



Full wwPDB EM Validation Report ⓘ

Sep 28, 2024 – 06:51 pm BST

PDB ID : 4BON
EMDB ID : EMD-2378
Title : The structure and super-organization of acetylcholine receptor-rapsyn complexes class B
Authors : Zuber, B.; Unwin, N.
Deposited on : 2013-05-21
Resolution : 40.00 Å(reported)
Based on initial model : 2BG9

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

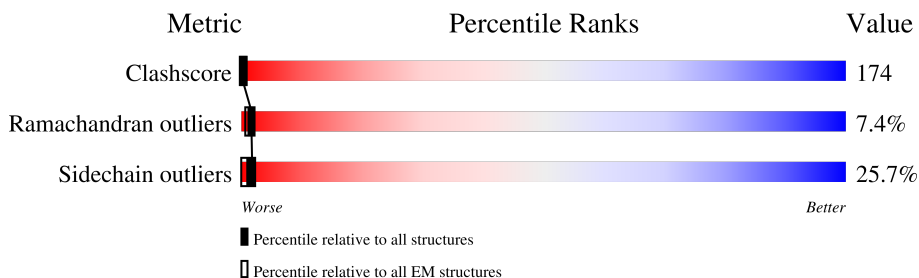
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 40.00 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 | 461 | |
| 1 | D | 461 | |
| 2 | B | 493 | |
| 3 | C | 522 | |
| 4 | E | 505 | |

2 Entry composition [i](#)

There are 4 unique types of molecules in this entry. The entry contains 14924 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 ACETYLCHOLINE RECEPTOR SUBUNIT ALPHA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| | | | Total | C | N | O | S | | |
| 1 | A | 370 | Total | C | N | O | S | 0 | 0 |
| | | | 2991 | 1954 | 478 | 540 | 19 | | |
| 1 | D | 370 | Total | C | N | O | S | 0 | 0 |
| | | | 2991 | 1954 | 478 | 540 | 19 | | |

- Molecule 2 is a protein called ACETYLCHOLINE RECEPTOR BETA SUBUNIT.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| | | | Total | C | N | O | S | | |
| 2 | B | 370 | Total | C | N | O | S | 0 | 0 |
| | | | 2972 | 1938 | 465 | 554 | 15 | | |

- Molecule 3 is a protein called ACETYLCHOLINE RECEPTOR DELTA SUBUNIT.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| | | | Total | C | N | O | S | | |
| 3 | C | 370 | Total | C | N | O | S | 0 | 1 |
| | | | 2983 | 1944 | 489 | 536 | 14 | | |

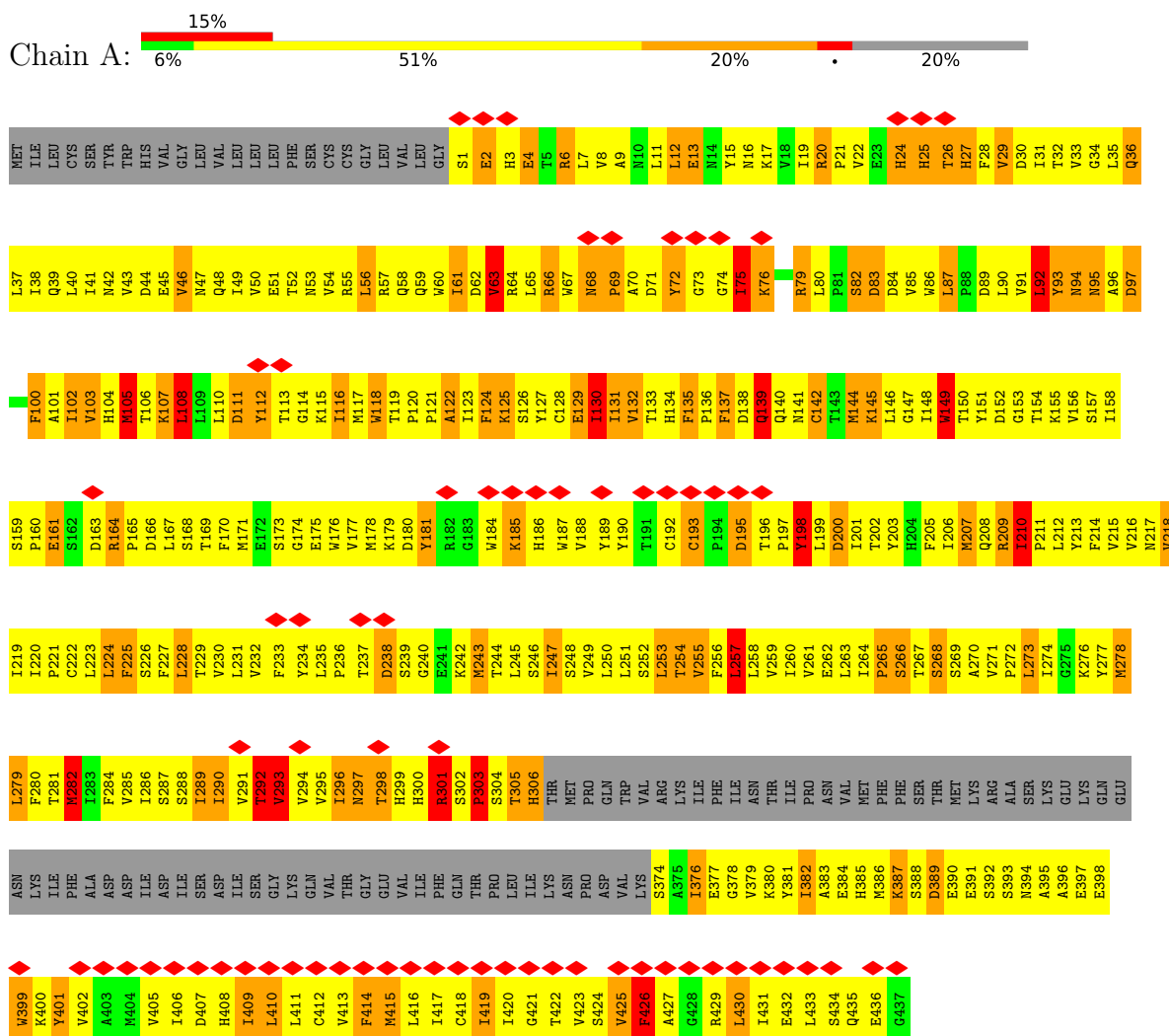
- Molecule 4 is a protein called ACETYLCHOLINE RECEPTOR GAMMA SUBUNIT.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| | | | Total | C | N | O | S | | |
| 4 | E | 371 | Total | C | N | O | S | 0 | 1 |
| | | | 2987 | 1948 | 478 | 551 | 10 | | |

3 Residue-property plots

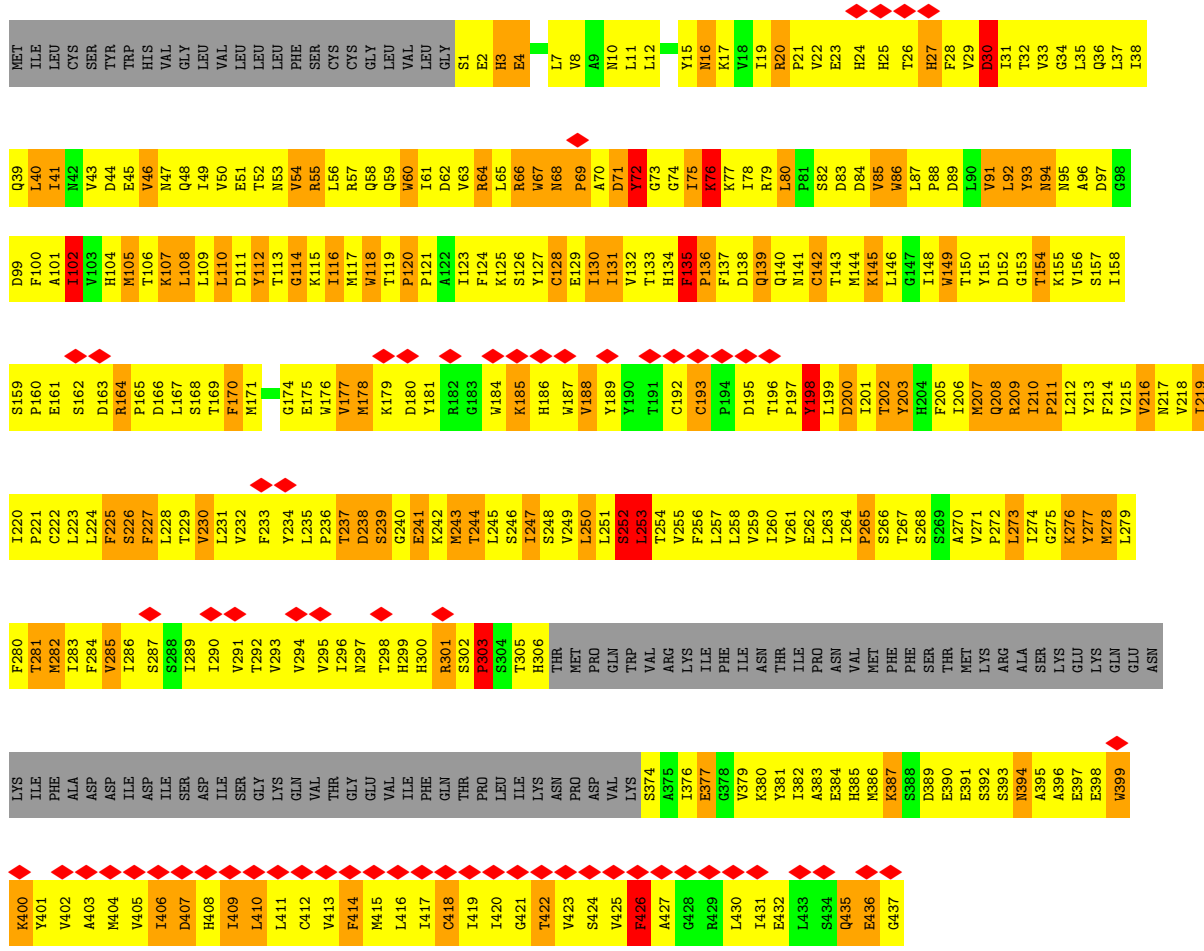
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

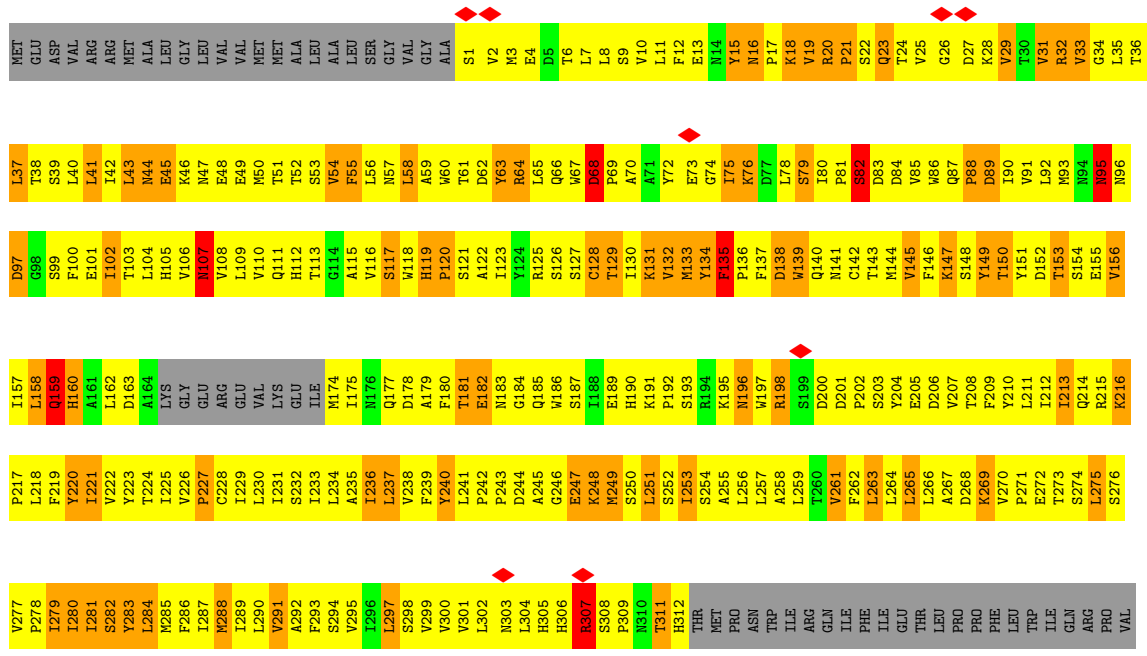


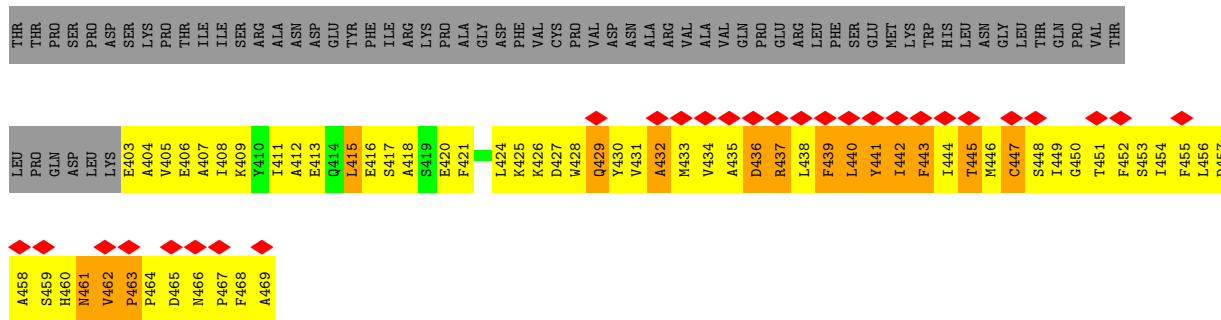
• Molecule 1: ACETYLCHOLINE RECEPTOR SUBUNIT ALPHA



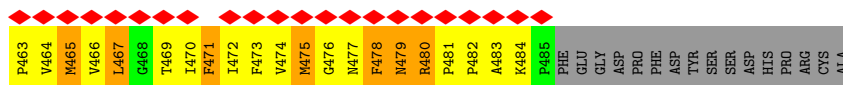
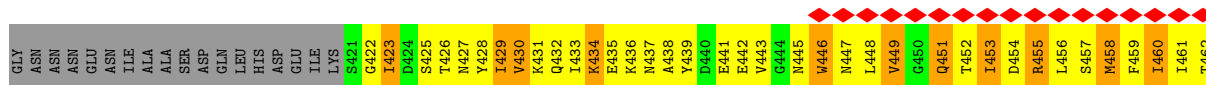
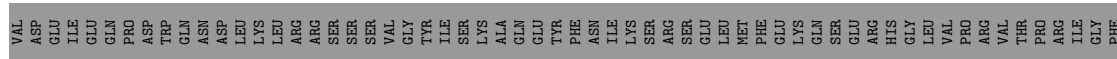
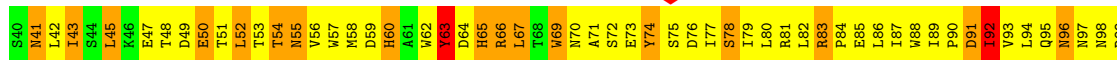


● Molecule 2: ACETYLCHOLINE RECEPTOR BETA SUBUNIT





• Molecule 3: ACETYLCHOLINE RECEPTOR DELTA SUBUNIT



• Molecule 4: ACETYLCHOLINE RECEPTOR GAMMA SUBUNIT



| | | | | | | | |
|------|------|------|------|------|-----|------|------|
| E44 | Y104 | G164 | N224 | K284 | GLU | ASP | A464 |
| K45 | A105 | GLU | I225 | Y285 | LYS | LEU | I465 |
| E46 | N106 | VAL | I226 | L286 | PRO | ALA | F466 |
| E47 | V107 | VAL | A227 | I287 | GLN | ASN | G469 |
| A48 | L108 | GLU | P228 | F288 | PRO | PHE | H470 |
| L49 | V109 | TRP | C229 | V289 | ARG | ALA | L471 |
| T50 | Y110 | ILE | V230 | M290 | ARG | PRO | M472 |
| T51 | M111 | HIS | I231 | F291 | ARG | GLU | Q473 |
| N52 | D112 | I172 | L232 | V292 | SER | ILE | W474 |
| V53 | G113 | D173 | S233 | S293 | SER | S414 | W475 |
| W54 | G114 | P174 | S234 | L294 | PHE | C415 | P476 |
| I55 | M115 | P174 | L235 | V295 | GLY | W416 | E476 |
| E56 | Y116 | E175 | V236 | I296 | ILE | E417 | F477 |
| I57 | W117 | D176 | V237 | V297 | MET | A418 | PRO |
| Q58 | L118 | T178 | L238 | T298 | ILE | C419 | PHE |
| W59 | P119 | E179 | N239 | N299 | LYS | N420 | PRO |
| N60 | P120 | E179 | Y240 | C300 | ALA | F421 | PHE |
| D61 | A121 | M180 | F241 | V301 | GLU | I422 | PRO |
| Y62 | I122 | G181 | L242 | I302 | GLU | A423 | GLY |
| R63 | Y123 | W183 | P243 | V303 | TYR | K424 | ASP |
| L64 | R124 | T184 | A244 | L304 | ILE | S425 | PRO |
| S65 | S125 | I185 | Q245 | N305 | LEU | R426 | ARG |
| W66 | T126 | R186 | A246 | V306 | LYS | K427 | LYS |
| M67 | C127 | H187 | G247 | S307 | LYS | E428 | TYR |
| T68 | P128 | R188 | G248 | L308 | PRO | Q429 | VAL |
| S69 | L129 | P189 | Q249 | R309 | ARG | H430 | PRO |
| E70 | A130 | A190 | K250 | T310 | SER | D431 | |
| Y71 | V131 | K191 | C251 | P311 | GLU | S432 | |
| E72 | T132 | K192 | T252 | N312 | LEU | C433 | |
| G73 | Y133 | Y193 | L253 | T313 | MET | S434 | |
| I74 | F134 | Y194 | S254 | H314 | PHE | E435 | |
| D75 | F135 | N195 | I255 | SER | GLU | N436 | |
| L76 | F136 | W196 | S256 | LEU | GLU | E437 | |
| W77 | D137 | Q197 | V257 | SER | GLN | N438 | |
| R78 | W138 | L198 | L258 | GLU | LYS | W439 | |
| I79 | Q139 | T199 | L259 | LYS | ASP | V440 | |
| P80 | M140 | K200 | A260 | ILE | ARG | L441 | |
| S81 | C141 | D201 | Q261 | LYS | HIS | I442 | |
| E82 | S142 | D202 | T262 | HIS | GLY | C443 | |
| L83 | L143 | I203 | I263 | LEU | LEU | K444 | |
| L84 | V144 | D204 | F264 | PHE | LYS | V445 | |
| W85 | F145 | F205 | Q206 | GLU | ARG | I446 | |
| L86 | R146 | Q206 | E207 | PHE | VAL | D447 | |
| P87 | S147 | E207 | L267 | PHE | ASN | K448 | |
| V88 | Q148 | I208 | I268 | LEU | LYS | A449 | |
| V90 | T149 | I209 | A269 | PRO | MET | C450 | |
| L91 | Y150 | F210 | Q270 | LYS | THR | F451 | |
| E92 | M151 | F211 | K271 | TYR | SER | W452 | |
| N93 | A152 | L212 | V272 | LEU | ASP | I453 | |
| N94 | H153 | L213 | P273 | GLY | ILE | A454 | |
| E95 | E154 | I214 | E274 | MET | ASP | L455 | |
| V95 | V155 | Q215 | T275 | HIS | ILE | L456 | |
| D96 | M156 | R216 | S276 | LEU | GLY | L457 | |
| G97 | L157 | K217 | L277 | GLU | THR | F458 | |
| Q98 | Q158 | P218 | W278 | PRO | THR | S459 | |
| F99 | L159 | L219 | V279 | SER | VAL | L460 | |
| E100 | S160 | F220 | P280 | GLU | ASP | G461 | |
| V101 | A161 | Y221 | L281 | GLU | LEU | T462 | |
| A102 | E162 | I222 | I282 | THR | TYR | L463 | |
| Y103 | E163 | I223 | G283 | PRO | LYS | | |

4 Experimental information

| Property | Value | Source |
|--------------------------------------|--------------------------------|-----------|
| EM reconstruction method | TOMOGRAPHY | Depositor |
| Imposed symmetry | POINT, Not provided | |
| Number of tilted images used | 3564 | Depositor |
| Resolution determination method | Not provided | |
| CTF correction method | Not provided | |
| Microscope | FEI TECNAI F30 | Depositor |
| Voltage (kV) | 300 | Depositor |
| Electron dose ($e^-/\text{\AA}^2$) | 50 | Depositor |
| Minimum defocus (nm) | 3000 | Depositor |
| Maximum defocus (nm) | 6000 | Depositor |
| Magnification | 80213 | Depositor |
| Image detector | GATAN ULTRASCAN 4000 (4k x 4k) | Depositor |
| Maximum voxel value | 1.798 | Depositor |
| Minimum voxel value | -0.712 | Depositor |
| Average voxel value | 0.000 | Depositor |
| Voxel value standard deviation | 0.080 | Depositor |
| Recommended contour level | 0.362 | Depositor |
| Tomogram size (\AA) | 448.8, 448.8, 448.8 | wwPDB |
| Tomogram dimensions | 60, 60, 60 | wwPDB |
| Tomogram angles ($^\circ$) | 90.0, 90.0, 90.0 | wwPDB |
| Grid spacing (\AA) | 7.48, 7.48, 7.48 | 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 | 0.72 | 3/3069 (0.1%) | 1.03 | 10/4186 (0.2%) |
| 1 | D | 0.74 | 2/3069 (0.1%) | 1.01 | 6/4186 (0.1%) |
| 2 | B | 0.76 | 2/3048 (0.1%) | 0.99 | 4/4162 (0.1%) |
| 3 | C | 0.74 | 2/3059 (0.1%) | 1.03 | 9/4175 (0.2%) |
| 4 | E | 0.73 | 6/3057 (0.2%) | 1.01 | 9/4174 (0.2%) |
| All | All | 0.74 | 15/15302 (0.1%) | 1.01 | 38/20883 (0.2%) |

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

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 1 | D | 0 | 2 |
| 3 | C | 0 | 2 |
| All | All | 0 | 4 |

All (15) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|-------|-------|-------------|----------|
| 2 | B | 129 | THR | C-N | -8.42 | 1.14 | 1.34 |
| 1 | A | 118 | TRP | CB-CG | 7.92 | 1.64 | 1.50 |
| 1 | D | 208 | GLN | C-N | 7.56 | 1.51 | 1.34 |
| 4 | E | 8 | GLU | CB-CG | 6.52 | 1.64 | 1.52 |
| 3 | C | 265 | LEU | C-N | 6.19 | 1.48 | 1.34 |
| 3 | C | 130 | CYS | C-N | 6.02 | 1.45 | 1.34 |
| 1 | A | 222 | CYS | CB-SG | -5.88 | 1.72 | 1.81 |
| 4 | E | 8 | GLU | CG-CD | 5.61 | 1.60 | 1.51 |
| 4 | E | 126 | THR | C-N | -5.33 | 1.21 | 1.34 |
| 4 | E | 311 | PRO | N-CD | 5.33 | 1.55 | 1.47 |
| 4 | E | 306 | VAL | C-N | -5.27 | 1.22 | 1.34 |
| 2 | B | 159 | GLN | C-N | 5.13 | 1.45 | 1.34 |
| 1 | D | 140 | GLN | C-N | -5.10 | 1.22 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|-------|-------|-------------|----------|
| 4 | E | 134 | PHE | C-N | 5.06 | 1.43 | 1.34 |
| 1 | A | 122 | ALA | C-N | -5.04 | 1.22 | 1.34 |

All (38) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 3 | C | 266 | ALA | N-CA-CB | 10.39 | 124.65 | 110.10 |
| 4 | E | 198 | LEU | CA-CB-CG | 7.20 | 131.86 | 115.30 |
| 3 | C | 315 | ARG | NE-CZ-NH2 | 7.16 | 123.88 | 120.30 |
| 1 | A | 209 | ARG | NE-CZ-NH2 | 7.10 | 123.85 | 120.30 |
| 4 | E | 263 | ILE | CG1-CB-CG2 | -6.67 | 96.73 | 111.40 |
| 3 | C | 92 | ILE | O-C-N | 6.42 | 132.97 | 122.70 |
| 1 | D | 209 | ARG | NE-CZ-NH2 | 6.39 | 123.50 | 120.30 |
| 4 | E | 265 | LEU | CA-CB-CG | 6.32 | 129.84 | 115.30 |
| 3 | C | 190 | TRP | O-C-N | 6.30 | 132.78 | 122.70 |
| 1 | D | 253 | LEU | CA-CB-CG | 6.09 | 129.30 | 115.30 |
| 1 | A | 253 | LEU | CA-CB-CG | 6.04 | 129.19 | 115.30 |
| 1 | A | 149 | TRP | CA-CB-CG | 5.99 | 125.08 | 113.70 |
| 2 | B | 159 | GLN | O-C-N | 5.92 | 132.17 | 122.70 |
| 4 | E | 203 | ILE | N-CA-C | -5.81 | 95.31 | 111.00 |
| 4 | E | 443 | GLY | N-CA-C | 5.79 | 127.59 | 113.10 |
| 3 | C | 67 | LEU | CA-CB-CG | 5.73 | 128.48 | 115.30 |
| 2 | B | 44 | ASN | N-CA-C | -5.73 | 95.54 | 111.00 |
| 1 | D | 178 | MET | CG-SD-CE | 5.66 | 109.26 | 100.20 |
| 3 | C | 281 | THR | O-C-N | 5.60 | 131.66 | 122.70 |
| 4 | E | 238 | LEU | N-CA-C | -5.51 | 96.13 | 111.00 |
| 1 | D | 410 | LEU | CA-CB-CG | 5.47 | 127.89 | 115.30 |
| 1 | A | 301 | ARG | N-CA-C | 5.45 | 125.71 | 111.00 |
| 1 | D | 128 | CYS | CA-CB-SG | 5.44 | 123.79 | 114.00 |
| 1 | A | 257 | LEU | CB-CG-CD1 | -5.43 | 101.78 | 111.00 |
| 2 | B | 297 | LEU | CA-CB-CG | -5.41 | 102.86 | 115.30 |
| 4 | E | 141 | CYS | CA-CB-SG | 5.35 | 123.63 | 114.00 |
| 3 | C | 151 | LEU | CA-CB-CG | 5.29 | 127.47 | 115.30 |
| 1 | D | 102 | ILE | CG1-CB-CG2 | -5.29 | 99.77 | 111.40 |
| 1 | A | 92 | LEU | CA-CB-CG | 5.24 | 127.36 | 115.30 |
| 2 | B | 441 | TYR | N-CA-C | -5.17 | 97.04 | 111.00 |
| 3 | C | 222 | ARG | NE-CZ-NH1 | 5.14 | 122.87 | 120.30 |
| 3 | C | 190 | TRP | CA-C-N | -5.13 | 105.90 | 117.20 |
| 1 | A | 108 | LEU | CA-CB-CG | 5.13 | 127.09 | 115.30 |
| 1 | A | 411 | LEU | CA-CB-CG | 5.12 | 127.08 | 115.30 |
| 4 | E | 308 | LEU | CA-CB-CG | 5.11 | 127.04 | 115.30 |
| 1 | A | 228 | LEU | CA-CB-CG | 5.10 | 127.04 | 115.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|--------|-------|-------------|----------|
| 4 | E | 134 | PHE | C-N-CD | 5.06 | 139.03 | 128.40 |
| 1 | A | 130 | ILE | N-CA-C | -5.01 | 97.47 | 111.00 |

There are no chirality outliers.

All (4) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 3 | C | 63 | TYR | Sidechain |
| 3 | C | 74 | TYR | Sidechain |
| 1 | D | 277 | TYR | Sidechain |
| 1 | D | 72 | TYR | Sidechain |

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 | 2991 | 0 | 3005 | 1066 | 0 |
| 1 | D | 2991 | 0 | 3006 | 1057 | 0 |
| 2 | B | 2972 | 0 | 2953 | 1081 | 0 |
| 3 | C | 2983 | 0 | 2987 | 1155 | 0 |
| 4 | E | 2987 | 0 | 2994 | 1100 | 0 |
| All | All | 14924 | 0 | 14945 | 5204 | 0 |

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 174.

