.40 |
| 5:N:32:PRO:HB2 | 5:N:34:ILE:CD1 | 2.51 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:S:219:VAL:HG22 | 5:S:258:PRO:CB | 2.52 | 0.40 |
| 2:4:212:TRP:HA | 2:4:212:TRP:HE3 | 1.85 | 0.40 |
| 2:7:230:LYS:HA | 2:7:233:GLU:HG3 | 2.02 | 0.40 |
| 3:8:4:GLU:OE2 | 3:8:7:ARG:CZ | 2.69 | 0.40 |
| 5:D:287:ILE:N | 5:F:202:THR:CG2 | 2.76 | 0.40 |
| 5:H:144:ALA:HB2 | 5:H:342:GLY:CA | 2.51 | 0.40 |
| 5:H:288:ASP:OD1 | 5:J:204:ALA:HA | 2.21 | 0.40 |
| 5:M:219:VAL:HG22 | 5:M:258:PRO:CB | 2.51 | 0.40 |
| 5:M:250:ILE:HG22 | 5:M:254:ARG:HB2 | 2.04 | 0.40 |
| 5:M:299:MET:HE2 | 5:M:331:ALA:HB2 | 2.02 | 0.40 |
| 5:N:324:THR:O | 5:R:244:ASP:HA | 2.09 | 0.40 |
| 5:O:120:THR:HG21 | 5:O:370:VAL:CG1 | 2.52 | 0.40 |
| 5:O:287:ILE:H | 5:O:287:ILE:CD1 | 2.31 | 0.40 |
| 5:P:120:THR:HG21 | 5:P:370:VAL:CG1 | 2.52 | 0.40 |
| 2:Y:188:ARG:H | 2:Y:188:ARG:HG3 | 1.57 | 0.40 |
| 1:0:121:LEU:HA | 1:0:121:LEU:HD12 | 1.89 | 0.40 |
| 2:4:207:LYS:C | 2:4:207:LYS:HD2 | 2.42 | 0.40 |
| 2:4:223:PHE:HB3 | 3:5:81:THR:HG22 | 2.03 | 0.40 |
| 3:5:49:PRO:O | 3:5:50:PRO:C | 2.60 | 0.40 |
| 1:6:118:GLY:CA | 1:6:133:ILE:HD13 | 2.52 | 0.40 |
| 1:9:155:LYS:O | 1:9:158:GLU:HB2 | 2.21 | 0.40 |
| 5:D:250:ILE:HG22 | 5:D:254:ARG:HB2 | 2.04 | 0.40 |
| 5:K:120:THR:HG21 | 5:K:370:VAL:CG1 | 2.52 | 0.40 |
| 5:N:171:LEU:HA | 5:N:172:PRO:HD2 | 1.84 | 0.40 |
| 5:O:144:ALA:HB2 | 5:O:342:GLY:CA | 2.51 | 0.40 |
| 5:Q:219:VAL:HG22 | 5:Q:258:PRO:CB | 2.52 | 0.40 |
| 5:Q:315:LYS:HD2 | 5:Q:315:LYS:HA | 1.92 | 0.40 |
| 2:Y:187:GLU:O | 2:Y:189:ARG:N | 2.51 | 0.40 |
| 1:6:5:GLN:C | 1:6:7:ALA:H | 2.25 | 0.40 |
| 1:6:155:LYS:O | 1:6:158:GLU:HB2 | 2.21 | 0.40 |
| 3:8:105:LYS:HA | 5:S:1:ASP:OD1 | 2.21 | 0.40 |
| 1:9:53:THR:HG1 | 1:9:56:GLU:HG3 | 1.84 | 0.40 |
| 5:F:227:MET:O | 5:F:230:ALA:HB3 | 2.21 | 0.40 |
| 5:J:32:PRO:HB2 | 5:J:34:ILE:CD1 | 2.51 | 0.40 |
| 5:L:288:ASP:OD1 | 5:N:204:ALA:HA | 2.21 | 0.40 |
| 5:M:288:ASP:OD1 | 5:O:204:ALA:HA | 2.21 | 0.40 |
| 5:N:250:ILE:HG22 | 5:N:254:ARG:HB2 | 2.04 | 0.40 |
| 5:N:287:ILE:N | 5:R:202:THR:CG2 | 2.76 | 0.40 |
| 5:O:227:MET:O | 5:O:230:ALA:HB3 | 2.21 | 0.40 |
| 5:P:219:VAL:HG22 | 5:P:258:PRO:CB | 2.52 | 0.40 |
| 5:P:226:GLU:HG3 | 5:P:255:PHE:CE2 | 2.55 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-----------------|--------------------------|-------------------|
| 5:S:250:ILE:HG22 | 5:S:254:ARG:HB2 | 2.04 | 0.40 |
| 3:2:4:GLU:OE2 | 3:2:7:ARG:CZ | 2.70 | 0.40 |
| 3:2:49:PRO:O | 3:2:50:PRO:C | 2.60 | 0.40 |
| 1:3:5:GLN:C | 1:3:7:ALA:N | 2.74 | 0.40 |
| 3:5:137:ARG:H | 3:5:137:ARG:HG2 | 1.49 | 0.40 |
| 1:6:5:GLN:C | 1:6:7:ALA:N | 2.74 | 0.40 |
| 3:8:53:LEU:HA | 3:8:54:PRO:HD3 | 1.83 | 0.40 |
| 3:8:130:HIS:CE1 | 3:8:134:MET:HE3 | 2.52 | 0.40 |
| 5:D:120:THR:HG21 | 5:D:370:VAL:CG1 | 2.52 | 0.40 |
| 5:E:219:VAL:HG22 | 5:E:258:PRO:CB | 2.51 | 0.40 |
| 5:E:250:ILE:HG22 | 5:E:254:ARG:HB2 | 2.04 | 0.40 |
| 5:G:75:ILE:HD12 | 5:G:75:ILE:HG23 | 1.92 | 0.40 |
| 5:H:219:VAL:HG22 | 5:H:258:PRO:CB | 2.52 | 0.40 |
| 5:I:250:ILE:HG22 | 5:I:254:ARG:HB2 | 2.04 | 0.40 |
| 5:J:219:VAL:HG22 | 5:J:258:PRO:CB | 2.51 | 0.40 |
| 5:J:250:ILE:HG22 | 5:J:254:ARG:HB2 | 2.04 | 0.40 |
| 5:N:237:GLU:HA | 5:N:251:GLY:CA | 2.43 | 0.40 |
| 5:S:144:ALA:HB2 | 5:S:342:GLY:CA | 2.51 | 0.40 |
| 2:Y:230:LYS:HA | 2:Y:233:GLU:HG3 | 2.02 | 0.40 |
| 3:Z:4:GLU:OE2 | 3:Z:7:ARG:CZ | 2.70 | 0.40 |

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles |
|-----|-------|---------------|-----------|----------|----------|---------------|
| 1 | 0 | 157/159 (99%) | 130 (83%) | 20 (13%) | 7 (4%) | 2 22 |
| 1 | 3 | 157/159 (99%) | 130 (83%) | 20 (13%) | 7 (4%) | 2 22 |
| 1 | 6 | 157/159 (99%) | 130 (83%) | 20 (13%) | 7 (4%) | 2 22 |
| 1 | 9 | 157/159 (99%) | 130 (83%) | 20 (13%) | 7 (4%) | 2 22 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|----------------|-----------|----------|----------|-------------|-----|
| 2 | 1 | 88/90 (98%) | 66 (75%) | 18 (20%) | 4 (4%) | 2 | 22 |
| 2 | 4 | 88/90 (98%) | 66 (75%) | 18 (20%) | 4 (4%) | 2 | 22 |
| 2 | 7 | 88/90 (98%) | 65 (74%) | 19 (22%) | 4 (4%) | 2 | 22 |
| 2 | Y | 88/90 (98%) | 66 (75%) | 18 (20%) | 4 (4%) | 2 | 22 |
| 3 | 2 | 139/141 (99%) | 108 (78%) | 18 (13%) | 13 (9%) | 0 | 10 |
| 3 | 5 | 139/141 (99%) | 108 (78%) | 18 (13%) | 13 (9%) | 0 | 10 |
| 3 | 8 | 139/141 (99%) | 108 (78%) | 18 (13%) | 13 (9%) | 0 | 10 |
| 3 | Z | 139/141 (99%) | 107 (77%) | 19 (14%) | 13 (9%) | 0 | 10 |
| 4 | A | 275/277 (99%) | 266 (97%) | 7 (2%) | 2 (1%) | 22 | 63 |
| 4 | B | 275/277 (99%) | 264 (96%) | 11 (4%) | 0 | 100 | 100 |
| 4 | C | 37/277 (13%) | 34 (92%) | 3 (8%) | 0 | 100 | 100 |
| 4 | T | 37/277 (13%) | 34 (92%) | 3 (8%) | 0 | 100 | 100 |
| 4 | U | 275/277 (99%) | 264 (96%) | 11 (4%) | 0 | 100 | 100 |
| 4 | V | 275/277 (99%) | 266 (97%) | 7 (2%) | 2 (1%) | 22 | 63 |
| 4 | W | 37/277 (13%) | 34 (92%) | 3 (8%) | 0 | 100 | 100 |
| 4 | X | 37/277 (13%) | 34 (92%) | 3 (8%) | 0 | 100 | 100 |
| 5 | D | 370/372 (100%) | 335 (90%) | 29 (8%) | 6 (2%) | 9 | 44 |
| 5 | E | 370/372 (100%) | 334 (90%) | 30 (8%) | 6 (2%) | 9 | 44 |
| 5 | F | 370/372 (100%) | 335 (90%) | 29 (8%) | 6 (2%) | 9 | 44 |
| 5 | G | 370/372 (100%) | 334 (90%) | 30 (8%) | 6 (2%) | 9 | 44 |
| 5 | H | 370/372 (100%) | 334 (90%) | 30 (8%) | 6 (2%) | 9 | 44 |
| 5 | I | 370/372 (100%) | 335 (90%) | 29 (8%) | 6 (2%) | 9 | 44 |
| 5 | J | 370/372 (100%) | 335 (90%) | 29 (8%) | 6 (2%) | 9 | 44 |
| 5 | K | 370/372 (100%) | 335 (90%) | 29 (8%) | 6 (2%) | 9 | 44 |
| 5 | L | 370/372 (100%) | 335 (90%) | 29 (8%) | 6 (2%) | 9 | 44 |
| 5 | M | 370/372 (100%) | 335 (90%) | 29 (8%) | 6 (2%) | 9 | 44 |
| 5 | N | 370/372 (100%) | 335 (90%) | 29 (8%) | 6 (2%) | 9 | 44 |
| 5 | O | 370/372 (100%) | 334 (90%) | 30 (8%) | 6 (2%) | 9 | 44 |
| 5 | P | 370/372 (100%) | 334 (90%) | 30 (8%) | 6 (2%) | 9 | 44 |
| 5 | Q | 370/372 (100%) | 334 (90%) | 30 (8%) | 6 (2%) | 9 | 44 |
| 5 | R | 370/372 (100%) | 335 (90%) | 29 (8%) | 6 (2%) | 9 | 44 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|-----------------|------------|----------|----------|-------------|----|
| 5 | S | 370/372 (100%) | 335 (90%) | 29 (8%) | 6 (2%) | 9 | 44 |
| All | All | 8704/9728 (90%) | 7764 (89%) | 744 (8%) | 196 (2%) | 9 | 34 |

