



Full wwPDB EM Validation Report ⓘ

Nov 2, 2024 – 05:27 pm GMT

PDB ID : 2YN9
EMDB ID : EMD-2219
Title : Cryo-EM structure of gastric H⁺,K⁺-ATPase with bound rubidium
Authors : Abe, K.; Tani, K.; Friedrich, T.; Fujiyoshi, Y.
Deposited on : 2012-10-13
Resolution : 8.00 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.dev113
MolProbity : 4.02b-467
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.39

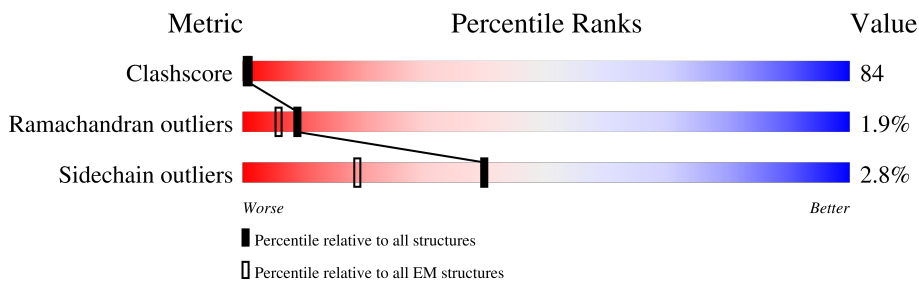
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON CRYSTALLOGRAPHY

The reported resolution of this entry is 8.00 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 | 210492 | 15764 |
| Ramachandran outliers | 207382 | 16835 |
| Sidechain outliers | 206894 | 16415 |

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 $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1 | A | 1034 | |
| 2 | B | 290 | |

2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 9694 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 POTASSIUM-TRANSPORTING ATPASE ALPHA CHAIN 1.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|------|------|----|---------|-------|
| | | | Total | C | N | O | S | | |
| 1 | A | 993 | 7718 | 4927 | 1304 | 1434 | 53 | 0 | 0 |

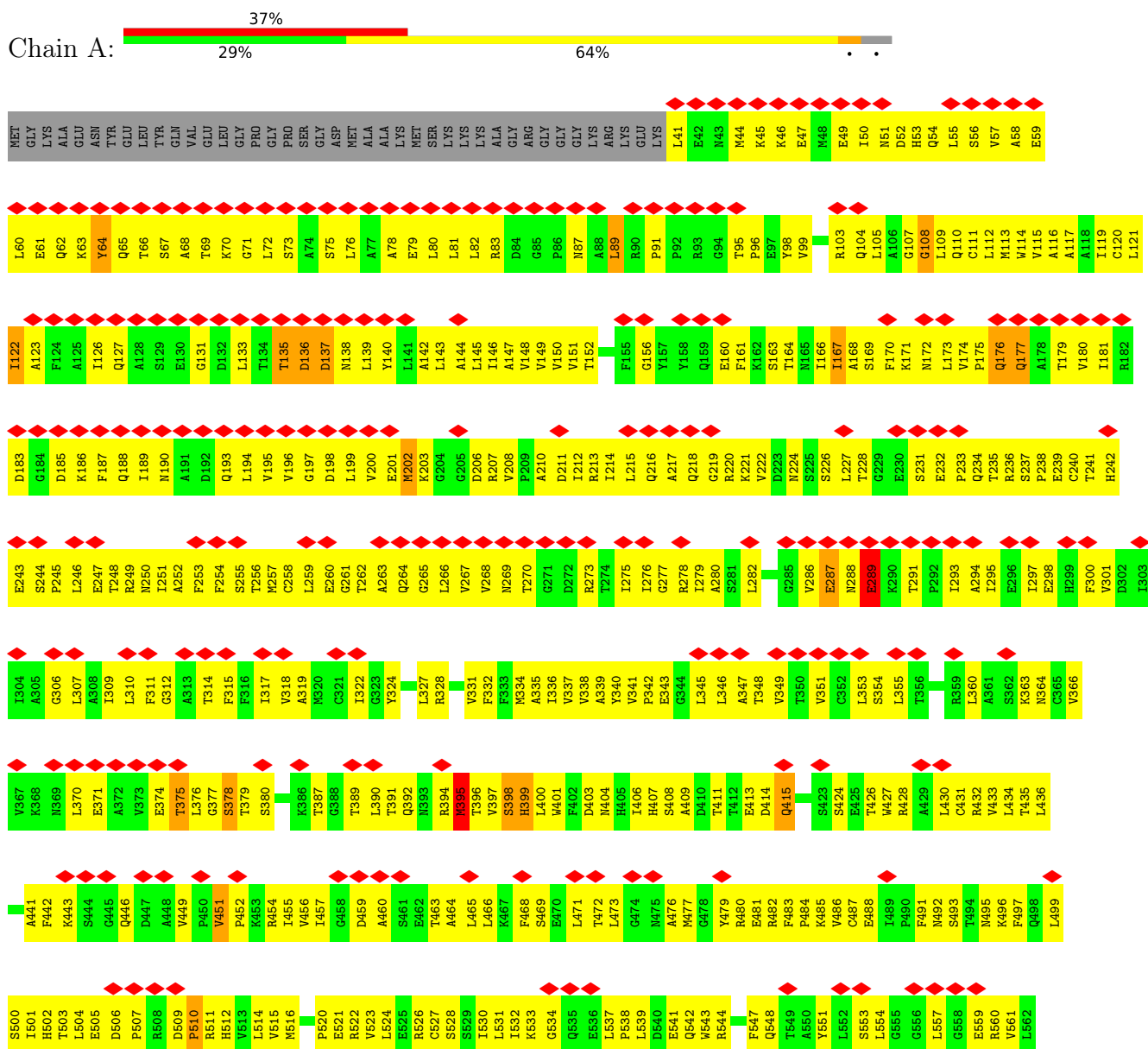
- Molecule 2 is a protein called POTASSIUM-TRANSPORTING ATPASE SUBUNIT BETA.

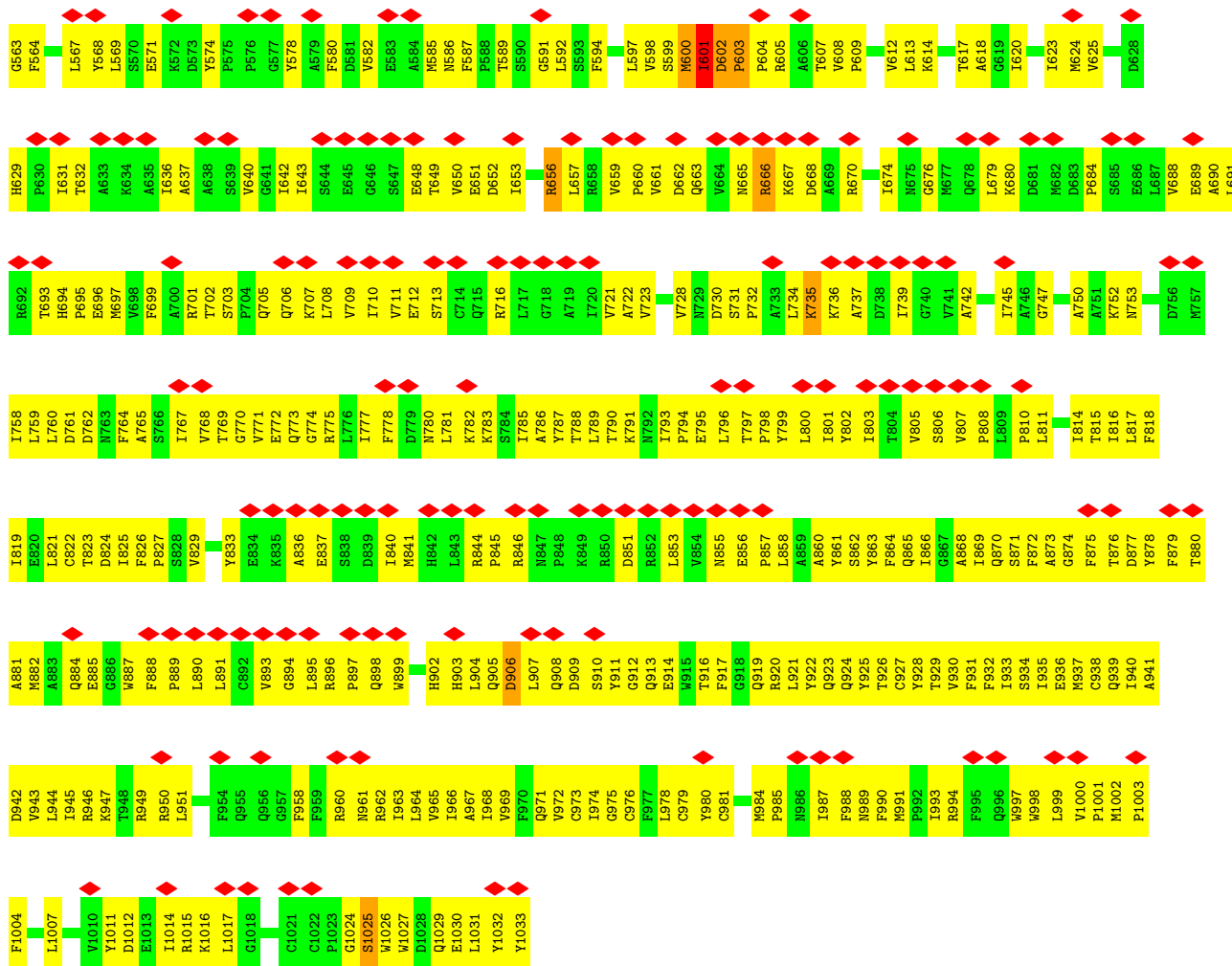
| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| | | | Total | C | N | O | S | | |
| 2 | B | 246 | 1976 | 1287 | 325 | 353 | 11 | 0 | 0 |

3 Residue-property plots [i](#)

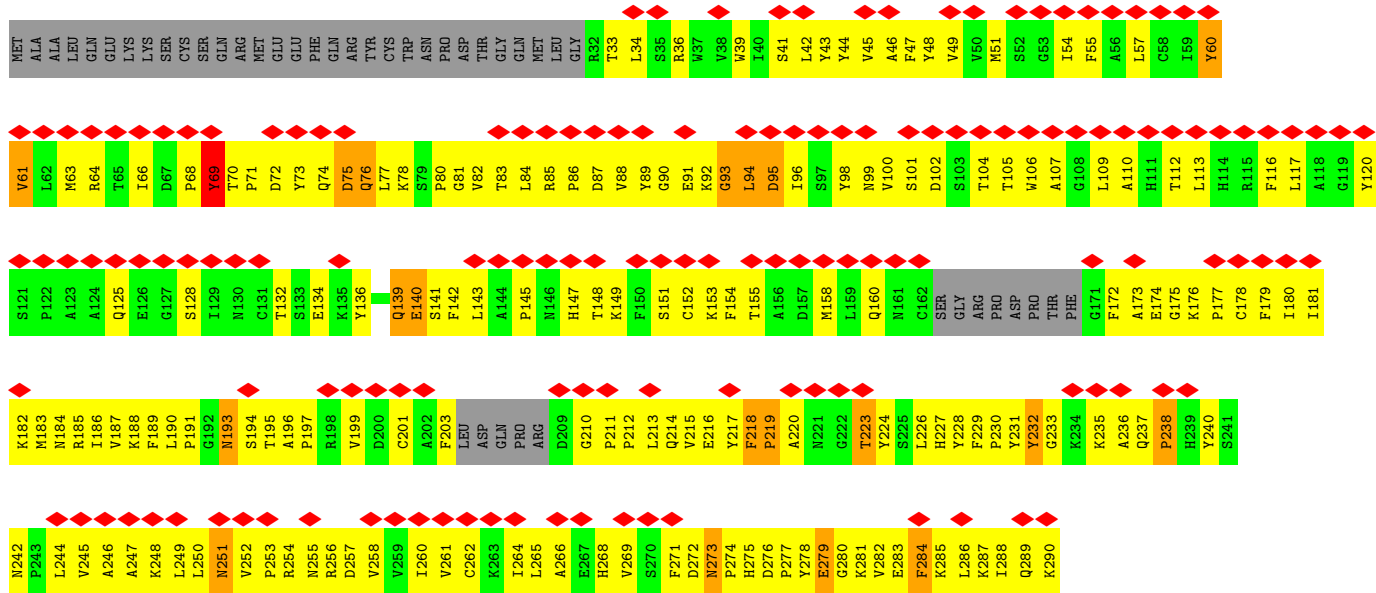
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). 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: POTASSIUM-TRANSPORTING ATPASE ALPHA CHAIN 1





● Molecule 2: POTASSIUM-TRANSPORTING ATPASE SUBUNIT BETA



4 Experimental information

| Property | Value | Source |
|------------------------------------|--|-----------|
| EM reconstruction method | CRYSTALLOGRAPHY | Depositor |
| Imposed symmetry | 2D CRYSTAL, a =Not provided Å, b =Not provided Å, c =Not provided Å, γ =Not provided°, space group=Not provided | Depositor |
| Number of images used | Not provided | |
| Resolution determination method | Not provided | |
| CTF correction method | Not provided | |
| Microscope | JEOL KYOTO-3000SFF | Depositor |
| Voltage (kV) | 300 | Depositor |
| Electron dose ($e^-/\text{Å}^2$) | Not provided | |
| Minimum defocus (nm) | 830 | Depositor |
| Maximum defocus (nm) | 3480 | Depositor |
| Magnification | 40000 | Depositor |
| Image detector | KODAK SO-163 FILM | Depositor |
| Maximum map value | 6.639 | Depositor |
| Minimum map value | -4.470 | Depositor |
| Average map value | -0.005 | Depositor |
| Map value standard deviation | 0.993 | Depositor |
| Recommended contour level | 1.2 | Depositor |
| Map size (Å) | 134.5609, 119.4563, 322.0 | wwPDB |
| Map dimensions | 61, 73, 161 | wwPDB |
| Map angles (°) | 90.0, 90.0, 90.0 | wwPDB |
| Pixel spacing (Å) | 1.8433, 1.9583, 2.0000 | Depositor |

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|---------------|-------------|----------------|
| | | RMSZ | # Z >5 | RMSZ | # Z >5 |
| 1 | A | 0.89 | 1/7876 (0.0%) | 1.03 | 3/10694 (0.0%) |
| 2 | B | 0.82 | 0/2037 | 1.07 | 5/2767 (0.2%) |
| All | All | 0.87 | 1/9913 (0.0%) | 1.03 | 8/13461 (0.1%) |

All (1) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|-------|------|-------------|----------|
| 1 | A | 342 | PRO | N-CD | 7.55 | 1.58 | 1.47 |

All (8) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-----------|--------|-------------|----------|
| 1 | A | 602 | ASP | C-N-CD | -17.82 | 81.40 | 120.60 |
| 2 | B | 218 | PHE | C-N-CD | -8.93 | 100.96 | 120.60 |
| 2 | B | 95 | ASP | N-CA-C | -8.78 | 87.31 | 111.00 |
| 2 | B | 93 | GLY | N-CA-C | -6.35 | 97.22 | 113.10 |
| 2 | B | 72 | ASP | CB-CG-OD1 | 5.14 | 122.93 | 118.30 |
| 1 | A | 64 | TYR | CA-CB-CG | -5.10 | 103.72 | 113.40 |
| 1 | A | 98 | TYR | CA-CB-CG | -5.06 | 103.78 | 113.40 |
| 2 | B | 232 | TYR | CA-CB-CG | -5.04 | 103.82 | 113.40 |

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 1 | A | 7718 | 0 | 7751 | 1210 | 645 |
| 2 | B | 1976 | 0 | 1923 | 541 | 0 |
| All | All | 9694 | 0 | 9674 | 1634 | 645 |

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 84.