All (5204) 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) |
|------------------|------------------|--------------------------|-------------------|
| 4:E:183:TRP:CB | 4:E:216:ARG:HG2 | 1.33 | 1.56 |
| 2:B:134:TYR:CE1 | 2:B:213:ILE:HG13 | 1.44 | 1.49 |
| 1:A:167:LEU:HD12 | 1:A:178:MET:CB | 1.43 | 1.46 |
| 1:A:167:LEU:CD1 | 1:A:178:MET:HB2 | 1.46 | 1.44 |
| 3:C:316:THR:CG2 | 3:C:447:ASN:HB3 | 1.53 | 1.36 |
| 3:C:316:THR:CG2 | 3:C:317:PRO:HD2 | 1.53 | 1.35 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:148:PHE:HB2 | 3:C:215:VAL:CG2 | 1.56 | 1.31 |
| 1:D:261:VAL:O | 1:D:265:PRO:HD2 | 1.22 | 1.30 |
| 4:E:284:LYS:N | 4:E:284:LYS:HE3 | 1.47 | 1.29 |
| 4:E:135:PRO:HG2 | 4:E:137:ASP:O | 1.32 | 1.28 |
| 2:B:141:ASN:ND2 | 2:B:212:ILE:HG12 | 1.48 | 1.28 |
| 3:C:162:LEU:HD11 | 3:C:217:PHE:CE1 | 1.69 | 1.26 |
| 1:D:45:GLU:HG2 | 1:D:272:PRO:CG | 1.63 | 1.26 |
| 4:E:183:TRP:HB3 | 4:E:216:ARG:CG | 1.64 | 1.26 |
| 2:B:47:ASN:O | 2:B:48:GLU:HG2 | 1.36 | 1.25 |
| 4:E:44:GLU:HG3 | 4:E:129:ILE:CG1 | 1.68 | 1.23 |
| 4:E:182:GLU:HB2 | 4:E:216:ARG:NH2 | 1.55 | 1.21 |
| 1:A:251:LEU:HD22 | 4:E:260:ALA:CB | 1.69 | 1.21 |
| 1:D:64:ARG:HA | 1:D:66:ARG:NH1 | 1.55 | 1.21 |
| 3:C:447:ASN:O | 3:C:449:VAL:HG23 | 1.38 | 1.21 |
| 3:C:189:GLU:O | 3:C:223:ARG:HG3 | 1.40 | 1.20 |
| 2:B:258:ALA:CB | 3:C:265:LEU:HD22 | 1.72 | 1.20 |
| 1:D:92:LEU:HB3 | 1:D:95:ASN:HB2 | 1.22 | 1.19 |
| 1:A:41:ILE:HD11 | 1:A:51:GLU:OE1 | 1.43 | 1.19 |
| 3:C:445:ASN:HA | 3:C:448:LEU:HG | 1.22 | 1.19 |
| 1:D:255:VAL:O | 1:D:259:VAL:HG23 | 1.41 | 1.19 |
| 1:D:35:LEU:CD1 | 1:D:54:VAL:HG11 | 1.70 | 1.18 |
| 4:E:132:THR:O | 4:E:135:PRO:HD3 | 1.43 | 1.18 |
| 4:E:195:ASN:H | 4:E:204:ASP:HB3 | 1.07 | 1.18 |
| 1:A:187:TRP:CZ2 | 1:A:196:THR:HG23 | 1.80 | 1.17 |
| 2:B:95:ASN:HB3 | 2:B:126:SER:HB2 | 1.27 | 1.17 |
| 2:B:425:LYS:HA | 2:B:428:TRP:CD1 | 1.78 | 1.17 |
| 2:B:230:LEU:HA | 2:B:233:ILE:HG13 | 1.19 | 1.17 |
| 4:E:241:PHE:HA | 4:E:450:CYS:SG | 1.84 | 1.17 |
| 3:C:311:ASN:O | 3:C:315:ARG:HB3 | 1.45 | 1.17 |
| 1:A:134:HIS:C | 1:A:136:PRO:HD2 | 1.64 | 1.16 |
| 3:C:97:ASN:ND2 | 3:C:146:LEU:HG | 1.59 | 1.15 |
| 1:D:102:ILE:HG13 | 4:E:98:GLN:NE2 | 1.59 | 1.15 |
| 1:D:167:LEU:HD11 | 1:D:178:MET:HB3 | 1.21 | 1.15 |
| 4:E:44:GLU:CG | 4:E:129:ILE:HB | 1.74 | 1.15 |
| 4:E:59:TRP:C | 4:E:60:ASN:HD22 | 1.49 | 1.15 |
| 4:E:311:PRO:HD2 | 4:E:440:VAL:HG13 | 1.24 | 1.15 |
| 1:A:137:PHE:O | 1:A:435:GLN:HG3 | 1.44 | 1.15 |
| 1:D:135:PHE:HB2 | 1:D:209:ARG:HB3 | 1.24 | 1.15 |
| 4:E:236:VAL:HA | 4:E:239:VAL:CG2 | 1.77 | 1.15 |
| 4:E:249:GLN:NE2 | 4:E:250:LYS:HE3 | 1.61 | 1.14 |
| 1:A:235:LEU:HD11 | 1:A:242:LYS:HE3 | 1.23 | 1.14 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:E:172:ILE:HG13 | 4:E:174:PRO:HD2 | 1.30 | 1.14 |
| 4:E:183:TRP:CB | 4:E:216:ARG:CG | 2.22 | 1.14 |
| 1:A:130:ILE:HD13 | 1:A:131:ILE:N | 1.61 | 1.14 |
| 2:B:279:ILE:HG22 | 2:B:280:ILE:H | 0.97 | 1.14 |
| 4:E:183:TRP:HB2 | 4:E:216:ARG:HG2 | 1.29 | 1.14 |
| 1:A:107:LYS:CE | 2:B:150:THR:HG22 | 1.77 | 1.13 |
| 3:C:309:VAL:O | 3:C:313:HIS:HB3 | 1.48 | 1.13 |
| 4:E:44:GLU:HG3 | 4:E:129:ILE:CB | 1.78 | 1.13 |
| 4:E:262:THR:OG1 | 4:E:265:LEU:HD12 | 1.48 | 1.13 |
| 3:C:273:LEU:HA | 3:C:276:GLN:HG2 | 1.17 | 1.13 |
| 1:D:250:LEU:HD13 | 1:D:296:ILE:HD13 | 1.31 | 1.12 |
| 4:E:91:LEU:HD13 | 4:E:145:PHE:HB3 | 1.20 | 1.13 |
| 1:D:43:VAL:HG13 | 1:D:49:ILE:O | 1.48 | 1.12 |
| 4:E:107:VAL:HG13 | 4:E:117:TRP:HB2 | 1.25 | 1.12 |
| 1:A:165:PRO:HG2 | 1:A:168:SER:HB3 | 1.28 | 1.12 |
| 1:D:17:LYS:HG2 | 1:D:84:ASP:HA | 1.26 | 1.12 |
| 1:D:145:LYS:CG | 1:D:202:THR:HG23 | 1.78 | 1.12 |
| 2:B:37:LEU:HD23 | 2:B:179:ALA:HB3 | 1.26 | 1.12 |
| 2:B:134:TYR:CE1 | 2:B:213:ILE:CG1 | 2.33 | 1.12 |
| 1:A:57:ARG:HA | 1:A:119:THR:HG22 | 1.20 | 1.11 |
| 4:E:271:LYS:HZ3 | 4:E:271:LYS:HB2 | 1.13 | 1.11 |
| 3:C:230:ILE:HG13 | 3:C:231:ASN:HD22 | 1.15 | 1.11 |
| 2:B:258:ALA:HB2 | 3:C:265:LEU:HD13 | 1.31 | 1.11 |
| 1:A:148:ILE:HD11 | 1:A:156:VAL:HG13 | 1.31 | 1.10 |
| 2:B:46:LYS:CB | 2:B:278:PRO:HD2 | 1.81 | 1.10 |
| 1:D:45:GLU:HG2 | 1:D:272:PRO:HG2 | 1.25 | 1.10 |
| 4:E:135:PRO:HB2 | 4:E:137:ASP:OD1 | 1.49 | 1.10 |
| 2:B:160:HIS:NE2 | 2:B:207:VAL:HG11 | 1.66 | 1.10 |
| 4:E:44:GLU:HA | 4:E:129:ILE:CD1 | 1.82 | 1.10 |
| 1:A:107:LYS:HE3 | 2:B:150:THR:O | 1.52 | 1.10 |
| 1:A:145:LYS:HG3 | 1:A:202:THR:HG22 | 1.27 | 1.10 |
| 3:C:142:GLN:HG3 | 3:C:143:ASN:H | 0.95 | 1.10 |
| 1:A:118:TRP:CD1 | 1:A:120:PRO:HD3 | 1.85 | 1.09 |
| 2:B:248:LYS:HD3 | 2:B:252:SER:HB3 | 1.11 | 1.09 |
| 3:C:77:ILE:CD1 | 3:C:80:LEU:HD13 | 1.82 | 1.09 |
| 1:D:296:ILE:HA | 1:D:299:HIS:HB2 | 1.32 | 1.09 |
| 4:E:265:LEU:HD21 | 4:E:296:ILE:HD11 | 1.18 | 1.09 |
| 1:D:167:LEU:HD11 | 1:D:178:MET:CB | 1.83 | 1.09 |
| 4:E:236:VAL:CA | 4:E:239:VAL:HG23 | 1.83 | 1.09 |
| 1:A:251:LEU:HD13 | 4:E:260:ALA:HB2 | 1.30 | 1.09 |
| 2:B:134:TYR:H | 2:B:279:ILE:HG12 | 1.17 | 1.09 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:35:LEU:HD23 | 1:D:164:ARG:HH12 | 1.09 | 1.09 |
| 4:E:20:PRO:HG2 | 4:E:28:ILE:HD12 | 1.35 | 1.09 |
| 4:E:47:GLU:HA | 4:E:129:ILE:HD11 | 1.24 | 1.09 |
| 1:A:38:ILE:O | 1:A:39:GLN:HG3 | 1.50 | 1.09 |
| 1:A:296:ILE:HA | 1:A:299:HIS:HB2 | 1.28 | 1.09 |
| 2:B:223:TYR:O | 2:B:227:PRO:HD3 | 1.50 | 1.09 |
| 2:B:306:HIS:HA | 2:B:312:HIS:O | 1.50 | 1.09 |
| 1:A:130:ILE:HD13 | 1:A:131:ILE:H | 0.97 | 1.09 |
| 2:B:153:THR:HB | 2:B:204:TYR:HB2 | 1.18 | 1.09 |
| 1:D:253:LEU:HD23 | 1:D:254:THR:N | 1.68 | 1.08 |
| 2:B:46:LYS:HB2 | 2:B:278:PRO:HD2 | 1.16 | 1.08 |
| 1:D:65:LEU:HD23 | 1:D:110:LEU:HD22 | 1.35 | 1.08 |
| 1:D:145:LYS:C | 1:D:146:LEU:HD12 | 1.74 | 1.08 |
| 4:E:242:LEU:HD11 | 4:E:253:LEU:HD21 | 1.35 | 1.08 |
| 4:E:249:GLN:HE22 | 4:E:250:LYS:HE3 | 1.01 | 1.08 |
| 1:A:20:ARG:HH11 | 1:A:20:ARG:CG | 1.64 | 1.08 |
| 3:C:190:TRP:CB | 3:C:223:ARG:HB2 | 1.84 | 1.08 |
| 3:C:434:LYS:HD3 | 3:C:435:GLU:HG3 | 1.10 | 1.08 |
| 1:D:20:ARG:HH11 | 1:D:20:ARG:CG | 1.66 | 1.08 |
| 1:D:89:ASP:OD2 | 1:D:150:THR:HG22 | 1.53 | 1.08 |
| 1:A:137:PHE:CE1 | 1:A:210:ILE:HD12 | 1.88 | 1.08 |
| 3:C:316:THR:HG21 | 3:C:447:ASN:HB3 | 1.16 | 1.08 |
| 3:C:69:TRP:HZ2 | 3:C:112:VAL:HG11 | 1.12 | 1.07 |
| 4:E:236:VAL:HA | 4:E:239:VAL:HG23 | 1.12 | 1.07 |
| 2:B:406:GLU:HA | 2:B:409:LYS:HD2 | 1.30 | 1.07 |
| 3:C:154:ASN:HB3 | 3:C:211:ASN:HB3 | 1.36 | 1.07 |
| 3:C:190:TRP:CD1 | 3:C:221:ILE:HD12 | 1.88 | 1.07 |
| 1:D:145:LYS:HG3 | 1:D:202:THR:CG2 | 1.84 | 1.07 |
| 2:B:189:GLU:HG3 | 2:B:468:PHE:HB3 | 1.28 | 1.07 |
| 3:C:246:ALA:O | 3:C:250:PRO:HD3 | 1.55 | 1.07 |
| 4:E:233:SER:O | 4:E:237:VAL:HG23 | 1.54 | 1.07 |
| 3:C:60:HIS:CD2 | 3:C:92:ILE:HD13 | 1.89 | 1.07 |
| 3:C:93:VAL:HG11 | 3:C:151:LEU:HD13 | 1.25 | 1.06 |
| 1:A:38:ILE:CD1 | 1:A:55:ARG:HG3 | 1.84 | 1.06 |
| 2:B:216:LYS:HE3 | 2:B:216:LYS:H | 1.05 | 1.06 |
| 3:C:316:THR:HG22 | 3:C:317:PRO:HD2 | 1.10 | 1.06 |
| 4:E:189:PRO:HD2 | 4:E:211:PHE:HB2 | 1.08 | 1.06 |
| 3:C:227:PHE:O | 3:C:230:ILE:HG12 | 1.54 | 1.06 |
| 3:C:45:LEU:HD12 | 3:C:190:TRP:CE3 | 1.91 | 1.06 |
| 1:D:35:LEU:CG | 1:D:54:VAL:HG11 | 1.84 | 1.06 |
| 2:B:9:SER:HA | 2:B:12:PHE:CE1 | 1.90 | 1.06 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:134:TYR:HE1 | 2:B:213:ILE:CG1 | 1.68 | 1.06 |
| 3:C:318:SER:HB2 | 3:C:447:ASN:HD22 | 1.18 | 1.06 |
| 1:D:29:VAL:HG12 | 1:D:60:TRP:CD1 | 1.90 | 1.06 |
| 1:D:261:VAL:HA | 1:D:264:ILE:HD12 | 1.08 | 1.06 |
| 1:A:63:VAL:O | 1:A:66:ARG:HD2 | 1.56 | 1.05 |
| 3:C:69:TRP:HB3 | 3:C:73:GLU:HB2 | 1.38 | 1.05 |
| 2:B:272:GLU:HA | 2:B:275:LEU:HG | 1.34 | 1.05 |
| 3:C:159:SER:HA | 3:C:213:GLN:HG3 | 1.34 | 1.05 |
| 4:E:94:ASN:HD22 | 4:E:125:SER:HB2 | 1.17 | 1.05 |
| 4:E:67:ASN:HD22 | 4:E:67:ASN:N | 1.53 | 1.05 |
| 4:E:75:ASP:HB3 | 4:E:110:TYR:CE1 | 1.92 | 1.05 |
| 4:E:246:ALA:HB1 | 4:E:250:LYS:HG3 | 1.39 | 1.05 |
| 1:A:235:LEU:HA | 2:B:306:HIS:CD2 | 1.92 | 1.05 |
| 2:B:409:LYS:HB3 | 3:C:426:THR:HG21 | 1.35 | 1.05 |
| 4:E:183:TRP:HB3 | 4:E:216:ARG:HG2 | 1.05 | 1.05 |
| 1:A:87:LEU:HD22 | 1:A:87:LEU:H | 1.13 | 1.04 |
| 1:D:216:VAL:O | 1:D:220:ILE:HG13 | 1.57 | 1.04 |
| 1:A:277:TYR:HA | 1:A:280:PHE:CZ | 1.92 | 1.04 |
| 3:C:87:ILE:HD12 | 3:C:110:VAL:HB | 1.07 | 1.04 |
| 3:C:130:CYS:SG | 3:C:146:LEU:HD11 | 1.97 | 1.04 |
| 3:C:251:ALA:CB | 3:C:453:ILE:HD11 | 1.85 | 1.04 |
| 1:D:38:ILE:HA | 1:D:169:THR:HG21 | 1.36 | 1.04 |
| 1:D:131:ILE:HG13 | 1:D:133:THR:H | 1.17 | 1.04 |
| 4:E:183:TRP:HB3 | 4:E:216:ARG:CD | 1.87 | 1.04 |
| 1:A:20:ARG:HH11 | 1:A:20:ARG:HG2 | 0.88 | 1.04 |
| 3:C:307:GLY:HA2 | 3:C:310:LEU:HD23 | 1.38 | 1.04 |
| 1:A:38:ILE:HD11 | 1:A:55:ARG:CG | 1.87 | 1.04 |
| 3:C:271:LEU:HD11 | 3:C:303:VAL:HG22 | 1.04 | 1.04 |
| 1:A:79:ARG:CD | 1:A:107:LYS:HD2 | 1.88 | 1.04 |
| 2:B:23:GLN:HE21 | 2:B:23:GLN:N | 1.56 | 1.04 |
| 1:D:104:HIS:O | 1:D:105:MET:SD | 2.16 | 1.04 |
| 2:B:92:LEU:H | 2:B:96:ASN:HB2 | 1.19 | 1.03 |
| 1:D:137:PHE:HB3 | 1:D:435:GLN:CG | 1.87 | 1.03 |
| 1:D:137:PHE:HB3 | 1:D:435:GLN:CB | 1.88 | 1.03 |
| 1:A:89:ASP:OD2 | 1:A:150:THR:HG22 | 1.58 | 1.03 |
| 2:B:37:LEU:HB3 | 2:B:179:ALA:HB3 | 1.37 | 1.03 |
| 2:B:269:LYS:HE3 | 2:B:270:VAL:CG2 | 1.86 | 1.03 |
| 1:D:235:LEU:HD13 | 1:D:242:LYS:HE3 | 1.37 | 1.03 |
| 2:B:443:PHE:O | 2:B:447:CYS:SG | 2.17 | 1.03 |
| 3:C:271:LEU:HD11 | 3:C:303:VAL:CG2 | 1.87 | 1.03 |
| 1:D:35:LEU:HG | 1:D:54:VAL:HG11 | 1.41 | 1.03 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:20:ARG:HD3 | 2:B:20:ARG:H | 1.21 | 1.03 |
| 3:C:18:ASN:CB | 3:C:21:VAL:HB | 1.89 | 1.03 |
| 4:E:27:VAL:HG12 | 4:E:153:HIS:C | 1.78 | 1.03 |
| 4:E:470:HIS:NE2 | 4:E:474:VAL:HG23 | 1.74 | 1.03 |
| 1:A:121:PRO:HB2 | 2:B:149:TYR:CZ | 1.93 | 1.03 |
| 1:D:7:LEU:HD13 | 1:D:70:ALA:HB1 | 1.41 | 1.03 |
| 1:D:187:TRP:CZ2 | 1:D:189:TYR:HB3 | 1.94 | 1.03 |
| 1:D:379:VAL:HA | 1:D:382:ILE:HG13 | 1.37 | 1.03 |
| 2:B:37:LEU:HD23 | 2:B:179:ALA:CB | 1.89 | 1.02 |
| 2:B:37:LEU:HA | 2:B:54:VAL:HG12 | 1.06 | 1.02 |
| 2:B:56:LEU:CD2 | 2:B:103:THR:HG23 | 1.88 | 1.02 |
| 2:B:92:LEU:H | 2:B:96:ASN:CB | 1.72 | 1.02 |
| 1:D:104:HIS:C | 1:D:105:MET:SD | 2.38 | 1.02 |
| 3:C:102:TYR:HD1 | 3:C:102:TYR:O | 1.43 | 1.02 |
| 2:B:238:VAL:HG13 | 2:B:248:LYS:NZ | 1.75 | 1.02 |
| 1:A:252:SER:O | 1:A:256:PHE:CD1 | 2.12 | 1.01 |
| 2:B:68:ASP:HB3 | 2:B:69:PRO:CD | 1.90 | 1.01 |
| 2:B:279:ILE:HG22 | 2:B:280:ILE:HD13 | 1.41 | 1.01 |
| 3:C:13:ILE:HD13 | 3:C:82:LEU:HD11 | 1.40 | 1.01 |
| 3:C:159:SER:HA | 3:C:213:GLN:CG | 1.89 | 1.01 |
| 3:C:316:THR:CG2 | 3:C:317:PRO:CD | 2.37 | 1.01 |
| 1:A:64:ARG:HA | 1:A:66:ARG:HH11 | 1.22 | 1.01 |
| 1:A:244:THR:O | 1:A:247:ILE:HG22 | 1.59 | 1.01 |
| 1:A:304:SER:HB2 | 1:A:397:GLU:HG2 | 1.40 | 1.01 |
| 2:B:37:LEU:CD2 | 2:B:179:ALA:HB3 | 1.91 | 1.01 |
| 3:C:12:LEU:HD12 | 3:C:16:LYS:HG2 | 1.39 | 1.01 |
| 3:C:37:LEU:HB2 | 3:C:217:PHE:CE2 | 1.94 | 1.01 |
| 1:D:263:LEU:O | 1:D:267:THR:HG22 | 1.59 | 1.01 |
| 1:D:412:CYS:O | 1:D:416:LEU:HD23 | 1.60 | 1.01 |
| 4:E:27:VAL:HG12 | 4:E:154:GLU:CA | 1.91 | 1.01 |
| 4:E:56:GLU:HA | 4:E:118:LEU:HG | 1.41 | 1.01 |
| 2:B:224:THR:C | 2:B:227:PRO:HD2 | 1.81 | 1.01 |
| 3:C:97:ASN:HB3 | 3:C:128:SER:HB3 | 1.42 | 1.01 |
| 2:B:160:HIS:H | 2:B:195:LYS:HZ3 | 1.08 | 1.01 |
| 3:C:30:VAL:HG22 | 3:C:158:ILE:N | 1.76 | 1.01 |
| 3:C:266:ALA:O | 3:C:270:PHE:CD1 | 2.14 | 1.01 |
| 1:D:43:VAL:HG22 | 1:D:50:VAL:HA | 1.37 | 1.01 |
| 1:D:432:GLU:HG2 | 1:D:435:GLN:NE2 | 1.74 | 1.01 |
| 1:D:20:ARG:HH11 | 1:D:20:ARG:HG2 | 0.87 | 1.01 |
| 4:E:129:ILE:HG22 | 4:E:133:TYR:CD2 | 1.96 | 1.01 |
| 4:E:470:HIS:NE2 | 4:E:474:VAL:CG2 | 2.24 | 1.01 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:248:LYS:CD | 2:B:252:SER:HB3 | 1.90 | 1.00 |
| 4:E:224:ASN:O | 4:E:228:PRO:HG3 | 1.60 | 1.00 |
| 1:A:20:ARG:HG2 | 1:A:20:ARG:NH1 | 1.67 | 1.00 |
| 1:A:274:ILE:HG12 | 1:A:277:TYR:CE1 | 1.96 | 1.00 |
| 2:B:279:ILE:HG22 | 2:B:280:ILE:N | 1.74 | 1.00 |
| 3:C:273:LEU:HA | 3:C:276:GLN:CG | 1.92 | 1.00 |
| 2:B:130:ILE:HB | 2:B:134:TYR:CD2 | 1.97 | 1.00 |
| 2:B:405:VAL:O | 2:B:408:ILE:HG22 | 1.60 | 1.00 |
| 4:E:182:GLU:CB | 4:E:216:ARG:HH21 | 1.73 | 1.00 |
| 3:C:271:LEU:CD1 | 3:C:303:VAL:HG22 | 1.92 | 1.00 |
| 3:C:316:THR:HG23 | 3:C:317:PRO:HD2 | 1.40 | 1.00 |
| 3:C:434:LYS:HD3 | 3:C:435:GLU:CG | 1.92 | 1.00 |
| 1:D:106:THR:HG22 | 1:D:107:LYS:H | 1.27 | 1.00 |
| 3:C:65:HIS:CD2 | 3:C:65:HIS:H | 1.72 | 1.00 |
| 3:C:241:PHE:O | 3:C:245:LEU:HG | 1.59 | 1.00 |
| 4:E:28:ILE:HD11 | 4:E:60:ASN:O | 1.61 | 1.00 |
| 1:D:170:PHE:HE2 | 1:D:176:TRP:NE1 | 1.59 | 0.99 |
| 1:A:41:ILE:HD11 | 1:A:51:GLU:CD | 1.81 | 0.99 |
| 2:B:24:THR:HG22 | 2:B:25:VAL:H | 1.26 | 0.99 |
| 1:D:35:LEU:HD23 | 1:D:164:ARG:NH1 | 1.77 | 0.99 |
| 1:A:303:PRO:HB2 | 1:A:400:LYS:HD3 | 1.44 | 0.99 |
| 2:B:438:LEU:HA | 2:B:441:TYR:HB3 | 1.41 | 0.99 |
| 3:C:312:PHE:CE1 | 3:C:456:LEU:HD13 | 1.96 | 0.99 |
| 4:E:149:THR:HG23 | 4:E:150:TYR:H | 1.25 | 0.99 |
| 4:E:211:PHE:C | 4:E:212:LEU:HD12 | 1.83 | 0.99 |
| 4:E:250:LYS:HA | 4:E:253:LEU:HB3 | 1.44 | 0.99 |
| 1:A:41:ILE:CD1 | 1:A:51:GLU:OE1 | 2.11 | 0.99 |
| 2:B:409:LYS:HD3 | 3:C:426:THR:OG1 | 1.63 | 0.99 |
| 2:B:254:SER:O | 3:C:265:LEU:HD11 | 1.62 | 0.99 |
| 4:E:27:VAL:HG12 | 4:E:154:GLU:N | 1.77 | 0.99 |
| 2:B:216:LYS:HD2 | 2:B:216:LYS:O | 1.61 | 0.99 |
| 3:C:74:TYR:CD1 | 3:C:114:PRO:HB2 | 1.98 | 0.99 |
| 3:C:312:PHE:CZ | 3:C:456:LEU:HD22 | 1.98 | 0.99 |
| 1:D:292:THR:HA | 1:D:295:VAL:HG22 | 1.40 | 0.99 |
| 4:E:44:GLU:HA | 4:E:129:ILE:HD12 | 1.41 | 0.99 |
| 4:E:47:GLU:HG2 | 4:E:129:ILE:HG12 | 1.43 | 0.99 |
| 1:A:274:ILE:HG12 | 1:A:277:TYR:CD1 | 1.98 | 0.98 |
| 3:C:472:ILE:HA | 3:C:475:MET:HB3 | 1.44 | 0.98 |
| 4:E:34:LEU:HD12 | 4:E:210:PHE:CE2 | 1.98 | 0.98 |
| 4:E:59:TRP:HH2 | 4:E:107:VAL:HG11 | 1.25 | 0.98 |
| 4:E:152:ALA:HB3 | 4:E:204:ASP:O | 1.61 | 0.98 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:66:ARG:HG2 | 3:C:66:ARG:HH11 | 1.28 | 0.98 |
| 1:D:95:ASN:HD21 | 1:D:128:CYS:HB3 | 1.24 | 0.98 |
| 2:B:230:LEU:CA | 2:B:233:ILE:HG13 | 1.92 | 0.98 |
| 2:B:37:LEU:CA | 2:B:54:VAL:HG12 | 1.93 | 0.98 |
| 3:C:52:LEU:HD21 | 3:C:130:CYS:HB2 | 1.45 | 0.98 |
| 1:D:187:TRP:HB2 | 1:D:199:LEU:HD23 | 1.45 | 0.98 |
| 2:B:133:MET:HA | 2:B:279:ILE:HG23 | 1.46 | 0.98 |
| 4:E:304:LEU:O | 4:E:308:LEU:HB2 | 1.63 | 0.98 |
| 2:B:56:LEU:HD22 | 2:B:103:THR:HG23 | 1.43 | 0.98 |
| 1:D:62:ASP:HB3 | 1:D:65:LEU:HD13 | 1.44 | 0.98 |
| 4:E:470:HIS:CE1 | 4:E:474:VAL:HG23 | 1.98 | 0.98 |
| 1:A:419:ILE:O | 1:A:423:VAL:HG23 | 1.61 | 0.98 |
| 2:B:281:ILE:HG22 | 2:B:285:MET:N | 1.79 | 0.98 |
| 3:C:316:THR:HG22 | 3:C:317:PRO:CD | 1.93 | 0.98 |
| 3:C:74:TYR:HD1 | 3:C:114:PRO:HB2 | 1.29 | 0.98 |
| 1:A:107:LYS:CE | 2:B:150:THR:O | 2.12 | 0.98 |
| 3:C:115:ASN:HD22 | 3:C:115:ASN:H | 1.04 | 0.98 |
| 1:A:251:LEU:HD22 | 4:E:260:ALA:HB1 | 1.42 | 0.98 |
| 1:D:229:THR:O | 1:D:232:VAL:HB | 1.64 | 0.98 |
| 4:E:255:ILE:HD11 | 4:E:304:LEU:HD13 | 1.46 | 0.98 |
| 1:D:20:ARG:HG2 | 1:D:20:ARG:NH1 | 1.65 | 0.97 |
| 2:B:131:LYS:HD3 | 2:B:132:VAL:H | 1.27 | 0.97 |
| 3:C:149:THR:HG21 | 3:C:214:ASP:HB3 | 1.46 | 0.97 |
| 4:E:44:GLU:OE2 | 4:E:133:TYR:CD2 | 2.17 | 0.97 |
| 1:A:107:LYS:HE2 | 2:B:150:THR:HG22 | 1.01 | 0.97 |
| 3:C:102:TYR:CE1 | 3:C:106:TYR:HB3 | 1.99 | 0.97 |
| 2:B:267:ALA:O | 2:B:271:PRO:HD3 | 1.63 | 0.97 |
| 3:C:299:VAL:O | 3:C:303:VAL:HG23 | 1.65 | 0.97 |
| 1:D:48:GLN:HB3 | 1:D:130:ILE:CD1 | 1.94 | 0.97 |
| 1:A:89:ASP:O | 1:A:149:TRP:HB3 | 1.65 | 0.97 |
| 1:D:160:PRO:HD3 | 1:D:185:LYS:HB3 | 1.42 | 0.97 |
| 4:E:90:VAL:HG22 | 4:E:95:VAL:HG11 | 1.44 | 0.97 |
| 4:E:235:LEU:HA | 4:E:238:LEU:HG | 1.44 | 0.97 |
| 1:A:261:VAL:O | 1:A:265:PRO:HD3 | 1.63 | 0.97 |
| 2:B:92:LEU:N | 2:B:96:ASN:HB2 | 1.79 | 0.97 |
| 1:D:48:GLN:HB3 | 1:D:130:ILE:HD12 | 0.98 | 0.97 |
| 3:C:60:HIS:HB3 | 3:C:62:TRP:HZ3 | 1.28 | 0.97 |
| 3:C:69:TRP:HZ2 | 3:C:112:VAL:CG1 | 1.78 | 0.97 |
| 3:C:97:ASN:OD1 | 3:C:128:SER:HB2 | 1.63 | 0.97 |
| 4:E:189:PRO:HD2 | 4:E:211:PHE:CB | 1.94 | 0.97 |
| 1:D:48:GLN:CB | 1:D:130:ILE:HD12 | 1.94 | 0.96 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:212:ILE:HD13 | 2:B:469:ALA:HA | 1.44 | 0.96 |
| 3:C:149:THR:CG2 | 3:C:214:ASP:HB3 | 1.95 | 0.96 |
| 1:D:32:THR:HB | 1:D:59:GLN:HB3 | 1.43 | 0.96 |
| 1:D:47:ASN:O | 1:D:48:GLN:HG2 | 1.66 | 0.96 |
| 1:D:300:HIS:HA | 1:D:306:HIS:O | 1.65 | 0.96 |
| 1:A:64:ARG:HA | 1:A:66:ARG:NH1 | 1.79 | 0.96 |
| 1:A:133:THR:HA | 1:A:274:ILE:HG22 | 1.47 | 0.96 |
| 4:E:47:GLU:HA | 4:E:129:ILE:CD1 | 1.95 | 0.96 |
| 2:B:230:LEU:HA | 2:B:233:ILE:CG1 | 1.95 | 0.96 |
| 2:B:160:HIS:H | 2:B:195:LYS:NZ | 1.63 | 0.96 |
| 3:C:312:PHE:HE1 | 3:C:456:LEU:HD13 | 1.28 | 0.96 |
| 1:D:203:TYR:N | 1:D:203:TYR:HD1 | 1.64 | 0.96 |
| 4:E:19:LYS:NZ | 4:E:154:GLU:CB | 2.27 | 0.96 |
| 1:A:189:TYR:HA | 1:A:197:PRO:HD2 | 1.48 | 0.96 |
| 3:C:69:TRP:CZ2 | 3:C:112:VAL:HG11 | 2.00 | 0.96 |
| 3:C:142:GLN:HG3 | 3:C:143:ASN:N | 1.80 | 0.96 |
| 1:D:249:VAL:HG13 | 4:E:259:LEU:HD21 | 1.45 | 0.96 |
| 4:E:19:LYS:NZ | 4:E:154:GLU:HB3 | 1.80 | 0.96 |
| 1:A:108:LEU:HD13 | 1:A:118:TRP:HB2 | 1.47 | 0.96 |
| 3:C:245:LEU:O | 3:C:249:LEU:HD13 | 1.63 | 0.96 |
| 1:A:3:HIS:O | 1:A:7:LEU:HG | 1.65 | 0.96 |
| 1:A:79:ARG:HD2 | 1:A:107:LYS:HD2 | 1.48 | 0.96 |
| 1:A:303:PRO:HB2 | 1:A:400:LYS:CD | 1.95 | 0.96 |
| 2:B:269:LYS:HE3 | 2:B:270:VAL:HG22 | 1.47 | 0.95 |
| 3:C:48:THR:N | 3:C:286:PRO:HD3 | 1.80 | 0.95 |
| 1:A:38:ILE:O | 1:A:39:GLN:CG | 2.15 | 0.95 |
| 1:A:131:ILE:HD11 | 1:A:140:GLN:HG2 | 1.49 | 0.95 |
| 3:C:122:PRO:HB2 | 3:C:123:PRO:HD2 | 1.43 | 0.95 |
| 1:D:109:LEU:O | 1:D:116:ILE:HG22 | 1.65 | 0.95 |
| 4:E:36:LEU:CD1 | 4:E:173:ASP:OD1 | 2.12 | 0.95 |
| 4:E:67:ASN:HD22 | 4:E:67:ASN:H | 1.01 | 0.95 |
| 4:E:188:ARG:HD2 | 4:E:211:PHE:O | 1.65 | 0.95 |
| 2:B:56:LEU:O | 2:B:120:PRO:HD2 | 1.64 | 0.95 |
| 2:B:141:ASN:ND2 | 2:B:212:ILE:CG1 | 2.28 | 0.95 |
| 2:B:220:TYR:CE2 | 3:C:279:PRO:HB2 | 2.00 | 0.95 |
| 3:C:249:LEU:N | 3:C:250:PRO:HD2 | 1.81 | 0.95 |
| 1:D:110:LEU:HD12 | 1:D:111:ASP:H | 1.28 | 0.95 |
| 1:A:43:VAL:HG22 | 1:A:50:VAL:HG22 | 1.47 | 0.95 |
| 3:C:29:GLU:O | 3:C:156:ASN:HA | 1.64 | 0.95 |
| 1:D:421:GLY:O | 1:D:425:VAL:HG23 | 1.66 | 0.95 |
| 3:C:131:PRO:HG2 | 3:C:144:CYS:HA | 1.49 | 0.95 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:121:PRO:HB2 | 2:B:149:TYR:CE2 | 2.02 | 0.95 |
| 1:A:416:LEU:O | 1:A:419:ILE:HG22 | 1.66 | 0.95 |
| 2:B:308:SER:HB2 | 2:B:311:THR:HG22 | 1.47 | 0.95 |
| 1:D:49:ILE:HG21 | 1:D:125:LYS:NZ | 1.82 | 0.95 |
| 1:D:261:VAL:O | 1:D:265:PRO:CD | 2.14 | 0.95 |
| 4:E:44:GLU:HG3 | 4:E:129:ILE:HG13 | 1.46 | 0.95 |
| 2:B:160:HIS:HB2 | 2:B:195:LYS:CE | 1.96 | 0.95 |
| 1:D:282:MET:HG3 | 1:D:286:ILE:HD11 | 1.49 | 0.95 |
| 1:A:101:ALA:HB3 | 1:A:123:ILE:O | 1.66 | 0.94 |
| 2:B:37:LEU:HA | 2:B:54:VAL:CG1 | 1.95 | 0.94 |
| 3:C:316:THR:HG21 | 3:C:447:ASN:CB | 1.97 | 0.94 |
| 4:E:27:VAL:CG1 | 4:E:153:HIS:C | 2.35 | 0.94 |
| 1:A:107:LYS:HE2 | 2:B:150:THR:CG2 | 1.96 | 0.94 |
| 2:B:68:ASP:HB3 | 2:B:69:PRO:HD3 | 1.44 | 0.94 |
| 2:B:224:THR:O | 2:B:227:PRO:HD2 | 1.66 | 0.94 |
| 1:A:187:TRP:CH2 | 1:A:189:TYR:HB3 | 2.02 | 0.94 |
| 1:A:227:PHE:HA | 1:A:230:VAL:HB | 1.49 | 0.94 |
| 1:D:416:LEU:HA | 1:D:419:ILE:CG1 | 1.98 | 0.94 |
| 4:E:91:LEU:CD1 | 4:E:145:PHE:HB3 | 1.97 | 0.94 |
| 1:D:137:PHE:HB3 | 1:D:435:GLN:HB2 | 1.49 | 0.94 |
| 1:D:102:ILE:HG13 | 4:E:98:GLN:HE22 | 1.25 | 0.94 |
| 4:E:39:LEU:HD23 | 4:E:183:TRP:HZ2 | 1.32 | 0.94 |
| 4:E:250:LYS:HB3 | 4:E:253:LEU:HD23 | 1.49 | 0.94 |
| 3:C:113:ARG:HD2 | 3:C:117:TYR:HB3 | 1.50 | 0.94 |
| 2:B:45:GLU:CD | 2:B:279:ILE:HD11 | 1.88 | 0.94 |
| 2:B:440:LEU:O | 2:B:443:PHE:HB3 | 1.68 | 0.94 |
| 3:C:9:ASN:O | 3:C:12:LEU:HG | 1.68 | 0.94 |
| 3:C:87:ILE:HD12 | 3:C:110:VAL:CB | 1.98 | 0.94 |
| 1:D:7:LEU:O | 1:D:11:LEU:HG | 1.67 | 0.94 |
| 1:D:134:HIS:CE1 | 1:D:209:ARG:HD3 | 2.03 | 0.94 |
| 1:D:187:TRP:CZ3 | 1:D:189:TYR:CD2 | 2.56 | 0.94 |
| 1:D:296:ILE:HA | 1:D:299:HIS:CB | 1.96 | 0.94 |
| 4:E:235:LEU:HD11 | 4:E:257:VAL:HG11 | 1.47 | 0.94 |
| 4:E:191:LYS:H | 4:E:209:ILE:HG23 | 1.30 | 0.94 |
| 1:A:229:THR:O | 1:A:233:PHE:CD1 | 2.21 | 0.94 |
| 3:C:148:PHE:HB2 | 3:C:215:VAL:HG21 | 1.47 | 0.94 |
| 1:D:45:GLU:CG | 1:D:272:PRO:HG2 | 1.97 | 0.94 |
| 1:D:391:GLU:HA | 1:D:394:ASN:OD1 | 1.68 | 0.94 |
| 1:A:38:ILE:HD11 | 1:A:55:ARG:HG3 | 0.96 | 0.93 |
| 3:C:38:THR:CG2 | 3:C:57:TRP:CE3 | 2.51 | 0.93 |
| 4:E:35:THR:HG23 | 4:E:175:GLU:OE1 | 1.68 | 0.93 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:E:36:LEU:CD2 | 4:E:51:THR:HG21 | 1.98 | 0.93 |
| 2:B:279:ILE:CG2 | 2:B:280:ILE:H | 1.81 | 0.93 |
| 2:B:141:ASN:HD21 | 2:B:212:ILE:HG12 | 1.16 | 0.93 |
| 1:D:64:ARG:HA | 1:D:66:ARG:HH11 | 1.16 | 0.93 |
| 3:C:18:ASN:HB3 | 3:C:21:VAL:HB | 1.49 | 0.93 |
| 4:E:185:ILE:HG12 | 4:E:214:ILE:CG2 | 1.99 | 0.93 |
| 4:E:247:GLY:H | 4:E:250:LYS:HZ1 | 0.96 | 0.93 |
| 1:A:129:GLU:O | 1:A:142:CYS:SG | 2.27 | 0.93 |
| 2:B:46:LYS:HB2 | 2:B:278:PRO:CD | 1.99 | 0.93 |
| 4:E:110:TYR:HD1 | 4:E:111:ASN:H | 1.09 | 0.93 |
| 1:A:135:PHE:N | 1:A:136:PRO:CD | 2.31 | 0.93 |
| 1:A:406:ILE:HA | 1:A:409:ILE:HD11 | 1.49 | 0.93 |
| 1:D:78:ILE:HD12 | 1:D:78:ILE:O | 1.67 | 0.93 |
| 4:E:195:ASN:HB3 | 4:E:205:PHE:H | 1.32 | 0.93 |
| 4:E:226:ILE:O | 4:E:230:VAL:HG23 | 1.66 | 0.93 |
| 1:A:242:LYS:HD3 | 2:B:312:HIS:ND1 | 1.82 | 0.93 |
| 1:D:187:TRP:CZ3 | 1:D:189:TYR:HD2 | 1.86 | 0.93 |
| 3:C:83:ARG:HB3 | 3:C:84:PRO:HD2 | 1.51 | 0.92 |
| 1:D:78:ILE:HD11 | 1:D:110:LEU:HG | 1.51 | 0.92 |
| 1:A:136:PRO:HA | 1:A:277:TYR:OH | 1.69 | 0.92 |
| 1:D:110:LEU:HD12 | 1:D:111:ASP:N | 1.83 | 0.92 |
| 1:A:238:ASP:HB3 | 2:B:306:HIS:CE1 | 2.03 | 0.92 |
| 3:C:93:VAL:CG1 | 3:C:151:LEU:HD13 | 1.98 | 0.92 |
| 3:C:141:TRP:CZ3 | 3:C:223:ARG:HB3 | 2.04 | 0.92 |
| 3:C:162:LEU:HD11 | 3:C:217:PHE:HE1 | 1.02 | 0.92 |
| 4:E:414:SER:N | 4:E:416:VAL:HG13 | 1.84 | 0.92 |
| 3:C:37:LEU:HB2 | 3:C:217:PHE:HE2 | 1.31 | 0.92 |
| 3:C:42:LEU:HG | 3:C:54:THR:HG23 | 1.51 | 0.92 |
| 1:D:167:LEU:CG | 1:D:178:MET:HB2 | 1.98 | 0.92 |
| 1:A:41:ILE:CG1 | 1:A:51:GLU:HB3 | 1.99 | 0.92 |
| 1:D:132:VAL:HB | 1:D:274:ILE:HA | 1.51 | 0.92 |
| 1:A:229:THR:HA | 1:A:232:VAL:HB | 1.51 | 0.92 |
| 1:D:53:ASN:HB2 | 1:D:123:ILE:HG12 | 1.51 | 0.92 |
| 1:A:292:THR:HA | 1:A:296:ILE:HD11 | 1.52 | 0.92 |
| 2:B:223:TYR:O | 2:B:226:VAL:HG22 | 1.70 | 0.92 |
| 3:C:94:LEU:HB2 | 3:C:98:ASN:HB2 | 1.51 | 0.92 |
| 3:C:463:PRO:HA | 3:C:466:VAL:HG23 | 1.50 | 0.92 |
| 1:A:145:LYS:HG3 | 1:A:202:THR:CG2 | 2.00 | 0.92 |
| 2:B:288:MET:O | 2:B:291:VAL:HG12 | 1.69 | 0.92 |
| 4:E:140:ASN:C | 4:E:140:ASN:HD22 | 1.72 | 0.92 |
| 2:B:95:ASN:HA | 2:B:127:SER:H | 1.34 | 0.92 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:245:LEU:HD21 | 4:E:255:ILE:HG13 | 1.52 | 0.92 |
| 4:E:135:PRO:CG | 4:E:137:ASP:O | 2.18 | 0.92 |
| 1:A:217:ASN:O | 1:A:221:PRO:HD3 | 1.69 | 0.91 |
| 3:C:65:HIS:H | 3:C:65:HIS:HD2 | 1.14 | 0.91 |
| 3:C:229:VAL:O | 3:C:233:ILE:HG12 | 1.70 | 0.91 |
| 1:D:261:VAL:CA | 1:D:264:ILE:HD12 | 1.99 | 0.91 |
| 1:D:7:LEU:CD1 | 1:D:70:ALA:HB1 | 2.00 | 0.91 |
| 1:D:38:ILE:CA | 1:D:169:THR:HG21 | 1.99 | 0.91 |
| 1:D:94:ASN:C | 1:D:94:ASN:HD22 | 1.72 | 0.91 |
| 2:B:241:LEU:HG | 2:B:248:LYS:HB2 | 1.52 | 0.91 |
| 3:C:434:LYS:CD | 3:C:435:GLU:HG3 | 2.00 | 0.91 |
| 1:D:31:ILE:HG22 | 1:D:158:ILE:HG23 | 1.52 | 0.91 |
| 1:D:135:PHE:CB | 1:D:209:ARG:HB3 | 2.00 | 0.91 |
| 1:A:149:TRP:CH2 | 4:E:120:PRO:HD3 | 2.05 | 0.91 |
| 3:C:42:LEU:HD22 | 3:C:190:TRP:CH2 | 2.05 | 0.91 |
| 3:C:148:PHE:HB2 | 3:C:215:VAL:HG22 | 1.48 | 0.91 |
| 3:C:162:LEU:CD1 | 3:C:217:PHE:HE1 | 1.83 | 0.91 |
| 1:D:131:ILE:HD11 | 1:D:133:THR:HB | 1.52 | 0.91 |
| 4:E:305:ASN:HA | 4:E:308:LEU:HD12 | 1.52 | 0.91 |
| 1:A:292:THR:CA | 1:A:296:ILE:HD11 | 1.99 | 0.91 |
| 1:A:298:THR:HA | 1:A:301:ARG:HB3 | 1.52 | 0.91 |
| 1:A:41:ILE:HD11 | 1:A:51:GLU:HB3 | 1.50 | 0.91 |
| 3:C:162:LEU:HD21 | 3:C:217:PHE:HZ | 1.36 | 0.91 |
| 1:D:187:TRP:CD1 | 1:D:197:PRO:O | 2.24 | 0.91 |
| 1:A:380:LYS:HB3 | 2:B:408:ILE:HD13 | 1.53 | 0.91 |
| 3:C:144:CYS:SG | 3:C:146:LEU:HD11 | 2.10 | 0.91 |
| 3:C:162:LEU:HB2 | 3:C:199:LYS:HB3 | 1.52 | 0.91 |
| 1:D:118:TRP:HE1 | 1:D:120:PRO:HB3 | 1.33 | 0.91 |
| 4:E:44:GLU:HG3 | 4:E:129:ILE:HB | 1.38 | 0.91 |
| 4:E:91:LEU:HB2 | 4:E:95:VAL:HG23 | 1.49 | 0.91 |
| 4:E:174:PRO:HA | 4:E:177:PHE:HB3 | 1.53 | 0.91 |
| 1:A:59:GLN:HE22 | 1:A:117:MET:CG | 1.83 | 0.91 |
| 1:A:136:PRO:HG3 | 1:A:274:ILE:CG2 | 1.99 | 0.91 |
| 1:D:263:LEU:HD11 | 4:E:266:PHE:CZ | 2.04 | 0.91 |
| 3:C:278:LEU:C | 3:C:278:LEU:HD12 | 1.90 | 0.91 |
| 1:D:40:LEU:HD13 | 1:D:52:THR:HB | 1.52 | 0.91 |
| 3:C:263:VAL:HG13 | 1:D:251:LEU:HD21 | 1.53 | 0.91 |
| 3:C:67:LEU:HB3 | 3:C:116:GLY:HA2 | 1.54 | 0.90 |
| 4:E:247:GLY:H | 4:E:250:LYS:NZ | 1.67 | 0.90 |
| 2:B:160:HIS:HB2 | 2:B:195:LYS:HE2 | 1.52 | 0.90 |
| 3:C:67:LEU:HD21 | 3:C:112:VAL:HG13 | 1.52 | 0.90 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:145:SER:C | 3:C:146:LEU:HD12 | 1.90 | 0.90 |
| 4:E:59:TRP:CH2 | 4:E:107:VAL:HG11 | 2.06 | 0.90 |
| 1:A:274:ILE:CG1 | 1:A:277:TYR:CD1 | 2.55 | 0.90 |
| 2:B:9:SER:HA | 2:B:12:PHE:CD1 | 2.05 | 0.90 |
| 3:C:192:ILE:HD12 | 3:C:219:LEU:HD11 | 1.53 | 0.90 |
| 3:C:38:THR:CG2 | 3:C:57:TRP:HE3 | 1.85 | 0.90 |
| 1:D:92:LEU:HD13 | 1:D:146:LEU:HG | 1.53 | 0.90 |
| 1:D:416:LEU:HA | 1:D:419:ILE:HG13 | 1.53 | 0.90 |
| 4:E:436:ASN:HA | 4:E:439:TRP:HE1 | 1.34 | 0.90 |
| 2:B:131:LYS:HB3 | 2:B:133:MET:HG3 | 1.53 | 0.90 |
| 3:C:143:ASN:OD1 | 3:C:220:ILE:HB | 1.70 | 0.90 |
| 3:C:195:LYS:HE3 | 3:C:217:PHE:HB3 | 1.53 | 0.90 |
| 1:D:187:TRP:CH2 | 1:D:189:TYR:HB3 | 2.07 | 0.90 |
| 1:A:89:ASP:HB2 | 1:A:149:TRP:CD1 | 2.07 | 0.90 |
| 1:D:28:PHE:HD2 | 1:D:157:SER:HB3 | 1.36 | 0.90 |
| 1:D:41:ILE:HD12 | 1:D:51:GLU:O | 1.72 | 0.90 |
| 4:E:129:ILE:HA | 4:E:133:TYR:HB2 | 1.53 | 0.90 |
| 4:E:182:GLU:HB2 | 4:E:216:ARG:HH21 | 0.78 | 0.90 |
| 4:E:235:LEU:HD11 | 4:E:257:VAL:CG1 | 2.01 | 0.90 |
| 1:A:142:CYS:HB2 | 1:A:205:PHE:HB2 | 1.53 | 0.90 |
| 3:C:266:ALA:HB1 | 3:C:270:PHE:CZ | 2.07 | 0.90 |
| 4:E:195:ASN:N | 4:E:204:ASP:HB3 | 1.86 | 0.90 |
| 1:A:187:TRP:CE2 | 1:A:196:THR:HG23 | 2.05 | 0.90 |
| 1:A:279:LEU:HA | 1:A:282:MET:HB2 | 1.52 | 0.90 |
| 4:E:71:TYR:HD1 | 4:E:111:ASN:HB2 | 1.36 | 0.90 |
| 1:A:256:PHE:CE1 | 2:B:261:VAL:HG23 | 2.07 | 0.89 |
| 2:B:152:ASP:HB3 | 2:B:203:SER:HB3 | 1.54 | 0.89 |
| 2:B:409:LYS:HB3 | 3:C:426:THR:CG2 | 2.00 | 0.89 |
| 3:C:58:MET:SD | 3:C:92:ILE:CD1 | 2.59 | 0.89 |
| 3:C:312:PHE:HZ | 3:C:456:LEU:HD22 | 1.34 | 0.89 |
| 1:D:253:LEU:HD23 | 1:D:254:THR:H | 1.29 | 0.89 |
| 2:B:75:ILE:CD1 | 2:B:78:LEU:HD13 | 2.01 | 0.89 |
| 2:B:144:MET:CE | 2:B:191:LYS:HE3 | 2.02 | 0.89 |
| 3:C:132:ILE:O | 3:C:136:TYR:HB2 | 1.70 | 0.89 |
| 1:D:250:LEU:HA | 1:D:253:LEU:HD22 | 1.54 | 0.89 |
| 1:A:252:SER:HB3 | 2:B:257:LEU:HD13 | 1.52 | 0.89 |
| 3:C:316:THR:HG22 | 3:C:447:ASN:HB3 | 1.52 | 0.89 |
| 4:E:31:THR:O | 4:E:32:LEU:HD23 | 1.72 | 0.89 |
| 2:B:279:ILE:CG2 | 2:B:280:ILE:HD13 | 2.02 | 0.89 |
| 3:C:142:GLN:CG | 3:C:143:ASN:H | 1.77 | 0.89 |
| 3:C:13:ILE:O | 3:C:17:TYR:HB3 | 1.73 | 0.89 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:E:173:ASP:OD2 | 4:E:212:LEU:HD23 | 1.69 | 0.89 |
| 1:D:170:PHE:CE2 | 1:D:176:TRP:NE1 | 2.40 | 0.89 |
| 4:E:36:LEU:HD23 | 4:E:51:THR:HG21 | 1.55 | 0.89 |
| 4:E:472:ASN:O | 4:E:476:GLU:HG3 | 1.70 | 0.89 |
| 1:A:250:LEU:HD11 | 1:A:296:ILE:HG21 | 1.52 | 0.89 |
| 1:A:265:PRO:HA | 1:A:268:SER:HB3 | 1.53 | 0.89 |
| 4:E:59:TRP:HH2 | 4:E:107:VAL:CG1 | 1.84 | 0.89 |
| 4:E:242:LEU:CD1 | 4:E:253:LEU:HD21 | 2.02 | 0.89 |
| 4:E:142:SER:OG | 4:E:209:ILE:HD11 | 1.72 | 0.89 |
| 4:E:195:ASN:HB3 | 4:E:205:PHE:N | 1.87 | 0.89 |
| 4:E:222:ILE:O | 4:E:226:ILE:HG13 | 1.71 | 0.89 |
| 1:A:87:LEU:HD22 | 1:A:87:LEU:N | 1.88 | 0.89 |
| 2:B:131:LYS:CD | 2:B:132:VAL:H | 1.85 | 0.89 |
| 3:C:452:THR:O | 3:C:455:ARG:HG2 | 1.73 | 0.89 |
| 1:A:224:LEU:HG | 1:A:225:PHE:N | 1.88 | 0.88 |
| 2:B:48:GLU:HB2 | 2:B:128:CYS:O | 1.73 | 0.88 |
| 2:B:458:ALA:O | 2:B:462:VAL:HG23 | 1.74 | 0.88 |
| 3:C:110:VAL:HG13 | 3:C:120:TRP:HB2 | 1.52 | 0.88 |
| 3:C:439:TYR:O | 3:C:443:VAL:HG23 | 1.73 | 0.88 |
| 1:D:55:ARG:HA | 1:D:120:PRO:O | 1.71 | 0.88 |
| 1:A:221:PRO:HA | 1:A:224:LEU:HB3 | 1.53 | 0.88 |
| 3:C:162:LEU:HD21 | 3:C:217:PHE:CZ | 2.07 | 0.88 |
| 1:D:239:SER:O | 1:D:242:LYS:HG2 | 1.72 | 0.88 |
| 1:D:283:ILE:HA | 1:D:286:ILE:HD12 | 1.53 | 0.88 |
| 1:D:303:PRO:HD2 | 1:D:400:LYS:HD3 | 1.54 | 0.88 |
| 4:E:132:THR:O | 4:E:134:PHE:N | 2.05 | 0.88 |
| 2:B:135:PHE:HB2 | 2:B:279:ILE:HD13 | 1.55 | 0.88 |
| 3:C:475:MET:O | 3:C:478:PHE:CE1 | 2.26 | 0.88 |
| 1:D:227:PHE:O | 1:D:230:VAL:HG12 | 1.74 | 0.88 |
| 1:D:287:SER:HA | 1:D:290:ILE:CD1 | 2.01 | 0.88 |
| 4:E:141:CYS:HB3 | 4:E:212:LEU:HB2 | 1.54 | 0.88 |
| 2:B:226:VAL:HG22 | 2:B:227:PRO:HD3 | 1.56 | 0.88 |
| 2:B:436:ASP:O | 2:B:440:LEU:HD12 | 1.73 | 0.88 |
| 3:C:251:ALA:HB2 | 3:C:453:ILE:HD11 | 1.53 | 0.88 |
| 3:C:453:ILE:HG23 | 3:C:454:ASP:N | 1.87 | 0.88 |
| 4:E:99:PHE:HB3 | 4:E:102:ALA:HB3 | 1.55 | 0.88 |
| 4:E:284:LYS:O | 4:E:287:ILE:HG23 | 1.72 | 0.88 |
| 1:A:33:VAL:CG2 | 1:A:158:ILE:HG12 | 2.03 | 0.88 |
| 1:A:278:MET:O | 1:A:281:THR:HG22 | 1.73 | 0.88 |
| 3:C:273:LEU:CA | 3:C:276:GLN:HG2 | 2.03 | 0.88 |
| 3:C:42:LEU:HG | 3:C:54:THR:CG2 | 2.04 | 0.88 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:302:VAL:O | 3:C:306:CYS:SG | 2.32 | 0.88 |
| 1:D:238:ASP:HB3 | 4:E:308:LEU:CD2 | 2.03 | 0.88 |
| 1:D:245:LEU:CD2 | 4:E:255:ILE:HG21 | 2.04 | 0.88 |
| 4:E:152:ALA:H | 4:E:205:PHE:HD1 | 1.18 | 0.88 |
| 1:A:274:ILE:CG1 | 1:A:277:TYR:HD1 | 1.87 | 0.88 |
| 2:B:131:LYS:NZ | 2:B:132:VAL:HB | 1.88 | 0.88 |
| 2:B:307:ARG:O | 2:B:307:ARG:HG2 | 1.70 | 0.88 |
| 3:C:38:THR:HG22 | 3:C:57:TRP:CE3 | 2.08 | 0.88 |
| 3:C:111:LEU:HB3 | 3:C:119:THR:OG1 | 1.74 | 0.88 |
| 1:D:17:LYS:CG | 1:D:84:ASP:HA | 2.04 | 0.88 |
| 1:D:203:TYR:N | 1:D:203:TYR:CD1 | 2.34 | 0.88 |
| 4:E:31:THR:HB | 4:E:58:GLN:HB2 | 1.56 | 0.88 |
| 2:B:90:ILE:HG23 | 2:B:147:LYS:H | 1.38 | 0.88 |
| 2:B:216:LYS:HE3 | 2:B:216:LYS:N | 1.87 | 0.88 |
| 4:E:1:ASN:HD22 | 4:E:69:SER:N | 1.72 | 0.88 |
| 1:A:251:LEU:HD22 | 4:E:260:ALA:HB3 | 1.52 | 0.88 |
| 1:D:259:VAL:HG13 | 1:D:262:GLU:OE1 | 1.73 | 0.88 |
| 4:E:44:GLU:OE2 | 4:E:133:TYR:HD2 | 1.55 | 0.88 |
| 3:C:69:TRP:CE3 | 3:C:73:GLU:HB3 | 2.09 | 0.88 |
| 1:A:230:VAL:HG13 | 1:A:414:PHE:HZ | 1.39 | 0.87 |
| 2:B:258:ALA:HB3 | 3:C:265:LEU:HD22 | 1.56 | 0.87 |
| 1:A:252:SER:OG | 2:B:257:LEU:HD22 | 1.73 | 0.87 |
| 1:A:298:THR:HG23 | 1:A:301:ARG:HD3 | 1.56 | 0.87 |
| 2:B:131:LYS:HD3 | 2:B:132:VAL:N | 1.88 | 0.87 |
| 3:C:230:ILE:CG1 | 3:C:231:ASN:HD22 | 1.88 | 0.87 |
| 1:A:134:HIS:C | 1:A:136:PRO:CD | 2.42 | 0.87 |
| 1:A:235:LEU:HA | 2:B:306:HIS:NE2 | 1.89 | 0.87 |
| 3:C:80:LEU:O | 3:C:112:VAL:HB | 1.75 | 0.87 |
| 4:E:311:PRO:HG2 | 4:E:440:VAL:HG22 | 1.57 | 0.87 |
| 1:A:131:ILE:HD11 | 1:A:140:GLN:CG | 2.04 | 0.87 |
| 2:B:256:LEU:CD2 | 2:B:298:SER:HB2 | 2.04 | 0.87 |
| 4:E:94:ASN:HB3 | 4:E:125:SER:HB3 | 1.56 | 0.87 |
| 1:D:189:TYR:HA | 1:D:197:PRO:HD2 | 1.54 | 0.87 |
| 1:D:261:VAL:HA | 1:D:264:ILE:CD1 | 2.02 | 0.87 |
| 4:E:107:VAL:HG13 | 4:E:117:TRP:CB | 2.05 | 0.87 |
| 2:B:407:ALA:O | 2:B:411:ILE:HG13 | 1.74 | 0.87 |
| 3:C:7:LEU:HD23 | 3:C:10:ASP:HB2 | 1.54 | 0.87 |
| 3:C:180:ASP:N | 3:C:195:LYS:HG2 | 1.89 | 0.87 |
| 1:A:59:GLN:NE2 | 1:A:117:MET:SD | 2.48 | 0.87 |
| 1:A:145:LYS:C | 1:A:146:LEU:HD12 | 1.95 | 0.87 |
| 1:A:388:SER:O | 1:A:391:GLU:HB3 | 1.75 | 0.87 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:274:SER:O | 2:B:278:PRO:HD3 | 1.74 | 0.87 |
| 3:C:472:ILE:HB | 3:C:475:MET:SD | 2.15 | 0.87 |
| 4:E:91:LEU:HD13 | 4:E:145:PHE:CB | 2.03 | 0.87 |
| 1:A:41:ILE:CD1 | 1:A:51:GLU:HB3 | 2.04 | 0.87 |
| 2:B:23:GLN:N | 2:B:23:GLN:NE2 | 2.21 | 0.87 |
| 2:B:142:CYS:O | 2:B:210:TYR:HD1 | 1.57 | 0.87 |
| 1:D:37:LEU:HD12 | 1:D:53:ASN:O | 1.75 | 0.87 |
| 4:E:172:ILE:HG13 | 4:E:174:PRO:CD | 2.03 | 0.87 |
| 3:C:475:MET:HG2 | 3:C:476:GLY:N | 1.89 | 0.87 |
| 1:D:379:VAL:HA | 1:D:382:ILE:CG1 | 2.05 | 0.87 |
| 4:E:19:LYS:HZ2 | 4:E:154:GLU:HB3 | 1.39 | 0.87 |
| 1:A:192:CYS:SG | 1:A:193:CYS:N | 2.47 | 0.86 |
| 1:A:426:PHE:HD1 | 1:A:427:ALA:N | 1.71 | 0.86 |
| 3:C:159:SER:CA | 3:C:213:GLN:HG3 | 2.04 | 0.86 |
| 1:D:89:ASP:O | 1:D:149:TRP:HB3 | 1.74 | 0.86 |
| 3:C:93:VAL:HG11 | 3:C:151:LEU:CD1 | 2.05 | 0.86 |
| 3:C:148:PHE:CB | 3:C:215:VAL:CG2 | 2.48 | 0.86 |
| 4:E:178:THR:HG22 | 4:E:180:ASN:H | 1.40 | 0.86 |
| 4:E:189:PRO:CD | 4:E:211:PHE:HB2 | 2.00 | 0.86 |
| 4:E:283:GLY:O | 4:E:287:ILE:HG22 | 1.74 | 0.86 |
| 1:A:45:GLU:HB2 | 1:A:209:ARG:NH1 | 1.90 | 0.86 |
| 2:B:421:PHE:HA | 2:B:424:LEU:HB2 | 1.56 | 0.86 |
| 2:B:459:SER:O | 2:B:463:PRO:HD2 | 1.73 | 0.86 |
| 3:C:58:MET:SD | 3:C:92:ILE:HD11 | 2.15 | 0.86 |
| 3:C:155:ALA:HB2 | 3:C:211:ASN:HA | 1.56 | 0.86 |
| 1:D:78:ILE:HD12 | 1:D:110:LEU:HB3 | 1.56 | 0.86 |
| 1:D:259:VAL:HA | 1:D:262:GLU:CD | 1.96 | 0.86 |
| 2:B:23:GLN:NE2 | 2:B:23:GLN:H | 1.74 | 0.86 |
| 2:B:409:LYS:CB | 3:C:426:THR:HG21 | 2.05 | 0.86 |
| 4:E:311:PRO:HD2 | 4:E:440:VAL:CG1 | 2.04 | 0.86 |
| 3:C:97:ASN:HD21 | 3:C:146:LEU:HG | 1.34 | 0.86 |
| 3:C:251:ALA:HB1 | 3:C:453:ILE:HD11 | 1.56 | 0.86 |
| 1:D:236:PRO:HB3 | 1:D:299:HIS:HE2 | 1.40 | 0.86 |
| 1:A:41:ILE:HD11 | 1:A:51:GLU:CB | 2.04 | 0.86 |
| 2:B:201:ASP:OD1 | 2:B:202:PRO:HD2 | 1.75 | 0.86 |
| 1:A:245:LEU:HD13 | 2:B:250:SER:HB2 | 1.55 | 0.86 |
| 2:B:141:ASN:HA | 2:B:211:LEU:O | 1.74 | 0.86 |
| 2:B:272:GLU:HA | 2:B:275:LEU:CG | 2.06 | 0.86 |
| 1:D:137:PHE:CB | 1:D:435:GLN:HB2 | 2.03 | 0.86 |
| 1:D:187:TRP:HB2 | 1:D:199:LEU:CD2 | 2.05 | 0.86 |
| 3:C:311:ASN:O | 3:C:315:ARG:CB | 2.24 | 0.86 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:45:GLU:O | 1:D:130:ILE:HG13 | 1.75 | 0.86 |
| 1:D:160:PRO:HD3 | 1:D:185:LYS:CB | 2.06 | 0.86 |
| 1:D:166:ASP:HB2 | 1:D:181:TYR:CB | 2.05 | 0.86 |
| 4:E:240:TYR:CD2 | 4:E:453:ILE:HG12 | 2.11 | 0.86 |
| 1:D:419:ILE:O | 1:D:423:VAL:HG23 | 1.76 | 0.86 |
| 1:D:46:VAL:HG22 | 1:D:271:VAL:HA | 1.55 | 0.85 |
| 4:E:44:GLU:O | 4:E:129:ILE:HG13 | 1.75 | 0.85 |
| 1:A:149:TRP:CZ2 | 4:E:120:PRO:HD3 | 2.12 | 0.85 |
| 2:B:238:VAL:HG13 | 2:B:248:LYS:HZ1 | 1.36 | 0.85 |
| 1:A:35:LEU:HD21 | 1:A:37:LEU:HD23 | 1.58 | 0.85 |
| 1:D:419:ILE:HD12 | 1:D:420:ILE:N | 1.91 | 0.85 |
| 4:E:149:THR:HG23 | 4:E:150:TYR:N | 1.89 | 0.85 |
| 3:C:12:LEU:HD12 | 3:C:16:LYS:CG | 2.06 | 0.85 |
| 4:E:433:GLY:O | 4:E:436:ASN:HB2 | 1.76 | 0.85 |
| 1:A:15:TYR:OH | 1:A:84:ASP:HB3 | 1.76 | 0.85 |
| 1:A:188:VAL:O | 1:A:197:PRO:HB2 | 1.76 | 0.85 |
| 3:C:38:THR:OG1 | 3:C:178:ILE:HD13 | 1.76 | 0.85 |
| 3:C:63:TYR:CE1 | 3:C:116:GLY:HA3 | 2.11 | 0.85 |
| 1:A:16:ASN:HB2 | 1:A:19:ILE:HD12 | 1.59 | 0.85 |
| 1:A:57:ARG:HD3 | 1:A:161:GLU:HG2 | 1.57 | 0.85 |
| 1:A:107:LYS:C | 1:A:108:LEU:HD23 | 1.96 | 0.85 |
| 1:A:397:GLU:O | 1:A:400:LYS:HB2 | 1.76 | 0.85 |
| 3:C:56:VAL:HG13 | 3:C:126:PHE:HE2 | 1.42 | 0.85 |
| 3:C:69:TRP:HB3 | 3:C:73:GLU:CB | 2.05 | 0.85 |
| 4:E:122:ILE:H | 4:E:122:ILE:HD13 | 1.38 | 0.85 |
| 4:E:268:ILE:HG13 | 4:E:269:ALA:N | 1.91 | 0.85 |
| 1:A:148:ILE:HD11 | 1:A:156:VAL:CG1 | 2.05 | 0.85 |
| 2:B:198:ARG:HH11 | 2:B:198:ARG:HG3 | 1.41 | 0.85 |
| 1:D:17:LYS:HG2 | 1:D:84:ASP:CA | 2.04 | 0.85 |
| 1:D:107:LYS:NZ | 4:E:149:THR:HA | 1.91 | 0.85 |
| 1:D:257:LEU:HD12 | 1:D:258:LEU:N | 1.92 | 0.85 |
| 2:B:226:VAL:CG2 | 2:B:227:PRO:HD3 | 2.07 | 0.85 |
| 1:D:252:SER:CB | 4:E:259:LEU:HD22 | 2.07 | 0.85 |
| 4:E:246:ALA:HB1 | 4:E:250:LYS:CG | 2.07 | 0.85 |
| 2:B:152:ASP:HB3 | 2:B:203:SER:CB | 2.06 | 0.85 |
| 3:C:241:PHE:CZ | 1:D:293:VAL:HG22 | 2.12 | 0.85 |
| 1:D:30:ASP:O | 1:D:60:TRP:HB2 | 1.74 | 0.85 |
| 1:D:432:GLU:HG2 | 1:D:435:GLN:HE21 | 1.40 | 0.85 |
| 1:A:43:VAL:HG13 | 1:A:50:VAL:HG22 | 1.59 | 0.84 |
| 1:A:87:LEU:H | 1:A:87:LEU:CD2 | 1.89 | 0.84 |
| 1:A:128:CYS:HB3 | 1:A:144:MET:CE | 2.07 | 0.84 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:229:THR:HA | 1:D:232:VAL:CG2 | 2.07 | 0.84 |
| 4:E:110:TYR:HD1 | 4:E:111:ASN:N | 1.74 | 0.84 |
| 3:C:180:ASP:H | 3:C:195:LYS:CB | 1.90 | 0.84 |
| 3:C:289:GLY:O | 3:C:293:MET:HE2 | 1.77 | 0.84 |
| 1:D:86:TRP:CD2 | 1:D:86:TRP:O | 2.30 | 0.84 |
| 1:D:245:LEU:HD21 | 4:E:255:ILE:HG21 | 1.57 | 0.84 |
| 4:E:148:GLN:HA | 4:E:148:GLN:HE21 | 1.42 | 0.84 |
| 3:C:35:LEU:HD22 | 3:C:215:VAL:HG11 | 1.59 | 0.84 |
| 1:D:284:PHE:CE2 | 1:D:424:SER:HB3 | 2.12 | 0.84 |
| 4:E:216:ARG:O | 4:E:217:LYS:CG | 2.25 | 0.84 |
| 4:E:262:THR:CB | 4:E:265:LEU:HD12 | 2.06 | 0.84 |
| 2:B:91:VAL:HA | 2:B:96:ASN:ND2 | 1.91 | 0.84 |
| 2:B:132:VAL:O | 2:B:279:ILE:HG23 | 1.77 | 0.84 |
| 3:C:30:VAL:HG11 | 3:C:159:SER:CB | 2.07 | 0.84 |
| 3:C:83:ARG:O | 3:C:87:ILE:HG13 | 1.78 | 0.84 |
| 1:D:167:LEU:CD1 | 1:D:178:MET:CB | 2.54 | 0.84 |
| 4:E:197:GLN:HG2 | 4:E:198:LEU:H | 1.41 | 0.84 |
| 1:A:148:ILE:CG2 | 1:A:198:TYR:HB2 | 2.06 | 0.84 |
| 2:B:144:MET:HE3 | 2:B:191:LYS:HE3 | 1.57 | 0.84 |
| 3:C:31:VAL:HG11 | 3:C:88:TRP:HH2 | 1.40 | 0.84 |
| 3:C:102:TYR:O | 3:C:102:TYR:CD1 | 2.28 | 0.84 |
| 1:D:146:LEU:HD13 | 1:D:203:TYR:CE1 | 2.12 | 0.84 |
| 1:D:418:CYS:O | 1:D:422:THR:HB | 1.77 | 0.84 |
| 4:E:261:GLN:HE22 | 4:E:296:ILE:CD1 | 1.90 | 0.84 |
| 1:A:56:LEU:O | 1:A:119:THR:HA | 1.78 | 0.84 |
| 1:D:377:GLU:HB2 | 4:E:415:CYS:HB2 | 1.59 | 0.84 |
| 4:E:127:CYS:SG | 4:E:143:LEU:HG | 2.16 | 0.84 |
| 4:E:283:GLY:C | 4:E:284:LYS:HE3 | 1.97 | 0.84 |
| 1:A:251:LEU:CD2 | 4:E:260:ALA:CB | 2.54 | 0.84 |
| 1:A:394:ASN:OD1 | 1:A:395:ALA:N | 2.11 | 0.84 |
| 3:C:65:HIS:CD2 | 3:C:65:HIS:N | 2.45 | 0.84 |
| 1:D:134:HIS:HE1 | 1:D:209:ARG:CD | 1.91 | 0.84 |
| 1:A:255:VAL:O | 1:A:259:VAL:HG23 | 1.78 | 0.84 |
| 2:B:81:PRO:HA | 2:B:107:ASN:HA | 1.60 | 0.84 |
| 1:D:239:SER:HB3 | 4:E:314:HIS:HB2 | 1.60 | 0.84 |
| 4:E:6:LEU:HD12 | 4:E:69:SER:OG | 1.78 | 0.84 |
| 1:A:43:VAL:CG2 | 1:A:50:VAL:HG22 | 2.07 | 0.84 |
| 2:B:218:LEU:O | 2:B:219:PHE:CD1 | 2.31 | 0.84 |
| 3:C:33:ILE:O | 3:C:160:MET:HA | 1.77 | 0.84 |
| 1:D:214:PHE:O | 1:D:218:VAL:HG23 | 1.78 | 0.84 |
| 1:D:239:SER:HB2 | 1:D:242:LYS:HE2 | 1.60 | 0.84 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:258:ALA:HB2 | 3:C:265:LEU:CD1 | 2.08 | 0.84 |
| 4:E:135:PRO:CB | 4:E:137:ASP:OD1 | 2.25 | 0.84 |
| 4:E:187:HIS:CE1 | 4:E:189:PRO:HG3 | 2.12 | 0.84 |
| 2:B:31:VAL:HG12 | 2:B:158:LEU:HD21 | 1.60 | 0.83 |
| 2:B:442:ILE:O | 2:B:446:MET:HG2 | 1.76 | 0.83 |
| 3:C:12:LEU:HB2 | 3:C:16:LYS:HG2 | 1.57 | 0.83 |
| 1:D:87:LEU:HD12 | 1:D:88:PRO:HD2 | 1.60 | 0.83 |
| 1:A:90:LEU:CD1 | 1:A:100:PHE:HE2 | 1.90 | 0.83 |
| 2:B:261:VAL:HG12 | 2:B:262:PHE:HD1 | 1.41 | 0.83 |
| 3:C:19:LYS:O | 3:C:19:LYS:HD2 | 1.77 | 0.83 |
| 3:C:312:PHE:HE1 | 3:C:456:LEU:CD1 | 1.92 | 0.83 |
| 4:E:32:LEU:O | 4:E:33:LYS:HG3 | 1.78 | 0.83 |
| 1:A:137:PHE:CG | 1:A:435:GLN:NE2 | 2.46 | 0.83 |
| 1:A:274:ILE:HG13 | 1:A:277:TYR:HD1 | 1.42 | 0.83 |
| 1:A:304:SER:H | 1:A:400:LYS:HD3 | 1.43 | 0.83 |
| 2:B:258:ALA:HB1 | 3:C:265:LEU:HD22 | 1.60 | 0.83 |
| 1:D:68:ASN:HB2 | 1:D:69:PRO:CD | 2.07 | 0.83 |
| 1:D:134:HIS:HE1 | 1:D:209:ARG:HD3 | 1.40 | 0.83 |
| 4:E:44:GLU:CG | 4:E:129:ILE:CB | 2.46 | 0.83 |
| 4:E:187:HIS:ND1 | 4:E:189:PRO:HG3 | 1.92 | 0.83 |
| 3:C:67:LEU:HD12 | 3:C:116:GLY:CA | 2.08 | 0.83 |
| 4:E:292:VAL:O | 4:E:296:ILE:HG23 | 1.78 | 0.83 |
| 1:A:133:THR:HA | 1:A:274:ILE:CG2 | 2.08 | 0.83 |
| 1:A:190:TYR:HB2 | 1:A:192:CYS:SG | 2.17 | 0.83 |
| 2:B:90:ILE:HG23 | 2:B:147:LYS:N | 1.92 | 0.83 |
| 3:C:87:ILE:CD1 | 3:C:110:VAL:HB | 2.03 | 0.83 |
| 4:E:20:PRO:HB3 | 4:E:61:ASP:CG | 1.99 | 0.83 |
| 4:E:238:LEU:C | 4:E:242:LEU:HD23 | 1.97 | 0.83 |
| 1:A:422:THR:O | 1:A:425:VAL:HG12 | 1.78 | 0.83 |
| 2:B:11:LEU:O | 2:B:15:TYR:HB3 | 1.78 | 0.83 |
| 3:C:276:GLN:O | 3:C:279:PRO:HD2 | 1.78 | 0.83 |
| 1:D:224:LEU:HD21 | 4:E:297:VAL:HG11 | 1.57 | 0.83 |
| 2:B:33:VAL:HG21 | 2:B:158:LEU:HD13 | 1.61 | 0.83 |
| 2:B:35:LEU:HD22 | 2:B:56:LEU:HA | 1.61 | 0.83 |
| 1:D:148:ILE:HG12 | 1:D:151:TYR:HB2 | 1.58 | 0.83 |
| 1:D:303:PRO:HG2 | 1:D:400:LYS:HZ3 | 1.41 | 0.83 |
| 4:E:45:LYS:HD3 | 4:E:277:LEU:O | 1.79 | 0.83 |
| 4:E:432:SER:O | 4:E:435:GLU:HB2 | 1.78 | 0.83 |
| 1:A:130:ILE:CD1 | 1:A:131:ILE:N | 2.42 | 0.83 |
| 1:A:135:PHE:HB3 | 1:A:273:LEU:HA | 1.60 | 0.83 |
| 2:B:92:LEU:HG | 2:B:96:ASN:HB2 | 1.59 | 0.83 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:47:GLU:O | 3:C:132:ILE:HG21 | 1.79 | 0.83 |
| 3:C:316:THR:CG2 | 3:C:447:ASN:CB | 2.49 | 0.83 |
| 3:C:461:ILE:O | 3:C:464:VAL:HG12 | 1.78 | 0.83 |
| 1:D:37:LEU:H | 1:D:164:ARG:NH2 | 1.76 | 0.83 |
| 4:E:107:VAL:CG1 | 4:E:117:TRP:HB2 | 2.08 | 0.83 |
| 4:E:250:LYS:HD2 | 4:E:253:LEU:HD22 | 1.59 | 0.83 |
| 4:E:265:LEU:O | 4:E:268:ILE:HG23 | 1.78 | 0.83 |
| 2:B:9:SER:HA | 2:B:12:PHE:HE1 | 1.41 | 0.83 |
| 2:B:247:GLU:O | 2:B:249:MET:SD | 2.37 | 0.83 |
| 3:C:230:ILE:HG13 | 3:C:231:ASN:ND2 | 1.92 | 0.83 |
| 3:C:316:THR:HG23 | 3:C:317:PRO:CD | 2.06 | 0.83 |
| 4:E:431:ASP:O | 4:E:435:GLU:HG3 | 1.79 | 0.83 |
| 1:A:226:SER:O | 1:A:230:VAL:HG23 | 1.77 | 0.83 |
| 3:C:273:LEU:HD23 | 3:C:276:GLN:CB | 2.08 | 0.83 |
| 4:E:39:LEU:HD23 | 4:E:183:TRP:CZ2 | 2.13 | 0.83 |
| 1:A:108:LEU:HB3 | 1:A:117:MET:O | 1.79 | 0.82 |
| 2:B:297:LEU:HD12 | 2:B:445:THR:HG21 | 1.61 | 0.82 |
| 3:C:18:ASN:HB2 | 3:C:21:VAL:HB | 1.57 | 0.82 |
| 1:D:380:LYS:HE3 | 4:E:415:CYS:SG | 2.19 | 0.82 |
| 4:E:261:GLN:HE22 | 4:E:296:ILE:HD11 | 1.43 | 0.82 |
| 2:B:75:ILE:O | 2:B:75:ILE:HG13 | 1.79 | 0.82 |
| 4:E:242:LEU:HD11 | 4:E:253:LEU:CD2 | 2.09 | 0.82 |
| 4:E:271:LYS:HB2 | 4:E:271:LYS:NZ | 1.91 | 0.82 |
| 2:B:7:LEU:O | 2:B:11:LEU:HD23 | 1.79 | 0.82 |
| 2:B:189:GLU:O | 2:B:190:HIS:CD2 | 2.31 | 0.82 |
| 3:C:478:PHE:O | 3:C:482:PRO:HD3 | 1.77 | 0.82 |
| 2:B:160:HIS:CE1 | 2:B:207:VAL:HG11 | 2.15 | 0.82 |
| 2:B:258:ALA:CB | 3:C:265:LEU:CD2 | 2.57 | 0.82 |
| 3:C:476:GLY:HA2 | 3:C:479:ASN:HB3 | 1.60 | 0.82 |
| 1:D:92:LEU:HB2 | 1:D:96:ALA:N | 1.94 | 0.82 |
| 1:D:201:ILE:O | 1:D:203:TYR:HE1 | 1.62 | 0.82 |
| 1:D:255:VAL:O | 1:D:259:VAL:CG2 | 2.27 | 0.82 |
| 1:A:79:ARG:HD3 | 1:A:107:LYS:HD2 | 1.62 | 0.82 |
| 1:A:245:LEU:CD2 | 2:B:250:SER:HA | 2.09 | 0.82 |
| 1:D:405:VAL:O | 1:D:409:ILE:HG23 | 1.80 | 0.82 |
| 1:A:235:LEU:HD21 | 1:A:242:LYS:HG3 | 1.58 | 0.82 |
| 3:C:47:GLU:HG2 | 3:C:286:PRO:CD | 2.09 | 0.82 |
| 3:C:113:ARG:HD2 | 3:C:117:TYR:CB | 2.09 | 0.82 |
| 3:C:180:ASP:H | 3:C:195:LYS:HB3 | 1.43 | 0.82 |
| 1:D:92:LEU:CB | 1:D:95:ASN:HB2 | 2.08 | 0.82 |
| 1:A:67:TRP:CG | 1:A:71:ASP:HB3 | 2.15 | 0.82 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:56:VAL:HG13 | 3:C:126:PHE:CE2 | 2.14 | 0.82 |
| 3:C:278:LEU:C | 3:C:278:LEU:CD1 | 2.48 | 0.82 |
| 3:C:307:GLY:O | 3:C:310:LEU:HB2 | 1.80 | 0.82 |
| 2:B:109:LEU:HB3 | 2:B:117:SER:HB2 | 1.62 | 0.82 |
| 3:C:122:PRO:CB | 3:C:123:PRO:HD2 | 2.09 | 0.82 |
| 3:C:305:ASN:HA | 3:C:308:ILE:HB | 1.59 | 0.82 |
| 1:D:166:ASP:HB2 | 1:D:181:TYR:HB2 | 1.61 | 0.82 |
| 4:E:102:ALA:HB2 | 4:E:121:ALA:HB2 | 1.62 | 0.82 |
| 1:A:414:PHE:HA | 1:A:417:ILE:HD12 | 1.61 | 0.82 |
| 2:B:160:HIS:HE2 | 2:B:207:VAL:HG11 | 1.45 | 0.82 |
| 1:D:376:ILE:O | 1:D:380:LYS:HG3 | 1.79 | 0.82 |
| 1:A:257:LEU:CD1 | 1:A:285:VAL:HG23 | 2.10 | 0.82 |
| 1:A:382:ILE:O | 1:A:386:MET:HG2 | 1.80 | 0.82 |
| 3:C:31:VAL:HG11 | 3:C:88:TRP:CH2 | 2.15 | 0.82 |
| 1:A:79:ARG:HH11 | 1:A:107:LYS:NZ | 1.78 | 0.81 |
| 1:A:281:THR:O | 1:A:285:VAL:HG12 | 1.79 | 0.81 |
| 2:B:261:VAL:HG12 | 2:B:262:PHE:CD1 | 2.15 | 0.81 |
| 3:C:475:MET:O | 3:C:478:PHE:CD1 | 2.33 | 0.81 |
| 4:E:89:VAL:HG23 | 4:E:99:PHE:CZ | 2.15 | 0.81 |
| 4:E:444:LYS:O | 4:E:448:LYS:HG2 | 1.79 | 0.81 |
| 3:C:279:PRO:HA | 3:C:282:ALA:HB3 | 1.62 | 0.81 |
| 4:E:191:LYS:H | 4:E:209:ILE:CG2 | 1.93 | 0.81 |
| 4:E:235:LEU:HD12 | 4:E:235:LEU:O | 1.80 | 0.81 |
| 1:A:108:LEU:CD1 | 1:A:118:TRP:HB2 | 2.09 | 0.81 |
| 1:A:233:PHE:O | 1:A:236:PRO:HG2 | 1.80 | 0.81 |
| 1:A:235:LEU:N | 1:A:236:PRO:HD2 | 1.95 | 0.81 |
| 1:A:245:LEU:HD22 | 2:B:250:SER:HA | 1.62 | 0.81 |
| 1:A:303:PRO:HB2 | 1:A:400:LYS:CE | 2.10 | 0.81 |
| 1:D:107:LYS:CE | 4:E:149:THR:HA | 2.10 | 0.81 |
| 1:D:130:ILE:HD13 | 1:D:131:ILE:H | 1.45 | 0.81 |
| 1:D:377:GLU:HA | 1:D:380:LYS:HD2 | 1.60 | 0.81 |
| 4:E:6:LEU:HD13 | 4:E:67:ASN:ND2 | 1.95 | 0.81 |
| 4:E:44:GLU:CD | 4:E:129:ILE:HB | 2.01 | 0.81 |
| 4:E:183:TRP:CA | 4:E:216:ARG:HG2 | 2.08 | 0.81 |
| 4:E:184:THR:N | 4:E:215:GLN:O | 2.13 | 0.81 |
| 2:B:31:VAL:HG12 | 2:B:158:LEU:CD2 | 2.11 | 0.81 |
| 2:B:35:LEU:HD22 | 2:B:55:PHE:O | 1.80 | 0.81 |
| 2:B:37:LEU:CB | 2:B:179:ALA:HB3 | 2.11 | 0.81 |
| 1:A:300:HIS:HA | 1:A:306:HIS:O | 1.79 | 0.81 |
| 1:A:417:ILE:HA | 1:A:420:ILE:HG12 | 1.60 | 0.81 |
| 1:D:78:ILE:CD1 | 1:D:110:LEU:HB3 | 2.09 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:167:LEU:HG | 1:D:178:MET:HB2 | 1.63 | 0.81 |
| 1:D:240:GLY:O | 1:D:243:MET:SD | 2.38 | 0.81 |
| 1:D:292:THR:HA | 1:D:295:VAL:CG2 | 2.10 | 0.81 |
| 2:B:254:SER:O | 3:C:265:LEU:CD1 | 2.27 | 0.81 |
| 1:D:29:VAL:CG1 | 1:D:60:TRP:HE1 | 1.93 | 0.81 |
| 1:D:242:LYS:HD2 | 1:D:245:LEU:HD13 | 1.61 | 0.81 |
| 1:D:35:LEU:HD11 | 1:D:54:VAL:HG11 | 1.58 | 0.81 |
| 1:D:209:ARG:CG | 1:D:210:ILE:H | 1.93 | 0.81 |
| 1:A:305:THR:HB | 1:A:401:TYR:HB3 | 1.63 | 0.81 |
| 2:B:269:LYS:HE3 | 2:B:270:VAL:HG23 | 1.62 | 0.81 |
| 1:D:165:PRO:HG2 | 1:D:168:SER:HB3 | 1.63 | 0.81 |
| 1:D:250:LEU:HD13 | 1:D:296:ILE:CD1 | 2.10 | 0.81 |
| 4:E:35:THR:HB | 4:E:54:TRP:HE3 | 1.45 | 0.81 |
| 4:E:148:GLN:HA | 4:E:148:GLN:NE2 | 1.92 | 0.81 |
| 4:E:216:ARG:O | 4:E:217:LYS:HG3 | 1.81 | 0.81 |
| 1:A:160:PRO:HG3 | 1:A:185:LYS:HB3 | 1.61 | 0.81 |
| 2:B:272:GLU:CA | 2:B:275:LEU:HG | 2.11 | 0.81 |
| 3:C:42:LEU:HA | 3:C:54:THR:HG22 | 1.60 | 0.81 |
| 1:D:407:ASP:OD1 | 1:D:408:HIS:HD2 | 1.63 | 0.81 |
| 1:A:254:THR:O | 1:A:258:LEU:HG | 1.81 | 0.81 |
| 1:A:378:GLY:O | 1:A:382:ILE:HG12 | 1.79 | 0.81 |
| 3:C:305:ASN:O | 3:C:308:ILE:HG22 | 1.80 | 0.81 |
| 1:D:264:ILE:HB | 1:D:265:PRO:HD3 | 1.63 | 0.81 |
| 3:C:110:VAL:CG1 | 3:C:120:TRP:HB2 | 2.10 | 0.80 |
| 1:D:35:LEU:HG | 1:D:54:VAL:CG1 | 2.10 | 0.80 |
| 4:E:20:PRO:HG2 | 4:E:28:ILE:CD1 | 2.09 | 0.80 |
| 4:E:436:ASN:HA | 4:E:439:TRP:NE1 | 1.95 | 0.80 |
| 1:A:66:ARG:HD3 | 1:A:66:ARG:N | 1.95 | 0.80 |
| 1:A:189:TYR:HA | 1:A:197:PRO:CD | 2.12 | 0.80 |