All (196) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | 0 | 107 | ASN |
| 1 | 0 | 126 | GLU |
| 3 | 2 | 57 | MET |
| 3 | 2 | 142 | GLN |
| 1 | 3 | 107 | ASN |
| 1 | 3 | 126 | GLU |
| 3 | 5 | 57 | MET |
| 3 | 5 | 142 | GLN |
| 1 | 6 | 107 | ASN |
| 1 | 6 | 126 | GLU |
| 3 | 8 | 57 | MET |
| 3 | 8 | 142 | GLN |
| 1 | 9 | 107 | ASN |
| 1 | 9 | 126 | GLU |
| 5 | D | 246 | GLN |
| 5 | E | 246 | GLN |
| 5 | F | 246 | GLN |
| 5 | G | 246 | GLN |
| 5 | H | 246 | GLN |
| 5 | I | 246 | GLN |
| 5 | J | 246 | GLN |
| 5 | K | 246 | GLN |
| 5 | L | 246 | GLN |
| 5 | M | 246 | GLN |
| 5 | N | 246 | GLN |
| 5 | O | 246 | GLN |
| 5 | P | 246 | GLN |
| 5 | Q | 246 | GLN |
| 5 | R | 246 | GLN |
| 5 | S | 246 | GLN |
| 3 | Z | 57 | MET |
| 3 | Z | 142 | GLN |
| 1 | 0 | 30 | ALA |
| 1 | 0 | 106 | LYS |
| 1 | 0 | 160 | VAL |
| 2 | 1 | 188 | ARG |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 3 | 2 | 4 | GLU |
| 3 | 2 | 55 | GLY |
| 3 | 2 | 112 | ARG |
| 3 | 2 | 136 | LEU |
| 1 | 3 | 30 | ALA |
| 1 | 3 | 106 | LYS |
| 1 | 3 | 160 | VAL |
| 2 | 4 | 188 | ARG |
| 3 | 5 | 4 | GLU |
| 3 | 5 | 55 | GLY |
| 3 | 5 | 112 | ARG |
| 3 | 5 | 136 | LEU |
| 1 | 6 | 106 | LYS |
| 1 | 6 | 160 | VAL |
| 2 | 7 | 188 | ARG |
| 3 | 8 | 4 | GLU |
| 3 | 8 | 55 | GLY |
| 3 | 8 | 112 | ARG |
| 3 | 8 | 136 | LEU |
| 1 | 9 | 30 | ALA |
| 1 | 9 | 106 | LYS |
| 1 | 9 | 160 | VAL |
| 4 | A | 152 | ASP |
| 5 | D | 274 | ILE |
| 5 | E | 274 | ILE |
| 5 | F | 274 | ILE |
| 5 | G | 274 | ILE |
| 5 | H | 274 | ILE |
| 5 | I | 274 | ILE |
| 5 | J | 274 | ILE |
| 5 | K | 274 | ILE |
| 5 | L | 274 | ILE |
| 5 | M | 274 | ILE |
| 5 | N | 274 | ILE |
| 5 | O | 274 | ILE |
| 5 | P | 274 | ILE |
| 5 | Q | 274 | ILE |
| 5 | R | 274 | ILE |
| 5 | S | 274 | ILE |
| 4 | V | 152 | ASP |
| 2 | Y | 188 | ARG |
| 3 | Z | 4 | GLU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 3 | Z | 55 | GLY |
| 3 | Z | 112 | ARG |
| 3 | Z | 136 | LEU |
| 2 | 1 | 191 | PRO |
| 2 | 1 | 246 | LYS |
| 3 | 2 | 7 | ARG |
| 3 | 2 | 54 | PRO |
| 3 | 2 | 98 | LYS |
| 3 | 2 | 102 | LEU |
| 2 | 4 | 191 | PRO |
| 2 | 4 | 246 | LYS |
| 3 | 5 | 7 | ARG |
| 3 | 5 | 54 | PRO |
| 3 | 5 | 98 | LYS |
| 3 | 5 | 102 | LEU |
| 1 | 6 | 30 | ALA |
| 2 | 7 | 191 | PRO |
| 2 | 7 | 246 | LYS |
| 3 | 8 | 7 | ARG |
| 3 | 8 | 54 | PRO |
| 3 | 8 | 98 | LYS |
| 3 | 8 | 102 | LEU |
| 5 | D | 233 | SER |
| 5 | E | 233 | SER |
| 5 | F | 233 | SER |
| 5 | G | 233 | SER |
| 5 | H | 233 | SER |
| 5 | I | 233 | SER |
| 5 | J | 233 | SER |
| 5 | K | 233 | SER |
| 5 | L | 233 | SER |
| 5 | M | 233 | SER |
| 5 | N | 233 | SER |
| 5 | O | 233 | SER |
| 5 | P | 233 | SER |
| 5 | Q | 233 | SER |
| 5 | R | 233 | SER |
| 5 | S | 233 | SER |
| 2 | Y | 191 | PRO |
| 2 | Y | 246 | LYS |
| 3 | Z | 7 | ARG |
| 3 | Z | 54 | PRO |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 3 | Z | 98 | LYS |
| 3 | Z | 102 | LEU |
| 1 | 0 | 62 | GLU |
| 3 | 2 | 50 | PRO |
| 3 | 2 | 141 | LYS |
| 1 | 3 | 62 | GLU |
| 3 | 5 | 50 | PRO |
| 3 | 5 | 141 | LYS |
| 1 | 6 | 62 | GLU |
| 3 | 8 | 50 | PRO |
| 3 | 8 | 141 | LYS |
| 1 | 9 | 62 | GLU |
| 4 | A | 151 | ALA |
| 5 | D | 2 | GLU |
| 5 | E | 2 | GLU |
| 5 | E | 253 | GLU |
| 5 | F | 2 | GLU |
| 5 | F | 253 | GLU |
| 5 | G | 2 | GLU |
| 5 | H | 2 | GLU |
| 5 | I | 2 | GLU |
| 5 | I | 253 | GLU |
| 5 | J | 2 | GLU |
| 5 | K | 2 | GLU |
| 5 | L | 2 | GLU |
| 5 | L | 253 | GLU |
| 5 | M | 2 | GLU |
| 5 | M | 253 | GLU |
| 5 | N | 2 | GLU |
| 5 | O | 2 | GLU |
| 5 | O | 253 | GLU |
| 5 | P | 2 | GLU |
| 5 | Q | 2 | GLU |
| 5 | R | 2 | GLU |
| 5 | S | 2 | GLU |
| 5 | S | 253 | GLU |
| 4 | V | 151 | ALA |
| 3 | Z | 50 | PRO |
| 3 | Z | 141 | LYS |
| 5 | D | 253 | GLU |
| 5 | G | 253 | GLU |
| 5 | H | 253 | GLU |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 5 | J | 253 | GLU |
| 5 | K | 253 | GLU |
| 5 | N | 253 | GLU |
| 5 | P | 253 | GLU |
| 5 | Q | 253 | GLU |
| 5 | R | 253 | GLU |
| 2 | 1 | 247 | HIS |
| 2 | 4 | 247 | HIS |
| 2 | 7 | 247 | HIS |
| 2 | Y | 247 | HIS |
| 1 | 0 | 34 | GLY |
| 1 | 3 | 34 | GLY |
| 1 | 6 | 34 | GLY |
| 1 | 9 | 34 | GLY |
| 5 | D | 242 | LEU |
| 5 | E | 242 | LEU |
| 5 | F | 242 | LEU |
| 5 | G | 242 | LEU |
| 5 | H | 242 | LEU |
| 5 | I | 242 | LEU |
| 5 | J | 242 | LEU |
| 5 | K | 242 | LEU |
| 5 | L | 242 | LEU |
| 5 | M | 242 | LEU |
| 5 | N | 242 | LEU |
| 5 | O | 242 | LEU |
| 5 | P | 242 | LEU |
| 5 | Q | 242 | LEU |
| 5 | R | 242 | LEU |
| 5 | S | 242 | LEU |
| 3 | 2 | 132 | VAL |
| 3 | 5 | 132 | VAL |
| 3 | 8 | 132 | VAL |
| 3 | Z | 132 | VAL |