All (1634) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:911:TYR:HE2 | 2:B:70:THR:CA | 1.17 | 1.52 |
| 1:A:911:TYR:CE2 | 2:B:70:THR:CA | 2.00 | 1.44 |
| 1:A:911:TYR:CD2 | 2:B:71:PRO:HD3 | 1.57 | 1.39 |
| 2:B:69:TYR:CD1 | 2:B:235:LYS:HD3 | 1.62 | 1.32 |
| 1:A:916:THR:CG2 | 2:B:276:ASP:OD2 | 1.77 | 1.32 |
| 2:B:69:TYR:CE1 | 2:B:235:LYS:HE2 | 1.71 | 1.24 |
| 2:B:272:ASP:OD1 | 2:B:274:PRO:HD2 | 1.37 | 1.24 |
| 1:A:916:THR:HG21 | 2:B:276:ASP:OD2 | 1.07 | 1.23 |
| 1:A:911:TYR:CE2 | 2:B:70:THR:HA | 1.66 | 1.22 |
| 1:A:376:LEU:HD23 | 1:A:770:GLY:CA | 1.70 | 1.20 |
| 1:A:911:TYR:CE2 | 2:B:70:THR:C | 2.14 | 1.20 |
| 1:A:376:LEU:CD2 | 1:A:770:GLY:HA3 | 1.73 | 1.18 |
| 1:A:602:ASP:OD1 | 1:A:603:PRO:CD | 1.92 | 1.18 |
| 1:A:911:TYR:CZ | 2:B:71:PRO:N | 2.11 | 1.18 |
| 1:A:914:GLU:CD | 2:B:184:ASN:HA | 1.64 | 1.16 |
| 1:A:911:TYR:CE2 | 2:B:71:PRO:CD | 2.28 | 1.16 |
| 1:A:911:TYR:CG | 2:B:71:PRO:HD3 | 1.81 | 1.16 |
| 1:A:994:ARG:CZ | 2:B:73:TYR:CZ | 2.27 | 1.15 |
| 2:B:92:LYS:HD3 | 2:B:96:ILE:CD1 | 1.77 | 1.15 |
| 1:A:911:TYR:CZ | 2:B:70:THR:C | 2.22 | 1.13 |
| 1:A:173:LEU:O | 1:A:207:ARG:NH1 | 1.82 | 1.12 |
| 1:A:400:LEU:HD23 | 1:A:598:VAL:HG23 | 1.26 | 1.12 |
| 2:B:90:GLY:O | 2:B:95:ASP:OD2 | 1.68 | 1.12 |
| 1:A:431:CYS:HB3 | 1:A:473:LEU:HD11 | 1.26 | 1.11 |
| 1:A:911:TYR:HE2 | 2:B:70:THR:N | 1.47 | 1.11 |
| 2:B:96:ILE:HD12 | 2:B:109:LEU:HD12 | 1.27 | 1.10 |
| 1:A:602:ASP:OD1 | 1:A:603:PRO:HD2 | 1.46 | 1.10 |
| 1:A:884:GLN:HG3 | 1:A:997:TRP:HH2 | 1.13 | 1.10 |
| 2:B:139:GLN:HG2 | 2:B:149:LYS:HD2 | 1.22 | 1.10 |
| 1:A:116:ALA:HB2 | 1:A:337:VAL:HG21 | 1.31 | 1.09 |
| 1:A:72:LEU:HD13 | 1:A:198:ASP:HA | 1.30 | 1.09 |
| 1:A:451:VAL:HG13 | 1:A:452:PRO:HD3 | 1.24 | 1.09 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:911:TYR:CE2 | 2:B:71:PRO:HD3 | 1.86 | 1.09 |
| 1:A:882:MET:HG2 | 1:A:887:TRP:HB2 | 1.32 | 1.08 |
| 2:B:96:ILE:HD12 | 2:B:109:LEU:CD1 | 1.83 | 1.08 |
| 1:A:911:TYR:CD2 | 2:B:71:PRO:CD | 2.36 | 1.08 |
| 2:B:96:ILE:CG2 | 2:B:109:LEU:HG | 1.81 | 1.08 |
| 1:A:376:LEU:HD23 | 1:A:770:GLY:HA3 | 1.09 | 1.08 |
| 2:B:92:LYS:CD | 2:B:96:ILE:HD13 | 1.84 | 1.08 |
| 1:A:623:ILE:HG23 | 1:A:697:MET:HG3 | 1.29 | 1.07 |
| 1:A:984:MET:HG3 | 1:A:988:PHE:HD2 | 1.17 | 1.07 |
| 2:B:96:ILE:HG21 | 2:B:109:LEU:HG | 1.13 | 1.07 |
| 2:B:91:GLU:O | 2:B:95:ASP:HB2 | 1.55 | 1.06 |
| 1:A:46:LYS:HE2 | 1:A:712:GLU:OE2 | 1.54 | 1.06 |
| 1:A:602:ASP:OD1 | 1:A:603:PRO:N | 1.87 | 1.06 |
| 2:B:92:LYS:HG2 | 2:B:95:ASP:HB3 | 1.37 | 1.06 |
| 1:A:73:SER:HB2 | 1:A:76:LEU:HD23 | 1.07 | 1.06 |
| 1:A:171:LYS:O | 1:A:174:VAL:HG12 | 1.56 | 1.06 |
| 1:A:911:TYR:CE2 | 2:B:71:PRO:N | 2.24 | 1.05 |
| 1:A:837:GLU:HB3 | 1:A:951:LEU:HD13 | 1.35 | 1.04 |
| 1:A:400:LEU:CD2 | 1:A:598:VAL:HG23 | 1.86 | 1.04 |
| 2:B:92:LYS:CG | 2:B:95:ASP:HB3 | 1.86 | 1.04 |
| 2:B:68:PRO:O | 2:B:235:LYS:CD | 2.06 | 1.04 |
| 1:A:818:PHE:HZ | 1:A:988:PHE:CD1 | 1.75 | 1.03 |
| 1:A:702:THR:HB | 1:A:706:GLN:HG3 | 1.35 | 1.03 |
| 2:B:189:PHE:HZ | 2:B:268:HIS:HB3 | 1.22 | 1.03 |
| 1:A:511:ARG:HD3 | 1:A:571:GLU:HG2 | 1.36 | 1.02 |
| 1:A:914:GLU:HG3 | 2:B:184:ASN:CB | 1.88 | 1.02 |
| 1:A:161:PHE:HE2 | 1:A:163:SER:HB2 | 1.24 | 1.02 |
| 1:A:814:ILE:HG22 | 1:A:818:PHE:HE2 | 1.25 | 1.01 |
| 2:B:69:TYR:CE1 | 2:B:235:LYS:CE | 2.43 | 1.01 |
| 1:A:774:GLY:O | 1:A:777:ILE:HG22 | 1.60 | 1.00 |
| 2:B:94:LEU:HB2 | 2:B:284:PHE:HD2 | 1.26 | 1.00 |
| 1:A:399:HIS:HB3 | 1:A:407:HIS:O | 1.62 | 1.00 |
| 1:A:993:ILE:HD11 | 1:A:998:TRP:CE2 | 1.97 | 0.99 |
| 2:B:85:ARG:HG3 | 2:B:113:LEU:HA | 1.40 | 0.99 |
| 1:A:994:ARG:CZ | 2:B:73:TYR:CE1 | 2.45 | 0.99 |
| 2:B:88:VAL:HG12 | 2:B:92:LYS:HB2 | 1.43 | 0.98 |
| 1:A:254:PHE:CE2 | 1:A:276:ILE:HD11 | 1.99 | 0.98 |
| 1:A:884:GLN:HG3 | 1:A:997:TRP:CH2 | 1.99 | 0.98 |
| 2:B:272:ASP:C | 2:B:274:PRO:CD | 2.32 | 0.98 |
| 1:A:176:GLN:HA | 1:A:176:GLN:OE1 | 1.62 | 0.97 |
| 2:B:94:LEU:HB2 | 2:B:284:PHE:CD2 | 1.98 | 0.97 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:864:PHE:CE2 | 2:B:47:PHE:CD2 | 2.51 | 0.97 |
| 1:A:601:ILE:HG23 | 1:A:602:ASP:N | 1.80 | 0.97 |
| 1:A:194:LEU:HD21 | 1:A:267:VAL:HG21 | 1.47 | 0.97 |
| 1:A:911:TYR:OH | 2:B:70:THR:C | 2.02 | 0.97 |
| 1:A:984:MET:HG3 | 1:A:988:PHE:CD2 | 2.00 | 0.97 |
| 2:B:69:TYR:HE1 | 2:B:235:LYS:HE2 | 1.27 | 0.97 |
| 2:B:92:LYS:HA | 2:B:95:ASP:HB2 | 1.44 | 0.97 |
| 1:A:864:PHE:CE1 | 2:B:48:TYR:CZ | 2.53 | 0.96 |
| 2:B:120:TYR:CZ | 2:B:244:LEU:HD11 | 2.00 | 0.96 |
| 1:A:914:GLU:CG | 2:B:184:ASN:CB | 2.43 | 0.96 |
| 2:B:272:ASP:OD1 | 2:B:274:PRO:CD | 2.13 | 0.96 |
| 2:B:68:PRO:O | 2:B:235:LYS:HD3 | 1.65 | 0.96 |
| 1:A:791:LYS:HE2 | 1:A:935:ILE:HG22 | 1.48 | 0.95 |
| 2:B:92:LYS:HA | 2:B:95:ASP:CB | 1.97 | 0.95 |
| 1:A:811:LEU:HD11 | 1:A:815:THR:HG21 | 1.46 | 0.95 |
| 2:B:272:ASP:C | 2:B:274:PRO:HD2 | 1.85 | 0.95 |
| 1:A:212:ILE:HG22 | 1:A:252:ALA:HB3 | 1.47 | 0.95 |
| 2:B:68:PRO:HG2 | 2:B:69:TYR:CZ | 2.01 | 0.95 |
| 1:A:315:PHE:CE2 | 1:A:800:LEU:HD22 | 2.02 | 0.94 |
| 1:A:392:GLN:CD | 1:A:413:GLU:OE2 | 1.98 | 0.94 |
| 1:A:917:PHE:CE2 | 1:A:921:LEU:HD11 | 2.01 | 0.94 |
| 2:B:100:VAL:HG22 | 2:B:290:LYS:HB3 | 1.48 | 0.94 |
| 1:A:925:TYR:HA | 1:A:928:TYR:HD2 | 1.30 | 0.94 |
| 1:A:511:ARG:HG2 | 1:A:512:HIS:H | 1.31 | 0.93 |
| 2:B:92:LYS:HD3 | 2:B:96:ILE:HD13 | 0.95 | 0.93 |
| 1:A:688:VAL:HG22 | 1:A:716:ARG:HH21 | 1.33 | 0.93 |
| 2:B:142:PHE:CZ | 2:B:188:LYS:HB3 | 2.04 | 0.93 |
| 1:A:865:GLN:HE22 | 2:B:43:TYR:HE2 | 1.16 | 0.93 |
| 2:B:249:LEU:HD21 | 2:B:260:ILE:HD13 | 1.51 | 0.93 |
| 2:B:69:TYR:HD1 | 2:B:235:LYS:HD3 | 1.14 | 0.93 |
| 2:B:147:HIS:HD2 | 2:B:148:THR:HG22 | 1.34 | 0.92 |
| 1:A:791:LYS:HE3 | 1:A:939:GLN:CG | 1.99 | 0.92 |
| 1:A:360:LEU:HD21 | 1:A:773:GLN:HG3 | 1.51 | 0.92 |
| 1:A:394:ARG:NH2 | 1:A:413:GLU:HB3 | 1.84 | 0.92 |
| 2:B:69:TYR:CD1 | 2:B:235:LYS:CD | 2.51 | 0.92 |
| 1:A:933:ILE:HD13 | 1:A:993:ILE:HD13 | 1.50 | 0.92 |
| 1:A:911:TYR:HE2 | 2:B:70:THR:HA | 1.07 | 0.92 |
| 1:A:911:TYR:CE2 | 2:B:70:THR:N | 2.30 | 0.91 |
| 2:B:155:THR:CG2 | 2:B:158:MET:HG2 | 2.00 | 0.91 |
| 1:A:482:ARG:HG3 | 1:A:483:PHE:CD1 | 2.05 | 0.91 |
| 2:B:272:ASP:O | 2:B:274:PRO:HD3 | 1.71 | 0.91 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:A:177:GLN:HB3 | 1:A:189:ILE:O | 1.70 | 0.91 |
| 2:B:139:GLN:CG | 2:B:149:LYS:HD2 | 2.00 | 0.91 |
| 1:A:530:ILE:HD11 | 1:A:539:LEU:HD13 | 1.50 | 0.91 |
| 1:A:864:PHE:CE2 | 2:B:47:PHE:CE2 | 2.59 | 0.91 |
| 1:A:856:GLU:HG2 | 1:A:857:PRO:HD3 | 1.52 | 0.91 |
| 1:A:911:TYR:OH | 2:B:70:THR:O | 1.89 | 0.91 |
| 1:A:392:GLN:OE1 | 1:A:413:GLU:CD | 2.07 | 0.91 |
| 1:A:656:ARG:HD2 | 1:A:657:LEU:HG | 1.52 | 0.91 |
| 1:A:1015:ARG:HE | 1:A:1031:LEU:HD13 | 1.33 | 0.91 |
| 1:A:914:GLU:HG3 | 2:B:184:ASN:HB3 | 1.53 | 0.91 |
| 1:A:398:SER:OG | 1:A:601:ILE:HB | 1.70 | 0.90 |
| 1:A:984:MET:CG | 1:A:988:PHE:HD2 | 1.82 | 0.90 |
| 2:B:186:ILE:HG23 | 2:B:189:PHE:HB3 | 1.53 | 0.90 |
| 1:A:865:GLN:NE2 | 2:B:43:TYR:HE2 | 1.70 | 0.90 |
| 1:A:914:GLU:HG3 | 2:B:184:ASN:CG | 1.79 | 0.89 |
| 1:A:731:SER:HB2 | 1:A:732:PRO:HD3 | 1.53 | 0.89 |
| 2:B:139:GLN:HE21 | 2:B:139:GLN:HA | 1.37 | 0.89 |
| 1:A:411:THR:HG21 | 1:A:601:ILE:HG21 | 1.54 | 0.88 |
| 1:A:73:SER:CB | 1:A:76:LEU:HD23 | 1.99 | 0.88 |
| 1:A:822:CYS:SG | 1:A:974:ILE:HG12 | 2.13 | 0.88 |
| 2:B:143:LEU:HB3 | 2:B:145:PRO:HD2 | 1.55 | 0.88 |
| 2:B:85:ARG:CG | 2:B:113:LEU:HA | 2.03 | 0.88 |
| 2:B:88:VAL:HA | 2:B:92:LYS:HD2 | 1.54 | 0.88 |
| 2:B:179:PHE:HE2 | 2:B:249:LEU:HD11 | 1.37 | 0.88 |
| 2:B:213:LEU:HD11 | 2:B:249:LEU:HD23 | 1.53 | 0.88 |
| 2:B:69:TYR:HE1 | 2:B:235:LYS:CE | 1.85 | 0.88 |
| 2:B:88:VAL:HA | 2:B:92:LYS:HB2 | 1.54 | 0.88 |
| 2:B:92:LYS:HG2 | 2:B:95:ASP:C | 1.92 | 0.88 |
| 1:A:315:PHE:HA | 1:A:318:VAL:HG22 | 1.57 | 0.87 |
| 2:B:116:PHE:CE2 | 2:B:244:LEU:HD21 | 2.09 | 0.87 |
| 2:B:203:PHE:CE1 | 2:B:258:VAL:HG13 | 2.10 | 0.87 |
| 1:A:433:VAL:HG23 | 1:A:515:VAL:HB | 1.54 | 0.87 |
| 1:A:530:ILE:HD11 | 1:A:539:LEU:CD1 | 2.05 | 0.87 |
| 1:A:340:TYR:CE1 | 1:A:796:LEU:HD22 | 2.09 | 0.86 |
| 1:A:994:ARG:NH2 | 2:B:73:TYR:CE1 | 2.43 | 0.86 |
| 2:B:68:PRO:O | 2:B:235:LYS:HD2 | 1.76 | 0.86 |
| 1:A:814:ILE:HG22 | 1:A:818:PHE:CE2 | 2.09 | 0.86 |
| 1:A:499:LEU:HD21 | 1:A:514:LEU:HD11 | 1.58 | 0.86 |
| 2:B:189:PHE:CZ | 2:B:268:HIS:HB3 | 2.10 | 0.86 |
| 1:A:339:ALA:CB | 1:A:796:LEU:HD23 | 2.05 | 0.86 |
| 2:B:68:PRO:HG2 | 2:B:69:TYR:CE2 | 2.10 | 0.85 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:90:GLY:O | 2:B:95:ASP:CG | 2.15 | 0.85 |
| 2:B:179:PHE:CE2 | 2:B:249:LEU:HD11 | 2.11 | 0.85 |
| 1:A:667:LYS:HE2 | 1:A:667:LYS:HA | 1.59 | 0.85 |
| 1:A:903:HIS:CE1 | 2:B:87:ASP:HA | 2.10 | 0.85 |
| 2:B:155:THR:HG22 | 2:B:158:MET:HG2 | 1.58 | 0.85 |
| 2:B:213:LEU:HD23 | 2:B:214:GLN:N | 1.90 | 0.85 |
| 1:A:212:ILE:CG2 | 1:A:252:ALA:HB3 | 2.06 | 0.85 |
| 2:B:92:LYS:HG2 | 2:B:95:ASP:CB | 2.06 | 0.85 |
| 2:B:92:LYS:HG2 | 2:B:95:ASP:O | 1.76 | 0.85 |
| 2:B:158:MET:HE3 | 2:B:220:ALA:HA | 1.57 | 0.85 |
| 1:A:194:LEU:HD23 | 1:A:195:VAL:N | 1.92 | 0.84 |
| 1:A:297:ILE:HA | 1:A:300:PHE:CE2 | 2.12 | 0.84 |
| 1:A:339:ALA:HB1 | 1:A:796:LEU:HD23 | 1.58 | 0.84 |
| 1:A:826:PHE:HB3 | 1:A:827:PRO:HD3 | 1.58 | 0.84 |
| 1:A:1002:MET:HB2 | 1:A:1003:PRO:HD3 | 1.58 | 0.84 |
| 1:A:869:ILE:HG12 | 2:B:51:MET:CE | 2.07 | 0.84 |
| 2:B:68:PRO:O | 2:B:69:TYR:CD1 | 2.30 | 0.84 |
| 2:B:182:LYS:HE3 | 2:B:242:ASN:HB2 | 1.59 | 0.84 |
| 1:A:345:LEU:O | 1:A:348:THR:HG22 | 1.78 | 0.84 |
| 1:A:376:LEU:HD23 | 1:A:770:GLY:C | 1.98 | 0.84 |
| 1:A:431:CYS:CB | 1:A:473:LEU:HD11 | 2.07 | 0.84 |
| 1:A:864:PHE:HE2 | 2:B:47:PHE:CD2 | 1.94 | 0.84 |
| 1:A:276:ILE:O | 1:A:279:ILE:HG22 | 1.78 | 0.84 |
| 1:A:345:LEU:HD13 | 1:A:788:THR:HG21 | 1.57 | 0.83 |
| 2:B:147:HIS:CD2 | 2:B:148:THR:HG22 | 2.11 | 0.83 |
| 1:A:940:ILE:O | 1:A:943:VAL:HG12 | 1.78 | 0.83 |
| 2:B:89:TYR:CB | 2:B:92:LYS:HE3 | 2.08 | 0.83 |
| 1:A:511:ARG:CD | 1:A:571:GLU:HG2 | 2.08 | 0.83 |
| 1:A:684:PRO:O | 1:A:688:VAL:HG23 | 1.79 | 0.83 |
| 2:B:92:LYS:HE2 | 2:B:95:ASP:O | 1.79 | 0.83 |
| 2:B:41:SER:O | 2:B:45:VAL:HG23 | 1.79 | 0.83 |
| 1:A:499:LEU:CD2 | 1:A:514:LEU:HD11 | 2.09 | 0.83 |
| 1:A:811:LEU:HD11 | 1:A:815:THR:CG2 | 2.09 | 0.83 |
| 1:A:49:GLU:OE2 | 1:A:275:ILE:HA | 1.79 | 0.82 |
| 1:A:146:ILE:O | 1:A:149:VAL:HG12 | 1.79 | 0.82 |
| 1:A:511:ARG:HD3 | 1:A:571:GLU:CG | 2.09 | 0.82 |
| 1:A:328:ARG:O | 1:A:331:VAL:HG22 | 1.80 | 0.82 |
| 1:A:818:PHE:CZ | 1:A:988:PHE:CD1 | 2.66 | 0.82 |
| 1:A:934:SER:HA | 1:A:1001:PRO:HG3 | 1.61 | 0.82 |
| 1:A:913:GLN:NE2 | 2:B:77:LEU:HD22 | 1.95 | 0.81 |
| 1:A:91:PRO:HB3 | 1:A:167:ILE:HG13 | 1.61 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:298:GLU:O | 1:A:301:VAL:HG22 | 1.79 | 0.81 |
| 1:A:335:ALA:HB1 | 1:A:799:TYR:CE1 | 2.15 | 0.81 |
| 1:A:112:LEU:O | 1:A:115:VAL:HG12 | 1.81 | 0.81 |
| 1:A:618:ALA:O | 1:A:845:PRO:HD3 | 1.79 | 0.81 |
| 1:A:777:ILE:O | 1:A:781:LEU:HG | 1.78 | 0.81 |
| 2:B:139:GLN:HG2 | 2:B:149:LYS:CD | 2.08 | 0.81 |
| 2:B:223:THR:HG23 | 2:B:224:TYR:H | 1.45 | 0.81 |
| 1:A:72:LEU:CD1 | 1:A:198:ASP:HA | 2.11 | 0.81 |
| 1:A:564:PHE:HE1 | 1:A:598:VAL:HG12 | 1.45 | 0.81 |
| 1:A:765:ALA:O | 1:A:768:VAL:HG12 | 1.78 | 0.81 |
| 1:A:925:TYR:HA | 1:A:928:TYR:CD2 | 2.16 | 0.81 |
| 1:A:937:MET:O | 1:A:940:ILE:HG22 | 1.80 | 0.81 |
| 2:B:88:VAL:HA | 2:B:92:LYS:CG | 2.11 | 0.81 |
| 2:B:113:LEU:O | 2:B:117:LEU:HD23 | 1.80 | 0.81 |
| 1:A:994:ARG:NE | 2:B:73:TYR:OH | 2.14 | 0.81 |
| 1:A:914:GLU:CG | 2:B:184:ASN:HB3 | 2.10 | 0.81 |
| 1:A:916:THR:CB | 2:B:276:ASP:OD2 | 2.28 | 0.81 |
| 2:B:86:PRO:HB2 | 2:B:96:ILE:HD11 | 1.60 | 0.81 |
| 2:B:158:MET:CE | 2:B:220:ALA:HA | 2.10 | 0.81 |
| 1:A:254:PHE:CD2 | 1:A:276:ILE:HD11 | 2.15 | 0.80 |
| 1:A:336:ILE:HG23 | 1:A:340:TYR:CE1 | 2.16 | 0.80 |
| 1:A:811:LEU:HA | 1:A:928:TYR:HD1 | 1.45 | 0.80 |
| 1:A:888:PHE:HB3 | 1:A:889:PRO:HD2 | 1.62 | 0.80 |
| 2:B:89:TYR:HB2 | 2:B:92:LYS:HE3 | 1.61 | 0.80 |
| 1:A:331:VAL:O | 1:A:334:MET:HG2 | 1.81 | 0.80 |
| 2:B:260:ILE:HG12 | 2:B:284:PHE:CZ | 2.17 | 0.80 |
| 2:B:88:VAL:CG1 | 2:B:92:LYS:HB2 | 2.12 | 0.80 |
| 1:A:856:GLU:CG | 1:A:857:PRO:HD3 | 2.12 | 0.80 |
| 1:A:906:ASP:OD1 | 1:A:906:ASP:N | 2.12 | 0.80 |
| 2:B:96:ILE:CG2 | 2:B:109:LEU:CG | 2.59 | 0.80 |
| 2:B:96:ILE:CD1 | 2:B:109:LEU:HD12 | 2.11 | 0.80 |
| 1:A:233:PRO:HG3 | 1:A:259:LEU:CD1 | 2.12 | 0.80 |
| 1:A:487:CYS:SG | 1:A:582:VAL:HG22 | 2.21 | 0.80 |
| 1:A:914:GLU:CD | 2:B:184:ASN:CA | 2.49 | 0.80 |
| 1:A:334:MET:O | 1:A:337:VAL:HG22 | 1.83 | 0.79 |
| 1:A:511:ARG:HB3 | 1:A:511:ARG:CZ | 2.12 | 0.79 |
| 1:A:649:THR:HG23 | 1:A:652:ASP:H | 1.47 | 0.79 |
| 1:A:926:THR:O | 1:A:929:THR:HG22 | 1.81 | 0.79 |
| 1:A:791:LYS:HD2 | 1:A:824:ASP:OD2 | 1.81 | 0.79 |
| 1:A:905:GLN:HB2 | 2:B:83:THR:HG22 | 1.64 | 0.79 |
| 1:A:930:VAL:HA | 1:A:933:ILE:HG12 | 1.64 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:185:ARG:HG2 | 2:B:242:ASN:HD21 | 1.46 | 0.79 |
| 1:A:119:ILE:O | 1:A:122:ILE:HG22 | 1.82 | 0.79 |
| 1:A:994:ARG:NH2 | 2:B:73:TYR:CZ | 2.50 | 0.79 |
| 1:A:805:VAL:HG13 | 1:A:807:VAL:N | 1.98 | 0.79 |
| 2:B:197:PRO:HG2 | 2:B:224:TYR:HB2 | 1.63 | 0.79 |
| 1:A:916:THR:OG1 | 2:B:278:TYR:HB2 | 1.82 | 0.78 |
| 1:A:109:LEU:H | 1:A:109:LEU:HD22 | 1.48 | 0.78 |
| 1:A:526:ARG:NH2 | 1:A:589:THR:HB | 1.99 | 0.78 |
| 1:A:605:ARG:HB2 | 1:A:608:VAL:HG23 | 1.66 | 0.78 |
| 1:A:430:LEU:O | 1:A:433:VAL:HG12 | 1.83 | 0.78 |
| 1:A:80:LEU:HG | 1:A:83:ARG:NH1 | 1.99 | 0.78 |
| 1:A:53:HIS:HB3 | 1:A:251:ILE:HD11 | 1.66 | 0.78 |
| 2:B:84:LEU:HD11 | 2:B:282:VAL:CG2 | 2.13 | 0.78 |
| 2:B:189:PHE:CD2 | 2:B:191:PRO:HD3 | 2.19 | 0.78 |
| 1:A:314:THR:O | 1:A:318:VAL:HG13 | 1.83 | 0.78 |
| 1:A:266:LEU:HD23 | 1:A:267:VAL:N | 1.99 | 0.77 |
| 2:B:116:PHE:HE2 | 2:B:244:LEU:HD21 | 1.46 | 0.77 |
| 1:A:176:GLN:OE1 | 1:A:176:GLN:CA | 2.32 | 0.77 |
| 1:A:46:LYS:CE | 1:A:712:GLU:OE2 | 2.33 | 0.77 |
| 1:A:116:ALA:CB | 1:A:337:VAL:HG21 | 2.13 | 0.77 |
| 1:A:614:LYS:O | 1:A:617:THR:HG22 | 1.83 | 0.77 |
| 1:A:750:ALA:HA | 1:A:753:ASN:ND2 | 1.98 | 0.77 |
| 1:A:805:VAL:HG13 | 1:A:807:VAL:H | 1.49 | 0.77 |
| 1:A:115:VAL:O | 1:A:119:ILE:HG12 | 1.85 | 0.77 |
| 1:A:801:ILE:O | 1:A:805:VAL:HG12 | 1.85 | 0.77 |
| 2:B:46:ALA:HA | 2:B:49:VAL:HB | 1.65 | 0.77 |
| 2:B:88:VAL:HA | 2:B:92:LYS:CD | 2.14 | 0.77 |
| 1:A:702:THR:HB | 1:A:706:GLN:CG | 2.13 | 0.77 |
| 1:A:882:MET:HG2 | 1:A:887:TRP:CB | 2.13 | 0.77 |
| 1:A:933:ILE:HD13 | 1:A:993:ILE:CD1 | 2.15 | 0.77 |
| 2:B:88:VAL:HG12 | 2:B:92:LYS:CB | 2.15 | 0.77 |
| 2:B:113:LEU:HD22 | 2:B:172:PHE:CE1 | 2.20 | 0.77 |
| 1:A:648:GLU:HB3 | 1:A:652:ASP:OD1 | 1.85 | 0.77 |
| 1:A:791:LYS:CE | 1:A:935:ILE:HG22 | 2.15 | 0.77 |
| 1:A:442:PHE:CZ | 1:A:466:LEU:HD22 | 2.19 | 0.76 |
| 1:A:451:VAL:CG1 | 1:A:452:PRO:HD3 | 2.12 | 0.76 |
| 1:A:57:VAL:CG1 | 1:A:215:LEU:HD23 | 2.15 | 0.76 |
| 1:A:167:ILE:HD13 | 1:A:167:ILE:O | 1.85 | 0.76 |
| 1:A:246:LEU:HD13 | 1:A:246:LEU:O | 1.85 | 0.76 |
| 1:A:785:ILE:O | 1:A:788:THR:HG22 | 1.85 | 0.76 |
| 1:A:181:ILE:HD12 | 1:A:199:LEU:HD23 | 1.68 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:623:ILE:CG2 | 1:A:697:MET:HG3 | 2.12 | 0.76 |
| 1:A:121:LEU:CD2 | 1:A:142:ALA:HB1 | 2.16 | 0.76 |
| 1:A:44:MET:O | 1:A:47:GLU:HG2 | 1.86 | 0.76 |
| 2:B:75:ASP:O | 2:B:78:LYS:N | 2.13 | 0.76 |
| 2:B:77:LEU:HD23 | 2:B:186:ILE:HG13 | 1.67 | 0.76 |
| 2:B:88:VAL:HA | 2:B:92:LYS:CB | 2.14 | 0.76 |
| 1:A:57:VAL:HG11 | 1:A:215:LEU:HD23 | 1.67 | 0.76 |
| 1:A:482:ARG:HG3 | 1:A:483:PHE:HD1 | 1.47 | 0.76 |
| 1:A:693:THR:HG23 | 1:A:694:HIS:ND1 | 2.00 | 0.76 |
| 1:A:702:THR:HG22 | 1:A:706:GLN:NE2 | 2.01 | 0.76 |
| 1:A:877:ASP:O | 1:A:880:THR:HG22 | 1.85 | 0.76 |
| 1:A:911:TYR:CZ | 2:B:71:PRO:CD | 2.63 | 0.76 |
| 2:B:272:ASP:C | 2:B:274:PRO:HD3 | 2.05 | 0.76 |
| 1:A:818:PHE:O | 1:A:822:CYS:HB3 | 1.86 | 0.75 |
| 1:A:837:GLU:HB3 | 1:A:951:LEU:CD1 | 2.12 | 0.75 |
| 2:B:149:LYS:HB2 | 2:B:237:GLN:HG2 | 1.68 | 0.75 |
| 1:A:255:SER:OG | 1:A:276:ILE:HG21 | 1.87 | 0.75 |
| 2:B:174:GLU:HG3 | 2:B:175:GLY:N | 2.02 | 0.75 |
| 1:A:460:ALA:O | 1:A:463:THR:HG22 | 1.87 | 0.75 |
| 1:A:426:THR:HA | 1:A:531:LEU:HD23 | 1.67 | 0.75 |
| 1:A:567:LEU:HB2 | 1:A:592:LEU:HD22 | 1.69 | 0.75 |
| 1:A:924:GLN:HG2 | 1:A:928:TYR:CE2 | 2.22 | 0.75 |
| 1:A:994:ARG:NE | 2:B:73:TYR:CZ | 2.54 | 0.75 |
| 1:A:608:VAL:HB | 1:A:609:PRO:HD3 | 1.69 | 0.75 |
| 1:A:255:SER:HB3 | 1:A:276:ILE:HG12 | 1.68 | 0.74 |
| 1:A:314:THR:HG23 | 1:A:315:PHE:CD1 | 2.23 | 0.74 |
| 1:A:912:GLY:O | 2:B:185:ARG:CZ | 2.35 | 0.74 |
| 1:A:311:PHE:HA | 1:A:314:THR:HG22 | 1.69 | 0.74 |
| 1:A:882:MET:HA | 1:A:923:GLN:OE1 | 1.87 | 0.74 |
| 1:A:289:GLU:HA | 1:A:289:GLU:OE1 | 1.86 | 0.74 |
| 2:B:214:GLN:CG | 2:B:250:LEU:HB2 | 2.18 | 0.74 |
| 1:A:911:TYR:CD2 | 2:B:70:THR:HA | 2.21 | 0.74 |
| 1:A:520:PRO:O | 1:A:523:VAL:HG12 | 1.87 | 0.74 |
| 1:A:688:VAL:HG22 | 1:A:716:ARG:NH2 | 2.01 | 0.74 |
| 1:A:778:PHE:CE2 | 1:A:782:LYS:HE3 | 2.23 | 0.74 |
| 1:A:791:LYS:HE3 | 1:A:939:GLN:CD | 2.08 | 0.74 |
| 2:B:89:TYR:H | 2:B:92:LYS:HE3 | 1.52 | 0.74 |
| 1:A:911:TYR:CD1 | 2:B:71:PRO:HD3 | 2.23 | 0.74 |
| 2:B:85:ARG:HD2 | 2:B:86:PRO:N | 2.03 | 0.74 |
| 1:A:537:LEU:CD1 | 1:A:538:PRO:HD2 | 2.18 | 0.74 |
| 2:B:88:VAL:CA | 2:B:92:LYS:HB2 | 2.18 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:A:311:PHE:HA | 1:A:314:THR:CG2 | 2.18 | 0.73 |
| 1:A:537:LEU:HD12 | 1:A:538:PRO:HD2 | 1.70 | 0.73 |
| 2:B:102:ASP:O | 2:B:105:THR:HG22 | 1.88 | 0.73 |
| 1:A:643:ILE:HD13 | 1:A:696:GLU:HB3 | 1.71 | 0.73 |
| 1:A:122:ILE:HD13 | 1:A:122:ILE:O | 1.88 | 0.73 |
| 1:A:366:VAL:HG13 | 1:A:760:LEU:HD21 | 1.68 | 0.73 |
| 1:A:499:LEU:HD11 | 1:A:514:LEU:HD11 | 1.70 | 0.73 |
| 1:A:1011:TYR:O | 1:A:1014:ILE:HG22 | 1.87 | 0.73 |
| 1:A:50:ILE:HD12 | 1:A:50:ILE:O | 1.88 | 0.73 |
| 1:A:307:LEU:HD13 | 1:A:307:LEU:O | 1.88 | 0.73 |
| 1:A:841:MET:HA | 1:A:841:MET:CE | 2.19 | 0.73 |
| 1:A:197:GLY:HA2 | 1:A:266:LEU:HD21 | 1.69 | 0.73 |
| 1:A:434:LEU:HD23 | 1:A:564:PHE:CE2 | 2.22 | 0.73 |
| 1:A:346:LEU:HD13 | 1:A:346:LEU:O | 1.87 | 0.73 |
| 1:A:703:SER:H | 1:A:706:GLN:HG2 | 1.53 | 0.73 |
| 1:A:993:ILE:HD11 | 1:A:998:TRP:NE1 | 2.02 | 0.73 |
| 2:B:88:VAL:HB | 2:B:92:LYS:H | 1.53 | 0.73 |
| 1:A:903:HIS:CD2 | 2:B:88:VAL:O | 2.42 | 0.73 |
| 1:A:499:LEU:CD1 | 1:A:514:LEU:HD11 | 2.18 | 0.72 |
| 1:A:524:LEU:HD13 | 1:A:524:LEU:O | 1.88 | 0.72 |
| 2:B:85:ARG:HB2 | 2:B:180:ILE:HD11 | 1.71 | 0.72 |
| 2:B:85:ARG:HB3 | 2:B:180:ILE:HG13 | 1.71 | 0.72 |
| 2:B:87:ASP:O | 2:B:92:LYS:HD2 | 1.89 | 0.72 |
| 1:A:971:GLN:O | 1:A:974:ILE:HG22 | 1.89 | 0.72 |
| 1:A:66:THR:HG21 | 1:A:197:GLY:HA2 | 1.70 | 0.72 |
| 1:A:336:ILE:HG23 | 1:A:340:TYR:HE1 | 1.51 | 0.72 |
| 1:A:315:PHE:CA | 1:A:318:VAL:HG22 | 2.20 | 0.72 |
| 1:A:882:MET:CG | 1:A:887:TRP:HB2 | 2.15 | 0.72 |
| 1:A:888:PHE:CZ | 2:B:66:ILE:HG21 | 2.25 | 0.72 |
| 1:A:319:ALA:HA | 1:A:322:ILE:HD12 | 1.71 | 0.72 |
| 1:A:322:ILE:HG21 | 1:A:324:TYR:CE2 | 2.25 | 0.72 |
| 2:B:132:THR:HG23 | 2:B:134:GLU:HG3 | 1.69 | 0.72 |
| 1:A:906:ASP:OD1 | 2:B:83:THR:HG21 | 1.90 | 0.72 |
| 1:A:962:ARG:O | 1:A:965:VAL:HG12 | 1.89 | 0.72 |
| 1:A:398:SER:OG | 1:A:600:MET:O | 2.08 | 0.72 |
| 1:A:994:ARG:H | 1:A:997:TRP:HD1 | 1.38 | 0.72 |
| 1:A:914:GLU:CG | 2:B:184:ASN:HA | 2.19 | 0.71 |
| 1:A:121:LEU:HD22 | 1:A:142:ALA:HB1 | 1.71 | 0.71 |
| 1:A:161:PHE:CE2 | 1:A:163:SER:HB2 | 2.17 | 0.71 |
| 1:A:896:ARG:HG3 | 1:A:897:PRO:HD3 | 1.72 | 0.71 |
| 1:A:601:ILE:CG2 | 1:A:602:ASP:N | 2.52 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:942:ASP:OD1 | 1:A:945:ILE:HD11 | 1.90 | 0.71 |
| 2:B:94:LEU:HA | 2:B:96:ILE:HG12 | 1.73 | 0.71 |
| 2:B:120:TYR:CE2 | 2:B:244:LEU:HD11 | 2.25 | 0.71 |
| 1:A:520:PRO:HG2 | 1:A:551:TYR:CE1 | 2.26 | 0.71 |
| 1:A:499:LEU:HD23 | 1:A:516:MET:HE2 | 1.73 | 0.71 |
| 1:A:601:ILE:HG23 | 1:A:602:ASP:H | 1.50 | 0.71 |
| 1:A:914:GLU:CG | 2:B:184:ASN:CA | 2.68 | 0.71 |
| 2:B:94:LEU:C | 2:B:284:PHE:HB2 | 2.11 | 0.71 |
| 1:A:909:ASP:OD1 | 1:A:913:GLN:HB2 | 1.91 | 0.71 |
| 1:A:999:LEU:HG | 1:A:1002:MET:HE1 | 1.72 | 0.71 |
| 2:B:54:ILE:O | 2:B:57:LEU:HB3 | 1.90 | 0.71 |
| 1:A:170:PHE:HA | 1:A:173:LEU:HD13 | 1.71 | 0.71 |
| 2:B:180:ILE:HD12 | 2:B:180:ILE:O | 1.89 | 0.71 |
| 2:B:249:LEU:HD21 | 2:B:260:ILE:CD1 | 2.20 | 0.71 |
| 2:B:100:VAL:HG13 | 2:B:288:ILE:CG2 | 2.20 | 0.71 |
| 1:A:114:TRP:HZ3 | 1:A:146:ILE:HD12 | 1.56 | 0.71 |
| 1:A:233:PRO:HG3 | 1:A:259:LEU:HD12 | 1.73 | 0.71 |
| 1:A:864:PHE:CE1 | 2:B:48:TYR:CE2 | 2.79 | 0.71 |
| 1:A:735:LYS:HE3 | 1:A:735:LYS:HA | 1.71 | 0.70 |
| 1:A:950:ARG:HG3 | 1:A:1032:TYR:CE1 | 2.26 | 0.70 |
| 1:A:793:ILE:HD11 | 1:A:863:TYR:HA | 1.73 | 0.70 |
| 2:B:147:HIS:CD2 | 2:B:148:THR:H | 2.08 | 0.70 |
| 1:A:499:LEU:HD21 | 1:A:514:LEU:HD21 | 1.73 | 0.70 |
| 1:A:905:GLN:CB | 2:B:83:THR:HG22 | 2.21 | 0.70 |
| 1:A:994:ARG:NH1 | 2:B:73:TYR:CE1 | 2.59 | 0.70 |
| 1:A:1015:ARG:HB3 | 1:A:1027:TRP:HE1 | 1.56 | 0.70 |
| 1:A:202:MET:CE | 1:A:263:ALA:HB3 | 2.21 | 0.70 |
| 1:A:499:LEU:HD23 | 1:A:516:MET:CE | 2.21 | 0.70 |
| 1:A:826:PHE:HD2 | 1:A:967:ALA:HB2 | 1.56 | 0.70 |
| 1:A:826:PHE:CZ | 1:A:963:ILE:HG23 | 2.27 | 0.70 |
| 1:A:379:THR:HG21 | 1:A:722:ALA:HB2 | 1.73 | 0.70 |
| 1:A:723:VAL:HG23 | 1:A:737:ALA:HB2 | 1.72 | 0.70 |
| 2:B:84:LEU:HD11 | 2:B:282:VAL:HG22 | 1.72 | 0.70 |
| 2:B:185:ARG:HG2 | 2:B:242:ASN:ND2 | 2.06 | 0.70 |
| 1:A:483:PHE:HE2 | 1:A:504:LEU:HD12 | 1.57 | 0.70 |
| 1:A:994:ARG:CD | 2:B:73:TYR:OH | 2.40 | 0.70 |
| 1:A:985:PRO:HB3 | 1:A:991:MET:SD | 2.32 | 0.70 |
| 1:A:404:ASN:HB2 | 1:A:543:TRP:HZ3 | 1.56 | 0.69 |
| 1:A:827:PRO:HG3 | 1:A:967:ALA:HB1 | 1.73 | 0.69 |
| 1:A:906:ASP:CG | 2:B:83:THR:HG21 | 2.11 | 0.69 |
| 2:B:99:ASN:O | 2:B:105:THR:HG21 | 1.92 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 2:B:218:PHE:HB2 | 2:B:246:ALA:HB3 | 1.72 | 0.69 |
| 1:A:332:PHE:HE1 | 1:A:802:TYR:CE2 | 2.10 | 0.69 |
| 1:A:790:THR:HG21 | 1:A:942:ASP:OD2 | 1.91 | 0.69 |
| 1:A:691:LEU:HD11 | 1:A:713:SER:OG | 1.93 | 0.69 |
| 1:A:135:THR:HG22 | 1:A:137:ASP:H | 1.57 | 0.69 |
| 1:A:332:PHE:HE1 | 1:A:802:TYR:HE2 | 1.39 | 0.69 |