| 2:B:223:TYR:O | 2:B:227:PRO:CD | 2.29 | 0.80 |
| 1:D:287:SER:HA | 1:D:290:ILE:HG12 | 1.62 | 0.80 |
| 1:A:1:SER:N | 1:A:4:GLU:HB2 | 1.96 | 0.80 |
| 1:A:135:PHE:CD1 | 1:A:273:LEU:HB2 | 2.17 | 0.80 |
| 1:A:291:VAL:HG12 | 1:A:295:VAL:HG21 | 1.62 | 0.80 |
| 3:C:427:ASN:HA | 3:C:430:VAL:HG23 | 1.62 | 0.80 |
| 1:D:231:LEU:O | 1:D:235:LEU:HG | 1.80 | 0.80 |
| 1:D:236:PRO:HB2 | 1:D:406:ILE:HG12 | 1.63 | 0.80 |
| 4:E:19:LYS:NZ | 4:E:154:GLU:HB2 | 1.94 | 0.80 |
| 1:D:298:THR:CG2 | 1:D:301:ARG:HD3 | 2.11 | 0.80 |
| 4:E:2:GLU:HA | 4:E:5:ARG:HG3 | 1.62 | 0.80 |
| 1:A:235:LEU:HD11 | 1:A:242:LYS:CE | 2.10 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:265:LEU:O | 2:B:268:ASP:HB2 | 1.81 | 0.80 |
| 4:E:55:ILE:HG13 | 4:E:57:ILE:HG13 | 1.63 | 0.80 |
| 4:E:138:TRP:CZ2 | 4:E:215:GLN:HB2 | 2.16 | 0.80 |
| 4:E:144:VAL:HA | 4:E:208:ILE:O | 1.80 | 0.80 |
| 4:E:237:VAL:HG13 | 4:E:453:ILE:HD11 | 1.63 | 0.80 |
| 4:E:276:SER:HB3 | 4:E:281:LEU:HD13 | 1.62 | 0.80 |
| 1:A:175:GLU:O | 1:A:211:PRO:HD3 | 1.81 | 0.80 |
| 2:B:47:ASN:O | 2:B:48:GLU:CG | 2.27 | 0.80 |
| 2:B:119:HIS:N | 2:B:119:HIS:CD2 | 2.48 | 0.80 |
| 3:C:130:CYS:SG | 3:C:131:PRO:HD2 | 2.20 | 0.80 |
| 3:C:438:ALA:HA | 3:C:441:GLU:CD | 2.01 | 0.80 |
| 4:E:152:ALA:H | 4:E:205:PHE:HA | 1.47 | 0.80 |
| 1:D:107:LYS:HE3 | 4:E:149:THR:HA | 1.64 | 0.80 |
| 3:C:7:LEU:HA | 3:C:10:ASP:OD2 | 1.81 | 0.80 |
| 3:C:12:LEU:CD1 | 3:C:16:LYS:HG2 | 2.11 | 0.80 |
| 1:D:102:ILE:CG1 | 4:E:98:GLN:NE2 | 2.41 | 0.80 |
| 1:A:276:LYS:HD2 | 1:A:276:LYS:H | 1.46 | 0.80 |
| 2:B:88:PRO:HB2 | 2:B:90:ILE:HG13 | 1.64 | 0.80 |
| 2:B:107:ASN:HB2 | 3:C:152:ASN:ND2 | 1.97 | 0.80 |
| 2:B:435:ALA:O | 2:B:439:PHE:HB3 | 1.82 | 0.80 |
| 3:C:244:ALA:O | 3:C:248:TYR:CD2 | 2.35 | 0.80 |
| 1:D:250:LEU:O | 1:D:254:THR:HG22 | 1.82 | 0.80 |
| 4:E:148:GLN:HE21 | 4:E:148:GLN:CA | 1.95 | 0.80 |
| 1:A:131:ILE:HD11 | 1:A:140:GLN:CD | 2.02 | 0.80 |
| 1:A:148:ILE:CD1 | 1:A:156:VAL:HG13 | 2.12 | 0.80 |
| 1:A:250:LEU:CD1 | 1:A:296:ILE:HG21 | 2.10 | 0.80 |
| 2:B:226:VAL:HB | 2:B:230:LEU:CD1 | 2.12 | 0.80 |
| 3:C:106:TYR:O | 3:C:106:TYR:HD1 | 1.65 | 0.80 |
| 3:C:190:TRP:HB3 | 3:C:223:ARG:HB2 | 1.63 | 0.80 |
| 1:D:28:PHE:CD2 | 1:D:157:SER:HB3 | 2.17 | 0.80 |
| 4:E:91:LEU:H | 4:E:95:VAL:CG2 | 1.95 | 0.80 |
| 1:A:41:ILE:CD1 | 1:A:51:GLU:CD | 2.50 | 0.79 |
| 1:A:136:PRO:HG3 | 1:A:274:ILE:HG23 | 1.64 | 0.79 |
| 2:B:67:TRP:HB2 | 2:B:72:TYR:HB2 | 1.64 | 0.79 |
| 3:C:89:ILE:HB | 3:C:120:TRP:CZ3 | 2.16 | 0.79 |
| 1:D:256:PHE:HE2 | 4:E:262:THR:HG22 | 1.47 | 0.79 |
| 1:A:3:HIS:C | 1:A:7:LEU:HG | 2.03 | 0.79 |
| 1:A:139:GLN:HB2 | 1:A:207:MET:O | 1.82 | 0.79 |
| 1:A:305:THR:HG21 | 1:A:401:TYR:CD1 | 2.17 | 0.79 |
| 2:B:131:LYS:HZ2 | 2:B:132:VAL:HB | 1.44 | 0.79 |
| 2:B:198:ARG:HH11 | 2:B:198:ARG:CG | 1.95 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:241:LEU:HD21 | 2:B:251:LEU:HD21 | 1.63 | 0.79 |
| 3:C:160:MET:H | 3:C:213:GLN:HB2 | 1.45 | 0.79 |
| 1:D:245:LEU:HD11 | 4:E:255:ILE:HG13 | 1.62 | 0.79 |
| 1:A:167:LEU:HA | 1:A:170:PHE:HB2 | 1.62 | 0.79 |
| 1:A:238:ASP:HB3 | 2:B:306:HIS:HE1 | 1.45 | 0.79 |
| 2:B:28:LYS:HG2 | 2:B:154:SER:O | 1.82 | 0.79 |
| 3:C:77:ILE:O | 3:C:77:ILE:HG13 | 1.82 | 0.79 |
| 1:A:6:ARG:NH1 | 1:A:6:ARG:HB2 | 1.98 | 0.79 |
| 1:A:35:LEU:HD21 | 1:A:37:LEU:CD2 | 2.12 | 0.79 |
| 1:A:41:ILE:HG13 | 1:A:42:ASN:N | 1.97 | 0.79 |
| 1:A:286:ILE:O | 1:A:289:ILE:HB | 1.81 | 0.79 |
| 3:C:155:ALA:CB | 3:C:211:ASN:HA | 2.12 | 0.79 |
| 4:E:241:PHE:CA | 4:E:450:CYS:SG | 2.70 | 0.79 |
| 1:A:179:LYS:HE2 | 1:A:208:GLN:CD | 2.02 | 0.79 |
| 3:C:2:ASN:ND2 | 3:C:71:ALA:HB3 | 1.97 | 0.79 |
| 3:C:4:GLU:HB3 | 3:C:72:SER:HB2 | 1.65 | 0.79 |
| 1:D:29:VAL:HG12 | 1:D:60:TRP:HD1 | 1.44 | 0.79 |
| 1:D:29:VAL:CG1 | 1:D:60:TRP:NE1 | 2.45 | 0.79 |
| 4:E:249:GLN:HE22 | 4:E:250:LYS:CE | 1.91 | 0.79 |
| 1:D:252:SER:HB2 | 4:E:259:LEU:HD22 | 1.63 | 0.79 |
| 4:E:34:LEU:HB2 | 4:E:210:PHE:HZ | 1.48 | 0.79 |
| 4:E:141:CYS:SG | 4:E:143:LEU:HD11 | 2.23 | 0.79 |
| 1:A:294:VAL:HG13 | 1:A:295:VAL:N | 1.98 | 0.79 |
| 1:A:419:ILE:HD13 | 1:A:423:VAL:CG2 | 2.13 | 0.79 |
| 2:B:405:VAL:HG12 | 2:B:409:LYS:HZ3 | 1.45 | 0.79 |
| 1:D:201:ILE:HG22 | 1:D:203:TYR:CE1 | 2.17 | 0.79 |
| 4:E:1:ASN:ND2 | 4:E:69:SER:N | 2.29 | 0.79 |
| 4:E:91:LEU:HB2 | 4:E:95:VAL:H | 1.48 | 0.79 |
| 4:E:267:LEU:HD12 | 4:E:270:GLN:OE1 | 1.82 | 0.79 |
| 1:A:291:VAL:O | 1:A:295:VAL:HG23 | 1.82 | 0.79 |
| 2:B:100:PHE:HB2 | 2:B:103:THR:CB | 2.13 | 0.79 |
| 2:B:197:TRP:CD1 | 2:B:204:TYR:HB3 | 2.17 | 0.79 |
| 2:B:226:VAL:O | 2:B:230:LEU:HG | 1.82 | 0.79 |
| 2:B:271:PRO:O | 2:B:275:LEU:HG | 1.83 | 0.79 |
| 3:C:97:ASN:HB3 | 3:C:128:SER:CB | 2.11 | 0.79 |
| 3:C:179:ILE:HG22 | 3:C:182:GLU:HB2 | 1.65 | 0.79 |
| 2:B:133:MET:CA | 2:B:279:ILE:HG23 | 2.13 | 0.79 |
| 3:C:43:ILE:H | 3:C:43:ILE:HD12 | 1.46 | 0.79 |
| 3:C:78:SER:O | 3:C:79:ILE:HD12 | 1.82 | 0.79 |
| 3:C:154:ASN:HB3 | 3:C:211:ASN:CB | 2.11 | 0.79 |
| 3:C:318:SER:HB2 | 3:C:447:ASN:ND2 | 1.97 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:426:THR:O | 3:C:429:ILE:HG13 | 1.81 | 0.79 |
| 1:D:30:ASP:OD1 | 1:D:30:ASP:N | 2.12 | 0.79 |
| 2:B:89:ASP:OD1 | 2:B:151:TYR:HD1 | 1.65 | 0.78 |
| 3:C:77:ILE:HD11 | 3:C:80:LEU:HD13 | 1.63 | 0.78 |
| 1:A:167:LEU:HD12 | 1:A:178:MET:CG | 2.14 | 0.78 |
| 1:A:296:ILE:HA | 1:A:299:HIS:CB | 2.10 | 0.78 |
| 1:A:420:ILE:HG13 | 1:A:421:GLY:N | 1.96 | 0.78 |
| 1:D:102:ILE:O | 1:D:102:ILE:HG22 | 1.82 | 0.78 |
| 1:D:135:PHE:CG | 1:D:210:ILE:HG12 | 2.18 | 0.78 |
| 1:D:222:CYS:O | 1:D:225:PHE:CD1 | 2.36 | 0.78 |
| 4:E:474:VAL:HB | 4:E:475:PRO:HD3 | 1.64 | 0.78 |
| 3:C:469:THR:O | 3:C:473:PHE:HB2 | 1.83 | 0.78 |
| 1:D:284:PHE:O | 1:D:287:SER:HB3 | 1.82 | 0.78 |
| 4:E:191:LYS:O | 4:E:209:ILE:HG22 | 1.82 | 0.78 |
| 1:A:54:VAL:CG2 | 1:A:122:ALA:HB3 | 2.14 | 0.78 |
| 2:B:306:HIS:ND1 | 2:B:306:HIS:O | 2.17 | 0.78 |
| 3:C:279:PRO:O | 3:C:282:ALA:HB3 | 1.82 | 0.78 |
| 1:D:132:VAL:O | 1:D:274:ILE:N | 2.16 | 0.78 |
| 1:D:141:ASN:HA | 1:D:205:PHE:O | 1.84 | 0.78 |
| 1:D:264:ILE:HB | 1:D:265:PRO:CD | 2.12 | 0.78 |
| 4:E:1:ASN:HD22 | 4:E:69:SER:HB3 | 1.47 | 0.78 |
| 4:E:262:THR:HA | 4:E:265:LEU:HB2 | 1.64 | 0.78 |
| 4:E:271:LYS:C | 4:E:273:PRO:HD2 | 2.03 | 0.78 |
| 1:A:106:THR:HG22 | 1:A:107:LYS:H | 1.49 | 0.78 |
| 1:A:406:ILE:HA | 1:A:409:ILE:CD1 | 2.14 | 0.78 |
| 2:B:107:ASN:HB2 | 3:C:152:ASN:HD21 | 1.48 | 0.78 |
| 3:C:13:ILE:HB | 3:C:86:LEU:HD22 | 1.66 | 0.78 |
| 1:D:170:PHE:HE2 | 1:D:176:TRP:CD1 | 2.02 | 0.78 |
| 1:D:203:TYR:HD1 | 1:D:203:TYR:H | 1.29 | 0.78 |
| 1:D:276:LYS:H | 1:D:276:LYS:HD2 | 1.48 | 0.78 |
| 1:A:52:THR:O | 1:A:123:ILE:HG13 | 1.83 | 0.78 |
| 1:A:129:GLU:OE2 | 1:A:140:GLN:CG | 2.32 | 0.78 |
| 1:A:255:VAL:CG2 | 4:E:264:PHE:CE1 | 2.66 | 0.78 |
| 2:B:445:THR:O | 2:B:449:ILE:HG12 | 1.84 | 0.78 |
| 1:D:35:LEU:CD1 | 1:D:54:VAL:CG1 | 2.57 | 0.78 |
| 1:D:137:PHE:O | 1:D:435:GLN:HG3 | 1.83 | 0.78 |
| 4:E:76:LEU:HD21 | 4:E:108:LEU:HD11 | 1.66 | 0.78 |
| 4:E:162:GLU:HG2 | 4:E:190:ALA:O | 1.84 | 0.78 |
| 1:A:218:VAL:O | 1:A:221:PRO:HD2 | 1.82 | 0.78 |
| 2:B:232:SER:O | 2:B:236:ILE:HG22 | 1.84 | 0.78 |
| 3:C:471:PHE:CD1 | 3:C:471:PHE:C | 2.56 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:138:ASP:O | 1:D:139:GLN:HG2 | 1.84 | 0.78 |
| 1:A:43:VAL:HG22 | 1:A:50:VAL:HG13 | 1.63 | 0.78 |
| 1:A:273:LEU:O | 1:A:273:LEU:HD23 | 1.84 | 0.78 |
| 1:A:413:VAL:O | 1:A:417:ILE:HG13 | 1.83 | 0.78 |
| 3:C:263:VAL:HA | 1:D:251:LEU:HD11 | 1.66 | 0.78 |
| 1:D:56:LEU:N | 1:D:120:PRO:HD2 | 1.98 | 0.78 |
| 1:D:131:ILE:HG13 | 1:D:133:THR:N | 1.97 | 0.78 |
| 2:B:134:TYR:HE1 | 2:B:213:ILE:HG13 | 1.02 | 0.78 |
| 3:C:13:ILE:HG21 | 3:C:86:LEU:HB3 | 1.66 | 0.78 |
| 1:D:145:LYS:HG3 | 1:D:202:THR:HG23 | 0.88 | 0.78 |
| 1:D:189:TYR:HA | 1:D:197:PRO:CD | 2.13 | 0.78 |
| 4:E:60:ASN:HD22 | 4:E:60:ASN:N | 1.81 | 0.78 |
| 4:E:67:ASN:N | 4:E:67:ASN:ND2 | 2.25 | 0.78 |
| 4:E:177:PHE:CZ | 4:E:184:THR:HA | 2.19 | 0.78 |
| 1:A:432:GLU:HG3 | 1:A:436:GLU:OE2 | 1.84 | 0.77 |
| 2:B:226:VAL:HB | 2:B:230:LEU:HD11 | 1.64 | 0.77 |
| 3:C:153:TYR:HB2 | 3:C:158:ILE:HB | 1.65 | 0.77 |
| 4:E:284:LYS:HE3 | 4:E:284:LYS:CA | 2.14 | 0.77 |
| 2:B:55:PHE:N | 2:B:55:PHE:HD1 | 1.82 | 0.77 |
| 2:B:244:ASP:HB3 | 3:C:314:PHE:HE1 | 1.49 | 0.77 |
| 2:B:405:VAL:HG12 | 2:B:409:LYS:NZ | 1.98 | 0.77 |
| 1:D:167:LEU:CD1 | 1:D:178:MET:HB3 | 2.11 | 0.77 |
| 4:E:94:ASN:CG | 4:E:143:LEU:HD23 | 2.05 | 0.77 |
| 4:E:99:PHE:HB3 | 4:E:102:ALA:CB | 2.14 | 0.77 |
| 2:B:45:GLU:HA | 2:B:130:ILE:HD12 | 1.66 | 0.77 |
| 2:B:135:PHE:HB2 | 2:B:279:ILE:CD1 | 2.14 | 0.77 |
| 3:C:38:THR:HG21 | 3:C:57:TRP:CE3 | 2.19 | 0.77 |
| 3:C:279:PRO:HA | 3:C:282:ALA:CB | 2.14 | 0.77 |
| 2:B:21:PRO:HG2 | 2:B:60:TRP:HE1 | 1.48 | 0.77 |
| 3:C:453:ILE:CG2 | 3:C:454:ASP:H | 1.98 | 0.77 |
| 1:D:287:SER:HA | 1:D:290:ILE:CG1 | 2.15 | 0.77 |
| 4:E:71:TYR:HD1 | 4:E:111:ASN:CB | 1.97 | 0.77 |
| 1:D:29:VAL:CG1 | 1:D:60:TRP:CD1 | 2.68 | 0.77 |
| 1:A:251:LEU:CD1 | 4:E:260:ALA:HB2 | 2.13 | 0.77 |
| 2:B:236:ILE:O | 2:B:240:TYR:HB2 | 1.84 | 0.77 |
| 3:C:230:ILE:HG13 | 3:C:231:ASN:N | 1.99 | 0.77 |
| 4:E:293:SER:O | 4:E:296:ILE:HG12 | 1.84 | 0.77 |
| 1:A:243:MET:HE3 | 1:A:244:THR:HG22 | 1.65 | 0.77 |
| 1:D:68:ASN:HB2 | 1:D:69:PRO:HD3 | 1.66 | 0.77 |
| 4:E:27:VAL:HG12 | 4:E:153:HIS:O | 1.84 | 0.77 |
| 4:E:183:TRP:HA | 4:E:216:ARG:HA | 1.66 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:266:LEU:O | 2:B:270:VAL:HG23 | 1.84 | 0.77 |
| 3:C:60:HIS:NE2 | 3:C:92:ILE:HG21 | 2.00 | 0.77 |
| 3:C:190:TRP:HD1 | 3:C:221:ILE:HD12 | 1.48 | 0.77 |
| 1:A:426:PHE:CD1 | 1:A:427:ALA:N | 2.53 | 0.77 |
| 2:B:192:PRO:HD2 | 2:B:210:TYR:CB | 2.15 | 0.77 |
| 1:D:61:ILE:HA | 1:D:116:ILE:HD11 | 1.66 | 0.77 |
| 1:A:242:LYS:HD2 | 1:A:245:LEU:HD23 | 1.66 | 0.77 |
| 1:A:380:LYS:CB | 2:B:408:ILE:HD13 | 2.15 | 0.77 |
| 1:D:376:ILE:C | 1:D:380:LYS:HE2 | 2.05 | 0.77 |
| 4:E:26:HIS:CG | 4:E:26:HIS:O | 2.37 | 0.77 |
| 4:E:39:LEU:HD12 | 4:E:49:LEU:HD13 | 1.65 | 0.77 |
| 4:E:266:PHE:HD1 | 4:E:269:ALA:HB3 | 1.49 | 0.77 |
| 2:B:40:LEU:HD23 | 2:B:52:THR:OG1 | 1.86 | 0.76 |
| 2:B:425:LYS:HA | 2:B:428:TRP:HD1 | 1.44 | 0.76 |
| 3:C:113:ARG:HB3 | 3:C:114:PRO:HD2 | 1.67 | 0.76 |
| 3:C:306:CYS:O | 3:C:309:VAL:HB | 1.85 | 0.76 |
| 1:D:62:ASP:HB3 | 1:D:65:LEU:CD1 | 2.15 | 0.76 |
| 1:D:160:PRO:CD | 1:D:185:LYS:HB3 | 2.15 | 0.76 |
| 1:D:169:THR:O | 1:D:169:THR:HG22 | 1.83 | 0.76 |
| 4:E:36:LEU:HD12 | 4:E:173:ASP:OD1 | 1.86 | 0.76 |
| 4:E:133:TYR:CE1 | 4:E:139:GLN:O | 2.37 | 0.76 |
| 4:E:152:ALA:HA | 4:E:155:VAL:O | 1.85 | 0.76 |
| 4:E:227:ALA:N | 4:E:228:PRO:HD2 | 1.99 | 0.76 |
| 2:B:92:LEU:HA | 2:B:145:VAL:O | 1.84 | 0.76 |
| 2:B:256:LEU:HD21 | 2:B:298:SER:HB2 | 1.66 | 0.76 |
| 3:C:155:ALA:N | 3:C:211:ASN:HA | 2.00 | 0.76 |
| 1:A:233:PHE:CZ | 1:A:417:ILE:HD11 | 2.21 | 0.76 |
| 2:B:291:VAL:HG12 | 2:B:292:ALA:H | 1.47 | 0.76 |
| 3:C:471:PHE:C | 3:C:471:PHE:HD1 | 1.88 | 0.76 |
| 1:A:240:GLY:O | 1:A:306:HIS:HE1 | 1.67 | 0.76 |
| 2:B:37:LEU:HB3 | 2:B:179:ALA:CB | 2.14 | 0.76 |
| 3:C:103:ASN:ND2 | 3:C:106:TYR:CE2 | 2.53 | 0.76 |
| 1:D:95:ASN:ND2 | 1:D:128:CYS:HB3 | 1.98 | 0.76 |
| 1:D:149:TRP:CE2 | 1:D:150:THR:HB | 2.21 | 0.76 |
| 4:E:19:LYS:HZ2 | 4:E:154:GLU:CB | 1.95 | 0.76 |
| 4:E:470:HIS:NE2 | 4:E:474:VAL:HG21 | 1.98 | 0.76 |
| 1:A:43:VAL:CG1 | 1:A:50:VAL:HG22 | 2.15 | 0.76 |
| 1:A:423:VAL:O | 1:A:426:PHE:HB3 | 1.85 | 0.76 |
| 3:C:58:MET:O | 3:C:58:MET:HG2 | 1.85 | 0.76 |
| 1:D:1:SER:N | 1:D:4:GLU:HB2 | 2.00 | 0.76 |
| 2:B:68:ASP:O | 2:B:72:TYR:HB3 | 1.84 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:134:TYR:N | 2:B:279:ILE:HG12 | 1.98 | 0.76 |
| 3:C:453:ILE:HG23 | 3:C:454:ASP:H | 1.47 | 0.76 |
| 1:D:292:THR:CA | 1:D:295:VAL:HG22 | 2.16 | 0.76 |
| 4:E:45:LYS:HB3 | 4:E:280:PRO:HA | 1.67 | 0.76 |
| 4:E:453:ILE:HD12 | 4:E:454:ALA:N | 2.00 | 0.76 |
| 2:B:408:ILE:HG23 | 2:B:409:LYS:N | 1.99 | 0.76 |
| 3:C:3:GLU:HG2 | 3:C:3:GLU:O | 1.86 | 0.76 |
| 3:C:248:TYR:C | 3:C:250:PRO:HD2 | 2.05 | 0.76 |
| 3:C:470:ILE:O | 3:C:474:VAL:HG23 | 1.84 | 0.76 |
| 1:D:38:ILE:HA | 1:D:169:THR:CG2 | 2.14 | 0.76 |
| 1:D:187:TRP:CH2 | 1:D:189:TYR:CD2 | 2.73 | 0.76 |
| 1:D:295:VAL:O | 1:D:299:HIS:N | 2.19 | 0.76 |
| 4:E:449:ALA:HA | 4:E:452:TRP:CD1 | 2.21 | 0.76 |
| 1:A:160:PRO:HG2 | 1:A:185:LYS:NZ | 2.01 | 0.76 |
| 3:C:60:HIS:NE2 | 3:C:92:ILE:HD13 | 2.01 | 0.76 |
| 3:C:204:ASP:OD1 | 3:C:205:LYS:NZ | 2.18 | 0.76 |
| 3:C:431:LYS:O | 3:C:434:LYS:HB3 | 1.86 | 0.76 |
| 1:D:228:LEU:HD21 | 4:E:258:LEU:HD21 | 1.66 | 0.76 |
| 1:D:416:LEU:CA | 1:D:419:ILE:HG13 | 2.16 | 0.76 |
| 4:E:71:TYR:CD1 | 4:E:111:ASN:HB2 | 2.20 | 0.76 |
| 1:A:230:VAL:HG22 | 1:A:414:PHE:CE1 | 2.20 | 0.76 |
| 1:A:261:VAL:O | 1:A:265:PRO:CD | 2.34 | 0.76 |
| 2:B:147:LYS:HG3 | 2:B:148:SER:N | 2.00 | 0.76 |
| 2:B:247:GLU:C | 2:B:249:MET:HG3 | 2.05 | 0.76 |
| 3:C:50:GLU:HB3 | 3:C:132:ILE:HB | 1.67 | 0.76 |
| 3:C:78:SER:C | 3:C:79:ILE:HD12 | 2.06 | 0.76 |
| 3:C:216:THR:C | 3:C:217:PHE:HD1 | 1.89 | 0.76 |
| 1:D:49:ILE:HD12 | 1:D:125:LYS:HE3 | 1.66 | 0.76 |
| 1:D:65:LEU:HD23 | 1:D:110:LEU:CD2 | 2.14 | 0.76 |
| 1:D:178:MET:SD | 1:D:207:MET:HB3 | 2.25 | 0.76 |
| 1:D:376:ILE:HG22 | 1:D:380:LYS:NZ | 2.00 | 0.76 |
| 4:E:59:TRP:C | 4:E:60:ASN:ND2 | 2.35 | 0.76 |
| 4:E:267:LEU:O | 4:E:270:GLN:HG3 | 1.86 | 0.76 |
| 1:A:212:LEU:HA | 1:A:215:VAL:HG23 | 1.68 | 0.76 |
| 3:C:190:TRP:HB2 | 3:C:223:ARG:HB2 | 1.67 | 0.76 |
| 1:D:92:LEU:HD13 | 1:D:146:LEU:CG | 2.16 | 0.76 |
| 1:D:130:ILE:HB | 1:D:134:HIS:CD2 | 2.20 | 0.76 |
| 1:A:230:VAL:HG13 | 1:A:414:PHE:CZ | 2.21 | 0.75 |
| 2:B:45:GLU:OE1 | 2:B:279:ILE:HD11 | 1.86 | 0.75 |
| 2:B:251:LEU:HD13 | 3:C:261:ILE:HG21 | 1.66 | 0.75 |
| 3:C:47:GLU:HG2 | 3:C:286:PRO:CG | 2.16 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:263:VAL:O | 3:C:267:GLN:HG2 | 1.85 | 0.75 |
| 3:C:449:VAL:HG12 | 3:C:452:THR:HG21 | 1.68 | 0.75 |
| 4:E:59:TRP:HE1 | 4:E:84:LEU:HD23 | 1.51 | 0.75 |
| 3:C:120:TRP:CD1 | 3:C:122:PRO:HD3 | 2.20 | 0.75 |
| 1:A:62:ASP:OD1 | 1:A:64:ARG:HB2 | 1.87 | 0.75 |
| 1:A:212:LEU:HA | 1:A:215:VAL:CG2 | 2.16 | 0.75 |
| 1:A:229:THR:CA | 1:A:232:VAL:HB | 2.17 | 0.75 |
| 2:B:235:ALA:HB1 | 2:B:239:PHE:CE2 | 2.21 | 0.75 |
| 3:C:438:ALA:HA | 3:C:441:GLU:OE1 | 1.86 | 0.75 |
| 1:D:137:PHE:HB3 | 1:D:435:GLN:CD | 2.07 | 0.75 |
| 1:D:243:MET:O | 1:D:246:SER:HB3 | 1.86 | 0.75 |
| 4:E:52:ASN:HD21 | 4:E:120:PRO:HB2 | 1.52 | 0.75 |
| 3:C:35:LEU:HD12 | 3:C:60:HIS:NE2 | 2.02 | 0.75 |
| 1:A:41:ILE:O | 1:A:42:ASN:CG | 2.24 | 0.75 |
| 1:A:209:ARG:CG | 1:A:210:ILE:H | 1.96 | 0.75 |
| 1:A:380:LYS:O | 1:A:384:GLU:HB2 | 1.87 | 0.75 |
| 2:B:191:LYS:HE2 | 2:B:209:PHE:HB3 | 1.68 | 0.75 |
| 2:B:287:ILE:HA | 2:B:290:LEU:HD12 | 1.66 | 0.75 |
| 3:C:47:GLU:HG2 | 3:C:286:PRO:HD2 | 1.68 | 0.75 |
| 4:E:128:PRO:O | 4:E:129:ILE:HG12 | 1.87 | 0.75 |
| 2:B:291:VAL:CG1 | 2:B:292:ALA:N | 2.48 | 0.75 |
| 2:B:450:GLY:O | 2:B:454:ILE:HG13 | 1.85 | 0.75 |
| 1:D:188:VAL:O | 1:D:197:PRO:HB2 | 1.86 | 0.75 |
| 4:E:163:GLU:CD | 4:E:163:GLU:N | 2.39 | 0.75 |
| 1:A:118:TRP:CD1 | 1:A:120:PRO:CD | 2.67 | 0.75 |
| 1:A:235:LEU:CD1 | 1:A:242:LYS:HE3 | 2.10 | 0.75 |
| 1:A:279:LEU:HD13 | 1:A:282:MET:CB | 2.17 | 0.75 |
| 3:C:17:TYR:CZ | 3:C:19:LYS:HA | 2.21 | 0.75 |
| 3:C:141:TRP:CB | 3:C:222:ARG:HA | 2.16 | 0.75 |
| 3:C:180:ASP:HB2 | 3:C:195:LYS:HB2 | 1.68 | 0.75 |
| 3:C:216:THR:O | 3:C:217:PHE:HD1 | 1.70 | 0.75 |
| 3:C:278:LEU:HD12 | 3:C:278:LEU:O | 1.86 | 0.75 |
| 3:C:280:GLU:HG3 | 3:C:281:THR:N | 2.00 | 0.75 |
| 1:D:170:PHE:CZ | 1:D:171:MET:O | 2.40 | 0.75 |
| 4:E:144:VAL:HG12 | 4:E:209:ILE:HA | 1.67 | 0.75 |
| 1:A:36:GLN:HA | 1:A:164:ARG:NH2 | 2.01 | 0.75 |
| 2:B:132:VAL:HG12 | 2:B:279:ILE:HA | 1.67 | 0.75 |
| 3:C:249:LEU:N | 3:C:250:PRO:CD | 2.50 | 0.75 |
| 1:D:46:VAL:CA | 1:D:272:PRO:HD3 | 2.16 | 0.75 |
| 1:D:419:ILE:HD12 | 1:D:420:ILE:HG23 | 1.67 | 0.75 |
| 1:A:257:LEU:HD13 | 1:A:285:VAL:HG23 | 1.65 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:293:VAL:O | 1:A:297:ASN:HB3 | 1.87 | 0.75 |
| 2:B:10:VAL:HG13 | 2:B:11:LEU:HD22 | 1.69 | 0.75 |
| 2:B:244:ASP:HB3 | 3:C:314:PHE:CE1 | 2.21 | 0.75 |
| 3:C:35:LEU:HD12 | 3:C:92:ILE:HG21 | 1.67 | 0.75 |
| 3:C:199:LYS:HZ2 | 3:C:199:LYS:C | 1.90 | 0.75 |
| 1:D:56:LEU:N | 1:D:56:LEU:HD23 | 2.02 | 0.75 |
| 1:D:92:LEU:HD22 | 1:D:92:LEU:N | 2.00 | 0.75 |
| 4:E:250:LYS:CA | 4:E:253:LEU:HB3 | 2.16 | 0.75 |
| 4:E:284:LYS:N | 4:E:284:LYS:CE | 2.40 | 0.75 |
| 4:E:422:ILE:O | 4:E:425:SER:HB3 | 1.86 | 0.75 |
| 2:B:232:SER:HA | 2:B:235:ALA:HB3 | 1.67 | 0.74 |
| 1:A:66:ARG:HD3 | 1:A:66:ARG:H | 1.51 | 0.74 |
| 1:A:145:LYS:HZ2 | 1:A:202:THR:HG23 | 1.50 | 0.74 |
| 2:B:240:TYR:O | 2:B:244:ASP:HB2 | 1.87 | 0.74 |
| 3:C:37:LEU:HD12 | 3:C:217:PHE:CD2 | 2.22 | 0.74 |
| 3:C:266:ALA:O | 3:C:270:PHE:CE1 | 2.40 | 0.74 |
| 1:D:46:VAL:HG21 | 1:D:270:ALA:O | 1.87 | 0.74 |
| 4:E:117:TRP:NE1 | 4:E:119:PRO:HD3 | 2.01 | 0.74 |
| 4:E:305:ASN:HA | 4:E:308:LEU:CD1 | 2.17 | 0.74 |
| 1:A:37:LEU:CD2 | 1:A:54:VAL:HG12 | 2.18 | 0.74 |
| 1:A:379:VAL:HA | 1:A:382:ILE:HD11 | 1.70 | 0.74 |
| 3:C:463:PRO:HA | 3:C:466:VAL:CG2 | 2.17 | 0.74 |
| 1:D:290:ILE:O | 1:D:293:VAL:HB | 1.87 | 0.74 |
| 1:D:298:THR:HG22 | 1:D:301:ARG:HD3 | 1.70 | 0.74 |
| 4:E:185:ILE:HG12 | 4:E:214:ILE:HG22 | 1.67 | 0.74 |
| 4:E:275:THR:O | 4:E:279:VAL:HG23 | 1.88 | 0.74 |
| 1:A:432:GLU:O | 1:A:436:GLU:HG3 | 1.88 | 0.74 |
| 3:C:104:VAL:HA | 3:C:106:TYR:CE1 | 2.22 | 0.74 |
| 3:C:244:ALA:O | 3:C:248:TYR:HD2 | 1.69 | 0.74 |
| 1:D:10:ASN:OD1 | 1:D:11:LEU:HD23 | 1.86 | 0.74 |
| 1:D:166:ASP:OD1 | 1:D:205:PHE:CE2 | 2.40 | 0.74 |
| 1:D:413:VAL:HG12 | 1:D:417:ILE:HG13 | 1.69 | 0.74 |
| 4:E:107:VAL:HG12 | 4:E:108:LEU:H | 1.51 | 0.74 |
| 1:A:107:LYS:O | 1:A:108:LEU:HD23 | 1.87 | 0.74 |
| 1:A:133:THR:O | 1:A:133:THR:HG22 | 1.86 | 0.74 |
| 1:A:186:HIS:CE1 | 1:A:187:TRP:O | 2.40 | 0.74 |
| 2:B:80:ILE:HA | 3:C:20:HIS:HE1 | 1.51 | 0.74 |
| 2:B:136:PRO:HD3 | 2:B:280:ILE:HD11 | 1.70 | 0.74 |
| 3:C:131:PRO:HG3 | 3:C:145:SER:H | 1.51 | 0.74 |
| 3:C:300:THR:HA | 3:C:303:VAL:CG2 | 2.17 | 0.74 |
| 1:D:135:PHE:CD2 | 1:D:210:ILE:HG12 | 2.21 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:E:90:VAL:HA | 4:E:99:PHE:HE1 | 1.51 | 0.74 |
| 1:D:135:PHE:HB2 | 1:D:209:ARG:CB | 2.13 | 0.74 |
| 4:E:59:TRP:CZ2 | 4:E:115:MET:HB3 | 2.23 | 0.74 |
| 1:A:262:GLU:O | 1:A:265:PRO:HD2 | 1.86 | 0.74 |
| 3:C:90:PRO:HD2 | 3:C:120:TRP:CZ3 | 2.22 | 0.74 |
| 4:E:86:LEU:HD13 | 4:E:103:TYR:CE1 | 2.22 | 0.74 |
| 4:E:291:PHE:O | 4:E:295:VAL:HG23 | 1.87 | 0.74 |
| 1:A:229:THR:O | 1:A:233:PHE:HD1 | 1.70 | 0.74 |
| 2:B:142:CYS:SG | 2:B:143:THR:N | 2.61 | 0.74 |
| 3:C:48:THR:CA | 3:C:286:PRO:HD3 | 2.16 | 0.74 |
| 2:B:92:LEU:HD12 | 2:B:95:ASN:HB2 | 1.69 | 0.74 |
| 3:C:81:ARG:CZ | 3:C:111:LEU:HD13 | 2.17 | 0.74 |
| 3:C:449:VAL:HG12 | 3:C:452:THR:CG2 | 2.17 | 0.74 |
| 1:D:92:LEU:CD2 | 1:D:92:LEU:H | 1.99 | 0.74 |
| 1:D:249:VAL:HA | 1:D:252:SER:HB3 | 1.68 | 0.74 |
| 4:E:194:TYR:HA | 4:E:206:GLN:HG2 | 1.70 | 0.74 |
| 1:A:1:SER:H3 | 1:A:4:GLU:HB2 | 1.52 | 0.74 |
| 1:A:132:VAL:O | 1:A:274:ILE:HG22 | 1.88 | 0.74 |
| 3:C:269:VAL:HA | 3:C:272:LEU:HD11 | 1.69 | 0.74 |
| 4:E:38:ASN:O | 4:E:51:THR:HA | 1.87 | 0.74 |
| 4:E:44:GLU:HB3 | 4:E:280:PRO:HB3 | 1.68 | 0.74 |
| 4:E:140:ASN:HD21 | 4:E:211:PHE:HA | 1.53 | 0.74 |
| 4:E:240:TYR:CD2 | 4:E:453:ILE:CG1 | 2.71 | 0.74 |
| 4:E:416:VAL:HG22 | 4:E:417:GLU:N | 2.03 | 0.74 |
| 2:B:416:GLU:CD | 3:C:433:ILE:HD13 | 2.09 | 0.73 |
| 3:C:60:HIS:CD2 | 3:C:92:ILE:CD1 | 2.70 | 0.73 |
| 1:A:56:LEU:HD22 | 1:A:58:GLN:HG3 | 1.70 | 0.73 |
| 1:A:166:ASP:OD2 | 1:A:178:MET:HE1 | 1.88 | 0.73 |
| 3:C:1:VAL:O | 3:C:3:GLU:N | 2.20 | 0.73 |
| 3:C:141:TRP:CH2 | 3:C:223:ARG:HB3 | 2.23 | 0.73 |
| 1:D:32:THR:CB | 1:D:59:GLN:HB3 | 2.17 | 0.73 |
| 1:D:102:ILE:HG13 | 4:E:98:GLN:HE21 | 1.53 | 0.73 |
| 1:D:187:TRP:HZ2 | 1:D:196:THR:HA | 1.53 | 0.73 |
| 1:D:291:VAL:HG11 | 1:D:413:VAL:HG11 | 1.70 | 0.73 |
| 1:D:419:ILE:CD1 | 1:D:420:ILE:HG23 | 2.18 | 0.73 |
| 4:E:44:GLU:HA | 4:E:129:ILE:HD11 | 1.68 | 0.73 |
| 4:E:163:GLU:CD | 4:E:163:GLU:H | 1.91 | 0.73 |
| 4:E:235:LEU:CA | 4:E:238:LEU:HG | 2.15 | 0.73 |
| 4:E:262:THR:OG1 | 4:E:265:LEU:CD1 | 2.33 | 0.73 |
| 2:B:75:ILE:HD13 | 2:B:78:LEU:HD13 | 1.70 | 0.73 |
| 3:C:42:LEU:HD22 | 3:C:190:TRP:HH2 | 1.49 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:42:LEU:HD22 | 3:C:190:TRP:CZ2 | 2.23 | 0.73 |
| 3:C:223:ARG:HG2 | 3:C:224:LYS:N | 2.03 | 0.73 |
| 3:C:275:SER:O | 3:C:279:PRO:HD3 | 1.88 | 0.73 |
| 3:C:300:THR:HA | 3:C:303:VAL:HG23 | 1.70 | 0.73 |
| 3:C:474:VAL:HA | 3:C:477:ASN:OD1 | 1.88 | 0.73 |
| 3:C:478:PHE:C | 3:C:478:PHE:HD1 | 1.91 | 0.73 |
| 1:D:377:GLU:HB2 | 4:E:415:CYS:CB | 2.17 | 0.73 |
| 4:E:100:GLU:HB2 | 4:E:122:ILE:CD1 | 2.17 | 0.73 |
| 4:E:152:ALA:N | 4:E:205:PHE:HD1 | 1.85 | 0.73 |
| 1:A:89:ASP:HB2 | 1:A:149:TRP:HD1 | 1.48 | 0.73 |
| 2:B:92:LEU:HD22 | 2:B:146:PHE:CD1 | 2.22 | 0.73 |
| 3:C:35:LEU:HD22 | 3:C:215:VAL:HG21 | 1.70 | 0.73 |
| 3:C:253:SER:CB | 1:D:306:HIS:HB3 | 2.19 | 0.73 |
| 3:C:309:VAL:O | 3:C:313:HIS:CB | 2.31 | 0.73 |
| 3:C:475:MET:HA | 3:C:478:PHE:CZ | 2.23 | 0.73 |
| 1:D:45:GLU:HG2 | 1:D:272:PRO:HG3 | 1.67 | 0.73 |
| 4:E:27:VAL:HG12 | 4:E:154:GLU:HA | 1.67 | 0.73 |
| 4:E:36:LEU:HD13 | 4:E:173:ASP:OD1 | 1.87 | 0.73 |
| 4:E:159:LEU:HD11 | 4:E:208:ILE:HG23 | 1.68 | 0.73 |
| 2:B:133:MET:HA | 2:B:279:ILE:CG2 | 2.18 | 0.73 |
| 3:C:58:MET:HE1 | 3:C:105:ALA:O | 1.88 | 0.73 |
| 1:D:35:LEU:HD11 | 1:D:54:VAL:HG21 | 1.71 | 0.73 |
| 1:D:142:CYS:SG | 1:D:144:MET:HG3 | 2.28 | 0.73 |
| 1:D:228:LEU:O | 1:D:232:VAL:HG23 | 1.88 | 0.73 |
| 1:A:136:PRO:HA | 1:A:277:TYR:CZ | 2.24 | 0.73 |
| 1:A:249:VAL:HG23 | 2:B:257:LEU:HD21 | 1.70 | 0.73 |
| 1:A:306:HIS:HB2 | 4:E:250:LYS:HZ3 | 1.54 | 0.73 |
| 2:B:227:PRO:O | 2:B:231:ILE:HG12 | 1.88 | 0.73 |
| 2:B:233:ILE:O | 2:B:237:LEU:HB2 | 1.87 | 0.73 |
| 3:C:67:LEU:HD12 | 3:C:116:GLY:HA2 | 1.70 | 0.73 |
| 1:D:56:LEU:HB2 | 1:D:120:PRO:CG | 2.19 | 0.73 |
| 1:A:292:THR:O | 1:A:296:ILE:HG12 | 1.88 | 0.73 |
| 1:A:401:TYR:CD1 | 1:A:401:TYR:O | 2.42 | 0.73 |
| 3:C:103:ASN:ND2 | 3:C:106:TYR:HE2 | 1.86 | 0.73 |
| 3:C:311:ASN:O | 3:C:315:ARG:N | 2.20 | 0.73 |
| 1:D:20:ARG:HG3 | 1:D:22:VAL:HG23 | 1.70 | 0.73 |
| 1:D:63:VAL:O | 1:D:66:ARG:HD3 | 1.89 | 0.73 |
| 1:D:411:LEU:O | 1:D:415:MET:HG3 | 1.89 | 0.73 |
| 4:E:217:LYS:O | 4:E:217:LYS:HE3 | 1.88 | 0.73 |
| 2:B:55:PHE:N | 2:B:55:PHE:CD1 | 2.51 | 0.73 |
| 2:B:145:VAL:HG12 | 2:B:206:ASP:HB2 | 1.71 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:459:SER:O | 2:B:463:PRO:CD | 2.36 | 0.73 |
| 3:C:97:ASN:ND2 | 3:C:146:LEU:CG | 2.48 | 0.73 |
| 4:E:132:THR:C | 4:E:135:PRO:HD3 | 2.08 | 0.73 |
| 1:A:56:LEU:HD23 | 1:A:57:ARG:N | 2.04 | 0.73 |
| 1:A:93:TYR:OH | 1:A:200:ASP:HB3 | 1.89 | 0.73 |
| 3:C:42:LEU:HD13 | 3:C:190:TRP:HZ2 | 1.54 | 0.73 |
| 1:D:40:LEU:CD1 | 1:D:52:THR:HB | 2.19 | 0.73 |
| 1:D:106:THR:HG22 | 1:D:107:LYS:N | 2.02 | 0.73 |
| 1:A:52:THR:O | 1:A:123:ILE:HA | 1.89 | 0.73 |
| 2:B:256:LEU:HD22 | 2:B:298:SER:HB2 | 1.70 | 0.73 |
| 3:C:7:LEU:HD13 | 3:C:73:GLU:OE1 | 1.89 | 0.73 |
| 1:D:3:HIS:O | 1:D:7:LEU:HG | 1.89 | 0.73 |
| 1:D:252:SER:O | 1:D:255:VAL:HG12 | 1.88 | 0.73 |
| 4:E:247:GLY:N | 4:E:250:LYS:HZ1 | 1.81 | 0.73 |
| 1:A:376:ILE:HG23 | 1:A:380:LYS:NZ | 2.04 | 0.72 |
| 2:B:129:THR:HG23 | 2:B:129:THR:O | 1.89 | 0.72 |
| 2:B:136:PRO:HB3 | 2:B:280:ILE:HD11 | 1.68 | 0.72 |
| 2:B:284:LEU:HD23 | 2:B:287:ILE:HD11 | 1.69 | 0.72 |
| 3:C:266:ALA:HB3 | 1:D:251:LEU:HD22 | 1.69 | 0.72 |
| 1:D:78:ILE:HD11 | 1:D:110:LEU:CG | 2.19 | 0.72 |
| 1:D:170:PHE:CE1 | 1:D:171:MET:O | 2.42 | 0.72 |
| 1:D:238:ASP:HB3 | 4:E:308:LEU:HD23 | 1.70 | 0.72 |
| 2:B:33:VAL:HG22 | 2:B:158:LEU:HD22 | 1.70 | 0.72 |
| 2:B:95:ASN:CB | 2:B:126:SER:HB2 | 2.15 | 0.72 |
| 2:B:135:PHE:CB | 2:B:279:ILE:HD13 | 2.18 | 0.72 |
| 2:B:253:ILE:HG12 | 2:B:302:LEU:HD11 | 1.71 | 0.72 |
| 1:D:192:CYS:SG | 1:D:193:CYS:N | 2.62 | 0.72 |
| 3:C:148:PHE:HB2 | 3:C:215:VAL:HG23 | 1.66 | 0.72 |
| 3:C:296:MET:HA | 3:C:296:MET:CE | 2.19 | 0.72 |
| 3:C:463:PRO:CA | 3:C:466:VAL:HG23 | 2.19 | 0.72 |
| 4:E:197:GLN:HG2 | 4:E:198:LEU:N | 2.03 | 0.72 |
| 4:E:261:GLN:HE21 | 4:E:265:LEU:HG | 1.54 | 0.72 |
| 1:A:249:VAL:HG13 | 1:A:253:LEU:HD23 | 1.70 | 0.72 |
| 2:B:89:ASP:OD1 | 2:B:151:TYR:CD1 | 2.42 | 0.72 |
| 3:C:90:PRO:HD2 | 3:C:120:TRP:CE3 | 2.24 | 0.72 |
| 3:C:201:ILE:O | 3:C:202:TYR:CG | 2.42 | 0.72 |
| 1:A:380:LYS:HD3 | 2:B:408:ILE:HB | 1.72 | 0.72 |
| 2:B:7:LEU:HD13 | 2:B:68:ASP:HB2 | 1.71 | 0.72 |
| 2:B:60:TRP:CH2 | 2:B:85:VAL:HG21 | 2.25 | 0.72 |
| 2:B:297:LEU:CD1 | 2:B:445:THR:HG21 | 2.19 | 0.72 |
| 3:C:94:LEU:CB | 3:C:98:ASN:HB2 | 2.19 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:E:132:THR:O | 4:E:135:PRO:CD | 2.31 | 0.72 |
| 1:A:201:ILE:HG21 | 1:A:203:TYR:HE1 | 1.54 | 0.72 |
| 1:A:245:LEU:HG | 2:B:253:ILE:HG21 | 1.71 | 0.72 |
| 3:C:69:TRP:HE3 | 3:C:73:GLU:HB3 | 1.55 | 0.72 |
| 3:C:115:ASN:H | 3:C:115:ASN:ND2 | 1.85 | 0.72 |
| 3:C:278:LEU:CD1 | 3:C:278:LEU:O | 2.37 | 0.72 |
| 3:C:453:ILE:CG2 | 3:C:454:ASP:N | 2.51 | 0.72 |
| 1:D:107:LYS:N | 1:D:107:LYS:HD3 | 2.05 | 0.72 |
| 1:D:257:LEU:HD12 | 1:D:257:LEU:C | 2.10 | 0.72 |
| 4:E:184:THR:O | 4:E:215:GLN:N | 2.22 | 0.72 |
| 4:E:282:ILE:O | 4:E:286:LEU:HD12 | 1.88 | 0.72 |
| 1:A:39:GLN:O | 1:A:53:ASN:HB2 | 1.88 | 0.72 |
| 3:C:59:ASP:OD1 | 3:C:121:LEU:HD13 | 1.88 | 0.72 |
| 3:C:434:LYS:CE | 3:C:435:GLU:HG2 | 2.20 | 0.72 |
| 1:A:37:LEU:HA | 1:A:53:ASN:O | 1.89 | 0.72 |
| 1:A:90:LEU:HD13 | 1:A:100:PHE:HE2 | 1.51 | 0.72 |
| 2:B:56:LEU:HD21 | 2:B:103:THR:HG23 | 1.72 | 0.72 |
| 2:B:100:PHE:CD2 | 2:B:103:THR:HB | 2.24 | 0.72 |
| 2:B:416:GLU:OE2 | 3:C:433:ILE:HD13 | 1.88 | 0.72 |
| 1:D:228:LEU:HD23 | 1:D:249:VAL:HG11 | 1.71 | 0.72 |
| 1:D:236:PRO:HB3 | 1:D:299:HIS:NE2 | 2.05 | 0.72 |
| 4:E:416:VAL:CG2 | 4:E:417:GLU:N | 2.53 | 0.72 |
| 1:A:240:GLY:O | 1:A:306:HIS:CE1 | 2.42 | 0.72 |
| 2:B:144:MET:CE | 2:B:211:LEU:HD21 | 2.19 | 0.72 |
| 2:B:218:LEU:HD13 | 2:B:221:ILE:HD11 | 1.71 | 0.72 |
| 4:E:289:VAL:O | 4:E:293:SER:HB3 | 1.90 | 0.72 |
| 2:B:95:ASN:HA | 2:B:127:SER:N | 2.03 | 0.71 |
| 2:B:108:VAL:HG13 | 2:B:118:TRP:HB2 | 1.70 | 0.71 |
| 3:C:200:ASN:ND2 | 3:C:201:ILE:H | 1.88 | 0.71 |
| 3:C:445:ASN:HA | 3:C:448:LEU:CG | 2.12 | 0.71 |
| 1:D:43:VAL:CG1 | 1:D:49:ILE:O | 2.35 | 0.71 |
| 1:D:249:VAL:O | 1:D:253:LEU:HB3 | 1.90 | 0.71 |
| 4:E:27:VAL:CG1 | 4:E:154:GLU:N | 2.52 | 0.71 |
| 4:E:152:ALA:HB2 | 4:E:206:GLN:H | 1.55 | 0.71 |
| 4:E:195:ASN:CB | 4:E:205:PHE:H | 2.02 | 0.71 |
| 4:E:222:ILE:HG23 | 4:E:223:ILE:H | 1.55 | 0.71 |
| 4:E:454:ALA:O | 4:E:457:LEU:HB3 | 1.90 | 0.71 |
| 1:A:43:VAL:HG13 | 1:A:50:VAL:CG2 | 2.20 | 0.71 |
| 2:B:48:GLU:HA | 2:B:130:ILE:HG12 | 1.72 | 0.71 |
| 3:C:19:LYS:NZ | 3:C:88:TRP:HD1 | 1.88 | 0.71 |
| 3:C:162:LEU:CD1 | 3:C:217:PHE:CE1 | 2.61 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:243:ALA:O | 3:C:246:ALA:HB3 | 1.89 | 0.71 |
| 3:C:259:THR:O | 3:C:262:CYS:SG | 2.43 | 0.71 |
| 1:A:43:VAL:HG22 | 1:A:50:VAL:CG2 | 2.18 | 0.71 |
| 1:A:131:ILE:CD1 | 1:A:140:GLN:HG2 | 2.21 | 0.71 |
| 1:A:149:TRP:HH2 | 4:E:119:PRO:HA | 1.54 | 0.71 |
| 3:C:241:PHE:HA | 3:C:244:ALA:HB3 | 1.72 | 0.71 |
| 1:D:157:SER:HA | 1:D:199:LEU:HD12 | 1.72 | 0.71 |
| 1:D:253:LEU:CD2 | 1:D:254:THR:N | 2.52 | 0.71 |
| 3:C:60:HIS:HB3 | 3:C:62:TRP:CZ3 | 2.20 | 0.71 |
| 3:C:269:VAL:HG13 | 3:C:270:PHE:CD1 | 2.24 | 0.71 |
| 3:C:305:ASN:O | 3:C:309:VAL:HG23 | 1.90 | 0.71 |
| 3:C:426:THR:O | 3:C:429:ILE:CG1 | 2.38 | 0.71 |
| 3:C:478:PHE:CD1 | 3:C:478:PHE:C | 2.64 | 0.71 |
| 1:D:40:LEU:HD22 | 1:D:52:THR:OG1 | 1.90 | 0.71 |
| 1:D:245:LEU:HD21 | 4:E:255:ILE:CG2 | 2.20 | 0.71 |
| 4:E:183:TRP:HB3 | 4:E:216:ARG:NE | 2.04 | 0.71 |
| 4:E:309:ARG:NH2 | 4:E:446:ILE:HG13 | 2.05 | 0.71 |
| 1:A:187:TRP:HZ2 | 1:A:196:THR:HG23 | 1.52 | 0.71 |
| 1:A:207:MET:H | 1:A:207:MET:HE2 | 1.55 | 0.71 |
| 1:D:131:ILE:HD11 | 1:D:133:THR:CB | 2.20 | 0.71 |
| 1:D:286:ILE:O | 1:D:290:ILE:HG23 | 1.89 | 0.71 |
| 4:E:209:ILE:HG12 | 4:E:211:PHE:HE1 | 1.55 | 0.71 |
| 3:C:115:ASN:HD22 | 3:C:115:ASN:N | 1.74 | 0.71 |
| 3:C:462:THR:O | 3:C:466:VAL:HG23 | 1.90 | 0.71 |
| 1:D:95:ASN:HD21 | 1:D:128:CYS:CB | 1.99 | 0.71 |
| 1:D:130:ILE:HB | 1:D:134:HIS:HB2 | 1.73 | 0.71 |
| 4:E:103:TYR:C | 4:E:104:TYR:CD1 | 2.64 | 0.71 |
| 1:A:64:ARG:CA | 1:A:66:ARG:HH11 | 2.02 | 0.71 |
| 1:A:137:PHE:CD1 | 1:A:210:ILE:HD12 | 2.26 | 0.71 |
| 1:A:221:PRO:CA | 1:A:224:LEU:HB3 | 2.21 | 0.71 |
| 2:B:20:ARG:H | 2:B:20:ARG:CD | 2.03 | 0.71 |
| 2:B:131:LYS:HB3 | 2:B:133:MET:CG | 2.20 | 0.71 |
| 2:B:134:TYR:CD1 | 2:B:213:ILE:HG13 | 2.20 | 0.71 |
| 2:B:241:LEU:N | 2:B:242:PRO:HD2 | 2.06 | 0.71 |
| 2:B:283:TYR:O | 2:B:287:ILE:HG23 | 1.89 | 0.71 |
| 3:C:180:ASP:N | 3:C:181:PRO:HD2 | 2.05 | 0.71 |
| 4:E:236:VAL:C | 4:E:239:VAL:HG23 | 2.10 | 0.71 |
| 1:A:31:ILE:CG1 | 1:A:60:TRP:HB3 | 2.21 | 0.71 |
| 2:B:278:PRO:O | 2:B:279:ILE:HG13 | 1.91 | 0.71 |
| 3:C:70:ASN:O | 3:C:74:TYR:HB3 | 1.91 | 0.71 |
| 1:D:15:TYR:C | 1:D:16:ASN:ND2 | 2.44 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:235:LEU:CD2 | 4:E:308:LEU:HG | 2.21 | 0.71 |
| 1:D:415:MET:O | 1:D:419:ILE:HG23 | 1.90 | 0.71 |
| 4:E:94:ASN:ND2 | 4:E:143:LEU:HD23 | 2.06 | 0.71 |
| 1:A:145:LYS:NZ | 1:A:202:THR:CG2 | 2.54 | 0.71 |
| 2:B:251:LEU:HD12 | 2:B:251:LEU:O | 1.91 | 0.71 |
| 1:D:45:GLU:O | 1:D:272:PRO:HG3 | 1.90 | 0.71 |
| 4:E:10:LEU:O | 4:E:14:TYR:N | 2.23 | 0.71 |
| 4:E:28:ILE:HG21 | 4:E:85:TRP:CZ3 | 2.25 | 0.71 |
| 4:E:149:THR:CG2 | 4:E:150:TYR:H | 2.03 | 0.71 |
| 2:B:269:LYS:HD2 | 2:B:270:VAL:N | 2.06 | 0.71 |
| 3:C:30:VAL:HG11 | 3:C:159:SER:N | 2.05 | 0.71 |
| 3:C:58:MET:SD | 3:C:92:ILE:HD12 | 2.30 | 0.71 |
| 3:C:463:PRO:O | 3:C:467:LEU:HD23 | 1.90 | 0.71 |
| 1:D:92:LEU:N | 1:D:92:LEU:CD2 | 2.53 | 0.71 |
| 1:D:201:ILE:O | 1:D:203:TYR:CE1 | 2.44 | 0.71 |
| 1:D:229:THR:HA | 1:D:232:VAL:HG23 | 1.73 | 0.71 |
| 1:D:239:SER:CB | 4:E:314:HIS:HB2 | 2.21 | 0.71 |
| 1:D:287:SER:O | 1:D:290:ILE:HG12 | 1.91 | 0.71 |
| 4:E:173:ASP:N | 4:E:174:PRO:HD2 | 2.06 | 0.71 |
| 1:A:243:MET:HG2 | 1:A:244:THR:H | 1.56 | 0.70 |
| 1:A:244:THR:O | 1:A:247:ILE:CG2 | 2.36 | 0.70 |
| 1:A:413:VAL:HG13 | 1:A:416:LEU:HD23 | 1.72 | 0.70 |
| 3:C:102:TYR:HE1 | 3:C:106:TYR:HB3 | 1.54 | 0.70 |
| 3:C:180:ASP:OD2 | 3:C:219:LEU:HD22 | 1.91 | 0.70 |
| 1:D:149:TRP:CG | 1:D:150:THR:N | 2.59 | 0.70 |
| 1:D:292:THR:O | 1:D:296:ILE:HG12 | 1.91 | 0.70 |
| 1:D:377:GLU:HA | 1:D:380:LYS:CD | 2.20 | 0.70 |
| 1:D:396:ALA:O | 1:D:399:TRP:HB2 | 1.90 | 0.70 |
| 4:E:34:LEU:HB2 | 4:E:210:PHE:CZ | 2.25 | 0.70 |
| 4:E:42:LEU:HD22 | 4:E:183:TRP:CZ2 | 2.26 | 0.70 |
| 4:E:311:PRO:CG | 4:E:440:VAL:HG22 | 2.20 | 0.70 |
| 1:A:35:LEU:HD23 | 1:A:35:LEU:C | 2.11 | 0.70 |
| 1:A:95:ASN:HA | 1:A:127:TYR:HB3 | 1.73 | 0.70 |
| 2:B:60:TRP:HH2 | 2:B:85:VAL:HG21 | 1.55 | 0.70 |
| 2:B:95:ASN:CA | 2:B:127:SER:H | 2.03 | 0.70 |
| 2:B:290:LEU:HD11 | 2:B:453:SER:CB | 2.21 | 0.70 |
| 3:C:162:LEU:H | 3:C:199:LYS:HG2 | 1.55 | 0.70 |
| 3:C:299:VAL:O | 3:C:302:VAL:HG23 | 1.91 | 0.70 |
| 4:E:55:ILE:CG2 | 4:E:119:PRO:HG2 | 2.21 | 0.70 |
| 4:E:63:ARG:HB2 | 4:E:63:ARG:HH11 | 1.56 | 0.70 |
| 4:E:251:CYS:SG | 4:E:252:THR:N | 2.64 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:175:GLU:OE1 | 1:A:175:GLU:HA | 1.89 | 0.70 |
| 1:A:299:HIS:O | 1:A:306:HIS:O | 2.09 | 0.70 |
| 2:B:195:LYS:HA | 2:B:207:VAL:HG13 | 1.73 | 0.70 |
| 2:B:449:ILE:HA | 2:B:452:PHE:CD2 | 2.27 | 0.70 |
| 1:D:195:ASP:OD1 | 1:D:196:THR:N | 2.24 | 0.70 |
| 1:D:244:THR:HG23 | 1:D:245:LEU:N | 2.06 | 0.70 |
| 4:E:110:TYR:CD1 | 4:E:111:ASN:N | 2.55 | 0.70 |
| 1:A:4:GLU:HA | 1:A:7:LEU:CD1 | 2.22 | 0.70 |
| 1:A:17:LYS:NZ | 1:A:83:ASP:HB3 | 2.05 | 0.70 |
| 1:A:80:LEU:O | 1:A:80:LEU:HD12 | 1.92 | 0.70 |
| 1:A:148:ILE:HG22 | 1:A:198:TYR:HB2 | 1.71 | 0.70 |
| 1:A:247:ILE:CG2 | 1:A:248:SER:N | 2.53 | 0.70 |
| 2:B:291:VAL:HG12 | 2:B:292:ALA:N | 2.06 | 0.70 |
| 1:D:92:LEU:HD21 | 1:D:124:PHE:CZ | 2.26 | 0.70 |
| 1:D:146:LEU:HD22 | 1:D:203:TYR:CZ | 2.26 | 0.70 |
| 1:D:303:PRO:HB2 | 1:D:400:LYS:HZ2 | 1.57 | 0.70 |
| 4:E:10:LEU:HD13 | 4:E:64:LEU:CD2 | 2.21 | 0.70 |
| 4:E:32:LEU:HD12 | 4:E:157:LEU:HD13 | 1.71 | 0.70 |
| 4:E:32:LEU:HD12 | 4:E:208:ILE:HD11 | 1.72 | 0.70 |
| 4:E:265:LEU:CD2 | 4:E:296:ILE:HD11 | 2.11 | 0.70 |
| 1:A:251:LEU:HD13 | 4:E:260:ALA:CB | 2.15 | 0.70 |
| 2:B:153:THR:CB | 2:B:204:TYR:HB2 | 2.10 | 0.70 |
| 2:B:264:LEU:O | 2:B:267:ALA:HB3 | 1.92 | 0.70 |
| 3:C:33:ILE:HG22 | 3:C:160:MET:SD | 2.31 | 0.70 |
| 3:C:69:TRP:CB | 3:C:73:GLU:HB2 | 2.18 | 0.70 |
| 3:C:77:ILE:HD12 | 3:C:80:LEU:HD13 | 1.71 | 0.70 |
| 3:C:481:PRO:O | 3:C:484:LYS:HB3 | 1.92 | 0.70 |
| 4:E:59:TRP:CD2 | 4:E:115:MET:HB2 | 2.26 | 0.70 |
| 4:E:67:ASN:H | 4:E:67:ASN:ND2 | 1.84 | 0.70 |
| 2:B:254:SER:C | 3:C:265:LEU:HD11 | 2.12 | 0.70 |
| 4:E:47:GLU:O | 4:E:126:THR:HG23 | 1.92 | 0.70 |
| 2:B:132:VAL:HG12 | 2:B:279:ILE:CA | 2.22 | 0.70 |
| 2:B:135:PHE:N | 2:B:279:ILE:HD13 | 2.07 | 0.70 |
| 2:B:421:PHE:CA | 2:B:424:LEU:HB2 | 2.19 | 0.70 |
| 3:C:130:CYS:SG | 3:C:146:LEU:CD1 | 2.78 | 0.70 |
| 3:C:190:TRP:CA | 3:C:223:ARG:HB2 | 2.21 | 0.70 |
| 1:A:93:TYR:CD2 | 1:A:145:LYS:HB3 | 2.27 | 0.70 |
| 1:A:141:ASN:HA | 1:A:205:PHE:O | 1.91 | 0.70 |
| 1:A:296:ILE:CA | 1:A:299:HIS:HB2 | 2.17 | 0.70 |
| 2:B:75:ILE:HD11 | 2:B:78:LEU:HB2 | 1.73 | 0.70 |
| 1:D:408:HIS:O | 1:D:412:CYS:SG | 2.50 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:E:42:LEU:HD22 | 4:E:183:TRP:CE2 | 2.26 | 0.70 |
| 4:E:62:TYR:HD1 | 4:E:62:TYR:C | 1.94 | 0.70 |
| 4:E:147:SER:O | 4:E:205:PHE:HE2 | 1.74 | 0.70 |
| 1:A:136:PRO:HB2 | 1:A:138:ASP:OD1 | 1.92 | 0.70 |
| 1:A:233:PHE:O | 1:A:236:PRO:CG | 2.40 | 0.70 |
| 2:B:160:HIS:CB | 2:B:195:LYS:HE2 | 2.22 | 0.70 |
| 2:B:460:HIS:O | 2:B:464:PRO:HG2 | 1.92 | 0.70 |
| 1:D:214:PHE:CE1 | 1:D:267:THR:HG21 | 2.27 | 0.70 |
| 1:D:287:SER:O | 1:D:291:VAL:HG23 | 1.90 | 0.70 |
| 4:E:30:VAL:O | 4:E:158:GLN:HG3 | 1.91 | 0.70 |
| 4:E:238:LEU:O | 4:E:242:LEU:HB3 | 1.90 | 0.70 |
| 1:A:209:ARG:C | 1:A:210:ILE:HG13 | 2.12 | 0.70 |
| 2:B:132:VAL:CG1 | 2:B:279:ILE:HA | 2.21 | 0.70 |
| 3:C:50:GLU:O | 3:C:129:SER:HA | 1.90 | 0.70 |
| 3:C:282:ALA:O | 3:C:285:VAL:O | 2.09 | 0.70 |
| 1:D:37:LEU:H | 1:D:164:ARG:HH22 | 1.40 | 0.70 |
| 1:D:63:VAL:O | 1:D:66:ARG:CD | 2.39 | 0.70 |
| 4:E:70:GLU:OE1 | 4:E:70:GLU:HA | 1.92 | 0.70 |
| 4:E:140:ASN:HD22 | 4:E:141:CYS:N | 1.89 | 0.70 |
| 4:E:241:PHE:CE1 | 4:E:450:CYS:HB3 | 2.26 | 0.70 |
| 1:A:76:LYS:HG3 | 1:A:112:TYR:CE2 | 2.27 | 0.69 |
| 1:A:230:VAL:HG22 | 1:A:414:PHE:CZ | 2.27 | 0.69 |
| 1:A:294:VAL:CG1 | 1:A:295:VAL:N | 2.55 | 0.69 |
| 1:A:410:LEU:HD13 | 1:A:414:PHE:HD2 | 1.56 | 0.69 |
| 2:B:308:SER:CB | 2:B:311:THR:HG22 | 2.22 | 0.69 |
| 3:C:62:TRP:CZ2 | 3:C:88:TRP:O | 2.44 | 0.69 |
| 3:C:33:ILE:HG12 | 3:C:62:TRP:HB3 | 1.72 | 0.69 |
| 3:C:230:ILE:CG1 | 3:C:231:ASN:H | 2.05 | 0.69 |
| 1:D:48:GLN:HB2 | 1:D:128:CYS:O | 1.93 | 0.69 |
| 1:D:236:PRO:HB2 | 1:D:406:ILE:CG1 | 2.23 | 0.69 |
| 1:A:166:ASP:OD2 | 1:A:178:MET:CE | 2.40 | 0.69 |
| 2:B:100:PHE:HB2 | 2:B:103:THR:HB | 1.74 | 0.69 |
| 2:B:118:TRP:CD1 | 2:B:120:PRO:HD3 | 2.26 | 0.69 |
| 2:B:416:GLU:OE1 | 3:C:433:ILE:HD13 | 1.92 | 0.69 |
| 3:C:201:ILE:O | 3:C:202:TYR:CD1 | 2.45 | 0.69 |
| 3:C:457:SER:O | 3:C:461:ILE:HG13 | 1.92 | 0.69 |
| 1:D:137:PHE:CA | 1:D:435:GLN:HG3 | 2.22 | 0.69 |
| 1:D:243:MET:H | 1:D:243:MET:HE2 | 1.57 | 0.69 |
| 1:D:303:PRO:HD2 | 1:D:400:LYS:CD | 2.22 | 0.69 |
| 4:E:44:GLU:CA | 4:E:129:ILE:HD12 | 2.20 | 0.69 |
| 1:A:136:PRO:HG3 | 1:A:274:ILE:HG21 | 1.74 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:281:ILE:HD12 | 2:B:281:ILE:N | 2.07 | 0.69 |
| 2:B:284:LEU:HA | 2:B:287:ILE:HG13 | 1.72 | 0.69 |
| 1:D:94:ASN:C | 1:D:94:ASN:ND2 | 2.46 | 0.69 |
| 1:D:408:HIS:O | 1:D:412:CYS:N | 2.24 | 0.69 |
| 4:E:10:LEU:HD11 | 4:E:63:ARG:O | 1.93 | 0.69 |
| 4:E:239:VAL:HG12 | 4:E:254:SER:OG | 1.92 | 0.69 |
| 1:A:41:ILE:HD11 | 1:A:51:GLU:CG | 2.20 | 0.69 |
| 3:C:455:ARG:O | 3:C:459:PHE:HD1 | 1.73 | 0.69 |
| 1:D:38:ILE:HD11 | 4:E:199:THR:HG21 | 1.74 | 0.69 |
| 2:B:444:ILE:HG23 | 2:B:445:THR:N | 2.08 | 0.69 |
| 3:C:42:LEU:CD2 | 3:C:190:TRP:CH2 | 2.76 | 0.69 |
| 3:C:91:ASP:OD1 | 3:C:153:TYR:HE1 | 1.76 | 0.69 |
| 3:C:160:MET:H | 3:C:213:GLN:CG | 2.05 | 0.69 |
| 3:C:160:MET:H | 3:C:213:GLN:CB | 2.04 | 0.69 |
| 2:B:4:GLU:OE1 | 2:B:8:LEU:HG | 1.91 | 0.69 |
| 2:B:47:ASN:HB2 | 2:B:49:GLU:CD | 2.13 | 0.69 |
| 2:B:72:TYR:HD1 | 2:B:112:HIS:HB2 | 1.57 | 0.69 |
| 1:D:1:SER:H3 | 1:D:4:GLU:HB2 | 1.56 | 0.69 |
| 1:D:245:LEU:CD2 | 4:E:255:ILE:HG13 | 2.23 | 0.69 |
| 4:E:27:VAL:CG1 | 4:E:153:HIS:O | 2.40 | 0.69 |
| 1:A:4:GLU:HA | 1:A:7:LEU:HD12 | 1.73 | 0.69 |
| 1:A:187:TRP:CH2 | 1:A:189:TYR:CB | 2.75 | 0.69 |
| 1:A:242:LYS:HB2 | 1:A:245:LEU:CB | 2.23 | 0.69 |
| 1:A:305:THR:HG1 | 1:A:400:LYS:HB2 | 1.58 | 0.69 |
| 2:B:40:LEU:HD13 | 2:B:41:LEU:N | 2.07 | 0.69 |
| 2:B:160:HIS:NE2 | 2:B:209:PHE:HE1 | 1.90 | 0.69 |
| 2:B:281:ILE:HG22 | 2:B:285:MET:CA | 2.22 | 0.69 |
| 3:C:204:ASP:OD1 | 3:C:205:LYS:HD3 | 1.92 | 0.69 |
| 1:D:37:LEU:HD11 | 1:D:52:THR:OG1 | 1.93 | 0.69 |
| 1:D:60:TRP:CZ3 | 1:D:116:ILE:HG13 | 2.27 | 0.69 |
| 1:D:111:ASP:OD2 | 1:D:115:LYS:HD3 | 1.92 | 0.69 |
| 1:D:178:MET:HA | 1:D:207:MET:CB | 2.23 | 0.69 |
| 1:D:293:VAL:O | 1:D:297:ASN:HB2 | 1.93 | 0.69 |
| 4:E:140:ASN:C | 4:E:140:ASN:ND2 | 2.45 | 0.69 |
| 2:B:58:LEU:HD11 | 2:B:118:TRP:HE3 | 1.58 | 0.69 |
| 2:B:144:MET:HE1 | 2:B:211:LEU:HD21 | 1.75 | 0.69 |
| 2:B:185:GLN:HB3 | 2:B:217:PRO:HB3 | 1.74 | 0.69 |
| 3:C:30:VAL:HG11 | 3:C:159:SER:HB2 | 1.75 | 0.69 |
| 3:C:199:LYS:NZ | 3:C:199:LYS:O | 2.26 | 0.69 |
| 1:D:250:LEU:CD1 | 1:D:296:ILE:HD13 | 2.17 | 0.69 |
| 1:D:252:SER:HB2 | 4:E:259:LEU:HD13 | 1.73 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:253:LEU:HD23 | 1:D:254:THR:CA | 2.22 | 0.69 |
| 4:E:44:GLU:CD | 4:E:133:TYR:HD2 | 1.96 | 0.69 |
| 4:E:122:ILE:HG12 | 4:E:122:ILE:O | 1.90 | 0.69 |
| 1:A:410:LEU:O | 1:A:414:PHE:HB2 | 1.93 | 0.69 |
| 2:B:104:LEU:HD12 | 2:B:118:TRP:HH2 | 1.57 | 0.69 |
| 2:B:136:PRO:HD3 | 2:B:279:ILE:HG21 | 1.75 | 0.69 |
| 3:C:93:VAL:HG21 | 3:C:151:LEU:HD13 | 1.73 | 0.69 |
| 3:C:201:ILE:HD12 | 3:C:213:GLN:OE1 | 1.93 | 0.69 |
| 1:D:60:TRP:CH2 | 1:D:86:TRP:CZ3 | 2.81 | 0.69 |
| 4:E:47:GLU:CA | 4:E:129:ILE:HD11 | 2.15 | 0.69 |
| 4:E:173:ASP:OD2 | 4:E:212:LEU:CD2 | 2.41 | 0.69 |
| 1:A:60:TRP:HE1 | 1:A:116:ILE:HD12 | 1.57 | 0.68 |
| 1:A:141:ASN:HB3 | 1:A:206:ILE:HG13 | 1.75 | 0.68 |
| 2:B:26:GLY:O | 2:B:28:LYS:HE3 | 1.93 | 0.68 |
| 2:B:75:ILE:HD11 | 2:B:78:LEU:HD13 | 1.74 | 0.68 |
| 2:B:128:CYS:SG | 2:B:144:MET:HG2 | 2.33 | 0.68 |
| 2:B:160:HIS:NE2 | 2:B:209:PHE:CE1 | 2.61 | 0.68 |
| 2:B:175:ILE:HG12 | 2:B:177:GLN:H | 1.56 | 0.68 |
| 2:B:281:ILE:HD12 | 2:B:281:ILE:H | 1.59 | 0.68 |
| 3:C:69:TRP:CZ2 | 3:C:112:VAL:CG1 | 2.69 | 0.68 |
| 3:C:273:LEU:HD23 | 3:C:276:GLN:HB2 | 1.73 | 0.68 |
| 1:D:15:TYR:C | 1:D:16:ASN:HD22 | 1.97 | 0.68 |
| 1:D:46:VAL:HA | 1:D:272:PRO:HD3 | 1.73 | 0.68 |
| 1:D:280:PHE:HB3 | 1:D:284:PHE:CZ | 2.29 | 0.68 |
| 1:A:35:LEU:HD13 | 1:A:203:TYR:OH | 1.92 | 0.68 |
| 1:D:68:ASN:CB | 1:D:69:PRO:CD | 2.71 | 0.68 |
| 1:D:253:LEU:CD2 | 1:D:254:THR:H | 2.05 | 0.68 |
| 4:E:185:ILE:HG12 | 4:E:214:ILE:HG21 | 1.75 | 0.68 |
| 4:E:239:VAL:N | 4:E:242:LEU:HD23 | 2.07 | 0.68 |
| 1:A:243:MET:HG2 | 1:A:244:THR:N | 2.08 | 0.68 |
| 1:A:260:ILE:O | 1:A:264:ILE:HG23 | 1.93 | 0.68 |
| 2:B:7:LEU:O | 2:B:10:VAL:HG12 | 1.94 | 0.68 |
| 2:B:28:LYS:HB3 | 2:B:156:VAL:N | 2.07 | 0.68 |
| 2:B:444:ILE:HG23 | 2:B:445:THR:H | 1.57 | 0.68 |
| 1:D:236:PRO:HA | 1:D:240:GLY:HA2 | 1.74 | 0.68 |
| 4:E:103:TYR:CG | 4:E:104:TYR:N | 2.58 | 0.68 |
| 4:E:224:ASN:O | 4:E:228:PRO:CG | 2.40 | 0.68 |
| 4:E:306:VAL:O | 4:E:309:ARG:HG3 | 1.93 | 0.68 |
| 4:E:313:THR:O | 4:E:314:HIS:ND1 | 2.26 | 0.68 |
| 1:A:107:LYS:NZ | 2:B:151:TYR:HA | 2.09 | 0.68 |
| 2:B:15:TYR:O | 2:B:15:TYR:CD1 | 2.47 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:263:VAL:O | 3:C:267:GLN:CG | 2.41 | 0.68 |
| 1:D:95:ASN:OD1 | 1:D:144:MET:HG2 | 1.93 | 0.68 |
| 1:D:250:LEU:CA | 1:D:253:LEU:HD22 | 2.22 | 0.68 |
| 4:E:261:GLN:HE21 | 4:E:265:LEU:CG | 2.07 | 0.68 |
| 1:A:54:VAL:HG23 | 1:A:122:ALA:HB3 | 1.75 | 0.68 |
| 1:A:384:GLU:OE2 | 1:A:387:LYS:HE2 | 1.93 | 0.68 |
| 2:B:48:GLU:HA | 2:B:130:ILE:CG1 | 2.24 | 0.68 |
| 1:D:46:VAL:HG22 | 1:D:272:PRO:HD3 | 1.74 | 0.68 |
| 1:D:80:LEU:HD22 | 1:D:110:LEU:HD23 | 1.74 | 0.68 |
| 4:E:59:TRP:HZ2 | 4:E:84:LEU:HD22 | 1.58 | 0.68 |
| 4:E:62:TYR:C | 4:E:62:TYR:CD1 | 2.67 | 0.68 |
| 1:A:265:PRO:CD | 1:A:266:SER:H | 2.07 | 0.68 |
| 2:B:247:GLU:HA | 2:B:249:MET:HG3 | 1.76 | 0.68 |
| 3:C:266:ALA:CB | 1:D:251:LEU:HD13 | 2.23 | 0.68 |
| 1:A:16:ASN:HB2 | 1:A:19:ILE:CD1 | 2.23 | 0.68 |
| 1:A:245:LEU:HD21 | 2:B:253:ILE:HB | 1.74 | 0.68 |
| 1:A:291:VAL:HG12 | 1:A:295:VAL:CG2 | 2.24 | 0.68 |
| 3:C:263:VAL:CA | 1:D:251:LEU:HD11 | 2.24 | 0.68 |
| 1:D:56:LEU:CA | 1:D:120:PRO:HD2 | 2.23 | 0.68 |
| 4:E:134:PHE:N | 4:E:135:PRO:CD | 2.55 | 0.68 |
| 1:A:121:PRO:CB | 2:B:149:TYR:CZ | 2.74 | 0.68 |
| 1:A:235:LEU:HD21 | 1:A:242:LYS:CG | 2.24 | 0.68 |
| 3:C:136:TYR:HD1 | 3:C:142:GLN:HB3 | 1.58 | 0.68 |
| 3:C:225:PRO:HG2 | 3:C:228:TYR:CD1 | 2.29 | 0.68 |
| 1:D:419:ILE:O | 1:D:422:THR:HG22 | 1.91 | 0.68 |
| 4:E:75:ASP:HB3 | 4:E:110:TYR:HE1 | 1.52 | 0.68 |
| 4:E:214:ILE:C | 4:E:214:ILE:HD12 | 2.14 | 0.68 |
| 1:A:6:ARG:HB2 | 1:A:6:ARG:HH11 | 1.57 | 0.68 |
| 1:A:155:LYS:HG3 | 4:E:78:ARG:HE | 1.59 | 0.68 |
| 1:A:277:TYR:HA | 1:A:280:PHE:CE1 | 2.28 | 0.68 |
| 2:B:21:PRO:HG2 | 2:B:60:TRP:NE1 | 2.09 | 0.68 |
| 2:B:111:GLN:HB2 | 2:B:115:ALA:HB3 | 1.75 | 0.68 |
| 2:B:145:VAL:HA | 2:B:207:VAL:O | 1.93 | 0.68 |
| 2:B:216:LYS:H | 2:B:216:LYS:CE | 1.96 | 0.68 |
| 2:B:280:ILE:H | 2:B:280:ILE:HD13 | 1.59 | 0.68 |
| 3:C:8:ILE:HD11 | 3:C:69:TRP:HZ3 | 1.59 | 0.68 |
| 1:D:49:ILE:HG21 | 1:D:125:LYS:HZ2 | 1.58 | 0.68 |
| 4:E:297:VAL:O | 4:E:301:VAL:HG22 | 1.92 | 0.68 |
| 4:E:453:ILE:O | 4:E:457:LEU:N | 2.27 | 0.68 |
| 1:A:67:TRP:CD1 | 1:A:71:ASP:CG | 2.68 | 0.68 |
| 1:A:265:PRO:CA | 1:A:268:SER:HB3 | 2.23 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:439:PHE:HA | 2:B:442:ILE:HB | 1.76 | 0.68 |
| 3:C:80:LEU:O | 3:C:112:VAL:CB | 2.42 | 0.68 |
| 1:D:107:LYS:HZ1 | 4:E:149:THR:HA | 1.58 | 0.68 |
| 1:D:412:CYS:HA | 1:D:415:MET:HE1 | 1.76 | 0.68 |
| 4:E:416:VAL:HG22 | 4:E:417:GLU:H | 1.59 | 0.68 |
| 1:A:20:ARG:HG3 | 1:A:22:VAL:CG2 | 2.24 | 0.67 |
| 1:A:72:TYR:CD1 | 1:A:72:TYR:C | 2.67 | 0.67 |
| 1:A:302:SER:O | 4:E:245:GLN:O | 2.12 | 0.67 |
| 2:B:75:ILE:CD1 | 2:B:78:LEU:HB2 | 2.24 | 0.67 |
| 3:C:36:SER:HB3 | 3:C:59:ASP:CB | 2.24 | 0.67 |
| 3:C:77:ILE:HD11 | 3:C:80:LEU:HB2 | 1.74 | 0.67 |
| 3:C:220:ILE:HG13 | 3:C:220:ILE:O | 1.94 | 0.67 |
| 3:C:293:MET:O | 3:C:297:SER:HB3 | 1.93 | 0.67 |
| 1:D:118:TRP:NE1 | 1:D:120:PRO:HB3 | 2.09 | 0.67 |
| 4:E:1:ASN:O | 4:E:69:SER:HB3 | 1.95 | 0.67 |
| 4:E:184:THR:O | 4:E:214:ILE:HB | 1.94 | 0.67 |
| 3:C:69:TRP:HB2 | 3:C:74:TYR:N | 2.09 | 0.67 |
| 3:C:113:ARG:CD | 3:C:117:TYR:HB3 | 2.21 | 0.67 |
| 3:C:141:TRP:HB2 | 3:C:222:ARG:HA | 1.76 | 0.67 |
| 3:C:204:ASP:H | 3:C:207:PRO:HG2 | 1.59 | 0.67 |
| 3:C:259:THR:O | 3:C:263:VAL:HG23 | 1.94 | 0.67 |
| 1:D:66:ARG:O | 1:D:67:TRP:CE3 | 2.46 | 0.67 |
| 4:E:44:GLU:OE1 | 4:E:129:ILE:HG21 | 1.94 | 0.67 |
| 2:B:33:VAL:HG11 | 2:B:158:LEU:HD11 | 1.76 | 0.67 |
| 2:B:43:LEU:HB3 | 2:B:215:ARG:HH12 | 1.58 | 0.67 |
| 2:B:52:THR:HG22 | 2:B:53:SER:H | 1.59 | 0.67 |
| 2:B:104:LEU:HA | 2:B:118:TRP:HH2 | 1.58 | 0.67 |
| 3:C:93:VAL:CB | 3:C:151:LEU:HD13 | 2.24 | 0.67 |
| 1:D:38:ILE:C | 1:D:169:THR:HG21 | 2.14 | 0.67 |
| 1:A:108:LEU:HD22 | 1:A:118:TRP:HA | 1.77 | 0.67 |
| 1:A:217:ASN:O | 1:A:221:PRO:CD | 2.42 | 0.67 |
| 1:A:227:PHE:CA | 1:A:230:VAL:HB | 2.22 | 0.67 |
| 2:B:152:ASP:CB | 2:B:203:SER:HB3 | 2.23 | 0.67 |
| 2:B:460:HIS:O | 2:B:464:PRO:CG | 2.43 | 0.67 |
| 3:C:63:TYR:HE1 | 3:C:116:GLY:HA3 | 1.55 | 0.67 |
| 3:C:132:ILE:HG13 | 3:C:136:TYR:CD2 | 2.30 | 0.67 |
| 3:C:443:VAL:HA | 3:C:446:TRP:CD1 | 2.29 | 0.67 |
| 1:D:45:GLU:HG2 | 1:D:272:PRO:CD | 2.24 | 0.67 |
| 4:E:44:GLU:HG3 | 4:E:129:ILE:CD1 | 2.24 | 0.67 |
| 1:A:134:HIS:CA | 1:A:136:PRO:HD2 | 2.25 | 0.67 |
| 1:A:135:PHE:N | 1:A:136:PRO:HD3 | 2.09 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:136:PRO:CD | 2:B:280:ILE:HD11 | 2.25 | 0.67 |
| 2:B:244:ASP:CB | 3:C:314:PHE:HE1 | 2.08 | 0.67 |
| 3:C:181:PRO:HD3 | 3:C:192:ILE:HG21 | 1.75 | 0.67 |
| 1:D:7:LEU:HA | 1:D:10:ASN:ND2 | 2.08 | 0.67 |
| 1:D:427:ALA:O | 1:D:431:ILE:HG13 | 1.94 | 0.67 |
| 4:E:235:LEU:CD1 | 4:E:257:VAL:HG11 | 2.24 | 0.67 |
| 1:A:391:GLU:O | 1:A:394:ASN:CG | 2.33 | 0.67 |
| 3:C:253:SER:OG | 1:D:306:HIS:HB3 | 1.94 | 0.67 |
| 1:D:212:LEU:O | 1:D:216:VAL:HG23 | 1.94 | 0.67 |
| 4:E:240:TYR:O | 4:E:450:CYS:SG | 2.53 | 0.67 |
| 4:E:302:ILE:O | 4:E:306:VAL:HG23 | 1.93 | 0.67 |
| 3:C:51:THR:HA | 3:C:128:SER:O | 1.94 | 0.67 |
| 3:C:179:ILE:HG13 | 3:C:181:PRO:HD2 | 1.76 | 0.67 |
| 4:E:174:PRO:HA | 4:E:177:PHE:CB | 2.24 | 0.67 |
| 4:E:242:LEU:N | 4:E:243:PRO:HD2 | 2.10 | 0.67 |
| 2:B:135:PHE:HB2 | 2:B:279:ILE:HB | 1.77 | 0.67 |
| 2:B:416:GLU:OE2 | 3:C:433:ILE:HG21 | 1.95 | 0.67 |
| 3:C:110:VAL:HG13 | 3:C:120:TRP:CB | 2.24 | 0.67 |
| 3:C:478:PHE:HD1 | 3:C:479:ASN:N | 1.92 | 0.67 |
| 1:A:35:LEU:HD23 | 1:A:36:GLN:N | 2.09 | 0.67 |
| 1:A:108:LEU:HD13 | 1:A:118:TRP:CB | 2.24 | 0.67 |
| 1:A:243:MET:HB3 | 1:A:306:HIS:CE1 | 2.30 | 0.67 |
| 2:B:251:LEU:HD13 | 3:C:261:ILE:CG2 | 2.25 | 0.67 |
| 3:C:230:ILE:CG1 | 3:C:231:ASN:N | 2.57 | 0.67 |
| 1:A:135:PHE:CD1 | 1:A:273:LEU:CB | 2.77 | 0.67 |
| 2:B:92:LEU:CG | 2:B:96:ASN:HB2 | 2.25 | 0.67 |
| 1:D:29:VAL:HG23 | 1:D:155:LYS:O | 1.95 | 0.67 |
| 4:E:151:ASN:O | 4:E:153:HIS:N | 2.25 | 0.67 |
| 4:E:273:PRO:HG2 | 4:E:274:GLU:H | 1.59 | 0.67 |
| 1:A:128:CYS:HB3 | 1:A:144:MET:SD | 2.35 | 0.66 |
| 1:A:145:LYS:HZ2 | 1:A:202:THR:CG2 | 2.08 | 0.66 |
| 1:A:255:VAL:HG23 | 1:A:258:LEU:HD12 | 1.76 | 0.66 |
| 1:A:292:THR:HA | 1:A:296:ILE:CD1 | 2.24 | 0.66 |