5.3.2 Protein sidechains [i](#)

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

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

| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|----------------|-----------|----------|-------------|----|
| 1 | 0 | 134/134 (100%) | 115 (86%) | 19 (14%) | 3 | 16 |
| 1 | 3 | 134/134 (100%) | 115 (86%) | 19 (14%) | 3 | 16 |
| 1 | 6 | 134/134 (100%) | 115 (86%) | 19 (14%) | 3 | 16 |
| 1 | 9 | 134/134 (100%) | 115 (86%) | 19 (14%) | 3 | 16 |
| 2 | 1 | 82/82 (100%) | 70 (85%) | 12 (15%) | 3 | 15 |
| 2 | 4 | 82/82 (100%) | 70 (85%) | 12 (15%) | 3 | 15 |
| 2 | 7 | 82/82 (100%) | 70 (85%) | 12 (15%) | 3 | 15 |
| 2 | Y | 82/82 (100%) | 70 (85%) | 12 (15%) | 3 | 15 |
| 3 | 2 | 124/124 (100%) | 108 (87%) | 16 (13%) | 4 | 18 |
| 3 | 5 | 124/124 (100%) | 108 (87%) | 16 (13%) | 4 | 18 |
| 3 | 8 | 124/124 (100%) | 108 (87%) | 16 (13%) | 4 | 18 |
| 3 | Z | 124/124 (100%) | 108 (87%) | 16 (13%) | 4 | 18 |
| 4 | A | 239/239 (100%) | 212 (89%) | 27 (11%) | 6 | 21 |
| 4 | B | 239/239 (100%) | 206 (86%) | 33 (14%) | 3 | 17 |
| 4 | C | 36/239 (15%) | 31 (86%) | 5 (14%) | 3 | 17 |
| 4 | T | 36/239 (15%) | 28 (78%) | 8 (22%) | 1 | 6 |
| 4 | U | 239/239 (100%) | 206 (86%) | 33 (14%) | 3 | 17 |
| 4 | V | 239/239 (100%) | 212 (89%) | 27 (11%) | 6 | 21 |
| 4 | W | 36/239 (15%) | 28 (78%) | 8 (22%) | 1 | 6 |
| 4 | X | 36/239 (15%) | 31 (86%) | 5 (14%) | 3 | 17 |
| 5 | D | 315/315 (100%) | 269 (85%) | 46 (15%) | 3 | 15 |
| 5 | E | 315/315 (100%) | 269 (85%) | 46 (15%) | 3 | 15 |
| 5 | F | 315/315 (100%) | 268 (85%) | 47 (15%) | 3 | 15 |
| 5 | G | 315/315 (100%) | 269 (85%) | 46 (15%) | 3 | 15 |
| 5 | H | 315/315 (100%) | 268 (85%) | 47 (15%) | 3 | 15 |
| 5 | I | 315/315 (100%) | 268 (85%) | 47 (15%) | 3 | 15 |
| 5 | J | 315/315 (100%) | 268 (85%) | 47 (15%) | 3 | 15 |
| 5 | K | 315/315 (100%) | 268 (85%) | 47 (15%) | 3 | 15 |
| 5 | L | 315/315 (100%) | 269 (85%) | 46 (15%) | 3 | 15 |
| 5 | M | 315/315 (100%) | 268 (85%) | 47 (15%) | 3 | 15 |
| 5 | N | 315/315 (100%) | 268 (85%) | 47 (15%) | 3 | 15 |
| 5 | O | 315/315 (100%) | 268 (85%) | 47 (15%) | 3 | 15 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|-----------------|------------|------------|-------------|----|
| 5 | P | 315/315 (100%) | 269 (85%) | 46 (15%) | 3 | 15 |
| 5 | Q | 315/315 (100%) | 269 (85%) | 46 (15%) | 3 | 15 |
| 5 | R | 315/315 (100%) | 268 (85%) | 47 (15%) | 3 | 15 |
| 5 | S | 315/315 (100%) | 269 (85%) | 46 (15%) | 3 | 15 |
| All | All | 7500/8312 (90%) | 6421 (86%) | 1079 (14%) | 6 | 16 |