| 1:A:614:LYS:HD3 | 1:A:768:VAL:HG21 | 1.74 | 0.69 |
| 1:A:869:ILE:HG12 | 2:B:51:MET:HE2 | 1.73 | 0.69 |
| 1:A:974:ILE:HG13 | 1:A:978:LEU:HD13 | 1.73 | 0.69 |
| 1:A:1017:LEU:HD23 | 1:A:1017:LEU:O | 1.92 | 0.69 |
| 1:A:1012:ASP:OD1 | 1:A:1016:LYS:HE2 | 1.92 | 0.69 |
| 1:A:1015:ARG:HE | 1:A:1031:LEU:CD1 | 2.04 | 0.69 |
| 2:B:92:LYS:HG2 | 2:B:95:ASP:CA | 2.23 | 0.69 |
| 1:A:161:PHE:HE2 | 1:A:163:SER:CB | 2.05 | 0.69 |
| 1:A:826:PHE:HD2 | 1:A:967:ALA:CB | 2.06 | 0.69 |
| 1:A:841:MET:HA | 1:A:841:MET:HE2 | 1.73 | 0.69 |
| 1:A:315:PHE:CZ | 1:A:800:LEU:HD22 | 2.27 | 0.69 |
| 1:A:532:ILE:HG12 | 1:A:533:LYS:CD | 2.23 | 0.69 |
| 1:A:665:ASN:HB3 | 1:A:668:ASP:OD2 | 1.93 | 0.69 |
| 2:B:203:PHE:HE1 | 2:B:258:VAL:HG13 | 1.52 | 0.69 |
| 1:A:254:PHE:HE2 | 1:A:276:ILE:HD11 | 1.55 | 0.69 |
| 1:A:997:TRP:HA | 1:A:997:TRP:CE3 | 2.28 | 0.68 |
| 1:A:341:VAL:HG23 | 1:A:343:GLU:OE2 | 1.93 | 0.68 |
| 1:A:791:LYS:HE3 | 1:A:939:GLN:CB | 2.23 | 0.68 |
| 2:B:272:ASP:CG | 2:B:274:PRO:HD2 | 2.14 | 0.68 |
| 2:B:142:PHE:HZ | 2:B:188:LYS:HB3 | 1.55 | 0.68 |
| 1:A:127:GLN:CG | 1:A:133:LEU:HD23 | 2.24 | 0.68 |
| 1:A:446:GLN:O | 1:A:449:VAL:HG22 | 1.94 | 0.68 |
| 1:A:484:PRO:HD2 | 1:A:503:THR:CG2 | 2.23 | 0.68 |
| 1:A:499:LEU:HD13 | 1:A:500:SER:N | 2.09 | 0.68 |
| 1:A:994:ARG:CZ | 2:B:73:TYR:OH | 2.40 | 0.68 |
| 2:B:178:CYS:HB3 | 2:B:248:LYS:CE | 2.23 | 0.68 |
| 2:B:252:VAL:HB | 2:B:253:PRO:HD3 | 1.76 | 0.68 |
| 1:A:349:VAL:O | 1:A:353:LEU:HD13 | 1.93 | 0.68 |
| 1:A:791:LYS:CE | 1:A:939:GLN:HB2 | 2.24 | 0.68 |
| 1:A:888:PHE:HZ | 2:B:66:ILE:HG21 | 1.58 | 0.68 |
| 2:B:69:TYR:CE1 | 2:B:235:LYS:HD3 | 2.27 | 0.68 |
| 2:B:89:TYR:H | 2:B:92:LYS:CD | 2.06 | 0.68 |
| 1:A:974:ILE:O | 1:A:978:LEU:HD13 | 1.93 | 0.68 |
| 1:A:768:VAL:O | 1:A:771:VAL:HG12 | 1.93 | 0.68 |
| 1:A:400:LEU:HD23 | 1:A:598:VAL:CG2 | 2.13 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:911:TYR:HH | 2:B:70:THR:C | 1.93 | 0.68 |
| 2:B:84:LEU:HD23 | 2:B:179:PHE:CD1 | 2.29 | 0.68 |
| 1:A:554:LEU:HD13 | 1:A:599:SER:OG | 1.94 | 0.67 |
| 1:A:827:PRO:CG | 1:A:967:ALA:HB1 | 2.23 | 0.67 |
| 1:A:864:PHE:HE1 | 2:B:48:TYR:CE2 | 2.13 | 0.67 |
| 2:B:92:LYS:HZ2 | 2:B:109:LEU:HD11 | 1.58 | 0.67 |
| 1:A:57:VAL:HG11 | 1:A:215:LEU:CD2 | 2.24 | 0.67 |
| 2:B:78:LYS:O | 2:B:80:PRO:HD3 | 1.94 | 0.67 |
| 2:B:100:VAL:HG22 | 2:B:290:LYS:CB | 2.24 | 0.67 |
| 1:A:315:PHE:HA | 1:A:318:VAL:CG2 | 2.23 | 0.67 |
| 1:A:399:HIS:HD2 | 1:A:408:SER:OG | 1.78 | 0.67 |
| 2:B:179:PHE:CZ | 2:B:247:ALA:HB3 | 2.30 | 0.67 |
| 1:A:66:THR:HG21 | 1:A:197:GLY:CA | 2.25 | 0.67 |
| 1:A:911:TYR:CZ | 2:B:71:PRO:HD3 | 2.28 | 0.67 |
| 2:B:201:CYS:HA | 2:B:262:CYS:HA | 1.76 | 0.67 |
| 1:A:53:HIS:HB3 | 1:A:251:ILE:CD1 | 2.24 | 0.67 |
| 1:A:400:LEU:CD2 | 1:A:598:VAL:CG2 | 2.71 | 0.67 |
| 1:A:613:LEU:HD13 | 1:A:613:LEU:O | 1.94 | 0.67 |
| 1:A:872:PHE:O | 1:A:876:THR:HG23 | 1.93 | 0.67 |
| 2:B:92:LYS:CB | 2:B:95:ASP:H | 2.07 | 0.67 |
| 2:B:223:THR:HG23 | 2:B:224:TYR:N | 2.10 | 0.67 |
| 1:A:432:ARG:O | 1:A:436:LEU:HD13 | 1.92 | 0.67 |
| 1:A:791:LYS:HE3 | 1:A:939:GLN:HB2 | 1.76 | 0.67 |
| 2:B:203:PHE:CD1 | 2:B:258:VAL:HG13 | 2.29 | 0.67 |
| 1:A:99:VAL:O | 1:A:103:ARG:HG3 | 1.95 | 0.67 |
| 1:A:703:SER:N | 1:A:706:GLN:HG2 | 2.10 | 0.67 |
| 1:A:114:TRP:CZ3 | 1:A:146:ILE:HD12 | 2.30 | 0.67 |
| 1:A:482:ARG:HD2 | 1:A:483:PHE:HE1 | 1.60 | 0.67 |
| 1:A:679:LEU:CD2 | 1:A:706:GLN:HB2 | 2.25 | 0.67 |
| 2:B:273:ASN:N | 2:B:274:PRO:CD | 2.53 | 0.67 |
| 1:A:250:ASN:C | 1:A:251:ILE:HD12 | 2.15 | 0.66 |
| 2:B:85:ARG:NE | 2:B:113:LEU:HG | 2.10 | 0.66 |
| 2:B:151:SER:HG | 2:B:240:TYR:HD1 | 1.41 | 0.66 |
| 2:B:178:CYS:HB3 | 2:B:248:LYS:HD3 | 1.76 | 0.66 |
| 1:A:127:GLN:HG3 | 1:A:133:LEU:HD23 | 1.77 | 0.66 |
| 1:A:311:PHE:CA | 1:A:314:THR:HG22 | 2.25 | 0.66 |
| 1:A:366:VAL:HG22 | 1:A:760:LEU:HD21 | 1.77 | 0.66 |
| 1:A:706:GLN:O | 1:A:710:ILE:HG12 | 1.94 | 0.66 |
| 1:A:877:ASP:OD2 | 1:A:930:VAL:HG23 | 1.96 | 0.66 |
| 1:A:288:ASN:O | 1:A:289:GLU:HB2 | 1.96 | 0.66 |
| 1:A:899:TRP:CH2 | 1:A:920:ARG:HB2 | 2.31 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:96:ILE:CD1 | 2:B:109:LEU:CD1 | 2.68 | 0.66 |
| 1:A:181:ILE:HD12 | 1:A:199:LEU:CD2 | 2.26 | 0.66 |
| 1:A:860:ALA:O | 1:A:864:PHE:HB3 | 1.95 | 0.66 |
| 2:B:100:VAL:HG13 | 2:B:288:ILE:HG23 | 1.77 | 0.66 |
| 2:B:178:CYS:HB3 | 2:B:248:LYS:NZ | 2.09 | 0.66 |
| 2:B:91:GLU:C | 2:B:95:ASP:HB2 | 2.15 | 0.66 |
| 2:B:92:LYS:NZ | 2:B:109:LEU:HD11 | 2.11 | 0.66 |
| 1:A:532:ILE:HG12 | 1:A:533:LYS:HD3 | 1.77 | 0.66 |
| 1:A:818:PHE:CE2 | 1:A:990:PHE:HE2 | 2.14 | 0.66 |
| 1:A:965:VAL:O | 1:A:968:ILE:HG12 | 1.96 | 0.66 |
| 2:B:89:TYR:H | 2:B:92:LYS:CE | 2.09 | 0.66 |
| 2:B:261:VAL:HG13 | 2:B:282:VAL:O | 1.96 | 0.66 |
| 2:B:276:ASP:HB3 | 2:B:279:GLU:HG3 | 1.79 | 0.66 |
| 1:A:311:PHE:O | 1:A:314:THR:HG22 | 1.96 | 0.65 |
| 1:A:911:TYR:CZ | 2:B:71:PRO:CA | 2.79 | 0.65 |
| 1:A:916:THR:HG23 | 1:A:919:GLN:H | 1.61 | 0.65 |
| 2:B:215:VAL:HG21 | 2:B:217:TYR:CZ | 2.30 | 0.65 |
| 2:B:213:LEU:HA | 2:B:251:ASN:CB | 2.25 | 0.65 |
| 1:A:865:GLN:NE2 | 2:B:43:TYR:CE2 | 2.52 | 0.65 |
| 1:A:917:PHE:CD2 | 1:A:921:LEU:HD11 | 2.30 | 0.65 |
| 1:A:632:THR:O | 1:A:636:ILE:HD13 | 1.96 | 0.65 |
| 1:A:689:GLU:O | 1:A:693:THR:HG22 | 1.95 | 0.65 |
| 1:A:913:GLN:CD | 2:B:77:LEU:HD22 | 2.17 | 0.65 |
| 1:A:398:SER:HB3 | 1:A:399:HIS:ND1 | 2.11 | 0.65 |
| 1:A:511:ARG:HG2 | 1:A:512:HIS:N | 2.07 | 0.65 |
| 2:B:260:ILE:HD13 | 2:B:284:PHE:CE2 | 2.32 | 0.65 |
| 2:B:109:LEU:HD22 | 2:B:109:LEU:H | 1.61 | 0.65 |
| 2:B:186:ILE:HG23 | 2:B:189:PHE:CB | 2.24 | 0.65 |
| 1:A:297:ILE:O | 1:A:301:VAL:HG13 | 1.97 | 0.65 |
| 1:A:315:PHE:O | 1:A:318:VAL:HG22 | 1.97 | 0.65 |
| 1:A:564:PHE:CE1 | 1:A:598:VAL:HG12 | 2.31 | 0.65 |
| 1:A:648:GLU:HB3 | 1:A:653:ILE:HD12 | 1.77 | 0.65 |
| 1:A:1015:ARG:HG2 | 1:A:1027:TRP:CZ2 | 2.32 | 0.65 |
| 2:B:69:TYR:CE1 | 2:B:235:LYS:CD | 2.79 | 0.65 |
| 1:A:667:LYS:HE2 | 1:A:667:LYS:CA | 2.25 | 0.65 |
| 1:A:798:PRO:O | 1:A:801:ILE:HG22 | 1.97 | 0.65 |
| 1:A:870:GLN:HG2 | 1:A:938:CYS:HB3 | 1.78 | 0.65 |
| 2:B:95:ASP:HA | 2:B:285:LYS:H | 1.62 | 0.64 |
| 1:A:374:GLU:O | 1:A:377:GLY:N | 2.30 | 0.64 |
| 2:B:218:PHE:N | 2:B:219:PRO:HD3 | 2.12 | 0.64 |
| 1:A:80:LEU:HA | 1:A:83:ARG:HD3 | 1.78 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:A:1015:ARG:NE | 1:A:1031:LEU:HD13 | 2.10 | 0.64 |
| 2:B:273:ASN:HB2 | 2:B:281:LYS:NZ | 2.13 | 0.64 |
| 1:A:147:ALA:O | 1:A:150:VAL:HG12 | 1.97 | 0.64 |
| 1:A:374:GLU:O | 1:A:375:THR:C | 2.36 | 0.64 |
| 1:A:712:GLU:HG2 | 1:A:736:LYS:HE3 | 1.79 | 0.64 |
| 1:A:807:VAL:HG13 | 1:A:808:PRO:HD2 | 1.78 | 0.64 |
| 1:A:780:ASN:HA | 1:A:783:LYS:HD2 | 1.80 | 0.64 |
| 1:A:949:ARG:HG2 | 1:A:1033:TYR:HD2 | 1.63 | 0.64 |
| 1:A:227:LEU:N | 1:A:227:LEU:HD12 | 2.13 | 0.64 |
| 1:A:483:PHE:CE2 | 1:A:504:LEU:HD12 | 2.32 | 0.64 |
| 1:A:869:ILE:HG12 | 2:B:51:MET:HE1 | 1.80 | 0.64 |
| 1:A:469:SER:HB2 | 1:A:473:LEU:HD12 | 1.79 | 0.63 |
| 1:A:823:THR:HB | 1:A:936:GLU:OE1 | 1.98 | 0.63 |
| 1:A:818:PHE:HZ | 1:A:988:PHE:CG | 2.16 | 0.63 |
| 1:A:212:ILE:HD11 | 1:A:265:GLY:C | 2.19 | 0.63 |
| 1:A:400:LEU:HD13 | 1:A:427:TRP:HZ3 | 1.62 | 0.63 |
| 1:A:58:ALA:HA | 1:A:61:GLU:OE2 | 1.98 | 0.63 |
| 1:A:395:MET:SD | 1:A:601:ILE:O | 2.56 | 0.63 |
| 1:A:126:ILE:HG21 | 1:A:327:LEU:CD2 | 2.29 | 0.63 |
| 1:A:795:GLU:HB3 | 1:A:816:ILE:HD12 | 1.81 | 0.63 |
| 2:B:109:LEU:HD22 | 2:B:109:LEU:N | 2.14 | 0.63 |
| 1:A:53:HIS:CB | 1:A:251:ILE:HD11 | 2.28 | 0.63 |
| 1:A:202:MET:HE2 | 1:A:263:ALA:HB3 | 1.79 | 0.63 |
| 1:A:890:LEU:HD22 | 1:A:890:LEU:H | 1.64 | 0.63 |
| 1:A:916:THR:HG22 | 1:A:919:GLN:CG | 2.28 | 0.63 |
| 1:A:917:PHE:HE2 | 1:A:921:LEU:HD11 | 1.59 | 0.63 |
| 2:B:155:THR:HG23 | 2:B:158:MET:H | 1.63 | 0.63 |
| 1:A:136:ASP:HB2 | 1:A:140:TYR:CD1 | 2.34 | 0.63 |
| 1:A:173:LEU:O | 1:A:207:ARG:CZ | 2.45 | 0.63 |
| 1:A:409:ALA:HB1 | 1:A:468:PHE:HE1 | 1.64 | 0.63 |
| 2:B:87:ASP:HB3 | 2:B:112:THR:HG21 | 1.80 | 0.63 |
| 2:B:214:GLN:CD | 2:B:250:LEU:HB2 | 2.19 | 0.63 |
| 2:B:229:PHE:HB3 | 2:B:230:PRO:HA | 1.81 | 0.63 |
| 1:A:398:SER:OG | 1:A:601:ILE:CB | 2.46 | 0.63 |
| 1:A:866:ILE:HD13 | 1:A:945:ILE:CD1 | 2.29 | 0.63 |
| 1:A:969:VAL:O | 1:A:972:VAL:HG22 | 1.99 | 0.63 |
| 2:B:213:LEU:HG | 2:B:251:ASN:HB3 | 1.81 | 0.63 |
| 1:A:227:LEU:HD23 | 1:A:246:LEU:CD2 | 2.29 | 0.62 |
| 1:A:846:ARG:HB2 | 1:A:851:ASP:OD2 | 1.99 | 0.62 |
| 2:B:89:TYR:N | 2:B:92:LYS:HE3 | 2.14 | 0.62 |
| 1:A:623:ILE:HG12 | 1:A:697:MET:HG2 | 1.81 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:666:ARG:HG2 | 1:A:667:LYS:HE3 | 1.80 | 0.62 |
| 1:A:826:PHE:CD2 | 1:A:967:ALA:HB2 | 2.33 | 0.62 |
| 2:B:57:LEU:C | 2:B:57:LEU:HD23 | 2.20 | 0.62 |
| 2:B:197:PRO:HD2 | 2:B:224:TYR:O | 1.98 | 0.62 |
| 1:A:49:GLU:OE2 | 1:A:278:ARG:HD3 | 1.99 | 0.62 |
| 1:A:167:ILE:HD13 | 1:A:171:LYS:HG2 | 1.80 | 0.62 |
| 2:B:282:VAL:HG12 | 2:B:284:PHE:HD1 | 1.64 | 0.62 |
| 1:A:72:LEU:HD11 | 1:A:197:GLY:O | 1.99 | 0.62 |
| 1:A:846:ARG:HB2 | 1:A:851:ASP:CG | 2.19 | 0.62 |
| 1:A:858:LEU:O | 1:A:858:LEU:HD23 | 2.00 | 0.62 |
| 1:A:656:ARG:CD | 1:A:657:LEU:HG | 2.26 | 0.62 |
| 1:A:912:GLY:O | 2:B:185:ARG:NH2 | 2.32 | 0.62 |
| 1:A:567:LEU:HD22 | 1:A:592:LEU:HD23 | 1.80 | 0.62 |
| 1:A:199:LEU:HD21 | 1:A:264:GLN:NE2 | 2.15 | 0.62 |
| 1:A:426:THR:HA | 1:A:531:LEU:CD2 | 2.30 | 0.62 |
| 1:A:808:PRO:O | 1:A:810:PRO:HD3 | 2.00 | 0.62 |
| 1:A:846:ARG:HB2 | 1:A:851:ASP:OD1 | 1.99 | 0.62 |
| 2:B:106:TRP:CE3 | 2:B:107:ALA:HA | 2.35 | 0.62 |
| 2:B:160:GLN:HG2 | 2:B:218:PHE:CD1 | 2.35 | 0.62 |
| 1:A:522:ARG:NH1 | 1:A:522:ARG:HB2 | 2.14 | 0.62 |
| 1:A:699:PHE:CE2 | 1:A:710:ILE:HD12 | 2.34 | 0.62 |
| 2:B:83:THR:C | 2:B:84:LEU:HD12 | 2.20 | 0.62 |
| 2:B:96:ILE:HG23 | 2:B:109:LEU:HD11 | 1.82 | 0.62 |
| 1:A:336:ILE:O | 1:A:340:TYR:HD1 | 1.82 | 0.61 |
| 1:A:679:LEU:HD22 | 1:A:706:GLN:NE2 | 2.15 | 0.61 |
| 1:A:864:PHE:CG | 2:B:44:TYR:OH | 2.52 | 0.61 |
| 1:A:864:PHE:CZ | 2:B:47:PHE:HD2 | 2.18 | 0.61 |
| 2:B:94:LEU:CA | 2:B:284:PHE:HB2 | 2.30 | 0.61 |
| 1:A:360:LEU:CD2 | 1:A:363:LYS:HD3 | 2.31 | 0.61 |
| 1:A:680:LYS:HD3 | 1:A:680:LYS:C | 2.20 | 0.61 |
| 1:A:791:LYS:HE3 | 1:A:939:GLN:HG2 | 1.80 | 0.61 |
| 1:A:826:PHE:HD2 | 1:A:967:ALA:CA | 2.13 | 0.61 |
| 1:A:939:GLN:HA | 1:A:939:GLN:OE1 | 1.99 | 0.61 |
| 1:A:227:LEU:HD23 | 1:A:246:LEU:HD21 | 1.82 | 0.61 |
| 1:A:509:ASP:O | 1:A:511:ARG:N | 2.33 | 0.61 |
| 1:A:811:LEU:CD1 | 1:A:815:THR:HG21 | 2.25 | 0.61 |
| 1:A:887:TRP:CH2 | 1:A:907:LEU:HD21 | 2.36 | 0.61 |
| 1:A:923:GLN:HB2 | 2:B:76:GLN:OE1 | 2.00 | 0.61 |
| 2:B:84:LEU:HD11 | 2:B:282:VAL:HG21 | 1.81 | 0.61 |
| 2:B:113:LEU:HD22 | 2:B:172:PHE:CZ | 2.35 | 0.61 |
| 2:B:149:LYS:HB2 | 2:B:237:GLN:CG | 2.31 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 2:B:271:PHE:HE2 | 2:B:280:GLY:O | 1.84 | 0.61 |
| 1:A:981:CYS:SG | 1:A:984:MET:HB2 | 2.41 | 0.61 |
| 1:A:409:ALA:CB | 1:A:468:PHE:HE1 | 2.13 | 0.61 |
| 1:A:984:MET:SD | 1:A:988:PHE:HD2 | 2.23 | 0.61 |
| 1:A:1007:LEU:HD13 | 1:A:1007:LEU:O | 2.00 | 0.61 |
| 2:B:186:ILE:CG2 | 2:B:189:PHE:HB3 | 2.26 | 0.61 |
| 2:B:255:ASN:HD22 | 2:B:289:GLN:HA | 1.66 | 0.61 |
| 1:A:69:THR:HG23 | 1:A:70:LYS:N | 2.14 | 0.61 |
| 1:A:997:TRP:HA | 1:A:997:TRP:HE3 | 1.63 | 0.61 |
| 2:B:88:VAL:CA | 2:B:92:LYS:HD2 | 2.28 | 0.61 |
| 1:A:916:THR:HG1 | 2:B:278:TYR:CB | 2.13 | 0.61 |
| 2:B:213:LEU:HA | 2:B:251:ASN:HB3 | 1.82 | 0.61 |
| 2:B:88:VAL:CB | 2:B:92:LYS:HB2 | 2.30 | 0.60 |
| 2:B:92:LYS:CA | 2:B:95:ASP:CB | 2.75 | 0.60 |
| 2:B:142:PHE:CE2 | 2:B:187:VAL:CG1 | 2.83 | 0.60 |
| 2:B:272:ASP:OD1 | 2:B:274:PRO:CG | 2.48 | 0.60 |
| 1:A:282:LEU:O | 1:A:286:VAL:HG23 | 2.01 | 0.60 |
| 1:A:378:SER:OG | 1:A:846:ARG:HD3 | 2.01 | 0.60 |
| 1:A:649:THR:HG22 | 1:A:652:ASP:OD2 | 2.00 | 0.60 |
| 1:A:431:CYS:HB3 | 1:A:473:LEU:CD1 | 2.17 | 0.60 |
| 1:A:896:ARG:HG3 | 1:A:897:PRO:CD | 2.30 | 0.60 |
| 2:B:82:VAL:HG23 | 2:B:280:GLY:HA2 | 1.81 | 0.60 |
| 1:A:121:LEU:HD22 | 1:A:142:ALA:CB | 2.31 | 0.60 |
| 1:A:399:HIS:HE1 | 1:A:559:GLU:OE2 | 1.84 | 0.60 |
| 1:A:643:ILE:HA | 1:A:696:GLU:OE1 | 2.02 | 0.60 |
| 1:A:916:THR:OG1 | 2:B:276:ASP:OD2 | 2.20 | 0.60 |
| 2:B:155:THR:HG23 | 2:B:158:MET:HG2 | 1.82 | 0.60 |
| 2:B:178:CYS:HB3 | 2:B:248:LYS:HZ3 | 1.64 | 0.60 |
| 2:B:199:VAL:HG12 | 2:B:262:CYS:SG | 2.42 | 0.60 |
| 1:A:392:GLN:OE1 | 1:A:413:GLU:OE2 | 2.15 | 0.60 |
| 1:A:890:LEU:HD22 | 1:A:890:LEU:N | 2.17 | 0.60 |
| 1:A:999:LEU:HA | 1:A:1002:MET:HE3 | 1.82 | 0.60 |
| 2:B:255:ASN:C | 2:B:287:LYS:HE3 | 2.21 | 0.60 |
| 2:B:273:ASN:HB2 | 2:B:281:LYS:CE | 2.32 | 0.60 |
| 1:A:73:SER:HB2 | 1:A:76:LEU:CD2 | 2.04 | 0.60 |
| 1:A:127:GLN:HG2 | 1:A:133:LEU:HB2 | 1.84 | 0.60 |
| 1:A:366:VAL:HG13 | 1:A:760:LEU:CD2 | 2.31 | 0.60 |
| 1:A:864:PHE:CD1 | 2:B:48:TYR:OH | 2.54 | 0.60 |
| 1:A:999:LEU:N | 1:A:999:LEU:HD12 | 2.16 | 0.60 |
| 1:A:974:ILE:HG13 | 1:A:978:LEU:CD1 | 2.32 | 0.60 |
| 2:B:84:LEU:HD12 | 2:B:84:LEU:N | 2.16 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:113:LEU:HD23 | 2:B:117:LEU:HD23 | 1.83 | 0.60 |
| 2:B:275:HIS:O | 2:B:277:PRO:HD3 | 2.01 | 0.60 |
| 1:A:311:PHE:C | 1:A:314:THR:HG22 | 2.21 | 0.59 |
| 1:A:533:LYS:N | 1:A:533:LYS:HD2 | 2.16 | 0.59 |
| 1:A:745:ILE:HB | 1:A:762:ASP:OD2 | 2.02 | 0.59 |
| 1:A:906:ASP:OD1 | 2:B:83:THR:CG2 | 2.51 | 0.59 |
| 1:A:906:ASP:OD2 | 2:B:83:THR:OG1 | 2.16 | 0.59 |
| 2:B:69:TYR:HD1 | 2:B:235:LYS:CD | 2.02 | 0.59 |
| 1:A:109:LEU:H | 1:A:109:LEU:CD2 | 2.14 | 0.59 |
| 1:A:400:LEU:HD13 | 1:A:427:TRP:CZ3 | 2.37 | 0.59 |
| 1:A:818:PHE:CZ | 1:A:988:PHE:CG | 2.90 | 0.59 |
| 1:A:909:ASP:OD2 | 1:A:911:TYR:HB2 | 2.02 | 0.59 |
| 1:A:934:SER:CA | 1:A:1001:PRO:HG3 | 2.31 | 0.59 |
| 2:B:273:ASN:HB2 | 2:B:281:LYS:HE3 | 1.84 | 0.59 |
| 1:A:680:LYS:HD3 | 1:A:680:LYS:O | 2.03 | 0.59 |
| 1:A:778:PHE:CZ | 1:A:853:LEU:HA | 2.37 | 0.59 |
| 2:B:113:LEU:O | 2:B:113:LEU:HD23 | 2.02 | 0.59 |
| 1:A:339:ALA:HB3 | 1:A:796:LEU:HD23 | 1.80 | 0.59 |
| 1:A:399:HIS:CE1 | 1:A:559:GLU:OE2 | 2.55 | 0.59 |
| 1:A:564:PHE:HE1 | 1:A:598:VAL:CG1 | 2.14 | 0.59 |
| 1:A:1029:GLN:HG3 | 1:A:1030:GLU:N | 2.18 | 0.59 |
| 2:B:190:LEU:N | 2:B:190:LEU:HD12 | 2.18 | 0.59 |
| 2:B:253:PRO:HB3 | 2:B:256:ARG:NH2 | 2.18 | 0.59 |
| 1:A:934:SER:CB | 1:A:1001:PRO:HG3 | 2.32 | 0.59 |
| 2:B:266:ALA:HB3 | 2:B:269:VAL:HG13 | 1.83 | 0.59 |
| 1:A:179:THR:CG2 | 1:A:201:GLU:HB3 | 2.33 | 0.59 |
| 1:A:563:GLY:HA2 | 1:A:597:LEU:HD23 | 1.84 | 0.59 |
| 1:A:861:TYR:CE2 | 1:A:866:ILE:HD12 | 2.38 | 0.59 |
| 1:A:917:PHE:O | 1:A:921:LEU:HG | 2.02 | 0.59 |
| 2:B:113:LEU:HD13 | 2:B:172:PHE:CD1 | 2.38 | 0.59 |
| 1:A:482:ARG:HD2 | 1:A:483:PHE:CE1 | 2.38 | 0.59 |
| 1:A:994:ARG:NH2 | 2:B:73:TYR:CD1 | 2.71 | 0.59 |
| 2:B:272:ASP:CA | 2:B:274:PRO:HD2 | 2.33 | 0.59 |
| 1:A:401:TRP:HB3 | 1:A:597:LEU:HB2 | 1.85 | 0.59 |
| 1:A:623:ILE:HG12 | 1:A:697:MET:CG | 2.33 | 0.59 |
| 1:A:825:ILE:O | 1:A:829:VAL:HG23 | 2.03 | 0.59 |
| 2:B:113:LEU:HD13 | 2:B:172:PHE:CG | 2.38 | 0.59 |
| 1:A:112:LEU:HD12 | 1:A:341:VAL:CG1 | 2.32 | 0.59 |
| 1:A:486:VAL:HG23 | 1:A:487:CYS:N | 2.18 | 0.59 |
| 1:A:891:LEU:N | 1:A:891:LEU:HD22 | 2.18 | 0.59 |
| 2:B:60:TYR:O | 2:B:64:ARG:HG3 | 2.03 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:264:ILE:O | 2:B:271:PHE:HZ | 1.86 | 0.59 |
| 1:A:837:GLU:CB | 1:A:951:LEU:HD13 | 2.23 | 0.59 |
| 1:A:400:LEU:HD11 | 1:A:468:PHE:CE2 | 2.38 | 0.58 |
| 1:A:495:ASN:HB3 | 1:A:497:PHE:CE2 | 2.37 | 0.58 |
| 1:A:913:GLN:CD | 2:B:77:LEU:CD2 | 2.72 | 0.58 |
| 1:A:987:ILE:HG23 | 1:A:988:PHE:N | 2.17 | 0.58 |
| 2:B:57:LEU:O | 2:B:61:VAL:HG13 | 2.03 | 0.58 |
| 2:B:81:GLY:CA | 2:B:184:ASN:OD1 | 2.51 | 0.58 |
| 1:A:275:ILE:HG23 | 1:A:276:ILE:N | 2.18 | 0.58 |
| 1:A:492:ASN:HB2 | 1:A:495:ASN:HB2 | 1.84 | 0.58 |
| 1:A:702:THR:HA | 1:A:706:GLN:CD | 2.22 | 0.58 |
| 1:A:811:LEU:HA | 1:A:928:TYR:CD1 | 2.33 | 0.58 |
| 1:A:864:PHE:CE2 | 2:B:47:PHE:HD2 | 2.15 | 0.58 |
| 1:A:903:HIS:HD2 | 2:B:88:VAL:O | 1.86 | 0.58 |
| 1:A:1015:ARG:HB3 | 1:A:1027:TRP:NE1 | 2.18 | 0.58 |
| 2:B:249:LEU:N | 2:B:249:LEU:HD12 | 2.19 | 0.58 |
| 1:A:958:PHE:CG | 1:A:958:PHE:O | 2.54 | 0.58 |
| 1:A:814:ILE:CG2 | 1:A:818:PHE:HE2 | 2.08 | 0.58 |
| 1:A:242:HIS:CD2 | 1:A:244:SER:H | 2.20 | 0.58 |
| 1:A:520:PRO:HG2 | 1:A:551:TYR:HE1 | 1.69 | 0.58 |
| 1:A:659:VAL:HG12 | 1:A:660:PRO:N | 2.18 | 0.58 |
| 1:A:1015:ARG:CB | 1:A:1027:TRP:HE1 | 2.16 | 0.58 |
| 2:B:178:CYS:HB3 | 2:B:248:LYS:CD | 2.34 | 0.58 |
| 1:A:924:GLN:HE21 | 1:A:928:TYR:HE2 | 1.50 | 0.58 |
| 2:B:93:GLY:O | 2:B:94:LEU:HG | 2.04 | 0.58 |
| 1:A:110:GLN:NE2 | 1:A:149:VAL:HG23 | 2.19 | 0.58 |
| 1:A:319:ALA:O | 1:A:322:ILE:HB | 2.04 | 0.58 |
| 1:A:913:GLN:HB3 | 2:B:77:LEU:HD22 | 1.86 | 0.58 |
| 2:B:68:PRO:C | 2:B:69:TYR:CG | 2.77 | 0.58 |
| 1:A:375:THR:HG21 | 1:A:739:ILE:HB | 1.84 | 0.58 |
| 2:B:260:ILE:HG23 | 2:B:284:PHE:CD2 | 2.39 | 0.58 |
| 1:A:69:THR:HG23 | 1:A:70:LYS:HG3 | 1.86 | 0.57 |
| 1:A:623:ILE:HD13 | 1:A:697:MET:SD | 2.43 | 0.57 |
| 1:A:887:TRP:HH2 | 1:A:907:LEU:HD21 | 1.69 | 0.57 |
| 2:B:216:GLU:OE1 | 2:B:250:LEU:HG | 2.04 | 0.57 |
| 1:A:499:LEU:HD11 | 1:A:514:LEU:CD1 | 2.35 | 0.57 |
| 2:B:195:THR:HG23 | 2:B:196:ALA:N | 2.18 | 0.57 |
| 1:A:396:THR:CG2 | 1:A:397:VAL:N | 2.67 | 0.57 |
| 1:A:895:LEU:C | 1:A:897:PRO:HD2 | 2.24 | 0.57 |
| 2:B:105:THR:HG23 | 2:B:106:TRP:N | 2.19 | 0.57 |
| 1:A:64:TYR:HB3 | 1:A:66:THR:CG2 | 2.34 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:A:340:TYR:CZ | 1:A:796:LEU:HD22 | 2.38 | 0.57 |
| 2:B:282:VAL:HG12 | 2:B:283:GLU:N | 2.20 | 0.57 |
| 1:A:64:TYR:CB | 1:A:66:THR:HG23 | 2.34 | 0.57 |
| 1:A:561:VAL:HG22 | 1:A:599:SER:OG | 2.04 | 0.57 |
| 1:A:366:VAL:CG1 | 1:A:760:LEU:HD21 | 2.34 | 0.57 |
| 1:A:394:ARG:HH22 | 1:A:413:GLU:HB3 | 1.66 | 0.57 |
| 1:A:676:GLY:HA2 | 1:A:706:GLN:HE22 | 1.69 | 0.57 |
| 1:A:760:LEU:N | 1:A:760:LEU:HD22 | 2.20 | 0.57 |
| 1:A:805:VAL:HG13 | 1:A:807:VAL:HG23 | 1.86 | 0.57 |
| 1:A:855:ASN:HD22 | 1:A:857:PRO:HD2 | 1.70 | 0.57 |
| 1:A:864:PHE:CZ | 2:B:47:PHE:CD2 | 2.92 | 0.57 |
| 2:B:179:PHE:HE1 | 2:B:181:ILE:HD11 | 1.70 | 0.57 |
| 1:A:227:LEU:HD12 | 1:A:227:LEU:H | 1.68 | 0.57 |
| 1:A:309:ILE:HG13 | 1:A:310:LEU:N | 2.19 | 0.57 |
| 2:B:215:VAL:HG21 | 2:B:217:TYR:OH | 2.04 | 0.57 |
| 1:A:864:PHE:CD2 | 2:B:44:TYR:CZ | 2.86 | 0.57 |
| 2:B:92:LYS:HB3 | 2:B:95:ASP:H | 1.69 | 0.57 |
| 2:B:94:LEU:HA | 2:B:96:ILE:CG1 | 2.34 | 0.57 |
| 1:A:507:PRO:C | 1:A:510:PRO:HD3 | 2.26 | 0.57 |
| 2:B:75:ASP:O | 2:B:76:GLN:C | 2.42 | 0.57 |
| 1:A:81:LEU:O | 1:A:81:LEU:HD23 | 2.04 | 0.57 |
| 1:A:360:LEU:HD23 | 1:A:363:LYS:HD3 | 1.87 | 0.57 |
| 2:B:139:GLN:O | 2:B:139:GLN:HG3 | 2.05 | 0.57 |
| 1:A:602:ASP:CG | 1:A:603:PRO:N | 2.57 | 0.56 |
| 1:A:811:LEU:CA | 1:A:928:TYR:HD1 | 2.16 | 0.56 |
| 2:B:85:ARG:CD | 2:B:113:LEU:HA | 2.35 | 0.56 |
| 1:A:376:LEU:CD2 | 1:A:770:GLY:C | 2.73 | 0.56 |
| 1:A:400:LEU:HD21 | 1:A:598:VAL:HG23 | 1.84 | 0.56 |
| 1:A:567:LEU:CB | 1:A:592:LEU:HD22 | 2.35 | 0.56 |
| 1:A:723:VAL:CG2 | 1:A:737:ALA:HB2 | 2.35 | 0.56 |
| 1:A:805:VAL:CG1 | 1:A:807:VAL:HG23 | 2.34 | 0.56 |
| 1:A:877:ASP:HA | 1:A:1000:VAL:HG11 | 1.87 | 0.56 |
| 1:A:916:THR:CG2 | 1:A:919:GLN:HG3 | 2.35 | 0.56 |
| 1:A:968:ILE:HG13 | 1:A:969:VAL:N | 2.19 | 0.56 |
| 1:A:1015:ARG:HG2 | 1:A:1027:TRP:HZ2 | 1.70 | 0.56 |
| 2:B:174:GLU:HG3 | 2:B:175:GLY:H | 1.70 | 0.56 |
| 1:A:104:GLN:OE1 | 1:A:160:GLU:HG3 | 2.05 | 0.56 |
| 1:A:121:LEU:HD21 | 1:A:142:ALA:HB1 | 1.86 | 0.56 |
| 1:A:791:LYS:HE2 | 1:A:935:ILE:CG2 | 2.28 | 0.56 |
| 1:A:793:ILE:HD12 | 1:A:793:ILE:H | 1.70 | 0.56 |
| 2:B:92:LYS:CA | 2:B:95:ASP:HB2 | 2.29 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:96:ILE:HG23 | 2:B:109:LEU:CD1 | 2.35 | 0.56 |
| 2:B:189:PHE:HD2 | 2:B:191:PRO:HD3 | 1.70 | 0.56 |
| 1:A:79:GLU:OE1 | 1:A:79:GLU:HA | 2.04 | 0.56 |
| 1:A:315:PHE:C | 1:A:318:VAL:HG22 | 2.24 | 0.56 |
| 1:A:793:ILE:HD12 | 1:A:793:ILE:N | 2.20 | 0.56 |
| 2:B:85:ARG:HD3 | 2:B:113:LEU:HB2 | 1.87 | 0.56 |
| 1:A:496:LYS:HB2 | 1:A:522:ARG:NH1 | 2.21 | 0.56 |
| 1:A:906:ASP:OD2 | 2:B:83:THR:CB | 2.53 | 0.56 |
| 2:B:96:ILE:HG23 | 2:B:109:LEU:CG | 2.34 | 0.56 |
| 1:A:537:LEU:HG | 1:A:538:PRO:HD2 | 1.88 | 0.56 |
| 1:A:903:HIS:CE1 | 2:B:87:ASP:CA | 2.86 | 0.56 |
| 2:B:88:VAL:HG12 | 2:B:92:LYS:C | 2.25 | 0.56 |
| 1:A:212:ILE:HD11 | 1:A:265:GLY:O | 2.05 | 0.56 |
| 1:A:276:ILE:HD12 | 1:A:276:ILE:C | 2.26 | 0.56 |
| 1:A:318:VAL:O | 1:A:322:ILE:HG13 | 2.05 | 0.56 |
| 1:A:360:LEU:O | 1:A:363:LYS:HB2 | 2.05 | 0.56 |
| 1:A:821:LEU:N | 1:A:821:LEU:HD12 | 2.19 | 0.56 |
| 1:A:999:LEU:HA | 1:A:1002:MET:CE | 2.36 | 0.56 |
| 1:A:1000:VAL:HB | 1:A:1001:PRO:HD3 | 1.86 | 0.56 |
| 2:B:94:LEU:HD11 | 2:B:179:PHE:HD2 | 1.70 | 0.56 |
| 1:A:917:PHE:O | 1:A:920:ARG:HG2 | 2.05 | 0.56 |
| 2:B:94:LEU:CD1 | 2:B:179:PHE:HD2 | 2.19 | 0.56 |
| 1:A:108:GLY:O | 1:A:111:CYS:N | 2.39 | 0.56 |
| 1:A:127:GLN:HG3 | 1:A:133:LEU:CD2 | 2.36 | 0.56 |
| 2:B:100:VAL:HG21 | 2:B:290:LYS:HD3 | 1.88 | 0.56 |
| 2:B:214:GLN:HG3 | 2:B:250:LEU:HB2 | 1.87 | 0.56 |
| 1:A:787:TYR:O | 1:A:790:THR:HG22 | 2.05 | 0.56 |
| 1:A:984:MET:SD | 1:A:988:PHE:CD2 | 2.98 | 0.56 |
| 2:B:106:TRP:HZ3 | 2:B:110:ALA:CB | 2.19 | 0.56 |
| 1:A:674:ILE:HG21 | 1:A:699:PHE:CD2 | 2.41 | 0.55 |
| 1:A:964:LEU:O | 1:A:964:LEU:HD23 | 2.05 | 0.55 |
| 2:B:116:PHE:CD2 | 2:B:244:LEU:HD21 | 2.40 | 0.55 |
| 1:A:409:ALA:CB | 1:A:468:PHE:CE1 | 2.90 | 0.55 |
| 1:A:411:THR:HG21 | 1:A:601:ILE:CG2 | 2.31 | 0.55 |
| 1:A:656:ARG:HD3 | 1:A:657:LEU:N | 2.21 | 0.55 |
| 1:A:807:VAL:HG12 | 1:A:808:PRO:N | 2.21 | 0.55 |
| 1:A:889:PRO:HG2 | 1:A:890:LEU:HD22 | 1.87 | 0.55 |
| 1:A:376:LEU:HD21 | 1:A:770:GLY:HA3 | 1.79 | 0.55 |
| 1:A:443:LYS:O | 1:A:446:GLN:HG2 | 2.06 | 0.55 |
| 2:B:147:HIS:CG | 2:B:148:THR:H | 2.24 | 0.55 |
| 1:A:713:SER:CB | 1:A:716:ARG:HH22 | 2.19 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:826:PHE:CD2 | 1:A:967:ALA:HA | 2.42 | 0.55 |
| 1:A:942:ASP:HA | 1:A:945:ILE:HG12 | 1.88 | 0.55 |
| 2:B:75:ASP:O | 2:B:78:LYS:HB2 | 2.06 | 0.55 |
| 2:B:232:TYR:HB2 | 2:B:237:GLN:HG3 | 1.88 | 0.55 |
| 1:A:45:LYS:HA | 1:A:278:ARG:NH2 | 2.21 | 0.55 |