| 2:B:58:LEU:CD1 | 2:B:118:TRP:HB3 | 2.25 | 0.66 |
| 2:B:130:ILE:HD12 | 2:B:134:TYR:CE2 | 2.30 | 0.66 |
| 3:C:19:LYS:O | 3:C:19:LYS:CD | 2.43 | 0.66 |
| 3:C:269:VAL:HG13 | 3:C:270:PHE:HD1 | 1.60 | 0.66 |
| 1:D:236:PRO:HA | 1:D:240:GLY:CA | 2.24 | 0.66 |
| 1:D:242:LYS:O | 1:D:245:LEU:HB3 | 1.96 | 0.66 |
| 4:E:39:LEU:CD1 | 4:E:49:LEU:HD13 | 2.24 | 0.66 |
| 4:E:211:PHE:O | 4:E:212:LEU:HD12 | 1.93 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:92:ILE:HA | 3:C:149:THR:O | 1.95 | 0.66 |
| 3:C:233:ILE:HD13 | 3:C:233:ILE:N | 2.08 | 0.66 |
| 1:D:111:ASP:OD2 | 1:D:115:LYS:HB3 | 1.95 | 0.66 |
| 1:D:130:ILE:HB | 1:D:134:HIS:CG | 2.30 | 0.66 |
| 1:D:212:LEU:O | 1:D:216:VAL:CG2 | 2.42 | 0.66 |
| 4:E:94:ASN:ND2 | 4:E:125:SER:HB2 | 2.01 | 0.66 |
| 2:B:136:PRO:HG2 | 2:B:139:TRP:HA | 1.75 | 0.66 |
| 2:B:306:HIS:ND1 | 2:B:306:HIS:C | 2.48 | 0.66 |
| 3:C:445:ASN:OD1 | 3:C:448:LEU:HD11 | 1.95 | 0.66 |
| 4:E:231:LEU:HG | 4:E:232:ILE:N | 2.03 | 0.66 |
| 2:B:29:VAL:O | 2:B:156:VAL:HG23 | 1.95 | 0.66 |
| 2:B:37:LEU:HD23 | 2:B:179:ALA:C | 2.14 | 0.66 |
| 2:B:58:LEU:HD11 | 2:B:118:TRP:CE3 | 2.31 | 0.66 |
| 2:B:306:HIS:C | 2:B:306:HIS:HD1 | 1.99 | 0.66 |
| 1:D:100:PHE:HA | 1:D:124:PHE:HB3 | 1.78 | 0.66 |
| 1:D:144:MET:O | 1:D:203:TYR:CD1 | 2.48 | 0.66 |
| 1:D:235:LEU:HD22 | 4:E:308:LEU:HG | 1.77 | 0.66 |
| 4:E:36:LEU:CD1 | 4:E:173:ASP:CG | 2.64 | 0.66 |
| 4:E:92:GLU:HB3 | 4:E:144:VAL:HG23 | 1.76 | 0.66 |
| 4:E:240:TYR:CD1 | 4:E:303:VAL:HG21 | 2.30 | 0.66 |
| 4:E:253:LEU:HG | 4:E:254:SER:N | 2.10 | 0.66 |
| 1:A:17:LYS:HE3 | 1:A:84:ASP:HA | 1.77 | 0.66 |
| 2:B:212:ILE:HD13 | 2:B:469:ALA:CA | 2.25 | 0.66 |
| 3:C:66:ARG:HH11 | 3:C:66:ARG:CG | 2.05 | 0.66 |
| 3:C:143:ASN:OD1 | 3:C:220:ILE:CB | 2.41 | 0.66 |
| 3:C:223:ARG:O | 3:C:224:LYS:HG3 | 1.95 | 0.66 |
| 3:C:289:GLY:O | 3:C:293:MET:CE | 2.43 | 0.66 |
| 1:D:177:VAL:O | 1:D:207:MET:HB2 | 1.94 | 0.66 |
| 4:E:59:TRP:CE2 | 4:E:115:MET:HB2 | 2.30 | 0.66 |
| 4:E:266:PHE:CD1 | 4:E:269:ALA:HB3 | 2.30 | 0.66 |
| 1:A:46:VAL:HG21 | 1:A:269:SER:O | 1.95 | 0.66 |
| 2:B:220:TYR:HB3 | 2:B:223:TYR:CE2 | 2.31 | 0.66 |
| 3:C:31:VAL:HG21 | 3:C:88:TRP:HZ3 | 1.61 | 0.66 |
| 3:C:131:PRO:CG | 3:C:144:CYS:HA | 2.25 | 0.66 |
| 3:C:452:THR:O | 3:C:456:LEU:HG | 1.95 | 0.66 |
| 1:D:21:PRO:HG3 | 1:D:60:TRP:CZ2 | 2.30 | 0.66 |
| 1:D:41:ILE:HG12 | 4:E:96:ASP:OD2 | 1.94 | 0.66 |
| 1:D:49:ILE:HG21 | 1:D:125:LYS:HZ1 | 1.59 | 0.66 |
| 1:D:97:ASP:OD1 | 1:D:97:ASP:O | 2.13 | 0.66 |
| 4:E:100:GLU:HB2 | 4:E:122:ILE:HD11 | 1.76 | 0.66 |
| 1:A:45:GLU:O | 1:A:130:ILE:HG13 | 1.95 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:90:LEU:HD12 | 1:A:100:PHE:HE2 | 1.61 | 0.66 |
| 2:B:145:VAL:CG1 | 2:B:206:ASP:HB2 | 2.26 | 0.66 |
| 3:C:199:LYS:HD2 | 3:C:200:ASN:N | 2.11 | 0.66 |
| 4:E:173:ASP:HB2 | 4:E:188:ARG:HH11 | 1.59 | 0.66 |
| 4:E:188:ARG:NH2 | 4:E:210:PHE:CD2 | 2.62 | 0.66 |
| 1:A:419:ILE:CG2 | 1:A:420:ILE:H | 2.08 | 0.66 |
| 2:B:45:GLU:HA | 2:B:130:ILE:CD1 | 2.25 | 0.66 |
| 2:B:92:LEU:HG | 2:B:96:ASN:CB | 2.24 | 0.66 |
| 2:B:438:LEU:O | 2:B:442:ILE:N | 2.29 | 0.66 |
| 3:C:253:SER:HB2 | 1:D:306:HIS:HB3 | 1.78 | 0.66 |
| 1:D:45:GLU:C | 1:D:272:PRO:HG3 | 2.16 | 0.66 |
| 1:D:145:LYS:O | 1:D:146:LEU:HD12 | 1.94 | 0.66 |
| 1:D:249:VAL:HG13 | 4:E:259:LEU:CD2 | 2.25 | 0.66 |
| 4:E:1:ASN:ND2 | 4:E:69:SER:HB3 | 2.11 | 0.66 |
| 4:E:183:TRP:HB2 | 4:E:216:ARG:CG | 2.06 | 0.66 |
| 1:A:72:TYR:HB2 | 1:A:112:TYR:HA | 1.78 | 0.66 |
| 1:A:118:TRP:NE1 | 1:A:120:PRO:HG3 | 2.10 | 0.66 |
| 1:A:282:MET:O | 1:A:286:ILE:HG13 | 1.95 | 0.66 |
| 2:B:143:THR:HG23 | 2:B:208:THR:HG23 | 1.77 | 0.66 |
| 3:C:12:LEU:HB3 | 3:C:15:ASN:HB3 | 1.78 | 0.66 |
| 1:D:72:TYR:CD1 | 1:D:72:TYR:C | 2.66 | 0.66 |
| 4:E:136:PHE:CE1 | 4:E:285:TYR:OH | 2.42 | 0.66 |
| 4:E:151:ASN:HA | 4:E:205:PHE:HB2 | 1.77 | 0.66 |
| 2:B:241:LEU:HD21 | 2:B:251:LEU:HD11 | 1.78 | 0.66 |
| 3:C:8:ILE:HD12 | 3:C:11:LEU:HD12 | 1.78 | 0.66 |
| 3:C:67:LEU:HD21 | 3:C:112:VAL:CG1 | 2.25 | 0.66 |
| 1:D:40:LEU:HD22 | 1:D:52:THR:HG1 | 1.60 | 0.66 |
| 1:D:43:VAL:HG22 | 1:D:50:VAL:CA | 2.19 | 0.66 |
| 4:E:272:VAL:HA | 4:E:275:THR:OG1 | 1.96 | 0.66 |
| 4:E:276:SER:O | 4:E:279:VAL:O | 2.14 | 0.66 |
| 1:A:57:ARG:HA | 1:A:119:THR:CG2 | 2.12 | 0.65 |
| 2:B:45:GLU:CD | 2:B:279:ILE:CD1 | 2.63 | 0.65 |
| 3:C:39:LEU:O | 3:C:183:ALA:HB3 | 1.96 | 0.65 |
| 4:E:32:LEU:CD1 | 4:E:157:LEU:HD13 | 2.24 | 0.65 |
| 1:A:129:GLU:OE2 | 1:A:140:GLN:HG3 | 1.95 | 0.65 |
| 1:A:303:PRO:HB2 | 1:A:400:LYS:HE2 | 1.79 | 0.65 |
| 2:B:132:VAL:C | 2:B:279:ILE:HG23 | 2.16 | 0.65 |
| 2:B:142:CYS:O | 2:B:210:TYR:HA | 1.96 | 0.65 |
| 2:B:311:THR:O | 2:B:312:HIS:HB3 | 1.95 | 0.65 |
| 4:E:52:ASN:HA | 4:E:121:ALA:O | 1.96 | 0.65 |
| 4:E:188:ARG:CD | 4:E:211:PHE:O | 2.43 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:147:GLY:HA2 | 1:A:158:ILE:HG21 | 1.78 | 0.65 |
| 1:A:224:LEU:CG | 1:A:225:PHE:N | 2.58 | 0.65 |
| 1:A:377:GLU:HA | 1:A:380:LYS:HE2 | 1.78 | 0.65 |
| 2:B:90:ILE:HA | 2:B:148:SER:HA | 1.77 | 0.65 |
| 2:B:220:TYR:CE2 | 3:C:279:PRO:CB | 2.77 | 0.65 |
| 2:B:241:LEU:HG | 2:B:248:LYS:CB | 2.23 | 0.65 |
| 3:C:30:VAL:CG2 | 3:C:158:ILE:N | 2.55 | 0.65 |
| 3:C:273:LEU:HD23 | 3:C:276:GLN:CG | 2.25 | 0.65 |
| 1:D:26:THR:HG22 | 1:D:27:HIS:H | 1.61 | 0.65 |
| 1:D:382:ILE:O | 1:D:385:HIS:HB3 | 1.96 | 0.65 |
| 4:E:89:VAL:O | 4:E:90:VAL:HG23 | 1.95 | 0.65 |
| 4:E:110:TYR:HE1 | 4:E:111:ASN:ND2 | 1.94 | 0.65 |
| 4:E:138:TRP:CE2 | 4:E:215:GLN:HB2 | 2.32 | 0.65 |
| 4:E:146:ARG:NH1 | 4:E:205:PHE:HB3 | 2.11 | 0.65 |
| 1:A:79:ARG:HH11 | 1:A:107:LYS:HZ2 | 1.42 | 0.65 |
| 2:B:91:VAL:HG11 | 2:B:149:TYR:CD1 | 2.30 | 0.65 |
| 2:B:415:LEU:HD13 | 2:B:415:LEU:C | 2.16 | 0.65 |
| 3:C:191:GLU:CG | 3:C:222:ARG:HB3 | 2.26 | 0.65 |
| 3:C:429:ILE:HG13 | 3:C:430:VAL:N | 2.12 | 0.65 |
| 1:D:166:ASP:HB2 | 1:D:181:TYR:CG | 2.31 | 0.65 |
| 1:D:283:ILE:CA | 1:D:286:ILE:HD12 | 2.26 | 0.65 |
| 4:E:45:LYS:CD | 4:E:277:LEU:O | 2.43 | 0.65 |
| 1:A:149:TRP:CH2 | 4:E:119:PRO:HA | 2.31 | 0.65 |
| 2:B:32:ARG:HE | 2:B:59:ALA:C | 2.00 | 0.65 |
| 2:B:238:VAL:CG1 | 2:B:248:LYS:HZ1 | 2.08 | 0.65 |
| 3:C:206:PHE:N | 3:C:207:PRO:HD2 | 2.11 | 0.65 |
| 3:C:455:ARG:H | 3:C:455:ARG:HD2 | 1.61 | 0.65 |
| 1:D:79:ARG:HH12 | 4:E:154:GLU:CD | 2.00 | 0.65 |
| 1:D:298:THR:HA | 1:D:301:ARG:HB3 | 1.76 | 0.65 |
| 1:D:303:PRO:CD | 1:D:400:LYS:HD3 | 2.26 | 0.65 |
| 4:E:35:THR:HB | 4:E:54:TRP:CE3 | 2.29 | 0.65 |
| 4:E:242:LEU:HD12 | 4:E:246:ALA:HB2 | 1.77 | 0.65 |
| 2:B:233:ILE:O | 2:B:237:LEU:HD22 | 1.97 | 0.65 |
| 1:D:56:LEU:O | 1:D:120:PRO:CD | 2.44 | 0.65 |
| 4:E:1:ASN:ND2 | 4:E:68:THR:HB | 2.12 | 0.65 |
| 4:E:23:THR:CG2 | 4:E:24:LEU:H | 2.10 | 0.65 |
| 4:E:446:ILE:HG22 | 4:E:447:ASP:N | 2.11 | 0.65 |
| 1:A:32:THR:HG23 | 1:A:159:SER:O | 1.97 | 0.65 |
| 1:A:54:VAL:HG22 | 1:A:122:ALA:HB3 | 1.79 | 0.65 |
| 1:A:187:TRP:CZ2 | 1:A:189:TYR:HB3 | 2.31 | 0.65 |
| 1:A:238:ASP:O | 2:B:309:PRO:HA | 1.96 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:290:ILE:O | 1:A:293:VAL:HG12 | 1.95 | 0.65 |
| 1:A:292:THR:CB | 1:A:296:ILE:HD11 | 2.26 | 0.65 |
| 3:C:12:LEU:CB | 3:C:16:LYS:HG2 | 2.27 | 0.65 |
| 3:C:263:VAL:HA | 1:D:251:LEU:CD1 | 2.26 | 0.65 |
| 3:C:474:VAL:HA | 3:C:477:ASN:CG | 2.16 | 0.65 |
| 1:D:17:LYS:HE3 | 1:D:83:ASP:O | 1.96 | 0.65 |
| 1:D:171:MET:HG2 | 1:D:174:GLY:N | 2.12 | 0.65 |
| 4:E:265:LEU:HD21 | 4:E:296:ILE:CD1 | 2.11 | 0.65 |
| 1:A:58:GLN:HB3 | 1:A:60:TRP:CZ3 | 2.31 | 0.65 |
| 1:A:151:TYR:HB2 | 1:A:156:VAL:CG1 | 2.27 | 0.65 |
| 1:D:181:TYR:HE1 | 1:D:203:TYR:HB3 | 1.62 | 0.65 |
| 1:D:215:VAL:O | 1:D:219:ILE:HG23 | 1.97 | 0.65 |
| 1:D:287:SER:CA | 1:D:290:ILE:HG12 | 2.27 | 0.65 |
| 1:D:426:PHE:CG | 1:D:427:ALA:N | 2.65 | 0.65 |
| 4:E:83:LEU:HD22 | 4:E:83:LEU:N | 2.12 | 0.65 |
| 4:E:294:LEU:HA | 4:E:297:VAL:HG23 | 1.76 | 0.65 |
| 2:B:285:MET:O | 2:B:288:MET:HB3 | 1.97 | 0.65 |
| 2:B:409:LYS:HE2 | 3:C:423:ILE:HA | 1.79 | 0.65 |
| 1:D:97:ASP:HB2 | 1:D:127:TYR:HB2 | 1.78 | 0.65 |
| 1:D:137:PHE:CB | 1:D:435:GLN:CG | 2.71 | 0.65 |
| 1:A:228:LEU:HD13 | 1:A:249:VAL:HG21 | 1.78 | 0.65 |
| 1:A:259:VAL:O | 1:A:263:LEU:HG | 1.97 | 0.65 |
| 1:A:413:VAL:O | 1:A:416:LEU:HB3 | 1.97 | 0.65 |
| 2:B:245:ALA:O | 2:B:248:LYS:HB3 | 1.97 | 0.65 |
| 2:B:406:GLU:O | 2:B:409:LYS:HB2 | 1.96 | 0.65 |
| 2:B:438:LEU:HD23 | 2:B:441:TYR:CB | 2.27 | 0.65 |
| 3:C:7:LEU:HD11 | 3:C:70:ASN:HD22 | 1.61 | 0.65 |
| 3:C:33:ILE:HD11 | 3:C:88:TRP:CH2 | 2.31 | 0.65 |
| 1:D:35:LEU:CD2 | 1:D:164:ARG:HH12 | 1.98 | 0.65 |
| 1:D:57:ARG:HA | 1:D:119:THR:HG22 | 1.78 | 0.65 |
| 1:D:171:MET:SD | 1:D:174:GLY:HA2 | 2.36 | 0.65 |
| 1:D:379:VAL:HG22 | 1:D:382:ILE:CD1 | 2.27 | 0.65 |
| 1:D:412:CYS:O | 1:D:415:MET:HE2 | 1.96 | 0.65 |
| 4:E:89:VAL:HG23 | 4:E:99:PHE:CE1 | 2.32 | 0.65 |
| 4:E:178:THR:CG2 | 4:E:180:ASN:H | 2.10 | 0.65 |
| 1:A:250:LEU:HD21 | 1:A:296:ILE:HD12 | 1.79 | 0.64 |
| 3:C:29:GLU:O | 3:C:30:VAL:HG23 | 1.97 | 0.64 |
| 3:C:305:ASN:OD1 | 3:C:308:ILE:HG21 | 1.96 | 0.64 |
| 1:D:141:ASN:HB3 | 1:D:206:ILE:CD1 | 2.27 | 0.64 |
| 1:D:167:LEU:CD2 | 1:D:178:MET:HB2 | 2.26 | 0.64 |
| 1:D:195:ASP:O | 1:D:197:PRO:HD3 | 1.97 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:E:29:ASP:N | 4:E:29:ASP:OD1 | 2.28 | 0.64 |
| 4:E:82:GLU:C | 4:E:83:LEU:HD22 | 2.17 | 0.64 |
| 4:E:172:ILE:HD12 | 4:E:188:ARG:HB3 | 1.79 | 0.64 |
| 4:E:178:THR:HG22 | 4:E:180:ASN:N | 2.12 | 0.64 |
| 4:E:240:TYR:HD2 | 4:E:453:ILE:HD13 | 1.62 | 0.64 |
| 2:B:141:ASN:HD21 | 2:B:212:ILE:CG1 | 2.01 | 0.64 |
| 1:D:38:ILE:HG22 | 1:D:38:ILE:O | 1.97 | 0.64 |
| 1:D:130:ILE:HD13 | 1:D:131:ILE:N | 2.13 | 0.64 |
| 1:D:242:LYS:HD2 | 1:D:245:LEU:CD1 | 2.27 | 0.64 |
| 1:D:379:VAL:HG22 | 1:D:382:ILE:HD12 | 1.79 | 0.64 |
| 1:A:15:TYR:OH | 1:A:84:ASP:O | 2.14 | 0.64 |
| 1:A:52:THR:C | 1:A:123:ILE:HG13 | 2.16 | 0.64 |
| 1:A:195:ASP:O | 1:A:197:PRO:HD3 | 1.97 | 0.64 |
| 1:A:229:THR:HA | 1:A:232:VAL:CB | 2.24 | 0.64 |
| 1:A:408:HIS:O | 1:A:412:CYS:SG | 2.55 | 0.64 |
| 2:B:247:GLU:CA | 2:B:249:MET:HG3 | 2.27 | 0.64 |
| 2:B:272:GLU:HA | 2:B:275:LEU:CD1 | 2.26 | 0.64 |
| 3:C:33:ILE:CG2 | 3:C:160:MET:SD | 2.85 | 0.64 |
| 3:C:228:TYR:CD1 | 3:C:229:VAL:N | 2.65 | 0.64 |
| 3:C:302:VAL:C | 3:C:306:CYS:HG | 2.00 | 0.64 |
| 4:E:23:THR:CG2 | 4:E:24:LEU:N | 2.60 | 0.64 |
| 4:E:236:VAL:O | 4:E:239:VAL:HG23 | 1.97 | 0.64 |
| 4:E:444:LYS:HA | 4:E:444:LYS:HE3 | 1.80 | 0.64 |
| 1:A:31:ILE:HG13 | 1:A:60:TRP:HB3 | 1.80 | 0.64 |
| 2:B:24:THR:HG22 | 2:B:25:VAL:HG23 | 1.78 | 0.64 |
| 2:B:81:PRO:HD2 | 3:C:20:HIS:CE1 | 2.32 | 0.64 |
| 2:B:108:VAL:HG22 | 2:B:118:TRP:CG | 2.31 | 0.64 |
| 2:B:138:ASP:OD1 | 2:B:464:PRO:HB2 | 1.97 | 0.64 |
| 2:B:408:ILE:CG2 | 2:B:409:LYS:N | 2.59 | 0.64 |
| 3:C:51:THR:C | 3:C:52:LEU:HD13 | 2.18 | 0.64 |
| 3:C:472:ILE:CA | 3:C:475:MET:HB3 | 2.26 | 0.64 |
| 1:D:15:TYR:CE2 | 1:D:84:ASP:HB3 | 2.32 | 0.64 |
| 1:D:395:ALA:O | 1:D:398:GLU:HG2 | 1.96 | 0.64 |
| 4:E:113:GLY:O | 4:E:115:MET:SD | 2.55 | 0.64 |
| 4:E:299:ASN:HA | 4:E:302:ILE:HB | 1.79 | 0.64 |
| 1:A:274:ILE:HG13 | 1:A:274:ILE:O | 1.97 | 0.64 |
| 2:B:38:THR:HG22 | 2:B:55:PHE:HE1 | 1.62 | 0.64 |
| 2:B:85:VAL:O | 2:B:87:GLN:HG3 | 1.98 | 0.64 |
| 2:B:89:ASP:OD1 | 2:B:148:SER:HB2 | 1.98 | 0.64 |
| 3:C:19:LYS:H22 | 3:C:88:TRP:HD1 | 1.44 | 0.64 |
| 1:D:130:ILE:O | 1:D:134:HIS:HB2 | 1.96 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:167:LEU:CD1 | 1:D:178:MET:HB2 | 2.21 | 0.64 |
| 1:D:263:LEU:HD11 | 4:E:266:PHE:CE2 | 2.33 | 0.64 |
| 4:E:191:LYS:HB2 | 4:E:209:ILE:HG21 | 1.79 | 0.64 |
| 4:E:293:SER:O | 4:E:297:VAL:HG23 | 1.97 | 0.64 |
| 4:E:453:ILE:O | 4:E:457:LEU:HB2 | 1.97 | 0.64 |
| 1:A:34:GLY:CA | 1:A:57:ARG:HG2 | 2.28 | 0.64 |
| 1:A:255:VAL:HG21 | 4:E:264:PHE:CE1 | 2.33 | 0.64 |
| 1:A:383:ALA:O | 1:A:387:LYS:HG2 | 1.97 | 0.64 |
| 2:B:107:ASN:HD22 | 3:C:152:ASN:ND2 | 1.96 | 0.64 |
| 2:B:181:THR:HG23 | 2:B:184:GLY:N | 2.12 | 0.64 |
| 3:C:7:LEU:HD22 | 3:C:73:GLU:OE1 | 1.98 | 0.64 |
| 1:D:76:LYS:HE3 | 1:D:112:TYR:CE2 | 2.32 | 0.64 |
| 4:E:136:PHE:CZ | 4:E:217:LYS:HD2 | 2.33 | 0.64 |
| 4:E:246:ALA:CB | 4:E:250:LYS:HG3 | 2.24 | 0.64 |
| 1:A:129:GLU:OE2 | 1:A:140:GLN:HG2 | 1.98 | 0.64 |
| 1:A:419:ILE:CG2 | 1:A:420:ILE:N | 2.61 | 0.64 |
| 1:D:16:ASN:HD22 | 1:D:16:ASN:N | 1.95 | 0.64 |
| 1:D:303:PRO:HB2 | 1:D:400:LYS:NZ | 2.13 | 0.64 |
| 1:D:408:HIS:HB3 | 1:D:412:CYS:SG | 2.38 | 0.64 |
| 4:E:414:SER:N | 4:E:416:VAL:CG1 | 2.60 | 0.64 |
| 1:A:142:CYS:CB | 1:A:205:PHE:HB2 | 2.28 | 0.64 |
| 1:A:252:SER:CB | 2:B:257:LEU:HD13 | 2.25 | 0.64 |
| 2:B:70:ALA:O | 2:B:74:GLY:HA3 | 1.97 | 0.64 |
| 2:B:237:LEU:O | 2:B:241:LEU:N | 2.29 | 0.64 |
| 3:C:30:VAL:HG13 | 3:C:31:VAL:N | 2.13 | 0.64 |
| 1:D:37:LEU:CD1 | 1:D:54:VAL:HG13 | 2.28 | 0.64 |
| 1:D:291:VAL:O | 1:D:295:VAL:HG13 | 1.98 | 0.64 |
| 4:E:173:ASP:CG | 4:E:185:ILE:HD13 | 2.18 | 0.64 |
| 4:E:261:GLN:NE2 | 4:E:296:ILE:HD11 | 2.13 | 0.64 |
| 4:E:474:VAL:CB | 4:E:475:PRO:HD3 | 2.28 | 0.64 |
| 1:A:145:LYS:NZ | 1:A:202:THR:HG23 | 2.13 | 0.64 |
| 1:A:228:LEU:O | 1:A:232:VAL:N | 2.30 | 0.64 |
| 2:B:191:LYS:CE | 2:B:209:PHE:HB3 | 2.28 | 0.64 |
| 2:B:212:ILE:HG22 | 2:B:212:ILE:O | 1.98 | 0.64 |
| 2:B:406:GLU:HA | 2:B:409:LYS:CD | 2.18 | 0.64 |
| 3:C:123:PRO:HD3 | 1:D:149:TRP:CH2 | 2.33 | 0.64 |
| 4:E:1:ASN:HD22 | 4:E:69:SER:CB | 2.11 | 0.64 |
| 4:E:129:ILE:CG2 | 4:E:133:TYR:CD2 | 2.78 | 0.64 |
| 1:A:170:PHE:HE1 | 1:A:176:TRP:NE1 | 1.95 | 0.64 |
| 2:B:119:HIS:N | 2:B:119:HIS:HD2 | 1.95 | 0.64 |
| 2:B:156:VAL:HG22 | 2:B:157:ILE:N | 2.12 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:192:PRO:HD2 | 2:B:210:TYR:HB2 | 1.81 | 0.64 |
| 2:B:297:LEU:O | 2:B:301:VAL:HG22 | 1.97 | 0.64 |
| 3:C:102:TYR:HD1 | 3:C:102:TYR:C | 2.01 | 0.64 |
| 3:C:266:ALA:HB3 | 1:D:251:LEU:HD13 | 1.78 | 0.64 |
| 4:E:279:VAL:HG12 | 4:E:280:PRO:HD2 | 1.80 | 0.64 |
| 1:A:201:ILE:CG2 | 1:A:203:TYR:HE1 | 2.12 | 0.63 |
| 2:B:93:MET:HB2 | 2:B:145:VAL:CG2 | 2.28 | 0.63 |
| 2:B:256:LEU:HD12 | 2:B:302:LEU:HD22 | 1.80 | 0.63 |
| 2:B:281:ILE:HG22 | 2:B:285:MET:H | 1.58 | 0.63 |
| 4:E:44:GLU:CD | 4:E:129:ILE:CB | 2.66 | 0.63 |
| 2:B:24:THR:HG22 | 2:B:25:VAL:N | 2.07 | 0.63 |
| 1:D:32:THR:HB | 1:D:59:GLN:CB | 2.24 | 0.63 |
| 1:D:56:LEU:C | 1:D:120:PRO:HD2 | 2.18 | 0.63 |
| 4:E:2:GLU:CA | 4:E:5:ARG:HG3 | 2.28 | 0.63 |
| 4:E:240:TYR:HD2 | 4:E:453:ILE:CD1 | 2.11 | 0.63 |
| 1:A:389:ASP:O | 1:A:392:SER:HB3 | 1.99 | 0.63 |
| 2:B:46:LYS:NZ | 2:B:275:LEU:O | 2.24 | 0.63 |
| 2:B:245:ALA:O | 2:B:248:LYS:N | 2.29 | 0.63 |
| 1:D:17:LYS:HE3 | 1:D:83:ASP:C | 2.18 | 0.63 |
| 4:E:270:GLN:C | 4:E:273:PRO:HD2 | 2.18 | 0.63 |
| 4:E:298:THR:O | 4:E:302:ILE:HG13 | 1.99 | 0.63 |
| 4:E:435:GLU:HB3 | 4:E:439:TRP:CZ2 | 2.33 | 0.63 |
| 1:A:118:TRP:HD1 | 1:A:120:PRO:HD3 | 1.56 | 0.63 |
| 1:A:135:PHE:CD1 | 1:A:135:PHE:O | 2.52 | 0.63 |
| 1:A:249:VAL:CG2 | 2:B:257:LEU:HD21 | 2.28 | 0.63 |
| 1:A:251:LEU:CD2 | 4:E:260:ALA:HB3 | 2.24 | 0.63 |
| 1:A:377:GLU:HG2 | 2:B:404:ALA:HB1 | 1.81 | 0.63 |
| 2:B:181:THR:CG2 | 2:B:184:GLY:N | 2.60 | 0.63 |
| 2:B:192:PRO:HD2 | 2:B:210:TYR:O | 1.99 | 0.63 |
| 2:B:220:TYR:CZ | 3:C:279:PRO:HB2 | 2.32 | 0.63 |
| 2:B:439:PHE:CA | 2:B:442:ILE:HB | 2.29 | 0.63 |
| 3:C:42:LEU:O | 3:C:185:THR:OG1 | 2.14 | 0.63 |
| 3:C:257:MET:O | 3:C:261:ILE:HG12 | 1.98 | 0.63 |
| 3:C:478:PHE:CD1 | 3:C:479:ASN:N | 2.66 | 0.63 |
| 1:D:1:SER:O | 1:D:3:HIS:N | 2.32 | 0.63 |
| 1:D:294:VAL:O | 1:D:298:THR:N | 2.27 | 0.63 |
| 1:D:379:VAL:HA | 1:D:382:ILE:CD1 | 2.28 | 0.63 |
| 4:E:1:ASN:ND2 | 4:E:69:SER:H | 1.96 | 0.63 |
| 4:E:463:LEU:HD12 | 4:E:463:LEU:O | 1.98 | 0.63 |
| 1:A:128:CYS:HB3 | 1:A:144:MET:HE1 | 1.80 | 0.63 |
| 1:A:287:SER:HA | 1:A:290:ILE:HG13 | 1.79 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:147:LYS:NZ | 2:B:205:GLU:OE2 | 2.29 | 0.63 |
| 2:B:441:TYR:HA | 2:B:444:ILE:HG22 | 1.79 | 0.63 |
| 2:B:447:CYS:O | 2:B:451:THR:HG22 | 1.98 | 0.63 |
| 3:C:81:ARG:NH1 | 3:C:111:LEU:HB2 | 2.13 | 0.63 |
| 1:D:410:LEU:O | 1:D:414:PHE:N | 2.31 | 0.63 |
| 4:E:235:LEU:HD12 | 4:E:235:LEU:C | 2.16 | 0.63 |
| 1:A:43:VAL:HG22 | 1:A:50:VAL:CG1 | 2.28 | 0.63 |
| 1:A:176:TRP:HB3 | 1:A:209:ARG:HD2 | 1.80 | 0.63 |
| 3:C:77:ILE:CD1 | 3:C:80:LEU:HB2 | 2.29 | 0.63 |
| 1:D:282:MET:O | 1:D:286:ILE:HG13 | 1.98 | 0.63 |
| 1:A:34:GLY:HA3 | 1:A:57:ARG:HG2 | 1.80 | 0.63 |
| 1:A:282:MET:O | 1:A:285:VAL:HG12 | 1.99 | 0.63 |
| 1:A:419:ILE:C | 1:A:423:VAL:HG23 | 2.18 | 0.63 |
| 3:C:42:LEU:CD1 | 3:C:190:TRP:HZ2 | 2.12 | 0.63 |
| 1:D:167:LEU:HD11 | 1:D:178:MET:HB2 | 1.76 | 0.63 |
| 4:E:19:LYS:HZ1 | 4:E:154:GLU:HB3 | 1.61 | 0.63 |
| 4:E:292:VAL:O | 4:E:296:ILE:CG2 | 2.45 | 0.63 |
| 1:A:158:ILE:O | 1:A:199:LEU:HB2 | 1.97 | 0.63 |
| 1:A:274:ILE:HG12 | 1:A:277:TYR:HE1 | 1.61 | 0.63 |
| 2:B:45:GLU:HG3 | 2:B:134:TYR:HB3 | 1.79 | 0.63 |
| 3:C:95:GLN:OE1 | 3:C:147:LYS:HB3 | 1.98 | 0.63 |
| 3:C:228:TYR:HD1 | 3:C:229:VAL:H | 1.47 | 0.63 |
| 1:D:137:PHE:C | 1:D:435:GLN:HG3 | 2.18 | 0.63 |
| 1:D:226:SER:O | 1:D:230:VAL:HB | 1.99 | 0.63 |
| 4:E:78:ARG:HD3 | 4:E:108:LEU:HD12 | 1.78 | 0.63 |
| 4:E:94:ASN:HB3 | 4:E:125:SER:CB | 2.27 | 0.63 |
| 1:A:20:ARG:O | 1:A:22:VAL:HG23 | 1.97 | 0.63 |
| 1:A:95:ASN:O | 1:A:96:ALA:HB3 | 1.99 | 0.63 |
| 1:A:133:THR:O | 1:A:136:PRO:HG2 | 1.99 | 0.63 |
| 1:A:227:PHE:HA | 1:A:230:VAL:CB | 2.28 | 0.63 |
| 2:B:153:THR:HG23 | 2:B:156:VAL:O | 1.98 | 0.63 |
| 3:C:52:LEU:CD2 | 3:C:130:CYS:HB2 | 2.25 | 0.63 |
| 3:C:180:ASP:N | 3:C:195:LYS:CG | 2.59 | 0.63 |
| 3:C:269:VAL:HA | 3:C:272:LEU:CD1 | 2.29 | 0.63 |
| 1:D:167:LEU:HA | 1:D:170:PHE:HB3 | 1.80 | 0.63 |
| 4:E:34:LEU:HD12 | 4:E:210:PHE:HE2 | 1.59 | 0.63 |
| 4:E:62:TYR:HD1 | 4:E:62:TYR:O | 1.82 | 0.63 |
| 4:E:435:GLU:O | 4:E:438:ASN:HB3 | 1.97 | 0.63 |
| 1:A:186:HIS:ND1 | 1:A:187:TRP:N | 2.47 | 0.62 |
| 1:A:409:ILE:HA | 1:A:412:CYS:HB2 | 1.80 | 0.62 |
| 2:B:92:LEU:HD13 | 2:B:146:PHE:CE1 | 2.33 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:160:HIS:HE2 | 2:B:209:PHE:HE1 | 1.36 | 0.62 |
| 3:C:260:ALA:CB | 3:C:313:HIS:CE1 | 2.82 | 0.62 |
| 1:D:240:GLY:C | 1:D:242:LYS:H | 2.02 | 0.62 |
| 1:D:419:ILE:HD12 | 1:D:420:ILE:CG2 | 2.29 | 0.62 |
| 4:E:240:TYR:HD2 | 4:E:453:ILE:CG1 | 2.12 | 0.62 |
| 1:A:38:ILE:C | 1:A:39:GLN:HG3 | 2.18 | 0.62 |
| 1:A:255:VAL:HG23 | 4:E:264:PHE:CE1 | 2.34 | 0.62 |
| 1:A:279:LEU:HD13 | 1:A:282:MET:HB3 | 1.79 | 0.62 |
| 1:A:432:GLU:OE1 | 1:A:435:GLN:NE2 | 2.33 | 0.62 |
| 2:B:229:ILE:O | 2:B:232:SER:HB2 | 1.98 | 0.62 |
| 3:C:247:PHE:O | 3:C:250:PRO:CG | 2.47 | 0.62 |
| 1:D:230:VAL:HG22 | 1:D:234:TYR:CE1 | 2.34 | 0.62 |
| 1:D:410:LEU:O | 1:D:414:PHE:CB | 2.47 | 0.62 |
| 4:E:94:ASN:O | 4:E:125:SER:HA | 1.98 | 0.62 |
| 4:E:260:ALA:O | 4:E:264:PHE:CD1 | 2.51 | 0.62 |
| 1:A:146:LEU:HD12 | 1:A:146:LEU:N | 2.14 | 0.62 |
| 1:A:171:MET:SD | 1:A:173:SER:HB3 | 2.39 | 0.62 |
| 2:B:439:PHE:O | 2:B:439:PHE:CD1 | 2.53 | 0.62 |
| 2:B:462:VAL:HB | 2:B:463:PRO:HD3 | 1.81 | 0.62 |
| 1:D:432:GLU:O | 1:D:436:GLU:CG | 2.47 | 0.62 |
| 4:E:108:LEU:O | 4:E:115:MET:HA | 1.98 | 0.62 |
| 4:E:140:ASN:OD1 | 4:E:211:PHE:HB3 | 1.99 | 0.62 |
| 4:E:144:VAL:HG12 | 4:E:209:ILE:CA | 2.29 | 0.62 |
| 1:A:2:GLU:HG3 | 1:A:2:GLU:O | 1.99 | 0.62 |
| 2:B:1:SER:O | 2:B:3:MET:N | 2.33 | 0.62 |
| 2:B:104:LEU:HD12 | 2:B:118:TRP:CH2 | 2.34 | 0.62 |
| 2:B:132:VAL:O | 2:B:279:ILE:HA | 1.99 | 0.62 |
| 2:B:287:ILE:HA | 2:B:290:LEU:CD1 | 2.29 | 0.62 |
| 3:C:43:ILE:HD12 | 3:C:43:ILE:N | 2.15 | 0.62 |
| 3:C:144:CYS:N | 3:C:219:LEU:O | 2.30 | 0.62 |
| 1:D:135:PHE:O | 1:D:210:ILE:HG13 | 2.00 | 0.62 |
| 1:D:170:PHE:CE2 | 1:D:176:TRP:CD1 | 2.86 | 0.62 |
| 4:E:14:TYR:CD2 | 4:E:16:LYS:NZ | 2.66 | 0.62 |
| 1:A:20:ARG:O | 1:A:22:VAL:N | 2.31 | 0.62 |
| 1:A:34:GLY:HA3 | 1:A:57:ARG:CD | 2.28 | 0.62 |
| 2:B:230:LEU:HA | 2:B:233:ILE:CD1 | 2.29 | 0.62 |
| 3:C:49:ASP:C | 3:C:50:GLU:HG3 | 2.20 | 0.62 |
| 3:C:296:MET:HA | 3:C:296:MET:HE2 | 1.79 | 0.62 |
| 1:D:27:HIS:O | 1:D:28:PHE:HB2 | 1.99 | 0.62 |
| 1:D:35:LEU:HD12 | 1:D:54:VAL:HG11 | 1.74 | 0.62 |
| 1:A:155:LYS:HE3 | 4:E:76:LEU:HB3 | 1.80 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:382:ILE:O | 1:A:386:MET:CE | 2.47 | 0.62 |
| 2:B:283:TYR:HA | 2:B:286:PHE:CZ | 2.34 | 0.62 |
| 3:C:2:ASN:HB3 | 3:C:72:SER:HB3 | 1.81 | 0.62 |
| 3:C:266:ALA:O | 3:C:270:PHE:CG | 2.53 | 0.62 |
| 3:C:266:ALA:HB2 | 1:D:251:LEU:HB3 | 1.81 | 0.62 |
| 1:D:45:GLU:OE2 | 1:D:135:PHE:HB3 | 2.00 | 0.62 |
| 4:E:103:TYR:C | 4:E:104:TYR:HD1 | 2.02 | 0.62 |
| 4:E:172:ILE:HA | 4:E:188:ARG:HB3 | 1.81 | 0.62 |
| 4:E:182:GLU:O | 4:E:218:PRO:HD2 | 2.00 | 0.62 |
| 4:E:273:PRO:HG2 | 4:E:274:GLU:N | 2.13 | 0.62 |
| 1:A:208:GLN:OE1 | 1:A:435:GLN:HG2 | 1.98 | 0.62 |
| 1:A:234:TYR:CG | 1:A:410:LEU:HD21 | 2.35 | 0.62 |
| 2:B:40:LEU:HB2 | 2:B:52:THR:HG23 | 1.82 | 0.62 |
| 2:B:287:ILE:HA | 2:B:290:LEU:HB2 | 1.81 | 0.62 |
| 2:B:434:VAL:CG1 | 2:B:438:LEU:HD12 | 2.29 | 0.62 |
| 3:C:106:TYR:C | 3:C:107:PHE:HD1 | 2.01 | 0.62 |
| 3:C:241:PHE:O | 3:C:245:LEU:CG | 2.44 | 0.62 |
| 4:E:133:TYR:OH | 4:E:214:ILE:HG13 | 1.99 | 0.62 |
| 4:E:143:LEU:H | 4:E:143:LEU:HD12 | 1.64 | 0.62 |
| 1:A:229:THR:O | 1:A:232:VAL:HB | 1.99 | 0.62 |
| 2:B:233:ILE:C | 2:B:237:LEU:HD22 | 2.19 | 0.62 |
| 2:B:297:LEU:O | 2:B:297:LEU:HD23 | 1.99 | 0.62 |
| 3:C:190:TRP:CD1 | 3:C:221:ILE:CD1 | 2.75 | 0.62 |
| 3:C:199:LYS:HZ3 | 3:C:200:ASN:HA | 1.63 | 0.62 |
| 3:C:312:PHE:HZ | 3:C:456:LEU:CD2 | 2.08 | 0.62 |
| 2:B:218:LEU:CD1 | 2:B:221:ILE:HD11 | 2.28 | 0.62 |
| 3:C:141:TRP:CG | 3:C:222:ARG:HA | 2.34 | 0.62 |
| 1:D:102:ILE:CD1 | 4:E:98:GLN:HE21 | 2.12 | 0.62 |
| 1:D:167:LEU:HD21 | 1:D:178:MET:HB2 | 1.82 | 0.62 |
| 1:D:264:ILE:CB | 1:D:265:PRO:HD3 | 2.29 | 0.62 |
| 4:E:235:LEU:O | 4:E:238:LEU:HB2 | 1.99 | 0.62 |
| 1:A:67:TRP:CD1 | 1:A:71:ASP:HB3 | 2.34 | 0.62 |
| 1:A:431:ILE:HG22 | 1:A:431:ILE:O | 1.98 | 0.62 |
| 2:B:34:GLY:C | 2:B:35:LEU:HD23 | 2.20 | 0.62 |
| 3:C:7:LEU:O | 3:C:10:ASP:HB2 | 1.99 | 0.62 |
| 3:C:35:LEU:HD21 | 3:C:37:LEU:CD2 | 2.30 | 0.62 |
| 3:C:160:MET:N | 3:C:213:GLN:HB2 | 2.15 | 0.62 |
| 3:C:234:THR:N | 3:C:235:PRO:HD2 | 2.15 | 0.62 |
| 1:D:135:PHE:C | 1:D:135:PHE:CD1 | 2.71 | 0.62 |
| 1:D:135:PHE:CE1 | 1:D:273:LEU:HB2 | 2.35 | 0.62 |
| 1:D:178:MET:SD | 1:D:207:MET:CB | 2.87 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:264:ILE:CB | 1:D:265:PRO:CD | 2.78 | 0.62 |
| 4:E:147:SER:O | 4:E:205:PHE:CE2 | 2.52 | 0.62 |
| 1:A:110:LEU:HD11 | 1:A:114:GLY:HA2 | 1.82 | 0.61 |
| 2:B:35:LEU:CD2 | 2:B:56:LEU:HA | 2.31 | 0.61 |
| 2:B:189:GLU:O | 2:B:190:HIS:CG | 2.52 | 0.61 |
| 3:C:295:ILE:O | 3:C:299:VAL:HG23 | 2.00 | 0.61 |
| 3:C:425:SER:O | 3:C:429:ILE:HG23 | 2.00 | 0.61 |
| 4:E:68:THR:HG23 | 4:E:72:GLU:OE1 | 2.00 | 0.61 |
| 2:B:253:ILE:HD13 | 2:B:302:LEU:HD21 | 1.81 | 0.61 |
| 2:B:420:GLU:O | 2:B:424:LEU:N | 2.32 | 0.61 |
| 3:C:50:GLU:HA | 3:C:132:ILE:HD13 | 1.82 | 0.61 |
| 3:C:181:PRO:HD3 | 3:C:192:ILE:CG2 | 2.31 | 0.61 |
| 3:C:223:ARG:CG | 3:C:224:LYS:N | 2.62 | 0.61 |
| 1:D:382:ILE:O | 1:D:386:MET:HG2 | 2.01 | 0.61 |
| 4:E:138:TRP:CH2 | 4:E:215:GLN:HG3 | 2.35 | 0.61 |
| 4:E:162:GLU:CG | 4:E:190:ALA:O | 2.48 | 0.61 |
| 1:A:280:PHE:O | 1:A:284:PHE:CG | 2.53 | 0.61 |
| 2:B:136:PRO:CB | 2:B:280:ILE:HD11 | 2.30 | 0.61 |
| 2:B:162:LEU:HB2 | 2:B:174:MET:N | 2.15 | 0.61 |
| 3:C:33:ILE:HD11 | 3:C:88:TRP:CZ3 | 2.34 | 0.61 |
| 3:C:312:PHE:CZ | 3:C:456:LEU:CD2 | 2.81 | 0.61 |
| 3:C:480:ARG:N | 3:C:481:PRO:HD2 | 2.15 | 0.61 |
| 1:D:80:LEU:O | 1:D:108:LEU:HB3 | 2.00 | 0.61 |
| 1:D:89:ASP:OD2 | 1:D:149:TRP:CD1 | 2.54 | 0.61 |
| 1:D:130:ILE:HB | 1:D:134:HIS:CB | 2.30 | 0.61 |
| 1:D:186:HIS:CE1 | 1:D:187:TRP:O | 2.53 | 0.61 |
| 1:D:298:THR:HG23 | 1:D:301:ARG:HD3 | 1.80 | 0.61 |
| 4:E:50:THR:HA | 4:E:123:TYR:O | 2.00 | 0.61 |
| 4:E:117:TRP:CD1 | 4:E:119:PRO:HD3 | 2.35 | 0.61 |
| 4:E:237:VAL:HG13 | 4:E:453:ILE:CD1 | 2.28 | 0.61 |
| 4:E:462:THR:O | 4:E:466:PHE:HB3 | 2.00 | 0.61 |
| 1:A:35:LEU:O | 1:A:164:ARG:CZ | 2.49 | 0.61 |
| 1:A:376:ILE:HG23 | 1:A:380:LYS:CE | 2.30 | 0.61 |
| 2:B:242:PRO:HD3 | 2:B:248:LYS:HE3 | 1.81 | 0.61 |
| 2:B:289:ILE:HG22 | 2:B:293:PHE:CZ | 2.35 | 0.61 |
| 2:B:301:VAL:O | 2:B:304:LEU:HB3 | 2.01 | 0.61 |
| 3:C:52:LEU:HD23 | 3:C:128:SER:OG | 1.99 | 0.61 |
| 1:D:379:VAL:HG13 | 1:D:382:ILE:HD12 | 1.81 | 0.61 |
| 4:E:23:THR:HG22 | 4:E:24:LEU:N | 2.15 | 0.61 |
| 4:E:255:ILE:HD11 | 4:E:304:LEU:CD1 | 2.28 | 0.61 |
| 4:E:303:VAL:O | 4:E:307:SER:N | 2.30 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:E:418:ALA:HA | 4:E:421:PHE:CD2 | 2.36 | 0.61 |
| 2:B:109:LEU:HB3 | 2:B:117:SER:CB | 2.30 | 0.61 |
| 2:B:235:ALA:C | 2:B:239:PHE:CE2 | 2.74 | 0.61 |
| 3:C:12:LEU:HB2 | 3:C:16:LYS:CG | 2.29 | 0.61 |
| 1:D:112:TYR:HD1 | 1:D:113:THR:H | 1.47 | 0.61 |
| 1:D:199:LEU:C | 1:D:200:ASP:OD1 | 2.38 | 0.61 |
| 4:E:32:LEU:HA | 4:E:56:GLU:O | 2.01 | 0.61 |
| 1:A:216:VAL:HG13 | 1:A:220:ILE:HD11 | 1.82 | 0.61 |
| 2:B:130:ILE:HD12 | 2:B:134:TYR:CD2 | 2.35 | 0.61 |
| 3:C:11:LEU:O | 3:C:16:LYS:HB2 | 2.01 | 0.61 |
| 3:C:63:TYR:HA | 3:C:117:TYR:HA | 1.83 | 0.61 |
| 3:C:108:CYS:HB3 | 3:C:122:PRO:HG3 | 1.81 | 0.61 |
| 3:C:288:ILE:HD11 | 3:C:290:LYS:HE3 | 1.83 | 0.61 |
| 1:D:36:GLN:HE21 | 1:D:38:ILE:HG13 | 1.65 | 0.61 |
| 1:D:233:PHE:HD1 | 1:D:409:ILE:HD12 | 1.64 | 0.61 |
| 4:E:136:PHE:CD1 | 4:E:285:TYR:OH | 2.48 | 0.61 |
| 4:E:152:ALA:N | 4:E:205:PHE:HA | 2.15 | 0.61 |
| 4:E:437:GLU:O | 4:E:441:LEU:HG | 2.01 | 0.61 |
| 4:E:470:HIS:CE1 | 4:E:474:VAL:CG2 | 2.75 | 0.61 |
| 1:A:89:ASP:O | 1:A:89:ASP:OD1 | 2.18 | 0.61 |
| 1:A:247:ILE:HG23 | 1:A:248:SER:N | 2.16 | 0.61 |
| 1:A:408:HIS:O | 1:A:412:CYS:N | 2.33 | 0.61 |
| 2:B:9:SER:CA | 2:B:12:PHE:CE1 | 2.78 | 0.61 |
| 2:B:242:PRO:HG2 | 2:B:243:PRO:HD2 | 1.83 | 0.61 |
| 2:B:246:GLY:C | 2:B:248:LYS:H | 2.02 | 0.61 |
| 2:B:463:PRO:HB2 | 2:B:464:PRO:HD3 | 1.81 | 0.61 |
| 3:C:33:ILE:HG12 | 3:C:62:TRP:CB | 2.30 | 0.61 |
| 3:C:38:THR:CG2 | 3:C:57:TRP:CZ3 | 2.83 | 0.61 |
| 3:C:58:MET:HG3 | 3:C:92:ILE:HD12 | 1.82 | 0.61 |
| 3:C:276:GLN:C | 3:C:279:PRO:HD2 | 2.21 | 0.61 |
| 1:D:135:PHE:CZ | 1:D:273:LEU:HB3 | 2.35 | 0.61 |
| 1:A:380:LYS:HB3 | 2:B:408:ILE:CD1 | 2.27 | 0.61 |
| 2:B:37:LEU:HD23 | 2:B:179:ALA:O | 2.00 | 0.61 |
| 2:B:258:ALA:O | 2:B:262:PHE:CD1 | 2.54 | 0.61 |
| 2:B:443:PHE:C | 2:B:447:CYS:HG | 2.02 | 0.61 |
| 3:C:77:ILE:CD1 | 3:C:80:LEU:CD1 | 2.72 | 0.61 |
| 3:C:180:ASP:CB | 3:C:219:LEU:HD13 | 2.31 | 0.61 |
| 1:D:15:TYR:HE2 | 1:D:84:ASP:HB3 | 1.66 | 0.61 |
| 1:D:37:LEU:HD13 | 1:D:54:VAL:HG13 | 1.82 | 0.61 |
| 4:E:172:ILE:CG2 | 4:E:174:PRO:HG2 | 2.30 | 0.61 |
| 4:E:262:THR:CA | 4:E:265:LEU:HB2 | 2.31 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:E:310:THR:OG1 | 4:E:313:THR:CG2 | 2.48 | 0.61 |
| 2:B:97:ASP:OD2 | 2:B:127:SER:HB2 | 1.99 | 0.61 |
| 2:B:147:LYS:HG3 | 2:B:148:SER:H | 1.65 | 0.61 |
| 3:C:141:TRP:CH2 | 3:C:223:ARG:HD3 | 2.35 | 0.61 |
| 3:C:147:LYS:HE2 | 3:C:216:THR:HG23 | 1.82 | 0.61 |
| 4:E:41:SER:O | 4:E:49:LEU:HA | 2.00 | 0.61 |
| 4:E:213:ILE:HG23 | 4:E:213:ILE:O | 2.01 | 0.61 |
| 1:A:48:GLN:OE1 | 1:A:130:ILE:HD12 | 2.00 | 0.61 |
| 1:A:124:PHE:CD1 | 1:A:124:PHE:C | 2.73 | 0.61 |
| 2:B:409:LYS:CG | 3:C:426:THR:HG21 | 2.30 | 0.61 |
| 2:B:409:LYS:O | 2:B:412:ALA:HB3 | 2.01 | 0.61 |
| 3:C:232:PHE:C | 3:C:235:PRO:HD2 | 2.21 | 0.61 |
| 1:D:225:PHE:O | 1:D:229:THR:HG23 | 2.01 | 0.61 |
| 4:E:279:VAL:HB | 4:E:280:PRO:HD2 | 1.83 | 0.61 |
| 4:E:456:LEU:O | 4:E:456:LEU:HD22 | 2.00 | 0.61 |
| 1:A:100:PHE:HB3 | 1:A:103:VAL:CG2 | 2.30 | 0.60 |
| 2:B:189:GLU:CG | 2:B:468:PHE:HB3 | 2.18 | 0.60 |
| 1:D:67:TRP:CD1 | 1:D:71:ASP:CG | 2.75 | 0.60 |
| 1:D:416:LEU:C | 1:D:419:ILE:HG13 | 2.20 | 0.60 |
| 4:E:31:THR:CB | 4:E:58:GLN:HB2 | 2.30 | 0.60 |
| 4:E:146:ARG:HB3 | 4:E:207:GLU:HA | 1.83 | 0.60 |
| 4:E:162:GLU:N | 4:E:163:GLU:OE2 | 2.29 | 0.60 |
| 4:E:223:ILE:HA | 4:E:226:ILE:HB | 1.82 | 0.60 |
| 4:E:266:PHE:CD1 | 4:E:266:PHE:O | 2.54 | 0.60 |
| 1:A:227:PHE:O | 1:A:231:LEU:HG | 2.00 | 0.60 |
| 1:A:300:HIS:CA | 1:A:306:HIS:O | 2.47 | 0.60 |
| 2:B:46:LYS:HG3 | 2:B:278:PRO:CG | 2.31 | 0.60 |
| 2:B:290:LEU:HD11 | 2:B:453:SER:OG | 2.01 | 0.60 |
| 3:C:42:LEU:CD2 | 3:C:190:TRP:HH2 | 2.13 | 0.60 |
| 3:C:111:LEU:HB3 | 3:C:119:THR:HG1 | 1.65 | 0.60 |
| 1:D:38:ILE:CD1 | 4:E:199:THR:HG21 | 2.30 | 0.60 |
| 1:D:238:ASP:HB3 | 4:E:308:LEU:HD22 | 1.81 | 0.60 |
| 1:D:280:PHE:N | 1:D:280:PHE:CD1 | 2.67 | 0.60 |
| 1:A:106:THR:HG22 | 1:A:107:LYS:N | 2.16 | 0.60 |
| 2:B:28:LYS:HE2 | 2:B:154:SER:O | 2.00 | 0.60 |
| 2:B:241:LEU:HD13 | 3:C:314:PHE:CE2 | 2.37 | 0.60 |
| 2:B:462:VAL:O | 2:B:465:ASP:OD1 | 2.18 | 0.60 |
| 4:E:279:VAL:CG1 | 4:E:280:PRO:HD2 | 2.32 | 0.60 |
| 4:E:441:LEU:C | 4:E:441:LEU:HD12 | 2.21 | 0.60 |
| 1:A:61:ILE:HG22 | 1:A:115:LYS:HA | 1.84 | 0.60 |
| 2:B:46:LYS:CG | 2:B:278:PRO:HD2 | 2.31 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:17:TYR:CE1 | 3:C:18:ASN:O | 2.54 | 0.60 |
| 3:C:305:ASN:O | 3:C:309:VAL:N | 2.32 | 0.60 |
| 1:D:245:LEU:CD1 | 4:E:255:ILE:HG13 | 2.30 | 0.60 |
| 4:E:247:GLY:N | 4:E:250:LYS:HG3 | 2.16 | 0.60 |
| 1:A:76:LYS:HG3 | 1:A:112:TYR:CD2 | 2.35 | 0.60 |
| 1:A:157:SER:HB2 | 1:A:199:LEU:CD1 | 2.30 | 0.60 |
| 1:A:160:PRO:HG2 | 1:A:185:LYS:HZ1 | 1.66 | 0.60 |
| 1:A:187:TRP:HE1 | 1:A:196:THR:HG22 | 1.67 | 0.60 |
| 2:B:67:TRP:CB | 2:B:72:TYR:HB2 | 2.31 | 0.60 |
| 2:B:135:PHE:H | 2:B:279:ILE:HG21 | 1.64 | 0.60 |
| 2:B:163:ASP:HB3 | 2:B:193:SER:OG | 2.01 | 0.60 |
| 3:C:191:GLU:N | 3:C:222:ARG:O | 2.24 | 0.60 |
| 3:C:206:PHE:C | 3:C:206:PHE:CD1 | 2.74 | 0.60 |
| 3:C:230:ILE:HG13 | 3:C:231:ASN:H | 1.63 | 0.60 |
| 3:C:253:SER:O | 3:C:256:LYS:HG3 | 2.02 | 0.60 |
| 3:C:270:PHE:CD1 | 3:C:270:PHE:N | 2.66 | 0.60 |
| 3:C:312:PHE:O | 3:C:315:ARG:HD2 | 2.02 | 0.60 |
| 4:E:66:TRP:N | 4:E:66:TRP:CD1 | 2.70 | 0.60 |
| 4:E:309:ARG:HD2 | 4:E:310:THR:N | 2.16 | 0.60 |
| 1:A:31:ILE:HG12 | 1:A:60:TRP:HB3 | 1.84 | 0.60 |
| 1:A:36:GLN:OE1 | 1:A:37:LEU:C | 2.40 | 0.60 |
| 1:A:284:PHE:CZ | 1:A:424:SER:HB3 | 2.37 | 0.60 |
| 2:B:87:GLN:HB3 | 2:B:104:LEU:HD11 | 1.84 | 0.60 |
| 2:B:104:LEU:HA | 2:B:118:TRP:CH2 | 2.35 | 0.60 |
| 2:B:181:THR:HG23 | 2:B:183:ASN:N | 2.16 | 0.60 |
| 2:B:249:MET:CE | 2:B:250:SER:HB3 | 2.31 | 0.60 |
| 3:C:55:ASN:HA | 3:C:124:ALA:O | 2.01 | 0.60 |
| 3:C:58:MET:CG | 3:C:92:ILE:HD12 | 2.31 | 0.60 |
| 3:C:161:ASP:OD1 | 3:C:199:LYS:HD3 | 2.01 | 0.60 |
| 4:E:262:THR:HA | 4:E:265:LEU:CB | 2.31 | 0.60 |
| 1:A:1:SER:O | 1:A:3:HIS:N | 2.34 | 0.60 |
| 1:A:130:ILE:O | 1:A:131:ILE:O | 2.19 | 0.60 |
| 1:A:223:LEU:O | 1:A:226:SER:HB2 | 2.02 | 0.60 |
| 2:B:88:PRO:HB2 | 2:B:90:ILE:CG1 | 2.30 | 0.60 |
| 3:C:3:GLU:OE1 | 3:C:7:LEU:HD12 | 2.01 | 0.60 |
| 1:D:26:THR:HG22 | 1:D:27:HIS:N | 2.17 | 0.60 |
| 1:D:187:TRP:CB | 1:D:199:LEU:HD23 | 2.26 | 0.60 |
| 1:D:237:THR:OG1 | 1:D:406:ILE:CG2 | 2.50 | 0.60 |
| 1:D:387:LYS:O | 1:D:391:GLU:HG3 | 2.02 | 0.60 |
| 4:E:222:ILE:HG23 | 4:E:223:ILE:N | 2.16 | 0.60 |
| 1:A:94:ASN:C | 1:A:94:ASN:HD22 | 2.05 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:54:VAL:O | 2:B:121:SER:HA | 2.02 | 0.60 |
| 3:C:36:SER:HB3 | 3:C:59:ASP:HB3 | 1.82 | 0.60 |
| 3:C:91:ASP:OD1 | 3:C:153:TYR:CE1 | 2.54 | 0.60 |
| 3:C:278:LEU:HD11 | 3:C:292:LEU:HD21 | 1.84 | 0.60 |
| 1:D:247:ILE:HG22 | 1:D:248:SER:N | 2.16 | 0.60 |
| 4:E:59:TRP:CZ2 | 4:E:115:MET:CB | 2.84 | 0.60 |
| 4:E:100:GLU:OE2 | 4:E:122:ILE:O | 2.19 | 0.60 |
| 2:B:100:PHE:HB2 | 2:B:103:THR:OG1 | 2.02 | 0.60 |
| 2:B:200:ASP:O | 2:B:200:ASP:OD1 | 2.19 | 0.60 |
| 2:B:431:VAL:O | 2:B:432:ALA:HB3 | 2.02 | 0.60 |
| 3:C:84:PRO:HG2 | 3:C:85:GLU:OE1 | 2.02 | 0.60 |
| 3:C:206:PHE:CD1 | 3:C:206:PHE:O | 2.55 | 0.60 |
| 1:D:298:THR:O | 1:D:301:ARG:HB3 | 2.02 | 0.60 |
| 1:A:107:LYS:HZ1 | 2:B:151:TYR:HA | 1.66 | 0.60 |
| 1:A:117:MET:CE | 1:A:119:THR:HG21 | 2.32 | 0.60 |
| 1:A:131:ILE:CD1 | 1:A:133:THR:HB | 2.32 | 0.60 |
| 1:A:136:PRO:HA | 1:A:277:TYR:CE1 | 2.37 | 0.60 |
| 1:A:227:PHE:O | 1:A:231:LEU:N | 2.34 | 0.60 |
| 1:A:284:PHE:CE2 | 1:A:424:SER:HB3 | 2.37 | 0.60 |
| 2:B:39:SER:HA | 2:B:179:ALA:O | 2.01 | 0.60 |
| 2:B:68:ASP:CB | 2:B:69:PRO:CD | 2.74 | 0.60 |
| 2:B:307:ARG:NH1 | 2:B:434:VAL:HG21 | 2.16 | 0.60 |
| 3:C:190:TRP:HA | 3:C:223:ARG:HB2 | 1.82 | 0.60 |
| 3:C:318:SER:CB | 3:C:447:ASN:HD22 | 2.04 | 0.60 |
| 1:D:184:TRP:HE3 | 1:D:185:LYS:O | 1.84 | 0.60 |
| 1:D:384:GLU:HG2 | 4:E:422:ILE:HD12 | 1.84 | 0.60 |
| 1:A:28:PHE:CD1 | 1:A:153:GLY:O | 2.55 | 0.59 |
| 1:A:413:VAL:O | 1:A:417:ILE:N | 2.31 | 0.59 |
| 2:B:297:LEU:HD23 | 2:B:301:VAL:HG13 | 1.83 | 0.59 |
| 2:B:304:LEU:HD23 | 2:B:304:LEU:O | 2.02 | 0.59 |
| 3:C:30:VAL:HG22 | 3:C:158:ILE:H | 1.66 | 0.59 |
| 3:C:42:LEU:O | 3:C:185:THR:CB | 2.50 | 0.59 |
| 3:C:102:TYR:CD1 | 3:C:102:TYR:C | 2.73 | 0.59 |
| 3:C:162:LEU:HD12 | 3:C:199:LYS:N | 2.16 | 0.59 |
| 3:C:319:THR:OG1 | 3:C:448:LEU:HD23 | 2.02 | 0.59 |
| 1:D:242:LYS:HB2 | 1:D:245:LEU:CD1 | 2.31 | 0.59 |
| 1:D:416:LEU:HA | 1:D:419:ILE:HG12 | 1.80 | 0.59 |
| 1:A:419:ILE:HG23 | 1:A:420:ILE:N | 2.15 | 0.59 |
| 2:B:426:LYS:HB3 | 2:B:430:TYR:CE2 | 2.38 | 0.59 |
| 3:C:215:VAL:HG23 | 3:C:215:VAL:O | 2.02 | 0.59 |
| 3:C:263:VAL:N | 1:D:251:LEU:HD11 | 2.17 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:426:THR:HA | 3:C:429:ILE:CG2 | 2.32 | 0.59 |
| 3:C:434:LYS:CD | 3:C:435:GLU:CG | 2.70 | 0.59 |
| 1:D:187:TRP:NE1 | 1:D:197:PRO:O | 2.35 | 0.59 |
| 1:D:250:LEU:HD22 | 1:D:292:THR:OG1 | 2.02 | 0.59 |
| 1:D:260:ILE:HG22 | 1:D:264:ILE:HD11 | 1.84 | 0.59 |
| 4:E:49:LEU:O | 4:E:124:ARG:HD2 | 2.01 | 0.59 |
| 4:E:138:TRP:HH2 | 4:E:215:GLN:HE21 | 1.48 | 0.59 |
| 1:A:156:VAL:CG2 | 1:A:157:SER:N | 2.66 | 0.59 |
| 1:A:258:LEU:O | 1:A:261:VAL:HB | 2.01 | 0.59 |
| 1:A:430:LEU:O | 1:A:433:LEU:HB3 | 2.01 | 0.59 |
| 2:B:9:SER:O | 2:B:13:GLU:HG3 | 2.02 | 0.59 |
| 2:B:36:THR:O | 2:B:55:PHE:CD1 | 2.56 | 0.59 |
| 2:B:43:LEU:HB3 | 2:B:215:ARG:NH1 | 2.16 | 0.59 |
| 2:B:87:GLN:CB | 2:B:104:LEU:HD11 | 2.31 | 0.59 |
| 2:B:160:HIS:HE2 | 2:B:207:VAL:CG1 | 2.13 | 0.59 |
| 2:B:249:MET:O | 2:B:252:SER:OG | 2.21 | 0.59 |
| 1:D:56:LEU:O | 1:D:120:PRO:HD2 | 2.02 | 0.59 |
| 1:D:189:TYR:CA | 1:D:197:PRO:HD2 | 2.31 | 0.59 |
| 1:D:220:ILE:N | 1:D:221:PRO:HD2 | 2.17 | 0.59 |
| 1:D:410:LEU:O | 1:D:414:PHE:HB2 | 2.02 | 0.59 |
| 4:E:6:LEU:HD13 | 4:E:67:ASN:CG | 2.23 | 0.59 |
| 4:E:34:LEU:HD12 | 4:E:210:PHE:CZ | 2.38 | 0.59 |
| 4:E:86:LEU:HD13 | 4:E:103:TYR:HE1 | 1.63 | 0.59 |
| 1:A:136:PRO:CB | 1:A:138:ASP:OD1 | 2.50 | 0.59 |
| 1:A:419:ILE:HD13 | 1:A:423:VAL:HG21 | 1.84 | 0.59 |
| 2:B:69:PRO:O | 2:B:74:GLY:N | 2.35 | 0.59 |
| 2:B:198:ARG:CG | 2:B:198:ARG:NH1 | 2.59 | 0.59 |
| 2:B:439:PHE:O | 2:B:442:ILE:HG22 | 2.03 | 0.59 |
| 3:C:2:ASN:HD22 | 3:C:71:ALA:HB3 | 1.67 | 0.59 |
| 3:C:222:ARG:HH21 | 3:C:223:ARG:C | 2.06 | 0.59 |
| 3:C:451:GLN:O | 3:C:455:ARG:NH1 | 2.34 | 0.59 |
| 4:E:159:LEU:CD1 | 4:E:208:ILE:HG23 | 2.32 | 0.59 |
| 1:A:12:LEU:HG | 1:A:13:GLU:N | 2.17 | 0.59 |
| 1:A:252:SER:O | 1:A:256:PHE:CE1 | 2.55 | 0.59 |
| 1:A:255:VAL:HB | 4:E:264:PHE:CZ | 2.37 | 0.59 |
| 2:B:9:SER:O | 2:B:12:PHE:CD1 | 2.56 | 0.59 |
| 2:B:92:LEU:HB2 | 2:B:96:ASN:N | 2.18 | 0.59 |
| 3:C:35:LEU:CD2 | 3:C:215:VAL:HG11 | 2.31 | 0.59 |
| 3:C:62:TRP:HZ2 | 3:C:88:TRP:O | 1.85 | 0.59 |
| 3:C:270:PHE:HD1 | 3:C:270:PHE:N | 2.00 | 0.59 |
| 3:C:291:TYR:N | 3:C:291:TYR:CD1 | 2.71 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:109:LEU:HD12 | 1:D:117:MET:HB3 | 1.85 | 0.59 |
| 1:D:245:LEU:HD11 | 4:E:255:ILE:CG1 | 2.29 | 0.59 |
| 4:E:37:THR:OG1 | 4:E:54:TRP:CZ3 | 2.55 | 0.59 |
| 4:E:66:TRP:CE3 | 4:E:70:GLU:HG2 | 2.37 | 0.59 |
| 4:E:78:ARG:CD | 4:E:108:LEU:HD12 | 2.33 | 0.59 |
| 1:A:34:GLY:HA3 | 1:A:57:ARG:CG | 2.32 | 0.59 |
| 1:A:41:ILE:HG12 | 1:A:51:GLU:HB3 | 1.81 | 0.59 |
| 1:A:257:LEU:O | 1:A:260:ILE:HG22 | 2.01 | 0.59 |
| 1:A:292:THR:HG22 | 1:A:296:ILE:HD11 | 1.85 | 0.59 |
| 1:A:415:MET:O | 1:A:419:ILE:HB | 2.03 | 0.59 |
| 2:B:251:LEU:HD12 | 2:B:251:LEU:C | 2.23 | 0.59 |
| 3:C:58:MET:HE3 | 3:C:122:PRO:HD2 | 1.85 | 0.59 |
| 3:C:247:PHE:C | 3:C:250:PRO:CD | 2.70 | 0.59 |
| 1:D:56:LEU:O | 1:D:120:PRO:HD3 | 2.03 | 0.59 |
| 1:D:291:VAL:HG12 | 1:D:295:VAL:HG11 | 1.83 | 0.59 |
| 1:D:432:GLU:O | 1:D:436:GLU:HG3 | 2.02 | 0.59 |
| 4:E:138:TRP:CH2 | 4:E:215:GLN:CG | 2.84 | 0.59 |
| 4:E:232:ILE:HG22 | 4:E:233:SER:N | 2.18 | 0.59 |
| 4:E:250:LYS:HB3 | 4:E:253:LEU:CD2 | 2.30 | 0.59 |
| 1:A:156:VAL:HG22 | 1:A:157:SER:N | 2.18 | 0.59 |
| 2:B:92:LEU:HD22 | 2:B:146:PHE:CG | 2.37 | 0.59 |
| 2:B:95:ASN:O | 2:B:96:ASN:C | 2.40 | 0.59 |
| 2:B:285:MET:O | 2:B:289:ILE:HG12 | 2.03 | 0.59 |
| 2:B:290:LEU:HD21 | 2:B:453:SER:OG | 2.02 | 0.59 |
| 3:C:38:THR:HG21 | 3:C:57:TRP:CZ3 | 2.36 | 0.59 |
| 4:E:19:LYS:HZ1 | 4:E:154:GLU:CB | 2.11 | 0.59 |
| 4:E:177:PHE:CE2 | 4:E:184:THR:HA | 2.38 | 0.59 |
| 4:E:228:PRO:HA | 4:E:231:LEU:HD23 | 1.85 | 0.59 |
| 1:A:242:LYS:CD | 2:B:312:HIS:ND1 | 2.62 | 0.59 |
| 2:B:62:ASP:C | 2:B:64:ARG:H | 2.05 | 0.59 |
| 3:C:155:ALA:HB2 | 3:C:211:ASN:CA | 2.28 | 0.59 |
| 3:C:159:SER:HA | 3:C:213:GLN:HG2 | 1.80 | 0.59 |
| 3:C:291:TYR:N | 3:C:291:TYR:HD1 | 2.00 | 0.59 |
| 1:D:60:TRP:CZ2 | 1:D:86:TRP:CZ3 | 2.90 | 0.59 |
| 1:D:74:GLY:O | 1:D:75:ILE:HG23 | 2.02 | 0.59 |
| 1:D:144:MET:HE3 | 1:D:205:PHE:CE1 | 2.38 | 0.59 |
| 1:D:250:LEU:CD2 | 1:D:292:THR:OG1 | 2.51 | 0.59 |
| 4:E:102:ALA:HB2 | 4:E:121:ALA:CB | 2.33 | 0.59 |
| 1:A:56:LEU:HD12 | 1:A:90:LEU:HD13 | 1.83 | 0.59 |
| 1:A:226:SER:O | 1:A:230:VAL:N | 2.34 | 0.59 |
| 2:B:247:GLU:OE1 | 3:C:320:HIS:CD2 | 2.56 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:249:MET:SD | 2:B:250:SER:N | 2.69 | 0.59 |
| 3:C:93:VAL:CG2 | 3:C:151:LEU:HD13 | 2.32 | 0.59 |
| 3:C:260:ALA:HB3 | 3:C:313:HIS:CE1 | 2.37 | 0.59 |
| 3:C:279:PRO:CA | 3:C:282:ALA:HB3 | 2.33 | 0.59 |
| 1:D:293:VAL:O | 1:D:297:ASN:ND2 | 2.36 | 0.59 |
| 4:E:78:ARG:HD3 | 4:E:108:LEU:CD1 | 2.32 | 0.59 |
| 4:E:279:VAL:CB | 4:E:280:PRO:HD2 | 2.33 | 0.59 |
| 1:A:306:HIS:HB2 | 4:E:250:LYS:NZ | 2.18 | 0.59 |
| 2:B:38:THR:OG1 | 2:B:39:SER:N | 2.35 | 0.59 |
| 2:B:425:LYS:CA | 2:B:428:TRP:CD1 | 2.71 | 0.59 |
| 3:C:49:ASP:O | 3:C:50:GLU:HG3 | 2.03 | 0.59 |
| 3:C:105:ALA:HA | 3:C:122:PRO:HG2 | 1.84 | 0.59 |
| 3:C:435:GLU:O | 3:C:438:ALA:HB3 | 2.02 | 0.59 |
| 3:C:464:VAL:CG1 | 3:C:465:MET:N | 2.66 | 0.59 |
| 1:D:223:LEU:HD23 | 1:D:223:LEU:C | 2.22 | 0.59 |
| 4:E:78:ARG:CD | 4:E:108:LEU:CD1 | 2.81 | 0.59 |
| 1:A:29:VAL:HB | 1:A:31:ILE:CD1 | 2.33 | 0.58 |
| 1:A:29:VAL:HB | 1:A:31:ILE:HD12 | 1.85 | 0.58 |
| 3:C:139:PHE:CE2 | 3:C:291:TYR:OH | 2.56 | 0.58 |
| 3:C:426:THR:CA | 3:C:429:ILE:HG23 | 2.32 | 0.58 |
| 1:D:7:LEU:HA | 1:D:10:ASN:HD21 | 1.67 | 0.58 |
| 1:D:43:VAL:CG1 | 1:D:50:VAL:HG22 | 2.33 | 0.58 |
| 1:D:432:GLU:CG | 1:D:435:GLN:NE2 | 2.59 | 0.58 |
| 4:E:34:LEU:CD2 | 4:E:55:ILE:HA | 2.33 | 0.58 |
| 4:E:239:VAL:CG1 | 4:E:254:SER:OG | 2.51 | 0.58 |
| 4:E:296:ILE:CG1 | 4:E:297:VAL:N | 2.66 | 0.58 |
| 1:A:37:LEU:HD23 | 1:A:54:VAL:HG12 | 1.85 | 0.58 |
| 1:A:57:ARG:HD3 | 1:A:161:GLU:CG | 2.29 | 0.58 |
| 1:A:171:MET:CG | 1:A:173:SER:H | 2.16 | 0.58 |
| 1:A:261:VAL:O | 1:A:265:PRO:CG | 2.51 | 0.58 |
| 1:A:265:PRO:O | 1:A:269:SER:N | 2.33 | 0.58 |
| 2:B:175:ILE:HG23 | 2:B:178:ASP:N | 2.18 | 0.58 |
| 3:C:7:LEU:HD11 | 3:C:70:ASN:ND2 | 2.18 | 0.58 |
| 1:D:29:VAL:HG11 | 1:D:60:TRP:HE1 | 1.67 | 0.58 |
| 1:D:114:GLY:O | 1:D:116:ILE:HG23 | 2.03 | 0.58 |
| 4:E:55:ILE:HG22 | 4:E:119:PRO:O | 2.03 | 0.58 |
| 4:E:59:TRP:CZ2 | 4:E:84:LEU:HD22 | 2.38 | 0.58 |
| 1:A:137:PHE:CE1 | 1:A:210:ILE:CD1 | 2.77 | 0.58 |
| 1:A:380:LYS:HE3 | 2:B:405:VAL:HA | 1.84 | 0.58 |
| 2:B:40:LEU:HD13 | 2:B:40:LEU:C | 2.24 | 0.58 |
| 2:B:65:LEU:HD23 | 2:B:110:VAL:HG11 | 1.84 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:101:GLU:HB2 | 2:B:123:ILE:HG22 | 1.84 | 0.58 |
| 2:B:279:ILE:HG22 | 2:B:280:ILE:CD1 | 2.25 | 0.58 |
| 2:B:431:VAL:O | 2:B:432:ALA:CB | 2.52 | 0.58 |
| 3:C:241:PHE:C | 3:C:241:PHE:CD1 | 2.76 | 0.58 |
| 1:D:89:ASP:CB | 1:D:149:TRP:HD1 | 2.16 | 0.58 |
| 1:D:228:LEU:HD23 | 1:D:249:VAL:CG1 | 2.32 | 0.58 |
| 1:D:407:ASP:OD1 | 1:D:408:HIS:CD2 | 2.51 | 0.58 |
| 4:E:133:TYR:CZ | 4:E:214:ILE:HG13 | 2.38 | 0.58 |
| 4:E:227:ALA:N | 4:E:228:PRO:CD | 2.66 | 0.58 |
| 4:E:296:ILE:HG13 | 4:E:297:VAL:N | 2.17 | 0.58 |
| 1:A:93:TYR:CG | 1:A:145:LYS:HB3 | 2.38 | 0.58 |
| 1:A:93:TYR:CZ | 1:A:198:TYR:CE2 | 2.91 | 0.58 |
| 1:A:305:THR:OG1 | 1:A:400:LYS:HB2 | 2.04 | 0.58 |
| 2:B:66:GLN:HG3 | 2:B:113:THR:HA | 1.85 | 0.58 |
| 3:C:180:ASP:N | 3:C:195:LYS:CB | 2.66 | 0.58 |
| 3:C:476:GLY:O | 3:C:480:ARG:HG3 | 2.04 | 0.58 |
| 1:D:110:LEU:HA | 1:D:116:ILE:HG22 | 1.84 | 0.58 |
| 1:A:242:LYS:HB2 | 1:A:245:LEU:HB2 | 1.85 | 0.58 |
| 1:A:416:LEU:C | 1:A:419:ILE:HG22 | 2.23 | 0.58 |
| 2:B:20:ARG:HD3 | 2:B:20:ARG:N | 2.02 | 0.58 |
| 2:B:37:LEU:HD23 | 2:B:179:ALA:CA | 2.32 | 0.58 |
| 2:B:88:PRO:O | 2:B:90:ILE:N | 2.34 | 0.58 |
| 2:B:102:ILE:HB | 2:B:121:SER:O | 2.03 | 0.58 |
| 2:B:247:GLU:OE1 | 3:C:320:HIS:NE2 | 2.36 | 0.58 |
| 3:C:93:VAL:HB | 3:C:151:LEU:HB2 | 1.85 | 0.58 |
| 3:C:93:VAL:HB | 3:C:151:LEU:HD22 | 1.85 | 0.58 |
| 1:D:86:TRP:O | 1:D:86:TRP:CG | 2.57 | 0.58 |
| 1:D:157:SER:HB2 | 1:D:199:LEU:CD1 | 2.34 | 0.58 |
| 4:E:10:LEU:HD13 | 4:E:64:LEU:HD23 | 1.86 | 0.58 |
| 4:E:47:GLU:HG2 | 4:E:128:PRO:O | 2.03 | 0.58 |
| 4:E:59:TRP:N | 4:E:59:TRP:CE3 | 2.71 | 0.58 |
| 4:E:172:ILE:CG1 | 4:E:174:PRO:HD2 | 2.21 | 0.58 |
| 4:E:227:ALA:H | 4:E:228:PRO:HD2 | 1.66 | 0.58 |
| 4:E:241:PHE:CD1 | 4:E:450:CYS:HB3 | 2.39 | 0.58 |
| 4:E:272:VAL:N | 4:E:273:PRO:HD2 | 2.18 | 0.58 |
| 4:E:449:ALA:O | 4:E:452:TRP:HB2 | 2.04 | 0.58 |
| 1:A:79:ARG:NH1 | 1:A:107:LYS:NZ | 2.50 | 0.58 |
| 2:B:91:VAL:HA | 2:B:96:ASN:CG | 2.23 | 0.58 |
| 3:C:180:ASP:HB2 | 3:C:195:LYS:CB | 2.33 | 0.58 |
| 3:C:243:ALA:HA | 3:C:246:ALA:HB2 | 1.86 | 0.58 |
| 4:E:31:THR:HA | 4:E:158:GLN:HG3 | 1.86 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:E:145:PHE:O | 4:E:208:ILE:HD12 | 2.02 | 0.58 |
| 4:E:246:ALA:CB | 4:E:250:LYS:HZ2 | 2.17 | 0.58 |
| 1:A:15:TYR:HE2 | 1:A:84:ASP:OD2 | 1.87 | 0.58 |
| 1:A:41:ILE:HG13 | 1:A:42:ASN:H | 1.69 | 0.58 |
| 1:A:45:GLU:HG2 | 1:A:272:PRO:CG | 2.33 | 0.58 |
| 1:A:58:GLN:NE2 | 1:A:90:LEU:HD11 | 2.19 | 0.58 |
| 1:A:90:LEU:HD12 | 1:A:100:PHE:CE2 | 2.39 | 0.58 |
| 2:B:253:ILE:CD1 | 2:B:302:LEU:HD21 | 2.33 | 0.58 |
| 2:B:258:ALA:CB | 3:C:265:LEU:HD13 | 2.20 | 0.58 |
| 2:B:287:ILE:CA | 2:B:290:LEU:HD12 | 2.34 | 0.58 |
| 2:B:406:GLU:HG2 | 2:B:409:LYS:HD2 | 1.85 | 0.58 |
| 3:C:74:TYR:CE1 | 3:C:114:PRO:HB2 | 2.39 | 0.58 |
| 3:C:162:LEU:N | 3:C:199:LYS:HG2 | 2.18 | 0.58 |
| 3:C:247:PHE:C | 3:C:250:PRO:HD2 | 2.24 | 0.58 |
| 3:C:423:ILE:HD12 | 1:D:376:ILE:HG13 | 1.86 | 0.58 |
| 1:D:21:PRO:HB3 | 1:D:62:ASP:OD2 | 2.03 | 0.58 |
| 1:D:66:ARG:HD3 | 1:D:66:ARG:H | 1.68 | 0.58 |
| 1:D:176:TRP:HB3 | 1:D:209:ARG:HD2 | 1.84 | 0.58 |
| 1:D:245:LEU:HD23 | 4:E:255:ILE:HG21 | 1.84 | 0.58 |
| 4:E:273:PRO:O | 4:E:277:LEU:HG | 2.04 | 0.58 |
| 1:A:34:GLY:HA3 | 1:A:57:ARG:HD3 | 1.85 | 0.58 |
| 1:A:244:THR:O | 1:A:247:ILE:N | 2.37 | 0.58 |
| 1:A:249:VAL:HG12 | 1:A:250:LEU:N | 2.18 | 0.58 |
| 1:A:391:GLU:O | 1:A:394:ASN:ND2 | 2.36 | 0.58 |
| 2:B:91:VAL:C | 2:B:92:LEU:HD23 | 2.24 | 0.58 |
| 2:B:134:TYR:HB3 | 2:B:279:ILE:HD11 | 1.86 | 0.58 |
| 3:C:242:LEU:HD21 | 3:C:263:VAL:HG11 | 1.84 | 0.58 |
| 1:D:20:ARG:CG | 1:D:20:ARG:NH1 | 2.38 | 0.58 |
| 1:D:47:ASN:O | 1:D:48:GLN:CG | 2.47 | 0.58 |
| 1:D:102:ILE:CG1 | 4:E:98:GLN:HE21 | 2.12 | 0.58 |
| 1:D:245:LEU:HD21 | 4:E:255:ILE:CG1 | 2.30 | 0.58 |
| 1:D:246:SER:O | 1:D:250:LEU:HD12 | 2.04 | 0.58 |
| 1:D:305:THR:HG1 | 1:D:401:TYR:HD2 | 1.45 | 0.58 |
| 1:D:383:ALA:HA | 1:D:386:MET:HG2 | 1.86 | 0.58 |
| 4:E:456:LEU:HD22 | 4:E:460:LEU:HG | 1.84 | 0.58 |
| 1:A:416:LEU:O | 1:A:420:ILE:HG23 | 2.04 | 0.58 |
| 2:B:3:MET:O | 2:B:6:THR:HB | 2.04 | 0.58 |
| 2:B:92:LEU:CB | 2:B:96:ASN:HB2 | 2.33 | 0.58 |
| 2:B:259:LEU:HD23 | 2:B:263:LEU:HD12 | 1.86 | 0.58 |
| 3:C:308:ILE:HG22 | 3:C:309:VAL:N | 2.19 | 0.58 |
| 1:A:376:ILE:O | 1:A:380:LYS:HG3 | 2.04 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:417:ILE:HA | 1:A:420:ILE:CG1 | 2.32 | 0.58 |
| 2:B:59:ALA:HA | 2:B:116:VAL:O | 2.03 | 0.58 |
| 2:B:430:TYR:O | 2:B:430:TYR:HD1 | 1.86 | 0.58 |
| 3:C:13:ILE:CD1 | 3:C:82:LEU:HD11 | 2.26 | 0.58 |
| 3:C:220:ILE:O | 3:C:220:ILE:CG1 | 2.51 | 0.58 |
| 3:C:222:ARG:NH2 | 3:C:223:ARG:C | 2.57 | 0.58 |
| 4:E:59:TRP:CE2 | 4:E:115:MET:CB | 2.87 | 0.58 |
| 4:E:86:LEU:CD1 | 4:E:103:TYR:OH | 2.52 | 0.58 |
| 4:E:138:TRP:CH2 | 4:E:215:GLN:NE2 | 2.72 | 0.58 |
| 4:E:212:LEU:HD12 | 4:E:212:LEU:N | 2.18 | 0.58 |
| 1:A:20:ARG:CG | 1:A:20:ARG:NH1 | 2.37 | 0.57 |
| 1:A:79:ARG:HH11 | 1:A:107:LYS:HZ1 | 1.52 | 0.57 |
| 1:A:106:THR:HG23 | 2:B:150:THR:HG23 | 1.86 | 0.57 |
| 2:B:241:LEU:CD2 | 2:B:251:LEU:HD11 | 2.33 | 0.57 |
| 3:C:42:LEU:CD2 | 3:C:190:TRP:CZ2 | 2.86 | 0.57 |
| 3:C:97:ASN:CG | 3:C:128:SER:HB2 | 2.24 | 0.57 |
| 3:C:263:VAL:HG13 | 1:D:251:LEU:CD2 | 2.32 | 0.57 |
| 1:D:45:GLU:CG | 1:D:272:PRO:CG | 2.57 | 0.57 |
| 1:D:178:MET:HA | 1:D:207:MET:HB2 | 1.85 | 0.57 |
| 1:D:179:LYS:HB2 | 1:D:206:ILE:HG22 | 1.85 | 0.57 |
| 4:E:34:LEU:HD23 | 4:E:55:ILE:HA | 1.85 | 0.57 |
| 4:E:127:CYS:O | 4:E:128:PRO:O | 2.22 | 0.57 |
| 1:A:133:THR:O | 1:A:140:GLN:HB2 | 2.04 | 0.57 |
| 1:A:301:ARG:HH11 | 1:A:301:ARG:HG2 | 1.69 | 0.57 |
| 1:A:379:VAL:O | 1:A:382:ILE:HG13 | 2.04 | 0.57 |
| 1:A:399:TRP:HA | 1:A:399:TRP:CE3 | 2.39 | 0.57 |
| 2:B:182:GLU:CD | 2:B:182:GLU:H | 2.06 | 0.57 |
| 2:B:187:SER:N | 2:B:214:GLN:O | 2.37 | 0.57 |
| 2:B:241:LEU:HD13 | 3:C:314:PHE:CZ | 2.39 | 0.57 |
| 3:C:7:LEU:CD1 | 3:C:70:ASN:HB2 | 2.34 | 0.57 |
| 3:C:25:LYS:HG3 | 3:C:25:LYS:O | 2.04 | 0.57 |
| 1:D:303:PRO:CD | 1:D:400:LYS:CD | 2.82 | 0.57 |
| 4:E:101:VAL:O | 4:E:101:VAL:HG12 | 2.04 | 0.57 |
| 4:E:284:LYS:CA | 4:E:284:LYS:CE | 2.82 | 0.57 |
| 1:A:26:THR:O | 1:A:28:PHE:N | 2.37 | 0.57 |
| 1:A:234:TYR:CD2 | 1:A:410:LEU:HD21 | 2.39 | 0.57 |
| 1:A:235:LEU:N | 1:A:236:PRO:CD | 2.67 | 0.57 |
| 2:B:101:GLU:OE1 | 2:B:123:ILE:HG21 | 2.04 | 0.57 |
| 3:C:242:LEU:O | 3:C:246:ALA:N | 2.34 | 0.57 |