All (1079) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | 0 | 12 | PHE |
| 1 | 0 | 31 | ASP |
| 1 | 0 | 45 | MET |
| 1 | 0 | 62 | GLU |
| 1 | 0 | 64 | VAL |
| 1 | 0 | 83 | ARG |
| 1 | 0 | 95 | GLU |
| 1 | 0 | 103 | ILE |
| 1 | 0 | 106 | LYS |
| 1 | 0 | 107 | ASN |
| 1 | 0 | 126 | GLU |
| 1 | 0 | 129 | THR |
| 1 | 0 | 131 | GLU |
| 1 | 0 | 135 | ASP |
| 1 | 0 | 136 | LEU |
| 1 | 0 | 147 | ARG |
| 1 | 0 | 154 | LEU |
| 1 | 0 | 155 | LYS |
| 1 | 0 | 158 | GLU |
| 2 | 1 | 160 | TYR |
| 2 | 1 | 185 | LEU |
| 2 | 1 | 190 | LYS |
| 2 | 1 | 192 | LEU |
| 2 | 1 | 199 | GLU |
| 2 | 1 | 207 | LYS |
| 2 | 1 | 215 | GLN |
| 2 | 1 | 218 | THR |
| 2 | 1 | 227 | ILE |
| 2 | 1 | 229 | ARG |
| 2 | 1 | 243 | GLN |
| 2 | 1 | 248 | SER |
| 3 | 2 | 4 | GLU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 3 | 2 | 5 | LYS |
| 3 | 2 | 6 | LYS |
| 3 | 2 | 13 | ARG |
| 3 | 2 | 29 | ILE |
| 3 | 2 | 53 | LEU |
| 3 | 2 | 58 | GLN |
| 3 | 2 | 59 | GLU |
| 3 | 2 | 103 | ARG |
| 3 | 2 | 112 | ARG |
| 3 | 2 | 122 | LEU |
| 3 | 2 | 129 | LYS |
| 3 | 2 | 131 | LYS |
| 3 | 2 | 133 | ASN |
| 3 | 2 | 137 | ARG |
| 3 | 2 | 141 | LYS |
| 1 | 3 | 12 | PHE |
| 1 | 3 | 31 | ASP |
| 1 | 3 | 45 | MET |
| 1 | 3 | 62 | GLU |
| 1 | 3 | 64 | VAL |
| 1 | 3 | 83 | ARG |
| 1 | 3 | 95 | GLU |
| 1 | 3 | 103 | ILE |
| 1 | 3 | 106 | LYS |
| 1 | 3 | 107 | ASN |
| 1 | 3 | 126 | GLU |
| 1 | 3 | 129 | THR |
| 1 | 3 | 131 | GLU |
| 1 | 3 | 135 | ASP |
| 1 | 3 | 136 | LEU |
| 1 | 3 | 147 | ARG |
| 1 | 3 | 154 | LEU |
| 1 | 3 | 155 | LYS |
| 1 | 3 | 158 | GLU |
| 2 | 4 | 160 | TYR |
| 2 | 4 | 185 | LEU |
| 2 | 4 | 190 | LYS |
| 2 | 4 | 192 | LEU |
| 2 | 4 | 199 | GLU |
| 2 | 4 | 207 | LYS |
| 2 | 4 | 215 | GLN |
| 2 | 4 | 218 | THR |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 2 | 4 | 227 | ILE |
| 2 | 4 | 229 | ARG |
| 2 | 4 | 243 | GLN |
| 2 | 4 | 248 | SER |
| 3 | 5 | 4 | GLU |
| 3 | 5 | 5 | LYS |
| 3 | 5 | 6 | LYS |
| 3 | 5 | 13 | ARG |
| 3 | 5 | 29 | ILE |
| 3 | 5 | 53 | LEU |
| 3 | 5 | 58 | GLN |
| 3 | 5 | 59 | GLU |
| 3 | 5 | 103 | ARG |
| 3 | 5 | 112 | ARG |
| 3 | 5 | 122 | LEU |
| 3 | 5 | 129 | LYS |
| 3 | 5 | 131 | LYS |
| 3 | 5 | 133 | ASN |
| 3 | 5 | 137 | ARG |
| 3 | 5 | 141 | LYS |
| 1 | 6 | 12 | PHE |
| 1 | 6 | 31 | ASP |
| 1 | 6 | 45 | MET |
| 1 | 6 | 62 | GLU |
| 1 | 6 | 64 | VAL |
| 1 | 6 | 83 | ARG |
| 1 | 6 | 95 | GLU |
| 1 | 6 | 103 | ILE |
| 1 | 6 | 106 | LYS |
| 1 | 6 | 107 | ASN |
| 1 | 6 | 126 | GLU |
| 1 | 6 | 129 | THR |
| 1 | 6 | 131 | GLU |
| 1 | 6 | 135 | ASP |
| 1 | 6 | 136 | LEU |
| 1 | 6 | 147 | ARG |
| 1 | 6 | 154 | LEU |
| 1 | 6 | 155 | LYS |
| 1 | 6 | 158 | GLU |
| 2 | 7 | 160 | TYR |
| 2 | 7 | 185 | LEU |
| 2 | 7 | 190 | LYS |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 2 | 7 | 192 | LEU |
| 2 | 7 | 199 | GLU |
| 2 | 7 | 207 | LYS |
| 2 | 7 | 215 | GLN |
| 2 | 7 | 218 | THR |
| 2 | 7 | 227 | ILE |
| 2 | 7 | 229 | ARG |
| 2 | 7 | 243 | GLN |
| 2 | 7 | 248 | SER |
| 3 | 8 | 4 | GLU |
| 3 | 8 | 5 | LYS |
| 3 | 8 | 6 | LYS |
| 3 | 8 | 13 | ARG |
| 3 | 8 | 29 | ILE |
| 3 | 8 | 53 | LEU |
| 3 | 8 | 58 | GLN |
| 3 | 8 | 59 | GLU |
| 3 | 8 | 103 | ARG |
| 3 | 8 | 112 | ARG |
| 3 | 8 | 122 | LEU |
| 3 | 8 | 129 | LYS |
| 3 | 8 | 131 | LYS |
| 3 | 8 | 133 | ASN |
| 3 | 8 | 137 | ARG |
| 3 | 8 | 141 | LYS |
| 1 | 9 | 12 | PHE |
| 1 | 9 | 31 | ASP |
| 1 | 9 | 45 | MET |
| 1 | 9 | 62 | GLU |
| 1 | 9 | 64 | VAL |
| 1 | 9 | 83 | ARG |
| 1 | 9 | 95 | GLU |
| 1 | 9 | 103 | ILE |
| 1 | 9 | 106 | LYS |
| 1 | 9 | 107 | ASN |
| 1 | 9 | 126 | GLU |
| 1 | 9 | 129 | THR |
| 1 | 9 | 131 | GLU |
| 1 | 9 | 135 | ASP |
| 1 | 9 | 136 | LEU |
| 1 | 9 | 147 | ARG |
| 1 | 9 | 154 | LEU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | 9 | 155 | LYS |
| 1 | 9 | 158 | GLU |
| 4 | A | 29 | SER |
| 4 | A | 34 | ASP |
| 4 | A | 37 | VAL |
| 4 | A | 53 | TYR |
| 4 | A | 57 | LEU |
| 4 | A | 99 | LEU |
| 4 | A | 106 | LEU |
| 4 | A | 122 | VAL |
| 4 | A | 125 | SER |
| 4 | A | 146 | HIS |
| 4 | A | 158 | VAL |
| 4 | A | 162 | LEU |
| 4 | A | 163 | VAL |
| 4 | A | 164 | ILE |
| 4 | A | 165 | ILE |
| 4 | A | 193 | VAL |
| 4 | A | 195 | ASN |
| 4 | A | 207 | TYR |
| 4 | A | 214 | TYR |
| 4 | A | 220 | VAL |
| 4 | A | 222 | SER |
| 4 | A | 234 | PHE |
| 4 | A | 251 | ASP |
| 4 | A | 254 | TYR |
| 4 | A | 263 | ILE |
| 4 | A | 269 | HIS |
| 4 | A | 274 | MET |
| 4 | B | 29 | SER |
| 4 | B | 34 | ASP |
| 4 | B | 37 | VAL |
| 4 | B | 41 | LYS |
| 4 | B | 53 | TYR |
| 4 | B | 54 | SER |
| 4 | B | 57 | LEU |
| 4 | B | 80 | SER |
| 4 | B | 88 | VAL |
| 4 | B | 99 | LEU |
| 4 | B | 106 | LEU |
| 4 | B | 122 | VAL |
| 4 | B | 146 | HIS |

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Continued from previous page...

| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 4 | B | 158 | VAL |
| 4 | B | 162 | LEU |
| 4 | B | 163 | VAL |
| 4 | B | 164 | ILE |
| 4 | B | 165 | ILE |
| 4 | B | 193 | VAL |
| 4 | B | 195 | ASN |
| 4 | B | 207 | TYR |
| 4 | B | 214 | TYR |
| 4 | B | 220 | VAL |
| 4 | B | 222 | SER |
| 4 | B | 234 | PHE |
| 4 | B | 241 | LYS |
| 4 | B | 251 | ASP |
| 4 | B | 254 | TYR |
| 4 | B | 263 | ILE |
| 4 | B | 264 | SER |
| 4 | B | 269 | HIS |
| 4 | B | 274 | MET |
| 4 | B | 276 | SER |
| 4 | C | 251 | ASP |
| 4 | C | 254 | TYR |
| 4 | C | 263 | ILE |
| 4 | C | 269 | HIS |
| 4 | C | 274 | MET |
| 5 | D | 33 | SER |
| 5 | D | 34 | ILE |
| 5 | D | 37 | ARG |
| 5 | D | 66 | THR |
| 5 | D | 72 | GLU |
| 5 | D | 80 | ASP |
| 5 | D | 100 | GLU |
| 5 | D | 109 | PRO |
| 5 | D | 116 | ARG |
| 5 | D | 145 | SER |
| 5 | D | 153 | LEU |
| 5 | D | 159 | VAL |
| 5 | D | 180 | LEU |
| 5 | D | 191 | LYS |
| 5 | D | 196 | ARG |
| 5 | D | 199 | SER |
| 5 | D | 201 | VAL |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 5 | D | 206 | ARG |
| 5 | D | 221 | LEU |
| 5 | D | 223 | PHE |
| 5 | D | 229 | THR |
| 5 | D | 239 | SER |
| 5 | D | 242 | LEU |
| 5 | D | 246 | GLN |
| 5 | D | 263 | GLN |
| 5 | D | 281 | SER |
| 5 | D | 283 | MET |
| 5 | D | 287 | ILE |
| 5 | D | 291 | LYS |
| 5 | D | 293 | LEU |
| 5 | D | 297 | ASN |
| 5 | D | 299 | MET |
| 5 | D | 312 | ARG |
| 5 | D | 315 | LYS |
| 5 | D | 318 | THR |
| 5 | D | 320 | LEU |
| 5 | D | 327 | ILE |
| 5 | D | 334 | GLU |
| 5 | D | 349 | LEU |
| 5 | D | 350 | SER |
| 5 | D | 351 | THR |
| 5 | D | 354 | GLN |
| 5 | D | 359 | LYS |
| 5 | D | 360 | GLN |
| 5 | D | 361 | GLU |
| 5 | D | 368 | SER |
| 5 | E | 33 | SER |
| 5 | E | 34 | ILE |
| 5 | E | 37 | ARG |
| 5 | E | 66 | THR |
| 5 | E | 72 | GLU |
| 5 | E | 80 | ASP |
| 5 | E | 100 | GLU |
| 5 | E | 109 | PRO |
| 5 | E | 116 | ARG |
| 5 | E | 145 | SER |
| 5 | E | 153 | LEU |
| 5 | E | 159 | VAL |
| 5 | E | 180 | LEU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 5 | E | 191 | LYS |
| 5 | E | 196 | ARG |
| 5 | E | 199 | SER |
| 5 | E | 201 | VAL |
| 5 | E | 206 | ARG |
| 5 | E | 221 | LEU |
| 5 | E | 223 | PHE |
| 5 | E | 229 | THR |
| 5 | E | 239 | SER |
| 5 | E | 242 | LEU |
| 5 | E | 246 | GLN |
| 5 | E | 263 | GLN |
| 5 | E | 281 | SER |
| 5 | E | 283 | MET |
| 5 | E | 287 | ILE |
| 5 | E | 291 | LYS |
| 5 | E | 293 | LEU |
| 5 | E | 297 | ASN |
| 5 | E | 299 | MET |
| 5 | E | 312 | ARG |
| 5 | E | 315 | LYS |
| 5 | E | 318 | THR |
| 5 | E | 320 | LEU |
| 5 | E | 327 | ILE |
| 5 | E | 334 | GLU |
| 5 | E | 349 | LEU |
| 5 | E | 350 | SER |
| 5 | E | 351 | THR |
| 5 | E | 354 | GLN |
| 5 | E | 359 | LYS |
| 5 | E | 360 | GLN |
| 5 | E | 361 | GLU |
| 5 | E | 368 | SER |
| 5 | F | 16 | LEU |
| 5 | F | 33 | SER |
| 5 | F | 34 | ILE |
| 5 | F | 37 | ARG |
| 5 | F | 66 | THR |
| 5 | F | 72 | GLU |
| 5 | F | 80 | ASP |
| 5 | F | 100 | GLU |
| 5 | F | 109 | PRO |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 5 | F | 116 | ARG |
| 5 | F | 145 | SER |
| 5 | F | 153 | LEU |
| 5 | F | 159 | VAL |
| 5 | F | 180 | LEU |
| 5 | F | 191 | LYS |
| 5 | F | 196 | ARG |
| 5 | F | 199 | SER |
| 5 | F | 201 | VAL |
| 5 | F | 206 | ARG |
| 5 | F | 221 | LEU |
| 5 | F | 223 | PHE |
| 5 | F | 229 | THR |
| 5 | F | 239 | SER |
| 5 | F | 242 | LEU |
| 5 | F | 246 | GLN |
| 5 | F | 263 | GLN |
| 5 | F | 281 | SER |
| 5 | F | 283 | MET |
| 5 | F | 287 | ILE |
| 5 | F | 291 | LYS |
| 5 | F | 293 | LEU |
| 5 | F | 297 | ASN |
| 5 | F | 299 | MET |
| 5 | F | 312 | ARG |
| 5 | F | 315 | LYS |
| 5 | F | 318 | THR |
| 5 | F | 320 | LEU |
| 5 | F | 327 | ILE |
| 5 | F | 334 | GLU |
| 5 | F | 349 | LEU |
| 5 | F | 350 | SER |
| 5 | F | 351 | THR |
| 5 | F | 354 | GLN |
| 5 | F | 359 | LYS |
| 5 | F | 360 | GLN |
| 5 | F | 361 | GLU |
| 5 | F | 368 | SER |
| 5 | G | 33 | SER |
| 5 | G | 34 | ILE |
| 5 | G | 37 | ARG |
| 5 | G | 66 | THR |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 5 | G | 72 | GLU |
| 5 | G | 80 | ASP |
| 5 | G | 100 | GLU |
| 5 | G | 109 | PRO |
| 5 | G | 116 | ARG |
| 5 | G | 145 | SER |
| 5 | G | 153 | LEU |
| 5 | G | 159 | VAL |
| 5 | G | 180 | LEU |
| 5 | G | 191 | LYS |
| 5 | G | 196 | ARG |
| 5 | G | 199 | SER |
| 5 | G | 201 | VAL |
| 5 | G | 206 | ARG |
| 5 | G | 221 | LEU |
| 5 | G | 223 | PHE |
| 5 | G | 229 | THR |
| 5 | G | 239 | SER |
| 5 | G | 242 | LEU |
| 5 | G | 246 | GLN |
| 5 | G | 263 | GLN |
| 5 | G | 281 | SER |
| 5 | G | 283 | MET |
| 5 | G | 287 | ILE |
| 5 | G | 291 | LYS |
| 5 | G | 293 | LEU |
| 5 | G | 297 | ASN |
| 5 | G | 299 | MET |
| 5 | G | 312 | ARG |
| 5 | G | 315 | LYS |
| 5 | G | 318 | THR |
| 5 | G | 320 | LEU |
| 5 | G | 327 | ILE |
| 5 | G | 334 | GLU |
| 5 | G | 349 | LEU |
| 5 | G | 350 | SER |
| 5 | G | 351 | THR |
| 5 | G | 354 | GLN |
| 5 | G | 359 | LYS |
| 5 | G | 360 | GLN |
| 5 | G | 361 | GLU |
| 5 | G | 368 | SER |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 5 | H | 16 | LEU |
| 5 | H | 33 | SER |
| 5 | H | 34 | ILE |
| 5 | H | 37 | ARG |
| 5 | H | 66 | THR |
| 5 | H | 72 | GLU |
| 5 | H | 80 | ASP |
| 5 | H | 100 | GLU |
| 5 | H | 109 | PRO |
| 5 | H | 116 | ARG |
| 5 | H | 145 | SER |
| 5 | H | 153 | LEU |
| 5 | H | 159 | VAL |
| 5 | H | 180 | LEU |
| 5 | H | 191 | LYS |
| 5 | H | 196 | ARG |
| 5 | H | 199 | SER |
| 5 | H | 201 | VAL |
| 5 | H | 206 | ARG |
| 5 | H | 221 | LEU |
| 5 | H | 223 | PHE |
| 5 | H | 229 | THR |
| 5 | H | 239 | SER |
| 5 | H | 242 | LEU |
| 5 | H | 246 | GLN |
| 5 | H | 263 | GLN |
| 5 | H | 281 | SER |
| 5 | H | 283 | MET |
| 5 | H | 287 | ILE |
| 5 | H | 291 | LYS |
| 5 | H | 293 | LEU |
| 5 | H | 297 | ASN |
| 5 | H | 299 | MET |
| 5 | H | 312 | ARG |
| 5 | H | 315 | LYS |
| 5 | H | 318 | THR |
| 5 | H | 320 | LEU |
| 5 | H | 327 | ILE |
| 5 | H | 334 | GLU |
| 5 | H | 349 | LEU |
| 5 | H | 350 | SER |
| 5 | H | 351 | THR |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 5 | H | 354 | GLN |
| 5 | H | 359 | LYS |
| 5 | H | 360 | GLN |
| 5 | H | 361 | GLU |
| 5 | H | 368 | SER |
| 5 | I | 16 | LEU |
| 5 | I | 33 | SER |
| 5 | I | 34 | ILE |
| 5 | I | 37 | ARG |
| 5 | I | 66 | THR |
| 5 | I | 72 | GLU |
| 5 | I | 80 | ASP |
| 5 | I | 100 | GLU |
| 5 | I | 109 | PRO |
| 5 | I | 116 | ARG |
| 5 | I | 145 | SER |
| 5 | I | 153 | LEU |
| 5 | I | 159 | VAL |
| 5 | I | 180 | LEU |
| 5 | I | 191 | LYS |
| 5 | I | 196 | ARG |
| 5 | I | 199 | SER |
| 5 | I | 201 | VAL |
| 5 | I | 206 | ARG |
| 5 | I | 221 | LEU |
| 5 | I | 223 | PHE |
| 5 | I | 229 | THR |
| 5 | I | 239 | SER |
| 5 | I | 242 | LEU |
| 5 | I | 246 | GLN |
| 5 | I | 263 | GLN |
| 5 | I | 281 | SER |
| 5 | I | 283 | MET |
| 5 | I | 287 | ILE |
| 5 | I | 291 | LYS |
| 5 | I | 293 | LEU |
| 5 | I | 297 | ASN |
| 5 | I | 299 | MET |
| 5 | I | 312 | ARG |
| 5 | I | 315 | LYS |
| 5 | I | 318 | THR |