| 1:A:215:LEU:HD13 | 1:A:215:LEU:C | 2.26 | 0.55 |
| 2:B:255:ASN:ND2 | 2:B:289:GLN:HA | 2.22 | 0.55 |
| 1:A:107:GLY:O | 1:A:109:LEU:N | 2.40 | 0.55 |
| 1:A:353:LEU:HB3 | 1:A:370:LEU:HG | 1.88 | 0.55 |
| 1:A:660:PRO:HD2 | 1:A:663:GLN:NE2 | 2.21 | 0.55 |
| 1:A:1026:TRP:HZ3 | 1:A:1027:TRP:CE3 | 2.25 | 0.55 |
| 2:B:148:THR:OG1 | 2:B:238:PRO:HD2 | 2.07 | 0.55 |
| 1:A:363:LYS:O | 1:A:364:ASN:HB2 | 2.07 | 0.55 |
| 1:A:476:ALA:O | 1:A:480:ARG:HD3 | 2.06 | 0.55 |
| 1:A:864:PHE:CD1 | 2:B:48:TYR:CZ | 2.94 | 0.55 |
| 1:A:247:GLU:HA | 1:A:247:GLU:OE1 | 2.07 | 0.55 |
| 1:A:287:GLU:CD | 1:A:287:GLU:H | 2.09 | 0.55 |
| 1:A:441:ALA:O | 1:A:456:VAL:HG13 | 2.07 | 0.55 |
| 1:A:711:VAL:HG13 | 1:A:721:VAL:HG21 | 1.89 | 0.55 |
| 2:B:85:ARG:CB | 2:B:180:ILE:HG13 | 2.37 | 0.55 |
| 2:B:92:LYS:CG | 2:B:95:ASP:O | 2.53 | 0.55 |
| 1:A:310:LEU:HD13 | 1:A:310:LEU:C | 2.27 | 0.55 |
| 1:A:472:THR:HG23 | 1:A:473:LEU:N | 2.22 | 0.55 |
| 1:A:888:PHE:HD2 | 2:B:63:MET:CE | 2.20 | 0.55 |
| 2:B:181:ILE:HG22 | 2:B:182:LYS:N | 2.21 | 0.55 |
| 1:A:314:THR:HG23 | 1:A:315:PHE:N | 2.23 | 0.54 |
| 1:A:433:VAL:HG11 | 1:A:564:PHE:HB3 | 1.89 | 0.54 |
| 1:A:885:GLU:OE1 | 1:A:885:GLU:HA | 2.06 | 0.54 |
| 1:A:337:VAL:O | 1:A:341:VAL:HG22 | 2.07 | 0.54 |
| 1:A:424:SER:OG | 1:A:426:THR:HG22 | 2.07 | 0.54 |
| 1:A:532:ILE:HG23 | 1:A:532:ILE:O | 2.07 | 0.54 |
| 2:B:176:LYS:HD2 | 2:B:250:LEU:HA | 1.89 | 0.54 |
| 1:A:885:GLU:HB2 | 1:A:923:GLN:OE1 | 2.07 | 0.54 |
| 2:B:139:GLN:O | 2:B:140:GLU:HG3 | 2.07 | 0.54 |
| 1:A:307:LEU:HD12 | 1:A:340:TYR:CD2 | 2.43 | 0.54 |
| 1:A:424:SER:CB | 1:A:426:THR:HG22 | 2.37 | 0.54 |
| 1:A:532:ILE:O | 1:A:533:LYS:HB2 | 2.08 | 0.54 |
| 2:B:142:PHE:CE1 | 2:B:188:LYS:HB3 | 2.43 | 0.54 |
| 1:A:109:LEU:HD22 | 1:A:109:LEU:N | 2.18 | 0.54 |
| 1:A:150:VAL:HG13 | 1:A:151:VAL:N | 2.22 | 0.54 |
| 1:A:424:SER:HB2 | 1:A:426:THR:HG22 | 1.90 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 1:A:650:VAL:HG13 | 1:A:651:GLU:N | 2.22 | 0.54 |
| 1:A:888:PHE:HD2 | 2:B:63:MET:HE1 | 1.72 | 0.54 |
| 2:B:95:ASP:HA | 2:B:285:LYS:O | 2.08 | 0.54 |
| 1:A:697:MET:SD | 1:A:699:PHE:HE1 | 2.31 | 0.54 |
| 1:A:708:LEU:CD1 | 1:A:736:LYS:HB2 | 2.38 | 0.54 |
| 2:B:92:LYS:HG3 | 2:B:95:ASP:HB3 | 1.83 | 0.54 |
| 1:A:135:THR:HG22 | 1:A:136:ASP:N | 2.22 | 0.54 |
| 1:A:760:LEU:HD22 | 1:A:760:LEU:H | 1.72 | 0.54 |
| 1:A:1007:LEU:HD13 | 1:A:1007:LEU:C | 2.28 | 0.54 |
| 1:A:1026:TRP:CZ3 | 1:A:1027:TRP:CE3 | 2.96 | 0.54 |
| 1:A:181:ILE:CD1 | 1:A:199:LEU:HD23 | 2.37 | 0.54 |
| 1:A:888:PHE:CB | 1:A:889:PRO:HD2 | 2.36 | 0.54 |
| 1:A:902:HIS:HA | 1:A:917:PHE:CD1 | 2.43 | 0.54 |
| 2:B:148:THR:HG23 | 2:B:148:THR:O | 2.07 | 0.54 |
| 1:A:670:ARG:HB3 | 1:A:695:PRO:HG2 | 1.89 | 0.54 |
| 1:A:764:PHE:O | 1:A:767:ILE:HD13 | 2.08 | 0.54 |
| 1:A:903:HIS:NE2 | 2:B:88:VAL:HG13 | 2.22 | 0.54 |
| 1:A:76:LEU:HD22 | 1:A:76:LEU:N | 2.23 | 0.54 |
| 1:A:914:GLU:OE1 | 2:B:184:ASN:HA | 2.04 | 0.54 |
| 2:B:47:PHE:O | 2:B:51:MET:HG2 | 2.08 | 0.54 |
| 1:A:72:LEU:HD13 | 1:A:198:ASP:CA | 2.22 | 0.53 |
| 1:A:181:ILE:HB | 1:A:199:LEU:HD23 | 1.90 | 0.53 |
| 1:A:376:LEU:CD2 | 1:A:770:GLY:CA | 2.52 | 0.53 |
| 1:A:826:PHE:HD2 | 1:A:967:ALA:HA | 1.72 | 0.53 |
| 1:A:888:PHE:HB2 | 1:A:891:LEU:HD23 | 1.89 | 0.53 |
| 1:A:232:GLU:HG3 | 1:A:234:GLN:NE2 | 2.24 | 0.53 |
| 1:A:531:LEU:HD11 | 1:A:534:GLY:O | 2.08 | 0.53 |
| 1:A:885:GLU:HG3 | 1:A:923:GLN:HG3 | 1.91 | 0.53 |
| 1:A:981:CYS:SG | 1:A:984:MET:HE3 | 2.48 | 0.53 |
| 1:A:76:LEU:O | 1:A:80:LEU:HD13 | 2.08 | 0.53 |
| 1:A:528:SER:OG | 1:A:591:GLY:HA2 | 2.08 | 0.53 |
| 1:A:978:LEU:HA | 1:A:984:MET:SD | 2.49 | 0.53 |
| 2:B:88:VAL:HG12 | 2:B:92:LYS:CA | 2.37 | 0.53 |
| 1:A:282:LEU:HD21 | 1:A:708:LEU:HD22 | 1.90 | 0.53 |
| 1:A:659:VAL:HG13 | 1:A:660:PRO:HD2 | 1.91 | 0.53 |
| 1:A:903:HIS:HE1 | 2:B:87:ASP:HA | 1.67 | 0.53 |
| 2:B:85:ARG:HD3 | 2:B:113:LEU:CA | 2.38 | 0.53 |
| 2:B:136:TYR:CE1 | 2:B:190:LEU:HB3 | 2.44 | 0.53 |
| 2:B:183:MET:CE | 2:B:264:ILE:HD13 | 2.38 | 0.53 |
| 2:B:203:PHE:CD2 | 2:B:210:GLY:HA3 | 2.42 | 0.53 |
| 2:B:272:ASP:O | 2:B:274:PRO:CD | 2.43 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:179:THR:HG23 | 1:A:201:GLU:HB3 | 1.91 | 0.53 |
| 1:A:232:GLU:HG3 | 1:A:234:GLN:HE21 | 1.74 | 0.53 |
| 1:A:340:TYR:CE2 | 1:A:796:LEU:HD13 | 2.44 | 0.53 |
| 1:A:827:PRO:CD | 1:A:967:ALA:HB1 | 2.38 | 0.53 |
| 1:A:50:ILE:HD12 | 1:A:50:ILE:C | 2.28 | 0.53 |
| 1:A:415:GLN:HE21 | 1:A:415:GLN:HA | 1.74 | 0.53 |
| 1:A:537:LEU:CG | 1:A:538:PRO:HD2 | 2.39 | 0.53 |
| 1:A:523:VAL:HG11 | 1:A:594:PHE:HE2 | 1.74 | 0.53 |
| 1:A:778:PHE:CZ | 1:A:853:LEU:CA | 2.91 | 0.53 |
| 1:A:791:LYS:HG3 | 1:A:939:GLN:NE2 | 2.24 | 0.53 |
| 1:A:858:LEU:HD23 | 1:A:858:LEU:C | 2.29 | 0.53 |
| 1:A:887:TRP:HZ2 | 1:A:907:LEU:HD23 | 1.73 | 0.53 |
| 1:A:916:THR:OG1 | 2:B:278:TYR:CB | 2.52 | 0.53 |
| 1:A:930:VAL:CA | 1:A:933:ILE:HG12 | 2.37 | 0.53 |
| 2:B:88:VAL:HG12 | 2:B:93:GLY:N | 2.23 | 0.53 |
| 2:B:99:ASN:H | 2:B:105:THR:HG21 | 1.73 | 0.53 |
| 2:B:154:PHE:HD1 | 2:B:228:TYR:OH | 1.92 | 0.53 |
| 1:A:275:ILE:HG23 | 1:A:276:ILE:HG23 | 1.91 | 0.53 |
| 1:A:495:ASN:HB3 | 1:A:497:PHE:CD2 | 2.43 | 0.53 |
| 1:A:629:HIS:CE1 | 1:A:701:ARG:HH21 | 2.27 | 0.53 |
| 1:A:661:VAL:HG23 | 1:A:662:ASP:N | 2.23 | 0.53 |
| 2:B:98:TYR:CZ | 2:B:288:ILE:HD12 | 2.43 | 0.53 |
| 2:B:196:ALA:HB1 | 2:B:223:THR:CG2 | 2.39 | 0.53 |
| 1:A:311:PHE:CD2 | 1:A:315:PHE:HE1 | 2.27 | 0.53 |
| 1:A:396:THR:O | 1:A:601:ILE:N | 2.37 | 0.53 |
| 1:A:861:TYR:OH | 1:A:1015:ARG:HD3 | 2.09 | 0.53 |
| 1:A:893:VAL:HG23 | 1:A:893:VAL:O | 2.09 | 0.53 |
| 1:A:151:VAL:HG23 | 1:A:152:THR:N | 2.22 | 0.52 |
| 1:A:504:LEU:HG | 1:A:506:ASP:H | 1.74 | 0.52 |
| 1:A:60:LEU:O | 1:A:64:TYR:HD2 | 1.92 | 0.52 |
| 1:A:511:ARG:HB3 | 1:A:511:ARG:NH1 | 2.23 | 0.52 |
| 1:A:605:ARG:NH2 | 1:A:762:ASP:HB3 | 2.24 | 0.52 |
| 2:B:46:ALA:HA | 2:B:49:VAL:CB | 2.37 | 0.52 |
| 2:B:158:MET:HE2 | 2:B:220:ALA:HA | 1.90 | 0.52 |
| 1:A:136:ASP:CB | 1:A:140:TYR:CD1 | 2.92 | 0.52 |
| 1:A:607:THR:HG23 | 1:A:764:PHE:HB3 | 1.90 | 0.52 |
| 1:A:653:ILE:O | 1:A:656:ARG:HG3 | 2.09 | 0.52 |
| 1:A:702:THR:HG22 | 1:A:706:GLN:HE21 | 1.70 | 0.52 |
| 1:A:190:ASN:O | 1:A:193:GLN:HB2 | 2.09 | 0.52 |
| 1:A:674:ILE:HG23 | 1:A:674:ILE:O | 2.10 | 0.52 |
| 1:A:730:ASP:O | 1:A:734:LEU:HG | 2.09 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:836:ALA:HB2 | 1:A:840:ILE:HD11 | 1.90 | 0.52 |
| 2:B:100:VAL:HG23 | 2:B:101:SER:N | 2.25 | 0.52 |
| 1:A:311:PHE:HD2 | 1:A:315:PHE:HE1 | 1.57 | 0.52 |
| 1:A:394:ARG:NH2 | 1:A:413:GLU:CB | 2.68 | 0.52 |
| 1:A:479:TYR:HA | 1:A:482:ARG:HE | 1.74 | 0.52 |
| 1:A:797:THR:N | 1:A:798:PRO:HD2 | 2.25 | 0.52 |
| 1:A:890:LEU:H | 1:A:890:LEU:CD2 | 2.22 | 0.52 |
| 2:B:186:ILE:HG23 | 2:B:186:ILE:O | 2.10 | 0.52 |
| 1:A:293:ILE:O | 1:A:297:ILE:HG12 | 2.09 | 0.52 |
| 2:B:132:THR:CG2 | 2:B:134:GLU:HG3 | 2.38 | 0.52 |
| 1:A:703:SER:H | 1:A:706:GLN:CG | 2.20 | 0.52 |
| 2:B:89:TYR:H | 2:B:92:LYS:HG3 | 1.75 | 0.52 |
| 1:A:282:LEU:HD21 | 1:A:708:LEU:CD2 | 2.40 | 0.52 |
| 1:A:469:SER:O | 1:A:473:LEU:HB2 | 2.10 | 0.52 |
| 1:A:793:ILE:N | 1:A:794:PRO:HD2 | 2.25 | 0.52 |
| 2:B:260:ILE:CG2 | 2:B:284:PHE:CD2 | 2.93 | 0.52 |
| 1:A:212:ILE:CG1 | 1:A:265:GLY:HA3 | 2.40 | 0.52 |
| 1:A:311:PHE:HA | 1:A:314:THR:HG21 | 1.92 | 0.52 |
| 1:A:640:VAL:HG23 | 1:A:642:ILE:HG13 | 1.91 | 0.52 |
| 2:B:173:ALA:HB3 | 2:B:177:PRO:HA | 1.91 | 0.52 |
| 1:A:220:ARG:HH12 | 1:A:252:ALA:CB | 2.23 | 0.51 |
| 1:A:89:LEU:HD22 | 1:A:89:LEU:N | 2.25 | 0.51 |
| 1:A:127:GLN:HG2 | 1:A:133:LEU:HD23 | 1.91 | 0.51 |
| 1:A:648:GLU:OE1 | 1:A:653:ILE:HG13 | 2.10 | 0.51 |
| 1:A:930:VAL:HG23 | 1:A:931:PHE:N | 2.25 | 0.51 |
| 1:A:156:GLY:O | 1:A:160:GLU:HG2 | 2.10 | 0.51 |
| 1:A:289:GLU:OE1 | 1:A:289:GLU:CA | 2.58 | 0.51 |
| 1:A:360:LEU:HA | 1:A:363:LYS:HD3 | 1.92 | 0.51 |
| 1:A:750:ALA:HA | 1:A:753:ASN:HD21 | 1.72 | 0.51 |
| 1:A:911:TYR:CE1 | 2:B:71:PRO:HD3 | 2.44 | 0.51 |
| 2:B:68:PRO:O | 2:B:69:TYR:CG | 2.62 | 0.51 |
| 1:A:312:GLY:HA2 | 1:A:336:ILE:HG21 | 1.93 | 0.51 |
| 1:A:479:TYR:HA | 1:A:482:ARG:NE | 2.25 | 0.51 |
| 1:A:503:THR:HG23 | 1:A:503:THR:O | 2.11 | 0.51 |
| 1:A:522:ARG:HB2 | 1:A:522:ARG:HH11 | 1.74 | 0.51 |
| 1:A:759:LEU:HD11 | 1:A:767:ILE:HD11 | 1.91 | 0.51 |
| 1:A:856:GLU:CD | 1:A:857:PRO:HD3 | 2.31 | 0.51 |
| 1:A:861:TYR:CE2 | 1:A:866:ILE:CD1 | 2.94 | 0.51 |
| 1:A:251:ILE:HD12 | 1:A:251:ILE:N | 2.23 | 0.51 |
| 1:A:631:ILE:HG23 | 1:A:632:THR:N | 2.26 | 0.51 |
| 1:A:771:VAL:HG13 | 1:A:772:GLU:N | 2.26 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:871:SER:O | 1:A:875:PHE:HD1 | 1.93 | 0.51 |
| 2:B:85:ARG:HD2 | 2:B:86:PRO:CA | 2.40 | 0.51 |
| 1:A:805:VAL:CG2 | 1:A:807:VAL:HG23 | 2.41 | 0.51 |
| 1:A:857:PRO:HB3 | 1:A:1030:GLU:O | 2.10 | 0.51 |
| 2:B:96:ILE:HD12 | 2:B:109:LEU:HD11 | 1.87 | 0.51 |
| 2:B:125:GLN:OE1 | 2:B:153:LYS:HA | 2.09 | 0.51 |
| 2:B:196:ALA:HB1 | 2:B:223:THR:HG23 | 1.92 | 0.51 |
| 1:A:346:LEU:HD13 | 1:A:346:LEU:C | 2.31 | 0.51 |
| 1:A:477:MET:HA | 1:A:480:ARG:HE | 1.76 | 0.51 |
| 2:B:94:LEU:CD1 | 2:B:179:PHE:CD2 | 2.94 | 0.51 |
| 2:B:185:ARG:HD3 | 2:B:242:ASN:OD1 | 2.10 | 0.51 |
| 1:A:293:ILE:HG23 | 1:A:294:ALA:N | 2.25 | 0.51 |
| 1:A:307:LEU:CD1 | 1:A:340:TYR:CE2 | 2.94 | 0.51 |
| 1:A:363:LYS:HD2 | 1:A:769:THR:HG21 | 1.93 | 0.51 |
| 1:A:585:MET:CE | 1:A:589:THR:HG21 | 2.41 | 0.51 |
| 1:A:613:LEU:HD13 | 1:A:613:LEU:C | 2.31 | 0.51 |
| 1:A:648:GLU:HB3 | 1:A:653:ILE:CD1 | 2.40 | 0.51 |
| 1:A:742:ALA:HB3 | 1:A:758:ILE:CD1 | 2.41 | 0.51 |
| 2:B:125:GLN:CD | 2:B:153:LYS:HG3 | 2.31 | 0.51 |
| 1:A:295:ILE:O | 1:A:298:GLU:HG2 | 2.11 | 0.51 |
| 1:A:739:ILE:HG23 | 1:A:739:ILE:O | 2.10 | 0.51 |
| 1:A:964:LEU:HD23 | 1:A:964:LEU:C | 2.31 | 0.51 |
| 2:B:85:ARG:HB2 | 2:B:180:ILE:CD1 | 2.40 | 0.51 |
| 2:B:218:PHE:HE2 | 2:B:248:LYS:HB2 | 1.75 | 0.51 |
| 2:B:282:VAL:HG12 | 2:B:284:PHE:CD1 | 2.44 | 0.51 |
| 1:A:351:VAL:O | 1:A:355:LEU:HG | 2.11 | 0.50 |
| 1:A:442:PHE:CE2 | 1:A:466:LEU:CD2 | 2.94 | 0.50 |
| 1:A:537:LEU:HG | 1:A:538:PRO:N | 2.26 | 0.50 |
| 1:A:652:ASP:OD1 | 1:A:653:ILE:HD12 | 2.11 | 0.50 |
| 1:A:891:LEU:HD22 | 1:A:891:LEU:H | 1.76 | 0.50 |
| 1:A:173:LEU:HD12 | 1:A:173:LEU:N | 2.27 | 0.50 |
| 1:A:180:VAL:HG12 | 1:A:200:VAL:HG22 | 1.93 | 0.50 |
| 1:A:322:ILE:HG21 | 1:A:324:TYR:HE2 | 1.73 | 0.50 |
| 1:A:451:VAL:O | 1:A:454:ARG:HG2 | 2.11 | 0.50 |
| 1:A:499:LEU:HD21 | 1:A:514:LEU:CD1 | 2.35 | 0.50 |
| 1:A:873:ALA:HB2 | 1:A:1004:PHE:CB | 2.42 | 0.50 |
| 1:A:139:LEU:O | 1:A:143:LEU:HG | 2.11 | 0.50 |
| 1:A:200:VAL:HG12 | 1:A:201:GLU:N | 2.26 | 0.50 |
| 1:A:337:VAL:HG23 | 1:A:338:VAL:N | 2.27 | 0.50 |
| 1:A:511:ARG:CZ | 1:A:568:TYR:CE2 | 2.95 | 0.50 |
| 1:A:887:TRP:CZ2 | 1:A:907:LEU:CD2 | 2.94 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:A:978:LEU:HG | 1:A:984:MET:SD | 2.51 | 0.50 |
| 2:B:139:GLN:HA | 2:B:139:GLN:NE2 | 2.18 | 0.50 |
| 2:B:179:PHE:CZ | 2:B:247:ALA:CB | 2.94 | 0.50 |
| 1:A:41:LEU:HD12 | 1:A:41:LEU:N | 2.26 | 0.50 |
| 1:A:105:LEU:O | 1:A:110:GLN:CB | 2.60 | 0.50 |
| 1:A:220:ARG:HH12 | 1:A:252:ALA:HB2 | 1.77 | 0.50 |
| 1:A:532:ILE:HD12 | 1:A:543:TRP:CH2 | 2.46 | 0.50 |
| 1:A:674:ILE:CG2 | 1:A:699:PHE:CD2 | 2.94 | 0.50 |
| 1:A:771:VAL:O | 1:A:775:ARG:HG3 | 2.12 | 0.50 |
| 1:A:908:GLN:O | 1:A:908:GLN:HG3 | 2.09 | 0.50 |
| 1:A:981:CYS:HG | 1:A:984:MET:HB2 | 1.77 | 0.50 |
| 1:A:177:GLN:CB | 1:A:189:ILE:O | 2.52 | 0.50 |
| 1:A:194:LEU:HD21 | 1:A:267:VAL:CG2 | 2.31 | 0.50 |
| 1:A:659:VAL:HG12 | 1:A:663:GLN:HB2 | 1.92 | 0.50 |
| 1:A:906:ASP:CG | 2:B:83:THR:CB | 2.80 | 0.50 |
| 2:B:98:TYR:CZ | 2:B:288:ILE:CD1 | 2.95 | 0.50 |
| 2:B:266:ALA:N | 2:B:269:VAL:HG22 | 2.25 | 0.50 |
| 1:A:855:ASN:ND2 | 1:A:857:PRO:HD2 | 2.26 | 0.50 |
| 1:A:993:ILE:HD11 | 1:A:998:TRP:CD2 | 2.44 | 0.50 |
| 2:B:215:VAL:CG2 | 2:B:217:TYR:CZ | 2.95 | 0.50 |
| 1:A:427:TRP:CE2 | 1:A:431:CYS:SG | 3.05 | 0.50 |
| 1:A:795:GLU:CG | 1:A:816:ILE:HD12 | 2.42 | 0.50 |
| 1:A:974:ILE:HG23 | 1:A:975:GLY:N | 2.25 | 0.50 |
| 1:A:1026:TRP:HZ3 | 1:A:1027:TRP:CZ3 | 2.29 | 0.50 |
| 1:A:1027:TRP:NE1 | 1:A:1031:LEU:HD12 | 2.27 | 0.50 |
| 2:B:141:SER:HB2 | 2:B:143:LEU:HG | 1.94 | 0.50 |
| 2:B:193:ASN:O | 2:B:194:SER:HB2 | 2.12 | 0.50 |
| 1:A:288:ASN:O | 1:A:289:GLU:CB | 2.60 | 0.50 |
| 1:A:884:GLN:HB3 | 2:B:73:TYR:HD2 | 1.77 | 0.50 |
| 1:A:940:ILE:HG23 | 1:A:941:ALA:N | 2.25 | 0.50 |
| 2:B:160:GLN:CG | 2:B:218:PHE:CD1 | 2.94 | 0.50 |
| 2:B:260:ILE:HD13 | 2:B:284:PHE:HE2 | 1.75 | 0.50 |
| 1:A:564:PHE:CE1 | 1:A:598:VAL:CG1 | 2.94 | 0.50 |
| 1:A:988:PHE:HB2 | 1:A:990:PHE:HD2 | 1.76 | 0.50 |
| 2:B:113:LEU:CD1 | 2:B:172:PHE:CG | 2.95 | 0.50 |
| 1:A:868:ALA:O | 1:A:872:PHE:HD2 | 1.95 | 0.49 |
| 1:A:1015:ARG:CG | 1:A:1027:TRP:HE1 | 2.25 | 0.49 |
| 2:B:257:ASP:OD1 | 2:B:287:LYS:HD3 | 2.12 | 0.49 |
| 2:B:282:VAL:CG1 | 2:B:284:PHE:CD1 | 2.95 | 0.49 |
| 1:A:415:GLN:HE21 | 1:A:415:GLN:CA | 2.25 | 0.49 |
| 1:A:471:LEU:C | 1:A:471:LEU:HD13 | 2.31 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:A:805:VAL:HG11 | 1:A:807:VAL:HB | 1.94 | 0.49 |
| 1:A:927:CYS:O | 1:A:930:VAL:HG22 | 2.12 | 0.49 |
| 1:A:233:PRO:HG3 | 1:A:259:LEU:HD13 | 1.90 | 0.49 |
| 1:A:276:ILE:HD12 | 1:A:277:GLY:N | 2.27 | 0.49 |
| 1:A:580:PHE:HA | 1:A:586:ASN:HD22 | 1.76 | 0.49 |
| 1:A:914:GLU:HG2 | 2:B:184:ASN:HB3 | 1.94 | 0.49 |
| 1:A:87:ASN:HD21 | 1:A:210:ALA:HB2 | 1.77 | 0.49 |
| 1:A:167:ILE:HG23 | 1:A:168:ALA:N | 2.26 | 0.49 |
| 1:A:179:THR:HG22 | 1:A:201:GLU:O | 2.13 | 0.49 |
| 1:A:315:PHE:CD2 | 1:A:800:LEU:HD22 | 2.47 | 0.49 |
| 1:A:317:ILE:HG23 | 1:A:318:VAL:N | 2.28 | 0.49 |
| 1:A:521:GLU:CD | 1:A:521:GLU:H | 2.16 | 0.49 |
| 1:A:801:ILE:HG23 | 1:A:802:TYR:N | 2.27 | 0.49 |
| 1:A:1024:GLY:O | 1:A:1025:SER:HB2 | 2.10 | 0.49 |
| 2:B:85:ARG:CZ | 2:B:113:LEU:HD12 | 2.42 | 0.49 |
| 2:B:88:VAL:HB | 2:B:92:LYS:N | 2.24 | 0.49 |
| 2:B:94:LEU:HB2 | 2:B:284:PHE:HB2 | 1.94 | 0.49 |
| 1:A:404:ASN:HB2 | 1:A:543:TRP:CZ3 | 2.44 | 0.49 |
| 1:A:567:LEU:HD22 | 1:A:592:LEU:CD2 | 2.42 | 0.49 |
| 1:A:795:GLU:CB | 1:A:816:ILE:HD12 | 2.41 | 0.49 |
| 1:A:888:PHE:HZ | 2:B:66:ILE:CG2 | 2.24 | 0.49 |
| 1:A:906:ASP:CG | 2:B:83:THR:CG2 | 2.81 | 0.49 |
| 2:B:92:LYS:CA | 2:B:95:ASP:HB3 | 2.42 | 0.49 |
| 1:A:197:GLY:CA | 1:A:266:LEU:HD21 | 2.41 | 0.49 |
| 1:A:947:LYS:HD2 | 1:A:958:PHE:HD1 | 1.77 | 0.49 |
| 2:B:85:ARG:HD2 | 2:B:86:PRO:CD | 2.43 | 0.49 |
| 2:B:106:TRP:CZ3 | 2:B:110:ALA:HB2 | 2.48 | 0.49 |
| 2:B:142:PHE:CE2 | 2:B:187:VAL:HG13 | 2.48 | 0.49 |
| 2:B:179:PHE:CE1 | 2:B:247:ALA:HB3 | 2.47 | 0.49 |
| 1:A:212:ILE:HD12 | 1:A:266:LEU:C | 2.33 | 0.49 |
| 1:A:314:THR:CG2 | 1:A:315:PHE:CD1 | 2.95 | 0.49 |
| 1:A:366:VAL:CG2 | 1:A:760:LEU:HD21 | 2.41 | 0.49 |
| 1:A:527:CYS:SG | 1:A:594:PHE:HB2 | 2.52 | 0.49 |
| 1:A:875:PHE:O | 1:A:878:TYR:HB3 | 2.13 | 0.49 |
| 2:B:86:PRO:HB2 | 2:B:96:ILE:CD1 | 2.36 | 0.49 |
| 1:A:255:SER:HB3 | 1:A:276:ILE:CG1 | 2.42 | 0.49 |
| 1:A:877:ASP:CA | 1:A:1000:VAL:HG11 | 2.43 | 0.49 |
| 1:A:896:ARG:HG3 | 1:A:897:PRO:N | 2.28 | 0.49 |
| 1:A:1014:ILE:HG23 | 1:A:1015:ARG:N | 2.28 | 0.49 |
| 2:B:81:GLY:HA3 | 2:B:184:ASN:OD1 | 2.12 | 0.49 |
| 2:B:232:TYR:HB3 | 2:B:236:ALA:HB3 | 1.94 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:254:PHE:CD2 | 1:A:276:ILE:CD1 | 2.94 | 0.49 |
| 1:A:499:LEU:HD13 | 1:A:499:LEU:C | 2.33 | 0.49 |
| 1:A:537:LEU:HD12 | 1:A:538:PRO:CD | 2.41 | 0.49 |
| 1:A:811:LEU:HD23 | 1:A:816:ILE:CD1 | 2.43 | 0.49 |
| 1:A:884:GLN:HB3 | 2:B:73:TYR:CD2 | 2.48 | 0.49 |
| 1:A:896:ARG:N | 1:A:897:PRO:HD2 | 2.28 | 0.49 |
| 2:B:182:LYS:HE3 | 2:B:242:ASN:CB | 2.35 | 0.49 |
| 2:B:213:LEU:HD23 | 2:B:214:GLN:H | 1.74 | 0.49 |
| 1:A:537:LEU:HG | 1:A:538:PRO:CD | 2.43 | 0.49 |
| 1:A:791:LYS:HD3 | 1:A:819:ILE:HG21 | 1.94 | 0.49 |
| 2:B:89:TYR:H | 2:B:92:LYS:CG | 2.26 | 0.49 |
| 2:B:113:LEU:CD2 | 2:B:172:PHE:CZ | 2.96 | 0.49 |
| 1:A:255:SER:HG | 1:A:276:ILE:HG21 | 1.77 | 0.48 |
| 1:A:307:LEU:HD13 | 1:A:307:LEU:C | 2.34 | 0.48 |
| 1:A:392:GLN:OE1 | 1:A:394:ARG:NH1 | 2.39 | 0.48 |
| 1:A:601:ILE:HD13 | 1:A:602:ASP:H | 1.77 | 0.48 |
| 1:A:807:VAL:CG1 | 1:A:808:PRO:N | 2.76 | 0.48 |
| 1:A:880:THR:HG23 | 1:A:997:TRP:CZ3 | 2.48 | 0.48 |
| 1:A:169:SER:HA | 1:A:172:ASN:HD22 | 1.78 | 0.48 |
| 1:A:399:HIS:ND1 | 1:A:399:HIS:N | 2.61 | 0.48 |
| 1:A:666:ARG:H | 1:A:666:ARG:HD2 | 1.77 | 0.48 |
| 1:A:984:MET:CG | 1:A:988:PHE:CD2 | 2.74 | 0.48 |
| 2:B:109:LEU:H | 2:B:109:LEU:CD2 | 2.26 | 0.48 |
| 2:B:125:GLN:OE1 | 2:B:153:LYS:HG3 | 2.13 | 0.48 |
| 1:A:126:ILE:HG21 | 1:A:327:LEU:HD22 | 1.95 | 0.48 |
| 1:A:137:ASP:CG | 1:A:138:ASN:H | 2.16 | 0.48 |
| 1:A:307:LEU:CD1 | 1:A:311:PHE:CD1 | 2.96 | 0.48 |
| 1:A:434:LEU:CD2 | 1:A:564:PHE:CE2 | 2.95 | 0.48 |
| 2:B:92:LYS:CE | 2:B:95:ASP:O | 2.54 | 0.48 |
| 1:A:226:SER:HA | 1:A:728:VAL:HG11 | 1.95 | 0.48 |
| 1:A:390:LEU:O | 1:A:608:VAL:HG21 | 2.13 | 0.48 |
| 1:A:400:LEU:HD11 | 1:A:468:PHE:HE2 | 1.77 | 0.48 |
| 1:A:811:LEU:CA | 1:A:928:TYR:CD1 | 2.94 | 0.48 |
| 2:B:81:GLY:C | 2:B:184:ASN:OD1 | 2.51 | 0.48 |
| 2:B:244:LEU:HD12 | 2:B:244:LEU:N | 2.28 | 0.48 |
| 2:B:260:ILE:CG2 | 2:B:284:PHE:CE2 | 2.96 | 0.48 |
| 1:A:307:LEU:HD13 | 1:A:311:PHE:CD1 | 2.48 | 0.48 |
| 1:A:884:GLN:HA | 1:A:884:GLN:HE21 | 1.78 | 0.48 |
| 1:A:988:PHE:HB3 | 1:A:990:PHE:CE2 | 2.48 | 0.48 |
| 2:B:85:ARG:N | 2:B:86:PRO:HD2 | 2.29 | 0.48 |
| 1:A:142:ALA:O | 1:A:146:ILE:HG12 | 2.14 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:811:LEU:HD23 | 1:A:816:ILE:HD11 | 1.96 | 0.48 |
| 1:A:215:LEU:HD13 | 1:A:215:LEU:O | 2.13 | 0.48 |
| 1:A:608:VAL:CB | 1:A:609:PRO:HD3 | 2.41 | 0.48 |
| 1:A:805:VAL:CG1 | 1:A:807:VAL:H | 2.23 | 0.48 |
| 1:A:889:PRO:HD2 | 2:B:63:MET:HE1 | 1.95 | 0.48 |
| 1:A:979:CYS:SG | 1:A:980:TYR:CD2 | 3.06 | 0.48 |
| 1:A:984:MET:N | 1:A:985:PRO:HD2 | 2.29 | 0.48 |
| 1:A:988:PHE:O | 1:A:989:ASN:HB2 | 2.14 | 0.48 |
| 2:B:116:PHE:CE2 | 2:B:120:TYR:HE1 | 2.32 | 0.48 |
| 1:A:196:VAL:HG23 | 1:A:196:VAL:O | 2.13 | 0.48 |
| 1:A:398:SER:CB | 1:A:600:MET:O | 2.61 | 0.48 |
| 1:A:524:LEU:HD13 | 1:A:524:LEU:C | 2.34 | 0.48 |
| 1:A:731:SER:HB2 | 1:A:732:PRO:CD | 2.35 | 0.48 |
| 1:A:791:LYS:HD2 | 1:A:824:ASP:CG | 2.35 | 0.48 |
| 2:B:77:LEU:HG | 2:B:186:ILE:HD12 | 1.95 | 0.48 |
| 2:B:265:LEU:N | 2:B:265:LEU:HD12 | 2.29 | 0.48 |
| 2:B:288:ILE:O | 2:B:288:ILE:HG22 | 2.13 | 0.48 |
| 1:A:598:VAL:HG13 | 1:A:598:VAL:O | 2.14 | 0.48 |
| 1:A:656:ARG:HD3 | 1:A:657:LEU:HD23 | 1.96 | 0.48 |
| 1:A:705:GLN:O | 1:A:709:VAL:HG23 | 2.13 | 0.48 |
| 1:A:1000:VAL:HB | 1:A:1001:PRO:CD | 2.44 | 0.48 |
| 1:A:466:LEU:O | 1:A:466:LEU:HD23 | 2.14 | 0.48 |
| 1:A:777:ILE:CG2 | 1:A:778:PHE:N | 2.76 | 0.48 |
| 2:B:92:LYS:HE2 | 2:B:96:ILE:HA | 1.95 | 0.48 |
| 1:A:212:ILE:HG12 | 1:A:265:GLY:HA3 | 1.95 | 0.47 |
| 1:A:427:TRP:CZ2 | 1:A:431:CYS:SG | 3.07 | 0.47 |
| 1:A:880:THR:HG23 | 1:A:881:ALA:N | 2.27 | 0.47 |
| 1:A:916:THR:HG22 | 1:A:919:GLN:OE1 | 2.14 | 0.47 |
| 1:A:1002:MET:CB | 1:A:1003:PRO:HD3 | 2.37 | 0.47 |
| 2:B:88:VAL:O | 2:B:88:VAL:HG23 | 2.12 | 0.47 |
| 2:B:240:TYR:HE2 | 2:B:242:ASN:OD1 | 1.97 | 0.47 |
| 1:A:221:LYS:HB2 | 1:A:260:GLU:HG2 | 1.97 | 0.47 |
| 1:A:340:TYR:CD1 | 1:A:796:LEU:HD22 | 2.48 | 0.47 |
| 1:A:306:GLY:O | 1:A:309:ILE:HG12 | 2.15 | 0.47 |
| 1:A:442:PHE:CD1 | 1:A:454:ARG:CD | 2.96 | 0.47 |
| 1:A:781:LEU:O | 1:A:785:ILE:HG13 | 2.14 | 0.47 |
| 1:A:988:PHE:HB3 | 1:A:990:PHE:CD2 | 2.49 | 0.47 |
| 2:B:284:PHE:CD1 | 2:B:284:PHE:N | 2.82 | 0.47 |
| 1:A:625:VAL:CG1 | 1:A:707:LYS:HG2 | 2.43 | 0.47 |
| 1:A:985:PRO:O | 1:A:989:ASN:HA | 2.14 | 0.47 |
| 2:B:95:ASP:CA | 2:B:285:LYS:H | 2.25 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:98:TYR:HE2 | 2:B:174:GLU:O | 1.96 | 0.47 |
| 2:B:160:GLN:HG2 | 2:B:218:PHE:HD1 | 1.75 | 0.47 |
| 1:A:120:CYS:HB2 | 1:A:142:ALA:HB2 | 1.96 | 0.47 |
| 1:A:747:GLY:O | 1:A:752:LYS:HE3 | 2.15 | 0.47 |
| 1:A:787:TYR:CE1 | 1:A:939:GLN:HG3 | 2.49 | 0.47 |
| 1:A:888:PHE:CD2 | 2:B:63:MET:HE1 | 2.49 | 0.47 |
| 1:A:988:PHE:CB | 1:A:990:PHE:HD2 | 2.27 | 0.47 |
| 2:B:86:PRO:HG2 | 2:B:93:GLY:C | 2.35 | 0.47 |
| 1:A:52:ASP:HB3 | 1:A:63:LYS:NZ | 2.28 | 0.47 |
| 1:A:442:PHE:CE2 | 1:A:466:LEU:HD21 | 2.49 | 0.47 |
| 1:A:568:TYR:O | 1:A:568:TYR:HD1 | 1.98 | 0.47 |
| 1:A:826:PHE:HE2 | 1:A:963:ILE:O | 1.97 | 0.47 |
| 2:B:227:HIS:CE1 | 2:B:228:TYR:CE1 | 3.02 | 0.47 |
| 1:A:335:ALA:HB1 | 1:A:799:TYR:CD1 | 2.50 | 0.47 |
| 1:A:376:LEU:C | 1:A:378:SER:H | 2.18 | 0.47 |
| 1:A:389:THR:O | 1:A:605:ARG:HD2 | 2.15 | 0.47 |
| 1:A:411:THR:CG2 | 1:A:601:ILE:CG2 | 2.93 | 0.47 |
| 1:A:463:THR:HG23 | 1:A:464:ALA:N | 2.28 | 0.47 |
| 1:A:500:SER:O | 1:A:514:LEU:HD12 | 2.15 | 0.47 |
| 1:A:532:ILE:HG12 | 1:A:533:LYS:HD2 | 1.96 | 0.47 |
| 1:A:649:THR:CG2 | 1:A:651:GLU:HG2 | 2.45 | 0.47 |
| 1:A:861:TYR:CE1 | 1:A:1015:ARG:CD | 2.98 | 0.47 |
| 1:A:916:THR:HG22 | 1:A:919:GLN:CD | 2.34 | 0.47 |
| 1:A:945:ILE:HG13 | 1:A:946:ARG:N | 2.29 | 0.47 |
| 2:B:87:ASP:OD1 | 2:B:109:LEU:HD13 | 2.15 | 0.47 |
| 2:B:106:TRP:CZ3 | 2:B:110:ALA:CB | 2.97 | 0.47 |
| 1:A:122:ILE:HD13 | 1:A:122:ILE:C | 2.35 | 0.47 |
| 1:A:360:LEU:HD22 | 1:A:363:LYS:HD3 | 1.97 | 0.47 |
| 1:A:426:THR:HG23 | 1:A:427:TRP:N | 2.27 | 0.47 |
| 1:A:541:GLU:HG3 | 1:A:542:GLN:N | 2.28 | 0.47 |
| 1:A:640:VAL:CG2 | 1:A:642:ILE:HG13 | 2.45 | 0.47 |
| 1:A:805:VAL:HG22 | 1:A:807:VAL:HG23 | 1.96 | 0.47 |
| 2:B:74:GLN:O | 2:B:75:ASP:C | 2.53 | 0.47 |
| 2:B:94:LEU:O | 2:B:284:PHE:HB2 | 2.15 | 0.47 |
| 1:A:338:VAL:HG12 | 1:A:816:ILE:HG21 | 1.97 | 0.47 |
| 1:A:455:ILE:HG23 | 1:A:455:ILE:O | 2.14 | 0.47 |
| 1:A:553:SER:O | 1:A:557:LEU:HD13 | 2.14 | 0.47 |
| 1:A:950:ARG:HG3 | 1:A:1032:TYR:CZ | 2.50 | 0.47 |
| 2:B:85:ARG:HD3 | 2:B:113:LEU:CB | 2.44 | 0.47 |
| 1:A:270:THR:O | 1:A:273:ARG:HB2 | 2.15 | 0.47 |
| 1:A:353:LEU:C | 1:A:370:LEU:HD11 | 2.36 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:398:SER:OG | 1:A:601:ILE:CG1 | 2.62 | 0.47 |
| 1:A:951:LEU:N | 1:A:951:LEU:HD12 | 2.30 | 0.47 |
| 2:B:117:LEU:N | 2:B:117:LEU:HD22 | 2.30 | 0.47 |
| 1:A:322:ILE:CG2 | 1:A:324:TYR:CE2 | 2.95 | 0.46 |