| 1:D:377:GLU:N | 1:D:380:LYS:HE2 | 2.19 | 0.57 |
| 4:E:62:TYR:CD1 | 4:E:62:TYR:O | 2.57 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:136:PRO:CA | 1:A:277:TYR:OH | 2.48 | 0.57 |
| 1:A:384:GLU:HA | 1:A:387:LYS:HG3 | 1.86 | 0.57 |
| 3:C:45:LEU:CD1 | 3:C:190:TRP:CE3 | 2.77 | 0.57 |
| 3:C:195:LYS:CE | 3:C:217:PHE:HB3 | 2.32 | 0.57 |
| 1:D:61:ILE:HA | 1:D:116:ILE:CD1 | 2.35 | 0.57 |
| 1:D:130:ILE:CB | 1:D:134:HIS:HB2 | 2.33 | 0.57 |
| 1:D:412:CYS:HA | 1:D:415:MET:CE | 2.33 | 0.57 |
| 4:E:135:PRO:C | 4:E:136:PHE:HD1 | 2.08 | 0.57 |
| 4:E:162:GLU:CB | 4:E:190:ALA:O | 2.52 | 0.57 |
| 1:A:6:ARG:HH11 | 1:A:6:ARG:CB | 2.16 | 0.57 |
| 1:A:35:LEU:CD1 | 1:A:203:TYR:OH | 2.52 | 0.57 |
| 1:A:225:PHE:CD1 | 1:A:225:PHE:C | 2.78 | 0.57 |
| 1:A:245:LEU:HG | 2:B:253:ILE:CG2 | 2.33 | 0.57 |
| 1:A:280:PHE:HB3 | 1:A:284:PHE:CE2 | 2.39 | 0.57 |
| 1:A:380:LYS:HA | 2:B:408:ILE:HD13 | 1.86 | 0.57 |
| 1:A:380:LYS:CA | 2:B:408:ILE:HD13 | 2.34 | 0.57 |
| 1:A:401:TYR:O | 1:A:401:TYR:CG | 2.57 | 0.57 |
| 2:B:132:VAL:O | 2:B:279:ILE:CG2 | 2.49 | 0.57 |
| 2:B:438:LEU:O | 2:B:442:ILE:CD1 | 2.53 | 0.57 |
| 3:C:11:LEU:O | 3:C:13:ILE:N | 2.38 | 0.57 |
| 3:C:30:VAL:CG1 | 3:C:31:VAL:N | 2.67 | 0.57 |
| 3:C:66:ARG:HG2 | 3:C:66:ARG:NH1 | 2.08 | 0.57 |
| 3:C:141:TRP:CZ2 | 3:C:223:ARG:O | 2.58 | 0.57 |
| 3:C:451:GLN:O | 3:C:455:ARG:HD3 | 2.04 | 0.57 |
| 1:D:105:MET:HG2 | 1:D:105:MET:O | 2.05 | 0.57 |
| 4:E:27:VAL:HG11 | 4:E:152:ALA:O | 2.04 | 0.57 |
| 4:E:417:GLU:HA | 4:E:420:ASN:HB2 | 1.86 | 0.57 |
| 4:E:472:ASN:O | 4:E:476:GLU:CG | 2.46 | 0.57 |
| 1:A:37:LEU:O | 1:A:169:THR:HG21 | 2.04 | 0.57 |
| 1:A:163:ASP:C | 1:A:164:ARG:HG3 | 2.25 | 0.57 |
| 1:A:252:SER:OG | 2:B:257:LEU:CD2 | 2.48 | 0.57 |
| 2:B:409:LYS:HE2 | 3:C:423:ILE:HG22 | 1.86 | 0.57 |
| 2:B:452:PHE:O | 2:B:456:LEU:HD23 | 2.04 | 0.57 |
| 3:C:77:ILE:HD11 | 3:C:80:LEU:CD1 | 2.35 | 0.57 |
| 3:C:426:THR:C | 3:C:429:ILE:HG23 | 2.25 | 0.57 |
| 1:D:146:LEU:HD12 | 1:D:146:LEU:N | 2.19 | 0.57 |
| 1:D:187:TRP:CH2 | 1:D:189:TYR:CB | 2.86 | 0.57 |
| 4:E:162:GLU:H | 4:E:163:GLU:CD | 2.06 | 0.57 |
| 1:A:218:VAL:C | 1:A:221:PRO:HD2 | 2.24 | 0.57 |
| 1:A:218:VAL:HG13 | 1:A:219:ILE:N | 2.18 | 0.57 |
| 2:B:152:ASP:CB | 2:B:203:SER:CB | 2.82 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:148:PHE:CB | 3:C:215:VAL:HG22 | 2.26 | 0.57 |
| 3:C:180:ASP:CG | 3:C:219:LEU:HD22 | 2.24 | 0.57 |
| 3:C:192:ILE:HD13 | 3:C:221:ILE:CG2 | 2.35 | 0.57 |
| 1:D:94:ASN:HD22 | 1:D:95:ASN:N | 2.02 | 0.57 |
| 1:D:102:ILE:CD1 | 4:E:98:GLN:NE2 | 2.67 | 0.57 |
| 1:D:284:PHE:CE2 | 1:D:424:SER:CB | 2.86 | 0.57 |
| 4:E:62:TYR:C | 4:E:64:LEU:H | 2.07 | 0.57 |
| 4:E:80:PRO:O | 4:E:83:LEU:HB2 | 2.03 | 0.57 |
| 4:E:80:PRO:HB2 | 4:E:83:LEU:HD23 | 1.86 | 0.57 |
| 4:E:91:LEU:CB | 4:E:95:VAL:H | 2.16 | 0.57 |
| 2:B:177:GLN:HA | 2:B:180:PHE:HB2 | 1.86 | 0.57 |
| 2:B:258:ALA:HB3 | 3:C:265:LEU:CD2 | 2.28 | 0.57 |
| 2:B:262:PHE:CD1 | 2:B:262:PHE:N | 2.72 | 0.57 |
| 3:C:56:VAL:HG22 | 3:C:124:ALA:HB3 | 1.87 | 0.57 |
| 3:C:81:ARG:NH1 | 3:C:111:LEU:HD13 | 2.19 | 0.57 |
| 1:D:35:LEU:HB3 | 1:D:164:ARG:NH1 | 2.20 | 0.57 |
| 1:D:36:GLN:C | 1:D:54:VAL:HG12 | 2.24 | 0.57 |
| 1:D:109:LEU:O | 1:D:116:ILE:CG2 | 2.48 | 0.57 |
| 4:E:99:PHE:CZ | 4:E:123:TYR:CE2 | 2.93 | 0.57 |
| 4:E:122:ILE:HD13 | 4:E:122:ILE:N | 2.16 | 0.57 |
| 4:E:453:ILE:HD12 | 4:E:453:ILE:C | 2.24 | 0.57 |
| 1:A:266:SER:O | 1:A:270:ALA:N | 2.38 | 0.57 |
| 1:A:419:ILE:O | 1:A:423:VAL:N | 2.38 | 0.57 |
| 2:B:245:ALA:HB1 | 3:C:320:HIS:HD2 | 1.70 | 0.57 |
| 2:B:404:ALA:O | 2:B:407:ALA:HB3 | 2.05 | 0.57 |
| 3:C:37:LEU:O | 3:C:178:ILE:HD12 | 2.05 | 0.57 |
| 3:C:107:PHE:CG | 3:C:107:PHE:O | 2.58 | 0.57 |
| 3:C:138:PRO:O | 3:C:141:TRP:CD1 | 2.58 | 0.57 |
| 1:D:95:ASN:HA | 1:D:127:TYR:O | 2.05 | 0.57 |
| 1:D:257:LEU:HA | 1:D:260:ILE:CG1 | 2.34 | 0.57 |
| 4:E:444:LYS:HA | 4:E:444:LYS:CE | 2.35 | 0.57 |
| 1:A:36:GLN:HA | 1:A:164:ARG:HH21 | 1.70 | 0.57 |
| 1:A:36:GLN:OE1 | 1:A:36:GLN:C | 2.43 | 0.57 |
| 1:A:148:ILE:HG21 | 1:A:198:TYR:HB2 | 1.86 | 0.57 |
| 1:A:413:VAL:HA | 1:A:416:LEU:CB | 2.35 | 0.57 |
| 2:B:45:GLU:HG3 | 2:B:134:TYR:CB | 2.35 | 0.57 |
| 3:C:62:TRP:HH2 | 3:C:120:TRP:HB3 | 1.70 | 0.57 |
| 1:D:280:PHE:O | 1:D:284:PHE:CD1 | 2.56 | 0.57 |
| 4:E:74:ILE:O | 4:E:74:ILE:HG12 | 2.04 | 0.57 |
| 4:E:452:TRP:HA | 4:E:452:TRP:HE3 | 1.70 | 0.57 |
| 1:A:50:VAL:HG12 | 1:A:52:THR:HG23 | 1.85 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:85:VAL:HG12 | 2:B:86:TRP:N | 2.18 | 0.56 |
| 2:B:136:PRO:HG2 | 2:B:139:TRP:CA | 2.35 | 0.56 |
| 2:B:251:LEU:HD22 | 3:C:261:ILE:HG13 | 1.86 | 0.56 |
| 3:C:71:ALA:O | 3:C:76:ASP:N | 2.38 | 0.56 |
| 3:C:146:LEU:HD12 | 3:C:146:LEU:N | 2.19 | 0.56 |
| 3:C:228:TYR:O | 3:C:232:PHE:HB2 | 2.04 | 0.56 |
| 3:C:266:ALA:CB | 1:D:251:LEU:HB3 | 2.35 | 0.56 |
| 1:D:225:PHE:HD1 | 1:D:226:SER:N | 2.03 | 0.56 |
| 4:E:13:ASP:C | 4:E:13:ASP:OD1 | 2.43 | 0.56 |
| 4:E:49:LEU:HD12 | 4:E:50:THR:N | 2.19 | 0.56 |
| 4:E:151:ASN:HA | 4:E:205:PHE:CG | 2.41 | 0.56 |
| 1:A:230:VAL:CG1 | 1:A:414:PHE:HZ | 2.15 | 0.56 |
| 1:A:425:VAL:O | 1:A:429:ARG:HG2 | 2.05 | 0.56 |
| 2:B:95:ASN:HB3 | 2:B:126:SER:CB | 2.18 | 0.56 |
| 3:C:52:LEU:HD22 | 3:C:52:LEU:N | 2.20 | 0.56 |
| 3:C:56:VAL:CG2 | 3:C:124:ALA:HB3 | 2.34 | 0.56 |
| 3:C:63:TYR:CE1 | 3:C:115:ASN:O | 2.58 | 0.56 |
| 3:C:162:LEU:HB2 | 3:C:199:LYS:CB | 2.31 | 0.56 |
| 3:C:206:PHE:N | 3:C:207:PRO:CD | 2.68 | 0.56 |
| 3:C:259:THR:OG1 | 1:D:244:THR:OG1 | 2.16 | 0.56 |
| 3:C:464:VAL:HG13 | 3:C:465:MET:N | 2.19 | 0.56 |
| 1:D:56:LEU:HD11 | 1:D:100:PHE:CE2 | 2.40 | 0.56 |
| 1:D:426:PHE:HE1 | 1:D:430:LEU:HD12 | 1.70 | 0.56 |
| 4:E:27:VAL:HB | 4:E:154:GLU:O | 2.05 | 0.56 |
| 1:A:2:GLU:O | 1:A:7:LEU:HD21 | 2.05 | 0.56 |
| 1:A:137:PHE:N | 1:A:277:TYR:OH | 2.38 | 0.56 |
| 1:A:298:THR:O | 1:A:301:ARG:HG2 | 2.06 | 0.56 |
| 2:B:92:LEU:HD12 | 2:B:96:ASN:H | 1.70 | 0.56 |
| 2:B:136:PRO:HD3 | 2:B:280:ILE:CD1 | 2.36 | 0.56 |
| 2:B:160:HIS:N | 2:B:195:LYS:HZ3 | 1.91 | 0.56 |
| 2:B:217:PRO:HB2 | 2:B:219:PHE:CE2 | 2.39 | 0.56 |
| 2:B:272:GLU:HG3 | 2:B:275:LEU:HD12 | 1.87 | 0.56 |
| 2:B:418:ALA:HA | 2:B:421:PHE:CE2 | 2.40 | 0.56 |
| 3:C:31:VAL:HG13 | 3:C:33:ILE:HG13 | 1.87 | 0.56 |
| 3:C:42:LEU:HA | 3:C:54:THR:CG2 | 2.33 | 0.56 |
| 3:C:235:PRO:O | 3:C:239:ILE:HB | 2.05 | 0.56 |
| 3:C:296:MET:CE | 3:C:299:VAL:HG21 | 2.35 | 0.56 |
| 1:D:31:ILE:HB | 1:D:157:SER:O | 2.05 | 0.56 |
| 1:D:157:SER:CA | 1:D:199:LEU:HD12 | 2.35 | 0.56 |
| 1:D:222:CYS:SG | 1:D:225:PHE:CZ | 2.93 | 0.56 |
| 4:E:136:PHE:HA | 4:E:138:TRP:CZ3 | 2.41 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:E:142:SER:HG | 4:E:209:ILE:HD11 | 1.69 | 0.56 |
| 4:E:177:PHE:HB2 | 4:E:185:ILE:HD12 | 1.86 | 0.56 |
| 4:E:233:SER:HB2 | 4:E:457:LEU:HD11 | 1.88 | 0.56 |
| 4:E:269:ALA:O | 4:E:273:PRO:HG3 | 2.04 | 0.56 |
| 4:E:438:ASN:O | 4:E:442:ILE:HG12 | 2.05 | 0.56 |
| 1:A:45:GLU:CD | 1:A:134:HIS:HD1 | 2.09 | 0.56 |
| 2:B:40:LEU:HA | 2:B:52:THR:HG23 | 1.87 | 0.56 |
| 2:B:187:SER:OG | 2:B:216:LYS:HE2 | 2.05 | 0.56 |
| 2:B:192:PRO:HB2 | 2:B:210:TYR:HB2 | 1.87 | 0.56 |
| 3:C:162:LEU:HD12 | 3:C:198:LYS:C | 2.26 | 0.56 |
| 3:C:185:THR:CG2 | 3:C:187:ASN:H | 2.18 | 0.56 |
| 3:C:272:LEU:O | 3:C:275:SER:OG | 2.23 | 0.56 |
| 1:D:137:PHE:HB2 | 1:D:435:GLN:HB2 | 1.87 | 0.56 |
| 1:D:171:MET:SD | 1:D:174:GLY:CA | 2.94 | 0.56 |
| 1:D:209:ARG:CG | 1:D:210:ILE:N | 2.67 | 0.56 |
| 4:E:44:GLU:CA | 4:E:129:ILE:CD1 | 2.72 | 0.56 |
| 4:E:234:SER:O | 4:E:238:LEU:N | 2.38 | 0.56 |
| 4:E:441:LEU:CD1 | 4:E:441:LEU:O | 2.54 | 0.56 |
| 1:A:28:PHE:CG | 1:A:153:GLY:O | 2.58 | 0.56 |
| 1:A:57:ARG:NH1 | 1:A:161:GLU:OE2 | 2.37 | 0.56 |
| 1:A:144:MET:HB2 | 1:A:203:TYR:HB2 | 1.87 | 0.56 |
| 1:A:234:TYR:CZ | 1:A:410:LEU:HD11 | 2.40 | 0.56 |
| 1:A:390:GLU:O | 1:A:393:SER:OG | 2.21 | 0.56 |
| 2:B:65:LEU:HD23 | 2:B:110:VAL:CG1 | 2.36 | 0.56 |
| 2:B:130:ILE:HB | 2:B:134:TYR:CE2 | 2.39 | 0.56 |
| 2:B:131:LYS:HB3 | 2:B:133:MET:SD | 2.44 | 0.56 |
| 2:B:156:VAL:CG2 | 2:B:157:ILE:N | 2.69 | 0.56 |
| 2:B:300:VAL:O | 2:B:304:LEU:N | 2.39 | 0.56 |
| 3:C:12:LEU:HD12 | 3:C:16:LYS:HE3 | 1.86 | 0.56 |
| 3:C:109:ASN:C | 3:C:109:ASN:OD1 | 2.44 | 0.56 |
| 1:D:250:LEU:O | 1:D:253:LEU:HD22 | 2.06 | 0.56 |
| 4:E:303:VAL:O | 4:E:306:VAL:HB | 2.05 | 0.56 |
| 4:E:303:VAL:HA | 4:E:306:VAL:HB | 1.87 | 0.56 |
| 4:E:417:GLU:O | 4:E:421:PHE:CG | 2.58 | 0.56 |
| 1:A:189:TYR:CA | 1:A:197:PRO:HD2 | 2.29 | 0.56 |
| 2:B:53:SER:HB3 | 3:C:99:ASP:OD1 | 2.05 | 0.56 |
| 2:B:108:VAL:HG13 | 2:B:117:SER:O | 2.04 | 0.56 |
| 2:B:132:VAL:HG12 | 2:B:279:ILE:C | 2.26 | 0.56 |
| 2:B:283:TYR:HD1 | 2:B:283:TYR:H | 1.54 | 0.56 |
| 3:C:231:ASN:O | 3:C:235:PRO:HD3 | 2.06 | 0.56 |
| 1:D:38:ILE:O | 1:D:39:GLN:HG3 | 2.06 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:167:LEU:CG | 1:D:178:MET:CB | 2.77 | 0.56 |
| 4:E:47:GLU:OE2 | 4:E:130:ALA:HB2 | 2.06 | 0.56 |
| 4:E:84:LEU:O | 4:E:86:LEU:HG | 2.05 | 0.56 |
| 4:E:136:PHE:CD2 | 4:E:472:ASN:HA | 2.41 | 0.56 |
| 4:E:173:ASP:N | 4:E:174:PRO:CD | 2.68 | 0.56 |
| 4:E:310:THR:HB | 4:E:313:THR:HG22 | 1.88 | 0.56 |
| 4:E:313:THR:O | 4:E:314:HIS:CG | 2.58 | 0.56 |
| 1:A:50:VAL:HG12 | 1:A:52:THR:CG2 | 2.36 | 0.56 |
| 1:A:54:VAL:N | 1:A:122:ALA:O | 2.32 | 0.56 |
| 1:A:245:LEU:HD21 | 2:B:250:SER:HA | 1.86 | 0.56 |
| 1:A:420:ILE:CG1 | 1:A:421:GLY:N | 2.68 | 0.56 |
| 2:B:284:LEU:HA | 2:B:287:ILE:CG1 | 2.34 | 0.56 |
| 1:D:106:THR:CG2 | 1:D:107:LYS:H | 2.09 | 0.56 |
| 1:D:289:ILE:O | 1:D:293:VAL:HG23 | 2.06 | 0.56 |
| 1:D:305:THR:HG22 | 1:D:400:LYS:HB3 | 1.88 | 0.56 |
| 4:E:450:CYS:O | 4:E:453:ILE:HG13 | 2.05 | 0.56 |
| 4:E:452:TRP:HA | 4:E:452:TRP:CE3 | 2.41 | 0.56 |
| 1:A:17:LYS:HZ1 | 1:A:83:ASP:HB3 | 1.68 | 0.56 |
| 1:A:167:LEU:HD23 | 1:A:167:LEU:O | 2.06 | 0.56 |
| 1:A:175:GLU:OE1 | 1:A:211:PRO:HG3 | 2.06 | 0.56 |
| 1:A:262:GLU:C | 1:A:265:PRO:HD2 | 2.26 | 0.56 |
| 1:A:265:PRO:HD2 | 1:A:266:SER:H | 1.70 | 0.56 |
| 1:A:265:PRO:O | 1:A:268:SER:HB3 | 2.06 | 0.56 |
| 2:B:101:GLU:C | 2:B:102:ILE:HG13 | 2.25 | 0.56 |
| 2:B:269:LYS:HD2 | 2:B:269:LYS:C | 2.25 | 0.56 |
| 3:C:241:PHE:O | 3:C:245:LEU:N | 2.27 | 0.56 |
| 3:C:298:LEU:CD2 | 3:C:467:LEU:HD12 | 2.34 | 0.56 |
| 3:C:310:LEU:O | 3:C:314:PHE:CD2 | 2.59 | 0.56 |
| 3:C:460:ILE:O | 3:C:463:PRO:HG2 | 2.06 | 0.56 |
| 1:D:49:ILE:CD1 | 1:D:125:LYS:HE3 | 2.36 | 0.56 |
| 1:D:135:PHE:CA | 1:D:209:ARG:HB3 | 2.35 | 0.56 |
| 1:D:198:TYR:N | 1:D:198:TYR:HD1 | 2.03 | 0.56 |
| 1:A:97:ASP:HB2 | 1:A:127:TYR:HB2 | 1.88 | 0.56 |
| 1:A:187:TRP:NE1 | 1:A:196:THR:CG2 | 2.69 | 0.56 |
| 1:A:200:ASP:OD1 | 1:A:200:ASP:N | 2.39 | 0.56 |
| 1:A:243:MET:CG | 1:A:306:HIS:ND1 | 2.69 | 0.56 |
| 1:A:295:VAL:O | 1:A:299:HIS:HB2 | 2.06 | 0.56 |
| 2:B:226:VAL:HG23 | 2:B:227:PRO:HD3 | 1.88 | 0.56 |
| 2:B:247:GLU:CD | 3:C:320:HIS:NE2 | 2.59 | 0.56 |
| 2:B:304:LEU:HD23 | 2:B:304:LEU:C | 2.26 | 0.56 |
| 3:C:219:LEU:HD11 | 3:C:221:ILE:HG22 | 1.87 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:274:THR:HG22 | 3:C:275:SER:N | 2.21 | 0.56 |
| 3:C:282:ALA:O | 3:C:285:VAL:N | 2.27 | 0.56 |
| 3:C:289:GLY:C | 3:C:293:MET:HE2 | 2.26 | 0.56 |
| 1:D:67:TRP:CD1 | 1:D:71:ASP:HB3 | 2.41 | 0.56 |
| 1:D:91:VAL:HG22 | 1:D:96:ALA:HB2 | 1.87 | 0.56 |
| 1:D:134:HIS:HE1 | 1:D:209:ARG:HD2 | 1.69 | 0.56 |
| 1:D:177:VAL:HG12 | 1:D:208:GLN:HG2 | 1.88 | 0.56 |
| 1:D:235:LEU:O | 1:D:239:SER:N | 2.31 | 0.56 |
| 4:E:75:ASP:CB | 4:E:110:TYR:CE1 | 2.79 | 0.56 |
| 4:E:138:TRP:CE3 | 4:E:215:GLN:HA | 2.40 | 0.56 |
| 2:B:238:VAL:HG13 | 2:B:248:LYS:HZ2 | 1.66 | 0.56 |
| 2:B:248:LYS:HD3 | 2:B:252:SER:CB | 2.07 | 0.56 |
| 2:B:455:PHE:O | 2:B:458:ALA:HB3 | 2.05 | 0.56 |
| 3:C:67:LEU:CB | 3:C:116:GLY:HA2 | 2.33 | 0.56 |
| 3:C:80:LEU:O | 3:C:112:VAL:CG2 | 2.54 | 0.56 |
| 3:C:180:ASP:N | 3:C:181:PRO:CD | 2.69 | 0.56 |
| 1:D:101:ALA:O | 1:D:102:ILE:HB | 2.06 | 0.56 |
| 4:E:129:ILE:HG22 | 4:E:133:TYR:HD2 | 1.66 | 0.56 |
| 4:E:311:PRO:CD | 4:E:440:VAL:HG13 | 2.16 | 0.56 |
| 1:A:105:MET:O | 1:A:105:MET:HG2 | 2.06 | 0.55 |
| 1:A:130:ILE:HD13 | 1:A:130:ILE:H | 1.71 | 0.55 |
| 1:A:303:PRO:CB | 1:A:400:LYS:HE2 | 2.36 | 0.55 |
| 2:B:93:MET:HG3 | 2:B:206:ASP:OD2 | 2.06 | 0.55 |
| 2:B:440:LEU:HA | 2:B:443:PHE:CB | 2.36 | 0.55 |
| 3:C:17:TYR:CE2 | 3:C:19:LYS:HA | 2.41 | 0.55 |
| 3:C:50:GLU:CB | 3:C:132:ILE:HB | 2.35 | 0.55 |
| 3:C:154:ASN:CB | 3:C:211:ASN:CB | 2.81 | 0.55 |
| 3:C:201:ILE:HB | 3:C:213:GLN:OE1 | 2.06 | 0.55 |
| 1:D:21:PRO:HB3 | 1:D:62:ASP:CG | 2.26 | 0.55 |
| 4:E:103:TYR:CD2 | 4:E:104:TYR:CD1 | 2.95 | 0.55 |
| 4:E:262:THR:HA | 4:E:265:LEU:CG | 2.35 | 0.55 |
| 4:E:438:ASN:OD1 | 4:E:442:ILE:HD11 | 2.06 | 0.55 |
| 4:E:469:GLY:O | 4:E:473:GLN:HB2 | 2.06 | 0.55 |
| 1:A:132:VAL:O | 1:A:274:ILE:HA | 2.05 | 0.55 |
| 1:A:248:SER:C | 2:B:257:LEU:HD11 | 2.26 | 0.55 |
| 2:B:281:ILE:H | 2:B:281:ILE:CD1 | 2.18 | 0.55 |
| 3:C:67:LEU:HD11 | 3:C:113:ARG:O | 2.05 | 0.55 |
| 3:C:180:ASP:H | 3:C:181:PRO:HD2 | 1.71 | 0.55 |
| 3:C:204:ASP:O | 3:C:207:PRO:HG2 | 2.05 | 0.55 |
| 3:C:221:ILE:HG13 | 3:C:222:ARG:N | 2.20 | 0.55 |
| 3:C:240:SER:O | 3:C:244:ALA:N | 2.37 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:64:ARG:CA | 1:D:66:ARG:HH11 | 2.06 | 0.55 |
| 1:D:303:PRO:CB | 1:D:400:LYS:HZ2 | 2.19 | 0.55 |
| 4:E:81:SER:C | 4:E:83:LEU:H | 2.09 | 0.55 |
| 4:E:238:LEU:O | 4:E:242:LEU:CB | 2.54 | 0.55 |
| 1:A:93:TYR:CZ | 1:A:200:ASP:HB3 | 2.40 | 0.55 |
| 1:A:163:ASP:OD1 | 1:A:164:ARG:N | 2.39 | 0.55 |
| 1:A:175:GLU:N | 1:A:176:TRP:CE3 | 2.74 | 0.55 |
| 1:A:285:VAL:HG13 | 1:A:286:ILE:N | 2.21 | 0.55 |
| 1:A:399:TRP:HA | 1:A:399:TRP:HE3 | 1.72 | 0.55 |
| 1:A:420:ILE:HG13 | 1:A:421:GLY:H | 1.72 | 0.55 |
| 2:B:46:LYS:CG | 2:B:278:PRO:CD | 2.84 | 0.55 |
| 2:B:218:LEU:C | 2:B:219:PHE:CD1 | 2.80 | 0.55 |
| 3:C:20:HIS:O | 3:C:20:HIS:CG | 2.58 | 0.55 |
| 3:C:33:ILE:HD12 | 3:C:158:ILE:HD11 | 1.88 | 0.55 |
| 3:C:110:VAL:HG22 | 3:C:120:TRP:CG | 2.42 | 0.55 |
| 3:C:216:THR:C | 3:C:217:PHE:CD1 | 2.77 | 0.55 |
| 3:C:245:LEU:HB3 | 3:C:249:LEU:HD11 | 1.88 | 0.55 |
| 3:C:260:ALA:HB3 | 3:C:313:HIS:NE2 | 2.22 | 0.55 |
| 3:C:426:THR:HA | 3:C:429:ILE:HG23 | 1.87 | 0.55 |
| 3:C:429:ILE:CG1 | 3:C:430:VAL:N | 2.69 | 0.55 |
| 3:C:475:MET:HA | 3:C:478:PHE:CE2 | 2.40 | 0.55 |
| 1:D:52:THR:OG1 | 1:D:53:ASN:N | 2.39 | 0.55 |
| 1:D:254:THR:HG23 | 1:D:255:VAL:N | 2.22 | 0.55 |
| 1:D:291:VAL:HG12 | 1:D:295:VAL:CG1 | 2.37 | 0.55 |
| 4:E:22:LYS:HG3 | 4:E:23:THR:N | 2.21 | 0.55 |
| 1:A:48:GLN:HB2 | 1:A:130:ILE:HG23 | 1.89 | 0.55 |
| 1:A:61:ILE:CG2 | 1:A:115:LYS:HA | 2.36 | 0.55 |
| 1:A:291:VAL:O | 1:A:294:VAL:HG12 | 2.06 | 0.55 |
| 3:C:161:ASP:HA | 3:C:199:LYS:HG2 | 1.89 | 0.55 |
| 3:C:199:LYS:C | 3:C:199:LYS:NZ | 2.58 | 0.55 |
| 3:C:311:ASN:O | 3:C:315:ARG:CA | 2.54 | 0.55 |
| 3:C:434:LYS:CG | 3:C:435:GLU:N | 2.67 | 0.55 |
| 3:C:454:ASP:O | 3:C:458:MET:N | 2.40 | 0.55 |
| 1:D:16:ASN:ND2 | 1:D:16:ASN:N | 2.52 | 0.55 |
| 1:D:27:HIS:O | 1:D:28:PHE:CB | 2.50 | 0.55 |
| 1:D:32:THR:HG21 | 1:D:59:GLN:HE21 | 1.70 | 0.55 |
| 1:D:137:PHE:CB | 1:D:435:GLN:CB | 2.69 | 0.55 |
| 4:E:56:GLU:CA | 4:E:118:LEU:HG | 2.28 | 0.55 |
| 4:E:246:ALA:HB1 | 4:E:250:LYS:HZ2 | 1.71 | 0.55 |
| 1:A:261:VAL:O | 1:A:265:PRO:HG3 | 2.06 | 0.55 |
| 2:B:10:VAL:O | 2:B:13:GLU:HB2 | 2.06 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:50:MET:HB3 | 2:B:126:SER:OG | 2.06 | 0.55 |
| 2:B:226:VAL:CG2 | 2:B:227:PRO:CD | 2.84 | 0.55 |
| 2:B:438:LEU:HD22 | 2:B:441:TYR:CD2 | 2.41 | 0.55 |
| 3:C:480:ARG:C | 3:C:482:PRO:HD2 | 2.26 | 0.55 |
| 1:D:209:ARG:HG2 | 1:D:210:ILE:H | 1.71 | 0.55 |
| 1:D:305:THR:CG2 | 1:D:400:LYS:HB3 | 2.35 | 0.55 |
| 4:E:262:THR:CG2 | 4:E:265:LEU:HD12 | 2.37 | 0.55 |
| 4:E:270:GLN:O | 4:E:273:PRO:CG | 2.54 | 0.55 |
| 1:A:137:PHE:C | 1:A:435:GLN:HG3 | 2.21 | 0.55 |
| 1:A:262:GLU:HG2 | 4:E:271:LYS:HZ1 | 1.72 | 0.55 |
| 1:A:306:HIS:CB | 4:E:250:LYS:NZ | 2.69 | 0.55 |
| 2:B:75:ILE:O | 2:B:75:ILE:CG1 | 2.49 | 0.55 |
| 2:B:186:TRP:HA | 2:B:215:ARG:HA | 1.87 | 0.55 |
| 2:B:232:SER:O | 2:B:236:ILE:N | 2.38 | 0.55 |
| 2:B:284:LEU:O | 2:B:288:MET:CB | 2.54 | 0.55 |
| 3:C:35:LEU:HD22 | 3:C:215:VAL:CG1 | 2.32 | 0.55 |
| 3:C:147:LYS:HE2 | 3:C:216:THR:CG2 | 2.37 | 0.55 |
| 3:C:272:LEU:O | 3:C:276:GLN:HG2 | 2.06 | 0.55 |
| 4:E:246:ALA:CA | 4:E:250:LYS:HZ2 | 2.19 | 0.55 |
| 1:A:151:TYR:HB2 | 1:A:156:VAL:HG13 | 1.88 | 0.55 |
| 2:B:40:LEU:HD22 | 2:B:51:THR:O | 2.06 | 0.55 |
| 2:B:262:PHE:HD1 | 2:B:262:PHE:N | 2.04 | 0.55 |
| 2:B:441:TYR:CA | 2:B:444:ILE:HG22 | 2.36 | 0.55 |
| 2:B:458:ALA:O | 2:B:462:VAL:CG2 | 2.51 | 0.55 |
| 3:C:188:GLY:HA3 | 3:C:190:TRP:CZ3 | 2.42 | 0.55 |
| 3:C:288:ILE:HD13 | 3:C:290:LYS:HD2 | 1.87 | 0.55 |
| 1:D:17:LYS:CD | 1:D:84:ASP:HA | 2.37 | 0.55 |
| 1:D:37:LEU:CB | 1:D:54:VAL:HG13 | 2.36 | 0.55 |
| 1:D:287:SER:HA | 1:D:290:ILE:HD13 | 1.86 | 0.55 |
| 1:D:305:THR:CB | 1:D:401:TYR:HD2 | 2.19 | 0.55 |
| 1:D:377:GLU:HA | 1:D:380:LYS:CE | 2.37 | 0.55 |
| 1:D:390:GLU:O | 1:D:393:SER:HB2 | 2.07 | 0.55 |
| 4:E:113:GLY:C | 4:E:115:MET:SD | 2.85 | 0.55 |
| 4:E:235:LEU:HD11 | 4:E:257:VAL:HG13 | 1.85 | 0.55 |
| 1:A:35:LEU:C | 1:A:35:LEU:CD2 | 2.75 | 0.55 |
| 1:A:41:ILE:HG12 | 1:A:51:GLU:O | 2.07 | 0.55 |
| 1:A:74:GLY:O | 1:A:75:ILE:HG23 | 2.07 | 0.55 |
| 1:A:262:GLU:HG2 | 4:E:271:LYS:NZ | 2.22 | 0.55 |
| 2:B:220:TYR:HE2 | 3:C:279:PRO:HB2 | 1.65 | 0.55 |
| 2:B:306:HIS:CA | 2:B:312:HIS:O | 2.40 | 0.55 |
| 3:C:37:LEU:HD12 | 3:C:217:PHE:CE2 | 2.42 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:26:THR:CG2 | 1:D:27:HIS:H | 2.20 | 0.55 |
| 1:D:409:ILE:HG13 | 1:D:410:LEU:N | 2.22 | 0.55 |
| 1:A:160:PRO:HG3 | 1:A:185:LYS:HE2 | 1.89 | 0.55 |
| 2:B:16:ASN:OD1 | 2:B:18:LYS:NZ | 2.23 | 0.55 |
| 2:B:32:ARG:HH21 | 2:B:60:TRP:C | 2.10 | 0.55 |
| 2:B:40:LEU:CB | 2:B:52:THR:HG23 | 2.37 | 0.55 |
| 2:B:108:VAL:HG12 | 2:B:109:LEU:N | 2.22 | 0.55 |
| 3:C:7:LEU:HD13 | 3:C:73:GLU:CD | 2.27 | 0.55 |
| 3:C:247:PHE:O | 3:C:250:PRO:HG3 | 2.07 | 0.55 |
| 3:C:258:SER:O | 3:C:261:ILE:HB | 2.07 | 0.55 |
| 1:D:46:VAL:CB | 1:D:272:PRO:HD3 | 2.37 | 0.55 |
| 1:D:230:VAL:HG22 | 1:D:234:TYR:HE1 | 1.72 | 0.55 |
| 4:E:19:LYS:HG3 | 4:E:20:PRO:HD2 | 1.89 | 0.55 |
| 4:E:128:PRO:C | 4:E:129:ILE:HG23 | 2.27 | 0.55 |
| 4:E:235:LEU:HA | 4:E:238:LEU:CG | 2.30 | 0.55 |
| 1:A:67:TRP:CB | 1:A:71:ASP:HB3 | 2.37 | 0.55 |
| 1:A:89:ASP:OD2 | 1:A:151:TYR:CE2 | 2.60 | 0.55 |
| 1:A:201:ILE:CG2 | 1:A:203:TYR:CE1 | 2.90 | 0.55 |
| 1:A:218:VAL:CG1 | 1:A:219:ILE:N | 2.69 | 0.55 |
| 1:A:276:LYS:HD2 | 1:A:276:LYS:N | 2.19 | 0.55 |
| 1:A:304:SER:N | 1:A:400:LYS:HD3 | 2.18 | 0.55 |
| 2:B:132:VAL:C | 2:B:279:ILE:HA | 2.28 | 0.55 |
| 2:B:241:LEU:CD1 | 3:C:314:PHE:CD1 | 2.89 | 0.55 |
| 3:C:39:LEU:O | 3:C:183:ALA:CB | 2.55 | 0.55 |
| 3:C:58:MET:CE | 3:C:122:PRO:HD2 | 2.36 | 0.55 |
| 3:C:114:PRO:HG2 | 3:C:115:ASN:N | 2.21 | 0.55 |
| 3:C:449:VAL:O | 3:C:452:THR:HG22 | 2.06 | 0.55 |
| 1:D:66:ARG:HD3 | 1:D:66:ARG:N | 2.22 | 0.55 |
| 1:D:141:ASN:HB3 | 1:D:206:ILE:HG12 | 1.89 | 0.55 |
| 1:D:303:PRO:HG2 | 1:D:400:LYS:NZ | 2.20 | 0.55 |
| 1:D:395:ALA:O | 1:D:399:TRP:CD2 | 2.60 | 0.55 |
| 4:E:47:GLU:O | 4:E:126:THR:HA | 2.07 | 0.55 |
| 4:E:161:ALA:HA | 4:E:163:GLU:OE2 | 2.07 | 0.55 |
| 1:A:33:VAL:HG22 | 1:A:158:ILE:HG12 | 1.86 | 0.54 |
| 1:A:59:GLN:NE2 | 1:A:117:MET:CG | 2.62 | 0.54 |
| 2:B:440:LEU:C | 2:B:443:PHE:HB3 | 2.26 | 0.54 |
| 1:D:68:ASN:HB2 | 1:D:69:PRO:HD2 | 1.86 | 0.54 |
| 1:D:101:ALA:O | 1:D:102:ILE:HD13 | 2.06 | 0.54 |
| 1:D:242:LYS:CD | 1:D:245:LEU:HD13 | 2.35 | 0.54 |
| 4:E:127:CYS:SG | 4:E:143:LEU:CG | 2.94 | 0.54 |
| 4:E:149:THR:CG2 | 4:E:150:TYR:N | 2.61 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:E:189:PRO:HB2 | 4:E:211:PHE:CD2 | 2.41 | 0.54 |
| 4:E:241:PHE:C | 4:E:243:PRO:HD2 | 2.27 | 0.54 |
| 4:E:247:GLY:N | 4:E:250:LYS:NZ | 2.45 | 0.54 |
| 1:A:93:TYR:N | 1:A:93:TYR:CD1 | 2.75 | 0.54 |
| 1:A:117:MET:CG | 1:A:119:THR:HG23 | 2.37 | 0.54 |
| 1:A:132:VAL:O | 1:A:274:ILE:CG2 | 2.55 | 0.54 |
| 1:A:134:HIS:HE1 | 1:A:209:ARG:HD2 | 1.72 | 0.54 |
| 1:A:237:THR:OG1 | 1:A:407:ASP:OD1 | 2.20 | 0.54 |
| 2:B:32:ARG:HG3 | 2:B:59:ALA:O | 2.06 | 0.54 |
| 2:B:426:LYS:HB3 | 2:B:430:TYR:CZ | 2.42 | 0.54 |
| 3:C:31:VAL:HG13 | 3:C:31:VAL:O | 2.06 | 0.54 |
| 3:C:41:ASN:ND2 | 3:C:185:THR:OG1 | 2.39 | 0.54 |
| 3:C:180:ASP:CB | 3:C:195:LYS:HB2 | 2.37 | 0.54 |
| 1:D:107:LYS:H | 1:D:107:LYS:HD3 | 1.71 | 0.54 |
| 1:D:132:VAL:C | 1:D:274:ILE:HG23 | 2.28 | 0.54 |
| 1:D:135:PHE:CZ | 1:D:273:LEU:CB | 2.90 | 0.54 |
| 1:D:186:HIS:CG | 1:D:187:TRP:N | 2.74 | 0.54 |
| 1:D:226:SER:HA | 1:D:229:THR:OG1 | 2.07 | 0.54 |
| 1:D:233:PHE:HB3 | 1:D:410:LEU:HB3 | 1.90 | 0.54 |
| 4:E:27:VAL:HB | 4:E:154:GLU:C | 2.27 | 0.54 |
| 1:A:76:LYS:HE3 | 1:A:112:TYR:CE2 | 2.42 | 0.54 |
| 1:A:279:LEU:CD1 | 1:A:282:MET:HB3 | 2.37 | 0.54 |
| 2:B:45:GLU:OE1 | 2:B:279:ILE:CD1 | 2.54 | 0.54 |
| 2:B:67:TRP:HB2 | 2:B:72:TYR:CB | 2.36 | 0.54 |
| 2:B:241:LEU:HD23 | 2:B:248:LYS:HE2 | 1.87 | 0.54 |
| 3:C:13:ILE:CG2 | 3:C:82:LEU:HD21 | 2.37 | 0.54 |
| 3:C:36:SER:HB3 | 3:C:59:ASP:HB2 | 1.88 | 0.54 |
| 3:C:95:GLN:HB2 | 3:C:147:LYS:O | 2.06 | 0.54 |
| 3:C:429:ILE:C | 3:C:429:ILE:HD12 | 2.27 | 0.54 |
| 1:D:43:VAL:CG2 | 1:D:50:VAL:HG13 | 2.37 | 0.54 |
| 4:E:473:GLN:OE1 | 4:E:473:GLN:O | 2.26 | 0.54 |
| 1:A:37:LEU:H | 1:A:164:ARG:HH22 | 1.55 | 0.54 |
| 1:A:107:LYS:O | 1:A:108:LEU:CD2 | 2.54 | 0.54 |
| 1:A:242:LYS:HB2 | 1:A:245:LEU:HB3 | 1.88 | 0.54 |
| 1:A:294:VAL:CG1 | 1:A:295:VAL:H | 2.19 | 0.54 |
| 2:B:68:ASP:N | 2:B:72:TYR:HB3 | 2.22 | 0.54 |
| 2:B:160:HIS:CG | 2:B:195:LYS:HE2 | 2.43 | 0.54 |
| 2:B:267:ALA:O | 2:B:271:PRO:CD | 2.46 | 0.54 |
| 2:B:269:LYS:O | 2:B:273:THR:HG23 | 2.08 | 0.54 |
| 3:C:83:ARG:HB3 | 3:C:84:PRO:CD | 2.31 | 0.54 |
| 3:C:256:LYS:HB3 | 3:C:259:THR:CG2 | 2.37 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:434:LYS:NZ | 3:C:435:GLU:HG2 | 2.22 | 0.54 |
| 3:C:443:VAL:HA | 3:C:446:TRP:HD1 | 1.73 | 0.54 |
| 1:D:131:ILE:CG1 | 1:D:133:THR:H | 2.05 | 0.54 |
| 1:D:401:TYR:O | 1:D:401:TYR:CD1 | 2.61 | 0.54 |
| 4:E:74:ILE:C | 4:E:76:LEU:H | 2.10 | 0.54 |
| 4:E:184:THR:CG2 | 4:E:215:GLN:HG2 | 2.37 | 0.54 |
| 1:A:418:CYS:O | 1:A:422:THR:HB | 2.06 | 0.54 |
| 2:B:11:LEU:HD22 | 2:B:11:LEU:N | 2.22 | 0.54 |
| 2:B:101:GLU:OE1 | 2:B:123:ILE:CG2 | 2.55 | 0.54 |
| 2:B:246:GLY:C | 2:B:248:LYS:N | 2.60 | 0.54 |
| 2:B:281:ILE:O | 2:B:284:LEU:N | 2.41 | 0.54 |
| 3:C:466:VAL:O | 3:C:470:ILE:HG12 | 2.08 | 0.54 |
| 3:C:481:PRO:N | 3:C:482:PRO:HD2 | 2.22 | 0.54 |
| 1:D:3:HIS:HB3 | 1:D:7:LEU:HG | 1.88 | 0.54 |
| 1:D:38:ILE:O | 1:D:169:THR:HG21 | 2.08 | 0.54 |
| 1:D:65:LEU:CD2 | 1:D:110:LEU:HD22 | 2.23 | 0.54 |
| 4:E:26:HIS:O | 4:E:27:VAL:O | 2.25 | 0.54 |
| 4:E:37:THR:OG1 | 4:E:54:TRP:CE3 | 2.60 | 0.54 |
| 4:E:101:VAL:O | 4:E:119:PRO:HB2 | 2.07 | 0.54 |
| 1:A:25:HIS:O | 1:A:25:HIS:CG | 2.61 | 0.54 |
| 1:A:177:VAL:O | 1:A:207:MET:HB2 | 2.08 | 0.54 |
| 1:A:408:HIS:C | 1:A:412:CYS:SG | 2.86 | 0.54 |
| 3:C:228:TYR:CD1 | 3:C:229:VAL:HG22 | 2.43 | 0.54 |
| 3:C:426:THR:O | 3:C:429:ILE:HG23 | 2.07 | 0.54 |
| 3:C:452:THR:CA | 3:C:455:ARG:HD3 | 2.38 | 0.54 |
| 1:D:95:ASN:ND2 | 1:D:127:TYR:C | 2.61 | 0.54 |
| 1:D:141:ASN:HB3 | 1:D:206:ILE:HD11 | 1.89 | 0.54 |
| 1:D:233:PHE:O | 1:D:236:PRO:HG2 | 2.08 | 0.54 |
| 4:E:151:ASN:HA | 4:E:205:PHE:CB | 2.36 | 0.54 |
| 4:E:172:ILE:HG21 | 4:E:174:PRO:HG2 | 1.88 | 0.54 |
| 4:E:239:VAL:HA | 4:E:242:LEU:HD23 | 1.90 | 0.54 |
| 4:E:258:LEU:HD12 | 4:E:300:CYS:SG | 2.48 | 0.54 |
| 1:A:301:ARG:HH12 | 1:A:406:ILE:HD11 | 1.73 | 0.54 |
| 2:B:88:PRO:HB2 | 2:B:90:ILE:CD1 | 2.38 | 0.54 |
| 2:B:409:LYS:CE | 3:C:423:ILE:HG22 | 2.37 | 0.54 |
| 2:B:451:THR:HA | 2:B:454:ILE:HD12 | 1.90 | 0.54 |
| 3:C:8:ILE:CD1 | 3:C:69:TRP:HZ3 | 2.19 | 0.54 |
| 3:C:160:MET:N | 3:C:213:GLN:HG3 | 2.23 | 0.54 |
| 1:D:45:GLU:OE2 | 1:D:272:PRO:O | 2.26 | 0.54 |
| 1:D:137:PHE:HB3 | 1:D:435:GLN:HG3 | 1.86 | 0.54 |
| 1:D:184:TRP:CE3 | 1:D:185:LYS:O | 2.60 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:223:LEU:HD23 | 1:D:223:LEU:O | 2.07 | 0.54 |
| 1:D:250:LEU:O | 1:D:253:LEU:CD2 | 2.56 | 0.54 |
| 4:E:135:PRO:CG | 4:E:137:ASP:OD1 | 2.56 | 0.54 |
| 4:E:143:LEU:HD12 | 4:E:210:PHE:O | 2.06 | 0.54 |
| 4:E:172:ILE:HG23 | 4:E:175:GLU:N | 2.21 | 0.54 |
| 4:E:248:GLY:C | 4:E:250:LYS:H | 2.11 | 0.54 |
| 1:A:274:ILE:CG1 | 1:A:277:TYR:CE1 | 2.80 | 0.54 |
| 2:B:241:LEU:HD13 | 3:C:314:PHE:CD2 | 2.43 | 0.54 |
| 3:C:93:VAL:HG21 | 3:C:151:LEU:CD1 | 2.37 | 0.54 |
| 1:D:295:VAL:O | 1:D:299:HIS:HB2 | 2.07 | 0.54 |
| 1:D:399:TRP:HA | 1:D:399:TRP:CE3 | 2.43 | 0.54 |
| 4:E:99:PHE:CB | 4:E:102:ALA:HB3 | 2.33 | 0.54 |
| 4:E:136:PHE:HD2 | 4:E:472:ASN:HA | 1.72 | 0.54 |
| 4:E:419:CYS:HA | 4:E:422:ILE:HG12 | 1.90 | 0.54 |
| 1:A:64:ARG:CA | 1:A:66:ARG:NH1 | 2.63 | 0.54 |
| 1:A:265:PRO:CD | 1:A:266:SER:N | 2.71 | 0.54 |
| 2:B:235:ALA:O | 2:B:239:PHE:CD2 | 2.61 | 0.54 |
| 2:B:239:PHE:N | 2:B:239:PHE:CD1 | 2.76 | 0.54 |
| 3:C:65:HIS:HD2 | 3:C:65:HIS:N | 1.90 | 0.54 |
| 3:C:180:ASP:HB2 | 3:C:195:LYS:CG | 2.38 | 0.54 |
| 1:D:43:VAL:HG11 | 1:D:50:VAL:HG22 | 1.90 | 0.54 |
| 1:D:406:ILE:O | 1:D:410:LEU:HD23 | 2.07 | 0.54 |
| 4:E:100:GLU:HB2 | 4:E:122:ILE:HG12 | 1.89 | 0.54 |
| 4:E:104:TYR:CD1 | 4:E:104:TYR:N | 2.76 | 0.54 |
| 4:E:143:LEU:HD12 | 4:E:143:LEU:N | 2.23 | 0.54 |
| 1:A:221:PRO:C | 1:A:224:LEU:HB3 | 2.29 | 0.54 |
| 2:B:135:PHE:H | 2:B:136:PRO:CD | 2.21 | 0.54 |
| 2:B:196:ASN:OD1 | 2:B:197:TRP:N | 2.41 | 0.54 |
| 2:B:226:VAL:O | 2:B:230:LEU:CG | 2.53 | 0.54 |
| 2:B:227:PRO:C | 2:B:231:ILE:HG12 | 2.27 | 0.54 |
| 2:B:432:ALA:O | 2:B:436:ASP:CG | 2.46 | 0.54 |
| 3:C:12:LEU:HD12 | 3:C:16:LYS:CD | 2.37 | 0.54 |
| 3:C:59:ASP:OD1 | 3:C:121:LEU:CD1 | 2.55 | 0.54 |
| 3:C:67:LEU:HD12 | 3:C:116:GLY:N | 2.22 | 0.54 |
| 3:C:274:THR:HA | 3:C:277:ARG:HH11 | 1.73 | 0.54 |
| 4:E:95:VAL:HG22 | 4:E:123:TYR:CE2 | 2.42 | 0.54 |
| 4:E:261:GLN:HE22 | 4:E:296:ILE:HD12 | 1.69 | 0.54 |
| 4:E:441:LEU:HD12 | 4:E:441:LEU:O | 2.08 | 0.54 |
| 1:A:7:LEU:HD22 | 1:A:70:ALA:HB1 | 1.90 | 0.53 |
| 1:A:43:VAL:CB | 1:A:50:VAL:HG22 | 2.38 | 0.53 |
| 1:A:213:TYR:CG | 1:A:214:PHE:N | 2.76 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:433:LEU:O | 1:A:433:LEU:HD12 | 2.08 | 0.53 |
| 2:B:196:ASN:O | 2:B:197:TRP:CD1 | 2.61 | 0.53 |
| 2:B:298:SER:HA | 2:B:301:VAL:CG2 | 2.38 | 0.53 |
| 3:C:30:VAL:HG23 | 3:C:156:ASN:CA | 2.38 | 0.53 |
| 3:C:64:ASP:O | 3:C:67:LEU:HB3 | 2.08 | 0.53 |
| 3:C:110:VAL:HG12 | 3:C:111:LEU:N | 2.23 | 0.53 |
| 3:C:131:PRO:CG | 3:C:145:SER:H | 2.17 | 0.53 |
| 1:D:163:ASP:OD1 | 1:D:164:ARG:N | 2.41 | 0.53 |
| 1:D:420:ILE:HA | 1:D:423:VAL:CG2 | 2.39 | 0.53 |
| 4:E:48:ALA:HA | 4:E:125:SER:O | 2.08 | 0.53 |
| 4:E:183:TRP:HB2 | 4:E:215:GLN:O | 2.08 | 0.53 |
| 4:E:191:LYS:N | 4:E:209:ILE:CG2 | 2.70 | 0.53 |
| 4:E:238:LEU:O | 4:E:242:LEU:N | 2.38 | 0.53 |
| 1:A:54:VAL:O | 1:A:122:ALA:N | 2.40 | 0.53 |
| 1:A:95:ASN:OD1 | 1:A:144:MET:SD | 2.66 | 0.53 |
| 1:A:285:VAL:HG13 | 1:A:286:ILE:HG13 | 1.91 | 0.53 |
| 2:B:69:PRO:HG2 | 2:B:70:ALA:H | 1.73 | 0.53 |
| 2:B:75:ILE:HG22 | 3:C:27:ASN:HB3 | 1.89 | 0.53 |
| 3:C:16:LYS:HE2 | 3:C:16:LYS:HA | 1.90 | 0.53 |
| 3:C:308:ILE:CG2 | 3:C:309:VAL:N | 2.71 | 0.53 |
| 3:C:434:LYS:CE | 3:C:435:GLU:CG | 2.86 | 0.53 |
| 3:C:451:GLN:O | 3:C:455:ARG:CZ | 2.56 | 0.53 |
| 3:C:452:THR:HA | 3:C:455:ARG:HD3 | 1.89 | 0.53 |
| 1:D:31:ILE:O | 1:D:158:ILE:HA | 2.08 | 0.53 |
| 1:D:53:ASN:HD21 | 1:D:121:PRO:C | 2.11 | 0.53 |
| 1:D:209:ARG:HG3 | 1:D:210:ILE:H | 1.72 | 0.53 |
| 1:D:241:GLU:C | 1:D:243:MET:CE | 2.77 | 0.53 |
| 1:D:276:LYS:O | 1:D:280:PHE:CE1 | 2.61 | 0.53 |
| 4:E:284:LYS:HA | 4:E:287:ILE:CG2 | 2.37 | 0.53 |
| 1:A:100:PHE:CD2 | 1:A:103:VAL:HG21 | 2.43 | 0.53 |
| 1:A:297:ASN:O | 1:A:301:ARG:N | 2.40 | 0.53 |
| 2:B:45:GLU:CG | 2:B:279:ILE:HD11 | 2.37 | 0.53 |
| 2:B:95:ASN:CB | 2:B:127:SER:H | 2.21 | 0.53 |
| 3:C:53:THR:HA | 3:C:126:PHE:O | 2.07 | 0.53 |
| 1:D:8:VAL:O | 1:D:12:LEU:HD13 | 2.08 | 0.53 |
| 1:D:135:PHE:C | 1:D:135:PHE:HD1 | 2.12 | 0.53 |
| 4:E:81:SER:OG | 4:E:82:GLU:N | 2.39 | 0.53 |
| 4:E:191:LYS:HB2 | 4:E:209:ILE:CG2 | 2.38 | 0.53 |
| 4:E:281:LEU:HD11 | 4:E:286:LEU:HD11 | 1.91 | 0.53 |
| 1:A:7:LEU:O | 1:A:11:LEU:HG | 2.08 | 0.53 |
| 1:A:171:MET:HG3 | 1:A:173:SER:H | 1.73 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:137:PHE:CZ | 2:B:461:ASN:OD1 | 2.62 | 0.53 |
| 2:B:230:LEU:C | 2:B:233:ILE:HG13 | 2.29 | 0.53 |
| 3:C:13:ILE:HG23 | 3:C:82:LEU:HD21 | 1.89 | 0.53 |
| 3:C:29:GLU:O | 3:C:155:ALA:O | 2.26 | 0.53 |
| 3:C:192:ILE:CD1 | 3:C:221:ILE:CG2 | 2.86 | 0.53 |
| 1:D:144:MET:CE | 1:D:205:PHE:CE1 | 2.92 | 0.53 |
| 1:D:245:LEU:O | 1:D:249:VAL:HG23 | 2.09 | 0.53 |
| 1:D:393:SER:O | 1:D:396:ALA:HB3 | 2.07 | 0.53 |
| 4:E:23:THR:HG23 | 4:E:24:LEU:H | 1.74 | 0.53 |
| 4:E:33:LYS:NZ | 4:E:160:SER:OG | 2.38 | 0.53 |
| 1:A:17:LYS:HZ2 | 1:A:83:ASP:HB3 | 1.72 | 0.53 |
| 1:A:37:LEU:HD22 | 1:A:54:VAL:HG12 | 1.90 | 0.53 |
| 2:B:37:LEU:HD12 | 2:B:54:VAL:HG11 | 1.90 | 0.53 |
| 2:B:256:LEU:HD12 | 2:B:302:LEU:HD13 | 1.89 | 0.53 |
| 3:C:474:VAL:HA | 3:C:477:ASN:ND2 | 2.23 | 0.53 |
| 1:D:46:VAL:CG2 | 1:D:272:PRO:HD3 | 2.38 | 0.53 |
| 1:D:60:TRP:HZ3 | 1:D:116:ILE:HG13 | 1.71 | 0.53 |
| 4:E:1:ASN:HD22 | 4:E:69:SER:CA | 2.22 | 0.53 |
| 4:E:90:VAL:HA | 4:E:99:PHE:CE1 | 2.39 | 0.53 |
| 4:E:100:GLU:OE2 | 4:E:122:ILE:HG12 | 2.08 | 0.53 |
| 1:A:36:GLN:O | 1:A:38:ILE:HD12 | 2.07 | 0.53 |
| 1:A:250:LEU:CD2 | 1:A:292:THR:HG22 | 2.39 | 0.53 |
| 1:A:295:VAL:O | 1:A:299:HIS:N | 2.37 | 0.53 |
| 3:C:106:TYR:CD1 | 3:C:107:PHE:CE1 | 2.96 | 0.53 |
| 3:C:431:LYS:HE2 | 1:D:382:ILE:CD1 | 2.38 | 0.53 |
| 1:D:104:HIS:HB2 | 1:D:105:MET:SD | 2.49 | 0.53 |
| 1:D:257:LEU:HA | 1:D:260:ILE:HG13 | 1.90 | 0.53 |
| 4:E:55:ILE:HG21 | 4:E:119:PRO:HG2 | 1.88 | 0.53 |
| 4:E:61:ASP:OD1 | 4:E:63:ARG:CB | 2.57 | 0.53 |
| 4:E:267:LEU:HA | 4:E:270:GLN:CG | 2.38 | 0.53 |
| 1:A:171:MET:HG2 | 1:A:174:GLY:N | 2.23 | 0.53 |
| 1:A:187:TRP:HD1 | 1:A:199:LEU:HD23 | 1.73 | 0.53 |
| 1:A:419:ILE:HG22 | 1:A:420:ILE:H | 1.74 | 0.53 |
| 2:B:28:LYS:CG | 2:B:154:SER:O | 2.54 | 0.53 |
| 2:B:241:LEU:CG | 2:B:248:LYS:HE2 | 2.38 | 0.53 |
| 2:B:459:SER:C | 2:B:463:PRO:HD2 | 2.29 | 0.53 |
| 3:C:42:LEU:CG | 3:C:54:THR:CG2 | 2.84 | 0.53 |
| 3:C:120:TRP:NE1 | 3:C:122:PRO:HD3 | 2.23 | 0.53 |
| 3:C:312:PHE:CE1 | 3:C:456:LEU:CD1 | 2.74 | 0.53 |
| 1:D:137:PHE:HB3 | 1:D:435:GLN:NE2 | 2.24 | 0.53 |
| 1:D:245:LEU:CG | 4:E:255:ILE:HG13 | 2.38 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:303:PRO:CB | 1:D:400:LYS:NZ | 2.72 | 0.53 |
| 4:E:44:GLU:CG | 4:E:129:ILE:HD12 | 2.38 | 0.53 |
| 4:E:444:LYS:N | 4:E:444:LYS:HD2 | 2.23 | 0.53 |
| 4:E:453:ILE:HA | 4:E:456:LEU:HD12 | 1.91 | 0.53 |
| 1:A:243:MET:CE | 1:A:244:THR:HG22 | 2.34 | 0.53 |
| 2:B:95:ASN:HB3 | 2:B:127:SER:H | 1.73 | 0.53 |
| 2:B:242:PRO:HG2 | 2:B:243:PRO:CD | 2.38 | 0.53 |
| 2:B:272:GLU:O | 2:B:275:LEU:HB2 | 2.09 | 0.53 |
| 2:B:297:LEU:O | 2:B:301:VAL:HG13 | 2.09 | 0.53 |
| 3:C:42:LEU:CA | 3:C:54:THR:HG22 | 2.35 | 0.53 |
| 3:C:139:PHE:O | 3:C:222:ARG:CG | 2.56 | 0.53 |
| 3:C:155:ALA:H | 3:C:211:ASN:HA | 1.71 | 0.53 |
| 3:C:181:PRO:HA | 3:C:184:PHE:HB2 | 1.90 | 0.53 |
| 1:D:56:LEU:HB2 | 1:D:120:PRO:CD | 2.39 | 0.53 |
| 1:D:106:THR:HG23 | 1:D:107:LYS:HE2 | 1.89 | 0.53 |
| 1:D:198:TYR:N | 1:D:198:TYR:CD1 | 2.73 | 0.53 |
| 1:D:242:LYS:NZ | 4:E:304:LEU:HD11 | 2.23 | 0.53 |
| 4:E:71:TYR:CG | 4:E:72:GLU:N | 2.76 | 0.53 |
| 4:E:104:TYR:N | 4:E:104:TYR:HD1 | 2.07 | 0.53 |
| 4:E:172:ILE:HG13 | 4:E:174:PRO:CG | 2.39 | 0.53 |
| 4:E:271:LYS:HZ3 | 4:E:271:LYS:CB | 2.00 | 0.53 |
| 4:E:436:ASN:CA | 4:E:439:TRP:HE1 | 2.15 | 0.53 |
| 1:A:209:ARG:HG3 | 1:A:210:ILE:H | 1.72 | 0.53 |
| 1:A:416:LEU:O | 1:A:420:ILE:N | 2.36 | 0.53 |
| 2:B:105:HIS:CG | 2:B:105:HIS:O | 2.61 | 0.53 |
| 2:B:135:PHE:N | 2:B:136:PRO:CD | 2.71 | 0.53 |
| 3:C:47:GLU:CG | 3:C:286:PRO:HD2 | 2.38 | 0.53 |
| 3:C:67:LEU:CD1 | 3:C:116:GLY:HA2 | 2.38 | 0.53 |
| 3:C:262:CYS:SG | 3:C:263:VAL:N | 2.82 | 0.53 |
| 1:D:161:GLU:HG3 | 1:D:162:SER:N | 2.24 | 0.53 |
| 4:E:74:ILE:HD13 | 4:E:74:ILE:N | 2.24 | 0.53 |
| 4:E:100:GLU:HB2 | 4:E:122:ILE:CG1 | 2.39 | 0.53 |
| 4:E:103:TYR:HB3 | 4:E:104:TYR:CD1 | 2.44 | 0.53 |
| 4:E:127:CYS:SG | 4:E:128:PRO:HD2 | 2.49 | 0.53 |
| 4:E:157:LEU:CD1 | 4:E:208:ILE:HD11 | 2.38 | 0.53 |
| 4:E:162:GLU:HA | 4:E:190:ALA:H | 1.73 | 0.53 |
| 4:E:418:ALA:HA | 4:E:421:PHE:HD2 | 1.73 | 0.53 |
| 1:A:46:VAL:HG23 | 1:A:271:VAL:CA | 2.39 | 0.53 |
| 1:A:62:ASP:C | 1:A:64:ARG:H | 2.11 | 0.53 |
| 1:A:190:TYR:HH | 1:A:198:TYR:HE1 | 1.57 | 0.53 |
| 1:A:397:GLU:HA | 1:A:400:LYS:HD2 | 1.91 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:405:VAL:HA | 1:A:408:HIS:ND1 | 2.24 | 0.53 |
| 2:B:22:SER:HB3 | 2:B:29:VAL:HG22 | 1.91 | 0.53 |
| 2:B:56:LEU:HB2 | 2:B:120:PRO:HG2 | 1.89 | 0.53 |
| 2:B:130:ILE:HG21 | 2:B:134:TYR:CE2 | 2.44 | 0.53 |
| 2:B:451:THR:HA | 2:B:454:ILE:HB | 1.91 | 0.53 |
| 3:C:314:PHE:HA | 3:C:320:HIS:O | 2.09 | 0.53 |
| 1:D:37:LEU:CA | 1:D:54:VAL:HG13 | 2.39 | 0.53 |
| 1:D:253:LEU:HD23 | 1:D:254:THR:HB | 1.91 | 0.53 |
| 4:E:138:TRP:HB3 | 4:E:214:ILE:O | 2.09 | 0.53 |
| 4:E:267:LEU:HD12 | 4:E:270:GLN:CD | 2.30 | 0.53 |
| 1:A:384:GLU:HA | 1:A:387:LYS:CG | 2.39 | 0.52 |
| 1:A:426:PHE:CD1 | 1:A:426:PHE:C | 2.82 | 0.52 |
| 2:B:31:VAL:HG21 | 2:B:86:TRP:HZ3 | 1.72 | 0.52 |
| 2:B:37:LEU:CG | 2:B:179:ALA:HB3 | 2.38 | 0.52 |
| 2:B:287:ILE:C | 2:B:287:ILE:HD12 | 2.29 | 0.52 |
| 2:B:439:PHE:C | 2:B:442:ILE:HB | 2.29 | 0.52 |
| 3:C:110:VAL:CG2 | 3:C:120:TRP:HB2 | 2.39 | 0.52 |
| 3:C:113:ARG:HD2 | 3:C:117:TYR:HB2 | 1.91 | 0.52 |
| 1:D:102:ILE:O | 1:D:102:ILE:CG2 | 2.56 | 0.52 |
| 1:D:115:LYS:HG2 | 1:D:116:ILE:N | 2.23 | 0.52 |
| 1:D:252:SER:HB2 | 4:E:259:LEU:CD2 | 2.36 | 0.52 |
| 1:D:260:ILE:HA | 1:D:263:LEU:HD12 | 1.91 | 0.52 |
| 1:D:263:LEU:HD21 | 4:E:266:PHE:HZ | 1.74 | 0.52 |
| 4:E:183:TRP:HB2 | 4:E:214:ILE:HD13 | 1.90 | 0.52 |
| 4:E:250:LYS:O | 4:E:253:LEU:HB3 | 2.08 | 0.52 |
| 1:A:258:LEU:HD11 | 4:E:264:PHE:CD2 | 2.44 | 0.52 |
| 1:A:286:ILE:HA | 1:A:289:ILE:HB | 1.90 | 0.52 |
| 1:A:305:THR:CB | 1:A:401:TYR:HB3 | 2.37 | 0.52 |
| 2:B:281:ILE:O | 2:B:282:SER:C | 2.47 | 0.52 |
| 2:B:312:HIS:O | 2:B:312:HIS:CG | 2.63 | 0.52 |
| 3:C:60:HIS:HE1 | 3:C:160:MET:CE | 2.21 | 0.52 |
| 1:D:37:LEU:HD13 | 1:D:54:VAL:HG22 | 1.91 | 0.52 |
| 1:D:301:ARG:NH2 | 1:D:405:VAL:HB | 2.23 | 0.52 |
| 1:D:432:GLU:HG2 | 1:D:435:GLN:HE22 | 1.70 | 0.52 |
| 4:E:71:TYR:HD1 | 4:E:111:ASN:CG | 2.11 | 0.52 |
| 4:E:228:PRO:O | 4:E:232:ILE:HB | 2.10 | 0.52 |
| 4:E:425:SER:O | 4:E:429:GLN:N | 2.25 | 0.52 |
| 1:A:90:LEU:O | 1:A:91:VAL:HG23 | 2.08 | 0.52 |
| 2:B:11:LEU:N | 2:B:11:LEU:CD2 | 2.72 | 0.52 |
| 2:B:58:LEU:HD11 | 2:B:118:TRP:HB3 | 1.91 | 0.52 |
| 2:B:132:VAL:O | 2:B:279:ILE:CA | 2.57 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:252:SER:O | 2:B:255:ALA:HB3 | 2.09 | 0.52 |
| 2:B:295:VAL:O | 2:B:299:VAL:HG23 | 2.09 | 0.52 |
| 2:B:467:PRO:O | 2:B:469:ALA:N | 2.41 | 0.52 |
| 3:C:60:HIS:ND1 | 3:C:90:PRO:HG2 | 2.24 | 0.52 |
| 3:C:300:THR:CA | 3:C:303:VAL:HG23 | 2.37 | 0.52 |
| 3:C:317:PRO:HD2 | 3:C:447:ASN:HB3 | 1.92 | 0.52 |
| 1:D:63:VAL:HG22 | 1:D:66:ARG:HD2 | 1.91 | 0.52 |
| 1:D:67:TRP:CD1 | 1:D:71:ASP:CB | 2.93 | 0.52 |
| 1:D:276:LYS:HA | 1:D:279:LEU:HD12 | 1.90 | 0.52 |
| 4:E:184:THR:HG23 | 4:E:215:GLN:C | 2.30 | 0.52 |
| 4:E:272:VAL:N | 4:E:273:PRO:CD | 2.72 | 0.52 |
| 2:B:21:PRO:HA | 2:B:64:ARG:HD2 | 1.92 | 0.52 |
| 2:B:261:VAL:O | 2:B:265:LEU:HG | 2.09 | 0.52 |
| 3:C:52:LEU:HD21 | 3:C:130:CYS:CB | 2.29 | 0.52 |
| 3:C:79:ILE:HG23 | 3:C:111:LEU:HD11 | 1.90 | 0.52 |
| 3:C:96:ASN:OD1 | 3:C:97:ASN:ND2 | 2.42 | 0.52 |
| 3:C:427:ASN:HA | 3:C:430:VAL:CG2 | 2.34 | 0.52 |
| 1:D:91:VAL:HG22 | 1:D:96:ALA:CB | 2.39 | 0.52 |
| 1:D:101:ALA:C | 1:D:102:ILE:HD12 | 2.30 | 0.52 |
| 1:D:244:THR:CG2 | 1:D:245:LEU:N | 2.72 | 0.52 |
| 4:E:34:LEU:HA | 4:E:54:TRP:O | 2.09 | 0.52 |
| 4:E:129:ILE:CG2 | 4:E:133:TYR:HD2 | 2.22 | 0.52 |
| 4:E:156:ASN:ND2 | 4:E:206:GLN:OE1 | 2.41 | 0.52 |
| 4:E:239:VAL:CA | 4:E:242:LEU:HD23 | 2.39 | 0.52 |
| 1:A:287:SER:O | 1:A:291:VAL:HG23 | 2.09 | 0.52 |
| 1:A:306:HIS:CB | 4:E:250:LYS:HZ3 | 2.19 | 0.52 |
| 1:A:417:ILE:CA | 1:A:420:ILE:HG12 | 2.37 | 0.52 |
| 2:B:255:ALA:HA | 3:C:265:LEU:HD21 | 1.90 | 0.52 |
| 3:C:256:LYS:HB3 | 3:C:259:THR:HG22 | 1.92 | 0.52 |
| 1:D:387:LYS:HD2 | 1:D:390:GLU:OE2 | 2.10 | 0.52 |
| 1:D:426:PHE:CE1 | 1:D:430:LEU:HD12 | 2.45 | 0.52 |
| 4:E:228:PRO:O | 4:E:232:ILE:N | 2.38 | 0.52 |
| 1:A:101:ALA:C | 1:A:102:ILE:HG13 | 2.29 | 0.52 |
| 1:A:379:VAL:HA | 1:A:382:ILE:CD1 | 2.38 | 0.52 |
| 2:B:86:TRP:CH2 | 2:B:156:VAL:HG21 | 2.45 | 0.52 |
| 2:B:129:THR:C | 2:B:131:LYS:N | 2.57 | 0.52 |
| 3:C:110:VAL:HG22 | 3:C:120:TRP:HB2 | 1.91 | 0.52 |
| 3:C:248:TYR:OH | 3:C:461:ILE:HG12 | 2.09 | 0.52 |
| 1:D:33:VAL:HG13 | 1:D:201:ILE:CD1 | 2.39 | 0.52 |
| 1:D:53:ASN:HD22 | 1:D:123:ILE:HG13 | 1.75 | 0.52 |
| 1:D:78:ILE:CD1 | 1:D:110:LEU:CB | 2.86 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:82:SER:HB3 | 1:D:118:TRP:CZ3 | 2.44 | 0.52 |
| 1:D:92:LEU:H | 1:D:92:LEU:HD23 | 1.73 | 0.52 |
| 1:D:252:SER:CB | 4:E:259:LEU:CD2 | 2.85 | 0.52 |
| 4:E:35:THR:CB | 4:E:54:TRP:HE3 | 2.18 | 0.52 |
| 4:E:62:TYR:C | 4:E:64:LEU:N | 2.62 | 0.52 |
| 1:A:67:TRP:CD1 | 1:A:71:ASP:OD1 | 2.62 | 0.52 |
| 1:A:174:GLY:HA2 | 1:A:176:TRP:CZ3 | 2.45 | 0.52 |
| 1:A:416:LEU:HA | 1:A:419:ILE:HG22 | 1.91 | 0.52 |
| 2:B:7:LEU:CD1 | 2:B:68:ASP:HB2 | 2.39 | 0.52 |
| 2:B:93:MET:HG3 | 2:B:206:ASP:CG | 2.30 | 0.52 |
| 2:B:279:ILE:CG2 | 2:B:280:ILE:N | 2.48 | 0.52 |
| 3:C:63:TYR:O | 3:C:65:HIS:CD2 | 2.62 | 0.52 |
| 3:C:122:PRO:CB | 3:C:123:PRO:CD | 2.87 | 0.52 |
| 1:D:227:PHE:CD1 | 1:D:231:LEU:HG | 2.44 | 0.52 |
| 1:D:432:GLU:O | 1:D:436:GLU:OE2 | 2.27 | 0.52 |
| 4:E:60:ASN:N | 4:E:60:ASN:ND2 | 2.49 | 0.52 |
| 4:E:143:LEU:O | 4:E:210:PHE:HB2 | 2.10 | 0.52 |
| 4:E:447:ASP:O | 4:E:450:CYS:HB2 | 2.10 | 0.52 |
| 1:A:102:ILE:HG21 | 2:B:149:TYR:HD2 | 1.75 | 0.52 |
| 1:A:135:PHE:CZ | 1:A:210:ILE:HG12 | 2.45 | 0.52 |
| 1:A:413:VAL:HG12 | 1:A:417:ILE:HG13 | 1.92 | 0.52 |
| 2:B:108:VAL:CG1 | 2:B:117:SER:O | 2.58 | 0.52 |
| 2:B:262:PHE:HA | 2:B:265:LEU:HD12 | 1.92 | 0.52 |
| 3:C:87:ILE:HG21 | 3:C:110:VAL:HG11 | 1.91 | 0.52 |
| 3:C:160:MET:N | 3:C:213:GLN:CG | 2.72 | 0.52 |
| 3:C:204:ASP:C | 3:C:207:PRO:HD2 | 2.29 | 0.52 |
| 3:C:264:LEU:HD11 | 3:C:306:CYS:O | 2.09 | 0.52 |
| 3:C:434:LYS:HE2 | 3:C:435:GLU:HG2 | 1.92 | 0.52 |
| 1:D:63:VAL:O | 1:D:66:ARG:HD2 | 2.10 | 0.52 |
| 4:E:75:ASP:HB3 | 4:E:111:ASN:ND2 | 2.24 | 0.52 |
| 1:A:24:HIS:CD2 | 1:A:24:HIS:N | 2.76 | 0.52 |
| 1:A:305:THR:HG21 | 1:A:401:TYR:CG | 2.45 | 0.52 |
| 2:B:54:VAL:C | 2:B:55:PHE:HD1 | 2.13 | 0.52 |
| 2:B:81:PRO:HD2 | 3:C:20:HIS:ND1 | 2.25 | 0.52 |
| 2:B:242:PRO:HA | 2:B:248:LYS:HG2 | 1.90 | 0.52 |
| 2:B:298:SER:O | 2:B:301:VAL:CG2 | 2.58 | 0.52 |
| 3:C:45:LEU:HB2 | 3:C:190:TRP:CZ3 | 2.45 | 0.52 |
| 3:C:155:ALA:CA | 3:C:211:ASN:HA | 2.40 | 0.52 |
| 3:C:194:HIS:ND1 | 3:C:195:LYS:N | 2.51 | 0.52 |
| 1:D:27:HIS:N | 1:D:27:HIS:ND1 | 2.57 | 0.52 |
| 1:D:267:THR:O | 1:D:271:VAL:N | 2.42 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:20:ARG:HG3 | 1:A:22:VAL:HG22 | 1.90 | 0.52 |
| 1:A:67:TRP:NE1 | 1:A:71:ASP:CG | 2.63 | 0.52 |
| 1:A:187:TRP:CZ2 | 1:A:196:THR:CG2 | 2.73 | 0.52 |
| 2:B:33:VAL:HG13 | 2:B:158:LEU:HD21 | 1.92 | 0.52 |
| 3:C:30:VAL:CG2 | 3:C:158:ILE:H | 2.21 | 0.52 |
| 3:C:48:THR:HA | 3:C:286:PRO:HB3 | 1.91 | 0.52 |
| 3:C:90:PRO:HD2 | 3:C:120:TRP:HZ3 | 1.73 | 0.52 |
| 3:C:319:THR:OG1 | 3:C:448:LEU:HA | 2.10 | 0.52 |
| 1:D:28:PHE:N | 1:D:28:PHE:CD1 | 2.76 | 0.52 |
| 1:D:35:LEU:HD11 | 1:D:54:VAL:CG1 | 2.36 | 0.52 |
| 1:D:89:ASP:HB2 | 1:D:149:TRP:HD1 | 1.75 | 0.52 |
| 1:D:243:MET:HE2 | 1:D:243:MET:N | 2.24 | 0.52 |
| 1:D:302:SER:HB3 | 1:D:400:LYS:HG2 | 1.91 | 0.52 |
| 4:E:36:LEU:HD12 | 4:E:173:ASP:CG | 2.29 | 0.52 |
| 4:E:39:LEU:CD2 | 4:E:183:TRP:HZ2 | 2.16 | 0.52 |
| 4:E:453:ILE:CD1 | 4:E:454:ALA:N | 2.72 | 0.52 |
| 1:A:156:VAL:CG2 | 1:A:157:SER:H | 2.23 | 0.51 |
| 1:A:179:LYS:CE | 1:A:208:GLN:CD | 2.76 | 0.51 |
| 1:A:227:PHE:O | 1:A:230:VAL:HB | 2.11 | 0.51 |
| 1:A:303:PRO:CB | 1:A:400:LYS:CE | 2.86 | 0.51 |
| 2:B:80:ILE:HG23 | 3:C:20:HIS:CE1 | 2.45 | 0.51 |
| 2:B:220:TYR:HD2 | 2:B:223:TYR:HH | 1.58 | 0.51 |
| 3:C:12:LEU:CG | 3:C:16:LYS:HG2 | 2.40 | 0.51 |
| 3:C:39:LEU:HD12 | 3:C:39:LEU:N | 2.25 | 0.51 |
| 3:C:256:LYS:CB | 3:C:259:THR:HG22 | 2.40 | 0.51 |
| 1:D:1:SER:H2 | 1:D:4:GLU:HB2 | 1.76 | 0.51 |
| 1:D:257:LEU:HA | 1:D:260:ILE:HB | 1.93 | 0.51 |
| 1:D:278:MET:SD | 1:D:281:THR:OG1 | 2.56 | 0.51 |
| 1:D:298:THR:CA | 1:D:301:ARG:HB3 | 2.40 | 0.51 |
| 1:D:390:GLU:O | 1:D:394:ASN:ND2 | 2.43 | 0.51 |
| 4:E:136:PHE:CZ | 4:E:217:LYS:CD | 2.92 | 0.51 |
| 4:E:184:THR:HG23 | 4:E:215:GLN:HG2 | 1.91 | 0.51 |
| 1:A:225:PHE:HD1 | 1:A:229:THR:HG1 | 1.58 | 0.51 |
| 1:A:265:PRO:CG | 1:A:266:SER:N | 2.73 | 0.51 |
| 1:A:431:ILE:HD12 | 1:A:431:ILE:N | 2.25 | 0.51 |
| 3:C:12:LEU:O | 3:C:14:VAL:N | 2.43 | 0.51 |
| 3:C:462:THR:O | 3:C:465:MET:HB3 | 2.10 | 0.51 |
| 1:D:233:PHE:HD1 | 1:D:409:ILE:CD1 | 2.24 | 0.51 |
| 1:D:252:SER:OG | 4:E:259:LEU:HD22 | 2.09 | 0.51 |
| 1:D:305:THR:HB | 1:D:401:TYR:HD2 | 1.76 | 0.51 |
| 1:D:411:LEU:O | 1:D:415:MET:CG | 2.56 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:E:261:GLN:NE2 | 4:E:265:LEU:HG | 2.24 | 0.51 |
| 1:A:137:PHE:CD1 | 1:A:435:GLN:NE2 | 2.79 | 0.51 |
| 1:A:239:SER:OG | 2:B:312:HIS:HA | 2.10 | 0.51 |
| 2:B:271:PRO:O | 2:B:275:LEU:CG | 2.55 | 0.51 |
| 2:B:421:PHE:O | 2:B:425:LYS:N | 2.42 | 0.51 |
| 2:B:440:LEU:HA | 2:B:443:PHE:HB3 | 1.92 | 0.51 |
| 3:C:18:ASN:O | 3:C:21:VAL:O | 2.28 | 0.51 |
| 3:C:54:THR:O | 3:C:126:PHE:CD2 | 2.63 | 0.51 |
| 1:D:35:LEU:HD12 | 1:D:54:VAL:CG1 | 2.36 | 0.51 |
| 1:D:101:ALA:C | 1:D:102:ILE:CD1 | 2.78 | 0.51 |
| 1:D:230:VAL:O | 1:D:234:TYR:HD1 | 1.93 | 0.51 |
| 4:E:229:CYS:O | 4:E:233:SER:N | 2.30 | 0.51 |
| 1:A:26:THR:O | 1:A:28:PHE:CD1 | 2.64 | 0.51 |
| 1:A:48:GLN:HB2 | 1:A:128:CYS:O | 2.09 | 0.51 |
| 1:A:56:LEU:HD23 | 1:A:57:ARG:H | 1.76 | 0.51 |
| 1:A:135:PHE:HB3 | 1:A:272:PRO:O | 2.09 | 0.51 |
| 1:A:184:TRP:CE3 | 1:A:185:LYS:O | 2.63 | 0.51 |
| 1:A:285:VAL:CG1 | 1:A:286:ILE:N | 2.74 | 0.51 |
| 2:B:32:ARG:NE | 2:B:59:ALA:O | 2.44 | 0.51 |
| 2:B:106:VAL:HG13 | 2:B:107:ASN:N | 2.24 | 0.51 |
| 2:B:181:THR:HG23 | 2:B:183:ASN:H | 1.74 | 0.51 |
| 3:C:279:PRO:C | 3:C:282:ALA:HB3 | 2.30 | 0.51 |
| 1:D:46:VAL:HG22 | 1:D:272:PRO:CD | 2.39 | 0.51 |
| 1:D:65:LEU:CD2 | 1:D:110:LEU:HD13 | 2.41 | 0.51 |
| 1:D:243:MET:H | 1:D:243:MET:CE | 2.22 | 0.51 |
| 1:D:298:THR:O | 1:D:301:ARG:CB | 2.58 | 0.51 |
| 1:D:302:SER:HB2 | 1:D:305:THR:HG23 | 1.92 | 0.51 |
| 1:A:195:ASP:C | 1:A:195:ASP:OD1 | 2.48 | 0.51 |
| 1:A:265:PRO:HG2 | 1:A:266:SER:N | 2.25 | 0.51 |
| 1:A:385:HIS:HD1 | 1:A:385:HIS:C | 2.14 | 0.51 |
| 2:B:68:ASP:O | 2:B:72:TYR:CD2 | 2.64 | 0.51 |
| 2:B:183:ASN:HB2 | 3:C:50:GLU:OE2 | 2.09 | 0.51 |
| 2:B:238:VAL:O | 2:B:242:PRO:HD3 | 2.10 | 0.51 |
| 2:B:282:SER:O | 2:B:286:PHE:CD2 | 2.62 | 0.51 |
| 2:B:287:ILE:O | 2:B:291:VAL:N | 2.43 | 0.51 |
| 3:C:37:LEU:HD21 | 3:C:148:PHE:CD2 | 2.45 | 0.51 |
| 1:D:36:GLN:HG3 | 1:D:55:ARG:HG3 | 1.93 | 0.51 |
| 1:D:85:VAL:HG23 | 1:D:108:LEU:CD1 | 2.40 | 0.51 |
| 1:D:130:ILE:C | 1:D:134:HIS:HB2 | 2.31 | 0.51 |
| 1:D:135:PHE:CD1 | 1:D:210:ILE:HD11 | 2.45 | 0.51 |
| 1:D:187:TRP:HD1 | 1:D:197:PRO:O | 1.85 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:295:VAL:HG23 | 1:D:296:ILE:N | 2.26 | 0.51 |
| 4:E:140:ASN:HD21 | 4:E:211:PHE:CA | 2.21 | 0.51 |
| 4:E:240:TYR:CE1 | 4:E:303:VAL:HG21 | 2.44 | 0.51 |
| 1:A:381:TYR:CD1 | 1:A:381:TYR:N | 2.78 | 0.51 |
| 2:B:26:GLY:O | 2:B:28:LYS:CE | 2.59 | 0.51 |
| 2:B:38:THR:HG22 | 2:B:55:PHE:CE1 | 2.45 | 0.51 |
| 2:B:68:ASP:HA | 2:B:72:TYR:CD2 | 2.46 | 0.51 |
| 2:B:72:TYR:O | 2:B:76:LYS:HG2 | 2.11 | 0.51 |
| 2:B:227:PRO:O | 2:B:231:ILE:CG1 | 2.59 | 0.51 |
| 2:B:234:LEU:HA | 2:B:237:LEU:HD23 | 1.92 | 0.51 |
| 3:C:7:LEU:HD11 | 3:C:70:ASN:HB2 | 1.92 | 0.51 |
| 3:C:149:THR:OG1 | 3:C:150:ALA:N | 2.44 | 0.51 |
| 3:C:303:VAL:HA | 3:C:306:CYS:SG | 2.51 | 0.51 |
| 3:C:449:VAL:HG12 | 3:C:452:THR:CB | 2.41 | 0.51 |
| 1:D:376:ILE:HG22 | 1:D:380:LYS:HZ3 | 1.73 | 0.51 |
| 4:E:59:TRP:NE1 | 4:E:84:LEU:HD23 | 2.23 | 0.51 |
| 4:E:138:TRP:HB2 | 4:E:213:ILE:HG12 | 1.91 | 0.51 |
| 4:E:240:TYR:CE2 | 4:E:453:ILE:HG21 | 2.45 | 0.51 |
| 4:E:266:PHE:HA | 4:E:269:ALA:HB3 | 1.92 | 0.51 |
| 2:B:162:LEU:C | 2:B:174:MET:N | 2.64 | 0.51 |
| 3:C:2:ASN:ND2 | 3:C:71:ALA:CB | 2.72 | 0.51 |
| 3:C:56:VAL:CG1 | 3:C:126:PHE:HE2 | 2.21 | 0.51 |
| 3:C:278:LEU:O | 3:C:278:LEU:HD13 | 2.10 | 0.51 |
| 1:D:118:TRP:CD1 | 1:D:118:TRP:C | 2.83 | 0.51 |
| 1:D:287:SER:C | 1:D:290:ILE:HG12 | 2.31 | 0.51 |
| 1:D:422:THR:HA | 1:D:425:VAL:HB | 1.93 | 0.51 |
| 4:E:140:ASN:ND2 | 4:E:212:LEU:H | 2.08 | 0.51 |
| 4:E:173:ASP:CB | 4:E:188:ARG:HH11 | 2.22 | 0.51 |
| 1:A:67:TRP:CD1 | 1:A:71:ASP:CB | 2.93 | 0.51 |
| 1:A:87:LEU:HB3 | 1:A:118:TRP:CZ3 | 2.45 | 0.51 |
| 1:A:166:ASP:HB2 | 1:A:181:TYR:CG | 2.46 | 0.51 |
| 2:B:132:VAL:CG1 | 2:B:279:ILE:CA | 2.87 | 0.51 |
| 2:B:241:LEU:N | 2:B:242:PRO:CD | 2.74 | 0.51 |
| 2:B:444:ILE:CG2 | 2:B:445:THR:H | 2.22 | 0.51 |
| 3:C:141:TRP:HH2 | 3:C:223:ARG:HD3 | 1.74 | 0.51 |
| 3:C:212:TYR:CD1 | 3:C:212:TYR:O | 2.64 | 0.51 |
| 3:C:478:PHE:O | 3:C:482:PRO:CD | 2.54 | 0.51 |
| 1:D:46:VAL:HA | 1:D:272:PRO:CD | 2.39 | 0.51 |
| 1:A:35:LEU:HD13 | 1:A:203:TYR:CE2 | 2.46 | 0.51 |
| 1:A:167:LEU:HA | 1:A:170:PHE:CB | 2.36 | 0.51 |
| 1:A:187:TRP:HZ2 | 1:A:196:THR:HA | 1.75 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:264:ILE:N | 1:A:265:PRO:CD | 2.73 | 0.51 |
| 2:B:60:TRP:CH2 | 2:B:85:VAL:HG11 | 2.46 | 0.51 |
| 3:C:141:TRP:HB2 | 3:C:221:ILE:O | 2.11 | 0.51 |
| 3:C:306:CYS:HA | 3:C:309:VAL:HB | 1.93 | 0.51 |
| 1:D:33:VAL:HG12 | 1:D:158:ILE:HG22 | 1.93 | 0.51 |
| 1:D:107:LYS:H | 1:D:107:LYS:CD | 2.24 | 0.51 |
| 1:D:133:THR:HA | 1:D:274:ILE:HG23 | 1.92 | 0.51 |