| 5 | I | 320 | LEU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 5 | I | 327 | ILE |
| 5 | I | 334 | GLU |
| 5 | I | 349 | LEU |
| 5 | I | 350 | SER |
| 5 | I | 351 | THR |
| 5 | I | 354 | GLN |
| 5 | I | 359 | LYS |
| 5 | I | 360 | GLN |
| 5 | I | 361 | GLU |
| 5 | I | 368 | SER |
| 5 | J | 16 | LEU |
| 5 | J | 33 | SER |
| 5 | J | 34 | ILE |
| 5 | J | 37 | ARG |
| 5 | J | 66 | THR |
| 5 | J | 72 | GLU |
| 5 | J | 80 | ASP |
| 5 | J | 100 | GLU |
| 5 | J | 109 | PRO |
| 5 | J | 116 | ARG |
| 5 | J | 145 | SER |
| 5 | J | 153 | LEU |
| 5 | J | 159 | VAL |
| 5 | J | 180 | LEU |
| 5 | J | 191 | LYS |
| 5 | J | 196 | ARG |
| 5 | J | 199 | SER |
| 5 | J | 201 | VAL |
| 5 | J | 206 | ARG |
| 5 | J | 221 | LEU |
| 5 | J | 223 | PHE |
| 5 | J | 229 | THR |
| 5 | J | 239 | SER |
| 5 | J | 242 | LEU |
| 5 | J | 246 | GLN |
| 5 | J | 263 | GLN |
| 5 | J | 281 | SER |
| 5 | J | 283 | MET |
| 5 | J | 287 | ILE |
| 5 | J | 291 | LYS |
| 5 | J | 293 | LEU |
| 5 | J | 297 | ASN |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 5 | J | 299 | MET |
| 5 | J | 312 | ARG |
| 5 | J | 315 | LYS |
| 5 | J | 318 | THR |
| 5 | J | 320 | LEU |
| 5 | J | 327 | ILE |
| 5 | J | 334 | GLU |
| 5 | J | 349 | LEU |
| 5 | J | 350 | SER |
| 5 | J | 351 | THR |
| 5 | J | 354 | GLN |
| 5 | J | 359 | LYS |
| 5 | J | 360 | GLN |
| 5 | J | 361 | GLU |
| 5 | J | 368 | SER |
| 5 | K | 16 | LEU |
| 5 | K | 33 | SER |
| 5 | K | 34 | ILE |
| 5 | K | 37 | ARG |
| 5 | K | 66 | THR |
| 5 | K | 72 | GLU |
| 5 | K | 80 | ASP |
| 5 | K | 100 | GLU |
| 5 | K | 109 | PRO |
| 5 | K | 116 | ARG |
| 5 | K | 145 | SER |
| 5 | K | 153 | LEU |
| 5 | K | 159 | VAL |
| 5 | K | 180 | LEU |
| 5 | K | 191 | LYS |
| 5 | K | 196 | ARG |
| 5 | K | 199 | SER |
| 5 | K | 201 | VAL |
| 5 | K | 206 | ARG |
| 5 | K | 221 | LEU |
| 5 | K | 223 | PHE |
| 5 | K | 229 | THR |
| 5 | K | 239 | SER |
| 5 | K | 242 | LEU |
| 5 | K | 246 | GLN |
| 5 | K | 263 | GLN |
| 5 | K | 281 | SER |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 5 | K | 283 | MET |
| 5 | K | 287 | ILE |
| 5 | K | 291 | LYS |
| 5 | K | 293 | LEU |
| 5 | K | 297 | ASN |
| 5 | K | 299 | MET |
| 5 | K | 312 | ARG |
| 5 | K | 315 | LYS |
| 5 | K | 318 | THR |
| 5 | K | 320 | LEU |
| 5 | K | 327 | ILE |
| 5 | K | 334 | GLU |
| 5 | K | 349 | LEU |
| 5 | K | 350 | SER |
| 5 | K | 351 | THR |
| 5 | K | 354 | GLN |
| 5 | K | 359 | LYS |
| 5 | K | 360 | GLN |
| 5 | K | 361 | GLU |
| 5 | K | 368 | SER |
| 5 | L | 33 | SER |
| 5 | L | 34 | ILE |
| 5 | L | 37 | ARG |
| 5 | L | 66 | THR |
| 5 | L | 72 | GLU |
| 5 | L | 80 | ASP |
| 5 | L | 100 | GLU |
| 5 | L | 109 | PRO |
| 5 | L | 116 | ARG |
| 5 | L | 145 | SER |
| 5 | L | 153 | LEU |
| 5 | L | 159 | VAL |
| 5 | L | 180 | LEU |
| 5 | L | 191 | LYS |
| 5 | L | 196 | ARG |
| 5 | L | 199 | SER |
| 5 | L | 201 | VAL |
| 5 | L | 206 | ARG |
| 5 | L | 221 | LEU |
| 5 | L | 223 | PHE |
| 5 | L | 229 | THR |
| 5 | L | 239 | SER |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 5 | L | 242 | LEU |
| 5 | L | 246 | GLN |
| 5 | L | 263 | GLN |
| 5 | L | 281 | SER |
| 5 | L | 283 | MET |
| 5 | L | 287 | ILE |
| 5 | L | 291 | LYS |
| 5 | L | 293 | LEU |
| 5 | L | 297 | ASN |
| 5 | L | 299 | MET |
| 5 | L | 312 | ARG |
| 5 | L | 315 | LYS |
| 5 | L | 318 | THR |
| 5 | L | 320 | LEU |
| 5 | L | 327 | ILE |
| 5 | L | 334 | GLU |
| 5 | L | 349 | LEU |
| 5 | L | 350 | SER |
| 5 | L | 351 | THR |
| 5 | L | 354 | GLN |
| 5 | L | 359 | LYS |
| 5 | L | 360 | GLN |
| 5 | L | 361 | GLU |
| 5 | L | 368 | SER |
| 5 | M | 16 | LEU |
| 5 | M | 33 | SER |
| 5 | M | 34 | ILE |
| 5 | M | 37 | ARG |
| 5 | M | 66 | THR |
| 5 | M | 72 | GLU |
| 5 | M | 80 | ASP |
| 5 | M | 100 | GLU |
| 5 | M | 109 | PRO |
| 5 | M | 116 | ARG |
| 5 | M | 145 | SER |
| 5 | M | 153 | LEU |
| 5 | M | 159 | VAL |
| 5 | M | 180 | LEU |
| 5 | M | 191 | LYS |
| 5 | M | 196 | ARG |
| 5 | M | 199 | SER |
| 5 | M | 201 | VAL |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 5 | M | 206 | ARG |
| 5 | M | 221 | LEU |
| 5 | M | 223 | PHE |
| 5 | M | 229 | THR |
| 5 | M | 239 | SER |
| 5 | M | 242 | LEU |
| 5 | M | 246 | GLN |
| 5 | M | 263 | GLN |
| 5 | M | 281 | SER |
| 5 | M | 283 | MET |
| 5 | M | 287 | ILE |
| 5 | M | 291 | LYS |
| 5 | M | 293 | LEU |
| 5 | M | 297 | ASN |
| 5 | M | 299 | MET |
| 5 | M | 312 | ARG |
| 5 | M | 315 | LYS |
| 5 | M | 318 | THR |
| 5 | M | 320 | LEU |
| 5 | M | 327 | ILE |
| 5 | M | 334 | GLU |
| 5 | M | 349 | LEU |
| 5 | M | 350 | SER |
| 5 | M | 351 | THR |
| 5 | M | 354 | GLN |
| 5 | M | 359 | LYS |
| 5 | M | 360 | GLN |
| 5 | M | 361 | GLU |
| 5 | M | 368 | SER |
| 5 | N | 16 | LEU |
| 5 | N | 33 | SER |
| 5 | N | 34 | ILE |
| 5 | N | 37 | ARG |
| 5 | N | 66 | THR |
| 5 | N | 72 | GLU |
| 5 | N | 80 | ASP |
| 5 | N | 100 | GLU |
| 5 | N | 109 | PRO |
| 5 | N | 116 | ARG |
| 5 | N | 145 | SER |
| 5 | N | 153 | LEU |
| 5 | N | 159 | VAL |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 5 | N | 180 | LEU |
| 5 | N | 191 | LYS |
| 5 | N | 196 | ARG |
| 5 | N | 199 | SER |
| 5 | N | 201 | VAL |
| 5 | N | 206 | ARG |
| 5 | N | 221 | LEU |
| 5 | N | 223 | PHE |
| 5 | N | 229 | THR |
| 5 | N | 239 | SER |
| 5 | N | 242 | LEU |
| 5 | N | 246 | GLN |
| 5 | N | 263 | GLN |
| 5 | N | 281 | SER |
| 5 | N | 283 | MET |
| 5 | N | 287 | ILE |
| 5 | N | 291 | LYS |
| 5 | N | 293 | LEU |
| 5 | N | 297 | ASN |
| 5 | N | 299 | MET |
| 5 | N | 312 | ARG |
| 5 | N | 315 | LYS |
| 5 | N | 318 | THR |
| 5 | N | 320 | LEU |
| 5 | N | 327 | ILE |
| 5 | N | 334 | GLU |
| 5 | N | 349 | LEU |
| 5 | N | 350 | SER |
| 5 | N | 351 | THR |
| 5 | N | 354 | GLN |
| 5 | N | 359 | LYS |
| 5 | N | 360 | GLN |
| 5 | N | 361 | GLU |
| 5 | N | 368 | SER |
| 5 | O | 16 | LEU |
| 5 | O | 33 | SER |
| 5 | O | 34 | ILE |
| 5 | O | 37 | ARG |
| 5 | O | 66 | THR |
| 5 | O | 72 | GLU |
| 5 | O | 80 | ASP |
| 5 | O | 100 | GLU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 5 | O | 109 | PRO |
| 5 | O | 116 | ARG |
| 5 | O | 145 | SER |
| 5 | O | 153 | LEU |
| 5 | O | 159 | VAL |
| 5 | O | 180 | LEU |
| 5 | O | 191 | LYS |
| 5 | O | 196 | ARG |
| 5 | O | 199 | SER |
| 5 | O | 201 | VAL |
| 5 | O | 206 | ARG |
| 5 | O | 221 | LEU |
| 5 | O | 223 | PHE |
| 5 | O | 229 | THR |
| 5 | O | 239 | SER |
| 5 | O | 242 | LEU |
| 5 | O | 246 | GLN |
| 5 | O | 263 | GLN |
| 5 | O | 281 | SER |
| 5 | O | 283 | MET |
| 5 | O | 287 | ILE |
| 5 | O | 291 | LYS |
| 5 | O | 293 | LEU |
| 5 | O | 297 | ASN |
| 5 | O | 299 | MET |
| 5 | O | 312 | ARG |
| 5 | O | 315 | LYS |
| 5 | O | 318 | THR |
| 5 | O | 320 | LEU |
| 5 | O | 327 | ILE |
| 5 | O | 334 | GLU |
| 5 | O | 349 | LEU |
| 5 | O | 350 | SER |
| 5 | O | 351 | THR |
| 5 | O | 354 | GLN |
| 5 | O | 359 | LYS |
| 5 | O | 360 | GLN |
| 5 | O | 361 | GLU |
| 5 | O | 368 | SER |
| 5 | P | 33 | SER |
| 5 | P | 34 | ILE |
| 5 | P | 37 | ARG |