| 1:A:795:GLU:HG2 | 1:A:816:ILE:HD12 | 1.96 | 0.46 |
| 1:A:456:VAL:HG12 | 1:A:457:ILE:N | 2.30 | 0.46 |
| 1:A:833:TYR:CE2 | 1:A:963:ILE:HG13 | 2.50 | 0.46 |
| 1:A:972:VAL:HG23 | 1:A:973:CYS:N | 2.31 | 0.46 |
| 1:A:999:LEU:HD12 | 1:A:999:LEU:H | 1.80 | 0.46 |
| 2:B:69:TYR:C | 2:B:70:THR:HG23 | 2.34 | 0.46 |
| 2:B:95:ASP:HA | 2:B:285:LYS:N | 2.29 | 0.46 |
| 1:A:387:THR:HA | 1:A:391:THR:OG1 | 2.16 | 0.46 |
| 1:A:471:LEU:HD13 | 1:A:471:LEU:O | 2.15 | 0.46 |
| 1:A:891:LEU:H | 1:A:891:LEU:CD2 | 2.28 | 0.46 |
| 2:B:120:TYR:CE2 | 2:B:244:LEU:CD1 | 2.98 | 0.46 |
| 1:A:122:ILE:HG23 | 1:A:123:ALA:N | 2.30 | 0.46 |
| 1:A:227:LEU:CD2 | 1:A:246:LEU:HD21 | 2.45 | 0.46 |
| 1:A:574:TYR:HD2 | 1:A:578:TYR:CD2 | 2.33 | 0.46 |
| 1:A:605:ARG:HH21 | 1:A:762:ASP:HB3 | 1.81 | 0.46 |
| 2:B:86:PRO:HG2 | 2:B:93:GLY:O | 2.16 | 0.46 |
| 2:B:211:PRO:HA | 2:B:212:PRO:HD3 | 1.64 | 0.46 |
| 1:A:72:LEU:N | 1:A:72:LEU:HD12 | 2.29 | 0.46 |
| 1:A:164:THR:HG23 | 1:A:166:ILE:HG13 | 1.97 | 0.46 |
| 1:A:173:LEU:HD12 | 1:A:173:LEU:H | 1.80 | 0.46 |
| 1:A:328:ARG:HB3 | 1:A:332:PHE:CE2 | 2.51 | 0.46 |
| 1:A:374:GLU:O | 1:A:376:LEU:N | 2.49 | 0.46 |
| 1:A:403:ASP:CG | 1:A:426:THR:HG21 | 2.35 | 0.46 |
| 1:A:761:ASP:O | 1:A:762:ASP:HB2 | 2.16 | 0.46 |
| 1:A:861:TYR:CD1 | 1:A:865:GLN:HG3 | 2.51 | 0.46 |
| 2:B:104:THR:HG22 | 2:B:104:THR:O | 2.16 | 0.46 |
| 1:A:137:ASP:OD1 | 1:A:137:ASP:N | 2.49 | 0.46 |
| 1:A:297:ILE:HG23 | 1:A:300:PHE:CZ | 2.51 | 0.46 |
| 1:A:380:SER:O | 1:A:620:ILE:HG23 | 2.15 | 0.46 |
| 1:A:485:LYS:HD2 | 1:A:488:GLU:HB3 | 1.97 | 0.46 |
| 1:A:649:THR:HG21 | 1:A:651:GLU:CD | 2.36 | 0.46 |
| 1:A:690:ALA:HA | 1:A:693:THR:CG2 | 2.46 | 0.46 |
| 2:B:92:LYS:HA | 2:B:95:ASP:N | 2.30 | 0.46 |
| 2:B:180:ILE:HD12 | 2:B:180:ILE:C | 2.35 | 0.46 |
| 1:A:82:LEU:N | 1:A:82:LEU:HD12 | 2.31 | 0.46 |
| 1:A:940:ILE:HD11 | 1:A:968:ILE:CG2 | 2.46 | 0.46 |
| 1:A:994:ARG:NH2 | 2:B:73:TYR:CE2 | 2.84 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:194:LEU:HD23 | 1:A:194:LEU:C | 2.35 | 0.46 |
| 1:A:335:ALA:CB | 1:A:799:TYR:CE1 | 2.94 | 0.46 |
| 1:A:427:TRP:HH2 | 1:A:468:PHE:HE2 | 1.64 | 0.46 |
| 1:A:523:VAL:CG1 | 1:A:594:PHE:HE2 | 2.27 | 0.46 |
| 1:A:767:ILE:N | 1:A:767:ILE:HD12 | 2.31 | 0.46 |
| 1:A:872:PHE:HD1 | 2:B:55:PHE:CG | 2.34 | 0.46 |
| 2:B:92:LYS:CG | 2:B:95:ASP:H | 2.29 | 0.46 |
| 1:A:322:ILE:CD1 | 1:A:803:ILE:CG2 | 2.94 | 0.46 |
| 1:A:898:GLN:OE1 | 1:A:904:LEU:HD22 | 2.15 | 0.46 |
| 1:A:914:GLU:HG2 | 2:B:184:ASN:CA | 2.46 | 0.46 |
| 2:B:69:TYR:O | 2:B:70:THR:CG2 | 2.64 | 0.46 |
| 2:B:187:VAL:O | 2:B:188:LYS:HG2 | 2.16 | 0.46 |
| 1:A:69:THR:HG23 | 1:A:70:LYS:H | 1.81 | 0.45 |
| 1:A:78:ALA:O | 1:A:82:LEU:HD13 | 2.16 | 0.45 |
| 1:A:237:SER:O | 1:A:250:ASN:HA | 2.16 | 0.45 |
| 1:A:334:MET:HG3 | 1:A:335:ALA:N | 2.30 | 0.45 |
| 1:A:396:THR:N | 1:A:601:ILE:O | 2.49 | 0.45 |
| 1:A:472:THR:HG23 | 1:A:473:LEU:HG | 1.98 | 0.45 |
| 1:A:477:MET:O | 1:A:481:GLU:HG3 | 2.16 | 0.45 |
| 1:A:608:VAL:O | 1:A:612:VAL:HG23 | 2.15 | 0.45 |
| 1:A:767:ILE:HD12 | 1:A:767:ILE:H | 1.81 | 0.45 |
| 1:A:788:THR:HG23 | 1:A:789:LEU:N | 2.30 | 0.45 |
| 1:A:866:ILE:CD1 | 1:A:945:ILE:CD1 | 2.94 | 0.45 |
| 2:B:186:ILE:CG2 | 2:B:189:PHE:CB | 2.92 | 0.45 |
| 2:B:199:VAL:CG1 | 2:B:262:CYS:SG | 3.03 | 0.45 |
| 2:B:219:PRO:O | 2:B:220:ALA:HB3 | 2.16 | 0.45 |
| 2:B:240:TYR:HE2 | 2:B:242:ASN:CG | 2.19 | 0.45 |
| 2:B:264:ILE:C | 2:B:265:LEU:HD12 | 2.37 | 0.45 |
| 1:A:127:GLN:CG | 1:A:133:LEU:HB2 | 2.46 | 0.45 |
| 1:A:173:LEU:O | 1:A:174:VAL:C | 2.54 | 0.45 |
| 1:A:433:VAL:HG13 | 1:A:434:LEU:N | 2.30 | 0.45 |
| 1:A:805:VAL:CG1 | 1:A:807:VAL:CG2 | 2.94 | 0.45 |
| 1:A:815:THR:CG2 | 1:A:932:PHE:HB2 | 2.46 | 0.45 |
| 1:A:993:ILE:HD11 | 1:A:998:TRP:CD1 | 2.50 | 0.45 |
| 1:A:95:THR:HG22 | 1:A:96:PRO:N | 2.32 | 0.45 |
| 1:A:491:PHE:CZ | 1:A:496:LYS:HA | 2.52 | 0.45 |
| 1:A:879:PHE:CD1 | 1:A:889:PRO:HB3 | 2.51 | 0.45 |
| 1:A:1015:ARG:CB | 1:A:1027:TRP:NE1 | 2.79 | 0.45 |
| 1:A:307:LEU:HD13 | 1:A:311:PHE:HD1 | 1.81 | 0.45 |
| 1:A:659:VAL:CG1 | 1:A:660:PRO:N | 2.80 | 0.45 |
| 1:A:723:VAL:CG1 | 1:A:734:LEU:HD23 | 2.47 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:916:THR:CG2 | 1:A:919:GLN:H | 2.28 | 0.45 |
| 1:A:483:PHE:HB3 | 1:A:502:HIS:HB3 | 1.98 | 0.45 |
| 2:B:177:PRO:HD3 | 2:B:288:ILE:HD11 | 1.97 | 0.45 |
| 1:A:117:ALA:CB | 1:A:146:ILE:CD1 | 2.94 | 0.45 |
| 1:A:336:ILE:CG2 | 1:A:340:TYR:CE1 | 2.96 | 0.45 |
| 1:A:127:GLN:NE2 | 1:A:133:LEU:HG | 2.31 | 0.45 |
| 1:A:216:GLN:HE21 | 1:A:216:GLN:HB2 | 1.50 | 0.45 |
| 1:A:233:PRO:CG | 1:A:259:LEU:HD12 | 2.44 | 0.45 |
| 1:A:656:ARG:HD2 | 1:A:657:LEU:CG | 2.37 | 0.45 |
| 1:A:707:LYS:O | 1:A:711:VAL:HG23 | 2.17 | 0.45 |
| 2:B:85:ARG:CB | 2:B:180:ILE:CG1 | 2.95 | 0.45 |
| 2:B:92:LYS:C | 2:B:94:LEU:H | 2.09 | 0.45 |
| 1:A:167:ILE:HD13 | 1:A:167:ILE:C | 2.37 | 0.45 |
| 2:B:183:MET:CE | 2:B:264:ILE:CD1 | 2.95 | 0.45 |
| 2:B:255:ASN:HD21 | 2:B:290:LYS:H | 1.63 | 0.45 |
| 2:B:272:ASP:OD2 | 2:B:275:HIS:HB3 | 2.17 | 0.45 |
| 1:A:442:PHE:HZ | 1:A:466:LEU:HD22 | 1.77 | 0.45 |
| 2:B:96:ILE:CD1 | 2:B:109:LEU:HD11 | 2.46 | 0.45 |
| 1:A:307:LEU:HD12 | 1:A:340:TYR:CE2 | 2.52 | 0.45 |
| 1:A:906:ASP:OD2 | 2:B:83:THR:HB | 2.17 | 0.45 |
| 1:A:940:ILE:CD1 | 1:A:968:ILE:CG2 | 2.95 | 0.45 |
| 2:B:89:TYR:N | 2:B:92:LYS:HG3 | 2.32 | 0.45 |
| 2:B:139:GLN:HE21 | 2:B:139:GLN:CA | 2.18 | 0.45 |
| 2:B:189:PHE:C | 2:B:190:LEU:HD12 | 2.38 | 0.45 |
| 1:A:332:PHE:O | 1:A:336:ILE:HG12 | 2.16 | 0.44 |
| 1:A:391:THR:HA | 1:A:604:PRO:HA | 1.97 | 0.44 |
| 1:A:640:VAL:HG23 | 1:A:642:ILE:H | 1.82 | 0.44 |
| 1:A:679:LEU:HD22 | 1:A:706:GLN:HE21 | 1.79 | 0.44 |
| 2:B:213:LEU:HD23 | 2:B:214:GLN:C | 2.38 | 0.44 |
| 1:A:170:PHE:CA | 1:A:173:LEU:HD13 | 2.45 | 0.44 |
| 1:A:179:THR:OG1 | 1:A:186:LYS:HE3 | 2.18 | 0.44 |
| 1:A:227:LEU:CD2 | 1:A:246:LEU:CD2 | 2.96 | 0.44 |
| 1:A:341:VAL:HG23 | 1:A:341:VAL:O | 2.17 | 0.44 |
| 1:A:811:LEU:CD2 | 1:A:816:ILE:HD13 | 2.48 | 0.44 |
| 1:A:924:GLN:O | 1:A:927:CYS:HB2 | 2.18 | 0.44 |
| 1:A:994:ARG:HD3 | 2:B:73:TYR:OH | 2.17 | 0.44 |
| 2:B:85:ARG:HB2 | 2:B:180:ILE:CG1 | 2.47 | 0.44 |
| 2:B:195:THR:O | 2:B:226:LEU:HG | 2.17 | 0.44 |
| 2:B:249:LEU:CD2 | 2:B:260:ILE:CD1 | 2.94 | 0.44 |
| 1:A:699:PHE:CZ | 1:A:710:ILE:HD12 | 2.52 | 0.44 |
| 1:A:778:PHE:HZ | 1:A:853:LEU:N | 2.15 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:A:793:ILE:H | 1:A:793:ILE:CD1 | 2.30 | 0.44 |
| 1:A:911:TYR:CE1 | 2:B:71:PRO:CD | 3.00 | 0.44 |
| 2:B:85:ARG:CD | 2:B:113:LEU:CA | 2.94 | 0.44 |
| 2:B:94:LEU:CB | 2:B:284:PHE:HB2 | 2.47 | 0.44 |
| 2:B:116:PHE:CE2 | 2:B:120:TYR:CE1 | 3.06 | 0.44 |
| 2:B:177:PRO:HG3 | 2:B:286:LEU:CD1 | 2.48 | 0.44 |
| 1:A:311:PHE:HD2 | 1:A:315:PHE:CE1 | 2.36 | 0.44 |
| 1:A:363:LYS:HB3 | 1:A:363:LYS:NZ | 2.31 | 0.44 |
| 1:A:499:LEU:HD21 | 1:A:514:LEU:CD2 | 2.45 | 0.44 |
| 1:A:818:PHE:CE2 | 1:A:990:PHE:CE2 | 3.01 | 0.44 |
| 2:B:92:LYS:HG2 | 2:B:95:ASP:N | 2.33 | 0.44 |
| 2:B:196:ALA:CB | 2:B:223:THR:CG2 | 2.95 | 0.44 |
| 1:A:869:ILE:CG1 | 2:B:51:MET:HE2 | 2.44 | 0.44 |
| 1:A:976:CYS:O | 1:A:980:TYR:HD2 | 2.01 | 0.44 |
| 2:B:219:PRO:HB3 | 2:B:245:VAL:HG13 | 1.98 | 0.44 |
| 2:B:260:ILE:HG23 | 2:B:284:PHE:CG | 2.53 | 0.44 |
| 1:A:105:LEU:O | 1:A:110:GLN:HB3 | 2.17 | 0.44 |
| 1:A:347:ALA:O | 1:A:351:VAL:HG23 | 2.17 | 0.44 |
| 1:A:499:LEU:HD23 | 1:A:516:MET:HE3 | 1.99 | 0.44 |
| 1:A:559:GLU:HG2 | 1:A:600:MET:O | 2.17 | 0.44 |
| 1:A:880:THR:HG21 | 1:A:1000:VAL:HG21 | 1.99 | 0.44 |
| 1:A:136:ASP:CB | 1:A:140:TYR:CE1 | 3.00 | 0.44 |
| 1:A:248:THR:HG21 | 1:A:251:ILE:HD13 | 2.00 | 0.44 |
| 1:A:394:ARG:NH1 | 1:A:394:ARG:HB3 | 2.32 | 0.44 |
| 1:A:507:PRO:O | 1:A:510:PRO:HD3 | 2.17 | 0.44 |
| 1:A:817:LEU:O | 1:A:821:LEU:HB2 | 2.18 | 0.44 |
| 1:A:826:PHE:CE2 | 1:A:963:ILE:HG23 | 2.53 | 0.44 |
| 1:A:962:ARG:HG3 | 1:A:963:ILE:N | 2.33 | 0.44 |
| 2:B:33:THR:O | 2:B:34:LEU:HG | 2.17 | 0.44 |
| 1:A:113:MET:SD | 1:A:145:LEU:HD22 | 2.57 | 0.44 |
| 1:A:137:ASP:O | 1:A:138:ASN:C | 2.56 | 0.44 |
| 1:A:376:LEU:HG | 1:A:771:VAL:N | 2.32 | 0.44 |
| 1:A:511:ARG:HD2 | 1:A:569:LEU:O | 2.18 | 0.44 |
| 1:A:887:TRP:CZ2 | 1:A:907:LEU:HD23 | 2.50 | 0.44 |
| 1:A:962:ARG:O | 1:A:966:ILE:HG12 | 2.18 | 0.44 |
| 1:A:331:VAL:HG23 | 1:A:332:PHE:N | 2.32 | 0.44 |
| 1:A:482:ARG:C | 1:A:484:PRO:HD3 | 2.38 | 0.44 |
| 1:A:64:TYR:HB3 | 1:A:197:GLY:HA2 | 2.00 | 0.43 |
| 1:A:291:THR:OG1 | 1:A:371:GLU:OE1 | 2.13 | 0.43 |
| 1:A:511:ARG:NH2 | 1:A:568:TYR:CE2 | 2.86 | 0.43 |
| 1:A:760:LEU:CD2 | 1:A:760:LEU:H | 2.30 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:778:PHE:CD2 | 1:A:782:LYS:HE3 | 2.53 | 0.43 |
| 1:A:790:THR:HG23 | 1:A:791:LYS:N | 2.33 | 0.43 |
| 2:B:215:VAL:HG13 | 2:B:215:VAL:O | 2.18 | 0.43 |
| 2:B:276:ASP:OD1 | 2:B:277:PRO:HD2 | 2.18 | 0.43 |
| 1:A:52:ASP:OD2 | 1:A:60:LEU:HD11 | 2.18 | 0.43 |
| 1:A:793:ILE:CD1 | 1:A:863:TYR:HA | 2.46 | 0.43 |
| 1:A:807:VAL:CG1 | 1:A:808:PRO:HD2 | 2.48 | 0.43 |
| 1:A:929:THR:HG23 | 1:A:930:VAL:N | 2.32 | 0.43 |
| 1:A:943:VAL:HG13 | 1:A:944:LEU:N | 2.32 | 0.43 |
| 2:B:75:ASP:O | 2:B:78:LYS:CB | 2.66 | 0.43 |
| 2:B:231:TYR:CE2 | 2:B:233:GLY:HA2 | 2.53 | 0.43 |
| 1:A:110:GLN:CD | 1:A:149:VAL:HG23 | 2.39 | 0.43 |
| 1:A:114:TRP:CZ2 | 1:A:149:VAL:HG11 | 2.53 | 0.43 |
| 1:A:364:ASN:O | 1:A:760:LEU:HD23 | 2.18 | 0.43 |
| 1:A:397:VAL:HG21 | 1:A:468:PHE:HB2 | 1.99 | 0.43 |
| 1:A:406:ILE:HD12 | 1:A:406:ILE:N | 2.33 | 0.43 |
| 1:A:659:VAL:CG1 | 1:A:660:PRO:HD2 | 2.48 | 0.43 |
| 1:A:805:VAL:CG1 | 1:A:807:VAL:HB | 2.48 | 0.43 |
| 2:B:85:ARG:HD2 | 2:B:85:ARG:C | 2.37 | 0.43 |
| 2:B:94:LEU:CA | 2:B:96:ILE:HG12 | 2.43 | 0.43 |
| 2:B:196:ALA:CB | 2:B:223:THR:HG22 | 2.48 | 0.43 |
| 1:A:169:SER:O | 1:A:172:ASN:HB2 | 2.18 | 0.43 |
| 1:A:504:LEU:CD2 | 1:A:506:ASP:HB2 | 2.48 | 0.43 |
| 2:B:106:TRP:CZ3 | 2:B:107:ALA:HA | 2.53 | 0.43 |
| 2:B:155:THR:HG23 | 2:B:155:THR:O | 2.18 | 0.43 |
| 1:A:64:TYR:CB | 1:A:66:THR:CG2 | 2.95 | 0.43 |
| 1:A:340:TYR:CD1 | 1:A:796:LEU:CD2 | 3.02 | 0.43 |
| 1:A:483:PHE:CZ | 1:A:505:GLU:HG2 | 2.53 | 0.43 |
| 1:A:523:VAL:HG13 | 1:A:524:LEU:N | 2.33 | 0.43 |
| 1:A:666:ARG:H | 1:A:666:ARG:CD | 2.32 | 0.43 |
| 1:A:826:PHE:HB3 | 1:A:827:PRO:CD | 2.40 | 0.43 |
| 2:B:36:ARG:HA | 2:B:39:TRP:HD1 | 1.82 | 0.43 |
| 2:B:94:LEU:N | 2:B:284:PHE:CB | 2.81 | 0.43 |
| 2:B:189:PHE:HE2 | 2:B:191:PRO:HB3 | 1.82 | 0.43 |
| 1:A:115:VAL:HG13 | 1:A:116:ALA:N | 2.34 | 0.43 |
| 2:B:181:ILE:CG2 | 2:B:182:LYS:N | 2.82 | 0.43 |
| 2:B:255:ASN:HD21 | 2:B:290:LYS:N | 2.16 | 0.43 |
| 1:A:131:GLY:O | 1:A:133:LEU:HD22 | 2.19 | 0.43 |
| 1:A:479:TYR:O | 1:A:482:ARG:HG2 | 2.18 | 0.43 |
| 1:A:801:ILE:HG21 | 1:A:875:PHE:HE2 | 1.83 | 0.43 |
| 1:A:806:SER:HB2 | 1:A:894:GLY:HA2 | 2.01 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:841:MET:CE | 1:A:841:MET:CA | 2.95 | 0.43 |
| 1:A:978:LEU:CA | 1:A:984:MET:SD | 3.06 | 0.43 |
| 1:A:1002:MET:HB2 | 1:A:1003:PRO:CD | 2.40 | 0.43 |
| 1:A:53:HIS:CB | 1:A:251:ILE:CD1 | 2.94 | 0.43 |
| 1:A:64:TYR:HB3 | 1:A:66:THR:HG23 | 1.98 | 0.43 |
| 1:A:112:LEU:HD12 | 1:A:341:VAL:HG12 | 1.99 | 0.43 |
| 1:A:117:ALA:HB1 | 1:A:146:ILE:CD1 | 2.48 | 0.43 |
| 1:A:122:ILE:CG2 | 1:A:123:ALA:N | 2.82 | 0.43 |
| 1:A:127:GLN:CG | 1:A:133:LEU:CG | 2.97 | 0.43 |
| 1:A:377:GLY:HA2 | 1:A:771:VAL:O | 2.19 | 0.43 |
| 1:A:493:SER:O | 1:A:496:LYS:HE2 | 2.18 | 0.43 |
| 1:A:532:ILE:CD1 | 1:A:543:TRP:CH2 | 3.02 | 0.43 |
| 1:A:637:ALA:HB1 | 1:A:643:ILE:HG12 | 2.00 | 0.43 |
| 1:A:795:GLU:HG2 | 1:A:816:ILE:CD1 | 2.49 | 0.43 |
| 1:A:864:PHE:CE1 | 2:B:48:TYR:CE1 | 3.05 | 0.43 |
| 1:A:874:GLY:HA2 | 1:A:934:SER:OG | 2.19 | 0.43 |
| 2:B:88:VAL:CB | 2:B:92:LYS:H | 2.25 | 0.43 |
| 2:B:232:TYR:HB3 | 2:B:236:ALA:CB | 2.49 | 0.43 |
| 1:A:631:ILE:CG2 | 1:A:632:THR:N | 2.82 | 0.43 |
| 1:A:819:ILE:HD13 | 1:A:932:PHE:CE1 | 2.53 | 0.43 |
| 1:A:921:LEU:HB3 | 1:A:925:TYR:CE2 | 2.54 | 0.43 |
| 1:A:940:ILE:CG2 | 1:A:941:ALA:N | 2.81 | 0.43 |
| 2:B:99:ASN:HD21 | 2:B:101:SER:HB2 | 1.83 | 0.43 |
| 2:B:113:LEU:HD23 | 2:B:113:LEU:C | 2.38 | 0.43 |
| 1:A:64:TYR:HB3 | 1:A:66:THR:HG21 | 2.01 | 0.43 |
| 1:A:149:VAL:HG13 | 1:A:150:VAL:N | 2.34 | 0.43 |
| 1:A:363:LYS:HB3 | 1:A:363:LYS:HZ1 | 1.84 | 0.43 |
| 1:A:486:VAL:HG22 | 1:A:501:ILE:O | 2.19 | 0.43 |
| 1:A:624:MET:HE3 | 1:A:642:ILE:HD12 | 2.01 | 0.43 |
| 1:A:777:ILE:HD12 | 1:A:777:ILE:HA | 1.81 | 0.43 |
| 2:B:151:SER:OG | 2:B:240:TYR:HD1 | 1.99 | 0.43 |
| 1:A:463:THR:CG2 | 1:A:464:ALA:N | 2.82 | 0.42 |
| 1:A:667:LYS:CA | 1:A:667:LYS:CE | 2.97 | 0.42 |
| 1:A:958:PHE:O | 1:A:958:PHE:CD2 | 2.72 | 0.42 |
| 1:A:965:VAL:HG13 | 1:A:966:ILE:N | 2.34 | 0.42 |
| 2:B:105:THR:CG2 | 2:B:106:TRP:N | 2.81 | 0.42 |
| 2:B:179:PHE:CE1 | 2:B:181:ILE:HD11 | 2.53 | 0.42 |
| 1:A:499:LEU:CG | 1:A:514:LEU:HD11 | 2.49 | 0.42 |
| 1:A:788:THR:CG2 | 1:A:789:LEU:N | 2.82 | 0.42 |
| 1:A:861:TYR:CE1 | 1:A:1015:ARG:NE | 2.87 | 0.42 |
| 1:A:895:LEU:N | 1:A:895:LEU:CD2 | 2.82 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:1026:TRP:CZ3 | 1:A:1027:TRP:CZ3 | 3.07 | 0.42 |
| 1:A:53:HIS:HB2 | 1:A:250:ASN:HD21 | 1.84 | 0.42 |
| 1:A:200:VAL:CG1 | 1:A:201:GLU:N | 2.82 | 0.42 |
| 1:A:790:THR:HA | 1:A:862:SER:OG | 2.20 | 0.42 |
| 2:B:36:ARG:O | 2:B:39:TRP:HB2 | 2.20 | 0.42 |
| 2:B:176:LYS:HB3 | 2:B:249:LEU:O | 2.19 | 0.42 |
| 2:B:196:ALA:HB3 | 2:B:223:THR:HG22 | 2.00 | 0.42 |
| 2:B:266:ALA:N | 2:B:269:VAL:CG2 | 2.82 | 0.42 |
| 2:B:282:VAL:CG1 | 2:B:283:GLU:N | 2.82 | 0.42 |
| 1:A:72:LEU:HD11 | 1:A:197:GLY:C | 2.40 | 0.42 |
| 1:A:396:THR:HG22 | 1:A:397:VAL:O | 2.20 | 0.42 |
| 1:A:428:ARG:HH11 | 1:A:428:ARG:HB3 | 1.84 | 0.42 |
| 1:A:435:THR:OG1 | 1:A:436:LEU:HD12 | 2.20 | 0.42 |
| 1:A:999:LEU:N | 1:A:999:LEU:CD1 | 2.82 | 0.42 |
| 1:A:227:LEU:N | 1:A:227:LEU:CD1 | 2.82 | 0.42 |
| 1:A:484:PRO:HD2 | 1:A:503:THR:HG22 | 2.01 | 0.42 |
| 1:A:605:ARG:HB2 | 1:A:608:VAL:CG2 | 2.42 | 0.42 |
| 1:A:617:THR:HG23 | 1:A:618:ALA:N | 2.33 | 0.42 |
| 1:A:801:ILE:CG2 | 1:A:802:TYR:N | 2.83 | 0.42 |
| 1:A:979:CYS:SG | 1:A:980:TYR:CE2 | 3.12 | 0.42 |
| 1:A:75:SER:O | 1:A:79:GLU:HG2 | 2.20 | 0.42 |
| 1:A:76:LEU:CD2 | 1:A:76:LEU:N | 2.83 | 0.42 |
| 1:A:115:VAL:CG1 | 1:A:116:ALA:N | 2.82 | 0.42 |
| 1:A:275:ILE:CG2 | 1:A:276:ILE:N | 2.82 | 0.42 |
| 1:A:314:THR:CG2 | 1:A:315:PHE:N | 2.82 | 0.42 |
| 1:A:348:THR:CG2 | 1:A:349:VAL:N | 2.82 | 0.42 |
| 1:A:486:VAL:CG2 | 1:A:487:CYS:N | 2.83 | 0.42 |
| 1:A:636:ILE:HD12 | 1:A:636:ILE:N | 2.34 | 0.42 |
| 1:A:914:GLU:OE2 | 2:B:184:ASN:HA | 2.15 | 0.42 |
| 1:A:950:ARG:HG3 | 1:A:1032:TYR:HE1 | 1.79 | 0.42 |
| 2:B:147:HIS:CG | 2:B:148:THR:N | 2.86 | 0.42 |
| 2:B:195:THR:CG2 | 2:B:196:ALA:N | 2.82 | 0.42 |
| 2:B:203:PHE:CD1 | 2:B:258:VAL:CG1 | 3.02 | 0.42 |
| 2:B:260:ILE:CG1 | 2:B:284:PHE:CZ | 2.95 | 0.42 |
| 1:A:311:PHE:O | 1:A:315:PHE:HD1 | 2.01 | 0.42 |
| 1:A:623:ILE:CD1 | 1:A:697:MET:SD | 3.08 | 0.42 |
| 1:A:650:VAL:CG1 | 1:A:651:GLU:N | 2.83 | 0.42 |
| 1:A:888:PHE:CD2 | 2:B:63:MET:CE | 3.01 | 0.42 |
| 1:A:69:THR:CG2 | 1:A:70:LYS:N | 2.83 | 0.42 |
| 1:A:426:THR:CG2 | 1:A:427:TRP:N | 2.83 | 0.42 |
| 1:A:482:ARG:HD3 | 1:A:505:GLU:CD | 2.40 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:585:MET:HG2 | 1:A:587:PHE:O | 2.20 | 0.42 |
| 1:A:713:SER:HB2 | 1:A:716:ARG:HH22 | 1.85 | 0.42 |
| 1:A:943:VAL:CG1 | 1:A:944:LEU:N | 2.83 | 0.42 |
| 1:A:1014:ILE:CG2 | 1:A:1015:ARG:N | 2.83 | 0.42 |
| 2:B:98:TYR:CE1 | 2:B:288:ILE:CD1 | 3.03 | 0.42 |
| 1:A:89:LEU:N | 1:A:89:LEU:CD2 | 2.82 | 0.42 |
| 1:A:179:THR:HG23 | 1:A:179:THR:O | 2.19 | 0.42 |
| 1:A:413:GLU:HG2 | 1:A:414:ASP:H | 1.84 | 0.42 |
| 1:A:434:LEU:HD22 | 1:A:465:LEU:HD22 | 2.01 | 0.42 |
| 1:A:442:PHE:CZ | 1:A:466:LEU:CD2 | 2.97 | 0.42 |
| 1:A:656:ARG:CD | 1:A:657:LEU:CD2 | 2.98 | 0.42 |
| 1:A:914:GLU:HG2 | 2:B:185:ARG:H | 1.85 | 0.42 |
| 1:A:914:GLU:HG2 | 2:B:185:ARG:N | 2.35 | 0.42 |
| 1:A:988:PHE:CB | 1:A:990:PHE:CD2 | 3.03 | 0.42 |
| 1:A:60:LEU:HD22 | 1:A:213:ARG:HG3 | 2.02 | 0.42 |
| 1:A:409:ALA:HB1 | 1:A:468:PHE:CE1 | 2.50 | 0.42 |
| 1:A:690:ALA:CA | 1:A:693:THR:HG22 | 2.50 | 0.42 |
| 1:A:768:VAL:CG1 | 1:A:769:THR:N | 2.82 | 0.42 |
| 1:A:913:GLN:HB3 | 2:B:77:LEU:CD2 | 2.49 | 0.42 |
| 1:A:929:THR:CG2 | 1:A:930:VAL:N | 2.83 | 0.42 |
| 2:B:94:LEU:N | 2:B:284:PHE:HB2 | 2.35 | 0.42 |
| 1:A:227:LEU:H | 1:A:227:LEU:CD1 | 2.33 | 0.41 |
| 1:A:472:THR:CG2 | 1:A:473:LEU:N | 2.83 | 0.41 |
| 1:A:625:VAL:HG12 | 1:A:707:LYS:HG2 | 2.02 | 0.41 |
| 1:A:651:GLU:HG2 | 1:A:652:ASP:N | 2.35 | 0.41 |
| 1:A:880:THR:CG2 | 1:A:997:TRP:CZ3 | 3.02 | 0.41 |
| 1:A:891:LEU:N | 1:A:891:LEU:CD2 | 2.82 | 0.41 |
| 1:A:905:GLN:HB3 | 2:B:83:THR:HG22 | 1.99 | 0.41 |
| 1:A:974:ILE:CG2 | 1:A:975:GLY:N | 2.83 | 0.41 |
| 2:B:46:ALA:HA | 2:B:49:VAL:CG2 | 2.50 | 0.41 |
| 1:A:66:THR:HG21 | 1:A:197:GLY:O | 2.20 | 0.41 |
| 1:A:279:ILE:CG2 | 1:A:280:ALA:N | 2.83 | 0.41 |
| 1:A:413:GLU:HG2 | 1:A:414:ASP:N | 2.35 | 0.41 |
| 1:A:506:ASP:HA | 1:A:507:PRO:HD2 | 1.79 | 0.41 |
| 1:A:790:THR:CG2 | 1:A:791:LYS:N | 2.83 | 0.41 |
| 1:A:880:THR:O | 1:A:884:GLN:HG2 | 2.19 | 0.41 |
| 2:B:94:LEU:HG | 2:B:179:PHE:HB3 | 2.01 | 0.41 |
| 2:B:106:TRP:CE3 | 2:B:110:ALA:HB2 | 2.54 | 0.41 |
| 1:A:501:ILE:HD13 | 1:A:580:PHE:CD2 | 2.56 | 0.41 |
| 1:A:821:LEU:N | 1:A:821:LEU:CD1 | 2.83 | 0.41 |
| 1:A:167:ILE:CG2 | 1:A:168:ALA:N | 2.83 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:322:ILE:O | 1:A:322:ILE:HG22 | 2.19 | 0.41 |
| 1:A:337:VAL:CG2 | 1:A:338:VAL:N | 2.83 | 0.41 |
| 1:A:786:ALA:C | 1:A:946:ARG:HE | 2.23 | 0.41 |
| 1:A:818:PHE:CD1 | 1:A:978:LEU:HD23 | 2.56 | 0.41 |
| 1:A:890:LEU:N | 1:A:890:LEU:CD2 | 2.83 | 0.41 |
| 1:A:993:ILE:CD1 | 1:A:998:TRP:NE1 | 2.79 | 0.41 |
| 1:A:1015:ARG:HG2 | 1:A:1027:TRP:CE2 | 2.55 | 0.41 |
| 2:B:273:ASN:N | 2:B:274:PRO:HD2 | 2.23 | 0.41 |
| 1:A:117:ALA:HB1 | 1:A:146:ILE:HD11 | 2.02 | 0.41 |
| 1:A:136:ASP:HB2 | 1:A:140:TYR:CE1 | 2.55 | 0.41 |
| 1:A:144:ALA:O | 1:A:148:VAL:HG23 | 2.20 | 0.41 |
| 1:A:293:ILE:CG2 | 1:A:294:ALA:N | 2.84 | 0.41 |
| 1:A:560:ARG:HB3 | 1:A:600:MET:HG3 | 2.02 | 0.41 |
| 1:A:660:PRO:HG2 | 1:A:663:GLN:HE21 | 1.86 | 0.41 |
| 2:B:99:ASN:ND2 | 2:B:101:SER:HB2 | 2.36 | 0.41 |
| 2:B:100:VAL:CG1 | 2:B:288:ILE:CG2 | 2.95 | 0.41 |
| 2:B:214:GLN:HG3 | 2:B:214:GLN:O | 2.20 | 0.41 |
| 1:A:548:GLN:OE1 | 1:A:548:GLN:HA | 2.21 | 0.41 |
| 1:A:826:PHE:CD2 | 1:A:967:ALA:CA | 2.96 | 0.41 |
| 2:B:94:LEU:C | 2:B:96:ILE:H | 2.24 | 0.41 |
| 2:B:96:ILE:O | 2:B:286:LEU:HD12 | 2.21 | 0.41 |
| 2:B:266:ALA:O | 2:B:269:VAL:HG22 | 2.20 | 0.41 |
| 1:A:151:VAL:CG2 | 1:A:152:THR:N | 2.83 | 0.41 |
| 1:A:994:ARG:HB3 | 1:A:997:TRP:CD1 | 2.55 | 0.41 |
| 2:B:89:TYR:CA | 2:B:92:LYS:HE3 | 2.51 | 0.41 |
| 2:B:142:PHE:HZ | 2:B:188:LYS:CB | 2.28 | 0.41 |
| 1:A:57:VAL:HG13 | 1:A:215:LEU:HD23 | 1.96 | 0.41 |
| 1:A:167:ILE:CD1 | 1:A:171:LYS:HG2 | 2.50 | 0.41 |
| 1:A:544:ARG:O | 1:A:547:PHE:HB3 | 2.20 | 0.41 |
| 1:A:649:THR:HG22 | 1:A:652:ASP:CG | 2.40 | 0.41 |
| 1:A:81:LEU:HD23 | 1:A:81:LEU:C | 2.41 | 0.41 |
| 1:A:105:LEU:O | 1:A:110:GLN:HB2 | 2.21 | 0.41 |
| 1:A:266:LEU:HD23 | 1:A:266:LEU:C | 2.40 | 0.41 |
| 1:A:288:ASN:ND2 | 1:A:289:GLU:O | 2.53 | 0.41 |
| 1:A:354:SER:HA | 1:A:370:LEU:HD11 | 2.02 | 0.41 |
| 1:A:861:TYR:HE1 | 1:A:1015:ARG:HD2 | 1.86 | 0.41 |
| 1:A:866:ILE:CD1 | 1:A:945:ILE:HD12 | 2.51 | 0.41 |
| 1:A:922:TYR:CE1 | 1:A:991:MET:SD | 3.14 | 0.41 |
| 1:A:999:LEU:H | 1:A:999:LEU:CD1 | 2.34 | 0.41 |
| 1:A:1015:ARG:NH1 | 1:A:1015:ARG:HB2 | 2.36 | 0.41 |
| 2:B:77:LEU:HG | 2:B:77:LEU:O | 2.20 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:152:CYS:SG | 2:B:227:HIS:ND1 | 2.94 | 0.41 |
| 2:B:155:THR:HG23 | 2:B:158:MET:N | 2.32 | 0.41 |
| 2:B:260:ILE:CD1 | 2:B:284:PHE:CE2 | 3.04 | 0.41 |
| 1:A:136:ASP:O | 1:A:140:TYR:HD1 | 2.03 | 0.41 |
| 1:A:150:VAL:CG1 | 1:A:151:VAL:N | 2.84 | 0.41 |
| 1:A:433:VAL:CG1 | 1:A:434:LEU:N | 2.84 | 0.41 |
| 1:A:483:PHE:CE1 | 1:A:505:GLU:OE2 | 2.74 | 0.41 |
| 1:A:690:ALA:HA | 1:A:693:THR:HG22 | 2.01 | 0.41 |
| 1:A:864:PHE:CB | 2:B:44:TYR:HH | 2.34 | 0.41 |
| 1:A:880:THR:CG2 | 1:A:881:ALA:N | 2.83 | 0.41 |
| 1:A:119:ILE:O | 1:A:119:ILE:HG22 | 2.19 | 0.40 |
| 1:A:127:GLN:HE21 | 1:A:133:LEU:HG | 1.86 | 0.40 |
| 1:A:187:PHE:CD2 | 1:A:188:GLN:O | 2.74 | 0.40 |
| 1:A:431:CYS:SG | 1:A:473:LEU:HD11 | 2.61 | 0.40 |
| 1:A:479:TYR:HA | 1:A:482:ARG:HG2 | 2.03 | 0.40 |
| 1:A:987:ILE:CG2 | 1:A:988:PHE:N | 2.83 | 0.40 |
| 1:A:136:ASP:CB | 1:A:140:TYR:HD1 | 2.34 | 0.40 |
| 1:A:215:LEU:HD13 | 1:A:216:GLN:HB3 | 2.02 | 0.40 |
| 1:A:332:PHE:CE1 | 1:A:802:TYR:HE2 | 2.26 | 0.40 |
| 1:A:427:TRP:HZ2 | 1:A:472:THR:HG21 | 1.86 | 0.40 |
| 1:A:888:PHE:HD1 | 1:A:910:SER:CB | 2.35 | 0.40 |
| 2:B:177:PRO:HG3 | 2:B:286:LEU:HD13 | 2.02 | 0.40 |
| 2:B:179:PHE:HE1 | 2:B:181:ILE:CG1 | 2.34 | 0.40 |
| 2:B:240:TYR:CE2 | 2:B:242:ASN:OD1 | 2.74 | 0.40 |
| 2:B:264:ILE:HG22 | 2:B:280:GLY:O | 2.21 | 0.40 |
| 1:A:127:GLN:CG | 1:A:133:LEU:HG | 2.51 | 0.40 |
| 1:A:691:LEU:CD2 | 1:A:697:MET:SD | 3.10 | 0.40 |
| 1:A:731:SER:CB | 1:A:732:PRO:HD3 | 2.36 | 0.40 |
| 1:A:833:TYR:HB2 | 1:A:961:ASN:HD21 | 1.86 | 0.40 |
| 2:B:85:ARG:NH2 | 2:B:113:LEU:HD12 | 2.37 | 0.40 |
| 2:B:264:ILE:O | 2:B:264:ILE:HG23 | 2.21 | 0.40 |
| 1:A:268:VAL:HG23 | 1:A:269:ASN:N | 2.36 | 0.40 |
| 1:A:340:TYR:CE2 | 1:A:796:LEU:CD1 | 3.05 | 0.40 |
| 1:A:511:ARG:CZ | 1:A:568:TYR:CZ | 3.05 | 0.40 |
| 1:A:661:VAL:CG2 | 1:A:662:ASP:N | 2.85 | 0.40 |
| 1:A:694:HIS:HA | 1:A:695:PRO:HD2 | 1.86 | 0.40 |
| 1:A:868:ALA:O | 1:A:872:PHE:CD2 | 2.74 | 0.40 |
| 1:A:874:GLY:C | 1:A:931:PHE:CE2 | 2.95 | 0.40 |
| 2:B:139:GLN:HB3 | 2:B:232:TYR:CZ | 2.56 | 0.40 |
| 1:A:122:ILE:HD13 | 1:A:126:ILE:HG13 | 2.02 | 0.40 |
| 1:A:127:GLN:CG | 1:A:133:LEU:CD2 | 2.95 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---------------|------------------|--------------------------|-------------------|
| 1:A:167:ILE:O | 1:A:171:LYS:HG2 | 2.22 | 0.40 |
| 1:A:721:VAL:O | 1:A:721:VAL:HG23 | 2.20 | 0.40 |
| 1:A:921:LEU:O | 1:A:925:TYR:CD2 | 2.74 | 0.40 |