| 1:D:379:VAL:O | 1:D:379:VAL:HG12 | 2.10 | 0.51 |
| 4:E:55:ILE:HG13 | 4:E:55:ILE:O | 2.11 | 0.51 |
| 4:E:128:PRO:HD2 | 4:E:141:CYS:HA | 1.91 | 0.51 |
| 4:E:174:PRO:HD3 | 4:E:185:ILE:HG21 | 1.91 | 0.51 |
| 1:A:382:ILE:O | 1:A:386:MET:HE3 | 2.09 | 0.51 |
| 2:B:60:TRP:CZ2 | 2:B:85:VAL:HG11 | 2.46 | 0.51 |
| 2:B:129:THR:HG22 | 2:B:142:CYS:SG | 2.51 | 0.51 |
| 2:B:234:LEU:HA | 2:B:237:LEU:CD2 | 2.41 | 0.51 |
| 2:B:298:SER:O | 2:B:301:VAL:HG23 | 2.11 | 0.51 |
| 2:B:438:LEU:CA | 2:B:441:TYR:HB3 | 2.29 | 0.51 |
| 3:C:77:ILE:C | 3:C:79:ILE:H | 2.13 | 0.51 |
| 3:C:134:VAL:HG12 | 3:C:134:VAL:O | 2.11 | 0.51 |
| 3:C:317:PRO:HG2 | 3:C:447:ASN:ND2 | 2.26 | 0.51 |
| 3:C:422:GLY:O | 3:C:425:SER:HB2 | 2.11 | 0.51 |
| 3:C:481:PRO:HG2 | 3:C:482:PRO:HD3 | 1.92 | 0.51 |
| 1:D:86:TRP:O | 1:D:86:TRP:CE3 | 2.63 | 0.51 |
| 1:D:227:PHE:CD1 | 1:D:227:PHE:C | 2.84 | 0.51 |
| 4:E:242:LEU:N | 4:E:243:PRO:CD | 2.73 | 0.51 |
| 4:E:294:LEU:HA | 4:E:297:VAL:CG2 | 2.40 | 0.51 |
| 1:A:235:LEU:HA | 2:B:306:HIS:HD2 | 1.67 | 0.50 |
| 1:A:285:VAL:O | 1:A:288:SER:HB3 | 2.11 | 0.50 |
| 1:A:301:ARG:O | 1:A:301:ARG:HG3 | 2.11 | 0.50 |
| 2:B:45:GLU:OE2 | 2:B:277:VAL:HB | 2.10 | 0.50 |
| 2:B:92:LEU:CD1 | 2:B:95:ASN:HB2 | 2.40 | 0.50 |
| 2:B:108:VAL:CG1 | 2:B:118:TRP:HB2 | 2.40 | 0.50 |
| 2:B:130:ILE:CB | 2:B:134:TYR:CD2 | 2.84 | 0.50 |
| 2:B:287:ILE:O | 2:B:291:VAL:HB | 2.10 | 0.50 |
| 3:C:296:MET:CE | 3:C:296:MET:CA | 2.87 | 0.50 |
| 1:D:201:ILE:CG2 | 1:D:203:TYR:CE1 | 2.93 | 0.50 |
| 4:E:152:ALA:N | 4:E:205:PHE:CD1 | 2.70 | 0.50 |
| 4:E:303:VAL:HG12 | 4:E:304:LEU:N | 2.26 | 0.50 |
| 4:E:306:VAL:O | 4:E:309:ARG:NH1 | 2.43 | 0.50 |
| 1:A:89:ASP:OD2 | 1:A:150:THR:CG2 | 2.45 | 0.50 |
| 1:A:90:LEU:HD13 | 1:A:100:PHE:CE2 | 2.41 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:100:PHE:HB3 | 1:A:103:VAL:HG21 | 1.92 | 0.50 |
| 1:A:124:PHE:C | 1:A:124:PHE:HD1 | 2.13 | 0.50 |
| 1:A:209:ARG:CG | 1:A:210:ILE:N | 2.69 | 0.50 |
| 1:A:280:PHE:O | 1:A:284:PHE:CD1 | 2.64 | 0.50 |
| 1:A:292:THR:C | 1:A:296:ILE:HG12 | 2.31 | 0.50 |
| 2:B:451:THR:O | 2:B:455:PHE:HB2 | 2.10 | 0.50 |
| 3:C:33:ILE:O | 3:C:159:SER:O | 2.30 | 0.50 |
| 3:C:77:ILE:O | 3:C:77:ILE:CG1 | 2.54 | 0.50 |
| 1:D:7:LEU:HD11 | 1:D:70:ALA:HB1 | 1.90 | 0.50 |
| 1:D:275:GLY:O | 1:D:277:TYR:N | 2.44 | 0.50 |
| 4:E:81:SER:O | 4:E:83:LEU:N | 2.44 | 0.50 |
| 4:E:138:TRP:HB2 | 4:E:213:ILE:CG1 | 2.41 | 0.50 |
| 4:E:173:ASP:H | 4:E:188:ARG:HB2 | 1.75 | 0.50 |
| 4:E:195:ASN:HB3 | 4:E:204:ASP:HA | 1.92 | 0.50 |
| 1:A:35:LEU:HD13 | 1:A:203:TYR:CZ | 2.47 | 0.50 |
| 1:A:130:ILE:C | 1:A:131:ILE:O | 2.49 | 0.50 |
| 1:A:397:GLU:HA | 1:A:400:LYS:CD | 2.42 | 0.50 |
| 1:A:413:VAL:HA | 1:A:416:LEU:HB2 | 1.93 | 0.50 |
| 1:A:416:LEU:O | 1:A:420:ILE:HG12 | 2.11 | 0.50 |
| 2:B:46:LYS:HD2 | 2:B:278:PRO:HD3 | 1.93 | 0.50 |
| 2:B:136:PRO:O | 2:B:139:TRP:N | 2.43 | 0.50 |
| 3:C:37:LEU:O | 3:C:178:ILE:HG21 | 2.12 | 0.50 |
| 3:C:111:LEU:CB | 3:C:119:THR:OG1 | 2.55 | 0.50 |
| 3:C:276:GLN:OE1 | 3:C:276:GLN:N | 2.45 | 0.50 |
| 3:C:299:VAL:C | 3:C:303:VAL:HG23 | 2.31 | 0.50 |
| 1:D:220:ILE:HG21 | 4:E:294:LEU:HD11 | 1.94 | 0.50 |
| 1:D:242:LYS:HB2 | 1:D:245:LEU:CB | 2.42 | 0.50 |
| 1:D:298:THR:O | 1:D:301:ARG:CG | 2.60 | 0.50 |
| 4:E:14:TYR:HD2 | 4:E:16:LYS:NZ | 2.09 | 0.50 |
| 4:E:31:THR:N | 4:E:58:GLN:O | 2.38 | 0.50 |
| 4:E:255:ILE:CD1 | 4:E:304:LEU:HD22 | 2.41 | 0.50 |
| 4:E:436:ASN:HA | 4:E:439:TRP:CD1 | 2.46 | 0.50 |
| 1:A:45:GLU:OE2 | 1:A:135:PHE:HB2 | 2.12 | 0.50 |
| 1:A:54:VAL:HG22 | 1:A:122:ALA:CB | 2.41 | 0.50 |
| 1:A:133:THR:O | 1:A:133:THR:CG2 | 2.57 | 0.50 |
| 1:A:228:LEU:HD13 | 1:A:249:VAL:CG2 | 2.42 | 0.50 |
| 2:B:9:SER:HA | 2:B:12:PHE:HD1 | 1.71 | 0.50 |
| 2:B:27:ASP:C | 2:B:28:LYS:HD2 | 2.31 | 0.50 |
| 2:B:92:LEU:HD22 | 2:B:146:PHE:HA | 1.94 | 0.50 |
| 2:B:129:THR:N | 2:B:142:CYS:SG | 2.84 | 0.50 |
| 2:B:147:LYS:CG | 2:B:148:SER:N | 2.71 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:286:PHE:HA | 2:B:289:ILE:HG12 | 1.93 | 0.50 |
| 2:B:408:ILE:CG2 | 2:B:409:LYS:H | 2.23 | 0.50 |
| 2:B:438:LEU:O | 2:B:442:ILE:HB | 2.11 | 0.50 |
| 2:B:459:SER:HA | 2:B:463:PRO:HG2 | 1.93 | 0.50 |
| 3:C:2:ASN:O | 3:C:72:SER:HB3 | 2.11 | 0.50 |
| 3:C:305:ASN:HA | 3:C:308:ILE:CB | 2.35 | 0.50 |
| 1:D:17:LYS:CE | 1:D:84:ASP:HA | 2.41 | 0.50 |
| 1:D:376:ILE:O | 1:D:380:LYS:HE2 | 2.11 | 0.50 |
| 1:D:392:SER:O | 1:D:395:ALA:HB3 | 2.11 | 0.50 |
| 4:E:217:LYS:O | 4:E:219:LEU:N | 2.44 | 0.50 |
| 1:A:135:PHE:CZ | 1:A:210:ILE:HG23 | 2.47 | 0.50 |
| 1:A:262:GLU:O | 1:A:265:PRO:CD | 2.58 | 0.50 |
| 1:A:304:SER:OG | 1:A:400:LYS:NZ | 2.44 | 0.50 |
| 2:B:130:ILE:CD1 | 2:B:134:TYR:CE2 | 2.95 | 0.50 |
| 2:B:241:LEU:HD13 | 3:C:314:PHE:CE1 | 2.47 | 0.50 |
| 2:B:256:LEU:HD11 | 2:B:298:SER:O | 2.11 | 0.50 |
| 2:B:306:HIS:O | 2:B:308:SER:N | 2.44 | 0.50 |
| 2:B:311:THR:O | 2:B:312:HIS:CB | 2.60 | 0.50 |
| 2:B:431:VAL:HG23 | 2:B:433:MET:H | 1.77 | 0.50 |
| 2:B:438:LEU:O | 2:B:442:ILE:HD12 | 2.12 | 0.50 |
| 2:B:459:SER:O | 2:B:463:PRO:HB2 | 2.11 | 0.50 |
| 3:C:3:GLU:O | 3:C:3:GLU:CG | 2.59 | 0.50 |
| 3:C:149:THR:HB | 3:C:214:ASP:HA | 1.94 | 0.50 |
| 3:C:153:TYR:CB | 3:C:158:ILE:HB | 2.39 | 0.50 |
| 1:D:51:GLU:HG3 | 1:D:125:LYS:HG3 | 1.93 | 0.50 |
| 1:D:53:ASN:HD22 | 1:D:123:ILE:CG1 | 2.25 | 0.50 |
| 4:E:44:GLU:CD | 4:E:129:ILE:CG2 | 2.80 | 0.50 |
| 4:E:110:TYR:CE1 | 4:E:111:ASN:ND2 | 2.76 | 0.50 |
| 4:E:191:LYS:HB3 | 4:E:193:ASN:HD21 | 1.76 | 0.50 |
| 4:E:449:ALA:HA | 4:E:452:TRP:CG | 2.46 | 0.50 |
| 1:A:63:VAL:O | 1:A:66:ARG:CD | 2.46 | 0.50 |
| 1:A:199:LEU:C | 1:A:200:ASP:OD1 | 2.49 | 0.50 |
| 1:A:376:ILE:HG23 | 1:A:380:LYS:HE2 | 1.94 | 0.50 |
| 2:B:17:PRO:HG2 | 2:B:18:LYS:H | 1.77 | 0.50 |
| 2:B:32:ARG:HH21 | 2:B:60:TRP:CA | 2.24 | 0.50 |
| 2:B:131:LYS:HZ3 | 2:B:132:VAL:HB | 1.75 | 0.50 |
| 2:B:135:PHE:N | 2:B:136:PRO:HD2 | 2.26 | 0.50 |
| 2:B:255:ALA:O | 2:B:259:LEU:N | 2.34 | 0.50 |
| 3:C:429:ILE:HG13 | 3:C:430:VAL:H | 1.75 | 0.50 |
| 3:C:467:LEU:HA | 3:C:470:ILE:HB | 1.92 | 0.50 |
| 3:C:481:PRO:N | 3:C:482:PRO:CD | 2.75 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:145:LYS:NZ | 1:D:200:ASP:OD2 | 2.43 | 0.50 |
| 1:D:186:HIS:CG | 1:D:187:TRP:H | 2.30 | 0.50 |
| 1:D:396:ALA:HA | 1:D:399:TRP:CD1 | 2.46 | 0.50 |
| 1:D:414:PHE:O | 1:D:418:CYS:HB2 | 2.12 | 0.50 |
| 4:E:38:ASN:O | 4:E:51:THR:CA | 2.56 | 0.50 |
| 4:E:91:LEU:H | 4:E:95:VAL:HG21 | 1.74 | 0.50 |
| 4:E:182:GLU:N | 4:E:183:TRP:CE3 | 2.79 | 0.50 |
| 4:E:217:LYS:N | 4:E:218:PRO:CD | 2.74 | 0.50 |
| 1:A:394:ASN:O | 1:A:398:GLU:HG3 | 2.11 | 0.50 |
| 2:B:67:TRP:C | 2:B:72:TYR:HB2 | 2.32 | 0.50 |
| 2:B:129:THR:C | 2:B:131:LYS:H | 2.13 | 0.50 |
| 2:B:306:HIS:O | 2:B:312:HIS:C | 2.50 | 0.50 |
| 3:C:39:LEU:HD21 | 3:C:180:ASP:OD1 | 2.12 | 0.50 |
| 3:C:70:ASN:O | 3:C:74:TYR:N | 2.42 | 0.50 |
| 3:C:106:TYR:CD1 | 3:C:107:PHE:HE1 | 2.29 | 0.50 |
| 1:D:280:PHE:HB3 | 1:D:284:PHE:CE2 | 2.46 | 0.50 |
| 1:D:296:ILE:HA | 1:D:299:HIS:HB3 | 1.88 | 0.50 |
| 4:E:38:ASN:O | 4:E:51:THR:HG23 | 2.12 | 0.50 |
| 4:E:59:TRP:CH2 | 4:E:107:VAL:CG1 | 2.75 | 0.50 |
| 4:E:145:PHE:CZ | 4:E:208:ILE:HD13 | 2.46 | 0.50 |
| 4:E:250:LYS:C | 4:E:253:LEU:HB3 | 2.32 | 0.50 |
| 4:E:302:ILE:O | 4:E:306:VAL:N | 2.44 | 0.50 |
| 1:A:20:ARG:HG3 | 1:A:22:VAL:HG23 | 1.94 | 0.50 |
| 1:A:160:PRO:CG | 1:A:185:LYS:NZ | 2.74 | 0.50 |
| 1:A:292:THR:CG2 | 1:A:296:ILE:HD11 | 2.41 | 0.50 |
| 2:B:40:LEU:CA | 2:B:52:THR:HG23 | 2.41 | 0.50 |
| 3:C:30:VAL:HG22 | 3:C:157:GLU:C | 2.30 | 0.50 |
| 3:C:33:ILE:HD12 | 3:C:158:ILE:CD1 | 2.42 | 0.50 |
| 3:C:106:TYR:O | 3:C:106:TYR:CD1 | 2.56 | 0.50 |
| 3:C:245:LEU:HD13 | 1:D:297:ASN:OD1 | 2.11 | 0.50 |
| 3:C:289:GLY:O | 3:C:293:MET:SD | 2.70 | 0.50 |
| 1:D:75:ILE:HG13 | 1:D:78:ILE:CG2 | 2.42 | 0.50 |
| 1:D:101:ALA:O | 1:D:102:ILE:CD1 | 2.60 | 0.50 |
| 4:E:146:ARG:HD2 | 4:E:205:PHE:CD2 | 2.47 | 0.50 |
| 4:E:172:ILE:HG23 | 4:E:175:GLU:H | 1.77 | 0.50 |
| 1:A:38:ILE:HD12 | 1:A:38:ILE:N | 2.27 | 0.50 |
| 1:A:264:ILE:O | 1:A:267:THR:HB | 2.12 | 0.50 |
| 1:A:292:THR:CA | 1:A:296:ILE:CD1 | 2.81 | 0.50 |
| 2:B:9:SER:CA | 2:B:12:PHE:HE1 | 2.18 | 0.50 |
| 2:B:48:GLU:HG3 | 2:B:48:GLU:O | 2.12 | 0.50 |
| 2:B:51:THR:OG1 | 2:B:125:ARG:NH1 | 2.45 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:53:SER:C | 2:B:54:VAL:HG13 | 2.32 | 0.50 |
| 2:B:133:MET:HB2 | 2:B:140:GLN:HG3 | 1.93 | 0.50 |
| 2:B:147:LYS:HB2 | 2:B:206:ASP:HA | 1.94 | 0.50 |
| 3:C:11:LEU:C | 3:C:13:ILE:N | 2.64 | 0.50 |
| 3:C:83:ARG:HB3 | 3:C:85:GLU:OE1 | 2.11 | 0.50 |
| 3:C:144:CYS:SG | 3:C:146:LEU:CD1 | 2.94 | 0.50 |
| 3:C:469:THR:O | 3:C:473:PHE:CB | 2.58 | 0.50 |
| 1:D:112:TYR:HD1 | 1:D:113:THR:N | 2.09 | 0.50 |
| 1:D:167:LEU:HG | 1:D:178:MET:CB | 2.38 | 0.50 |
| 1:D:227:PHE:C | 1:D:227:PHE:HD1 | 2.15 | 0.50 |
| 4:E:79:ILE:CG1 | 4:E:80:PRO:HD2 | 2.41 | 0.50 |
| 1:A:167:LEU:HD12 | 1:A:178:MET:HB2 | 0.59 | 0.49 |
| 1:A:296:ILE:HD13 | 1:A:296:ILE:N | 2.27 | 0.49 |
| 3:C:35:LEU:HD21 | 3:C:37:LEU:HD21 | 1.93 | 0.49 |
| 3:C:104:VAL:O | 3:C:123:PRO:HG2 | 2.11 | 0.49 |
| 3:C:137:PHE:CE1 | 3:C:288:ILE:HG22 | 2.46 | 0.49 |
| 1:D:75:ILE:O | 1:D:76:LYS:C | 2.50 | 0.49 |
| 1:D:296:ILE:HG22 | 1:D:299:HIS:ND1 | 2.27 | 0.49 |
| 1:D:405:VAL:O | 1:D:405:VAL:HG12 | 2.12 | 0.49 |
| 4:E:293:SER:O | 4:E:297:VAL:CG2 | 2.59 | 0.49 |
| 1:A:56:LEU:CD2 | 1:A:57:ARG:N | 2.73 | 0.49 |
| 1:A:94:ASN:C | 1:A:94:ASN:ND2 | 2.65 | 0.49 |
| 1:A:239:SER:CB | 2:B:312:HIS:HA | 2.42 | 0.49 |
| 1:A:410:LEU:CD1 | 1:A:414:PHE:HD2 | 2.25 | 0.49 |
| 2:B:45:GLU:OE2 | 2:B:277:VAL:O | 2.29 | 0.49 |
| 2:B:247:GLU:C | 2:B:249:MET:N | 2.65 | 0.49 |
| 2:B:308:SER:HB2 | 2:B:312:HIS:H | 1.77 | 0.49 |
| 2:B:438:LEU:HA | 2:B:441:TYR:CB | 2.29 | 0.49 |
| 2:B:444:ILE:CG2 | 2:B:445:THR:N | 2.75 | 0.49 |
| 3:C:58:MET:HE1 | 3:C:120:TRP:CZ2 | 2.47 | 0.49 |
| 3:C:274:THR:HA | 3:C:277:ARG:HD2 | 1.94 | 0.49 |
| 3:C:275:SER:O | 3:C:278:LEU:HB3 | 2.12 | 0.49 |
| 3:C:469:THR:O | 3:C:473:PHE:N | 2.43 | 0.49 |
| 1:D:389:ASP:O | 1:D:393:SER:OG | 2.22 | 0.49 |
| 4:E:2:GLU:HA | 4:E:5:ARG:CG | 2.38 | 0.49 |
| 4:E:76:LEU:HD23 | 4:E:77:VAL:N | 2.27 | 0.49 |
| 4:E:134:PHE:CD2 | 4:E:280:PRO:HG2 | 2.46 | 0.49 |
| 4:E:262:THR:HG1 | 4:E:265:LEU:HD12 | 1.72 | 0.49 |
| 4:E:264:PHE:N | 4:E:264:PHE:HD1 | 2.09 | 0.49 |
| 1:A:48:GLN:HB3 | 1:A:130:ILE:HD12 | 1.93 | 0.49 |
| 1:A:62:ASP:HB3 | 1:A:65:LEU:CD1 | 2.41 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:285:VAL:CG1 | 1:A:286:ILE:HG13 | 2.42 | 0.49 |
| 2:B:249:MET:HE2 | 2:B:250:SER:HB3 | 1.94 | 0.49 |
| 3:C:72:SER:HA | 3:C:76:ASP:HB2 | 1.93 | 0.49 |
| 3:C:241:PHE:CZ | 1:D:293:VAL:CG2 | 2.92 | 0.49 |
| 1:D:214:PHE:HA | 1:D:217:ASN:OD1 | 2.12 | 0.49 |
| 1:D:229:THR:O | 1:D:233:PHE:CD2 | 2.65 | 0.49 |
| 1:D:229:THR:HA | 1:D:232:VAL:HG21 | 1.92 | 0.49 |
| 4:E:116:TYR:HD1 | 4:E:117:TRP:N | 2.10 | 0.49 |
| 4:E:195:ASN:HB3 | 4:E:204:ASP:CA | 2.42 | 0.49 |
| 1:A:221:PRO:HA | 1:A:224:LEU:CB | 2.36 | 0.49 |
| 1:A:381:TYR:N | 1:A:381:TYR:HD1 | 2.09 | 0.49 |
| 2:B:10:VAL:CG1 | 2:B:11:LEU:HD22 | 2.40 | 0.49 |
| 2:B:15:TYR:O | 2:B:15:TYR:HD1 | 1.92 | 0.49 |
| 2:B:274:SER:O | 2:B:276:SER:N | 2.46 | 0.49 |
| 3:C:184:PHE:HE1 | 3:C:190:TRP:CE2 | 2.30 | 0.49 |
| 1:D:144:MET:O | 1:D:203:TYR:HD1 | 1.93 | 0.49 |
| 1:D:178:MET:HA | 1:D:207:MET:HB3 | 1.94 | 0.49 |
| 4:E:19:LYS:HZ3 | 4:E:154:GLU:HB2 | 1.73 | 0.49 |
| 4:E:40:ILE:HB | 4:E:50:THR:HB | 1.95 | 0.49 |
| 4:E:103:TYR:CB | 4:E:104:TYR:HD1 | 2.25 | 0.49 |
| 4:E:159:LEU:HD21 | 4:E:208:ILE:HG23 | 1.93 | 0.49 |
| 4:E:219:LEU:HB3 | 4:E:222:ILE:HB | 1.95 | 0.49 |
| 4:E:239:VAL:O | 4:E:243:PRO:HD3 | 2.13 | 0.49 |
| 4:E:264:PHE:CD1 | 4:E:264:PHE:N | 2.79 | 0.49 |
| 1:A:46:VAL:HG23 | 1:A:271:VAL:HA | 1.94 | 0.49 |
| 1:A:60:TRP:HH2 | 1:A:118:TRP:HE3 | 1.61 | 0.49 |
| 1:A:75:ILE:O | 1:A:76:LYS:C | 2.51 | 0.49 |
| 1:A:82:SER:O | 1:A:84:ASP:N | 2.46 | 0.49 |
| 1:A:146:LEU:HD22 | 1:A:203:TYR:CZ | 2.47 | 0.49 |
| 1:A:177:VAL:HG12 | 1:A:208:GLN:O | 2.13 | 0.49 |
| 1:A:243:MET:HB3 | 1:A:306:HIS:ND1 | 2.27 | 0.49 |
| 1:A:305:THR:O | 1:A:306:HIS:CB | 2.61 | 0.49 |
| 2:B:47:ASN:C | 2:B:48:GLU:HG2 | 2.25 | 0.49 |
| 2:B:181:THR:HG23 | 2:B:184:GLY:H | 1.78 | 0.49 |
| 2:B:233:ILE:O | 2:B:237:LEU:CB | 2.60 | 0.49 |
| 3:C:67:LEU:O | 3:C:67:LEU:HD13 | 2.13 | 0.49 |
| 1:D:56:LEU:HB2 | 1:D:120:PRO:HG3 | 1.94 | 0.49 |
| 1:D:133:THR:CA | 1:D:274:ILE:HG23 | 2.42 | 0.49 |
| 1:D:242:LYS:N | 1:D:243:MET:HE2 | 2.27 | 0.49 |
| 4:E:1:ASN:C | 4:E:3:GLU:H | 2.14 | 0.49 |
| 4:E:36:LEU:N | 4:E:175:GLU:OE2 | 2.42 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:E:75:ASP:O | 4:E:110:TYR:CD1 | 2.65 | 0.49 |
| 4:E:91:LEU:H | 4:E:95:VAL:CB | 2.25 | 0.49 |
| 4:E:294:LEU:CA | 4:E:297:VAL:HG23 | 2.41 | 0.49 |
| 1:A:67:TRP:CG | 1:A:71:ASP:CB | 2.90 | 0.49 |
| 1:A:207:MET:H | 1:A:207:MET:CE | 2.25 | 0.49 |
| 1:A:221:PRO:CB | 1:A:224:LEU:HD23 | 2.42 | 0.49 |
| 1:A:376:ILE:O | 1:A:379:VAL:HB | 2.13 | 0.49 |
| 2:B:226:VAL:O | 2:B:230:LEU:N | 2.30 | 0.49 |
| 3:C:9:ASN:C | 3:C:12:LEU:HG | 2.32 | 0.49 |
| 3:C:64:ASP:HB3 | 3:C:67:LEU:CB | 2.42 | 0.49 |
| 1:D:291:VAL:O | 1:D:295:VAL:HG22 | 2.13 | 0.49 |
| 1:D:303:PRO:CG | 1:D:400:LYS:HZ3 | 2.19 | 0.49 |
| 4:E:11:LEU:HA | 4:E:14:TYR:HB2 | 1.94 | 0.49 |
| 4:E:131:VAL:HG12 | 4:E:131:VAL:O | 2.12 | 0.49 |
| 4:E:271:LYS:NZ | 4:E:271:LYS:CB | 2.61 | 0.49 |
| 4:E:304:LEU:HD12 | 4:E:307:SER:OG | 2.12 | 0.49 |
| 1:A:76:LYS:HE3 | 1:A:112:TYR:CZ | 2.48 | 0.49 |
| 1:A:151:TYR:CB | 1:A:156:VAL:CG1 | 2.90 | 0.49 |
| 2:B:142:CYS:O | 2:B:210:TYR:CD1 | 2.49 | 0.49 |
| 2:B:258:ALA:HB2 | 3:C:265:LEU:CG | 2.43 | 0.49 |
| 2:B:438:LEU:HD23 | 2:B:441:TYR:HB3 | 1.94 | 0.49 |
| 2:B:465:ASP:C | 2:B:467:PRO:HD2 | 2.33 | 0.49 |
| 3:C:30:VAL:HG11 | 3:C:159:SER:HB3 | 1.93 | 0.49 |
| 3:C:58:MET:CG | 3:C:92:ILE:CD1 | 2.90 | 0.49 |
| 3:C:226:LEU:H | 3:C:227:PHE:HD1 | 1.59 | 0.49 |
| 3:C:227:PHE:HA | 3:C:230:ILE:HG23 | 1.95 | 0.49 |
| 1:D:51:GLU:HA | 1:D:124:PHE:O | 2.12 | 0.49 |
| 1:D:227:PHE:O | 1:D:227:PHE:HD1 | 1.94 | 0.49 |
| 1:D:238:ASP:CB | 4:E:308:LEU:CD2 | 2.84 | 0.49 |
| 1:D:242:LYS:HB2 | 1:D:245:LEU:HD12 | 1.94 | 0.49 |
| 1:D:266:SER:O | 1:D:270:ALA:HB2 | 2.12 | 0.49 |
| 4:E:6:LEU:CD2 | 4:E:67:ASN:OD1 | 2.60 | 0.49 |
| 4:E:30:VAL:O | 4:E:158:GLN:CG | 2.60 | 0.49 |
| 4:E:145:PHE:CD1 | 4:E:208:ILE:HB | 2.48 | 0.49 |
| 4:E:216:ARG:O | 4:E:217:LYS:HG2 | 2.12 | 0.49 |
| 4:E:272:VAL:O | 4:E:272:VAL:HG22 | 2.12 | 0.49 |
| 1:A:145:LYS:HZ3 | 1:A:202:THR:HG21 | 1.78 | 0.49 |
| 1:A:148:ILE:CG2 | 1:A:198:TYR:CB | 2.88 | 0.49 |
| 1:A:207:MET:O | 1:A:207:MET:HE3 | 2.13 | 0.49 |
| 1:A:256:PHE:HE1 | 2:B:261:VAL:HG23 | 1.72 | 0.49 |
| 1:A:305:THR:O | 1:A:306:HIS:CG | 2.65 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:118:TRP:C | 2:B:119:HIS:CD2 | 2.86 | 0.49 |
| 3:C:4:GLU:HA | 3:C:72:SER:OG | 2.11 | 0.49 |
| 3:C:49:ASP:C | 3:C:50:GLU:CG | 2.81 | 0.49 |
| 3:C:180:ASP:OD2 | 3:C:219:LEU:CD2 | 2.61 | 0.49 |
| 1:A:50:VAL:CG1 | 1:A:52:THR:CG2 | 2.91 | 0.49 |
| 1:A:134:HIS:O | 1:A:136:PRO:HD2 | 2.09 | 0.49 |
| 1:A:150:THR:HG23 | 1:A:151:TYR:CE1 | 2.47 | 0.49 |
| 1:A:223:LEU:HA | 1:A:226:SER:OG | 2.13 | 0.49 |
| 2:B:28:LYS:CB | 2:B:156:VAL:N | 2.76 | 0.49 |
| 2:B:97:ASP:N | 2:B:125:ARG:O | 2.45 | 0.49 |
| 2:B:235:ALA:HB1 | 2:B:239:PHE:HE2 | 1.73 | 0.49 |
| 2:B:235:ALA:HB1 | 2:B:239:PHE:CZ | 2.47 | 0.49 |
| 3:C:63:TYR:HD1 | 3:C:64:ASP:N | 2.10 | 0.49 |
| 3:C:180:ASP:HB3 | 3:C:219:LEU:HD13 | 1.95 | 0.49 |
| 3:C:234:THR:N | 3:C:235:PRO:CD | 2.75 | 0.49 |
| 3:C:241:PHE:HZ | 1:D:293:VAL:HG22 | 1.72 | 0.49 |
| 3:C:459:PHE:O | 3:C:463:PRO:HG3 | 2.13 | 0.49 |
| 3:C:480:ARG:H | 3:C:481:PRO:HD2 | 1.78 | 0.49 |
| 1:D:38:ILE:O | 1:D:38:ILE:CG2 | 2.59 | 0.49 |
| 1:D:240:GLY:C | 1:D:242:LYS:N | 2.64 | 0.49 |
| 1:D:283:ILE:N | 1:D:286:ILE:HD12 | 2.27 | 0.49 |
| 4:E:44:GLU:OE2 | 4:E:133:TYR:HB3 | 2.13 | 0.49 |
| 4:E:471:LEU:O | 4:E:471:LEU:HD12 | 2.13 | 0.49 |
| 1:A:56:LEU:CD1 | 1:A:90:LEU:HD13 | 2.42 | 0.49 |
| 1:A:67:TRP:HB3 | 1:A:71:ASP:HB3 | 1.94 | 0.49 |
| 1:A:91:VAL:HB | 1:A:149:TRP:HB2 | 1.95 | 0.49 |
| 1:A:166:ASP:HB3 | 1:A:178:MET:CE | 2.43 | 0.49 |
| 1:A:250:LEU:HD13 | 1:A:296:ILE:HG21 | 1.95 | 0.49 |
| 1:A:251:LEU:CD1 | 4:E:260:ALA:CB | 2.86 | 0.49 |
| 3:C:12:LEU:CD1 | 3:C:16:LYS:HE3 | 2.43 | 0.49 |
| 3:C:188:GLY:CA | 3:C:190:TRP:CZ3 | 2.96 | 0.49 |
| 3:C:317:PRO:HG2 | 3:C:447:ASN:CG | 2.32 | 0.49 |
| 1:D:92:LEU:CD2 | 1:D:124:PHE:CZ | 2.95 | 0.49 |
| 1:D:130:ILE:CA | 1:D:134:HIS:HB2 | 2.43 | 0.49 |
| 1:D:186:HIS:ND1 | 1:D:187:TRP:N | 2.57 | 0.49 |
| 1:D:253:LEU:HD23 | 1:D:254:THR:CB | 2.42 | 0.49 |
| 1:D:385:HIS:O | 1:D:389:ASP:OD1 | 2.31 | 0.49 |
| 4:E:94:ASN:HA | 4:E:126:THR:H | 1.78 | 0.49 |
| 4:E:188:ARG:NH2 | 4:E:210:PHE:CE2 | 2.80 | 0.49 |
| 4:E:200:LYS:O | 4:E:200:LYS:HG3 | 2.12 | 0.49 |
| 4:E:273:PRO:CG | 4:E:274:GLU:N | 2.76 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:128:CYS:CB | 1:A:144:MET:CE | 2.87 | 0.48 |
| 1:A:137:PHE:CD1 | 1:A:435:GLN:CD | 2.86 | 0.48 |
| 1:A:187:TRP:NE1 | 1:A:196:THR:HG22 | 2.28 | 0.48 |
| 1:A:262:GLU:C | 1:A:265:PRO:CD | 2.81 | 0.48 |
| 2:B:253:ILE:CG1 | 2:B:302:LEU:HD11 | 2.41 | 0.48 |
| 3:C:136:TYR:CD1 | 3:C:142:GLN:HB3 | 2.43 | 0.48 |
| 3:C:180:ASP:HB2 | 3:C:195:LYS:HD3 | 1.95 | 0.48 |
| 3:C:185:THR:HG22 | 3:C:187:ASN:H | 1.78 | 0.48 |
| 3:C:242:LEU:HD21 | 3:C:263:VAL:CG1 | 2.43 | 0.48 |
| 3:C:431:LYS:C | 3:C:434:LYS:HB3 | 2.33 | 0.48 |
| 1:D:33:VAL:HG13 | 1:D:201:ILE:HD12 | 1.94 | 0.48 |
| 1:D:65:LEU:HB3 | 1:D:110:LEU:HD11 | 1.94 | 0.48 |
| 1:D:65:LEU:HB3 | 1:D:110:LEU:CD1 | 2.43 | 0.48 |
| 4:E:79:ILE:HG12 | 4:E:80:PRO:HD2 | 1.95 | 0.48 |
| 4:E:109:VAL:HG22 | 4:E:115:MET:HE3 | 1.93 | 0.48 |
| 4:E:151:ASN:HA | 4:E:205:PHE:CD1 | 2.48 | 0.48 |
| 4:E:172:ILE:CG2 | 4:E:175:GLU:N | 2.75 | 0.48 |
| 4:E:228:PRO:O | 4:E:231:LEU:HD23 | 2.13 | 0.48 |
| 1:A:31:ILE:HA | 1:A:59:GLN:O | 2.13 | 0.48 |
| 1:A:38:ILE:HD12 | 1:A:38:ILE:H | 1.76 | 0.48 |
| 1:A:130:ILE:O | 1:A:134:HIS:HB2 | 2.13 | 0.48 |
| 1:A:229:THR:C | 1:A:232:VAL:HB | 2.34 | 0.48 |
| 2:B:147:LYS:CG | 2:B:148:SER:H | 2.26 | 0.48 |
| 2:B:192:PRO:CD | 2:B:210:TYR:HB2 | 2.42 | 0.48 |
| 2:B:453:SER:O | 2:B:457:ASP:OD1 | 2.31 | 0.48 |
| 3:C:97:ASN:CB | 3:C:128:SER:CB | 2.86 | 0.48 |
| 3:C:110:VAL:HG22 | 3:C:120:TRP:CD1 | 2.48 | 0.48 |
| 3:C:190:TRP:HA | 3:C:223:ARG:CB | 2.43 | 0.48 |
| 3:C:195:LYS:HG3 | 3:C:195:LYS:O | 2.13 | 0.48 |
| 3:C:268:ALA:O | 3:C:272:LEU:HG | 2.13 | 0.48 |
| 1:D:38:ILE:O | 1:D:169:THR:CG2 | 2.61 | 0.48 |
| 4:E:59:TRP:CH2 | 4:E:115:MET:HB3 | 2.48 | 0.48 |
| 4:E:270:GLN:C | 4:E:273:PRO:CD | 2.81 | 0.48 |
| 1:A:33:VAL:HG23 | 1:A:158:ILE:HG12 | 1.89 | 0.48 |
| 1:A:58:GLN:HE21 | 1:A:90:LEU:HD21 | 1.78 | 0.48 |
| 1:A:166:ASP:N | 1:A:181:TYR:CD1 | 2.81 | 0.48 |
| 1:A:186:HIS:HE1 | 1:A:187:TRP:O | 1.96 | 0.48 |
| 2:B:10:VAL:HG13 | 2:B:11:LEU:N | 2.29 | 0.48 |
| 2:B:93:MET:HB2 | 2:B:145:VAL:HG23 | 1.96 | 0.48 |
| 2:B:261:VAL:CG1 | 2:B:262:PHE:N | 2.76 | 0.48 |
| 2:B:416:GLU:OE2 | 3:C:433:ILE:CG2 | 2.60 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:78:SER:O | 3:C:79:ILE:CD1 | 2.55 | 0.48 |
| 3:C:149:THR:HG22 | 3:C:214:ASP:HB3 | 1.87 | 0.48 |
| 3:C:296:MET:HA | 3:C:296:MET:HE3 | 1.95 | 0.48 |
| 3:C:302:VAL:O | 3:C:306:CYS:N | 2.46 | 0.48 |
| 3:C:318:SER:CB | 3:C:447:ASN:ND2 | 2.72 | 0.48 |
| 1:D:187:TRP:CZ2 | 1:D:196:THR:HG23 | 2.48 | 0.48 |
| 4:E:78:ARG:NH1 | 4:E:108:LEU:HD13 | 2.28 | 0.48 |
| 4:E:85:TRP:CZ2 | 4:E:155:VAL:HG22 | 2.48 | 0.48 |
| 4:E:90:VAL:HG13 | 4:E:95:VAL:HB | 1.94 | 0.48 |
| 4:E:287:ILE:O | 4:E:291:PHE:CD2 | 2.66 | 0.48 |
| 1:A:155:LYS:HE2 | 4:E:76:LEU:HD13 | 1.95 | 0.48 |
| 1:A:155:LYS:CE | 4:E:76:LEU:HD13 | 2.42 | 0.48 |
| 1:A:187:TRP:CZ3 | 1:A:189:TYR:HB3 | 2.46 | 0.48 |
| 1:A:245:LEU:CD2 | 2:B:253:ILE:HB | 2.41 | 0.48 |
| 2:B:28:LYS:CE | 2:B:154:SER:O | 2.60 | 0.48 |
| 2:B:68:ASP:HA | 2:B:72:TYR:HD2 | 1.79 | 0.48 |
| 2:B:160:HIS:NE2 | 2:B:207:VAL:CG1 | 2.57 | 0.48 |
| 2:B:286:PHE:HD1 | 2:B:290:LEU:HD12 | 1.78 | 0.48 |
| 2:B:286:PHE:HD1 | 2:B:290:LEU:CD1 | 2.26 | 0.48 |
| 3:C:38:THR:HG22 | 3:C:57:TRP:CZ3 | 2.48 | 0.48 |
| 3:C:143:ASN:OD1 | 3:C:220:ILE:CG2 | 2.61 | 0.48 |
| 3:C:181:PRO:HA | 3:C:184:PHE:CB | 2.43 | 0.48 |
| 1:D:106:THR:CG2 | 1:D:107:LYS:HE2 | 2.43 | 0.48 |
| 4:E:103:TYR:CD2 | 4:E:104:TYR:HD1 | 2.30 | 0.48 |
| 4:E:123:TYR:N | 4:E:123:TYR:CD1 | 2.81 | 0.48 |
| 4:E:269:ALA:O | 4:E:273:PRO:CG | 2.62 | 0.48 |
| 1:A:31:ILE:HG23 | 1:A:60:TRP:HE3 | 1.78 | 0.48 |
| 1:A:46:VAL:N | 1:A:272:PRO:HD3 | 2.29 | 0.48 |
| 1:A:212:LEU:C | 1:A:215:VAL:HG23 | 2.33 | 0.48 |
| 1:A:227:PHE:HZ | 2:B:303:ASN:HD22 | 1.62 | 0.48 |
| 1:A:396:ALA:O | 1:A:399:TRP:HB2 | 2.13 | 0.48 |
| 2:B:45:GLU:HB2 | 2:B:134:TYR:CD2 | 2.48 | 0.48 |
| 2:B:256:LEU:CD1 | 2:B:302:LEU:HD22 | 2.43 | 0.48 |
| 2:B:440:LEU:CA | 2:B:443:PHE:HB3 | 2.43 | 0.48 |
| 3:C:50:GLU:HA | 3:C:132:ILE:CD1 | 2.43 | 0.48 |
| 3:C:110:VAL:HG13 | 3:C:120:TRP:CA | 2.42 | 0.48 |
| 3:C:113:ARG:HB2 | 3:C:117:TYR:O | 2.13 | 0.48 |
| 3:C:132:ILE:HA | 3:C:136:TYR:CG | 2.48 | 0.48 |
| 1:D:89:ASP:CG | 1:D:149:TRP:HB3 | 2.33 | 0.48 |
| 4:E:83:LEU:N | 4:E:83:LEU:CD2 | 2.76 | 0.48 |
| 1:A:186:HIS:ND1 | 1:A:187:TRP:O | 2.46 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:187:TRP:CE2 | 1:A:196:THR:CG2 | 2.88 | 0.48 |
| 1:A:229:THR:HA | 1:A:232:VAL:CG2 | 2.44 | 0.48 |
| 1:A:230:VAL:HA | 1:A:233:PHE:CD1 | 2.49 | 0.48 |
| 1:A:252:SER:O | 1:A:256:PHE:CG | 2.63 | 0.48 |
| 2:B:131:LYS:CG | 2:B:132:VAL:H | 2.25 | 0.48 |
| 3:C:35:LEU:CD2 | 3:C:37:LEU:HG | 2.44 | 0.48 |
| 3:C:58:MET:O | 3:C:58:MET:CG | 2.57 | 0.48 |
| 3:C:59:ASP:HA | 3:C:121:LEU:CB | 2.44 | 0.48 |
| 3:C:447:ASN:O | 3:C:449:VAL:CG2 | 2.33 | 0.48 |
| 1:D:21:PRO:HG3 | 1:D:60:TRP:HZ2 | 1.78 | 0.48 |
| 4:E:58:GLN:C | 4:E:59:TRP:HE3 | 2.17 | 0.48 |
| 4:E:58:GLN:CA | 4:E:59:TRP:HE3 | 2.27 | 0.48 |
| 4:E:59:TRP:CE3 | 4:E:115:MET:HB2 | 2.48 | 0.48 |
| 4:E:100:GLU:CD | 4:E:122:ILE:HG12 | 2.34 | 0.48 |
| 4:E:246:ALA:HA | 4:E:250:LYS:NZ | 2.29 | 0.48 |
| 1:A:2:GLU:O | 1:A:2:GLU:CG | 2.61 | 0.48 |
| 1:A:90:LEU:CD1 | 1:A:100:PHE:CE2 | 2.82 | 0.48 |
| 1:A:252:SER:CB | 2:B:257:LEU:HD22 | 2.43 | 0.48 |
| 1:A:276:LYS:H | 1:A:276:LYS:CD | 2.22 | 0.48 |
| 2:B:261:VAL:HG12 | 2:B:262:PHE:N | 2.29 | 0.48 |
| 3:C:132:ILE:HG22 | 3:C:133:ASN:N | 2.28 | 0.48 |
| 3:C:191:GLU:HG2 | 3:C:222:ARG:O | 2.14 | 0.48 |
| 1:D:89:ASP:CG | 1:D:149:TRP:CD1 | 2.87 | 0.48 |
| 1:D:230:VAL:HA | 1:D:233:PHE:HD2 | 1.78 | 0.48 |
| 4:E:30:VAL:O | 4:E:157:LEU:HA | 2.13 | 0.48 |
| 4:E:133:TYR:C | 4:E:135:PRO:HD2 | 2.34 | 0.48 |
| 4:E:172:ILE:HG23 | 4:E:174:PRO:CD | 2.43 | 0.48 |
| 1:A:85:VAL:O | 1:A:87:LEU:HD13 | 2.14 | 0.48 |
| 1:A:136:PRO:CG | 1:A:274:ILE:HG23 | 2.39 | 0.48 |
| 2:B:10:VAL:CG1 | 2:B:11:LEU:CD2 | 2.91 | 0.48 |
| 2:B:153:THR:HB | 2:B:204:TYR:CB | 2.13 | 0.48 |
| 2:B:186:TRP:HB3 | 2:B:215:ARG:CB | 2.43 | 0.48 |
| 2:B:241:LEU:HD12 | 3:C:314:PHE:CD1 | 2.48 | 0.48 |
| 2:B:299:VAL:O | 2:B:302:LEU:HB3 | 2.14 | 0.48 |
| 2:B:409:LYS:O | 2:B:413:GLU:N | 2.40 | 0.48 |
| 3:C:12:LEU:O | 3:C:13:ILE:C | 2.51 | 0.48 |
| 3:C:39:LEU:CD2 | 3:C:180:ASP:OD1 | 2.62 | 0.48 |
| 3:C:204:ASP:OD1 | 3:C:205:LYS:CD | 2.61 | 0.48 |
| 3:C:479:ASN:ND2 | 3:C:479:ASN:C | 2.67 | 0.48 |
| 1:D:65:LEU:HD23 | 1:D:110:LEU:HD13 | 1.95 | 0.48 |
| 1:D:167:LEU:N | 1:D:167:LEU:HD12 | 2.28 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:399:TRP:HA | 1:D:399:TRP:HE3 | 1.79 | 0.48 |
| 4:E:59:TRP:N | 4:E:59:TRP:HE3 | 2.12 | 0.48 |
| 4:E:265:LEU:C | 4:E:268:ILE:HG23 | 2.34 | 0.48 |
| 1:A:1:SER:H2 | 1:A:4:GLU:HB2 | 1.76 | 0.48 |
| 1:A:48:GLN:CB | 1:A:130:ILE:HG23 | 2.43 | 0.48 |
| 1:A:93:TYR:N | 1:A:93:TYR:HD1 | 2.11 | 0.48 |
| 1:A:243:MET:HG3 | 1:A:306:HIS:ND1 | 2.28 | 0.48 |
| 1:A:284:PHE:CD1 | 1:A:284:PHE:N | 2.82 | 0.48 |
| 1:A:413:VAL:HA | 1:A:416:LEU:HB3 | 1.95 | 0.48 |
| 2:B:216:LYS:O | 2:B:216:LYS:CD | 2.50 | 0.48 |
| 2:B:224:THR:O | 2:B:227:PRO:CD | 2.49 | 0.48 |
| 2:B:227:PRO:O | 2:B:228:CYS:C | 2.51 | 0.48 |
| 3:C:205:LYS:HD3 | 3:C:205:LYS:H | 1.79 | 0.48 |
| 1:D:49:ILE:HG21 | 1:D:125:LYS:CE | 2.43 | 0.48 |
| 1:D:420:ILE:HA | 1:D:423:VAL:HB | 1.96 | 0.48 |
| 4:E:6:LEU:CD1 | 4:E:67:ASN:CG | 2.82 | 0.48 |
| 4:E:183:TRP:HA | 4:E:216:ARG:HG2 | 1.95 | 0.48 |
| 1:A:94:ASN:O | 1:A:127:TYR:HD2 | 1.96 | 0.48 |
| 1:A:233:PHE:HE2 | 1:A:413:VAL:HB | 1.78 | 0.48 |
| 2:B:11:LEU:CD2 | 2:B:11:LEU:H | 2.27 | 0.48 |
| 2:B:211:LEU:HB3 | 2:B:213:ILE:CG2 | 2.43 | 0.48 |
| 2:B:235:ALA:O | 2:B:239:PHE:CG | 2.67 | 0.48 |
| 2:B:261:VAL:CG1 | 2:B:262:PHE:HD1 | 2.19 | 0.48 |
| 3:C:135:LEU:HD22 | 3:C:135:LEU:N | 2.29 | 0.48 |
| 3:C:139:PHE:O | 3:C:222:ARG:HG2 | 2.14 | 0.48 |
| 3:C:425:SER:O | 3:C:429:ILE:CG2 | 2.60 | 0.48 |
| 1:D:56:LEU:H | 1:D:120:PRO:HD2 | 1.73 | 0.48 |
| 1:D:187:TRP:CH2 | 1:D:189:TYR:CG | 3.02 | 0.48 |
| 1:D:239:SER:HB2 | 1:D:242:LYS:CE | 2.37 | 0.48 |
| 1:D:256:PHE:O | 1:D:260:ILE:HG13 | 2.14 | 0.48 |
| 4:E:91:LEU:CB | 4:E:95:VAL:HG23 | 2.32 | 0.48 |
| 1:A:2:GLU:O | 1:A:7:LEU:HD11 | 2.14 | 0.47 |
| 1:A:50:VAL:HG12 | 1:A:51:GLU:N | 2.29 | 0.47 |
| 1:A:60:TRP:NE1 | 1:A:116:ILE:HD12 | 2.28 | 0.47 |
| 1:A:133:THR:C | 1:A:136:PRO:CD | 2.82 | 0.47 |
| 1:A:247:ILE:HG13 | 4:E:253:LEU:HD12 | 1.96 | 0.47 |
| 1:A:398:GLU:C | 1:A:400:LYS:H | 2.16 | 0.47 |
| 2:B:4:GLU:OE2 | 2:B:70:ALA:HB3 | 2.14 | 0.47 |
| 2:B:53:SER:HA | 2:B:122:ALA:O | 2.13 | 0.47 |
| 2:B:62:ASP:C | 2:B:64:ARG:N | 2.67 | 0.47 |
| 3:C:69:TRP:HD1 | 3:C:114:PRO:O | 1.97 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------|--------------------------|-------------------|
| 3:C:264:LEU:HA | 3:C:267:GLN:HG3 | 1.96 | 0.47 |
| 3:C:465:MET:O | 3:C:469:THR:HB | 2.14 | 0.47 |
| 1:D:154:THR:O | 1:D:155:LYS:HD3 | 2.14 | 0.47 |
| 1:D:233:PHE:CD1 | 1:D:409:ILE:HD12 | 2.45 | 0.47 |
| 1:D:236:PRO:HD3 | 1:D:299:HIS:CE1 | 2.49 | 0.47 |
| 1:D:395:ALA:O | 1:D:399:TRP:CG | 2.67 | 0.47 |
| 4:E:207:GLU:C | 4:E:208:ILE:HG13 | 2.32 | 0.47 |
| 1:A:129:GLU:HG2 | 1:A:130:ILE:N | 2.29 | 0.47 |
| 1:A:148:ILE:CD1 | 1:A:156:VAL:HG22 | 2.44 | 0.47 |
| 1:A:160:PRO:HG2 | 1:A:185:LYS:HZ3 | 1.76 | 0.47 |
| 2:B:101:GLU:CD | 2:B:123:ILE:CG2 | 2.82 | 0.47 |
| 2:B:112:HIS:CD2 | 2:B:113:THR:HG23 | 2.49 | 0.47 |
| 3:C:141:TRP:CE2 | 3:C:223:ARG:O | 2.67 | 0.47 |
| 3:C:476:GLY:O | 3:C:480:ARG:CG | 2.62 | 0.47 |
| 1:D:37:LEU:O | 1:D:169:THR:HB | 2.14 | 0.47 |
| 1:D:303:PRO:N | 1:D:400:LYS:HD2 | 2.29 | 0.47 |
| 1:D:417:ILE:HA | 1:D:420:ILE:HG12 | 1.96 | 0.47 |
| 4:E:88:ASP:O | 4:E:88:ASP:CG | 2.52 | 0.47 |
| 4:E:436:ASN:CA | 4:E:439:TRP:NE1 | 2.72 | 0.47 |
| 1:A:38:ILE:O | 1:A:39:GLN:HG2 | 2.11 | 0.47 |
| 1:A:46:VAL:CA | 1:A:272:PRO:HD3 | 2.44 | 0.47 |
| 1:A:82:SER:O | 1:A:85:VAL:N | 2.43 | 0.47 |
| 1:A:212:LEU:HA | 1:A:215:VAL:HG21 | 1.94 | 0.47 |
| 1:A:267:THR:O | 1:A:271:VAL:HG22 | 2.15 | 0.47 |
| 1:A:420:ILE:O | 1:A:424:SER:N | 2.41 | 0.47 |
| 2:B:21:PRO:CG | 2:B:60:TRP:HE1 | 2.22 | 0.47 |
| 2:B:82:SER:OG | 2:B:108:VAL:HG21 | 2.15 | 0.47 |
| 2:B:130:ILE:O | 2:B:131:LYS:O | 2.32 | 0.47 |
| 2:B:241:LEU:CD2 | 2:B:248:LYS:HE2 | 2.45 | 0.47 |
| 2:B:251:LEU:CD1 | 3:C:261:ILE:HG21 | 2.40 | 0.47 |
| 3:C:35:LEU:HD22 | 3:C:215:VAL:CG2 | 2.40 | 0.47 |
| 3:C:427:ASN:CA | 3:C:430:VAL:HG23 | 2.38 | 0.47 |
| 1:D:32:THR:O | 1:D:58:GLN:HA | 2.13 | 0.47 |
| 1:D:43:VAL:HG21 | 1:D:50:VAL:HG13 | 1.96 | 0.47 |
| 1:D:101:ALA:O | 1:D:102:ILE:CB | 2.62 | 0.47 |
| 1:D:189:TYR:HA | 1:D:197:PRO:CG | 2.44 | 0.47 |
| 1:D:219:ILE:C | 1:D:219:ILE:HD12 | 2.35 | 0.47 |
| 1:D:257:LEU:C | 1:D:257:LEU:CD1 | 2.82 | 0.47 |
| 1:D:259:VAL:CG1 | 1:D:262:GLU:OE1 | 2.55 | 0.47 |
| 4:E:86:LEU:HD13 | 4:E:103:TYR:CZ | 2.49 | 0.47 |
| 4:E:238:LEU:C | 4:E:242:LEU:HB3 | 2.34 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:422:THR:C | 1:A:425:VAL:HG12 | 2.33 | 0.47 |
| 2:B:421:PHE:HA | 2:B:424:LEU:HD12 | 1.96 | 0.47 |
| 3:C:69:TRP:CB | 3:C:73:GLU:CB | 2.87 | 0.47 |
| 1:D:37:LEU:CD1 | 1:D:54:VAL:HG22 | 2.43 | 0.47 |
| 1:D:130:ILE:HD13 | 1:D:130:ILE:H | 1.77 | 0.47 |
| 1:D:238:ASP:CB | 4:E:308:LEU:HD22 | 2.44 | 0.47 |
| 1:D:376:ILE:HG22 | 1:D:380:LYS:HZ1 | 1.78 | 0.47 |
| 1:A:27:HIS:C | 1:A:28:PHE:CG | 2.87 | 0.47 |
| 1:A:137:PHE:CD2 | 1:A:435:GLN:NE2 | 2.82 | 0.47 |
| 1:A:175:GLU:O | 1:A:209:ARG:HG3 | 2.14 | 0.47 |
| 1:A:397:GLU:HA | 1:A:400:LYS:HG3 | 1.96 | 0.47 |
| 2:B:31:VAL:HG21 | 2:B:86:TRP:CZ3 | 2.50 | 0.47 |
| 2:B:35:LEU:HD23 | 2:B:35:LEU:N | 2.27 | 0.47 |
| 2:B:118:TRP:C | 2:B:119:HIS:HD2 | 2.18 | 0.47 |
| 2:B:234:LEU:HA | 2:B:237:LEU:HB2 | 1.96 | 0.47 |
| 3:C:148:PHE:CD1 | 3:C:148:PHE:N | 2.83 | 0.47 |
| 3:C:204:ASP:OD1 | 3:C:205:LYS:CE | 2.62 | 0.47 |
| 3:C:241:PHE:CD1 | 3:C:242:LEU:N | 2.82 | 0.47 |
| 3:C:427:ASN:O | 3:C:431:LYS:HG3 | 2.15 | 0.47 |
| 3:C:429:ILE:HG13 | 3:C:430:VAL:HG22 | 1.96 | 0.47 |
| 3:C:471:PHE:O | 3:C:474:VAL:N | 2.47 | 0.47 |
| 1:D:19:ILE:HG22 | 1:D:20:ARG:N | 2.29 | 0.47 |
| 1:D:135:PHE:CG | 1:D:210:ILE:CG1 | 2.95 | 0.47 |
| 4:E:35:THR:HG23 | 4:E:175:GLU:CD | 2.30 | 0.47 |
| 4:E:240:TYR:O | 4:E:243:PRO:CG | 2.62 | 0.47 |
| 4:E:270:GLN:O | 4:E:273:PRO:HD2 | 2.15 | 0.47 |
| 1:A:43:VAL:HG12 | 1:A:44:ASP:N | 2.29 | 0.47 |
| 1:A:52:THR:O | 1:A:123:ILE:CG1 | 2.58 | 0.47 |
| 1:A:171:MET:HG2 | 1:A:173:SER:H | 1.79 | 0.47 |
| 1:A:227:PHE:HZ | 2:B:303:ASN:ND2 | 2.12 | 0.47 |
| 1:A:257:LEU:CD1 | 1:A:285:VAL:CG2 | 2.86 | 0.47 |
| 1:A:391:GLU:O | 1:A:394:ASN:OD1 | 2.33 | 0.47 |
| 2:B:6:THR:O | 2:B:9:SER:OG | 2.27 | 0.47 |
| 2:B:55:PHE:HA | 2:B:121:SER:HA | 1.96 | 0.47 |
| 2:B:89:ASP:OD2 | 2:B:150:THR:N | 2.47 | 0.47 |
| 2:B:135:PHE:CA | 2:B:279:ILE:HD13 | 2.44 | 0.47 |
| 2:B:184:GLY:C | 2:B:186:TRP:H | 2.17 | 0.47 |
| 2:B:187:SER:O | 2:B:214:GLN:O | 2.32 | 0.47 |
| 2:B:197:TRP:CB | 2:B:204:TYR:HD1 | 2.27 | 0.47 |
| 2:B:241:LEU:HG | 2:B:248:LYS:HE2 | 1.96 | 0.47 |
| 2:B:284:LEU:O | 2:B:288:MET:HB2 | 2.15 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:415:LEU:C | 2:B:415:LEU:CD1 | 2.82 | 0.47 |
| 3:C:98:ASN:C | 3:C:100:GLY:H | 2.17 | 0.47 |
| 3:C:113:ARG:HB3 | 3:C:114:PRO:CD | 2.40 | 0.47 |
| 3:C:148:PHE:O | 3:C:215:VAL:HG22 | 2.13 | 0.47 |
| 3:C:192:ILE:CD1 | 3:C:221:ILE:HG21 | 2.44 | 0.47 |
| 1:D:17:LYS:HG2 | 1:D:84:ASP:C | 2.34 | 0.47 |
| 1:D:45:GLU:OE2 | 1:D:135:PHE:CD2 | 2.68 | 0.47 |
| 1:D:141:ASN:HB3 | 1:D:206:ILE:CG1 | 2.44 | 0.47 |
| 1:D:159:SER:HB3 | 1:D:160:PRO:HD2 | 1.96 | 0.47 |
| 1:D:244:THR:HG23 | 1:D:245:LEU:H | 1.76 | 0.47 |
| 1:D:407:ASP:OD1 | 1:D:408:HIS:N | 2.47 | 0.47 |
| 4:E:61:ASP:OD1 | 4:E:63:ARG:HB3 | 2.15 | 0.47 |
| 4:E:162:GLU:OE1 | 4:E:191:LYS:HG3 | 2.15 | 0.47 |
| 4:E:209:ILE:HG12 | 4:E:211:PHE:CE1 | 2.43 | 0.47 |
| 1:A:41:ILE:CG2 | 1:A:123:ILE:HD11 | 2.45 | 0.47 |
| 1:A:47:ASN:O | 1:A:48:GLN:HG2 | 2.14 | 0.47 |
| 1:A:212:LEU:O | 1:A:215:VAL:HG23 | 2.15 | 0.47 |
| 1:A:244:THR:HG23 | 1:A:245:LEU:N | 2.29 | 0.47 |
| 1:A:247:ILE:CG1 | 4:E:253:LEU:HD12 | 2.44 | 0.47 |
| 2:B:9:SER:C | 2:B:13:GLU:HG3 | 2.35 | 0.47 |
| 2:B:10:VAL:CG1 | 2:B:11:LEU:N | 2.76 | 0.47 |
| 2:B:72:TYR:CD1 | 2:B:112:HIS:HB2 | 2.45 | 0.47 |
| 2:B:92:LEU:CA | 2:B:96:ASN:HB2 | 2.43 | 0.47 |
| 2:B:144:MET:O | 2:B:209:PHE:CD2 | 2.68 | 0.47 |
| 2:B:226:VAL:HB | 2:B:230:LEU:CG | 2.45 | 0.47 |
| 2:B:241:LEU:CD1 | 3:C:314:PHE:CE1 | 2.98 | 0.47 |
| 2:B:448:SER:HB3 | 2:B:452:PHE:CZ | 2.49 | 0.47 |
| 2:B:466:ASN:C | 2:B:468:PHE:H | 2.18 | 0.47 |
| 3:C:17:TYR:CD1 | 3:C:18:ASN:N | 2.83 | 0.47 |
| 3:C:63:TYR:CZ | 3:C:115:ASN:O | 2.68 | 0.47 |
| 3:C:106:TYR:CE1 | 3:C:107:PHE:HE1 | 2.32 | 0.47 |
| 3:C:106:TYR:C | 3:C:107:PHE:CD1 | 2.85 | 0.47 |
| 3:C:111:LEU:O | 3:C:118:VAL:HG13 | 2.15 | 0.47 |
| 3:C:293:MET:O | 3:C:297:SER:N | 2.41 | 0.47 |
| 3:C:452:THR:CG2 | 3:C:453:ILE:N | 2.77 | 0.47 |
| 1:D:35:LEU:HD11 | 1:D:54:VAL:CG2 | 2.43 | 0.47 |
| 1:D:40:LEU:HD22 | 1:D:52:THR:CB | 2.44 | 0.47 |
| 1:D:41:ILE:HG21 | 4:E:96:ASP:OD2 | 2.14 | 0.47 |
| 1:D:135:PHE:O | 1:D:210:ILE:CG1 | 2.63 | 0.47 |
| 1:D:276:LYS:HA | 1:D:279:LEU:CD1 | 2.45 | 0.47 |
| 1:D:419:ILE:HA | 1:D:422:THR:HG22 | 1.96 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:E:10:LEU:HD13 | 4:E:64:LEU:HD21 | 1.95 | 0.47 |
| 4:E:10:LEU:HD22 | 4:E:64:LEU:HD21 | 1.97 | 0.47 |
| 4:E:17:ARG:H | 4:E:17:ARG:CD | 2.27 | 0.47 |
| 4:E:434:SER:HA | 4:E:437:GLU:HG2 | 1.96 | 0.47 |
| 1:A:44:ASP:O | 1:A:48:GLN:N | 2.47 | 0.47 |
| 1:A:87:LEU:N | 1:A:87:LEU:CD2 | 2.59 | 0.47 |
| 1:A:134:HIS:CD2 | 1:A:207:MET:HE3 | 2.49 | 0.47 |
| 1:A:212:LEU:CA | 1:A:215:VAL:HG23 | 2.40 | 0.47 |
| 2:B:21:PRO:HB2 | 2:B:29:VAL:HG11 | 1.96 | 0.47 |
| 2:B:31:VAL:HG12 | 2:B:158:LEU:HD23 | 1.92 | 0.47 |
| 2:B:137:PHE:HB2 | 2:B:464:PRO:HG2 | 1.97 | 0.47 |
| 2:B:271:PRO:O | 2:B:275:LEU:CD2 | 2.63 | 0.47 |
| 1:D:44:ASP:OD1 | 1:D:46:VAL:HG23 | 2.15 | 0.47 |
| 1:D:135:PHE:CE1 | 1:D:273:LEU:CB | 2.97 | 0.47 |
| 1:D:231:LEU:HD22 | 1:D:235:LEU:HD21 | 1.97 | 0.47 |
| 1:D:293:VAL:O | 1:D:297:ASN:CB | 2.61 | 0.47 |
| 4:E:163:GLU:O | 4:E:164:GLY:C | 2.53 | 0.47 |
| 4:E:232:ILE:O | 4:E:236:VAL:HG22 | 2.14 | 0.47 |
| 4:E:273:PRO:CG | 4:E:274:GLU:H | 2.24 | 0.47 |
| 1:A:28:PHE:CD1 | 1:A:154:THR:HA | 2.50 | 0.47 |
| 1:A:132:VAL:O | 1:A:274:ILE:CA | 2.63 | 0.47 |
| 1:A:221:PRO:CA | 1:A:224:LEU:HD23 | 2.45 | 0.47 |
| 1:A:245:LEU:HD11 | 2:B:250:SER:O | 2.15 | 0.47 |
| 1:A:304:SER:H | 1:A:400:LYS:CD | 2.20 | 0.47 |
| 2:B:68:ASP:O | 2:B:72:TYR:HD2 | 1.98 | 0.47 |
| 3:C:94:LEU:HB2 | 3:C:98:ASN:CB | 2.33 | 0.47 |
| 3:C:114:PRO:HG2 | 3:C:115:ASN:H | 1.80 | 0.47 |
| 1:D:3:HIS:HB3 | 1:D:7:LEU:CD2 | 2.44 | 0.47 |
| 1:D:404:MET:O | 1:D:407:ASP:OD1 | 2.33 | 0.47 |
| 4:E:44:GLU:HG3 | 4:E:129:ILE:HD12 | 1.96 | 0.47 |
| 4:E:155:VAL:CG1 | 4:E:205:PHE:HE1 | 2.28 | 0.47 |
| 4:E:173:ASP:H | 4:E:174:PRO:HD2 | 1.77 | 0.47 |
| 4:E:240:TYR:C | 4:E:450:CYS:SG | 2.93 | 0.47 |
| 4:E:272:VAL:O | 4:E:275:THR:HB | 2.15 | 0.47 |
| 4:E:307:SER:O | 4:E:314:HIS:O | 2.33 | 0.47 |
| 1:A:229:THR:O | 1:A:233:PHE:CE1 | 2.67 | 0.47 |
| 1:A:255:VAL:HA | 1:A:258:LEU:HD12 | 1.96 | 0.47 |
| 1:A:291:VAL:CG1 | 1:A:295:VAL:CG2 | 2.91 | 0.47 |
| 2:B:9:SER:CA | 2:B:12:PHE:CD1 | 2.89 | 0.47 |
| 2:B:112:HIS:CG | 2:B:113:THR:N | 2.83 | 0.47 |
| 2:B:136:PRO:HG2 | 2:B:139:TRP:N | 2.30 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:298:SER:C | 2:B:301:VAL:HG22 | 2.35 | 0.47 |
| 3:C:7:LEU:O | 3:C:10:ASP:N | 2.48 | 0.47 |
| 3:C:241:PHE:C | 3:C:241:PHE:HD1 | 2.17 | 0.47 |
| 3:C:429:ILE:O | 3:C:433:ILE:HG13 | 2.15 | 0.47 |
| 1:D:36:GLN:N | 1:D:54:VAL:HG12 | 2.29 | 0.47 |
| 1:D:92:LEU:HG | 1:D:124:PHE:CE1 | 2.50 | 0.47 |
| 1:D:135:PHE:O | 1:D:210:ILE:CD1 | 2.62 | 0.47 |
| 1:D:221:PRO:O | 1:D:225:PHE:HB3 | 2.15 | 0.47 |
| 1:D:408:HIS:O | 1:D:412:CYS:CB | 2.63 | 0.47 |
| 4:E:55:ILE:HG13 | 4:E:57:ILE:CG1 | 2.41 | 0.47 |
| 4:E:59:TRP:HE1 | 4:E:84:LEU:CD2 | 2.25 | 0.47 |
| 4:E:136:PHE:O | 4:E:138:TRP:CZ2 | 2.68 | 0.47 |
| 4:E:138:TRP:CZ2 | 4:E:215:GLN:CB | 2.93 | 0.47 |
| 1:A:66:ARG:O | 1:A:67:TRP:CE3 | 2.68 | 0.46 |
| 1:A:108:LEU:CD2 | 1:A:118:TRP:CD1 | 2.98 | 0.46 |
| 1:A:108:LEU:HD21 | 1:A:118:TRP:CD1 | 2.49 | 0.46 |
| 1:A:207:MET:O | 1:A:207:MET:CE | 2.63 | 0.46 |
| 1:A:432:GLU:HG3 | 1:A:436:GLU:CD | 2.34 | 0.46 |
| 2:B:247:GLU:O | 2:B:249:MET:HG3 | 2.15 | 0.46 |
| 2:B:406:GLU:CA | 2:B:409:LYS:HD2 | 2.22 | 0.46 |
| 3:C:37:LEU:O | 3:C:178:ILE:CD1 | 2.63 | 0.46 |
| 3:C:54:THR:O | 3:C:126:PHE:CE2 | 2.68 | 0.46 |
| 3:C:54:THR:OG1 | 3:C:126:PHE:CE1 | 2.65 | 0.46 |
| 1:D:187:TRP:HB2 | 1:D:199:LEU:HD21 | 1.93 | 0.46 |
| 1:D:241:GLU:C | 1:D:243:MET:HE2 | 2.35 | 0.46 |
| 1:D:280:PHE:O | 1:D:284:PHE:CG | 2.68 | 0.46 |
| 1:D:299:HIS:O | 1:D:306:HIS:O | 2.33 | 0.46 |
| 1:D:416:LEU:O | 1:D:420:ILE:HG23 | 2.14 | 0.46 |
| 4:E:22:LYS:CG | 4:E:23:THR:N | 2.78 | 0.46 |
| 4:E:162:GLU:HB3 | 4:E:191:LYS:HD3 | 1.96 | 0.46 |
| 4:E:174:PRO:HD3 | 4:E:185:ILE:CG2 | 2.45 | 0.46 |
| 4:E:200:LYS:O | 4:E:200:LYS:CG | 2.63 | 0.46 |
| 4:E:304:LEU:HA | 4:E:307:SER:OG | 2.14 | 0.46 |
| 4:E:309:ARG:CD | 4:E:310:THR:HG23 | 2.45 | 0.46 |
| 1:A:244:THR:O | 1:A:247:ILE:CB | 2.63 | 0.46 |
| 1:A:281:THR:HG23 | 1:A:282:MET:N | 2.30 | 0.46 |
| 3:C:7:LEU:CD1 | 3:C:70:ASN:HD22 | 2.26 | 0.46 |
| 3:C:22:ARG:HA | 3:C:23:PRO:HD2 | 1.83 | 0.46 |
| 3:C:274:THR:CG2 | 3:C:275:SER:N | 2.76 | 0.46 |
| 3:C:437:ASN:O | 3:C:441:GLU:HG3 | 2.16 | 0.46 |
| 1:D:3:HIS:O | 1:D:7:LEU:N | 2.45 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:76:LYS:HE2 | 1:D:76:LYS:HB3 | 1.58 | 0.46 |
| 1:D:137:PHE:CB | 1:D:435:GLN:HG3 | 2.41 | 0.46 |
| 1:D:235:LEU:CD2 | 4:E:308:LEU:CG | 2.93 | 0.46 |
| 4:E:20:PRO:CB | 4:E:61:ASP:CG | 2.78 | 0.46 |
| 4:E:32:LEU:HD12 | 4:E:208:ILE:CD1 | 2.44 | 0.46 |
| 4:E:86:LEU:HD13 | 4:E:103:TYR:OH | 2.16 | 0.46 |
| 4:E:219:LEU:CB | 4:E:222:ILE:HB | 2.45 | 0.46 |
| 4:E:219:LEU:HD23 | 4:E:221:TYR:CE2 | 2.51 | 0.46 |
| 4:E:239:VAL:HA | 4:E:242:LEU:CD2 | 2.45 | 0.46 |
| 4:E:310:THR:CB | 4:E:313:THR:HG22 | 2.45 | 0.46 |
| 4:E:472:ASN:O | 4:E:472:ASN:ND2 | 2.49 | 0.46 |
| 1:A:62:ASP:HB3 | 1:A:65:LEU:HD12 | 1.97 | 0.46 |
| 1:A:92:LEU:CD2 | 1:A:92:LEU:N | 2.79 | 0.46 |
| 1:A:286:ILE:O | 1:A:289:ILE:CB | 2.57 | 0.46 |
| 2:B:133:MET:N | 2:B:279:ILE:HG23 | 2.30 | 0.46 |
| 2:B:143:THR:CG2 | 2:B:145:VAL:HG22 | 2.45 | 0.46 |
| 2:B:147:LYS:HZ2 | 2:B:205:GLU:HA | 1.79 | 0.46 |
| 3:C:4:GLU:HG3 | 3:C:5:GLU:N | 2.31 | 0.46 |
| 3:C:28:ASN:HB2 | 3:C:29:GLU:H | 1.52 | 0.46 |
| 3:C:48:THR:OG1 | 3:C:285:VAL:CA | 2.62 | 0.46 |
| 3:C:137:PHE:CD1 | 3:C:137:PHE:C | 2.89 | 0.46 |
| 3:C:279:PRO:O | 3:C:283:LEU:N | 2.42 | 0.46 |
| 1:D:254:THR:OG1 | 1:D:258:LEU:CD1 | 2.63 | 0.46 |
| 1:D:305:THR:OG1 | 1:D:401:TYR:HB3 | 2.15 | 0.46 |
| 1:D:305:THR:OG1 | 1:D:401:TYR:HD2 | 1.96 | 0.46 |
| 1:A:3:HIS:O | 1:A:7:LEU:N | 2.38 | 0.46 |
| 1:A:51:GLU:HA | 1:A:124:PHE:O | 2.15 | 0.46 |
| 1:A:387:LYS:O | 1:A:390:GLU:HG3 | 2.16 | 0.46 |
| 2:B:7:LEU:CD1 | 2:B:69:PRO:HD2 | 2.45 | 0.46 |
| 2:B:46:LYS:CD | 2:B:275:LEU:O | 2.64 | 0.46 |
| 2:B:146:PHE:O | 2:B:147:LYS:HB2 | 2.15 | 0.46 |
| 3:C:90:PRO:HD2 | 3:C:120:TRP:HE3 | 1.78 | 0.46 |
| 3:C:233:ILE:C | 3:C:235:PRO:HD2 | 2.36 | 0.46 |
| 3:C:436:LYS:O | 3:C:439:TYR:HB2 | 2.15 | 0.46 |
| 1:D:268:SER:OG | 1:D:273:LEU:HD21 | 2.15 | 0.46 |
| 4:E:195:ASN:O | 4:E:204:ASP:OD1 | 2.34 | 0.46 |
| 4:E:262:THR:HG23 | 4:E:265:LEU:HD12 | 1.97 | 0.46 |
| 1:A:426:PHE:HD1 | 1:A:427:ALA:CA | 2.28 | 0.46 |
| 2:B:20:ARG:O | 2:B:22:SER:N | 2.46 | 0.46 |
| 2:B:60:TRP:CG | 2:B:61:THR:N | 2.83 | 0.46 |
| 2:B:86:TRP:HD1 | 2:B:151:TYR:CZ | 2.33 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:130:ILE:CB | 2:B:134:TYR:CE2 | 2.99 | 0.46 |
| 2:B:192:PRO:HD2 | 2:B:210:TYR:HB3 | 1.94 | 0.46 |
| 2:B:439:PHE:O | 2:B:442:ILE:CG2 | 2.63 | 0.46 |
| 2:B:441:TYR:O | 2:B:444:ILE:HG22 | 2.16 | 0.46 |
| 3:C:37:LEU:HD11 | 3:C:148:PHE:CG | 2.51 | 0.46 |
| 3:C:63:TYR:CD1 | 3:C:116:GLY:HA3 | 2.50 | 0.46 |
| 3:C:245:LEU:O | 3:C:249:LEU:N | 2.39 | 0.46 |
| 3:C:279:PRO:HA | 3:C:282:ALA:HB2 | 1.94 | 0.46 |
| 3:C:455:ARG:H | 3:C:455:ARG:CD | 2.23 | 0.46 |
| 1:D:36:GLN:O | 1:D:54:VAL:HA | 2.14 | 0.46 |
| 1:D:78:ILE:HD12 | 1:D:78:ILE:C | 2.35 | 0.46 |
| 1:D:222:CYS:SG | 1:D:225:PHE:CE1 | 3.05 | 0.46 |
| 4:E:261:GLN:HG3 | 4:E:262:THR:N | 2.29 | 0.46 |
| 1:A:27:HIS:O | 1:A:28:PHE:CB | 2.61 | 0.46 |
| 2:B:16:ASN:OD1 | 2:B:18:LYS:CD | 2.63 | 0.46 |
| 2:B:90:ILE:HA | 2:B:147:LYS:C | 2.35 | 0.46 |
| 2:B:134:TYR:CD1 | 2:B:213:ILE:CG1 | 2.89 | 0.46 |
| 2:B:180:PHE:CE1 | 2:B:181:THR:O | 2.68 | 0.46 |
| 2:B:253:ILE:CD1 | 2:B:302:LEU:HD11 | 2.45 | 0.46 |
| 3:C:238:LEU:HA | 3:C:241:PHE:CD2 | 2.51 | 0.46 |
| 3:C:447:ASN:O | 3:C:448:LEU:C | 2.54 | 0.46 |
| 1:D:227:PHE:HE1 | 1:D:231:LEU:HD21 | 1.80 | 0.46 |
| 1:D:302:SER:HB3 | 1:D:400:LYS:CG | 2.45 | 0.46 |
| 4:E:55:ILE:HG23 | 4:E:119:PRO:HD2 | 1.96 | 0.46 |
| 1:A:80:LEU:HD12 | 1:A:80:LEU:C | 2.35 | 0.46 |
| 1:A:128:CYS:SG | 1:A:144:MET:HE2 | 2.56 | 0.46 |
| 1:A:131:ILE:C | 1:A:133:THR:H | 2.18 | 0.46 |
| 1:A:301:ARG:HH22 | 1:A:406:ILE:HD11 | 1.80 | 0.46 |
| 2:B:185:GLN:C | 2:B:216:LYS:HZ2 | 2.18 | 0.46 |
| 2:B:211:LEU:HB3 | 2:B:213:ILE:HG22 | 1.98 | 0.46 |
| 2:B:235:ALA:C | 2:B:239:PHE:CD2 | 2.89 | 0.46 |
| 3:C:37:LEU:CB | 3:C:217:PHE:CE2 | 2.85 | 0.46 |
| 1:D:38:ILE:C | 1:D:169:THR:CG2 | 2.84 | 0.46 |
| 1:D:166:ASP:OD2 | 1:D:205:PHE:CD2 | 2.69 | 0.46 |
| 1:D:291:VAL:O | 1:D:295:VAL:N | 2.40 | 0.46 |
| 4:E:1:ASN:C | 4:E:3:GLU:N | 2.68 | 0.46 |
| 4:E:279:VAL:HB | 4:E:280:PRO:CD | 2.43 | 0.46 |
| 1:A:130:ILE:O | 1:A:134:HIS:CB | 2.64 | 0.46 |
| 1:A:227:PHE:CZ | 2:B:303:ASN:ND2 | 2.84 | 0.46 |
| 1:A:249:VAL:CG1 | 1:A:253:LEU:HD23 | 2.44 | 0.46 |
| 2:B:41:LEU:HD22 | 2:B:41:LEU:HA | 1.66 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:35:LEU:HD12 | 3:C:92:ILE:CG2 | 2.42 | 0.46 |
| 3:C:143:ASN:HA | 3:C:220:ILE:HA | 1.98 | 0.46 |
| 3:C:249:LEU:N | 3:C:249:LEU:CD1 | 2.79 | 0.46 |
| 3:C:271:LEU:HD23 | 3:C:271:LEU:C | 2.36 | 0.46 |
| 1:D:217:ASN:O | 1:D:221:PRO:CD | 2.63 | 0.46 |
| 1:D:374:SER:O | 1:D:377:GLU:HB3 | 2.16 | 0.46 |
| 4:E:103:TYR:HD2 | 4:E:104:TYR:CD1 | 2.32 | 0.46 |
| 4:E:237:VAL:HA | 4:E:240:TYR:HB2 | 1.97 | 0.46 |
| 4:E:453:ILE:HD12 | 4:E:454:ALA:CA | 2.46 | 0.46 |
| 4:E:472:ASN:ND2 | 4:E:476:GLU:HG3 | 2.31 | 0.46 |
| 1:A:79:ARG:NH1 | 1:A:107:LYS:HZ2 | 2.09 | 0.46 |
| 1:A:277:TYR:O | 1:A:280:PHE:CG | 2.69 | 0.46 |
| 2:B:47:ASN:HB2 | 2:B:49:GLU:OE1 | 2.16 | 0.46 |
| 2:B:196:ASN:OD1 | 2:B:196:ASN:C | 2.52 | 0.46 |
| 2:B:196:ASN:C | 2:B:197:TRP:CG | 2.89 | 0.46 |
| 3:C:22:ARG:NE | 3:C:153:TYR:CE2 | 2.84 | 0.46 |
| 3:C:94:LEU:N | 3:C:94:LEU:HD23 | 2.31 | 0.46 |
| 3:C:108:CYS:SG | 3:C:109:ASN:N | 2.89 | 0.46 |
| 3:C:219:LEU:HG | 3:C:221:ILE:HG23 | 1.98 | 0.46 |
| 3:C:279:PRO:HG2 | 3:C:280:GLU:N | 2.30 | 0.46 |
| 1:D:146:LEU:HD22 | 1:D:203:TYR:OH | 2.16 | 0.46 |
| 1:D:285:VAL:C | 1:D:287:SER:N | 2.65 | 0.46 |
| 4:E:22:LYS:HE2 | 4:E:26:HIS:HB3 | 1.97 | 0.46 |
| 4:E:132:THR:C | 4:E:134:PHE:H | 2.10 | 0.46 |
| 4:E:172:ILE:HG22 | 4:E:175:GLU:HB3 | 1.98 | 0.46 |
| 1:A:45:GLU:OE1 | 1:A:209:ARG:HD3 | 2.15 | 0.46 |
| 1:A:382:ILE:HD12 | 4:E:424:LYS:NZ | 2.31 | 0.46 |
| 2:B:101:GLU:CD | 2:B:123:ILE:HG22 | 2.37 | 0.46 |
| 2:B:409:LYS:HD3 | 3:C:426:THR:CB | 2.44 | 0.46 |
| 3:C:82:LEU:O | 3:C:87:ILE:HG13 | 2.16 | 0.46 |
| 3:C:245:LEU:C | 3:C:249:LEU:HD13 | 2.30 | 0.46 |
| 3:C:262:CYS:SG | 1:D:251:LEU:HD11 | 2.56 | 0.46 |
| 3:C:275:SER:O | 3:C:279:PRO:CD | 2.59 | 0.46 |
| 1:D:426:PHE:CE1 | 1:D:430:LEU:CD1 | 2.99 | 0.46 |
| 4:E:56:GLU:HB2 | 4:E:118:LEU:HD11 | 1.98 | 0.46 |
| 1:A:46:VAL:HA | 1:A:272:PRO:HD3 | 1.97 | 0.45 |
| 1:A:89:ASP:CG | 1:A:150:THR:H | 2.20 | 0.45 |
| 1:A:104:HIS:HB2 | 1:A:105:MET:SD | 2.56 | 0.45 |
| 1:A:136:PRO:C | 1:A:277:TYR:OH | 2.55 | 0.45 |
| 1:A:171:MET:HG2 | 1:A:173:SER:N | 2.31 | 0.45 |
| 1:A:234:TYR:CE2 | 1:A:410:LEU:HD11 | 2.51 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:38:THR:O | 2:B:179:ALA:HB1 | 2.15 | 0.45 |
| 2:B:82:SER:C | 2:B:84:ASP:H | 2.17 | 0.45 |
| 2:B:88:PRO:C | 2:B:90:ILE:N | 2.68 | 0.45 |
| 2:B:136:PRO:CG | 2:B:280:ILE:HD11 | 2.46 | 0.45 |
| 2:B:144:MET:CE | 2:B:191:LYS:CE | 2.85 | 0.45 |
| 2:B:220:TYR:CB | 2:B:223:TYR:CE2 | 2.97 | 0.45 |
| 2:B:248:LYS:HB2 | 2:B:248:LYS:HE2 | 1.79 | 0.45 |
| 2:B:256:LEU:HD22 | 2:B:298:SER:CB | 2.43 | 0.45 |
| 2:B:406:GLU:HG2 | 2:B:409:LYS:CD | 2.46 | 0.45 |
| 2:B:462:VAL:CB | 2:B:463:PRO:HD3 | 2.46 | 0.45 |
| 3:C:80:LEU:O | 3:C:112:VAL:HG23 | 2.16 | 0.45 |
| 3:C:84:PRO:HG2 | 3:C:85:GLU:CD | 2.37 | 0.45 |
| 3:C:125:ILE:O | 3:C:125:ILE:HG22 | 2.16 | 0.45 |
| 3:C:181:PRO:CD | 3:C:192:ILE:HG21 | 2.45 | 0.45 |
| 3:C:278:LEU:N | 3:C:279:PRO:HD2 | 2.31 | 0.45 |
| 3:C:290:LYS:O | 3:C:294:PHE:CE2 | 2.69 | 0.45 |
| 3:C:307:GLY:HA2 | 3:C:310:LEU:CD2 | 2.26 | 0.45 |
| 3:C:449:VAL:HG12 | 3:C:452:THR:HB | 1.97 | 0.45 |
| 1:D:29:VAL:HG11 | 1:D:60:TRP:NE1 | 2.27 | 0.45 |
| 1:D:415:MET:O | 1:D:419:ILE:N | 2.49 | 0.45 |
| 4:E:103:TYR:CD2 | 4:E:104:TYR:N | 2.83 | 0.45 |
| 4:E:271:LYS:N | 4:E:273:PRO:HD2 | 2.31 | 0.45 |
| 1:A:104:HIS:C | 1:A:105:MET:SD | 2.95 | 0.45 |
| 1:A:131:ILE:HG13 | 1:A:133:THR:HB | 1.97 | 0.45 |
| 1:A:187:TRP:HE1 | 1:A:196:THR:CG2 | 2.28 | 0.45 |
| 1:A:242:LYS:HA | 1:A:243:MET:HE2 | 1.97 | 0.45 |
| 1:A:247:ILE:HG12 | 4:E:253:LEU:CD1 | 2.47 | 0.45 |
| 1:A:255:VAL:HG23 | 4:E:264:PHE:CD1 | 2.51 | 0.45 |
| 1:A:263:LEU:N | 1:A:263:LEU:HD23 | 2.31 | 0.45 |
| 2:B:226:VAL:HG23 | 2:B:227:PRO:CD | 2.46 | 0.45 |
| 2:B:429:GLN:HA | 2:B:429:GLN:HE21 | 1.81 | 0.45 |
| 2:B:437:ARG:HD2 | 2:B:437:ARG:HA | 1.68 | 0.45 |
| 3:C:82:LEU:O | 3:C:87:ILE:HD11 | 2.16 | 0.45 |
| 3:C:83:ARG:CB | 3:C:84:PRO:HD2 | 2.33 | 0.45 |
| 3:C:205:LYS:HD3 | 3:C:205:LYS:N | 2.31 | 0.45 |
| 3:C:292:LEU:HD23 | 3:C:295:ILE:HD12 | 1.98 | 0.45 |
| 3:C:481:PRO:HA | 3:C:484:LYS:NZ | 2.31 | 0.45 |
| 1:D:48:GLN:HB2 | 1:D:130:ILE:HG23 | 1.98 | 0.45 |
| 4:E:19:LYS:CG | 4:E:20:PRO:HD2 | 2.45 | 0.45 |
| 4:E:173:ASP:H | 4:E:188:ARG:CB | 2.29 | 0.45 |
| 1:A:110:LEU:CD1 | 1:A:114:GLY:HA2 | 2.46 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:135:PHE:O | 1:A:135:PHE:CG | 2.70 | 0.45 |
| 1:A:255:VAL:CG2 | 1:A:258:LEU:HD12 | 2.45 | 0.45 |
| 1:A:407:ASP:O | 1:A:410:LEU:HB3 | 2.16 | 0.45 |
| 2:B:138:ASP:HA | 2:B:467:PRO:HG2 | 1.99 | 0.45 |
| 2:B:311:THR:HG22 | 2:B:312:HIS:N | 2.31 | 0.45 |
| 2:B:430:TYR:O | 2:B:430:TYR:CD1 | 2.66 | 0.45 |
| 2:B:456:LEU:HA | 2:B:459:SER:OG | 2.17 | 0.45 |
| 3:C:123:PRO:HD3 | 1:D:149:TRP:CZ2 | 2.52 | 0.45 |
| 3:C:137:PHE:H | 3:C:138:PRO:CD | 2.29 | 0.45 |
| 3:C:306:CYS:C | 3:C:309:VAL:HB | 2.37 | 0.45 |
| 3:C:449:VAL:CG1 | 3:C:452:THR:HG21 | 2.42 | 0.45 |
| 1:D:57:ARG:HG3 | 1:D:117:MET:SD | 2.56 | 0.45 |
| 4:E:74:ILE:HD13 | 4:E:74:ILE:H | 1.81 | 0.45 |
| 4:E:91:LEU:H | 4:E:95:VAL:HB | 1.81 | 0.45 |
| 4:E:100:GLU:HG3 | 4:E:122:ILE:O | 2.16 | 0.45 |
| 4:E:151:ASN:CA | 4:E:205:PHE:HB2 | 2.46 | 0.45 |
| 4:E:276:SER:CB | 4:E:281:LEU:HD13 | 2.41 | 0.45 |
| 1:A:170:PHE:HE1 | 1:A:176:TRP:CD1 | 2.34 | 0.45 |
| 1:A:219:ILE:O | 1:A:219:ILE:CG2 | 2.64 | 0.45 |