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Continued from previous page...

| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 5 | P | 66 | THR |
| 5 | P | 72 | GLU |
| 5 | P | 80 | ASP |
| 5 | P | 100 | GLU |
| 5 | P | 109 | PRO |
| 5 | P | 116 | ARG |
| 5 | P | 145 | SER |
| 5 | P | 153 | LEU |
| 5 | P | 159 | VAL |
| 5 | P | 180 | LEU |
| 5 | P | 191 | LYS |
| 5 | P | 196 | ARG |
| 5 | P | 199 | SER |
| 5 | P | 201 | VAL |
| 5 | P | 206 | ARG |
| 5 | P | 221 | LEU |
| 5 | P | 223 | PHE |
| 5 | P | 229 | THR |
| 5 | P | 239 | SER |
| 5 | P | 242 | LEU |
| 5 | P | 246 | GLN |
| 5 | P | 263 | GLN |
| 5 | P | 281 | SER |
| 5 | P | 283 | MET |
| 5 | P | 287 | ILE |
| 5 | P | 291 | LYS |
| 5 | P | 293 | LEU |
| 5 | P | 297 | ASN |
| 5 | P | 299 | MET |
| 5 | P | 312 | ARG |
| 5 | P | 315 | LYS |
| 5 | P | 318 | THR |
| 5 | P | 320 | LEU |
| 5 | P | 327 | ILE |
| 5 | P | 334 | GLU |
| 5 | P | 349 | LEU |
| 5 | P | 350 | SER |
| 5 | P | 351 | THR |
| 5 | P | 354 | GLN |
| 5 | P | 359 | LYS |
| 5 | P | 360 | GLN |
| 5 | P | 361 | GLU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 5 | P | 368 | SER |
| 5 | Q | 33 | SER |
| 5 | Q | 34 | ILE |
| 5 | Q | 37 | ARG |
| 5 | Q | 66 | THR |
| 5 | Q | 72 | GLU |
| 5 | Q | 80 | ASP |
| 5 | Q | 100 | GLU |
| 5 | Q | 109 | PRO |
| 5 | Q | 116 | ARG |
| 5 | Q | 145 | SER |
| 5 | Q | 153 | LEU |
| 5 | Q | 159 | VAL |
| 5 | Q | 180 | LEU |
| 5 | Q | 191 | LYS |
| 5 | Q | 196 | ARG |
| 5 | Q | 199 | SER |
| 5 | Q | 201 | VAL |
| 5 | Q | 206 | ARG |
| 5 | Q | 221 | LEU |
| 5 | Q | 223 | PHE |
| 5 | Q | 229 | THR |
| 5 | Q | 239 | SER |
| 5 | Q | 242 | LEU |
| 5 | Q | 246 | GLN |
| 5 | Q | 263 | GLN |
| 5 | Q | 281 | SER |
| 5 | Q | 283 | MET |
| 5 | Q | 287 | ILE |
| 5 | Q | 291 | LYS |
| 5 | Q | 293 | LEU |
| 5 | Q | 297 | ASN |
| 5 | Q | 299 | MET |
| 5 | Q | 312 | ARG |
| 5 | Q | 315 | LYS |
| 5 | Q | 318 | THR |
| 5 | Q | 320 | LEU |
| 5 | Q | 327 | ILE |
| 5 | Q | 334 | GLU |
| 5 | Q | 349 | LEU |
| 5 | Q | 350 | SER |
| 5 | Q | 351 | THR |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 5 | Q | 354 | GLN |
| 5 | Q | 359 | LYS |
| 5 | Q | 360 | GLN |
| 5 | Q | 361 | GLU |
| 5 | Q | 368 | SER |
| 5 | R | 16 | LEU |
| 5 | R | 33 | SER |
| 5 | R | 34 | ILE |
| 5 | R | 37 | ARG |
| 5 | R | 66 | THR |
| 5 | R | 72 | GLU |
| 5 | R | 80 | ASP |
| 5 | R | 100 | GLU |
| 5 | R | 109 | PRO |
| 5 | R | 116 | ARG |
| 5 | R | 145 | SER |
| 5 | R | 153 | LEU |
| 5 | R | 159 | VAL |
| 5 | R | 180 | LEU |
| 5 | R | 191 | LYS |
| 5 | R | 196 | ARG |
| 5 | R | 199 | SER |
| 5 | R | 201 | VAL |
| 5 | R | 206 | ARG |
| 5 | R | 221 | LEU |
| 5 | R | 223 | PHE |
| 5 | R | 229 | THR |
| 5 | R | 239 | SER |
| 5 | R | 242 | LEU |
| 5 | R | 246 | GLN |
| 5 | R | 263 | GLN |
| 5 | R | 281 | SER |
| 5 | R | 283 | MET |
| 5 | R | 287 | ILE |
| 5 | R | 291 | LYS |
| 5 | R | 293 | LEU |
| 5 | R | 297 | ASN |
| 5 | R | 299 | MET |
| 5 | R | 312 | ARG |
| 5 | R | 315 | LYS |
| 5 | R | 318 | THR |
| 5 | R | 320 | LEU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 5 | R | 327 | ILE |
| 5 | R | 334 | GLU |
| 5 | R | 349 | LEU |
| 5 | R | 350 | SER |
| 5 | R | 351 | THR |
| 5 | R | 354 | GLN |
| 5 | R | 359 | LYS |
| 5 | R | 360 | GLN |
| 5 | R | 361 | GLU |
| 5 | R | 368 | SER |
| 5 | S | 33 | SER |
| 5 | S | 34 | ILE |
| 5 | S | 37 | ARG |
| 5 | S | 66 | THR |
| 5 | S | 72 | GLU |
| 5 | S | 80 | ASP |
| 5 | S | 100 | GLU |
| 5 | S | 109 | PRO |
| 5 | S | 116 | ARG |
| 5 | S | 145 | SER |
| 5 | S | 153 | LEU |
| 5 | S | 159 | VAL |
| 5 | S | 180 | LEU |
| 5 | S | 191 | LYS |
| 5 | S | 196 | ARG |
| 5 | S | 199 | SER |
| 5 | S | 201 | VAL |
| 5 | S | 206 | ARG |
| 5 | S | 221 | LEU |
| 5 | S | 223 | PHE |
| 5 | S | 229 | THR |
| 5 | S | 239 | SER |
| 5 | S | 242 | LEU |
| 5 | S | 246 | GLN |
| 5 | S | 263 | GLN |
| 5 | S | 281 | SER |
| 5 | S | 283 | MET |
| 5 | S | 287 | ILE |
| 5 | S | 291 | LYS |
| 5 | S | 293 | LEU |
| 5 | S | 297 | ASN |
| 5 | S | 299 | MET |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 5 | S | 312 | ARG |
| 5 | S | 315 | LYS |
| 5 | S | 318 | THR |
| 5 | S | 320 | LEU |
| 5 | S | 327 | ILE |
| 5 | S | 334 | GLU |
| 5 | S | 349 | LEU |
| 5 | S | 350 | SER |
| 5 | S | 351 | THR |
| 5 | S | 354 | GLN |
| 5 | S | 359 | LYS |
| 5 | S | 360 | GLN |
| 5 | S | 361 | GLU |
| 5 | S | 368 | SER |
| 4 | T | 241 | LYS |
| 4 | T | 251 | ASP |
| 4 | T | 254 | TYR |
| 4 | T | 263 | ILE |
| 4 | T | 264 | SER |
| 4 | T | 269 | HIS |
| 4 | T | 274 | MET |
| 4 | T | 276 | SER |
| 4 | U | 29 | SER |
| 4 | U | 34 | ASP |
| 4 | U | 37 | VAL |
| 4 | U | 41 | LYS |
| 4 | U | 53 | TYR |
| 4 | U | 54 | SER |
| 4 | U | 57 | LEU |
| 4 | U | 80 | SER |
| 4 | U | 88 | VAL |
| 4 | U | 99 | LEU |
| 4 | U | 106 | LEU |
| 4 | U | 122 | VAL |
| 4 | U | 146 | HIS |
| 4 | U | 158 | VAL |
| 4 | U | 162 | LEU |
| 4 | U | 163 | VAL |
| 4 | U | 164 | ILE |
| 4 | U | 165 | ILE |
| 4 | U | 193 | VAL |
| 4 | U | 195 | ASN |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 4 | U | 207 | TYR |
| 4 | U | 214 | TYR |
| 4 | U | 220 | VAL |
| 4 | U | 222 | SER |
| 4 | U | 234 | PHE |
| 4 | U | 241 | LYS |
| 4 | U | 251 | ASP |
| 4 | U | 254 | TYR |
| 4 | U | 263 | ILE |
| 4 | U | 264 | SER |
| 4 | U | 269 | HIS |
| 4 | U | 274 | MET |
| 4 | U | 276 | SER |
| 4 | V | 29 | SER |
| 4 | V | 34 | ASP |
| 4 | V | 37 | VAL |
| 4 | V | 53 | TYR |
| 4 | V | 57 | LEU |
| 4 | V | 99 | LEU |
| 4 | V | 106 | LEU |
| 4 | V | 122 | VAL |
| 4 | V | 125 | SER |
| 4 | V | 146 | HIS |
| 4 | V | 158 | VAL |
| 4 | V | 162 | LEU |
| 4 | V | 163 | VAL |
| 4 | V | 164 | ILE |
| 4 | V | 165 | ILE |
| 4 | V | 193 | VAL |
| 4 | V | 195 | ASN |
| 4 | V | 207 | TYR |
| 4 | V | 214 | TYR |
| 4 | V | 220 | VAL |
| 4 | V | 222 | SER |
| 4 | V | 234 | PHE |
| 4 | V | 251 | ASP |
| 4 | V | 254 | TYR |
| 4 | V | 263 | ILE |
| 4 | V | 269 | HIS |
| 4 | V | 274 | MET |
| 4 | W | 241 | LYS |