All (645) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------------|--------------------------|-------------------|
| 1:A:180:VAL:C | 1:A:221:LYS:NZ[2_565] | 0.11 | 2.09 |
| 1:A:200:VAL:C | 1:A:220:ARG:O[2_565] | 0.19 | 2.01 |
| 1:A:220:ARG:NE | 1:A:264:GLN:N[2_565] | 0.27 | 1.93 |
| 1:A:249:ARG:CA | 1:A:266:LEU:O[2_565] | 0.34 | 1.86 |
| 1:A:214:ILE:CD1 | 1:A:214:ILE:CD1[2_565] | 0.36 | 1.84 |
| 1:A:63:LYS:NZ | 1:A:244:SER:N[2_565] | 0.39 | 1.81 |
| 1:A:249:ARG:CD | 1:A:267:VAL:CB[2_565] | 0.39 | 1.81 |
| 1:A:60:LEU:CB | 1:A:246:LEU:C[2_565] | 0.45 | 1.75 |
| 1:A:70:LYS:N | 1:A:232:GLU:CA[2_565] | 0.51 | 1.69 |
| 1:A:50:ILE:CB | 1:A:54:GLN:OE1[2_565] | 0.53 | 1.67 |
| 1:A:216:GLN:CD | 1:A:257:MET:C[2_565] | 0.54 | 1.66 |
| 1:A:211:ASP:CA | 1:A:239:GLU:N[2_565] | 0.59 | 1.61 |
| 1:A:181:ILE:N | 1:A:221:LYS:CE[2_565] | 0.60 | 1.60 |
| 1:A:201:GLU:CA | 1:A:220:ARG:CA[2_565] | 0.62 | 1.58 |
| 1:A:248:THR:OG1 | 1:A:268:VAL:CG1[2_565] | 0.63 | 1.57 |
| 1:A:249:ARG:CG | 1:A:267:VAL:CA[2_565] | 0.63 | 1.57 |
| 1:A:203:LYS:CA | 1:A:262:THR:CB[2_565] | 0.69 | 1.51 |
| 1:A:236:ARG:CG | 1:A:265:GLY:N[2_565] | 0.69 | 1.51 |
| 1:A:201:GLU:CD | 1:A:260:GLU:C[2_565] | 0.70 | 1.50 |
| 1:A:241:THR:CA | 1:A:268:VAL:O[2_565] | 0.74 | 1.46 |
| 1:A:65:GLN:NE2 | 1:A:629:HIS:CD2[2_565] | 0.75 | 1.45 |
| 1:A:69:THR:CG2 | 1:A:231:SER:CA[2_565] | 0.75 | 1.45 |
| 1:A:199:LEU:CA | 1:A:235:THR:N[2_565] | 0.75 | 1.45 |
| 1:A:203:LYS:CB | 1:A:262:THR:CG2[2_565] | 0.75 | 1.45 |
| 1:A:214:ILE:C | 1:A:252:ALA:CA[2_565] | 0.75 | 1.45 |
| 1:A:51:ASN:N | 1:A:54:GLN:CG[2_565] | 0.76 | 1.44 |
| 1:A:212:ILE:O | 1:A:250:ASN:CA[2_565] | 0.78 | 1.42 |
| 1:A:241:THR:CA | 1:A:268:VAL:C[2_565] | 0.78 | 1.42 |
| 1:A:214:ILE:O | 1:A:252:ALA:CA[2_565] | 0.79 | 1.41 |
| 1:A:206:ASP:OD1 | 1:A:218:GLN:NE2[2_565] | 0.81 | 1.39 |
| 1:A:206:ASP:OD1 | 1:A:218:GLN:CD[2_565] | 0.82 | 1.38 |
| 1:A:216:GLN:NE2 | 1:A:257:MET:CA[2_565] | 0.82 | 1.38 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------------|--------------------------|-------------------|
| 1:A:240:CYS:O | 1:A:269:ASN:CG[2_565] | 0.83 | 1.37 |
| 1:A:259:LEU:N | 1:A:264:GLN:OE1[2_565] | 0.83 | 1.37 |
| 1:A:195:VAL:O | 1:A:249:ARG:NH2[2_565] | 0.85 | 1.35 |
| 1:A:249:ARG:CG | 1:A:267:VAL:N[2_565] | 0.85 | 1.35 |
| 1:A:52:ASP:N | 1:A:53:HIS:CE1[2_565] | 0.87 | 1.33 |
| 1:A:202:MET:O | 1:A:262:THR:CA[2_565] | 0.88 | 1.32 |
| 1:A:239:GLU:OE1 | 1:A:269:ASN:O[2_565] | 0.88 | 1.32 |
| 1:A:51:ASN:CB | 1:A:54:GLN:N[2_565] | 0.90 | 1.30 |
| 1:A:236:ARG:CG | 1:A:265:GLY:CA[2_565] | 0.90 | 1.30 |
| 1:A:69:THR:CG2 | 1:A:231:SER:C[2_565] | 0.91 | 1.29 |
| 1:A:51:ASN:OD1 | 1:A:53:HIS:O[2_565] | 0.94 | 1.26 |
| 1:A:212:ILE:C | 1:A:250:ASN:CA[2_565] | 0.94 | 1.26 |
| 1:A:216:GLN:CD | 1:A:258:CYS:N[2_565] | 0.94 | 1.26 |
| 1:A:200:VAL:N | 1:A:235:THR:CA[2_565] | 0.95 | 1.25 |
| 1:A:199:LEU:CD1 | 1:A:234:GLN:O[2_565] | 0.96 | 1.24 |
| 1:A:201:GLU:CG | 1:A:260:GLU:O[2_565] | 0.96 | 1.24 |
| 1:A:213:ARG:CA | 1:A:251:ILE:N[2_565] | 0.96 | 1.24 |
| 1:A:201:GLU:OE2 | 1:A:260:GLU:CA[2_565] | 0.97 | 1.23 |
| 1:A:201:GLU:C | 1:A:220:ARG:N[2_565] | 0.97 | 1.23 |
| 1:A:206:ASP:CG | 1:A:218:GLN:NE2[2_565] | 0.97 | 1.23 |
| 1:A:63:LYS:CD | 1:A:244:SER:CB[2_565] | 0.98 | 1.22 |
| 1:A:236:ARG:CD | 1:A:265:GLY:CA[2_565] | 0.98 | 1.22 |
| 1:A:239:GLU:CD | 1:A:269:ASN:O[2_565] | 1.01 | 1.19 |
| 1:A:52:ASP:N | 1:A:53:HIS:NE2[2_565] | 1.02 | 1.18 |
| 1:A:52:ASP:O | 1:A:245:PRO:CB[2_565] | 1.02 | 1.18 |
| 1:A:67:SER:O | 1:A:234:GLN:NE2[2_565] | 1.02 | 1.18 |
| 1:A:70:LYS:CA | 1:A:232:GLU:CA[2_565] | 1.02 | 1.18 |
| 1:A:201:GLU:OE2 | 1:A:260:GLU:C[2_565] | 1.02 | 1.18 |
| 1:A:211:ASP:CB | 1:A:239:GLU:C[2_565] | 1.03 | 1.17 |
| 1:A:50:ILE:C | 1:A:54:GLN:CG[2_565] | 1.04 | 1.16 |
| 1:A:203:LYS:CA | 1:A:262:THR:OG1[2_565] | 1.05 | 1.15 |
| 1:A:208:VAL:CG1 | 1:A:238:PRO:CD[2_565] | 1.05 | 1.15 |
| 1:A:200:VAL:O | 1:A:220:ARG:O[2_565] | 1.06 | 1.14 |
| 1:A:201:GLU:CD | 1:A:261:GLY:N[2_565] | 1.06 | 1.14 |
| 1:A:212:ILE:N | 1:A:237:SER:O[2_565] | 1.06 | 1.14 |
| 1:A:215:LEU:CG | 1:A:224:ASN:OD1[2_565] | 1.06 | 1.14 |
| 1:A:239:GLU:OE2 | 1:A:270:THR:CA[2_565] | 1.06 | 1.14 |
| 1:A:236:ARG:NH2 | 1:A:266:LEU:CB[2_565] | 1.07 | 1.13 |
| 1:A:239:GLU:CD | 1:A:269:ASN:C[2_565] | 1.07 | 1.13 |
| 1:A:241:THR:N | 1:A:268:VAL:C[2_565] | 1.07 | 1.13 |
| 1:A:50:ILE:C | 1:A:54:GLN:CB[2_565] | 1.09 | 1.11 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------------|--------------------------|-------------------|
| 1:A:181:ILE:CA | 1:A:221:LYS:CE[2_565] | 1.09 | 1.11 |
| 1:A:221:LYS:O | 1:A:264:GLN:CG[2_565] | 1.09 | 1.11 |
| 1:A:215:LEU:CD2 | 1:A:224:ASN:OD1[2_565] | 1.11 | 1.09 |
| 1:A:213:ARG:N | 1:A:249:ARG:C[2_565] | 1.12 | 1.08 |
| 1:A:236:ARG:NE | 1:A:266:LEU:N[2_565] | 1.12 | 1.08 |
| 1:A:60:LEU:CA | 1:A:247:GLU:N[2_565] | 1.13 | 1.07 |
| 1:A:201:GLU:O | 1:A:219:GLY:C[2_565] | 1.13 | 1.07 |
| 1:A:52:ASP:CA | 1:A:53:HIS:CE1[2_565] | 1.14 | 1.06 |
| 1:A:64:TYR:OH | 1:A:242:HIS:N[2_565] | 1.14 | 1.06 |
| 1:A:211:ASP:CB | 1:A:239:GLU:CA[2_565] | 1.14 | 1.06 |
| 1:A:216:GLN:NE2 | 1:A:257:MET:C[2_565] | 1.14 | 1.06 |
| 1:A:239:GLU:OE2 | 1:A:270:THR:N[2_565] | 1.14 | 1.06 |
| 1:A:194:LEU:CD2 | 1:A:249:ARG:NH1[2_565] | 1.15 | 1.05 |
| 1:A:220:ARG:CD | 1:A:263:ALA:C[2_565] | 1.15 | 1.05 |
| 1:A:236:ARG:NE | 1:A:265:GLY:C[2_565] | 1.15 | 1.05 |
| 1:A:235:THR:C | 1:A:265:GLY:O[2_565] | 1.16 | 1.04 |
| 1:A:221:LYS:O | 1:A:264:GLN:CD[2_565] | 1.17 | 1.03 |
| 1:A:60:LEU:CA | 1:A:246:LEU:C[2_565] | 1.18 | 1.02 |
| 1:A:180:VAL:O | 1:A:221:LYS:NZ[2_565] | 1.18 | 1.02 |
| 1:A:201:GLU:O | 1:A:220:ARG:N[2_565] | 1.18 | 1.02 |
| 1:A:206:ASP:CG | 1:A:218:GLN:CD[2_565] | 1.18 | 1.02 |
| 1:A:216:GLN:O | 1:A:220:ARG:NH2[2_565] | 1.18 | 1.02 |
| 1:A:235:THR:O | 1:A:265:GLY:O[2_565] | 1.18 | 1.02 |
| 1:A:69:THR:CB | 1:A:231:SER:O[2_565] | 1.19 | 1.01 |
| 1:A:70:LYS:N | 1:A:232:GLU:C[2_565] | 1.19 | 1.01 |
| 1:A:69:THR:OG1 | 1:A:231:SER:O[2_565] | 1.20 | 1.00 |
| 1:A:181:ILE:CG1 | 1:A:221:LYS:CD[2_565] | 1.20 | 1.00 |
| 1:A:203:LYS:N | 1:A:262:THR:OG1[2_565] | 1.20 | 1.00 |
| 1:A:214:ILE:CG2 | 1:A:252:ALA:CB[2_565] | 1.20 | 1.00 |
| 1:A:60:LEU:N | 1:A:246:LEU:CB[2_565] | 1.21 | 0.99 |
| 1:A:60:LEU:CB | 1:A:246:LEU:O[2_565] | 1.21 | 0.99 |
| 1:A:70:LYS:CB | 1:A:232:GLU:CB[2_565] | 1.21 | 0.99 |
| 1:A:201:GLU:N | 1:A:220:ARG:C[2_565] | 1.21 | 0.99 |
| 1:A:211:ASP:N | 1:A:239:GLU:N[2_565] | 1.21 | 0.99 |
| 1:A:220:ARG:CG | 1:A:263:ALA:O[2_565] | 1.21 | 0.99 |
| 1:A:51:ASN:N | 1:A:54:GLN:CB[2_565] | 1.22 | 0.98 |
| 1:A:61:GLU:OE2 | 1:A:228:THR:CG2[2_565] | 1.22 | 0.98 |
| 1:A:203:LYS:C | 1:A:262:THR:OG1[2_565] | 1.22 | 0.98 |
| 1:A:220:ARG:CD | 1:A:264:GLN:N[2_565] | 1.23 | 0.97 |
| 1:A:249:ARG:CD | 1:A:267:VAL:CA[2_565] | 1.24 | 0.96 |
| 1:A:60:LEU:O | 1:A:247:GLU:CB[2_565] | 1.25 | 0.95 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------------|--------------------------|-------------------|
| 1:A:61:GLU:CA | 1:A:247:GLU:OE1[2_565] | 1.25 | 0.95 |
| 1:A:69:THR:C | 1:A:232:GLU:C[2_565] | 1.25 | 0.95 |
| 1:A:63:LYS:CE | 1:A:244:SER:N[2_565] | 1.26 | 0.94 |
| 1:A:202:MET:C | 1:A:262:THR:N[2_565] | 1.26 | 0.94 |
| 1:A:213:ARG:N | 1:A:250:ASN:N[2_565] | 1.26 | 0.94 |
| 1:A:63:LYS:NZ | 1:A:243:GLU:C[2_565] | 1.27 | 0.93 |
| 1:A:214:ILE:N | 1:A:251:ILE:C[2_565] | 1.27 | 0.93 |
| 1:A:212:ILE:CA | 1:A:237:SER:O[2_565] | 1.28 | 0.92 |
| 1:A:214:ILE:O | 1:A:252:ALA:C[2_565] | 1.28 | 0.92 |
| 1:A:52:ASP:N | 1:A:53:HIS:ND1[2_565] | 1.29 | 0.91 |
| 1:A:57:VAL:CB | 1:A:227:LEU:CD2[2_565] | 1.29 | 0.91 |
| 1:A:65:GLN:NE2 | 1:A:629:HIS:NE2[2_565] | 1.29 | 0.91 |
| 1:A:69:THR:CB | 1:A:231:SER:C[2_565] | 1.30 | 0.90 |
| 1:A:211:ASP:CA | 1:A:239:GLU:CA[2_565] | 1.30 | 0.90 |
| 1:A:202:MET:O | 1:A:262:THR:C[2_565] | 1.31 | 0.89 |
| 1:A:212:ILE:C | 1:A:250:ASN:N[2_565] | 1.31 | 0.89 |
| 1:A:50:ILE:CA | 1:A:54:GLN:OE1[2_565] | 1.32 | 0.88 |
| 1:A:60:LEU:O | 1:A:247:GLU:CA[2_565] | 1.33 | 0.87 |
| 1:A:70:LYS:CA | 1:A:232:GLU:CB[2_565] | 1.33 | 0.87 |
| 1:A:61:GLU:O | 1:A:247:GLU:OE2[2_565] | 1.34 | 0.86 |
| 1:A:69:THR:O | 1:A:233:PRO:N[2_565] | 1.34 | 0.86 |
| 1:A:69:THR:O | 1:A:233:PRO:CD[2_565] | 1.34 | 0.86 |
| 1:A:200:VAL:C | 1:A:220:ARG:C[2_565] | 1.34 | 0.86 |
| 1:A:202:MET:C | 1:A:262:THR:CA[2_565] | 1.34 | 0.86 |
| 1:A:212:ILE:O | 1:A:250:ASN:C[2_565] | 1.35 | 0.85 |
| 1:A:216:GLN:OE1 | 1:A:257:MET:C[2_565] | 1.35 | 0.85 |
| 1:A:249:ARG:NE | 1:A:267:VAL:CB[2_565] | 1.35 | 0.85 |
| 1:A:52:ASP:N | 1:A:53:HIS:CD2[2_565] | 1.36 | 0.84 |
| 1:A:70:LYS:N | 1:A:232:GLU:N[2_565] | 1.36 | 0.84 |
| 1:A:201:GLU:C | 1:A:220:ARG:CA[2_565] | 1.36 | 0.84 |
| 1:A:202:MET:CB | 1:A:262:THR:O[2_565] | 1.36 | 0.84 |
| 1:A:241:THR:C | 1:A:268:VAL:O[2_565] | 1.36 | 0.84 |
| 1:A:201:GLU:CA | 1:A:220:ARG:C[2_565] | 1.38 | 0.82 |
| 1:A:59:GLU:N | 1:A:246:LEU:CG[2_565] | 1.39 | 0.81 |
| 1:A:60:LEU:CB | 1:A:247:GLU:N[2_565] | 1.39 | 0.81 |
| 1:A:67:SER:OG | 1:A:232:GLU:OE2[2_565] | 1.39 | 0.81 |
| 1:A:201:GLU:CG | 1:A:260:GLU:C[2_565] | 1.39 | 0.81 |
| 1:A:202:MET:O | 1:A:262:THR:N[2_565] | 1.39 | 0.81 |
| 1:A:203:LYS:CA | 1:A:262:THR:CG2[2_565] | 1.39 | 0.81 |
| 1:A:208:VAL:CG2 | 1:A:216:GLN:CA[2_565] | 1.39 | 0.81 |
| 1:A:213:ARG:N | 1:A:249:ARG:O[2_565] | 1.39 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------------|--------------------------|-------------------|
| 1:A:240:CYS:O | 1:A:269:ASN:OD1[2_565] | 1.39 | 0.81 |
| 1:A:201:GLU:N | 1:A:220:ARG:O[2_565] | 1.40 | 0.80 |
| 1:A:202:MET:C | 1:A:262:THR:C[2_565] | 1.40 | 0.80 |
| 1:A:214:ILE:O | 1:A:252:ALA:N[2_565] | 1.40 | 0.80 |
| 1:A:215:LEU:O | 1:A:256:THR:OG1[2_565] | 1.40 | 0.80 |
| 1:A:216:GLN:OE1 | 1:A:258:CYS:N[2_565] | 1.40 | 0.80 |
| 1:A:248:THR:CB | 1:A:268:VAL:CG1[2_565] | 1.40 | 0.80 |
| 1:A:181:ILE:N | 1:A:221:LYS:NZ[2_565] | 1.41 | 0.79 |
| 1:A:63:LYS:NZ | 1:A:244:SER:CA[2_565] | 1.42 | 0.78 |
| 1:A:238:PRO:CA | 1:A:252:ALA:O[2_565] | 1.42 | 0.78 |
| 1:A:241:THR:OG1 | 1:A:267:VAL:C[2_565] | 1.42 | 0.78 |
| 1:A:67:SER:CB | 1:A:232:GLU:CG[2_565] | 1.43 | 0.77 |
| 1:A:180:VAL:C | 1:A:221:LYS:CE[2_565] | 1.43 | 0.77 |
| 1:A:216:GLN:CD | 1:A:257:MET:O[2_565] | 1.43 | 0.77 |
| 1:A:52:ASP:OD2 | 1:A:248:THR:CG2[2_565] | 1.44 | 0.76 |
| 1:A:202:MET:CA | 1:A:262:THR:O[2_565] | 1.44 | 0.76 |
| 1:A:202:MET:C | 1:A:262:THR:O[2_565] | 1.44 | 0.76 |
| 1:A:199:LEU:C | 1:A:235:THR:CA[2_565] | 1.45 | 0.75 |
| 1:A:216:GLN:OE1 | 1:A:257:MET:O[2_565] | 1.45 | 0.75 |
| 1:A:249:ARG:CD | 1:A:267:VAL:CG2[2_565] | 1.45 | 0.75 |
| 1:A:211:ASP:O | 1:A:239:GLU:O[2_565] | 1.46 | 0.74 |
| 1:A:216:GLN:O | 1:A:220:ARG:CZ[2_565] | 1.46 | 0.74 |
| 1:A:51:ASN:CB | 1:A:53:HIS:C[2_565] | 1.47 | 0.73 |
| 1:A:206:ASP:OD1 | 1:A:218:GLN:OE1[2_565] | 1.47 | 0.73 |
| 1:A:51:ASN:CG | 1:A:53:HIS:O[2_565] | 1.48 | 0.72 |
| 1:A:180:VAL:CA | 1:A:221:LYS:NZ[2_565] | 1.48 | 0.72 |
| 1:A:241:THR:N | 1:A:268:VAL:CA[2_565] | 1.48 | 0.72 |
| 1:A:248:THR:OG1 | 1:A:268:VAL:CB[2_565] | 1.48 | 0.72 |
| 1:A:55:LEU:CG | 1:A:245:PRO:CD[2_565] | 1.49 | 0.71 |
| 1:A:56:SER:CA | 1:A:275:ILE:CD1[2_565] | 1.49 | 0.71 |
| 1:A:220:ARG:NE | 1:A:263:ALA:C[2_565] | 1.49 | 0.71 |
| 1:A:249:ARG:CB | 1:A:267:VAL:CA[2_565] | 1.49 | 0.71 |
| 1:A:52:ASP:O | 1:A:245:PRO:CA[2_565] | 1.50 | 0.70 |
| 1:A:56:SER:O | 1:A:246:LEU:CD2[2_565] | 1.50 | 0.70 |
| 1:A:200:VAL:O | 1:A:220:ARG:C[2_565] | 1.50 | 0.70 |
| 1:A:208:VAL:CG1 | 1:A:238:PRO:CG[2_565] | 1.50 | 0.70 |
| 1:A:211:ASP:CA | 1:A:238:PRO:C[2_565] | 1.50 | 0.70 |
| 1:A:213:ARG:C | 1:A:251:ILE:O[2_565] | 1.50 | 0.70 |
| 1:A:51:ASN:C | 1:A:53:HIS:CE1[2_565] | 1.51 | 0.69 |
| 1:A:239:GLU:OE1 | 1:A:269:ASN:C[2_565] | 1.51 | 0.69 |
| 1:A:241:THR:CB | 1:A:268:VAL:CA[2_565] | 1.51 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------------|--------------------------|-------------------|
| 1:A:201:GLU:CA | 1:A:220:ARG:N[2_565] | 1.52 | 0.68 |
| 1:A:213:ARG:NH2 | 1:A:253:PHE:CE1[2_565] | 1.52 | 0.68 |
| 1:A:241:THR:OG1 | 1:A:268:VAL:N[2_565] | 1.52 | 0.68 |
| 1:A:61:GLU:CD | 1:A:228:THR:CG2[2_565] | 1.53 | 0.67 |
| 1:A:67:SER:O | 1:A:234:GLN:CD[2_565] | 1.53 | 0.67 |
| 1:A:69:THR:CA | 1:A:231:SER:O[2_565] | 1.53 | 0.67 |
| 1:A:211:ASP:N | 1:A:239:GLU:CA[2_565] | 1.53 | 0.67 |
| 1:A:212:ILE:CB | 1:A:237:SER:O[2_565] | 1.53 | 0.67 |
| 1:A:220:ARG:CZ | 1:A:264:GLN:N[2_565] | 1.53 | 0.67 |
| 1:A:239:GLU:CD | 1:A:270:THR:N[2_565] | 1.53 | 0.67 |
| 1:A:240:CYS:O | 1:A:269:ASN:CB[2_565] | 1.53 | 0.67 |
| 1:A:249:ARG:CA | 1:A:266:LEU:C[2_565] | 1.53 | 0.67 |
| 1:A:51:ASN:CG | 1:A:54:GLN:N[2_565] | 1.54 | 0.66 |
| 1:A:51:ASN:CG | 1:A:53:HIS:C[2_565] | 1.54 | 0.66 |
| 1:A:52:ASP:N | 1:A:53:HIS:CG[2_565] | 1.54 | 0.66 |
| 1:A:199:LEU:O | 1:A:235:THR:CG2[2_565] | 1.54 | 0.66 |
| 1:A:220:ARG:NE | 1:A:264:GLN:CA[2_565] | 1.54 | 0.66 |
| 1:A:185:ASP:OD2 | 1:A:459:ASP:CA[2_565] | 1.55 | 0.65 |
| 1:A:199:LEU:CA | 1:A:234:GLN:C[2_565] | 1.55 | 0.65 |
| 1:A:202:MET:CE | 1:A:263:ALA:CB[2_565] | 1.55 | 0.65 |
| 1:A:214:ILE:CG1 | 1:A:214:ILE:CD1[2_565] | 1.55 | 0.65 |
| 1:A:236:ARG:CZ | 1:A:266:LEU:N[2_565] | 1.55 | 0.65 |
| 1:A:236:ARG:CG | 1:A:264:GLN:C[2_565] | 1.55 | 0.65 |
| 1:A:52:ASP:CA | 1:A:53:HIS:NE2[2_565] | 1.56 | 0.64 |
| 1:A:57:VAL:CA | 1:A:227:LEU:CD2[2_565] | 1.56 | 0.64 |
| 1:A:202:MET:CB | 1:A:218:GLN:N[2_565] | 1.56 | 0.64 |
| 1:A:203:LYS:O | 1:A:262:THR:OG1[2_565] | 1.56 | 0.64 |
| 1:A:51:ASN:OD1 | 1:A:53:HIS:C[2_565] | 1.57 | 0.63 |
| 1:A:60:LEU:CD1 | 1:A:248:THR:N[2_565] | 1.58 | 0.62 |
| 1:A:183:ASP:OD1 | 1:A:560:ARG:NH1[2_565] | 1.58 | 0.62 |
| 1:A:199:LEU:CB | 1:A:234:GLN:C[2_565] | 1.58 | 0.62 |
| 1:A:222:VAL:N | 1:A:264:GLN:NE2[2_565] | 1.58 | 0.62 |
| 1:A:239:GLU:CG | 1:A:269:ASN:O[2_565] | 1.58 | 0.62 |
| 1:A:64:TYR:OH | 1:A:242:HIS:CA[2_565] | 1.59 | 0.61 |
| 1:A:69:THR:C | 1:A:231:SER:O[2_565] | 1.59 | 0.61 |
| 1:A:195:VAL:O | 1:A:249:ARG:CZ[2_565] | 1.59 | 0.61 |
| 1:A:199:LEU:CB | 1:A:234:GLN:CA[2_565] | 1.59 | 0.61 |
| 1:A:220:ARG:CD | 1:A:263:ALA:O[2_565] | 1.59 | 0.61 |
| 1:A:249:ARG:CB | 1:A:266:LEU:O[2_565] | 1.59 | 0.61 |
| 1:A:58:ALA:C | 1:A:246:LEU:CD1[2_565] | 1.60 | 0.60 |
| 1:A:214:ILE:C | 1:A:252:ALA:N[2_565] | 1.60 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------------|--------------------------|-------------------|
| 1:A:236:ARG:NE | 1:A:265:GLY:CA[2_565] | 1.60 | 0.60 |
| 1:A:69:THR:CG2 | 1:A:231:SER:N[2_565] | 1.61 | 0.59 |
| 1:A:179:THR:CG2 | 1:A:219:GLY:O[2_565] | 1.61 | 0.59 |
| 1:A:201:GLU:OE2 | 1:A:261:GLY:N[2_565] | 1.61 | 0.59 |
| 1:A:211:ASP:C | 1:A:239:GLU:O[2_565] | 1.61 | 0.59 |
| 1:A:236:ARG:NH2 | 1:A:266:LEU:CA[2_565] | 1.61 | 0.59 |
| 1:A:238:PRO:CB | 1:A:253:PHE:C[2_565] | 1.61 | 0.59 |
| 1:A:51:ASN:CG | 1:A:54:GLN:CA[2_565] | 1.62 | 0.58 |
| 1:A:249:ARG:N | 1:A:266:LEU:O[2_565] | 1.62 | 0.58 |
| 1:A:202:MET:CG | 1:A:262:THR:O[2_565] | 1.63 | 0.57 |
| 1:A:203:LYS:N | 1:A:262:THR:CB[2_565] | 1.63 | 0.57 |
| 1:A:206:ASP:CB | 1:A:218:GLN:CB[2_565] | 1.63 | 0.57 |
| 1:A:52:ASP:CA | 1:A:53:HIS:ND1[2_565] | 1.64 | 0.56 |
| 1:A:61:GLU:C | 1:A:247:GLU:OE1[2_565] | 1.64 | 0.56 |
| 1:A:69:THR:CB | 1:A:231:SER:CA[2_565] | 1.64 | 0.56 |
| 1:A:183:ASP:OD2 | 1:A:560:ARG:NH1[2_565] | 1.64 | 0.56 |
| 1:A:211:ASP:N | 1:A:239:GLU:CB[2_565] | 1.64 | 0.56 |
| 1:A:241:THR:N | 1:A:268:VAL:CB[2_565] | 1.64 | 0.56 |
| 1:A:199:LEU:C | 1:A:235:THR:N[2_565] | 1.65 | 0.55 |
| 1:A:199:LEU:CD1 | 1:A:234:GLN:C[2_565] | 1.65 | 0.55 |
| 1:A:210:ALA:O | 1:A:238:PRO:N[2_565] | 1.65 | 0.55 |
| 1:A:212:ILE:CG1 | 1:A:237:SER:N[2_565] | 1.65 | 0.55 |
| 1:A:213:ARG:O | 1:A:251:ILE:O[2_565] | 1.65 | 0.55 |
| 1:A:214:ILE:CA | 1:A:252:ALA:N[2_565] | 1.65 | 0.55 |
| 1:A:216:GLN:NE2 | 1:A:258:CYS:N[2_565] | 1.65 | 0.55 |
| 1:A:221:LYS:C | 1:A:264:GLN:NE2[2_565] | 1.65 | 0.55 |
| 1:A:222:VAL:CA | 1:A:264:GLN:NE2[2_565] | 1.65 | 0.55 |
| 1:A:240:CYS:CA | 1:A:268:VAL:CG2[2_565] | 1.65 | 0.55 |
| 1:A:241:THR:CA | 1:A:268:VAL:CA[2_565] | 1.65 | 0.55 |
| 1:A:200:VAL:CA | 1:A:220:ARG:O[2_565] | 1.66 | 0.54 |
| 1:A:201:GLU:N | 1:A:220:ARG:CA[2_565] | 1.66 | 0.54 |
| 1:A:220:ARG:NH1 | 1:A:264:GLN:O[2_565] | 1.66 | 0.54 |
| 1:A:236:ARG:N | 1:A:265:GLY:O[2_565] | 1.66 | 0.54 |
| 1:A:56:SER:C | 1:A:246:LEU:CD2[2_565] | 1.67 | 0.53 |
| 1:A:60:LEU:CG | 1:A:247:GLU:N[2_565] | 1.67 | 0.53 |
| 1:A:63:LYS:CD | 1:A:244:SER:OG[2_565] | 1.67 | 0.53 |
| 1:A:183:ASP:CG | 1:A:560:ARG:NH1[2_565] | 1.67 | 0.53 |
| 1:A:199:LEU:CG | 1:A:234:GLN:O[2_565] | 1.67 | 0.53 |
| 1:A:216:GLN:OE1 | 1:A:258:CYS:CA[2_565] | 1.67 | 0.53 |
| 1:A:249:ARG:C | 1:A:266:LEU:O[2_565] | 1.67 | 0.53 |
| 1:A:52:ASP:OD2 | 1:A:248:THR:CB[2_565] | 1.68 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------------|--------------------------|-------------------|
| 1:A:57:VAL:N | 1:A:227:LEU:CD2[2_565] | 1.68 | 0.52 |
| 1:A:212:ILE:CB | 1:A:237:SER:N[2_565] | 1.68 | 0.52 |
| 1:A:51:ASN:CA | 1:A:54:GLN:CG[2_565] | 1.69 | 0.51 |
| 1:A:200:VAL:N | 1:A:235:THR:CB[2_565] | 1.69 | 0.51 |
| 1:A:214:ILE:C | 1:A:252:ALA:CB[2_565] | 1.69 | 0.51 |
| 1:A:206:ASP:CG | 1:A:218:GLN:CG[2_565] | 1.70 | 0.50 |
| 1:A:213:ARG:NH1 | 1:A:251:ILE:CG2[2_565] | 1.70 | 0.50 |
| 1:A:249:ARG:CG | 1:A:267:VAL:C[2_565] | 1.70 | 0.50 |
| 1:A:50:ILE:CB | 1:A:54:GLN:CD[2_565] | 1.71 | 0.49 |
| 1:A:61:GLU:N | 1:A:247:GLU:OE1[2_565] | 1.71 | 0.49 |
| 1:A:201:GLU:CD | 1:A:260:GLU:CA[2_565] | 1.71 | 0.49 |
| 1:A:206:ASP:OD2 | 1:A:218:GLN:CB[2_565] | 1.71 | 0.49 |
| 1:A:206:ASP:OD2 | 1:A:218:GLN:NE2[2_565] | 1.71 | 0.49 |
| 1:A:212:ILE:CD1 | 1:A:237:SER:N[2_565] | 1.71 | 0.49 |
| 1:A:216:GLN:C | 1:A:220:ARG:NH2[2_565] | 1.71 | 0.49 |
| 1:A:221:LYS:O | 1:A:264:GLN:NE2[2_565] | 1.71 | 0.49 |
| 1:A:238:PRO:CB | 1:A:253:PHE:CA[2_565] | 1.71 | 0.49 |
| 1:A:67:SER:C | 1:A:234:GLN:NE2[2_565] | 1.72 | 0.48 |
| 1:A:198:ASP:O | 1:A:235:THR:OG1[2_565] | 1.72 | 0.48 |
| 1:A:201:GLU:CD | 1:A:260:GLU:O[2_565] | 1.72 | 0.48 |
| 1:A:201:GLU:N | 1:A:220:ARG:N[2_565] | 1.72 | 0.48 |
| 1:A:201:GLU:C | 1:A:219:GLY:C[2_565] | 1.72 | 0.48 |
| 1:A:201:GLU:CB | 1:A:219:GLY:O[2_565] | 1.72 | 0.48 |
| 1:A:201:GLU:O | 1:A:219:GLY:CA[2_565] | 1.72 | 0.48 |
| 1:A:201:GLU:OE1 | 1:A:261:GLY:N[2_565] | 1.72 | 0.48 |
| 1:A:211:ASP:CB | 1:A:240:CYS:N[2_565] | 1.72 | 0.48 |
| 1:A:57:VAL:C | 1:A:246:LEU:CD2[2_565] | 1.73 | 0.47 |
| 1:A:57:VAL:CG2 | 1:A:253:PHE:CD2[2_565] | 1.73 | 0.47 |
| 1:A:212:ILE:O | 1:A:250:ASN:CB[2_565] | 1.73 | 0.47 |
| 1:A:213:ARG:C | 1:A:251:ILE:C[2_565] | 1.73 | 0.47 |
| 1:A:53:HIS:N | 1:A:53:HIS:ND1[2_565] | 1.74 | 0.46 |
| 1:A:69:THR:CG2 | 1:A:232:GLU:N[2_565] | 1.74 | 0.46 |
| 1:A:199:LEU:CG | 1:A:234:GLN:C[2_565] | 1.74 | 0.46 |
| 1:A:214:ILE:N | 1:A:252:ALA:N[2_565] | 1.74 | 0.46 |
| 1:A:236:ARG:CB | 1:A:265:GLY:CA[2_565] | 1.74 | 0.46 |
| 1:A:241:THR:CB | 1:A:268:VAL:C[2_565] | 1.74 | 0.46 |
| 1:A:56:SER:CB | 1:A:275:ILE:CD1[2_565] | 1.75 | 0.45 |
| 1:A:60:LEU:CB | 1:A:246:LEU:CA[2_565] | 1.75 | 0.45 |
| 1:A:62:GLN:OE1 | 1:A:701:ARG:CD[2_565] | 1.75 | 0.45 |
| 1:A:62:GLN:OE1 | 1:A:701:ARG:CB[2_565] | 1.75 | 0.45 |
| 1:A:69:THR:C | 1:A:233:PRO:N[2_565] | 1.75 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------------|--------------------------|-------------------|
| 1:A:71:GLY:O | 1:A:232:GLU:OE1[2_565] | 1.75 | 0.45 |
| 1:A:199:LEU:C | 1:A:235:THR:CG2[2_565] | 1.75 | 0.45 |