| 1:A:247:ILE:HG22 | 1:A:248:SER:H | 1.81 | 0.45 |
| 1:A:385:HIS:C | 1:A:385:HIS:ND1 | 2.70 | 0.45 |
| 2:B:31:VAL:CG1 | 2:B:158:LEU:HD21 | 2.39 | 0.45 |
| 2:B:45:GLU:OE1 | 2:B:134:TYR:HB3 | 2.17 | 0.45 |
| 2:B:177:GLN:HA | 2:B:180:PHE:CB | 2.46 | 0.45 |
| 2:B:226:VAL:O | 2:B:230:LEU:CB | 2.64 | 0.45 |
| 3:C:257:MET:CE | 3:C:320:HIS:O | 2.64 | 0.45 |
| 1:D:36:GLN:NE2 | 1:D:38:ILE:CG1 | 2.80 | 0.45 |
| 1:D:37:LEU:N | 1:D:164:ARG:HH22 | 2.11 | 0.45 |
| 1:D:94:ASN:O | 1:D:127:TYR:O | 2.34 | 0.45 |
| 1:D:149:TRP:CD2 | 1:D:150:THR:N | 2.84 | 0.45 |
| 1:D:229:THR:C | 1:D:232:VAL:HB | 2.34 | 0.45 |
| 1:D:242:LYS:HB2 | 1:D:245:LEU:HB2 | 1.98 | 0.45 |
| 1:D:257:LEU:HA | 1:D:260:ILE:CB | 2.46 | 0.45 |
| 4:E:225:ILE:O | 4:E:228:PRO:HG2 | 2.17 | 0.45 |
| 4:E:232:ILE:CG2 | 4:E:233:SER:N | 2.79 | 0.45 |
| 1:A:129:GLU:CD | 1:A:140:GLN:HG2 | 2.36 | 0.45 |
| 2:B:46:LYS:HG3 | 2:B:278:PRO:CD | 2.47 | 0.45 |
| 2:B:85:VAL:CG1 | 2:B:86:TRP:N | 2.80 | 0.45 |
| 2:B:134:TYR:C | 2:B:279:ILE:HD13 | 2.36 | 0.45 |
| 2:B:144:MET:HB2 | 2:B:209:PHE:HB2 | 1.98 | 0.45 |
| 2:B:203:SER:O | 2:B:205:GLU:HG2 | 2.16 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:450:GLY:O | 2:B:454:ILE:CG1 | 2.59 | 0.45 |
| 3:C:106:TYR:O | 3:C:107:PHE:CD1 | 2.70 | 0.45 |
| 3:C:137:PHE:CE1 | 3:C:288:ILE:CG2 | 2.99 | 0.45 |
| 1:D:241:GLU:C | 1:D:243:MET:HE1 | 2.36 | 0.45 |
| 1:D:413:VAL:HG12 | 1:D:417:ILE:CG1 | 2.44 | 0.45 |
| 4:E:91:LEU:HD13 | 4:E:145:PHE:CA | 2.47 | 0.45 |
| 4:E:240:TYR:C | 4:E:243:PRO:HD2 | 2.36 | 0.45 |
| 4:E:241:PHE:CG | 4:E:450:CYS:SG | 3.09 | 0.45 |
| 4:E:451:PHE:HA | 4:E:454:ALA:HB3 | 1.98 | 0.45 |
| 1:A:208:GLN:OE1 | 1:A:435:GLN:CG | 2.63 | 0.45 |
| 1:A:226:SER:O | 1:A:230:VAL:CG2 | 2.56 | 0.45 |
| 1:A:298:THR:CA | 1:A:301:ARG:HB3 | 2.36 | 0.45 |
| 1:A:300:HIS:O | 1:A:302:SER:N | 2.46 | 0.45 |
| 2:B:218:LEU:HD13 | 2:B:221:ILE:CD1 | 2.43 | 0.45 |
| 2:B:220:TYR:N | 2:B:220:TYR:CD1 | 2.84 | 0.45 |
| 3:C:33:ILE:HD12 | 3:C:158:ILE:HG12 | 1.99 | 0.45 |
| 3:C:141:TRP:CH2 | 3:C:223:ARG:CB | 2.98 | 0.45 |
| 3:C:306:CYS:CA | 3:C:309:VAL:HB | 2.47 | 0.45 |
| 3:C:434:LYS:HG2 | 3:C:435:GLU:N | 2.29 | 0.45 |
| 3:C:462:THR:O | 3:C:466:VAL:CG2 | 2.61 | 0.45 |
| 3:C:471:PHE:CD1 | 3:C:472:ILE:N | 2.84 | 0.45 |
| 1:D:33:VAL:HB | 1:D:158:ILE:HG21 | 1.99 | 0.45 |
| 1:D:53:ASN:ND2 | 1:D:121:PRO:O | 2.50 | 0.45 |
| 1:D:252:SER:OG | 1:D:253:LEU:N | 2.48 | 0.45 |
| 1:D:257:LEU:C | 1:D:260:ILE:H | 2.19 | 0.45 |
| 1:D:273:LEU:O | 1:D:273:LEU:HD23 | 2.17 | 0.45 |
| 4:E:156:ASN:HD22 | 4:E:156:ASN:HA | 1.50 | 0.45 |
| 4:E:270:GLN:HA | 4:E:273:PRO:HG3 | 1.97 | 0.45 |
| 4:E:453:ILE:O | 4:E:457:LEU:CB | 2.64 | 0.45 |
| 2:B:234:LEU:CA | 2:B:237:LEU:HB2 | 2.46 | 0.45 |
| 2:B:268:ASP:O | 2:B:271:PRO:HD2 | 2.16 | 0.45 |
| 2:B:435:ALA:O | 2:B:439:PHE:CB | 2.59 | 0.45 |
| 3:C:180:ASP:CG | 3:C:219:LEU:HD13 | 2.37 | 0.45 |
| 3:C:204:ASP:CG | 3:C:205:LYS:H | 2.20 | 0.45 |
| 1:D:37:LEU:HB2 | 1:D:54:VAL:HG13 | 1.99 | 0.45 |
| 1:D:89:ASP:HB2 | 1:D:149:TRP:CD1 | 2.51 | 0.45 |
| 1:D:92:LEU:HB2 | 1:D:96:ALA:CA | 2.46 | 0.45 |
| 1:D:298:THR:O | 1:D:301:ARG:HG2 | 2.17 | 0.45 |
| 1:D:414:PHE:HE1 | 1:D:418:CYS:HG | 1.60 | 0.45 |
| 1:A:62:ASP:O | 1:A:64:ARG:N | 2.49 | 0.45 |
| 1:A:130:ILE:HD13 | 1:A:130:ILE:N | 2.29 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:236:PRO:HB3 | 1:A:299:HIS:CE1 | 2.52 | 0.45 |
| 1:A:259:VAL:HG13 | 1:A:262:GLU:OE1 | 2.17 | 0.45 |
| 1:A:431:ILE:O | 1:A:431:ILE:CG2 | 2.63 | 0.45 |
| 2:B:7:LEU:O | 2:B:8:LEU:C | 2.55 | 0.45 |
| 2:B:60:TRP:CD1 | 2:B:61:THR:N | 2.85 | 0.45 |
| 2:B:236:ILE:HA | 2:B:239:PHE:CD2 | 2.52 | 0.45 |
| 3:C:230:ILE:HG12 | 3:C:231:ASN:H | 1.81 | 0.45 |
| 1:D:37:LEU:HD13 | 1:D:54:VAL:CG1 | 2.47 | 0.45 |
| 1:D:80:LEU:HD22 | 1:D:110:LEU:CD2 | 2.44 | 0.45 |
| 1:D:227:PHE:CE1 | 1:D:231:LEU:HG | 2.52 | 0.45 |
| 4:E:28:ILE:HG12 | 4:E:29:ASP:N | 2.32 | 0.45 |
| 4:E:99:PHE:CZ | 4:E:123:TYR:HE2 | 2.34 | 0.45 |
| 1:A:102:ILE:O | 1:A:102:ILE:HG22 | 2.16 | 0.45 |
| 1:A:179:LYS:HB2 | 1:A:206:ILE:HG22 | 1.99 | 0.45 |
| 1:A:285:VAL:HG13 | 1:A:286:ILE:CG1 | 2.47 | 0.45 |
| 1:A:289:ILE:O | 1:A:292:THR:OG1 | 2.34 | 0.45 |
| 1:A:387:LYS:HG2 | 1:A:387:LYS:H | 1.44 | 0.45 |
| 2:B:38:THR:HG23 | 2:B:54:VAL:HA | 1.99 | 0.45 |
| 2:B:62:ASP:OD1 | 2:B:65:LEU:N | 2.49 | 0.45 |
| 2:B:82:SER:HB3 | 2:B:83:ASP:H | 1.51 | 0.45 |
| 2:B:145:VAL:HG13 | 2:B:208:THR:HA | 1.99 | 0.45 |
| 2:B:291:VAL:HG13 | 2:B:292:ALA:N | 2.32 | 0.45 |
| 2:B:409:LYS:NZ | 3:C:423:ILE:HG22 | 2.31 | 0.45 |
| 3:C:59:ASP:OD1 | 3:C:121:LEU:HB2 | 2.16 | 0.45 |
| 3:C:132:ILE:C | 3:C:136:TYR:HB2 | 2.34 | 0.45 |
| 1:D:32:THR:HB | 1:D:59:GLN:O | 2.17 | 0.45 |
| 1:D:146:LEU:N | 1:D:146:LEU:CD1 | 2.80 | 0.45 |
| 4:E:95:VAL:HG22 | 4:E:123:TYR:CD2 | 2.52 | 0.45 |
| 1:A:46:VAL:HG12 | 1:A:47:ASN:N | 2.31 | 0.45 |
| 1:A:201:ILE:HG22 | 1:A:203:TYR:CE1 | 2.52 | 0.45 |
| 2:B:91:VAL:N | 2:B:147:LYS:O | 2.29 | 0.45 |
| 2:B:258:ALA:HB2 | 3:C:265:LEU:CD2 | 2.44 | 0.45 |
| 1:D:47:ASN:C | 1:D:48:GLN:HG2 | 2.32 | 0.45 |
| 1:D:413:VAL:O | 1:D:417:ILE:N | 2.45 | 0.45 |
| 4:E:44:GLU:HG2 | 4:E:129:ILE:HB | 1.86 | 0.45 |
| 4:E:54:TRP:C | 4:E:118:LEU:HD21 | 2.37 | 0.45 |
| 4:E:89:VAL:CG2 | 4:E:99:PHE:CZ | 2.95 | 0.45 |
| 4:E:313:THR:C | 4:E:314:HIS:ND1 | 2.69 | 0.45 |
| 1:A:130:ILE:CG1 | 1:A:131:ILE:N | 2.79 | 0.44 |
| 1:A:256:PHE:CD1 | 1:A:256:PHE:N | 2.85 | 0.44 |
| 1:A:261:VAL:C | 1:A:265:PRO:HD3 | 2.36 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:241:LEU:HD21 | 2:B:251:LEU:CD2 | 2.43 | 0.44 |
| 3:C:77:ILE:HD11 | 3:C:80:LEU:CG | 2.47 | 0.44 |
| 3:C:189:GLU:O | 3:C:223:ARG:CG | 2.35 | 0.44 |
| 3:C:273:LEU:O | 3:C:277:ARG:HD2 | 2.17 | 0.44 |
| 1:D:31:ILE:CG2 | 1:D:158:ILE:HG23 | 2.37 | 0.44 |
| 1:D:46:VAL:HA | 1:D:272:PRO:CG | 2.47 | 0.44 |
| 1:D:170:PHE:CD1 | 1:D:170:PHE:C | 2.89 | 0.44 |
| 1:D:213:TYR:O | 1:D:216:VAL:HG23 | 2.16 | 0.44 |
| 1:D:252:SER:HB2 | 4:E:259:LEU:CD1 | 2.42 | 0.44 |
| 1:D:274:ILE:HG13 | 1:D:277:TYR:CD2 | 2.52 | 0.44 |
| 1:D:419:ILE:HD11 | 1:D:420:ILE:HG23 | 1.94 | 0.44 |
| 4:E:28:ILE:CD1 | 4:E:60:ASN:O | 2.51 | 0.44 |
| 4:E:74:ILE:HG12 | 4:E:76:LEU:O | 2.17 | 0.44 |
| 1:A:137:PHE:CD1 | 1:A:435:GLN:OE1 | 2.70 | 0.44 |
| 1:A:147:GLY:HA2 | 1:A:158:ILE:HD13 | 1.98 | 0.44 |
| 1:A:176:TRP:HD1 | 1:A:207:MET:HG3 | 1.82 | 0.44 |
| 1:A:265:PRO:C | 1:A:268:SER:HB3 | 2.36 | 0.44 |
| 1:A:292:THR:O | 1:A:293:VAL:C | 2.55 | 0.44 |
| 2:B:130:ILE:CG2 | 2:B:134:TYR:CE2 | 3.01 | 0.44 |
| 2:B:221:ILE:HA | 2:B:224:THR:HB | 1.98 | 0.44 |
| 2:B:456:LEU:O | 2:B:460:HIS:N | 2.38 | 0.44 |
| 3:C:14:VAL:HB | 3:C:86:LEU:HD21 | 1.99 | 0.44 |
| 3:C:77:ILE:HD11 | 3:C:80:LEU:HD22 | 1.99 | 0.44 |
| 3:C:271:LEU:HD23 | 3:C:271:LEU:O | 2.16 | 0.44 |
| 1:D:250:LEU:HD23 | 1:D:253:LEU:CD1 | 2.47 | 0.44 |
| 1:D:266:SER:O | 1:D:270:ALA:CB | 2.65 | 0.44 |
| 1:D:277:TYR:HD1 | 1:D:280:PHE:CE2 | 2.35 | 0.44 |
| 1:D:397:GLU:HG3 | 1:D:401:TYR:HE2 | 1.82 | 0.44 |
| 1:D:432:GLU:HA | 1:D:435:GLN:HB3 | 1.99 | 0.44 |
| 4:E:269:ALA:O | 4:E:273:PRO:HD3 | 2.17 | 0.44 |
| 4:E:293:SER:HA | 4:E:296:ILE:HG23 | 1.99 | 0.44 |
| 1:A:9:ALA:O | 1:A:13:GLU:HG3 | 2.16 | 0.44 |
| 1:A:66:ARG:HA | 1:A:113:THR:O | 2.18 | 0.44 |
| 1:A:134:HIS:CD2 | 1:A:207:MET:CE | 3.01 | 0.44 |
| 1:A:416:LEU:CA | 1:A:419:ILE:HG22 | 2.47 | 0.44 |
| 2:B:117:SER:CB | 2:B:119:HIS:NE2 | 2.80 | 0.44 |
| 2:B:130:ILE:HD12 | 2:B:134:TYR:HE2 | 1.78 | 0.44 |
| 2:B:197:TRP:HB3 | 2:B:204:TYR:HD1 | 1.82 | 0.44 |
| 2:B:432:ALA:O | 2:B:436:ASP:OD2 | 2.36 | 0.44 |
| 3:C:35:LEU:CD2 | 3:C:215:VAL:HG21 | 2.44 | 0.44 |
| 3:C:42:LEU:HD13 | 3:C:190:TRP:CZ2 | 2.44 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:77:ILE:HD11 | 3:C:80:LEU:CB | 2.44 | 0.44 |
| 3:C:273:LEU:HD23 | 3:C:276:GLN:HG3 | 1.96 | 0.44 |
| 1:D:225:PHE:CD1 | 1:D:225:PHE:C | 2.90 | 0.44 |
| 1:D:419:ILE:O | 1:D:423:VAL:N | 2.51 | 0.44 |
| 4:E:58:GLN:HA | 4:E:59:TRP:CE3 | 2.53 | 0.44 |
| 1:A:59:GLN:HE22 | 1:A:117:MET:CB | 2.31 | 0.44 |
| 1:A:138:ASP:O | 1:A:139:GLN:CD | 2.55 | 0.44 |
| 1:A:227:PHE:C | 1:A:230:VAL:HB | 2.36 | 0.44 |
| 1:A:413:VAL:HG12 | 1:A:417:ILE:CG1 | 2.47 | 0.44 |
| 2:B:181:THR:CG2 | 2:B:181:THR:O | 2.63 | 0.44 |
| 3:C:42:LEU:O | 3:C:185:THR:HB | 2.16 | 0.44 |
| 1:A:69:PRO:HA | 1:A:73:GLY:HA3 | 2.00 | 0.44 |
| 1:A:72:TYR:C | 1:A:72:TYR:HD1 | 2.18 | 0.44 |
| 1:A:185:LYS:HB3 | 1:A:185:LYS:HE2 | 1.75 | 0.44 |
| 2:B:129:THR:O | 2:B:129:THR:CG2 | 2.57 | 0.44 |
| 2:B:235:ALA:CB | 2:B:239:PHE:CE2 | 2.98 | 0.44 |
| 2:B:245:ALA:HB1 | 3:C:320:HIS:CD2 | 2.52 | 0.44 |
| 2:B:434:VAL:HG12 | 2:B:438:LEU:HD12 | 1.99 | 0.44 |
| 1:D:32:THR:CB | 1:D:59:GLN:O | 2.66 | 0.44 |
| 1:D:72:TYR:CD1 | 1:D:72:TYR:O | 2.71 | 0.44 |
| 1:D:114:GLY:O | 1:D:115:LYS:C | 2.56 | 0.44 |
| 4:E:71:TYR:CD1 | 4:E:111:ASN:CG | 2.91 | 0.44 |
| 1:A:62:ASP:C | 1:A:64:ARG:N | 2.71 | 0.44 |
| 1:A:286:ILE:C | 1:A:289:ILE:HB | 2.37 | 0.44 |
| 2:B:75:ILE:HD12 | 2:B:78:LEU:HB2 | 1.98 | 0.44 |
| 2:B:241:LEU:HD13 | 3:C:314:PHE:CD1 | 2.53 | 0.44 |
| 2:B:289:ILE:HG22 | 2:B:293:PHE:CE2 | 2.53 | 0.44 |
| 3:C:37:LEU:HD11 | 3:C:148:PHE:CD1 | 2.52 | 0.44 |
| 1:D:57:ARG:CD | 1:D:161:GLU:OE1 | 2.66 | 0.44 |
| 1:D:60:TRP:CE2 | 1:D:86:TRP:CH2 | 3.05 | 0.44 |
| 1:D:212:LEU:O | 1:D:216:VAL:HG22 | 2.17 | 0.44 |
| 1:D:302:SER:CB | 1:D:400:LYS:HG2 | 2.48 | 0.44 |
| 1:D:305:THR:HG21 | 1:D:401:TYR:N | 2.33 | 0.44 |
| 1:D:432:GLU:C | 1:D:436:GLU:OE2 | 2.56 | 0.44 |
| 4:E:66:TRP:CB | 4:E:70:GLU:HB3 | 2.47 | 0.44 |
| 4:E:128:PRO:O | 4:E:129:ILE:CG1 | 2.60 | 0.44 |
| 4:E:284:LYS:C | 4:E:287:ILE:HG23 | 2.37 | 0.44 |
| 4:E:311:PRO:CD | 4:E:440:VAL:HG22 | 2.47 | 0.44 |
| 1:A:92:LEU:HB2 | 1:A:95:ASN:HB2 | 1.98 | 0.44 |
| 1:A:146:LEU:HD22 | 1:A:203:TYR:OH | 2.17 | 0.44 |
| 1:A:221:PRO:HB2 | 1:A:224:LEU:HD23 | 1.98 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:279:LEU:HD13 | 1:A:282:MET:HG2 | 2.00 | 0.44 |
| 1:A:415:MET:O | 1:A:419:ILE:N | 2.50 | 0.44 |
| 2:B:90:ILE:HA | 2:B:147:LYS:O | 2.17 | 0.44 |
| 2:B:236:ILE:O | 2:B:240:TYR:CB | 2.62 | 0.44 |
| 2:B:236:ILE:O | 2:B:240:TYR:N | 2.51 | 0.44 |
| 2:B:241:LEU:HD13 | 3:C:314:PHE:CG | 2.52 | 0.44 |
| 2:B:265:LEU:HA | 2:B:268:ASP:OD2 | 2.17 | 0.44 |
| 2:B:311:THR:CG2 | 2:B:312:HIS:N | 2.81 | 0.44 |
| 3:C:7:LEU:HD12 | 3:C:70:ASN:HB2 | 1.98 | 0.44 |
| 3:C:13:ILE:O | 3:C:17:TYR:CB | 2.57 | 0.44 |
| 3:C:66:ARG:CG | 3:C:66:ARG:NH1 | 2.69 | 0.44 |
| 3:C:141:TRP:CB | 3:C:221:ILE:O | 2.66 | 0.44 |
| 3:C:245:LEU:HB3 | 3:C:249:LEU:CD1 | 2.46 | 0.44 |
| 1:D:178:MET:SD | 1:D:207:MET:CG | 3.06 | 0.44 |
| 1:D:221:PRO:O | 1:D:225:PHE:CB | 2.66 | 0.44 |
| 1:D:264:ILE:HB | 1:D:265:PRO:HD2 | 1.99 | 0.44 |
| 4:E:21:ALA:O | 4:E:22:LYS:C | 2.56 | 0.44 |
| 4:E:59:TRP:CZ2 | 4:E:84:LEU:CD2 | 3.01 | 0.44 |
| 4:E:279:VAL:CB | 4:E:280:PRO:CD | 2.96 | 0.44 |
| 4:E:307:SER:C | 4:E:314:HIS:O | 2.56 | 0.44 |
| 4:E:472:ASN:OD1 | 4:E:476:GLU:OE2 | 2.36 | 0.44 |
| 1:A:82:SER:O | 1:A:83:ASP:C | 2.56 | 0.44 |
| 1:A:155:LYS:HA | 1:A:155:LYS:HD3 | 1.66 | 0.44 |
| 1:A:223:LEU:HA | 1:A:226:SER:CB | 2.48 | 0.44 |
| 2:B:100:PHE:HD2 | 2:B:103:THR:HB | 1.78 | 0.44 |
| 2:B:131:LYS:C | 2:B:133:MET:H | 2.20 | 0.44 |
| 2:B:137:PHE:C | 2:B:464:PRO:O | 2.56 | 0.44 |
| 2:B:226:VAL:C | 2:B:230:LEU:HG | 2.37 | 0.44 |
| 2:B:247:GLU:O | 2:B:249:MET:CG | 2.66 | 0.44 |
| 3:C:132:ILE:HG22 | 3:C:133:ASN:O | 2.17 | 0.44 |
| 3:C:162:LEU:CB | 3:C:199:LYS:HB3 | 2.36 | 0.44 |
| 1:D:132:VAL:O | 1:D:274:ILE:HG23 | 2.18 | 0.44 |
| 1:D:225:PHE:HD1 | 1:D:225:PHE:C | 2.21 | 0.44 |
| 1:D:236:PRO:CB | 1:D:299:HIS:HE2 | 2.21 | 0.44 |
| 1:D:413:VAL:HA | 1:D:416:LEU:HB2 | 1.98 | 0.44 |
| 4:E:109:VAL:O | 4:E:110:TYR:O | 2.35 | 0.44 |
| 4:E:123:TYR:N | 4:E:123:TYR:HD1 | 2.15 | 0.44 |
| 4:E:299:ASN:CA | 4:E:302:ILE:HB | 2.47 | 0.44 |
| 1:A:137:PHE:CG | 1:A:435:GLN:CD | 2.91 | 0.44 |
| 2:B:37:LEU:CD2 | 2:B:179:ALA:C | 2.85 | 0.44 |
| 2:B:38:THR:HG1 | 2:B:39:SER:H | 1.63 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:136:PRO:HB3 | 2:B:280:ILE:CD1 | 2.42 | 0.44 |
| 2:B:192:PRO:CB | 2:B:210:TYR:HB2 | 2.48 | 0.44 |
| 2:B:217:PRO:CB | 2:B:219:PHE:CE2 | 3.01 | 0.44 |
| 3:C:22:ARG:HG2 | 3:C:153:TYR:CE2 | 2.52 | 0.44 |
| 3:C:30:VAL:HG11 | 3:C:159:SER:CA | 2.47 | 0.44 |
| 3:C:296:MET:CA | 3:C:296:MET:HE3 | 2.48 | 0.44 |
| 1:D:67:TRP:CE3 | 1:D:67:TRP:HA | 2.52 | 0.44 |
| 1:D:277:TYR:HA | 1:D:280:PHE:CZ | 2.52 | 0.44 |
| 4:E:38:ASN:ND2 | 4:E:40:ILE:HG12 | 2.33 | 0.44 |
| 4:E:58:GLN:HA | 4:E:59:TRP:HE3 | 1.82 | 0.44 |
| 4:E:100:GLU:CG | 4:E:122:ILE:O | 2.66 | 0.44 |
| 4:E:144:VAL:HG23 | 4:E:144:VAL:O | 2.18 | 0.44 |
| 4:E:182:GLU:OE1 | 4:E:182:GLU:HA | 2.18 | 0.44 |
| 4:E:199:THR:O | 4:E:200:LYS:HB3 | 2.18 | 0.44 |
| 4:E:215:GLN:CG | 4:E:216:ARG:N | 2.81 | 0.44 |
| 4:E:283:GLY:O | 4:E:287:ILE:CG2 | 2.59 | 0.44 |
| 4:E:290:MET:O | 4:E:294:LEU:N | 2.49 | 0.44 |
| 4:E:312:ASN:H | 4:E:440:VAL:HG11 | 1.82 | 0.44 |
| 4:E:416:VAL:O | 4:E:420:ASN:N | 2.51 | 0.44 |
| 1:A:45:GLU:HB2 | 1:A:209:ARG:HH12 | 1.78 | 0.43 |
| 1:A:249:VAL:HG13 | 1:A:253:LEU:CD2 | 2.42 | 0.43 |
| 1:A:418:CYS:O | 1:A:422:THR:CB | 2.66 | 0.43 |
| 2:B:46:LYS:CA | 2:B:278:PRO:HD2 | 2.46 | 0.43 |
| 2:B:298:SER:CA | 2:B:301:VAL:HG22 | 2.48 | 0.43 |
| 3:C:9:ASN:O | 3:C:12:LEU:CG | 2.55 | 0.43 |
| 3:C:154:ASN:HA | 3:C:211:ASN:HB2 | 1.99 | 0.43 |
| 3:C:259:THR:CB | 1:D:244:THR:OG1 | 2.66 | 0.43 |
| 1:D:35:LEU:CD2 | 1:D:164:ARG:NH1 | 2.64 | 0.43 |
| 1:D:38:ILE:O | 1:D:39:GLN:CG | 2.66 | 0.43 |
| 1:D:85:VAL:CG2 | 1:D:108:LEU:CD1 | 2.96 | 0.43 |
| 1:D:130:ILE:CD1 | 1:D:131:ILE:N | 2.80 | 0.43 |
| 1:D:222:CYS:HA | 1:D:225:PHE:CE1 | 2.53 | 0.43 |
| 1:D:260:ILE:O | 1:D:264:ILE:HG13 | 2.18 | 0.43 |
| 1:D:283:ILE:O | 1:D:287:SER:N | 2.51 | 0.43 |
| 4:E:6:LEU:HD21 | 4:E:67:ASN:OD1 | 2.18 | 0.43 |
| 4:E:20:PRO:HB3 | 4:E:61:ASP:OD2 | 2.15 | 0.43 |
| 4:E:74:ILE:O | 4:E:74:ILE:CG1 | 2.65 | 0.43 |
| 4:E:74:ILE:C | 4:E:76:LEU:N | 2.72 | 0.43 |
| 1:A:68:ASN:CG | 1:A:69:PRO:HD2 | 2.38 | 0.43 |
| 1:A:92:LEU:HD23 | 1:A:92:LEU:H | 1.83 | 0.43 |
| 2:B:10:VAL:HG13 | 2:B:11:LEU:CD2 | 2.44 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:233:ILE:N | 3:C:233:ILE:CD1 | 2.80 | 0.43 |
| 3:C:266:ALA:HB2 | 1:D:251:LEU:HD13 | 1.99 | 0.43 |
| 1:D:43:VAL:HG12 | 1:D:44:ASP:N | 2.33 | 0.43 |
| 1:D:49:ILE:CG2 | 1:D:125:LYS:HE3 | 2.48 | 0.43 |
| 1:D:67:TRP:CG | 1:D:71:ASP:HB3 | 2.53 | 0.43 |
| 1:D:89:ASP:O | 1:D:149:TRP:CB | 2.55 | 0.43 |
| 1:D:130:ILE:O | 1:D:131:ILE:HG12 | 2.18 | 0.43 |
| 1:D:146:LEU:HD13 | 1:D:203:TYR:CD1 | 2.53 | 0.43 |
| 1:D:419:ILE:CD1 | 1:D:420:ILE:CG2 | 2.92 | 0.43 |
| 4:E:288:PHE:O | 4:E:292:VAL:HG23 | 2.19 | 0.43 |
| 1:A:302:SER:OG | 1:A:400:LYS:O | 2.34 | 0.43 |
| 1:A:303:PRO:CB | 1:A:400:LYS:HD3 | 2.31 | 0.43 |
| 1:A:405:VAL:O | 1:A:409:ILE:HG13 | 2.19 | 0.43 |
| 1:A:422:THR:HA | 1:A:425:VAL:CG1 | 2.48 | 0.43 |
| 2:B:68:ASP:O | 2:B:72:TYR:CB | 2.62 | 0.43 |
| 2:B:87:GLN:CD | 2:B:104:LEU:HD11 | 2.38 | 0.43 |
| 2:B:135:PHE:HB2 | 2:B:279:ILE:CB | 2.47 | 0.43 |
| 2:B:232:SER:HA | 2:B:235:ALA:CB | 2.42 | 0.43 |
| 3:C:7:LEU:HD23 | 3:C:10:ASP:CB | 2.37 | 0.43 |
| 3:C:15:ASN:C | 3:C:15:ASN:HD22 | 2.22 | 0.43 |
| 3:C:74:TYR:O | 3:C:78:SER:HA | 2.18 | 0.43 |
| 3:C:130:CYS:O | 3:C:132:ILE:HD13 | 2.18 | 0.43 |
| 1:D:55:ARG:C | 1:D:56:LEU:HD23 | 2.39 | 0.43 |
| 1:D:92:LEU:HD13 | 1:D:146:LEU:CD2 | 2.47 | 0.43 |
| 1:D:99:ASP:O | 1:D:124:PHE:HB2 | 2.18 | 0.43 |
| 1:D:130:ILE:O | 1:D:131:ILE:CG1 | 2.66 | 0.43 |
| 1:D:219:ILE:HD12 | 1:D:219:ILE:O | 2.17 | 0.43 |
| 4:E:48:ALA:HA | 4:E:126:THR:HA | 2.01 | 0.43 |
| 4:E:105:ALA:HB3 | 4:E:117:TRP:HE1 | 1.83 | 0.43 |
| 4:E:236:VAL:O | 4:E:240:TYR:N | 2.50 | 0.43 |
| 4:E:305:ASN:HA | 4:E:308:LEU:CB | 2.48 | 0.43 |
| 1:A:41:ILE:HG21 | 1:A:123:ILE:HD11 | 2.00 | 0.43 |
| 2:B:197:TRP:HD1 | 2:B:205:GLU:N | 2.17 | 0.43 |
| 2:B:227:PRO:CA | 2:B:231:ILE:HG12 | 2.48 | 0.43 |
| 3:C:64:ASP:HB3 | 3:C:67:LEU:HB3 | 2.01 | 0.43 |
| 3:C:69:TRP:HB3 | 3:C:73:GLU:HB3 | 1.98 | 0.43 |
| 3:C:148:PHE:N | 3:C:148:PHE:HD1 | 2.17 | 0.43 |
| 1:D:33:VAL:HG22 | 1:D:34:GLY:N | 2.32 | 0.43 |
| 1:D:89:ASP:CB | 1:D:149:TRP:CD1 | 3.00 | 0.43 |
| 1:D:290:ILE:HG13 | 1:D:291:VAL:N | 2.33 | 0.43 |
| 4:E:107:VAL:HG12 | 4:E:108:LEU:N | 2.27 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:E:202:ASP:O | 4:E:203:ILE:O | 2.36 | 0.43 |
| 4:E:246:ALA:HA | 4:E:250:LYS:HZ2 | 1.83 | 0.43 |
| 1:A:45:GLU:CD | 1:A:134:HIS:ND1 | 2.71 | 0.43 |
| 1:A:47:ASN:O | 1:A:49:ILE:HG13 | 2.19 | 0.43 |
| 1:A:57:ARG:CZ | 1:A:161:GLU:CD | 2.87 | 0.43 |
| 1:A:110:LEU:HD12 | 1:A:111:ASP:N | 2.34 | 0.43 |
| 1:A:160:PRO:HG3 | 1:A:185:LYS:CE | 2.47 | 0.43 |
| 1:A:251:LEU:CD1 | 4:E:256:SER:O | 2.67 | 0.43 |
| 1:A:279:LEU:HD13 | 1:A:282:MET:CG | 2.49 | 0.43 |
| 1:A:398:GLU:C | 1:A:400:LYS:N | 2.70 | 0.43 |
| 2:B:79:SER:O | 2:B:80:ILE:HG13 | 2.18 | 0.43 |
| 2:B:88:PRO:CB | 2:B:90:ILE:HG13 | 2.43 | 0.43 |
| 2:B:106:VAL:CG1 | 2:B:107:ASN:N | 2.81 | 0.43 |
| 3:C:211:ASN:O | 3:C:212:TYR:C | 2.56 | 0.43 |
| 3:C:219:LEU:CD1 | 3:C:221:ILE:HG22 | 2.48 | 0.43 |
| 3:C:223:ARG:O | 3:C:224:LYS:CG | 2.66 | 0.43 |
| 3:C:224:LYS:NZ | 3:C:291:TYR:HE2 | 2.17 | 0.43 |
| 3:C:455:ARG:O | 3:C:459:PHE:CD1 | 2.62 | 0.43 |
| 1:D:209:ARG:C | 1:D:210:ILE:HG13 | 2.38 | 0.43 |
| 1:D:254:THR:OG1 | 1:D:258:LEU:HD13 | 2.18 | 0.43 |
| 4:E:173:ASP:OD1 | 4:E:173:ASP:O | 2.37 | 0.43 |
| 4:E:261:GLN:NE2 | 4:E:265:LEU:HD21 | 2.34 | 0.43 |
| 1:A:34:GLY:O | 1:A:57:ARG:HG2 | 2.18 | 0.43 |
| 1:A:133:THR:O | 1:A:136:PRO:CG | 2.64 | 0.43 |
| 1:A:201:ILE:HG21 | 1:A:203:TYR:CE1 | 2.44 | 0.43 |
| 1:A:234:TYR:CD1 | 1:A:410:LEU:HD21 | 2.54 | 0.43 |
| 1:A:250:LEU:HD11 | 1:A:296:ILE:CG2 | 2.37 | 0.43 |
| 1:A:297:ASN:O | 1:A:300:HIS:HB2 | 2.19 | 0.43 |
| 1:A:397:GLU:HA | 1:A:400:LYS:CG | 2.49 | 0.43 |
| 2:B:163:ASP:CB | 2:B:193:SER:OG | 2.66 | 0.43 |
| 2:B:424:LEU:O | 2:B:427:ASP:HB3 | 2.18 | 0.43 |
| 2:B:463:PRO:HB2 | 2:B:464:PRO:CD | 2.45 | 0.43 |
| 3:C:85:GLU:OE1 | 3:C:85:GLU:N | 2.30 | 0.43 |
| 3:C:204:ASP:H | 3:C:207:PRO:CG | 2.27 | 0.43 |
| 3:C:230:ILE:CG1 | 3:C:231:ASN:ND2 | 2.67 | 0.43 |
| 1:D:93:TYR:N | 1:D:93:TYR:CD1 | 2.86 | 0.43 |
| 1:D:95:ASN:HD22 | 1:D:127:TYR:C | 2.21 | 0.43 |
| 1:D:220:ILE:N | 1:D:221:PRO:CD | 2.81 | 0.43 |
| 1:D:264:ILE:HA | 1:D:267:THR:CG2 | 2.48 | 0.43 |
| 1:D:384:GLU:OE1 | 1:D:384:GLU:HA | 2.19 | 0.43 |
| 1:D:401:TYR:O | 1:D:401:TYR:HD1 | 2.00 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:E:44:GLU:HB3 | 4:E:280:PRO:CB | 2.44 | 0.43 |
| 4:E:159:LEU:HD12 | 4:E:192:LYS:CA | 2.48 | 0.43 |
| 4:E:250:LYS:HA | 4:E:253:LEU:CB | 2.31 | 0.43 |
| 1:A:37:LEU:H | 1:A:164:ARG:NH2 | 2.14 | 0.43 |
| 1:A:405:VAL:O | 1:A:405:VAL:HG23 | 2.19 | 0.43 |
| 2:B:32:ARG:CG | 2:B:59:ALA:O | 2.66 | 0.43 |
| 2:B:86:TRP:HD1 | 2:B:151:TYR:CE2 | 2.37 | 0.43 |
| 2:B:286:PHE:CE1 | 2:B:287:ILE:HG23 | 2.54 | 0.43 |
| 3:C:29:GLU:O | 3:C:30:VAL:CG2 | 2.66 | 0.43 |
| 3:C:60:HIS:CE1 | 3:C:160:MET:CE | 3.01 | 0.43 |
| 3:C:180:ASP:CA | 3:C:195:LYS:HG2 | 2.49 | 0.43 |
| 3:C:271:LEU:C | 3:C:271:LEU:CD2 | 2.87 | 0.43 |
| 1:D:17:LYS:HE3 | 1:D:84:ASP:HA | 1.99 | 0.43 |
| 4:E:9:LYS:HG3 | 4:E:10:LEU:N | 2.34 | 0.43 |
| 4:E:26:HIS:O | 4:E:27:VAL:HG22 | 2.18 | 0.43 |
| 4:E:193:ASN:O | 4:E:206:GLN:HG2 | 2.19 | 0.43 |
| 4:E:436:ASN:O | 4:E:437:GLU:C | 2.57 | 0.43 |
| 1:A:76:LYS:HE3 | 1:A:112:TYR:OH | 2.19 | 0.43 |
| 1:A:178:MET:HA | 1:A:207:MET:CB | 2.49 | 0.43 |
| 1:A:223:LEU:HA | 1:A:226:SER:HB2 | 2.00 | 0.43 |
| 1:A:287:SER:C | 1:A:289:ILE:N | 2.71 | 0.43 |
| 1:A:374:SER:N | 1:A:377:GLU:CD | 2.72 | 0.43 |
| 2:B:53:SER:CB | 3:C:99:ASP:OD1 | 2.65 | 0.43 |
| 2:B:301:VAL:O | 2:B:305:HIS:N | 2.49 | 0.43 |
| 3:C:8:ILE:HD11 | 3:C:69:TRP:CZ3 | 2.46 | 0.43 |
| 3:C:51:THR:O | 3:C:52:LEU:HD13 | 2.18 | 0.43 |
| 3:C:95:GLN:CD | 3:C:147:LYS:HB3 | 2.38 | 0.43 |
| 3:C:262:CYS:C | 1:D:251:LEU:HD11 | 2.39 | 0.43 |
| 3:C:316:THR:HG21 | 3:C:447:ASN:CA | 2.48 | 0.43 |
| 3:C:465:MET:O | 3:C:465:MET:HG2 | 2.18 | 0.43 |
| 1:D:60:TRP:O | 1:D:116:ILE:CD1 | 2.66 | 0.43 |
| 1:D:134:HIS:CE1 | 1:D:209:ARG:CD | 2.75 | 0.43 |
| 1:D:136:PRO:HG3 | 1:D:274:ILE:HG12 | 2.00 | 0.43 |
| 1:D:229:THR:O | 1:D:232:VAL:CB | 2.51 | 0.43 |
| 1:D:381:TYR:O | 1:D:385:HIS:HB2 | 2.18 | 0.43 |
| 1:D:400:LYS:O | 1:D:402:VAL:HG23 | 2.19 | 0.43 |
| 1:D:435:GLN:C | 1:D:437:GLY:N | 2.71 | 0.43 |
| 4:E:36:LEU:CD2 | 4:E:51:THR:CG2 | 2.85 | 0.43 |
| 4:E:138:TRP:CZ2 | 4:E:215:GLN:CD | 2.92 | 0.43 |
| 4:E:242:LEU:HG | 4:E:243:PRO:HD3 | 2.00 | 0.43 |
| 4:E:255:ILE:HD12 | 4:E:304:LEU:HD22 | 2.00 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:E:287:ILE:O | 4:E:291:PHE:HD2 | 2.01 | 0.43 |
| 1:A:93:TYR:HD2 | 1:A:145:LYS:HD3 | 1.83 | 0.43 |
| 1:A:278:MET:CE | 1:A:282:MET:CE | 2.96 | 0.43 |
| 1:A:301:ARG:HG2 | 1:A:301:ARG:NH1 | 2.32 | 0.43 |
| 2:B:145:VAL:HG11 | 2:B:206:ASP:OD2 | 2.18 | 0.43 |
| 2:B:187:SER:HB2 | 2:B:214:GLN:HG3 | 2.00 | 0.43 |
| 2:B:220:TYR:C | 2:B:222:VAL:N | 2.72 | 0.43 |
| 3:C:12:LEU:HD12 | 3:C:16:LYS:CE | 2.47 | 0.43 |
| 3:C:81:ARG:HH12 | 3:C:111:LEU:HB2 | 1.83 | 0.43 |
| 3:C:241:PHE:C | 3:C:245:LEU:HG | 2.34 | 0.43 |
| 1:D:69:PRO:HA | 1:D:73:GLY:HA3 | 2.00 | 0.43 |
| 1:D:244:THR:O | 1:D:247:ILE:HB | 2.19 | 0.43 |
| 1:D:250:LEU:HD21 | 1:D:292:THR:OG1 | 2.19 | 0.43 |
| 1:D:274:ILE:HB | 1:D:276:LYS:HD3 | 2.01 | 0.43 |
| 1:D:411:LEU:HD23 | 1:D:411:LEU:HA | 1.69 | 0.43 |
| 4:E:91:LEU:HD13 | 4:E:145:PHE:N | 2.34 | 0.43 |
| 4:E:240:TYR:CD2 | 4:E:453:ILE:HG21 | 2.54 | 0.43 |
| 4:E:463:LEU:HD12 | 4:E:463:LEU:C | 2.38 | 0.43 |
| 1:A:135:PHE:CB | 1:A:272:PRO:O | 2.67 | 0.43 |
| 1:A:306:HIS:CD2 | 1:A:306:HIS:C | 2.93 | 0.43 |
| 1:A:379:VAL:HA | 1:A:382:ILE:CG1 | 2.49 | 0.43 |
| 1:A:432:GLU:HG3 | 1:A:436:GLU:HG3 | 2.00 | 0.43 |
| 3:C:8:ILE:N | 3:C:73:GLU:OE2 | 2.52 | 0.43 |
| 3:C:91:ASP:OD2 | 3:C:152:ASN:CB | 2.67 | 0.43 |
| 3:C:191:GLU:HG3 | 3:C:222:ARG:HB3 | 2.00 | 0.43 |
| 3:C:194:HIS:CG | 3:C:195:LYS:N | 2.87 | 0.43 |
| 3:C:211:ASN:ND2 | 3:C:212:TYR:CE2 | 2.87 | 0.43 |
| 3:C:465:MET:O | 3:C:469:THR:CB | 2.67 | 0.43 |
| 3:C:472:ILE:CB | 3:C:475:MET:SD | 2.99 | 0.43 |
| 1:D:7:LEU:O | 1:D:10:ASN:ND2 | 2.52 | 0.43 |
| 1:D:37:LEU:N | 1:D:164:ARG:NH2 | 2.56 | 0.43 |
| 1:D:144:MET:HE1 | 1:D:205:PHE:CZ | 2.53 | 0.43 |
| 1:D:301:ARG:HH21 | 1:D:405:VAL:HB | 1.84 | 0.43 |
| 4:E:122:ILE:H | 4:E:122:ILE:CD1 | 2.16 | 0.43 |
| 4:E:215:GLN:HG3 | 4:E:216:ARG:N | 2.34 | 0.43 |
| 4:E:449:ALA:HA | 4:E:452:TRP:HB2 | 2.00 | 0.43 |
| 1:A:46:VAL:CG2 | 1:A:270:ALA:C | 2.87 | 0.42 |
| 1:A:406:ILE:HG23 | 1:A:409:ILE:CD1 | 2.49 | 0.42 |
| 2:B:33:VAL:HG11 | 2:B:158:LEU:CD1 | 2.46 | 0.42 |
| 2:B:91:VAL:HG22 | 2:B:92:LEU:N | 2.33 | 0.42 |
| 2:B:107:ASN:HD22 | 3:C:152:ASN:CG | 2.22 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:466:ASN:N | 2:B:467:PRO:HD2 | 2.34 | 0.42 |
| 3:C:4:GLU:CG | 3:C:5:GLU:N | 2.82 | 0.42 |
| 3:C:82:LEU:O | 3:C:87:ILE:CD1 | 2.66 | 0.42 |
| 1:D:189:TYR:HA | 1:D:197:PRO:HG2 | 2.01 | 0.42 |
| 1:D:264:ILE:O | 1:D:267:THR:HG23 | 2.19 | 0.42 |
| 1:D:305:THR:OG1 | 1:D:401:TYR:CD2 | 2.67 | 0.42 |
| 4:E:49:LEU:HD12 | 4:E:49:LEU:C | 2.39 | 0.42 |
| 4:E:59:TRP:O | 4:E:60:ASN:ND2 | 2.50 | 0.42 |
| 1:A:56:LEU:CD1 | 1:A:90:LEU:CD1 | 2.96 | 0.42 |
| 1:A:76:LYS:CG | 1:A:112:TYR:CE2 | 3.01 | 0.42 |
| 1:A:106:THR:CG2 | 2:B:150:THR:HG23 | 2.49 | 0.42 |
| 1:A:129:GLU:CD | 1:A:140:GLN:CG | 2.88 | 0.42 |
| 1:A:158:ILE:O | 1:A:158:ILE:CG2 | 2.65 | 0.42 |
| 1:A:243:MET:CB | 1:A:306:HIS:ND1 | 2.82 | 0.42 |
| 2:B:227:PRO:HA | 2:B:231:ILE:HG12 | 2.01 | 0.42 |
| 2:B:256:LEU:O | 2:B:257:LEU:C | 2.56 | 0.42 |
| 2:B:298:SER:HA | 2:B:301:VAL:HG21 | 2.01 | 0.42 |
| 1:D:33:VAL:CG1 | 1:D:158:ILE:HG21 | 2.50 | 0.42 |
| 1:D:135:PHE:O | 1:D:210:ILE:HD11 | 2.18 | 0.42 |
| 1:D:145:LYS:C | 1:D:146:LEU:CD1 | 2.66 | 0.42 |
| 1:D:175:GLU:O | 1:D:209:ARG:HG3 | 2.19 | 0.42 |
| 4:E:136:PHE:HA | 4:E:138:TRP:CH2 | 2.54 | 0.42 |
| 4:E:214:ILE:HD12 | 4:E:215:GLN:N | 2.34 | 0.42 |
| 4:E:456:LEU:C | 4:E:456:LEU:HD13 | 2.40 | 0.42 |
| 1:A:8:VAL:HG23 | 1:A:9:ALA:N | 2.34 | 0.42 |
| 1:A:145:LYS:NZ | 1:A:202:THR:HG21 | 2.31 | 0.42 |
| 1:A:276:LYS:O | 1:A:280:PHE:CE1 | 2.72 | 0.42 |
| 2:B:100:PHE:CB | 2:B:103:THR:HB | 2.47 | 0.42 |
| 2:B:106:VAL:HG12 | 2:B:118:TRP:NE1 | 2.34 | 0.42 |
| 2:B:117:SER:HB2 | 2:B:119:HIS:NE2 | 2.34 | 0.42 |
| 2:B:438:LEU:CD2 | 2:B:441:TYR:CD2 | 3.02 | 0.42 |
| 3:C:29:GLU:O | 3:C:30:VAL:CB | 2.68 | 0.42 |
| 3:C:30:VAL:HG23 | 3:C:156:ASN:HA | 2.02 | 0.42 |
| 1:D:294:VAL:O | 1:D:298:THR:OG1 | 2.31 | 0.42 |
| 1:D:419:ILE:HD12 | 1:D:420:ILE:H | 1.78 | 0.42 |
| 4:E:1:ASN:CG | 4:E:68:THR:HB | 2.39 | 0.42 |
| 4:E:209:ILE:CG1 | 4:E:211:PHE:HE1 | 2.28 | 0.42 |
| 4:E:240:TYR:CG | 4:E:453:ILE:HG12 | 2.53 | 0.42 |
| 4:E:417:GLU:O | 4:E:421:PHE:CD2 | 2.73 | 0.42 |
| 1:A:28:PHE:CE1 | 1:A:154:THR:HA | 2.54 | 0.42 |
| 1:A:45:GLU:HG2 | 1:A:272:PRO:HG2 | 2.02 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:15:TYR:CD1 | 2:B:15:TYR:C | 2.93 | 0.42 |
| 2:B:23:GLN:HG2 | 2:B:23:GLN:O | 2.19 | 0.42 |
| 2:B:61:THR:CG2 | 2:B:63:TYR:HD1 | 2.32 | 0.42 |
| 2:B:138:ASP:O | 2:B:139:TRP:O | 2.38 | 0.42 |
| 3:C:50:GLU:HA | 3:C:132:ILE:CG1 | 2.48 | 0.42 |
| 3:C:185:THR:HG23 | 3:C:187:ASN:H | 1.83 | 0.42 |
| 3:C:471:PHE:O | 3:C:475:MET:N | 2.34 | 0.42 |
| 1:D:31:ILE:HG21 | 1:D:158:ILE:HG12 | 2.00 | 0.42 |
| 1:D:130:ILE:O | 1:D:134:HIS:CB | 2.66 | 0.42 |
| 1:D:130:ILE:CG1 | 1:D:131:ILE:N | 2.82 | 0.42 |
| 1:D:187:TRP:CZ2 | 1:D:196:THR:HA | 2.42 | 0.42 |
| 1:D:240:GLY:O | 1:D:242:LYS:N | 2.53 | 0.42 |
| 1:D:426:PHE:HE1 | 1:D:430:LEU:CD1 | 2.32 | 0.42 |
| 4:E:441:LEU:C | 4:E:441:LEU:CD1 | 2.88 | 0.42 |
| 1:A:67:TRP:CE3 | 1:A:67:TRP:HA | 2.54 | 0.42 |
| 1:A:100:PHE:CB | 1:A:103:VAL:HG21 | 2.50 | 0.42 |
| 1:A:209:ARG:HG2 | 1:A:210:ILE:H | 1.80 | 0.42 |
| 2:B:160:HIS:CD2 | 2:B:209:PHE:HE1 | 2.37 | 0.42 |
| 2:B:234:LEU:O | 2:B:238:VAL:N | 2.49 | 0.42 |
| 3:C:19:LYS:NZ | 3:C:88:TRP:HA | 2.34 | 0.42 |
| 3:C:43:ILE:H | 3:C:43:ILE:CD1 | 2.25 | 0.42 |
| 3:C:148:PHE:C | 3:C:149:THR:HG22 | 2.40 | 0.42 |
| 3:C:252:GLU:O | 3:C:253:SER:HB2 | 2.19 | 0.42 |
| 3:C:482:PRO:HG2 | 3:C:483:ALA:N | 2.34 | 0.42 |
| 1:D:20:ARG:O | 1:D:22:VAL:N | 2.49 | 0.42 |
| 1:D:233:PHE:CB | 1:D:410:LEU:HB3 | 2.49 | 0.42 |
| 4:E:55:ILE:HG23 | 4:E:119:PRO:CD | 2.49 | 0.42 |
| 4:E:162:GLU:HB3 | 4:E:190:ALA:O | 2.18 | 0.42 |
| 4:E:238:LEU:O | 4:E:242:LEU:HD23 | 2.17 | 0.42 |
| 4:E:277:LEU:HG | 4:E:277:LEU:H | 1.61 | 0.42 |
| 4:E:423:ALA:C | 4:E:425:SER:N | 2.72 | 0.42 |
| 1:A:304:SER:CB | 1:A:397:GLU:HG2 | 2.29 | 0.42 |
| 1:A:382:ILE:O | 1:A:386:MET:HE2 | 2.18 | 0.42 |
| 2:B:28:LYS:HG2 | 2:B:155:GLU:HA | 2.01 | 0.42 |
| 2:B:81:PRO:O | 2:B:82:SER:O | 2.37 | 0.42 |
| 2:B:92:LEU:HG | 2:B:96:ASN:HD22 | 1.85 | 0.42 |
| 2:B:100:PHE:CG | 2:B:103:THR:HB | 2.55 | 0.42 |
| 3:C:470:ILE:HD13 | 3:C:470:ILE:HA | 1.89 | 0.42 |
| 1:D:48:GLN:HG3 | 1:D:48:GLN:O | 2.20 | 0.42 |
| 1:D:146:LEU:O | 1:D:201:ILE:N | 2.40 | 0.42 |
| 1:D:254:THR:O | 1:D:258:LEU:CD1 | 2.68 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:303:PRO:CD | 1:D:400:LYS:HD2 | 2.50 | 0.42 |
| 4:E:30:VAL:CG2 | 4:E:85:TRP:CZ3 | 3.03 | 0.42 |
| 4:E:116:TYR:HD1 | 4:E:116:TYR:C | 2.22 | 0.42 |
| 4:E:209:ILE:CG1 | 4:E:211:PHE:CE1 | 3.03 | 0.42 |
| 1:A:39:GLN:C | 1:A:40:LEU:HD23 | 2.39 | 0.42 |
| 1:A:170:PHE:CE1 | 1:A:176:TRP:NE1 | 2.82 | 0.42 |
| 2:B:38:THR:CG2 | 2:B:55:PHE:HE1 | 2.32 | 0.42 |
| 2:B:298:SER:HA | 2:B:301:VAL:HG22 | 2.02 | 0.42 |
| 2:B:409:LYS:HE2 | 3:C:423:ILE:CG2 | 2.50 | 0.42 |
| 2:B:440:LEU:C | 2:B:443:PHE:H | 2.22 | 0.42 |
| 3:C:148:PHE:CB | 3:C:215:VAL:HG23 | 2.37 | 0.42 |
| 1:D:3:HIS:HB3 | 1:D:7:LEU:CG | 2.50 | 0.42 |
| 4:E:116:TYR:C | 4:E:116:TYR:CD1 | 2.92 | 0.42 |
| 4:E:173:ASP:CG | 4:E:185:ILE:CD1 | 2.86 | 0.42 |
| 1:A:2:GLU:C | 1:A:4:GLU:N | 2.73 | 0.42 |
| 1:A:65:LEU:HB3 | 1:A:110:LEU:CD2 | 2.49 | 0.42 |
| 1:A:102:ILE:HB | 1:A:121:PRO:O | 2.20 | 0.42 |
| 1:A:105:MET:SD | 1:A:105:MET:N | 2.93 | 0.42 |
| 1:A:133:THR:HG21 | 1:A:140:GLN:OE1 | 2.18 | 0.42 |
| 1:A:139:GLN:HB2 | 1:A:207:MET:C | 2.36 | 0.42 |
| 1:A:190:TYR:C | 1:A:192:CYS:N | 2.71 | 0.42 |
| 2:B:75:ILE:HG22 | 3:C:27:ASN:CB | 2.50 | 0.42 |
| 2:B:128:CYS:SG | 2:B:144:MET:CG | 3.07 | 0.42 |
| 2:B:152:ASP:HA | 2:B:203:SER:HB2 | 2.01 | 0.42 |
| 2:B:301:VAL:HG23 | 2:B:302:LEU:N | 2.35 | 0.42 |
| 3:C:17:TYR:OH | 3:C:19:LYS:HA | 2.19 | 0.42 |
| 3:C:30:VAL:CG1 | 3:C:159:SER:CB | 2.88 | 0.42 |
| 1:D:40:LEU:HD11 | 1:D:50:VAL:CG1 | 2.50 | 0.42 |
| 1:D:53:ASN:CB | 1:D:123:ILE:HG12 | 2.35 | 0.42 |
| 4:E:91:LEU:HA | 4:E:145:PHE:CB | 2.50 | 0.42 |
| 4:E:123:TYR:HD1 | 4:E:123:TYR:H | 1.68 | 0.42 |
| 4:E:138:TRP:HH2 | 4:E:215:GLN:NE2 | 2.11 | 0.42 |
| 4:E:202:ASP:C | 4:E:203:ILE:HG13 | 2.40 | 0.42 |
| 4:E:265:LEU:CA | 4:E:268:ILE:HG23 | 2.50 | 0.42 |
| 1:A:170:PHE:CE1 | 1:A:176:TRP:CD1 | 3.08 | 0.42 |
| 1:A:245:LEU:HD12 | 1:A:245:LEU:HA | 1.76 | 0.42 |
| 1:A:291:VAL:CG1 | 1:A:295:VAL:HG21 | 2.40 | 0.42 |
| 2:B:16:ASN:HB3 | 2:B:19:VAL:HB | 2.02 | 0.42 |
| 2:B:81:PRO:CD | 3:C:20:HIS:CE1 | 3.00 | 0.42 |
| 2:B:460:HIS:O | 2:B:464:PRO:HD2 | 2.20 | 0.42 |
| 3:C:7:LEU:HD13 | 3:C:73:GLU:CG | 2.50 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:43:ILE:N | 3:C:43:ILE:CD1 | 2.80 | 0.42 |
| 3:C:48:THR:OG1 | 3:C:286:PRO:N | 2.53 | 0.42 |
| 1:D:36:GLN:H | 1:D:54:VAL:HG12 | 1.84 | 0.42 |
| 1:D:92:LEU:CD1 | 1:D:146:LEU:HD21 | 2.50 | 0.42 |
| 1:D:109:LEU:HB2 | 1:D:117:MET:H | 1.85 | 0.42 |
| 1:D:247:ILE:HD13 | 1:D:247:ILE:HA | 1.87 | 0.42 |
| 1:D:275:GLY:C | 1:D:277:TYR:N | 2.73 | 0.42 |
| 1:D:290:ILE:CG1 | 1:D:291:VAL:N | 2.83 | 0.42 |
| 4:E:30:VAL:HG22 | 4:E:59:TRP:HB3 | 2.01 | 0.42 |
| 4:E:61:ASP:OD1 | 4:E:63:ARG:HB2 | 2.19 | 0.42 |
| 4:E:270:GLN:O | 4:E:273:PRO:HG2 | 2.19 | 0.42 |
| 1:A:35:LEU:HD21 | 1:A:37:LEU:CG | 2.49 | 0.42 |
| 1:A:278:MET:HE1 | 1:A:282:MET:CE | 2.50 | 0.42 |
| 1:A:406:ILE:HA | 1:A:409:ILE:CG1 | 2.50 | 0.42 |
| 2:B:89:ASP:OD2 | 2:B:149:TYR:N | 2.50 | 0.42 |
| 2:B:459:SER:O | 2:B:463:PRO:CB | 2.68 | 0.42 |
| 3:C:3:GLU:CD | 3:C:7:LEU:HB2 | 2.40 | 0.42 |
| 3:C:60:HIS:NE2 | 3:C:92:ILE:CG2 | 2.78 | 0.42 |
| 3:C:83:ARG:NH1 | 3:C:109:ASN:HB2 | 2.35 | 0.42 |
| 3:C:98:ASN:C | 3:C:100:GLY:N | 2.73 | 0.42 |
| 3:C:191:GLU:HG2 | 3:C:222:ARG:C | 2.40 | 0.42 |
| 3:C:249:LEU:HB3 | 3:C:256:LYS:NZ | 2.35 | 0.42 |
| 3:C:279:PRO:O | 3:C:282:ALA:CB | 2.62 | 0.42 |
| 1:D:35:LEU:HD12 | 1:D:54:VAL:CB | 2.50 | 0.42 |
| 1:D:40:LEU:CD1 | 1:D:50:VAL:HG13 | 2.50 | 0.42 |
| 1:D:75:ILE:HG13 | 1:D:78:ILE:HG23 | 2.02 | 0.42 |
| 1:D:227:PHE:O | 1:D:227:PHE:CD1 | 2.73 | 0.42 |
| 4:E:212:LEU:N | 4:E:212:LEU:CD1 | 2.82 | 0.42 |
| 4:E:452:TRP:O | 4:E:456:LEU:HB3 | 2.19 | 0.42 |
| 1:A:36:GLN:OE1 | 1:A:36:GLN:O | 2.38 | 0.41 |
| 1:A:85:VAL:CG1 | 1:A:86:TRP:N | 2.83 | 0.41 |
| 1:A:133:THR:C | 1:A:136:PRO:CG | 2.88 | 0.41 |
| 1:A:152:ASP:H | 4:E:78:ARG:NH2 | 2.17 | 0.41 |
| 1:A:157:SER:HB2 | 1:A:199:LEU:HD12 | 2.00 | 0.41 |
| 1:A:422:THR:HA | 1:A:425:VAL:HG12 | 2.02 | 0.41 |
| 2:B:44:ASN:O | 2:B:130:ILE:HD11 | 2.19 | 0.41 |
| 2:B:118:TRP:CA | 2:B:119:HIS:HD2 | 2.33 | 0.41 |
| 2:B:152:ASP:CG | 2:B:203:SER:HB3 | 2.39 | 0.41 |
| 3:C:1:VAL:HA | 3:C:4:GLU:HG2 | 2.02 | 0.41 |
| 3:C:21:VAL:O | 3:C:23:PRO:HD3 | 2.19 | 0.41 |
| 3:C:30:VAL:CG1 | 3:C:159:SER:HB3 | 2.50 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:30:VAL:HG21 | 3:C:158:ILE:O | 2.20 | 0.41 |
| 3:C:39:LEU:N | 3:C:39:LEU:CD1 | 2.82 | 0.41 |
| 3:C:91:ASP:OD2 | 3:C:153:TYR:CD1 | 2.73 | 0.41 |
| 3:C:104:VAL:HA | 3:C:106:TYR:CD1 | 2.53 | 0.41 |
| 3:C:105:ALA:HB2 | 3:C:123:PRO:O | 2.19 | 0.41 |
| 3:C:132:ILE:HG13 | 3:C:136:TYR:CE2 | 2.55 | 0.41 |
| 3:C:479:ASN:C | 3:C:482:PRO:HD2 | 2.39 | 0.41 |
| 3:C:480:ARG:N | 3:C:481:PRO:CD | 2.83 | 0.41 |
| 1:D:169:THR:O | 1:D:169:THR:CG2 | 2.56 | 0.41 |
| 4:E:108:LEU:CB | 4:E:116:TYR:O | 2.67 | 0.41 |
| 4:E:157:LEU:HD13 | 4:E:208:ILE:HD11 | 2.01 | 0.41 |
| 4:E:284:LYS:HE3 | 4:E:284:LYS:H | 1.64 | 0.41 |
| 1:A:45:GLU:OE2 | 1:A:135:PHE:N | 2.53 | 0.41 |
| 1:A:56:LEU:CD2 | 1:A:56:LEU:C | 2.88 | 0.41 |
| 1:A:164:ARG:NH1 | 1:A:181:TYR:OH | 2.53 | 0.41 |
| 1:A:179:LYS:CE | 1:A:208:GLN:OE1 | 2.67 | 0.41 |
| 1:A:415:MET:HA | 1:A:415:MET:CE | 2.49 | 0.41 |
| 2:B:58:LEU:HD21 | 2:B:118:TRP:CE3 | 2.55 | 0.41 |
| 2:B:89:ASP:OD1 | 2:B:89:ASP:N | 2.52 | 0.41 |
| 2:B:106:VAL:HG12 | 2:B:107:ASN:O | 2.21 | 0.41 |
| 2:B:131:LYS:HE2 | 2:B:132:VAL:HG23 | 2.02 | 0.41 |
| 2:B:152:ASP:O | 2:B:154:SER:N | 2.53 | 0.41 |
| 2:B:192:PRO:CG | 2:B:210:TYR:HB2 | 2.49 | 0.41 |
| 2:B:238:VAL:CA | 2:B:248:LYS:HZ1 | 2.33 | 0.41 |
| 2:B:246:GLY:O | 2:B:248:LYS:N | 2.53 | 0.41 |
| 2:B:277:VAL:N | 2:B:278:PRO:CD | 2.84 | 0.41 |
| 2:B:434:VAL:HG13 | 2:B:438:LEU:HD12 | 2.00 | 0.41 |
| 3:C:58:MET:CE | 3:C:105:ALA:O | 2.64 | 0.41 |
| 3:C:462:THR:N | 3:C:463:PRO:HD2 | 2.34 | 0.41 |
| 1:D:129:GLU:OE1 | 1:D:129:GLU:HA | 2.20 | 0.41 |
| 1:D:139:GLN:NE2 | 1:D:179:LYS:HG3 | 2.35 | 0.41 |
| 1:D:210:ILE:C | 1:D:211:PRO:O | 2.58 | 0.41 |
| 4:E:39:LEU:CD2 | 4:E:183:TRP:CZ2 | 2.94 | 0.41 |
| 4:E:184:THR:HG23 | 4:E:215:GLN:CB | 2.51 | 0.41 |
| 1:A:46:VAL:HG21 | 1:A:270:ALA:C | 2.41 | 0.41 |
| 1:A:85:VAL:HG12 | 1:A:86:TRP:N | 2.34 | 0.41 |
| 1:A:93:TYR:CD2 | 1:A:145:LYS:HD3 | 2.55 | 0.41 |
| 1:A:94:ASN:O | 1:A:127:TYR:CD2 | 2.72 | 0.41 |
| 1:A:100:PHE:HD1 | 1:A:100:PHE:HA | 1.70 | 0.41 |
| 1:A:131:ILE:HG13 | 1:A:133:THR:H | 1.85 | 0.41 |
| 1:A:386:MET:HG3 | 4:E:427:LYS:HD3 | 2.03 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:10:VAL:HA | 2:B:13:GLU:HB2 | 2.01 | 0.41 |
| 2:B:19:VAL:HG13 | 2:B:20:ARG:N | 2.35 | 0.41 |
| 3:C:33:ILE:HG21 | 3:C:160:MET:SD | 2.61 | 0.41 |
| 3:C:92:ILE:H | 3:C:92:ILE:HG12 | 1.58 | 0.41 |
| 1:D:214:PHE:HE1 | 1:D:267:THR:HG21 | 1.81 | 0.41 |
| 1:D:287:SER:HA | 1:D:290:ILE:HD11 | 1.93 | 0.41 |
| 4:E:26:HIS:O | 4:E:26:HIS:ND1 | 2.53 | 0.41 |
| 4:E:27:VAL:CG1 | 4:E:154:GLU:CA | 2.80 | 0.41 |
| 4:E:453:ILE:CG1 | 4:E:454:ALA:N | 2.83 | 0.41 |
| 1:A:95:ASN:O | 1:A:96:ALA:CB | 2.66 | 0.41 |
| 1:A:107:LYS:HZ3 | 2:B:151:TYR:HA | 1.82 | 0.41 |
| 1:A:242:LYS:NZ | 2:B:312:HIS:ND1 | 2.68 | 0.41 |
| 1:A:432:GLU:HG3 | 1:A:436:GLU:CG | 2.50 | 0.41 |
| 1:A:432:GLU:O | 1:A:436:GLU:CG | 2.63 | 0.41 |
| 2:B:67:TRP:C | 2:B:72:TYR:CB | 2.89 | 0.41 |
| 2:B:107:ASN:HB2 | 3:C:152:ASN:CG | 2.38 | 0.41 |
| 2:B:163:ASP:HB3 | 2:B:193:SER:HG | 1.86 | 0.41 |
| 3:C:11:LEU:O | 3:C:12:LEU:C | 2.59 | 0.41 |
| 3:C:69:TRP:HB2 | 3:C:74:TYR:CA | 2.50 | 0.41 |
| 3:C:316:THR:HG23 | 3:C:317:PRO:HD3 | 1.99 | 0.41 |
| 1:D:40:LEU:HD11 | 1:D:50:VAL:HG13 | 2.03 | 0.41 |
| 1:D:436:GLU:O | 1:D:437:GLY:OXT | 2.38 | 0.41 |
| 4:E:51:THR:O | 4:E:121:ALA:O | 2.38 | 0.41 |
| 4:E:138:TRP:CZ2 | 4:E:215:GLN:NE2 | 2.88 | 0.41 |
| 4:E:158:GLN:O | 4:E:159:LEU:HD23 | 2.19 | 0.41 |
| 4:E:212:LEU:O | 4:E:214:ILE:HG23 | 2.19 | 0.41 |
| 4:E:262:THR:HG22 | 4:E:262:THR:O | 2.20 | 0.41 |
| 1:A:117:MET:SD | 1:A:119:THR:HG21 | 2.61 | 0.41 |
| 1:A:279:LEU:CA | 1:A:282:MET:HB2 | 2.37 | 0.41 |
| 2:B:75:ILE:CD1 | 2:B:78:LEU:CD1 | 2.87 | 0.41 |
| 2:B:159:GLN:O | 2:B:159:GLN:HG3 | 2.19 | 0.41 |
| 2:B:197:TRP:HB3 | 2:B:204:TYR:CD1 | 2.56 | 0.41 |
| 2:B:249:MET:HE1 | 2:B:250:SER:HB3 | 2.00 | 0.41 |
| 2:B:276:SER:C | 2:B:277:VAL:HG13 | 2.41 | 0.41 |
| 2:B:449:ILE:HA | 2:B:452:PHE:HD2 | 1.82 | 0.41 |
| 2:B:466:ASN:N | 2:B:467:PRO:CD | 2.83 | 0.41 |
| 3:C:245:LEU:CD1 | 1:D:297:ASN:HD21 | 2.34 | 0.41 |
| 1:D:134:HIS:ND1 | 1:D:134:HIS:C | 2.73 | 0.41 |
| 1:D:292:THR:OG1 | 1:D:296:ILE:CD1 | 2.68 | 0.41 |
| 4:E:129:ILE:CG1 | 4:E:129:ILE:O | 2.69 | 0.41 |
| 4:E:135:PRO:HB2 | 4:E:136:PHE:H | 1.69 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:E:240:TYR:CD2 | 4:E:453:ILE:CB | 3.04 | 0.41 |
| 4:E:242:LEU:HG | 4:E:243:PRO:CD | 2.51 | 0.41 |
| 4:E:313:THR:HB | 4:E:441:LEU:HB3 | 2.02 | 0.41 |
| 4:E:436:ASN:O | 4:E:439:TRP:CD1 | 2.73 | 0.41 |
| 1:A:68:ASN:ND2 | 1:A:69:PRO:HD2 | 2.35 | 0.41 |
| 1:A:89:ASP:OD1 | 1:A:149:TRP:N | 2.46 | 0.41 |
| 1:A:187:TRP:HD1 | 1:A:199:LEU:CD2 | 2.33 | 0.41 |
| 1:A:233:PHE:CE2 | 1:A:413:VAL:HB | 2.56 | 0.41 |
| 1:A:235:LEU:O | 1:A:239:SER:O | 2.39 | 0.41 |
| 2:B:53:SER:O | 2:B:54:VAL:HG13 | 2.19 | 0.41 |
| 2:B:138:ASP:CA | 2:B:464:PRO:O | 2.69 | 0.41 |
| 2:B:220:TYR:N | 2:B:220:TYR:HD1 | 2.17 | 0.41 |
| 2:B:417:SER:HB2 | 2:B:421:PHE:CZ | 2.56 | 0.41 |
| 3:C:62:TRP:CH2 | 3:C:120:TRP:HB3 | 2.52 | 0.41 |
| 3:C:154:ASN:HA | 3:C:212:TYR:H | 1.85 | 0.41 |
| 1:D:166:ASP:CG | 1:D:205:PHE:CD2 | 2.94 | 0.41 |
| 1:D:254:THR:CG2 | 1:D:255:VAL:N | 2.84 | 0.41 |
| 1:D:416:LEU:O | 1:D:419:ILE:HG13 | 2.19 | 0.41 |
| 4:E:142:SER:OG | 4:E:209:ILE:CD1 | 2.57 | 0.41 |
| 4:E:214:ILE:C | 4:E:214:ILE:CD1 | 2.82 | 0.41 |
| 1:A:6:ARG:NH1 | 1:A:6:ARG:CB | 2.76 | 0.41 |
| 2:B:89:ASP:O | 2:B:149:TYR:N | 2.54 | 0.41 |
| 2:B:130:ILE:CD1 | 2:B:134:TYR:HE2 | 2.33 | 0.41 |
| 2:B:186:TRP:HB3 | 2:B:215:ARG:HB2 | 2.03 | 0.41 |
| 3:C:24:VAL:HG13 | 3:C:31:VAL:N | 2.35 | 0.41 |
| 3:C:30:VAL:CG1 | 3:C:159:SER:N | 2.79 | 0.41 |
| 3:C:279:PRO:HG2 | 3:C:280:GLU:H | 1.85 | 0.41 |
| 3:C:299:VAL:O | 3:C:303:VAL:CG2 | 2.52 | 0.41 |
| 4:E:1:ASN:O | 4:E:1:ASN:CG | 2.58 | 0.41 |
| 4:E:94:ASN:CA | 4:E:126:THR:H | 2.34 | 0.41 |
| 4:E:145:PHE:O | 4:E:208:ILE:CG1 | 2.69 | 0.41 |
| 4:E:276:SER:O | 4:E:280:PRO:O | 2.39 | 0.41 |
| 1:A:51:GLU:HG3 | 1:A:125:LYS:HD2 | 2.02 | 0.41 |
| 1:A:148:ILE:HD11 | 1:A:156:VAL:HG22 | 2.02 | 0.41 |
| 2:B:108:VAL:CG1 | 2:B:109:LEU:N | 2.84 | 0.41 |
| 2:B:192:PRO:CD | 2:B:210:TYR:O | 2.68 | 0.41 |
| 2:B:212:ILE:O | 2:B:212:ILE:CG2 | 2.67 | 0.41 |
| 2:B:438:LEU:HD23 | 2:B:441:TYR:CG | 2.56 | 0.41 |
| 2:B:440:LEU:HA | 2:B:443:PHE:HB2 | 2.03 | 0.41 |
| 3:C:69:TRP:HB2 | 3:C:74:TYR:HB2 | 2.03 | 0.41 |
| 3:C:214:ASP:OD1 | 3:C:214:ASP:N | 2.54 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:15:TYR:OH | 1:D:84:ASP:HB3 | 2.20 | 0.41 |
| 1:D:228:LEU:O | 1:D:232:VAL:N | 2.47 | 0.41 |
| 4:E:210:PHE:O | 4:E:212:LEU:CD1 | 2.68 | 0.41 |
| 1:A:146:LEU:O | 1:A:201:ILE:N | 2.38 | 0.41 |
| 1:A:245:LEU:O | 1:A:248:SER:OG | 2.24 | 0.41 |
| 1:A:267:THR:O | 1:A:271:VAL:N | 2.50 | 0.41 |
| 2:B:231:ILE:CG2 | 2:B:259:LEU:HD21 | 2.51 | 0.41 |
| 2:B:270:VAL:N | 2:B:271:PRO:HD2 | 2.36 | 0.41 |
| 3:C:2:ASN:O | 3:C:72:SER:CB | 2.67 | 0.41 |
| 3:C:30:VAL:CG2 | 3:C:157:GLU:N | 2.83 | 0.41 |
| 3:C:77:ILE:O | 3:C:79:ILE:N | 2.54 | 0.41 |
| 3:C:106:TYR:C | 3:C:106:TYR:CD1 | 2.94 | 0.41 |
| 3:C:155:ALA:N | 3:C:211:ASN:CA | 2.79 | 0.41 |
| 3:C:256:LYS:O | 3:C:260:ALA:HB2 | 2.21 | 0.41 |
| 3:C:446:TRP:HA | 3:C:446:TRP:CE3 | 2.56 | 0.41 |
| 1:D:67:TRP:HA | 1:D:67:TRP:HE3 | 1.84 | 0.41 |
| 1:D:167:LEU:HA | 1:D:170:PHE:CB | 2.49 | 0.41 |
| 1:D:407:ASP:HA | 1:D:410:LEU:CD2 | 2.51 | 0.41 |
| 4:E:47:GLU:HB3 | 4:E:127:CYS:O | 2.21 | 0.41 |
| 4:E:72:GLU:O | 4:E:73:GLY:C | 2.57 | 0.41 |
| 4:E:78:ARG:HH11 | 4:E:108:LEU:HD13 | 1.85 | 0.41 |
| 4:E:84:LEU:HD21 | 4:E:115:MET:CE | 2.51 | 0.41 |
| 4:E:86:LEU:CD1 | 4:E:103:TYR:CE1 | 3.01 | 0.41 |
| 4:E:90:VAL:CG1 | 4:E:91:LEU:N | 2.81 | 0.41 |
| 4:E:287:ILE:HG13 | 4:E:291:PHE:CD2 | 2.56 | 0.41 |
| 4:E:435:GLU:OE1 | 4:E:439:TRP:CH2 | 2.73 | 0.41 |
| 4:E:475:PRO:C | 4:E:477:PHE:N | 2.68 | 0.41 |
| 2:B:57:ASN:HA | 2:B:118:TRP:O | 2.21 | 0.41 |
| 2:B:144:MET:HE2 | 2:B:211:LEU:HD21 | 1.97 | 0.41 |
| 2:B:158:LEU:HD23 | 2:B:158:LEU:HA | 1.52 | 0.41 |
| 2:B:241:LEU:HB3 | 2:B:248:LYS:CE | 2.51 | 0.41 |
| 2:B:439:PHE:CD1 | 2:B:439:PHE:C | 2.93 | 0.41 |
| 2:B:459:SER:O | 2:B:463:PRO:CG | 2.68 | 0.41 |
| 3:C:48:THR:HA | 3:C:286:PRO:CG | 2.51 | 0.41 |
| 3:C:84:PRO:HG2 | 3:C:85:GLU:N | 2.36 | 0.41 |
| 3:C:263:VAL:O | 3:C:267:GLN:HG3 | 2.17 | 0.41 |
| 3:C:273:LEU:CD2 | 3:C:276:GLN:HB2 | 2.44 | 0.41 |
| 3:C:426:THR:HA | 3:C:429:ILE:HG21 | 2.01 | 0.41 |
| 1:D:93:TYR:HH | 1:D:198:TYR:HD2 | 1.65 | 0.41 |
| 1:D:242:LYS:HZ2 | 4:E:304:LEU:HD11 | 1.84 | 0.41 |
| 1:D:248:SER:O | 4:E:259:LEU:HD11 | 2.21 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:D:264:ILE:CG2 | 1:D:265:PRO:HD3 | 2.50 | 0.41 |
| 1:D:379:VAL:HG22 | 1:D:382:ILE:HD11 | 1.98 | 0.41 |
| 4:E:175:GLU:CG | 4:E:176:ASP:N | 2.84 | 0.41 |
| 4:E:262:THR:CA | 4:E:265:LEU:HD12 | 2.50 | 0.41 |
| 4:E:289:VAL:O | 4:E:293:SER:N | 2.49 | 0.41 |
| 1:A:146:LEU:N | 1:A:201:ILE:O | 2.48 | 0.40 |
| 1:A:233:PHE:CB | 1:A:410:LEU:HD22 | 2.50 | 0.40 |
| 1:A:376:ILE:HG23 | 1:A:380:LYS:HZ3 | 1.86 | 0.40 |
| 2:B:86:TRP:CD1 | 2:B:151:TYR:CE2 | 3.09 | 0.40 |
| 3:C:192:ILE:CD1 | 3:C:221:ILE:HG22 | 2.51 | 0.40 |
| 3:C:216:THR:O | 3:C:217:PHE:CD1 | 2.59 | 0.40 |
| 3:C:269:VAL:HG13 | 3:C:270:PHE:CE1 | 2.56 | 0.40 |
| 3:C:289:GLY:CA | 3:C:293:MET:CE | 2.99 | 0.40 |
| 3:C:309:VAL:O | 3:C:313:HIS:N | 2.47 | 0.40 |
| 1:D:36:GLN:HE21 | 1:D:38:ILE:CG1 | 2.32 | 0.40 |
| 1:D:37:LEU:HA | 1:D:54:VAL:HG13 | 2.02 | 0.40 |
| 1:D:131:ILE:CD1 | 1:D:133:THR:CB | 2.95 | 0.40 |
| 4:E:1:ASN:O | 4:E:3:GLU:N | 2.54 | 0.40 |
| 4:E:103:TYR:HB3 | 4:E:104:TYR:CE1 | 2.56 | 0.40 |
| 4:E:152:ALA:CB | 4:E:204:ASP:O | 2.51 | 0.40 |
| 4:E:159:LEU:CD2 | 4:E:208:ILE:HG23 | 2.50 | 0.40 |
| 4:E:235:LEU:O | 4:E:238:LEU:CB | 2.69 | 0.40 |
| 4:E:266:PHE:HA | 4:E:269:ALA:CB | 2.51 | 0.40 |
| 1:A:34:GLY:HA3 | 1:A:161:GLU:HG2 | 2.04 | 0.40 |
| 1:A:43:VAL:CG1 | 1:A:50:VAL:CG2 | 2.90 | 0.40 |
| 1:A:92:LEU:CB | 1:A:95:ASN:HB2 | 2.51 | 0.40 |
| 1:A:137:PHE:CD1 | 1:A:210:ILE:CD1 | 3.01 | 0.40 |
| 1:A:416:LEU:HA | 1:A:419:ILE:CG2 | 2.51 | 0.40 |
| 2:B:128:CYS:O | 2:B:130:ILE:N | 2.55 | 0.40 |
| 2:B:132:VAL:CA | 2:B:279:ILE:HA | 2.50 | 0.40 |
| 2:B:138:ASP:N | 2:B:464:PRO:O | 2.54 | 0.40 |
| 2:B:139:TRP:CD2 | 2:B:214:GLN:HA | 2.56 | 0.40 |
| 2:B:223:TYR:C | 2:B:226:VAL:HG22 | 2.38 | 0.40 |
| 2:B:235:ALA:C | 2:B:237:LEU:N | 2.74 | 0.40 |
| 2:B:431:VAL:HG21 | 2:B:433:MET:HG2 | 2.02 | 0.40 |
| 3:C:56:VAL:HG23 | 3:C:124:ALA:HB3 | 2.04 | 0.40 |
| 3:C:60:HIS:HE1 | 3:C:160:MET:SD | 2.45 | 0.40 |
| 3:C:84:PRO:CG | 3:C:85:GLU:OE1 | 2.68 | 0.40 |
| 3:C:106:TYR:O | 3:C:107:PHE:C | 2.59 | 0.40 |
| 3:C:122:PRO:HB2 | 3:C:123:PRO:CD | 2.31 | 0.40 |
| 3:C:135:LEU:O | 3:C:138:PRO:HD2 | 2.22 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:267:GLN:HE21 | 3:C:267:GLN:HB2 | 1.50 | 0.40 |
| 1:D:28:PHE:CD2 | 1:D:153:GLY:O | 2.74 | 0.40 |
| 1:D:40:LEU:O | 1:D:171:MET:HE2 | 2.20 | 0.40 |
| 1:D:76:LYS:HB3 | 1:D:77:LYS:H | 1.54 | 0.40 |
| 1:D:132:VAL:HB | 1:D:273:LEU:O | 2.21 | 0.40 |
| 1:D:138:ASP:C | 1:D:139:GLN:HG2 | 2.41 | 0.40 |
| 1:D:181:TYR:CE1 | 1:D:203:TYR:HB3 | 2.49 | 0.40 |
| 1:D:411:LEU:O | 1:D:415:MET:SD | 2.79 | 0.40 |
| 4:E:5:ARG:H | 4:E:5:ARG:HG2 | 1.33 | 0.40 |
| 4:E:59:TRP:CH2 | 4:E:115:MET:CB | 3.04 | 0.40 |
| 4:E:263:ILE:HG21 | 4:E:263:ILE:HD13 | 1.68 | 0.40 |
| 4:E:304:LEU:C | 4:E:306:VAL:N | 2.75 | 0.40 |
| 4:E:474:VAL:CB | 4:E:475:PRO:CD | 2.99 | 0.40 |
| 1:A:33:VAL:O | 1:A:161:GLU:HB3 | 2.20 | 0.40 |
| 1:A:148:ILE:CG2 | 1:A:148:ILE:O | 2.69 | 0.40 |
| 1:A:151:TYR:CB | 1:A:156:VAL:HG12 | 2.52 | 0.40 |
| 1:A:237:THR:HB | 1:A:406:ILE:HG22 | 2.03 | 0.40 |
| 1:A:262:GLU:CG | 4:E:271:LYS:HZ1 | 2.33 | 0.40 |
| 2:B:218:LEU:C | 2:B:219:PHE:CG | 2.94 | 0.40 |
| 3:C:48:THR:HA | 3:C:286:PRO:CD | 2.51 | 0.40 |
| 3:C:52:LEU:HD21 | 3:C:130:CYS:H | 1.86 | 0.40 |
| 3:C:194:HIS:HB3 | 3:C:220:ILE:HG12 | 2.03 | 0.40 |
| 3:C:262:CYS:SG | 1:D:247:ILE:CG2 | 3.09 | 0.40 |
| 3:C:302:VAL:C | 3:C:306:CYS:SG | 2.95 | 0.40 |
| 1:D:49:ILE:CD1 | 1:D:97:ASP:OD2 | 2.70 | 0.40 |
| 1:D:85:VAL:HG13 | 1:D:86:TRP:N | 2.36 | 0.40 |
| 1:D:303:PRO:HB2 | 1:D:400:LYS:CE | 2.50 | 0.40 |
| 4:E:22:LYS:NZ | 4:E:26:HIS:CD2 | 2.90 | 0.40 |
| 4:E:42:LEU:HD12 | 4:E:42:LEU:HA | 1.80 | 0.40 |
| 4:E:117:TRP:CE2 | 4:E:119:PRO:HD3 | 2.55 | 0.40 |
| 4:E:266:PHE:CZ | 4:E:270:GLN:HB3 | 2.56 | 0.40 |
| 4:E:418:ALA:O | 4:E:421:PHE:HB2 | 2.22 | 0.40 |
| 1:A:114:GLY:O | 1:A:115:LYS:C | 2.60 | 0.40 |
| 1:A:148:ILE:N | 1:A:158:ILE:HD12 | 2.36 | 0.40 |
| 1:A:385:HIS:ND1 | 1:A:385:HIS:O | 2.55 | 0.40 |
| 1:A:408:HIS:C | 1:A:412:CYS:HG | 2.25 | 0.40 |
| 2:B:60:TRP:CZ3 | 2:B:116:VAL:HB | 2.57 | 0.40 |
| 2:B:111:GLN:CD | 2:B:115:ALA:HB3 | 2.42 | 0.40 |
| 2:B:284:LEU:CA | 2:B:287:ILE:HG13 | 2.47 | 0.40 |
| 3:C:8:ILE:CD1 | 3:C:69:TRP:CZ3 | 3.02 | 0.40 |
| 3:C:12:LEU:HB2 | 3:C:16:LYS:CB | 2.51 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:75:SER:O | 3:C:76:ASP:C | 2.59 | 0.40 |
| 3:C:223:ARG:O | 3:C:224:LYS:CB | 2.68 | 0.40 |
| 3:C:277:ARG:NH2 | 1:D:262:GLU:OE2 | 2.53 | 0.40 |
| 1:D:138:ASP:C | 1:D:139:GLN:CG | 2.90 | 0.40 |
| 1:D:214:PHE:CZ | 1:D:267:THR:HG21 | 2.56 | 0.40 |
| 4:E:75:ASP:HA | 4:E:111:ASN:HB3 | 2.03 | 0.40 |
| 4:E:133:TYR:HD1 | 4:E:139:GLN:H | 1.69 | 0.40 |
| 1:A:134:HIS:N | 1:A:136:PRO:CD | 2.84 | 0.40 |
| 2:B:92:LEU:N | 2:B:92:LEU:HD23 | 2.37 | 0.40 |
| 2:B:247:GLU:CD | 3:C:320:HIS:CE1 | 2.95 | 0.40 |
| 2:B:460:HIS:O | 2:B:464:PRO:CD | 2.70 | 0.40 |
| 3:C:48:THR:OG1 | 3:C:286:PRO:HD3 | 2.22 | 0.40 |
| 3:C:80:LEU:HG | 3:C:81:ARG:N | 2.36 | 0.40 |
| 3:C:84:PRO:CD | 3:C:85:GLU:OE1 | 2.69 | 0.40 |
| 3:C:219:LEU:HG | 3:C:221:ILE:CG2 | 2.52 | 0.40 |
| 3:C:253:SER:OG | 1:D:306:HIS:CB | 2.64 | 0.40 |
| 3:C:264:LEU:HD11 | 3:C:306:CYS:C | 2.41 | 0.40 |
| 3:C:286:PRO:O | 3:C:286:PRO:HG2 | 2.21 | 0.40 |
| 3:C:310:LEU:HB3 | 3:C:314:PHE:HE2 | 1.87 | 0.40 |
| 1:D:92:LEU:CB | 1:D:96:ALA:N | 2.76 | 0.40 |
| 1:D:135:PHE:O | 1:D:136:PRO:O | 2.39 | 0.40 |
| 1:D:135:PHE:CZ | 1:D:273:LEU:HB2 | 2.56 | 0.40 |
| 1:D:234:TYR:CE1 | 1:D:410:LEU:HD12 | 2.56 | 0.40 |
| 1:D:264:ILE:O | 1:D:267:THR:CG2 | 2.70 | 0.40 |
| 1:D:416:LEU:O | 1:D:420:ILE:HG12 | 2.22 | 0.40 |
| 4:E:44:GLU:OE1 | 4:E:129:ILE:HD12 | 2.22 | 0.40 |
| 4:E:50:THR:HG23 | 4:E:123:TYR:O | 2.22 | 0.40 |
| 4:E:81:SER:C | 4:E:83:LEU:N | 2.75 | 0.40 |
| 4:E:191:LYS:NZ | 4:E:211:PHE:CZ | 2.83 | 0.40 |
| 4:E:222:ILE:CG2 | 4:E:223:ILE:N | 2.85 | 0.40 |
| 4:E:264:PHE:O | 4:E:268:ILE:HG22 | 2.22 | 0.40 |
| 4:E:267:LEU:C | 4:E:270:GLN:HG3 | 2.42 | 0.40 |