| 4 | W | 251 | ASP |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 4 | W | 254 | TYR |
| 4 | W | 263 | ILE |
| 4 | W | 264 | SER |
| 4 | W | 269 | HIS |
| 4 | W | 274 | MET |
| 4 | W | 276 | SER |
| 4 | X | 251 | ASP |
| 4 | X | 254 | TYR |
| 4 | X | 263 | ILE |
| 4 | X | 269 | HIS |
| 4 | X | 274 | MET |
| 2 | Y | 160 | TYR |
| 2 | Y | 185 | LEU |
| 2 | Y | 190 | LYS |
| 2 | Y | 192 | LEU |
| 2 | Y | 199 | GLU |
| 2 | Y | 207 | LYS |
| 2 | Y | 215 | GLN |
| 2 | Y | 218 | THR |
| 2 | Y | 227 | ILE |
| 2 | Y | 229 | ARG |
| 2 | Y | 243 | GLN |
| 2 | Y | 248 | SER |
| 3 | Z | 4 | GLU |
| 3 | Z | 5 | LYS |
| 3 | Z | 6 | LYS |
| 3 | Z | 13 | ARG |
| 3 | Z | 29 | ILE |
| 3 | Z | 53 | LEU |
| 3 | Z | 58 | GLN |
| 3 | Z | 59 | GLU |
| 3 | Z | 103 | ARG |
| 3 | Z | 112 | ARG |
| 3 | Z | 122 | LEU |
| 3 | Z | 129 | LYS |
| 3 | Z | 131 | LYS |
| 3 | Z | 133 | ASN |
| 3 | Z | 137 | ARG |
| 3 | Z | 141 | LYS |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (165) such sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | 0 | 50 | GLN |
| 1 | 0 | 51 | ASN |
| 1 | 0 | 84 | GLN |
| 1 | 0 | 144 | ASN |
| 2 | 1 | 175 | GLN |
| 2 | 1 | 198 | ASN |
| 2 | 1 | 243 | GLN |
| 2 | 1 | 245 | GLN |
| 3 | 2 | 42 | ASN |
| 3 | 2 | 47 | HIS |
| 3 | 2 | 58 | GLN |
| 3 | 2 | 61 | GLN |
| 3 | 2 | 86 | GLN |
| 3 | 2 | 97 | GLN |
| 3 | 2 | 130 | HIS |
| 3 | 2 | 133 | ASN |
| 3 | 2 | 142 | GLN |
| 1 | 3 | 50 | GLN |
| 1 | 3 | 51 | ASN |
| 1 | 3 | 84 | GLN |
| 1 | 3 | 144 | ASN |
| 2 | 4 | 175 | GLN |
| 2 | 4 | 198 | ASN |
| 2 | 4 | 243 | GLN |
| 2 | 4 | 245 | GLN |
| 3 | 5 | 42 | ASN |
| 3 | 5 | 47 | HIS |
| 3 | 5 | 58 | GLN |
| 3 | 5 | 61 | GLN |
| 3 | 5 | 86 | GLN |
| 3 | 5 | 97 | GLN |
| 3 | 5 | 130 | HIS |
| 3 | 5 | 133 | ASN |
| 3 | 5 | 142 | GLN |
| 1 | 6 | 50 | GLN |
| 1 | 6 | 51 | ASN |
| 1 | 6 | 84 | GLN |
| 1 | 6 | 144 | ASN |
| 2 | 7 | 175 | GLN |
| 2 | 7 | 198 | ASN |
| 2 | 7 | 243 | GLN |
| 2 | 7 | 245 | GLN |
| 3 | 8 | 42 | ASN |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 3 | 8 | 47 | HIS |
| 3 | 8 | 58 | GLN |
| 3 | 8 | 61 | GLN |
| 3 | 8 | 86 | GLN |
| 3 | 8 | 130 | HIS |
| 3 | 8 | 133 | ASN |
| 3 | 8 | 142 | GLN |
| 1 | 9 | 50 | GLN |
| 1 | 9 | 51 | ASN |
| 1 | 9 | 84 | GLN |
| 1 | 9 | 144 | ASN |
| 5 | D | 41 | GLN |
| 5 | D | 92 | ASN |
| 5 | D | 137 | GLN |
| 5 | D | 252 | ASN |
| 5 | D | 263 | GLN |
| 5 | D | 354 | GLN |
| 5 | E | 41 | GLN |
| 5 | E | 92 | ASN |
| 5 | E | 137 | GLN |
| 5 | E | 252 | ASN |
| 5 | E | 263 | GLN |
| 5 | E | 354 | GLN |
| 5 | F | 41 | GLN |
| 5 | F | 92 | ASN |
| 5 | F | 137 | GLN |
| 5 | F | 252 | ASN |
| 5 | F | 263 | GLN |
| 5 | F | 354 | GLN |
| 5 | G | 41 | GLN |
| 5 | G | 92 | ASN |
| 5 | G | 137 | GLN |
| 5 | G | 252 | ASN |
| 5 | G | 263 | GLN |
| 5 | G | 354 | GLN |
| 5 | H | 41 | GLN |
| 5 | H | 92 | ASN |
| 5 | H | 137 | GLN |
| 5 | H | 252 | ASN |
| 5 | H | 263 | GLN |
| 5 | H | 354 | GLN |
| 5 | I | 41 | GLN |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 5 | I | 92 | ASN |
| 5 | I | 137 | GLN |
| 5 | I | 252 | ASN |
| 5 | I | 263 | GLN |
| 5 | I | 354 | GLN |
| 5 | J | 41 | GLN |
| 5 | J | 92 | ASN |
| 5 | J | 137 | GLN |
| 5 | J | 252 | ASN |
| 5 | J | 263 | GLN |
| 5 | J | 354 | GLN |
| 5 | K | 41 | GLN |
| 5 | K | 92 | ASN |
| 5 | K | 137 | GLN |
| 5 | K | 252 | ASN |
| 5 | K | 263 | GLN |
| 5 | K | 354 | GLN |
| 5 | L | 41 | GLN |
| 5 | L | 87 | HIS |
| 5 | L | 92 | ASN |
| 5 | L | 137 | GLN |
| 5 | L | 252 | ASN |
| 5 | L | 263 | GLN |
| 5 | L | 354 | GLN |
| 5 | M | 41 | GLN |
| 5 | M | 92 | ASN |
| 5 | M | 137 | GLN |
| 5 | M | 252 | ASN |
| 5 | M | 263 | GLN |
| 5 | M | 354 | GLN |
| 5 | N | 41 | GLN |
| 5 | N | 92 | ASN |
| 5 | N | 137 | GLN |
| 5 | N | 252 | ASN |
| 5 | N | 263 | GLN |
| 5 | N | 354 | GLN |
| 5 | O | 41 | GLN |
| 5 | O | 92 | ASN |
| 5 | O | 137 | GLN |
| 5 | O | 252 | ASN |
| 5 | O | 263 | GLN |
| 5 | O | 354 | GLN |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 5 | P | 41 | GLN |
| 5 | P | 92 | ASN |
| 5 | P | 137 | GLN |
| 5 | P | 252 | ASN |
| 5 | P | 263 | GLN |
| 5 | P | 354 | GLN |
| 5 | Q | 41 | GLN |
| 5 | Q | 92 | ASN |
| 5 | Q | 137 | GLN |
| 5 | Q | 252 | ASN |
| 5 | Q | 263 | GLN |
| 5 | Q | 354 | GLN |
| 5 | Q | 360 | GLN |
| 5 | R | 41 | GLN |
| 5 | R | 92 | ASN |
| 5 | R | 137 | GLN |
| 5 | R | 252 | ASN |
| 5 | R | 263 | GLN |
| 5 | R | 354 | GLN |
| 5 | S | 41 | GLN |
| 5 | S | 92 | ASN |
| 5 | S | 137 | GLN |
| 5 | S | 252 | ASN |
| 5 | S | 263 | GLN |
| 5 | S | 354 | GLN |
| 2 | Y | 175 | GLN |
| 2 | Y | 198 | ASN |
| 2 | Y | 243 | GLN |
| 2 | Y | 245 | GLN |
| 3 | Z | 42 | ASN |
| 3 | Z | 47 | HIS |
| 3 | Z | 58 | GLN |
| 3 | Z | 61 | GLN |
| 3 | Z | 86 | GLN |
| 3 | Z | 97 | GLN |
| 3 | Z | 130 | HIS |
| 3 | Z | 133 | ASN |
| 3 | Z | 142 | GLN |

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 16 ligands modelled in this entry, 16 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Map visualisation

This section contains visualisations of the EMDDB entry EMD-1561. These allow visual inspection of the internal detail of the map and identification of artifacts.

No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

This section was not generated.

6.2 Central slices

This section was not generated.

6.3 Largest variance slices

This section was not generated.

6.4 Orthogonal standard-deviation projections (False-color)

This section was not generated.

6.5 Orthogonal surface views

This section was not generated.

6.6 Mask visualisation

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

7 Map analysis

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

7.1 Map-value distribution

This section was not generated.

7.2 Volume estimate versus contour level

This section was not generated.

7.3 Rotationally averaged power spectrum

This section was not generated. The rotationally averaged power spectrum had issues being displayed.

8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit

This section was not generated.