| 1:A:213:ARG:CZ | 1:A:253:PHE:CE1[2_565] | 1.75 | 0.45 |
| 1:A:241:THR:OG1 | 1:A:267:VAL:O[2_565] | 1.75 | 0.45 |
| 1:A:241:THR:N | 1:A:269:ASN:N[2_565] | 1.75 | 0.45 |
| 1:A:249:ARG:CB | 1:A:267:VAL:N[2_565] | 1.75 | 0.45 |
| 1:A:60:LEU:N | 1:A:246:LEU:CG[2_565] | 1.76 | 0.44 |
| 1:A:60:LEU:C | 1:A:247:GLU:CA[2_565] | 1.76 | 0.44 |
| 1:A:64:TYR:N | 1:A:247:GLU:CG[2_565] | 1.76 | 0.44 |
| 1:A:181:ILE:CB | 1:A:221:LYS:CD[2_565] | 1.76 | 0.44 |
| 1:A:199:LEU:CG | 1:A:234:GLN:N[2_565] | 1.76 | 0.44 |
| 1:A:236:ARG:CB | 1:A:265:GLY:N[2_565] | 1.76 | 0.44 |
| 1:A:60:LEU:O | 1:A:247:GLU:OE1[2_565] | 1.77 | 0.43 |
| 1:A:70:LYS:C | 1:A:232:GLU:CB[2_565] | 1.77 | 0.43 |
| 1:A:186:LYS:CB | 1:A:260:GLU:OE2[2_565] | 1.77 | 0.43 |
| 1:A:206:ASP:CG | 1:A:218:GLN:CB[2_565] | 1.77 | 0.43 |
| 1:A:52:ASP:OD1 | 1:A:53:HIS:CD2[2_565] | 1.78 | 0.42 |
| 1:A:203:LYS:N | 1:A:262:THR:CA[2_565] | 1.78 | 0.42 |
| 1:A:214:ILE:CB | 1:A:252:ALA:CB[2_565] | 1.78 | 0.42 |
| 1:A:50:ILE:C | 1:A:54:GLN:CD[2_565] | 1.79 | 0.41 |
| 1:A:50:ILE:O | 1:A:54:GLN:CG[2_565] | 1.79 | 0.41 |
| 1:A:58:ALA:O | 1:A:246:LEU:CD1[2_565] | 1.79 | 0.41 |
| 1:A:61:GLU:C | 1:A:247:GLU:OE2[2_565] | 1.79 | 0.41 |
| 1:A:239:GLU:CG | 1:A:269:ASN:C[2_565] | 1.79 | 0.41 |
| 1:A:60:LEU:O | 1:A:247:GLU:CG[2_565] | 1.80 | 0.40 |
| 1:A:211:ASP:CG | 1:A:239:GLU:CA[2_565] | 1.80 | 0.40 |
| 1:A:213:ARG:CZ | 1:A:251:ILE:CG2[2_565] | 1.80 | 0.40 |
| 1:A:216:GLN:NE2 | 1:A:257:MET:CB[2_565] | 1.80 | 0.40 |
| 1:A:220:ARG:CD | 1:A:264:GLN:CA[2_565] | 1.80 | 0.40 |
| 1:A:249:ARG:CB | 1:A:266:LEU:C[2_565] | 1.80 | 0.40 |
| 1:A:64:TYR:CZ | 1:A:242:HIS:CB[2_565] | 1.81 | 0.39 |
| 1:A:201:GLU:CG | 1:A:261:GLY:N[2_565] | 1.81 | 0.39 |
| 1:A:208:VAL:CG2 | 1:A:216:GLN:C[2_565] | 1.81 | 0.39 |
| 1:A:239:GLU:OE2 | 1:A:270:THR:C[2_565] | 1.81 | 0.39 |
| 1:A:60:LEU:CG | 1:A:247:GLU:C[2_565] | 1.82 | 0.38 |
| 1:A:60:LEU:CG | 1:A:248:THR:N[2_565] | 1.82 | 0.38 |
| 1:A:60:LEU:C | 1:A:247:GLU:N[2_565] | 1.82 | 0.38 |
| 1:A:69:THR:C | 1:A:232:GLU:CA[2_565] | 1.82 | 0.38 |
| 1:A:212:ILE:CD1 | 1:A:236:ARG:CA[2_565] | 1.82 | 0.38 |
| 1:A:55:LEU:CG | 1:A:245:PRO:CG[2_565] | 1.83 | 0.37 |
| 1:A:67:SER:OG | 1:A:232:GLU:CD[2_565] | 1.83 | 0.37 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------------|--------------------------|-------------------|
| 1:A:185:ASP:OD2 | 1:A:459:ASP:CB[2_565] | 1.83 | 0.37 |
| 1:A:212:ILE:C | 1:A:249:ARG:C[2_565] | 1.83 | 0.37 |
| 1:A:213:ARG:N | 1:A:250:ASN:CA[2_565] | 1.83 | 0.37 |
| 1:A:50:ILE:CG1 | 1:A:54:GLN:OE1[2_565] | 1.84 | 0.36 |
| 1:A:52:ASP:OD1 | 1:A:242:HIS:O[2_565] | 1.84 | 0.36 |
| 1:A:60:LEU:CD2 | 1:A:248:THR:O[2_565] | 1.84 | 0.36 |
| 1:A:64:TYR:OH | 1:A:242:HIS:CB[2_565] | 1.84 | 0.36 |
| 1:A:249:ARG:CG | 1:A:267:VAL:CB[2_565] | 1.84 | 0.36 |
| 1:A:249:ARG:CD | 1:A:267:VAL:CG1[2_565] | 1.84 | 0.36 |
| 1:A:199:LEU:CB | 1:A:234:GLN:N[2_565] | 1.85 | 0.35 |
| 1:A:212:ILE:O | 1:A:250:ASN:O[2_565] | 1.85 | 0.35 |
| 1:A:239:GLU:OE2 | 1:A:269:ASN:C[2_565] | 1.85 | 0.35 |
| 1:A:240:CYS:O | 1:A:269:ASN:ND2[2_565] | 1.85 | 0.35 |
| 1:A:241:THR:N | 1:A:268:VAL:O[2_565] | 1.85 | 0.35 |
| 1:A:55:LEU:CD1 | 1:A:245:PRO:N[2_565] | 1.86 | 0.34 |
| 1:A:60:LEU:O | 1:A:247:GLU:CD[2_565] | 1.86 | 0.34 |
| 1:A:68:ALA:O | 1:A:222:VAL:O[2_565] | 1.86 | 0.34 |
| 1:A:186:LYS:CB | 1:A:260:GLU:OE1[2_565] | 1.86 | 0.34 |
| 1:A:201:GLU:O | 1:A:219:GLY:N[2_565] | 1.86 | 0.34 |
| 1:A:67:SER:O | 1:A:234:GLN:CG[2_565] | 1.87 | 0.33 |
| 1:A:208:VAL:CG2 | 1:A:217:ALA:N[2_565] | 1.87 | 0.33 |
| 1:A:214:ILE:CA | 1:A:252:ALA:CA[2_565] | 1.87 | 0.33 |
| 1:A:51:ASN:C | 1:A:53:HIS:ND1[2_565] | 1.88 | 0.32 |
| 1:A:55:LEU:CD1 | 1:A:244:SER:CA[2_565] | 1.88 | 0.32 |
| 1:A:69:THR:O | 1:A:232:GLU:C[2_565] | 1.88 | 0.32 |
| 1:A:199:LEU:N | 1:A:235:THR:N[2_565] | 1.88 | 0.32 |
| 1:A:199:LEU:CD2 | 1:A:234:GLN:N[2_565] | 1.88 | 0.32 |
| 1:A:213:ARG:CD | 1:A:251:ILE:CB[2_565] | 1.88 | 0.32 |
| 1:A:220:ARG:CG | 1:A:263:ALA:C[2_565] | 1.88 | 0.32 |
| 1:A:236:ARG:NH2 | 1:A:266:LEU:N[2_565] | 1.88 | 0.32 |
| 1:A:240:CYS:CB | 1:A:269:ASN:ND2[2_565] | 1.88 | 0.32 |
| 1:A:52:ASP:C | 1:A:245:PRO:CB[2_565] | 1.89 | 0.31 |
| 1:A:61:GLU:C | 1:A:247:GLU:CD[2_565] | 1.89 | 0.31 |
| 1:A:65:GLN:CD | 1:A:629:HIS:CD2[2_565] | 1.89 | 0.31 |
| 1:A:181:ILE:N | 1:A:221:LYS:CD[2_565] | 1.89 | 0.31 |
| 1:A:213:ARG:CA | 1:A:250:ASN:C[2_565] | 1.89 | 0.31 |
| 1:A:216:GLN:CG | 1:A:257:MET:C[2_565] | 1.89 | 0.31 |
| 1:A:235:THR:O | 1:A:265:GLY:C[2_565] | 1.89 | 0.31 |
| 1:A:50:ILE:CA | 1:A:54:GLN:CB[2_565] | 1.90 | 0.30 |
| 1:A:55:LEU:CD1 | 1:A:245:PRO:CD[2_565] | 1.90 | 0.30 |
| 1:A:57:VAL:CG2 | 1:A:253:PHE:CG[2_565] | 1.90 | 0.30 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------------|--------------------------|-------------------|
| 1:A:59:GLU:C | 1:A:246:LEU:CB[2_565] | 1.90 | 0.30 |
| 1:A:198:ASP:OD1 | 1:A:249:ARG:NH2[2_565] | 1.90 | 0.30 |
| 1:A:199:LEU:C | 1:A:235:THR:CB[2_565] | 1.90 | 0.30 |
| 1:A:211:ASP:CA | 1:A:239:GLU:C[2_565] | 1.90 | 0.30 |
| 1:A:212:ILE:CD1 | 1:A:236:ARG:C[2_565] | 1.90 | 0.30 |
| 1:A:214:ILE:N | 1:A:251:ILE:O[2_565] | 1.90 | 0.30 |
| 1:A:215:LEU:N | 1:A:252:ALA:CA[2_565] | 1.90 | 0.30 |
| 1:A:216:GLN:CD | 1:A:257:MET:CA[2_565] | 1.90 | 0.30 |
| 1:A:238:PRO:CB | 1:A:253:PHE:N[2_565] | 1.90 | 0.30 |
| 1:A:61:GLU:O | 1:A:247:GLU:CD[2_565] | 1.91 | 0.29 |
| 1:A:63:LYS:CE | 1:A:242:HIS:CD2[2_565] | 1.91 | 0.29 |
| 1:A:203:LYS:N | 1:A:262:THR:N[2_565] | 1.91 | 0.29 |
| 1:A:211:ASP:CB | 1:A:239:GLU:N[2_565] | 1.91 | 0.29 |
| 1:A:212:ILE:CG1 | 1:A:236:ARG:CA[2_565] | 1.91 | 0.29 |
| 1:A:212:ILE:CG1 | 1:A:249:ARG:O[2_565] | 1.91 | 0.29 |
| 1:A:241:THR:O | 1:A:268:VAL:O[2_565] | 1.91 | 0.29 |
| 1:A:50:ILE:CG2 | 1:A:54:GLN:OE1[2_565] | 1.92 | 0.28 |
| 1:A:60:LEU:N | 1:A:246:LEU:CD1[2_565] | 1.92 | 0.28 |
| 1:A:60:LEU:CG | 1:A:246:LEU:C[2_565] | 1.92 | 0.28 |
| 1:A:63:LYS:CD | 1:A:244:SER:CA[2_565] | 1.92 | 0.28 |
| 1:A:69:THR:N | 1:A:232:GLU:O[2_565] | 1.92 | 0.28 |
| 1:A:199:LEU:CA | 1:A:235:THR:CA[2_565] | 1.92 | 0.28 |
| 1:A:203:LYS:C | 1:A:262:THR:CB[2_565] | 1.92 | 0.28 |
| 1:A:214:ILE:N | 1:A:251:ILE:CA[2_565] | 1.92 | 0.28 |
| 1:A:259:LEU:CA | 1:A:264:GLN:OE1[2_565] | 1.92 | 0.28 |
| 1:A:51:ASN:O | 1:A:53:HIS:CE1[2_565] | 1.93 | 0.27 |
| 1:A:51:ASN:CB | 1:A:54:GLN:CA[2_565] | 1.93 | 0.27 |
| 1:A:51:ASN:N | 1:A:54:GLN:CD[2_565] | 1.93 | 0.27 |
| 1:A:55:LEU:N | 1:A:245:PRO:CG[2_565] | 1.93 | 0.27 |
| 1:A:60:LEU:N | 1:A:246:LEU:CA[2_565] | 1.93 | 0.27 |
| 1:A:69:THR:C | 1:A:232:GLU:O[2_565] | 1.93 | 0.27 |
| 1:A:69:THR:CA | 1:A:231:SER:C[2_565] | 1.93 | 0.27 |
| 1:A:179:THR:CG2 | 1:A:219:GLY:CA[2_565] | 1.93 | 0.27 |
| 1:A:213:ARG:C | 1:A:251:ILE:N[2_565] | 1.93 | 0.27 |
| 1:A:216:GLN:CG | 1:A:258:CYS:N[2_565] | 1.93 | 0.27 |
| 1:A:216:GLN:OE1 | 1:A:258:CYS:C[2_565] | 1.93 | 0.27 |
| 1:A:239:GLU:CD | 1:A:270:THR:CA[2_565] | 1.93 | 0.27 |
| 1:A:240:CYS:C | 1:A:269:ASN:CG[2_565] | 1.93 | 0.27 |
| 1:A:258:CYS:C | 1:A:264:GLN:OE1[2_565] | 1.93 | 0.27 |
| 1:A:57:VAL:O | 1:A:246:LEU:CD1[2_565] | 1.94 | 0.26 |
| 1:A:71:GLY:O | 1:A:232:GLU:CD[2_565] | 1.94 | 0.26 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------------|--------------------------|-------------------|
| 1:A:203:LYS:CB | 1:A:262:THR:CB[2_565] | 1.94 | 0.26 |
| 1:A:211:ASP:C | 1:A:239:GLU:N[2_565] | 1.94 | 0.26 |
| 1:A:213:ARG:NE | 1:A:251:ILE:CG2[2_565] | 1.94 | 0.26 |
| 1:A:241:THR:OG1 | 1:A:268:VAL:CA[2_565] | 1.94 | 0.26 |
| 1:A:60:LEU:C | 1:A:247:GLU:OE1[2_565] | 1.95 | 0.25 |
| 1:A:60:LEU:CG | 1:A:247:GLU:CA[2_565] | 1.95 | 0.25 |
| 1:A:201:GLU:OE1 | 1:A:260:GLU:C[2_565] | 1.95 | 0.25 |
| 1:A:212:ILE:C | 1:A:250:ASN:C[2_565] | 1.95 | 0.25 |
| 1:A:212:ILE:CG1 | 1:A:236:ARG:C[2_565] | 1.95 | 0.25 |
| 1:A:248:THR:CA | 1:A:268:VAL:CG1[2_565] | 1.95 | 0.25 |
| 1:A:50:ILE:CA | 1:A:54:GLN:CD[2_565] | 1.96 | 0.24 |
| 1:A:61:GLU:OE1 | 1:A:228:THR:CG2[2_565] | 1.96 | 0.24 |
| 1:A:67:SER:CB | 1:A:232:GLU:CD[2_565] | 1.96 | 0.24 |
| 1:A:71:GLY:CA | 1:A:233:PRO:O[2_565] | 1.96 | 0.24 |
| 1:A:214:ILE:CG1 | 1:A:214:ILE:CG1[2_565] | 1.96 | 0.24 |
| 1:A:249:ARG:CG | 1:A:266:LEU:C[2_565] | 1.96 | 0.24 |
| 1:A:50:ILE:O | 1:A:54:GLN:CB[2_565] | 1.97 | 0.23 |
| 1:A:55:LEU:CD1 | 1:A:244:SER:C[2_565] | 1.97 | 0.23 |
| 1:A:58:ALA:N | 1:A:246:LEU:CD2[2_565] | 1.97 | 0.23 |
| 1:A:64:TYR:CD2 | 1:A:247:GLU:O[2_565] | 1.97 | 0.23 |
| 1:A:64:TYR:CD2 | 1:A:247:GLU:CG[2_565] | 1.97 | 0.23 |
| 1:A:67:SER:CB | 1:A:232:GLU:OE2[2_565] | 1.97 | 0.23 |
| 1:A:70:LYS:CB | 1:A:232:GLU:CA[2_565] | 1.97 | 0.23 |
| 1:A:201:GLU:CG | 1:A:261:GLY:CA[2_565] | 1.97 | 0.23 |
| 1:A:203:LYS:CA | 1:A:262:THR:CA[2_565] | 1.97 | 0.23 |
| 1:A:213:ARG:NE | 1:A:253:PHE:CZ[2_565] | 1.97 | 0.23 |
| 1:A:214:ILE:CA | 1:A:252:ALA:CB[2_565] | 1.97 | 0.23 |
| 1:A:57:VAL:N | 1:A:246:LEU:CD2[2_565] | 1.98 | 0.22 |
| 1:A:60:LEU:CA | 1:A:246:LEU:CA[2_565] | 1.98 | 0.22 |
| 1:A:63:LYS:CE | 1:A:244:SER:CA[2_565] | 1.98 | 0.22 |
| 1:A:69:THR:OG1 | 1:A:231:SER:C[2_565] | 1.98 | 0.22 |
| 1:A:70:LYS:N | 1:A:232:GLU:CB[2_565] | 1.98 | 0.22 |
| 1:A:179:THR:CG2 | 1:A:219:GLY:C[2_565] | 1.98 | 0.22 |
| 1:A:181:ILE:CA | 1:A:221:LYS:CD[2_565] | 1.98 | 0.22 |
| 1:A:201:GLU:CB | 1:A:260:GLU:O[2_565] | 1.98 | 0.22 |
| 1:A:201:GLU:O | 1:A:218:GLN:O[2_565] | 1.98 | 0.22 |
| 1:A:212:ILE:C | 1:A:249:ARG:O[2_565] | 1.98 | 0.22 |
| 1:A:216:GLN:CD | 1:A:258:CYS:CA[2_565] | 1.98 | 0.22 |
| 1:A:240:CYS:C | 1:A:269:ASN:N[2_565] | 1.98 | 0.22 |
| 1:A:51:ASN:C | 1:A:53:HIS:NE2[2_565] | 1.99 | 0.21 |
| 1:A:66:THR:O | 1:A:701:ARG:NH2[2_565] | 1.99 | 0.21 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------------|--------------------------|-------------------|
| 1:A:200:VAL:CG2 | 1:A:235:THR:CB[2_565] | 1.99 | 0.21 |
| 1:A:202:MET:N | 1:A:220:ARG:CB[2_565] | 1.99 | 0.21 |
| 1:A:220:ARG:CZ | 1:A:264:GLN:O[2_565] | 1.99 | 0.21 |
| 1:A:241:THR:N | 1:A:268:VAL:CG2[2_565] | 1.99 | 0.21 |
| 1:A:59:GLU:N | 1:A:246:LEU:CD1[2_565] | 2.00 | 0.20 |
| 1:A:65:GLN:NE2 | 1:A:629:HIS:CG[2_565] | 2.00 | 0.20 |
| 1:A:181:ILE:CD1 | 1:A:221:LYS:CB[2_565] | 2.00 | 0.20 |
| 1:A:186:LYS:CE | 1:A:260:GLU:OE1[2_565] | 2.00 | 0.20 |
| 1:A:213:ARG:CG | 1:A:251:ILE:CB[2_565] | 2.00 | 0.20 |
| 1:A:220:ARG:CG | 1:A:264:GLN:CA[2_565] | 2.00 | 0.20 |
| 1:A:64:TYR:CD2 | 1:A:247:GLU:CB[2_565] | 2.01 | 0.19 |
| 1:A:68:ALA:CB | 1:A:224:ASN:CB[2_565] | 2.01 | 0.19 |
| 1:A:69:THR:CG2 | 1:A:231:SER:O[2_565] | 2.01 | 0.19 |
| 1:A:211:ASP:CB | 1:A:239:GLU:O[2_565] | 2.01 | 0.19 |
| 1:A:216:GLN:O | 1:A:220:ARG:NH1[2_565] | 2.01 | 0.19 |
| 1:A:220:ARG:CB | 1:A:263:ALA:O[2_565] | 2.01 | 0.19 |
| 1:A:240:CYS:O | 1:A:269:ASN:CA[2_565] | 2.01 | 0.19 |
| 1:A:249:ARG:NE | 1:A:267:VAL:CG2[2_565] | 2.01 | 0.19 |
| 1:A:60:LEU:N | 1:A:246:LEU:C[2_565] | 2.02 | 0.18 |
| 1:A:70:LYS:CA | 1:A:232:GLU:C[2_565] | 2.02 | 0.18 |
| 1:A:185:ASP:OD2 | 1:A:459:ASP:N[2_565] | 2.02 | 0.18 |
| 1:A:195:VAL:C | 1:A:249:ARG:NH2[2_565] | 2.02 | 0.18 |
| 1:A:212:ILE:CG2 | 1:A:214:ILE:CB[2_565] | 2.02 | 0.18 |
| 1:A:212:ILE:CB | 1:A:237:SER:C[2_565] | 2.02 | 0.18 |
| 1:A:51:ASN:OD1 | 1:A:54:GLN:N[2_565] | 2.03 | 0.17 |
| 1:A:60:LEU:CA | 1:A:246:LEU:O[2_565] | 2.03 | 0.17 |
| 1:A:70:LYS:N | 1:A:232:GLU:O[2_565] | 2.03 | 0.17 |
| 1:A:186:LYS:CB | 1:A:260:GLU:CD[2_565] | 2.03 | 0.17 |
| 1:A:193:GLN:NE2 | 1:A:496:LYS:CE[2_565] | 2.03 | 0.17 |
| 1:A:199:LEU:CB | 1:A:235:THR:N[2_565] | 2.03 | 0.17 |
| 1:A:201:GLU:O | 1:A:218:GLN:C[2_565] | 2.03 | 0.17 |
| 1:A:202:MET:O | 1:A:262:THR:O[2_565] | 2.03 | 0.17 |
| 1:A:206:ASP:OD2 | 1:A:218:GLN:CG[2_565] | 2.03 | 0.17 |
| 1:A:212:ILE:N | 1:A:237:SER:C[2_565] | 2.03 | 0.17 |
| 1:A:59:GLU:CA | 1:A:246:LEU:CG[2_565] | 2.04 | 0.16 |
| 1:A:64:TYR:CD2 | 1:A:247:GLU:C[2_565] | 2.04 | 0.16 |
| 1:A:200:VAL:N | 1:A:235:THR:C[2_565] | 2.04 | 0.16 |
| 1:A:236:ARG:CD | 1:A:265:GLY:C[2_565] | 2.04 | 0.16 |
| 1:A:259:LEU:N | 1:A:264:GLN:CD[2_565] | 2.04 | 0.16 |
| 1:A:58:ALA:CB | 1:A:227:LEU:O[2_565] | 2.05 | 0.15 |
| 1:A:180:VAL:O | 1:A:221:LYS:CE[2_565] | 2.05 | 0.15 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------------|--------------------------|-------------------|
| 1:A:201:GLU:OE1 | 1:A:260:GLU:CB[2_565] | 2.05 | 0.15 |
| 1:A:210:ALA:C | 1:A:239:GLU:N[2_565] | 2.05 | 0.15 |
| 1:A:212:ILE:CA | 1:A:250:ASN:N[2_565] | 2.05 | 0.15 |
| 1:A:213:ARG:CB | 1:A:251:ILE:N[2_565] | 2.05 | 0.15 |
| 1:A:251:ILE:CD1 | 1:A:251:ILE:CD1[2_565] | 2.05 | 0.15 |
| 1:A:56:SER:O | 1:A:246:LEU:CB[2_565] | 2.06 | 0.14 |
| 1:A:56:SER:O | 1:A:246:LEU:CA[2_565] | 2.06 | 0.14 |
| 1:A:69:THR:CG2 | 1:A:231:SER:CB[2_565] | 2.06 | 0.14 |
| 1:A:71:GLY:N | 1:A:232:GLU:CB[2_565] | 2.06 | 0.14 |
| 1:A:202:MET:N | 1:A:220:ARG:CA[2_565] | 2.06 | 0.14 |
| 1:A:210:ALA:O | 1:A:238:PRO:CD[2_565] | 2.06 | 0.14 |
| 1:A:221:LYS:C | 1:A:264:GLN:CD[2_565] | 2.06 | 0.14 |
| 1:A:240:CYS:C | 1:A:268:VAL:C[2_565] | 2.06 | 0.14 |
| 1:A:64:TYR:N | 1:A:247:GLU:OE2[2_565] | 2.07 | 0.13 |
| 1:A:68:ALA:CB | 1:A:224:ASN:N[2_565] | 2.07 | 0.13 |
| 1:A:196:VAL:CB | 1:A:241:THR:CG2[2_565] | 2.07 | 0.13 |
| 1:A:213:ARG:CZ | 1:A:253:PHE:CZ[2_565] | 2.07 | 0.13 |
| 1:A:213:ARG:CD | 1:A:251:ILE:CG2[2_565] | 2.07 | 0.13 |
| 1:A:221:LYS:C | 1:A:264:GLN:CG[2_565] | 2.07 | 0.13 |
| 1:A:238:PRO:C | 1:A:252:ALA:O[2_565] | 2.07 | 0.13 |
| 1:A:51:ASN:CA | 1:A:54:GLN:N[2_565] | 2.08 | 0.12 |
| 1:A:58:ALA:C | 1:A:246:LEU:CG[2_565] | 2.08 | 0.12 |
| 1:A:62:GLN:CD | 1:A:701:ARG:O[2_565] | 2.08 | 0.12 |
| 1:A:68:ALA:CB | 1:A:224:ASN:CA[2_565] | 2.08 | 0.12 |
| 1:A:201:GLU:CB | 1:A:220:ARG:CA[2_565] | 2.08 | 0.12 |
| 1:A:221:LYS:O | 1:A:264:GLN:CB[2_565] | 2.08 | 0.12 |
| 1:A:236:ARG:CG | 1:A:264:GLN:O[2_565] | 2.08 | 0.12 |
| 1:A:239:GLU:CB | 1:A:269:ASN:O[2_565] | 2.08 | 0.12 |
| 1:A:241:THR:CB | 1:A:267:VAL:O[2_565] | 2.08 | 0.12 |
| 1:A:241:THR:CB | 1:A:268:VAL:O[2_565] | 2.08 | 0.12 |
| 1:A:50:ILE:C | 1:A:54:GLN:OE1[2_565] | 2.09 | 0.11 |
| 1:A:62:GLN:OE1 | 1:A:701:ARG:CG[2_565] | 2.09 | 0.11 |
| 1:A:181:ILE:CB | 1:A:221:LYS:CE[2_565] | 2.09 | 0.11 |
| 1:A:235:THR:O | 1:A:266:LEU:CA[2_565] | 2.09 | 0.11 |
| 1:A:241:THR:CA | 1:A:269:ASN:N[2_565] | 2.09 | 0.11 |
| 1:A:251:ILE:CG1 | 1:A:251:ILE:CD1[2_565] | 2.09 | 0.11 |
| 1:A:57:VAL:CB | 1:A:227:LEU:CG[2_565] | 2.10 | 0.10 |
| 1:A:63:LYS:NZ | 1:A:243:GLU:O[2_565] | 2.10 | 0.10 |
| 1:A:70:LYS:N | 1:A:231:SER:C[2_565] | 2.10 | 0.10 |
| 1:A:199:LEU:CD2 | 1:A:233:PRO:C[2_565] | 2.10 | 0.10 |
| 1:A:201:GLU:CA | 1:A:219:GLY:C[2_565] | 2.10 | 0.10 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------------|--------------------------|-------------------|
| 1:A:211:ASP:C | 1:A:237:SER:O[2_565] | 2.10 | 0.10 |
| 1:A:213:ARG:N | 1:A:251:ILE:N[2_565] | 2.10 | 0.10 |
| 1:A:62:GLN:C | 1:A:247:GLU:OE2[2_565] | 2.11 | 0.09 |
| 1:A:63:LYS:NZ | 1:A:244:SER:C[2_565] | 2.11 | 0.09 |
| 1:A:69:THR:O | 1:A:233:PRO:CA[2_565] | 2.11 | 0.09 |
| 1:A:69:THR:O | 1:A:233:PRO:CG[2_565] | 2.11 | 0.09 |
| 1:A:69:THR:C | 1:A:231:SER:C[2_565] | 2.11 | 0.09 |
| 1:A:213:ARG:CA | 1:A:251:ILE:CA[2_565] | 2.11 | 0.09 |
| 1:A:236:ARG:CD | 1:A:265:GLY:N[2_565] | 2.11 | 0.09 |
| 1:A:241:THR:CB | 1:A:268:VAL:N[2_565] | 2.11 | 0.09 |
| 1:A:249:ARG:CD | 1:A:267:VAL:N[2_565] | 2.11 | 0.09 |
| 1:A:201:GLU:CA | 1:A:221:LYS:N[2_565] | 2.12 | 0.08 |
| 1:A:201:GLU:CA | 1:A:220:ARG:CB[2_565] | 2.12 | 0.08 |
| 1:A:214:ILE:CA | 1:A:251:ILE:C[2_565] | 2.12 | 0.08 |
| 1:A:215:LEU:CG | 1:A:224:ASN:CG[2_565] | 2.12 | 0.08 |
| 1:A:67:SER:N | 1:A:234:GLN:NE2[2_565] | 2.13 | 0.07 |
| 1:A:202:MET:CA | 1:A:218:GLN:O[2_565] | 2.13 | 0.07 |
| 1:A:240:CYS:C | 1:A:268:VAL:CG2[2_565] | 2.13 | 0.07 |
| 1:A:51:ASN:OD1 | 1:A:54:GLN:CA[2_565] | 2.14 | 0.06 |
| 1:A:181:ILE:CG2 | 1:A:233:PRO:CB[2_565] | 2.14 | 0.06 |
| 1:A:199:LEU:CD2 | 1:A:233:PRO:CA[2_565] | 2.14 | 0.06 |
| 1:A:199:LEU:CD1 | 1:A:234:GLN:CA[2_565] | 2.14 | 0.06 |
| 1:A:201:GLU:OE2 | 1:A:260:GLU:O[2_565] | 2.14 | 0.06 |
| 1:A:201:GLU:OE2 | 1:A:260:GLU:CB[2_565] | 2.14 | 0.06 |
| 1:A:212:ILE:CA | 1:A:249:ARG:C[2_565] | 2.14 | 0.06 |
| 1:A:213:ARG:CB | 1:A:248:THR:O[2_565] | 2.14 | 0.06 |
| 1:A:214:ILE:CB | 1:A:252:ALA:N[2_565] | 2.14 | 0.06 |
| 1:A:238:PRO:CA | 1:A:252:ALA:C[2_565] | 2.14 | 0.06 |
| 1:A:239:GLU:OE1 | 1:A:270:THR:N[2_565] | 2.14 | 0.06 |
| 1:A:241:THR:OG1 | 1:A:268:VAL:C[2_565] | 2.14 | 0.06 |
| 1:A:247:GLU:O | 1:A:266:LEU:CD1[2_565] | 2.14 | 0.06 |
| 1:A:250:ASN:O | 1:A:250:ASN:O[2_565] | 2.14 | 0.06 |
| 1:A:55:LEU:CD1 | 1:A:244:SER:CB[2_565] | 2.15 | 0.05 |
| 1:A:64:TYR:OH | 1:A:241:THR:C[2_565] | 2.15 | 0.05 |
| 1:A:199:LEU:CG | 1:A:234:GLN:CA[2_565] | 2.15 | 0.05 |
| 1:A:200:VAL:N | 1:A:235:THR:N[2_565] | 2.15 | 0.05 |
| 1:A:201:GLU:CA | 1:A:219:GLY:O[2_565] | 2.15 | 0.05 |
| 1:A:206:ASP:OD2 | 1:A:218:GLN:CD[2_565] | 2.15 | 0.05 |
| 1:A:213:ARG:N | 1:A:250:ASN:C[2_565] | 2.15 | 0.05 |
| 1:A:214:ILE:O | 1:A:252:ALA:O[2_565] | 2.15 | 0.05 |
| 1:A:216:GLN:CA | 1:A:220:ARG:NH2[2_565] | 2.15 | 0.05 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------------|--------------------------|-------------------|
| 1:A:56:SER:O | 1:A:246:LEU:CG[2_565] | 2.16 | 0.04 |
| 1:A:57:VAL:CG2 | 1:A:227:LEU:CD2[2_565] | 2.16 | 0.04 |
| 1:A:206:ASP:CB | 1:A:218:GLN:CD[2_565] | 2.16 | 0.04 |
| 1:A:210:ALA:O | 1:A:237:SER:C[2_565] | 2.16 | 0.04 |
| 1:A:211:ASP:CA | 1:A:239:GLU:O[2_565] | 2.16 | 0.04 |
| 1:A:215:LEU:CD2 | 1:A:224:ASN:CG[2_565] | 2.16 | 0.04 |
| 1:A:238:PRO:CB | 1:A:253:PHE:O[2_565] | 2.16 | 0.04 |
| 1:A:70:LYS:C | 1:A:232:GLU:CA[2_565] | 2.17 | 0.03 |
| 1:A:199:LEU:CD1 | 1:A:234:GLN:N[2_565] | 2.17 | 0.03 |
| 1:A:201:GLU:N | 1:A:219:GLY:C[2_565] | 2.17 | 0.03 |
| 1:A:212:ILE:CA | 1:A:250:ASN:CA[2_565] | 2.17 | 0.03 |
| 1:A:212:ILE:O | 1:A:250:ASN:N[2_565] | 2.17 | 0.03 |
| 1:A:216:GLN:CG | 1:A:257:MET:O[2_565] | 2.17 | 0.03 |
| 1:A:57:VAL:CA | 1:A:246:LEU:CD2[2_565] | 2.18 | 0.02 |
| 1:A:60:LEU:O | 1:A:247:GLU:N[2_565] | 2.18 | 0.02 |
| 1:A:63:LYS:CG | 1:A:244:SER:OG[2_565] | 2.18 | 0.02 |
| 1:A:68:ALA:C | 1:A:232:GLU:O[2_565] | 2.18 | 0.02 |
| 1:A:70:LYS:N | 1:A:233:PRO:N[2_565] | 2.18 | 0.02 |
| 1:A:201:GLU:O | 1:A:219:GLY:O[2_565] | 2.18 | 0.02 |
| 1:A:202:MET:N | 1:A:220:ARG:N[2_565] | 2.18 | 0.02 |
| 1:A:212:ILE:CG2 | 1:A:237:SER:O[2_565] | 2.18 | 0.02 |
| 1:A:215:LEU:O | 1:A:253:PHE:O[2_565] | 2.18 | 0.02 |
| 1:A:51:ASN:N | 1:A:54:GLN:CA[2_565] | 2.19 | 0.01 |
| 1:A:58:ALA:N | 1:A:227:LEU:CB[2_565] | 2.19 | 0.01 |
| 1:A:59:GLU:C | 1:A:246:LEU:CG[2_565] | 2.19 | 0.01 |
| 1:A:60:LEU:CD1 | 1:A:247:GLU:N[2_565] | 2.19 | 0.01 |
| 1:A:61:GLU:O | 1:A:247:GLU:OE1[2_565] | 2.19 | 0.01 |
| 1:A:63:LYS:N | 1:A:247:GLU:OE2[2_565] | 2.19 | 0.01 |
| 1:A:63:LYS:CE | 1:A:244:SER:CB[2_565] | 2.19 | 0.01 |
| 1:A:64:TYR:CE2 | 1:A:247:GLU:C[2_565] | 2.19 | 0.01 |
| 1:A:181:ILE:CG2 | 1:A:233:PRO:CG[2_565] | 2.19 | 0.01 |
| 1:A:198:ASP:OD1 | 1:A:249:ARG:CZ[2_565] | 2.19 | 0.01 |
| 1:A:201:GLU:OE2 | 1:A:260:GLU:N[2_565] | 2.19 | 0.01 |
| 1:A:203:LYS:N | 1:A:262:THR:C[2_565] | 2.19 | 0.01 |
| 1:A:206:ASP:CB | 1:A:218:GLN:CG[2_565] | 2.19 | 0.01 |
| 1:A:214:ILE:O | 1:A:253:PHE:N[2_565] | 2.19 | 0.01 |
| 1:A:214:ILE:C | 1:A:252:ALA:C[2_565] | 2.19 | 0.01 |
| 1:A:220:ARG:CG | 1:A:264:GLN:N[2_565] | 2.19 | 0.01 |
| 1:A:236:ARG:CA | 1:A:265:GLY:O[2_565] | 2.19 | 0.01 |

5.3 Torsion angles

5.3.1 Protein backbone

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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 | A | 991/1034 (96%) | 950 (96%) | 30 (3%) | 11 (1%) | 12 | 47 |
| 2 | B | 240/290 (83%) | 198 (82%) | 29 (12%) | 13 (5%) | 1 | 15 |
| All | All | 1231/1324 (93%) | 1148 (93%) | 59 (5%) | 24 (2%) | 9 | 32 |

All (24) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 1 | A | 137 | ASP |
| 1 | A | 175 | PRO |
| 1 | A | 375 | THR |
| 1 | A | 603 | PRO |
| 2 | B | 94 | LEU |
| 2 | B | 140 | GLU |
| 2 | B | 219 | PRO |
| 2 | B | 273 | ASN |
| 1 | A | 108 | GLY |
| 1 | A | 135 | THR |
| 1 | A | 601 | ILE |
| 1 | A | 1025 | SER |
| 2 | B | 75 | ASP |
| 2 | B | 128 | SER |
| 2 | B | 193 | ASN |
| 2 | B | 238 | PRO |
| 2 | B | 69 | TYR |
| 2 | B | 76 | GLN |
| 2 | B | 279 | GLU |
| 1 | A | 289 | GLU |
| 1 | A | 510 | PRO |
| 2 | B | 251 | ASN |
| 1 | A | 395 | MET |
| 2 | B | 223 | THR |

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 | A | 840/869 (97%) | 817 (97%) | 23 (3%) | 40 | 58 |
| 2 | B | 215/254 (85%) | 208 (97%) | 7 (3%) | 33 | 52 |
| All | All | 1055/1123 (94%) | 1025 (97%) | 30 (3%) | 40 | 57 |

All (30) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | A | 89 | LEU |
| 1 | A | 122 | ILE |
| 1 | A | 136 | ASP |
| 1 | A | 167 | ILE |
| 1 | A | 176 | GLN |
| 1 | A | 177 | GLN |
| 1 | A | 202 | MET |
| 1 | A | 287 | GLU |
| 1 | A | 289 | GLU |
| 1 | A | 378 | SER |
| 1 | A | 395 | MET |
| 1 | A | 398 | SER |
| 1 | A | 399 | HIS |
| 1 | A | 415 | GLN |
| 1 | A | 451 | VAL |
| 1 | A | 600 | MET |
| 1 | A | 601 | ILE |
| 1 | A | 656 | ARG |
| 1 | A | 666 | ARG |
| 1 | A | 735 | LYS |
| 1 | A | 844 | ARG |
| 1 | A | 906 | ASP |
| 1 | A | 960 | ARG |
| 2 | B | 42 | LEU |
| 2 | B | 60 | TYR |
| 2 | B | 61 | VAL |
| 2 | B | 69 | TYR |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 2 | B | 139 | GLN |
| 2 | B | 254 | ARG |
| 2 | B | 284 | PHE |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (24) such sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 1 | A | 51 | ASN |
| 1 | A | 65 | GLN |
| 1 | A | 127 | GLN |
| 1 | A | 172 | ASN |
| 1 | A | 193 | GLN |
| 1 | A | 216 | GLN |
| 1 | A | 218 | GLN |
| 1 | A | 234 | GLN |
| 1 | A | 242 | HIS |
| 1 | A | 399 | HIS |
| 1 | A | 405 | HIS |
| 1 | A | 415 | GLN |
| 1 | A | 629 | HIS |
| 1 | A | 663 | GLN |
| 1 | A | 706 | GLN |
| 1 | A | 763 | ASN |
| 1 | A | 884 | GLN |
| 1 | A | 913 | GLN |
| 1 | A | 924 | GLN |
| 1 | A | 996 | GLN |
| 1 | A | 1029 | GLN |
| 2 | B | 147 | HIS |
| 2 | B | 227 | HIS |
| 2 | B | 255 | ASN |

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

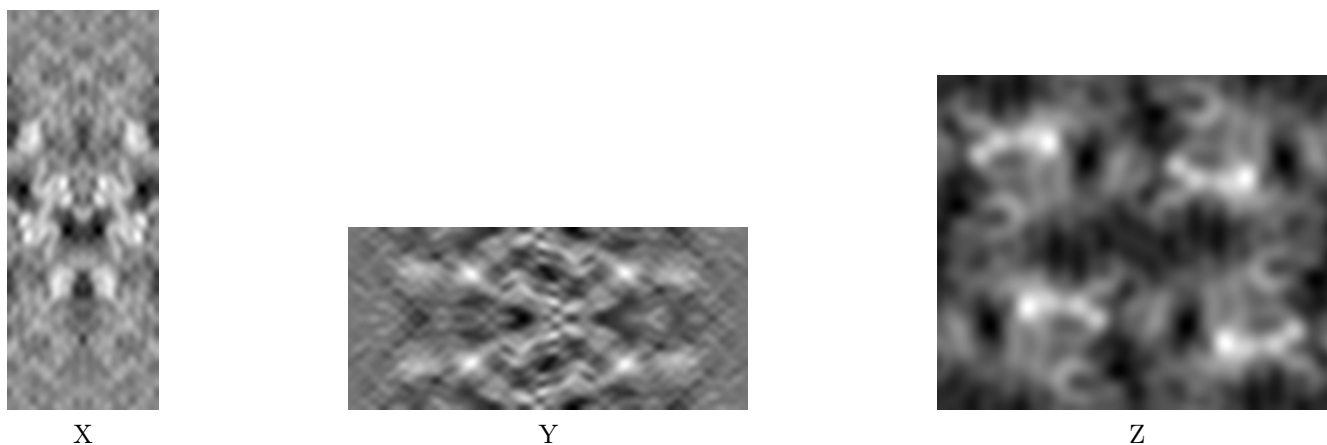
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-2219. 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 [i](#)

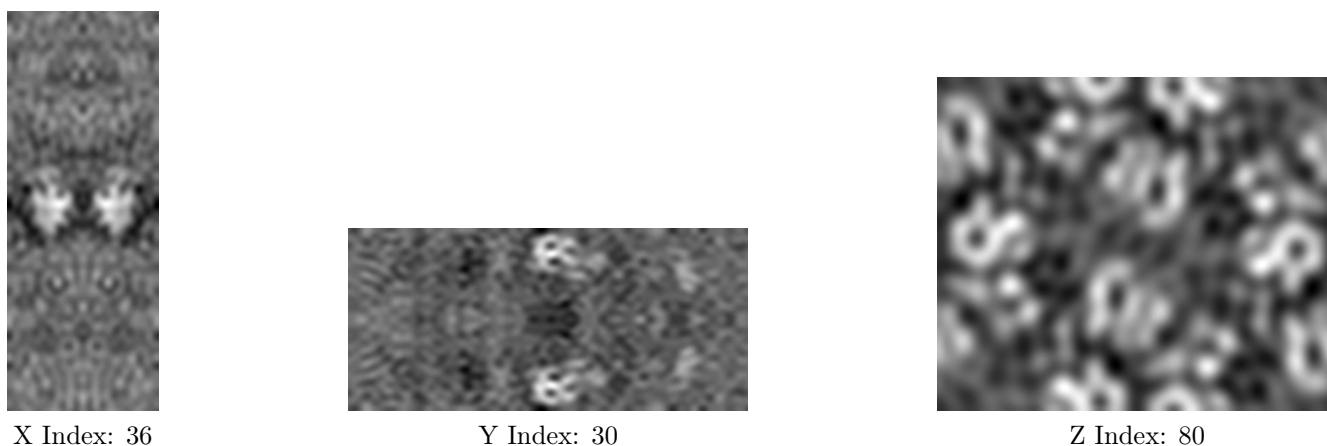
6.1.1 Primary map



The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

6.2.1 Primary map



The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

6.3.1 Primary map



X Index: 18



Y Index: 45

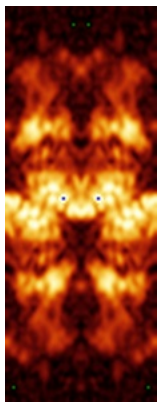


Z Index: 78

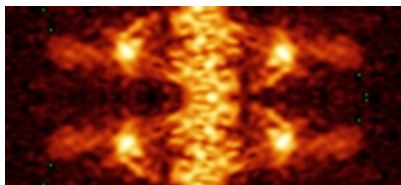
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

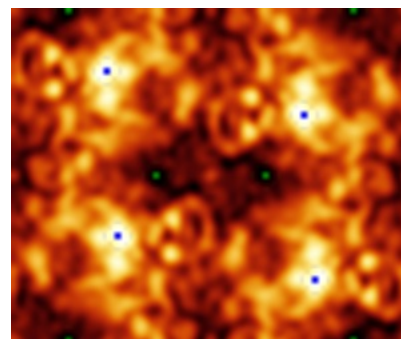
6.4.1 Primary map



X



Y



Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

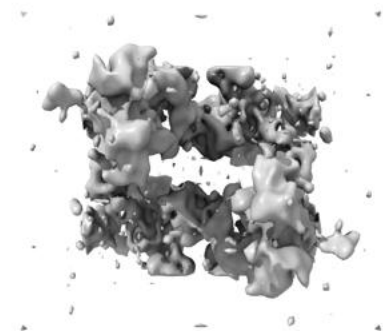
6.5.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 1.2. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

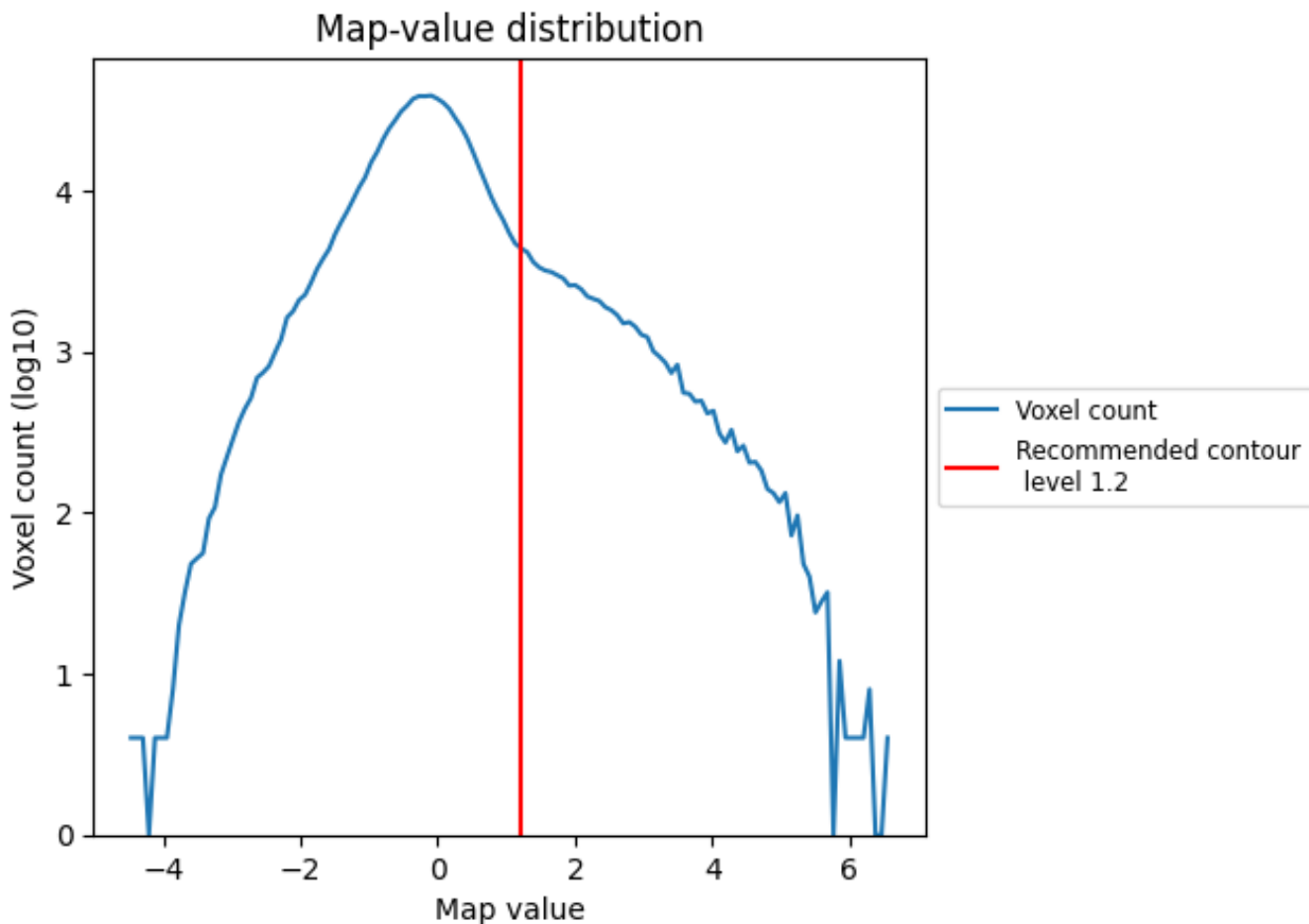
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

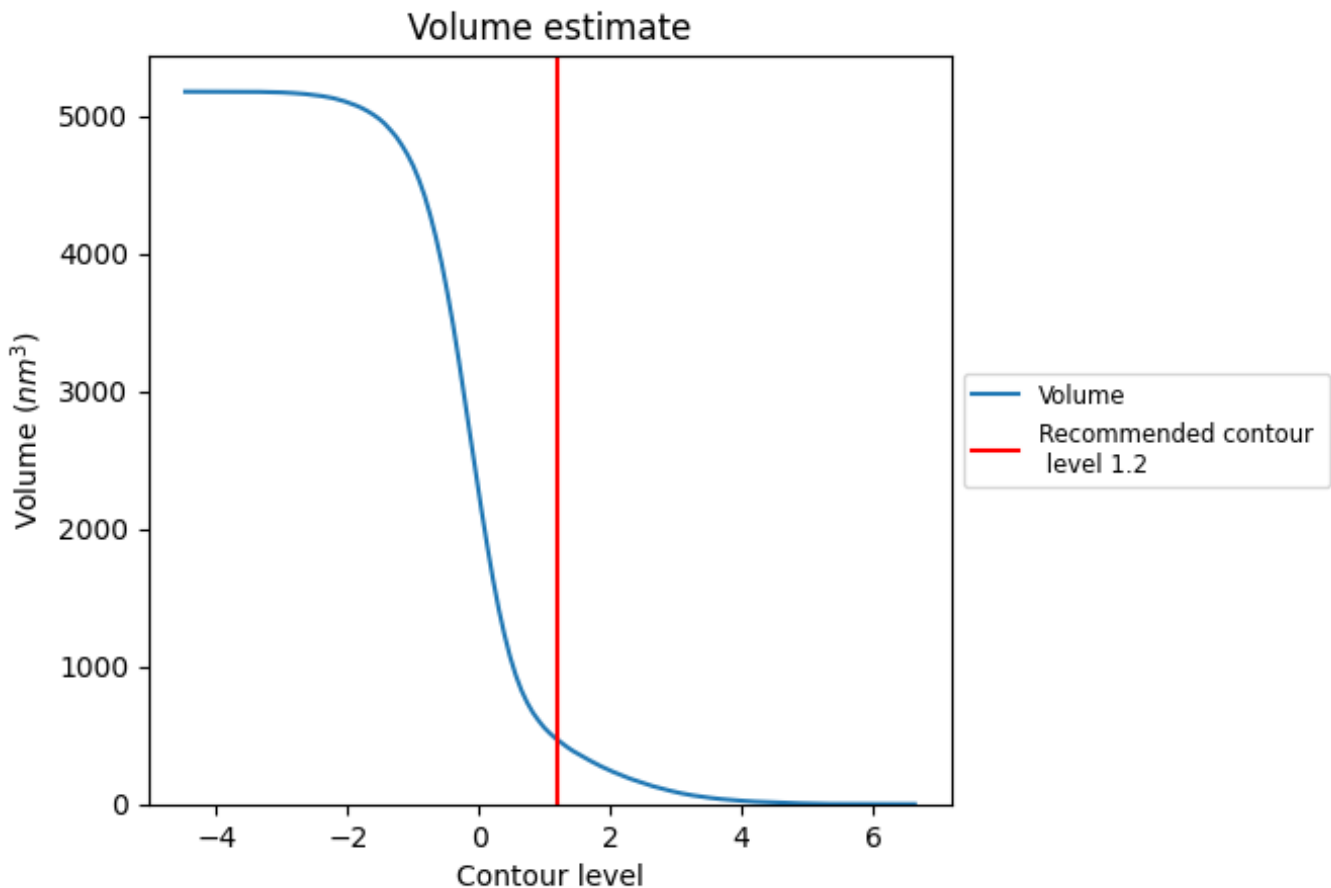
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 467 nm³; this corresponds to an approximate mass of 422 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum [\(i\)](#)

This section was not generated. The rotationally averaged power spectrum is only generated for cubic maps.

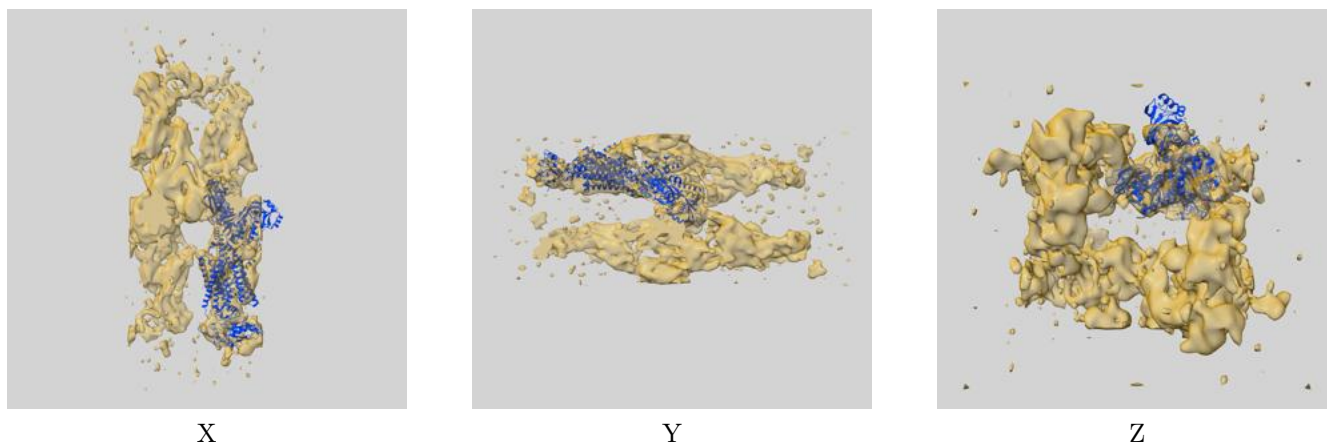
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

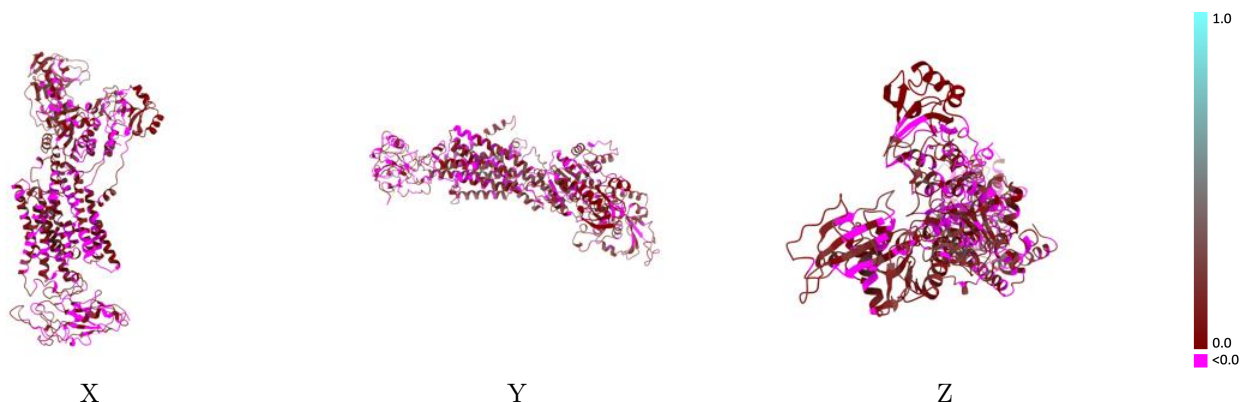
This section contains information regarding the fit between EMDB map EMD-2219 and PDB model 2YN9. Per-residue inclusion information can be found in section 3 on page 4.

9.1 Map-model overlay [i](#)



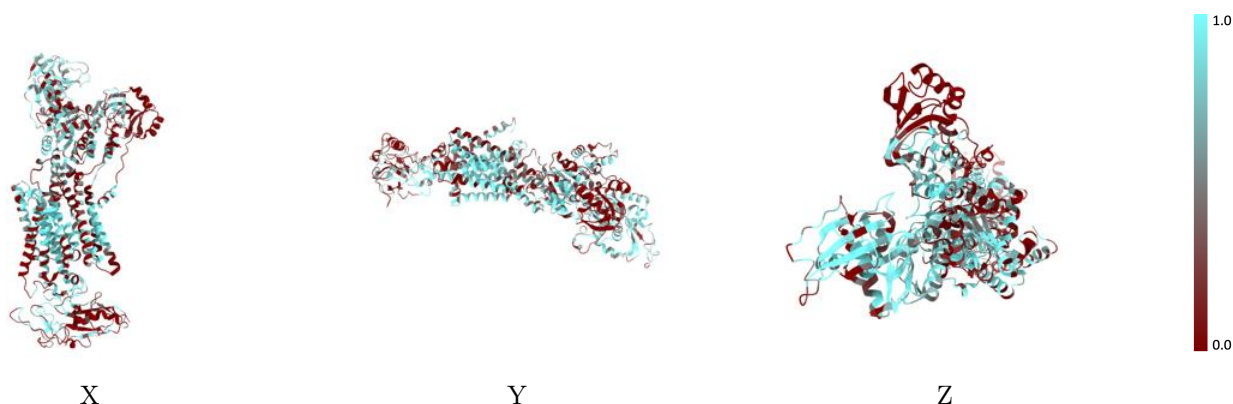
The images above show the 3D surface view of the map at the recommended contour level 1.2 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



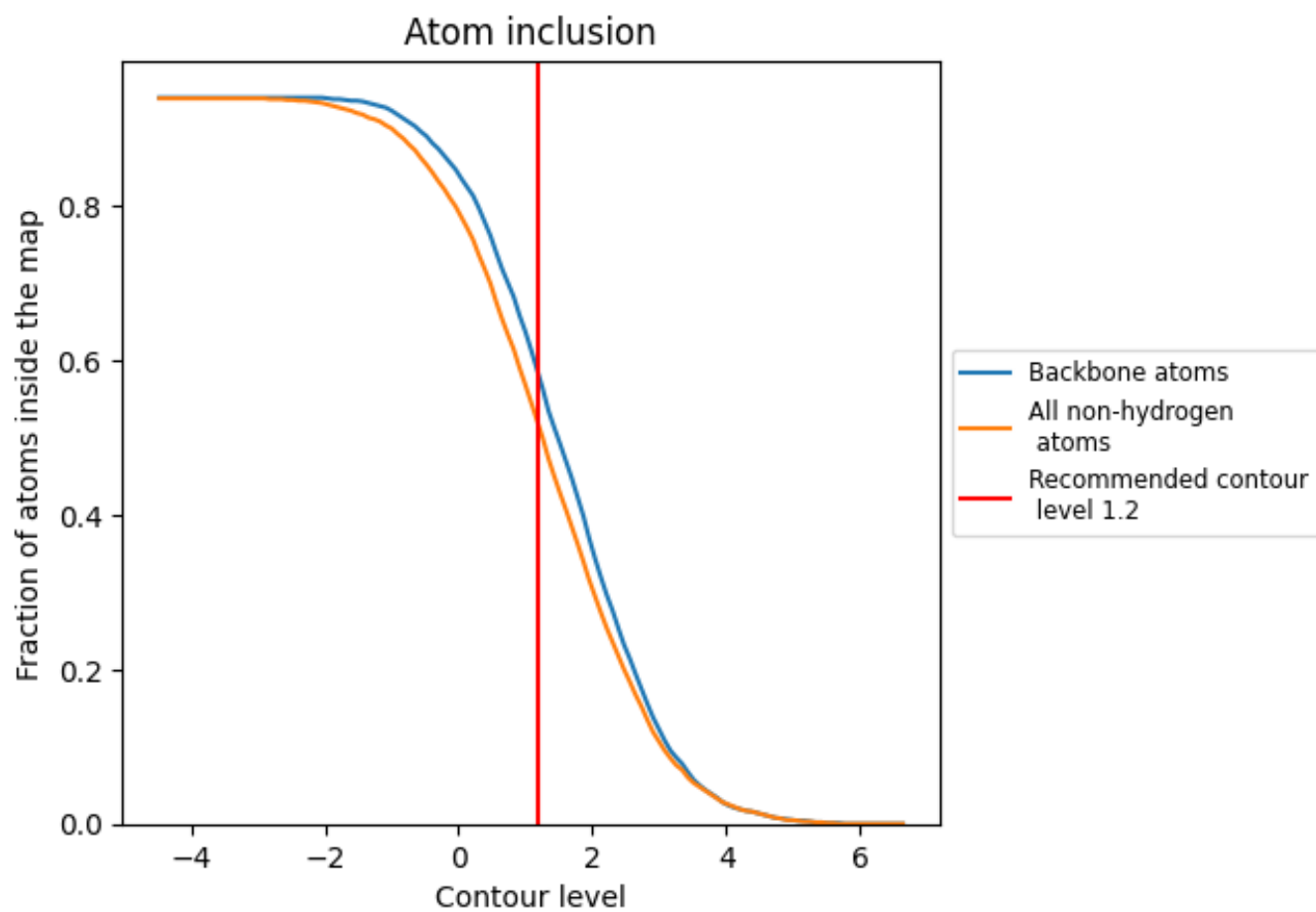
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (1.2).







9.4 Atom inclusion [i](#)



At the recommended contour level, 58% of all backbone atoms, 52% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary [i](#)

The table lists the average atom inclusion at the recommended contour level (1.2) and Q-score for the entire model and for each chain.

| Chain | Atom inclusion | Q-score |
|-------|--|--|
| All |  0.5150 |  0.0590 |
| A |  0.5480 |  0.0650 |
| B |  0.3840 |  0.0320 |