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

entries.

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

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|-----------------|------------|-----------|----------|-------------|----|
| 1 | A | 366/461 (79%) | 289 (79%) | 49 (13%) | 28 (8%) | 1 | 10 |
| 1 | D | 366/461 (79%) | 294 (80%) | 41 (11%) | 31 (8%) | 0 | 9 |
| 2 | B | 364/493 (74%) | 273 (75%) | 59 (16%) | 32 (9%) | 0 | 9 |
| 3 | C | 364/522 (70%) | 288 (79%) | 58 (16%) | 18 (5%) | 2 | 16 |
| 4 | E | 365/505 (72%) | 281 (77%) | 58 (16%) | 26 (7%) | 1 | 11 |
| All | All | 1825/2442 (75%) | 1425 (78%) | 265 (14%) | 135 (7%) | 2 | 10 |

All (135) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | A | 2 | GLU |
| 1 | A | 27 | HIS |
| 1 | A | 76 | LYS |
| 1 | A | 83 | ASP |
| 1 | A | 102 | ILE |
| 1 | A | 131 | ILE |
| 1 | A | 139 | GLN |
| 1 | A | 282 | MET |
| 1 | A | 301 | ARG |
| 2 | B | 2 | VAL |
| 2 | B | 68 | ASP |
| 2 | B | 82 | SER |
| 2 | B | 95 | ASN |
| 2 | B | 131 | LYS |
| 2 | B | 139 | TRP |
| 2 | B | 156 | VAL |
| 2 | B | 282 | SER |
| 2 | B | 307 | ARG |
| 2 | B | 432 | ALA |
| 3 | C | 2 | ASN |
| 3 | C | 13 | ILE |
| 3 | C | 131 | PRO |
| 3 | C | 212 | TYR |
| 3 | C | 224 | LYS |
| 3 | C | 253 | SER |
| 3 | C | 310 | LEU |
| 1 | D | 2 | GLU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | D | 27 | HIS |
| 1 | D | 30 | ASP |
| 1 | D | 76 | LYS |
| 1 | D | 102 | ILE |
| 1 | D | 131 | ILE |
| 1 | D | 136 | PRO |
| 1 | D | 198 | TYR |
| 1 | D | 282 | MET |
| 1 | D | 301 | ARG |
| 4 | E | 27 | VAL |
| 4 | E | 82 | GLU |
| 4 | E | 110 | TYR |
| 4 | E | 128 | PRO |
| 4 | E | 133 | TYR |
| 4 | E | 152 | ALA |
| 4 | E | 217 | LYS |
| 1 | A | 4 | GLU |
| 1 | A | 63 | VAL |
| 1 | A | 75 | ILE |
| 1 | A | 93 | TYR |
| 1 | A | 198 | TYR |
| 1 | A | 426 | PHE |
| 2 | B | 76 | LYS |
| 2 | B | 99 | SER |
| 2 | B | 249 | MET |
| 2 | B | 275 | LEU |
| 2 | B | 279 | ILE |
| 3 | C | 12 | LEU |
| 3 | C | 30 | VAL |
| 3 | C | 78 | SER |
| 3 | C | 434 | LYS |
| 1 | D | 75 | ILE |
| 1 | D | 139 | GLN |
| 1 | D | 241 | GLU |
| 1 | D | 276 | LYS |
| 1 | D | 426 | PHE |
| 4 | E | 81 | SER |
| 4 | E | 95 | VAL |
| 4 | E | 438 | ASN |
| 4 | E | 443 | GLY |
| 1 | A | 13 | GLU |
| 1 | A | 21 | PRO |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | A | 26 | THR |
| 1 | A | 82 | SER |
| 1 | A | 97 | ASP |
| 1 | A | 105 | MET |
| 1 | A | 292 | THR |
| 2 | B | 107 | ASN |
| 3 | C | 107 | PHE |
| 3 | C | 142 | GLN |
| 3 | C | 257 | MET |
| 1 | D | 93 | TYR |
| 1 | D | 403 | ALA |
| 4 | E | 16 | LYS |
| 4 | E | 75 | ASP |
| 4 | E | 129 | ILE |
| 4 | E | 280 | PRO |
| 2 | B | 89 | ASP |
| 2 | B | 102 | ILE |
| 2 | B | 147 | LYS |
| 2 | B | 153 | THR |
| 2 | B | 247 | GLU |
| 1 | D | 4 | GLU |
| 1 | D | 24 | HIS |
| 1 | D | 64 | ARG |
| 1 | D | 436 | GLU |
| 4 | E | 101 | VAL |
| 4 | E | 135 | PRO |
| 4 | E | 249 | GLN |
| 4 | E | 265 | LEU |
| 4 | E | 454 | ALA |
| 1 | A | 210 | ILE |
| 1 | A | 303 | PRO |
| 2 | B | 21 | PRO |
| 2 | B | 150 | THR |
| 2 | B | 415 | LEU |
| 3 | C | 137 | PHE |
| 1 | D | 68 | ASN |
| 1 | D | 71 | ASP |
| 1 | D | 210 | ILE |
| 1 | D | 252 | SER |
| 4 | E | 2 | GLU |
| 4 | E | 132 | THR |
| 4 | E | 203 | ILE |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 4 | E | 271 | LYS |
| 2 | B | 88 | PRO |
| 2 | B | 135 | PHE |
| 2 | B | 227 | PRO |
| 2 | B | 445 | THR |
| 1 | D | 239 | SER |
| 1 | D | 303 | PRO |
| 2 | B | 120 | PRO |
| 1 | D | 135 | PHE |
| 1 | A | 130 | ILE |
| 1 | A | 135 | PHE |
| 1 | A | 293 | VAL |
| 3 | C | 453 | ILE |
| 1 | D | 114 | GLY |
| 1 | D | 211 | PRO |
| 2 | B | 75 | ILE |
| 3 | C | 83 | ARG |
| 3 | C | 449 | VAL |
| 4 | E | 134 | PHE |
| 1 | A | 69 | PRO |
| 2 | B | 132 | VAL |
| 1 | D | 69 | PRO |
| 4 | E | 80 | PRO |
| 2 | B | 54 | VAL |

5.3.2 Protein sidechains [i](#)

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

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

| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles |
|-----|-------|-----------------|------------|-----------|-------------|
| 1 | A | 343/427 (80%) | 248 (72%) | 95 (28%) | 0 2 |
| 1 | D | 343/427 (80%) | 258 (75%) | 85 (25%) | 0 3 |
| 2 | B | 340/449 (76%) | 262 (77%) | 78 (23%) | 0 4 |
| 3 | C | 335/475 (70%) | 243 (72%) | 92 (28%) | 0 2 |
| 4 | E | 337/463 (73%) | 250 (74%) | 87 (26%) | 0 3 |
| All | All | 1698/2241 (76%) | 1261 (74%) | 437 (26%) | 2 3 |

All (437) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | A | 6 | ARG |
| 1 | A | 12 | LEU |
| 1 | A | 20 | ARG |
| 1 | A | 24 | HIS |
| 1 | A | 25 | HIS |
| 1 | A | 29 | VAL |
| 1 | A | 30 | ASP |
| 1 | A | 36 | GLN |
| 1 | A | 46 | VAL |
| 1 | A | 56 | LEU |
| 1 | A | 61 | ILE |
| 1 | A | 63 | VAL |
| 1 | A | 66 | ARG |
| 1 | A | 68 | ASN |
| 1 | A | 72 | TYR |
| 1 | A | 75 | ILE |
| 1 | A | 79 | ARG |
| 1 | A | 87 | LEU |
| 1 | A | 92 | LEU |
| 1 | A | 94 | ASN |
| 1 | A | 95 | ASN |
| 1 | A | 100 | PHE |
| 1 | A | 103 | VAL |
| 1 | A | 105 | MET |
| 1 | A | 107 | LYS |
| 1 | A | 108 | LEU |
| 1 | A | 111 | ASP |
| 1 | A | 112 | TYR |
| 1 | A | 116 | ILE |
| 1 | A | 124 | PHE |
| 1 | A | 125 | LYS |
| 1 | A | 126 | SER |
| 1 | A | 129 | GLU |
| 1 | A | 130 | ILE |
| 1 | A | 132 | VAL |
| 1 | A | 137 | PHE |
| 1 | A | 139 | GLN |
| 1 | A | 142 | CYS |
| 1 | A | 144 | MET |
| 1 | A | 145 | LYS |
| 1 | A | 149 | TRP |
| 1 | A | 161 | GLU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | A | 164 | ARG |
| 1 | A | 180 | ASP |
| 1 | A | 181 | TYR |
| 1 | A | 185 | LYS |
| 1 | A | 193 | CYS |
| 1 | A | 195 | ASP |
| 1 | A | 198 | TYR |
| 1 | A | 200 | ASP |
| 1 | A | 207 | MET |
| 1 | A | 210 | ILE |
| 1 | A | 218 | VAL |
| 1 | A | 224 | LEU |
| 1 | A | 225 | PHE |
| 1 | A | 238 | ASP |
| 1 | A | 243 | MET |
| 1 | A | 246 | SER |
| 1 | A | 247 | ILE |
| 1 | A | 254 | THR |
| 1 | A | 255 | VAL |
| 1 | A | 257 | LEU |
| 1 | A | 265 | PRO |
| 1 | A | 266 | SER |
| 1 | A | 268 | SER |
| 1 | A | 273 | LEU |
| 1 | A | 278 | MET |
| 1 | A | 279 | LEU |
| 1 | A | 282 | MET |
| 1 | A | 289 | ILE |
| 1 | A | 290 | ILE |
| 1 | A | 292 | THR |
| 1 | A | 293 | VAL |
| 1 | A | 296 | ILE |
| 1 | A | 297 | ASN |
| 1 | A | 298 | THR |
| 1 | A | 303 | PRO |
| 1 | A | 305 | THR |
| 1 | A | 306 | HIS |
| 1 | A | 376 | ILE |
| 1 | A | 382 | ILE |
| 1 | A | 387 | LYS |
| 1 | A | 389 | ASP |
| 1 | A | 399 | TRP |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | A | 401 | TYR |
| 1 | A | 402 | VAL |
| 1 | A | 409 | ILE |
| 1 | A | 410 | LEU |
| 1 | A | 414 | PHE |
| 1 | A | 415 | MET |
| 1 | A | 419 | ILE |
| 1 | A | 425 | VAL |
| 1 | A | 426 | PHE |
| 1 | A | 430 | LEU |
| 1 | A | 434 | SER |
| 2 | B | 15 | TYR |
| 2 | B | 16 | ASN |
| 2 | B | 18 | LYS |
| 2 | B | 19 | VAL |
| 2 | B | 20 | ARG |
| 2 | B | 23 | GLN |
| 2 | B | 29 | VAL |
| 2 | B | 31 | VAL |
| 2 | B | 32 | ARG |
| 2 | B | 33 | VAL |
| 2 | B | 37 | LEU |
| 2 | B | 41 | LEU |
| 2 | B | 42 | ILE |
| 2 | B | 43 | LEU |
| 2 | B | 45 | GLU |
| 2 | B | 55 | PHE |
| 2 | B | 58 | LEU |
| 2 | B | 63 | TYR |
| 2 | B | 64 | ARG |
| 2 | B | 68 | ASP |
| 2 | B | 73 | GLU |
| 2 | B | 79 | SER |
| 2 | B | 82 | SER |
| 2 | B | 95 | ASN |
| 2 | B | 97 | ASP |
| 2 | B | 107 | ASN |
| 2 | B | 117 | SER |
| 2 | B | 119 | HIS |
| 2 | B | 128 | CYS |
| 2 | B | 133 | MET |
| 2 | B | 134 | TYR |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 2 | B | 135 | PHE |
| 2 | B | 138 | ASP |
| 2 | B | 145 | VAL |
| 2 | B | 149 | TYR |
| 2 | B | 158 | LEU |
| 2 | B | 159 | GLN |
| 2 | B | 160 | HIS |
| 2 | B | 181 | THR |
| 2 | B | 182 | GLU |
| 2 | B | 196 | ASN |
| 2 | B | 198 | ARG |
| 2 | B | 213 | ILE |
| 2 | B | 216 | LYS |
| 2 | B | 220 | TYR |
| 2 | B | 221 | ILE |
| 2 | B | 225 | ILE |
| 2 | B | 236 | ILE |
| 2 | B | 237 | LEU |
| 2 | B | 240 | TYR |
| 2 | B | 248 | LYS |
| 2 | B | 251 | LEU |
| 2 | B | 253 | ILE |
| 2 | B | 261 | VAL |
| 2 | B | 263 | LEU |
| 2 | B | 265 | LEU |
| 2 | B | 269 | LYS |
| 2 | B | 280 | ILE |
| 2 | B | 281 | ILE |
| 2 | B | 283 | TYR |
| 2 | B | 284 | LEU |
| 2 | B | 288 | MET |
| 2 | B | 291 | VAL |
| 2 | B | 294 | SER |
| 2 | B | 307 | ARG |
| 2 | B | 311 | THR |
| 2 | B | 403 | GLU |
| 2 | B | 429 | GLN |
| 2 | B | 436 | ASP |
| 2 | B | 437 | ARG |
| 2 | B | 439 | PHE |
| 2 | B | 440 | LEU |
| 2 | B | 442 | ILE |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 2 | B | 443 | PHE |
| 2 | B | 447 | CYS |
| 2 | B | 461 | ASN |
| 2 | B | 462 | VAL |
| 2 | B | 463 | PRO |
| 3 | C | 3 | GLU |
| 3 | C | 7 | LEU |
| 3 | C | 13 | ILE |
| 3 | C | 15 | ASN |
| 3 | C | 22 | ARG |
| 3 | C | 25 | LYS |
| 3 | C | 28 | ASN |
| 3 | C | 30 | VAL |
| 3 | C | 41 | ASN |
| 3 | C | 43 | ILE |
| 3 | C | 45 | LEU |
| 3 | C | 50 | GLU |
| 3 | C | 52 | LEU |
| 3 | C | 54 | THR |
| 3 | C | 55 | ASN |
| 3 | C | 60 | HIS |
| 3 | C | 63 | TYR |
| 3 | C | 65 | HIS |
| 3 | C | 66 | ARG |
| 3 | C | 69 | TRP |
| 3 | C | 91 | ASP |
| 3 | C | 92 | ILE |
| 3 | C | 96 | ASN |
| 3 | C | 102 | TYR |
| 3 | C | 104 | VAL |
| 3 | C | 106 | TYR |
| 3 | C | 107 | PHE |
| 3 | C | 114 | PRO |
| 3 | C | 115 | ASN |
| 3 | C | 121 | LEU |
| 3 | C | 130 | CYS |
| 3 | C | 140 | ASP |
| 3 | C | 144 | CYS |
| 3 | C | 147 | LYS |
| 3 | C | 148 | PHE |
| 3 | C | 149 | THR |
| 3 | C | 158 | ILE |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 3 | C | 160 | MET |
| 3 | C | 162 | LEU |
| 3 | C | 199 | LYS |
| 3 | C | 200 | ASN |
| 3 | C | 202 | TYR |
| 3 | C | 206 | PHE |
| 3 | C | 211 | ASN |
| 3 | C | 214 | ASP |
| 3 | C | 222 | ARG |
| 3 | C | 228 | TYR |
| 3 | C | 229 | VAL |
| 3 | C | 233 | ILE |
| 3 | C | 241 | PHE |
| 3 | C | 242 | LEU |
| 3 | C | 249 | LEU |
| 3 | C | 259 | THR |
| 3 | C | 264 | LEU |
| 3 | C | 267 | GLN |
| 3 | C | 270 | PHE |
| 3 | C | 271 | LEU |
| 3 | C | 272 | LEU |
| 3 | C | 274 | THR |
| 3 | C | 276 | GLN |
| 3 | C | 278 | LEU |
| 3 | C | 279 | PRO |
| 3 | C | 280 | GLU |
| 3 | C | 291 | TYR |
| 3 | C | 293 | MET |
| 3 | C | 296 | MET |
| 3 | C | 297 | SER |
| 3 | C | 299 | VAL |
| 3 | C | 302 | VAL |
| 3 | C | 310 | LEU |
| 3 | C | 311 | ASN |
| 3 | C | 312 | PHE |
| 3 | C | 315 | ARG |
| 3 | C | 319 | THR |
| 3 | C | 423 | ILE |
| 3 | C | 428 | TYR |
| 3 | C | 429 | ILE |
| 3 | C | 430 | VAL |
| 3 | C | 432 | GLN |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 3 | C | 442 | GLU |
| 3 | C | 446 | TRP |
| 3 | C | 451 | GLN |
| 3 | C | 455 | ARG |
| 3 | C | 458 | MET |
| 3 | C | 460 | ILE |
| 3 | C | 465 | MET |
| 3 | C | 467 | LEU |
| 3 | C | 471 | PHE |
| 3 | C | 475 | MET |
| 3 | C | 478 | PHE |
| 3 | C | 479 | ASN |
| 3 | C | 480 | ARG |
| 1 | D | 3 | HIS |
| 1 | D | 16 | ASN |
| 1 | D | 20 | ARG |
| 1 | D | 23 | GLU |
| 1 | D | 25 | HIS |
| 1 | D | 30 | ASP |
| 1 | D | 40 | LEU |
| 1 | D | 41 | ILE |
| 1 | D | 46 | VAL |
| 1 | D | 54 | VAL |
| 1 | D | 55 | ARG |
| 1 | D | 60 | TRP |
| 1 | D | 66 | ARG |
| 1 | D | 67 | TRP |
| 1 | D | 72 | TYR |
| 1 | D | 76 | LYS |
| 1 | D | 80 | LEU |
| 1 | D | 85 | VAL |
| 1 | D | 86 | TRP |
| 1 | D | 91 | VAL |
| 1 | D | 92 | LEU |
| 1 | D | 94 | ASN |
| 1 | D | 105 | MET |
| 1 | D | 107 | LYS |
| 1 | D | 108 | LEU |
| 1 | D | 110 | LEU |
| 1 | D | 112 | TYR |
| 1 | D | 116 | ILE |
| 1 | D | 118 | TRP |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | D | 120 | PRO |
| 1 | D | 126 | SER |
| 1 | D | 130 | ILE |
| 1 | D | 135 | PHE |
| 1 | D | 142 | CYS |
| 1 | D | 143 | THR |
| 1 | D | 145 | LYS |
| 1 | D | 149 | TRP |
| 1 | D | 152 | ASP |
| 1 | D | 154 | THR |
| 1 | D | 156 | VAL |
| 1 | D | 164 | ARG |
| 1 | D | 170 | PHE |
| 1 | D | 177 | VAL |
| 1 | D | 180 | ASP |
| 1 | D | 185 | LYS |
| 1 | D | 188 | VAL |
| 1 | D | 193 | CYS |
| 1 | D | 198 | TYR |
| 1 | D | 200 | ASP |
| 1 | D | 202 | THR |
| 1 | D | 203 | TYR |
| 1 | D | 207 | MET |
| 1 | D | 216 | VAL |
| 1 | D | 219 | ILE |
| 1 | D | 225 | PHE |
| 1 | D | 226 | SER |
| 1 | D | 227 | PHE |
| 1 | D | 230 | VAL |
| 1 | D | 237 | THR |
| 1 | D | 238 | ASP |
| 1 | D | 243 | MET |
| 1 | D | 244 | THR |
| 1 | D | 247 | ILE |
| 1 | D | 250 | LEU |
| 1 | D | 252 | SER |
| 1 | D | 253 | LEU |
| 1 | D | 265 | PRO |
| 1 | D | 273 | LEU |
| 1 | D | 278 | MET |
| 1 | D | 281 | THR |
| 1 | D | 285 | VAL |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | D | 303 | PRO |
| 1 | D | 377 | GLU |
| 1 | D | 387 | LYS |
| 1 | D | 394 | ASN |
| 1 | D | 399 | TRP |
| 1 | D | 400 | LYS |
| 1 | D | 406 | ILE |
| 1 | D | 407 | ASP |
| 1 | D | 409 | ILE |
| 1 | D | 414 | PHE |
| 1 | D | 418 | CYS |
| 1 | D | 422 | THR |
| 1 | D | 426 | PHE |
| 1 | D | 435 | GLN |
| 4 | E | 5 | ARG |
| 4 | E | 13 | ASP |
| 4 | E | 15 | ASP |
| 4 | E | 17 | ARG |
| 4 | E | 18 | ILE |
| 4 | E | 23 | THR |
| 4 | E | 29 | ASP |
| 4 | E | 31 | THR |
| 4 | E | 44 | GLU |
| 4 | E | 49 | LEU |
| 4 | E | 52 | ASN |
| 4 | E | 55 | ILE |
| 4 | E | 60 | ASN |
| 4 | E | 62 | TYR |
| 4 | E | 63 | ARG |
| 4 | E | 66 | TRP |
| 4 | E | 67 | ASN |
| 4 | E | 70 | GLU |
| 4 | E | 71 | TYR |
| 4 | E | 74 | ILE |
| 4 | E | 75 | ASP |
| 4 | E | 80 | PRO |
| 4 | E | 82 | GLU |
| 4 | E | 84 | LEU |
| 4 | E | 89 | VAL |
| 4 | E | 104 | TYR |
| 4 | E | 106 | ASN |
| 4 | E | 116 | TYR |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 4 | E | 118 | LEU |
| 4 | E | 122 | ILE |
| 4 | E | 123 | TYR |
| 4 | E | 124 | ARG |
| 4 | E | 125 | SER |
| 4 | E | 127 | CYS |
| 4 | E | 128 | PRO |
| 4 | E | 129 | ILE |
| 4 | E | 133 | TYR |
| 4 | E | 138 | TRP |
| 4 | E | 140 | ASN |
| 4 | E | 143 | LEU |
| 4 | E | 147 | SER |
| 4 | E | 148 | GLN |
| 4 | E | 151 | ASN |
| 4 | E | 156 | ASN |
| 4 | E | 158 | GLN |
| 4 | E | 162 | GLU |
| 4 | E | 163 | GLU |
| 4 | E | 177 | PHE |
| 4 | E | 179 | GLU |
| 4 | E | 184 | THR |
| 4 | E | 195 | ASN |
| 4 | E | 198 | LEU |
| 4 | E | 204 | ASP |
| 4 | E | 217 | LYS |
| 4 | E | 221 | TYR |
| 4 | E | 225 | ILE |
| 4 | E | 231 | LEU |
| 4 | E | 232 | ILE |
| 4 | E | 235 | LEU |
| 4 | E | 239 | VAL |
| 4 | E | 242 | LEU |
| 4 | E | 252 | THR |
| 4 | E | 253 | LEU |
| 4 | E | 263 | ILE |
| 4 | E | 268 | ILE |
| 4 | E | 270 | GLN |
| 4 | E | 271 | LYS |
| 4 | E | 279 | VAL |
| 4 | E | 284 | LYS |
| 4 | E | 286 | LEU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 4 | E | 287 | ILE |
| 4 | E | 291 | PHE |
| 4 | E | 294 | LEU |
| 4 | E | 296 | ILE |
| 4 | E | 297 | VAL |
| 4 | E | 301 | VAL |
| 4 | E | 303 | VAL |
| 4 | E | 308 | LEU |
| 4 | E | 309 | ARG |
| 4 | E | 310 | THR |
| 4 | E | 439 | TRP |
| 4 | E | 444 | LYS |
| 4 | E | 452 | TRP |
| 4 | E | 456 | LEU |
| 4 | E | 465 | ILE |
| 4 | E | 472 | ASN |
| 4 | E | 473 | GLN |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (63) such sidechains are listed below:

| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | A | 24 | HIS |
| 1 | A | 27 | HIS |
| 1 | A | 58 | GLN |
| 1 | A | 59 | GLN |
| 1 | A | 94 | ASN |
| 1 | A | 299 | HIS |
| 1 | A | 435 | GLN |
| 2 | B | 23 | GLN |
| 2 | B | 96 | ASN |
| 2 | B | 107 | ASN |
| 2 | B | 111 | GLN |
| 2 | B | 140 | GLN |
| 2 | B | 190 | HIS |
| 2 | B | 305 | HIS |
| 2 | B | 429 | GLN |
| 2 | B | 460 | HIS |
| 2 | B | 461 | ASN |
| 3 | C | 2 | ASN |
| 3 | C | 15 | ASN |
| 3 | C | 20 | HIS |
| 3 | C | 41 | ASN |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 3 | C | 55 | ASN |
| 3 | C | 65 | HIS |
| 3 | C | 70 | ASN |
| 3 | C | 97 | ASN |
| 3 | C | 103 | ASN |
| 3 | C | 115 | ASN |
| 3 | C | 152 | ASN |
| 3 | C | 200 | ASN |
| 3 | C | 231 | ASN |
| 3 | C | 267 | GLN |
| 3 | C | 447 | ASN |
| 3 | C | 479 | ASN |
| 1 | D | 16 | ASN |
| 1 | D | 36 | GLN |
| 1 | D | 42 | ASN |
| 1 | D | 53 | ASN |
| 1 | D | 59 | GLN |
| 1 | D | 94 | ASN |
| 1 | D | 95 | ASN |
| 1 | D | 134 | HIS |
| 1 | D | 300 | HIS |
| 1 | D | 408 | HIS |
| 1 | D | 435 | GLN |
| 4 | E | 1 | ASN |
| 4 | E | 26 | HIS |
| 4 | E | 52 | ASN |
| 4 | E | 60 | ASN |
| 4 | E | 67 | ASN |
| 4 | E | 93 | ASN |
| 4 | E | 94 | ASN |
| 4 | E | 98 | GLN |
| 4 | E | 140 | ASN |
| 4 | E | 148 | GLN |
| 4 | E | 153 | HIS |
| 4 | E | 156 | ASN |
| 4 | E | 158 | GLN |
| 4 | E | 193 | ASN |
| 4 | E | 197 | GLN |
| 4 | E | 206 | GLN |
| 4 | E | 215 | GLN |
| 4 | E | 261 | GLN |
| 4 | E | 472 | 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](#)

The following chains have linkage breaks:

| Mol | Chain | Number of breaks |
|-----|-------|------------------|
| 2 | B | 1 |

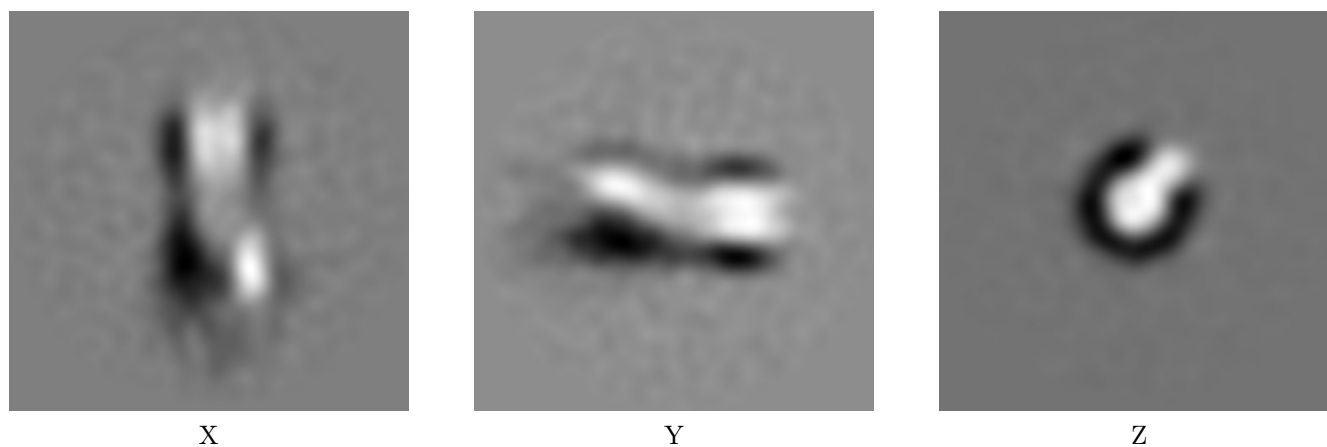
All chain breaks are listed below:

| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|-------|-------|-----------|--------|-----------|--------|--------------|
| 1 | B | 129:THR | C | 130:ILE | N | 1.14 |

6 Tomogram visualisation [i](#)

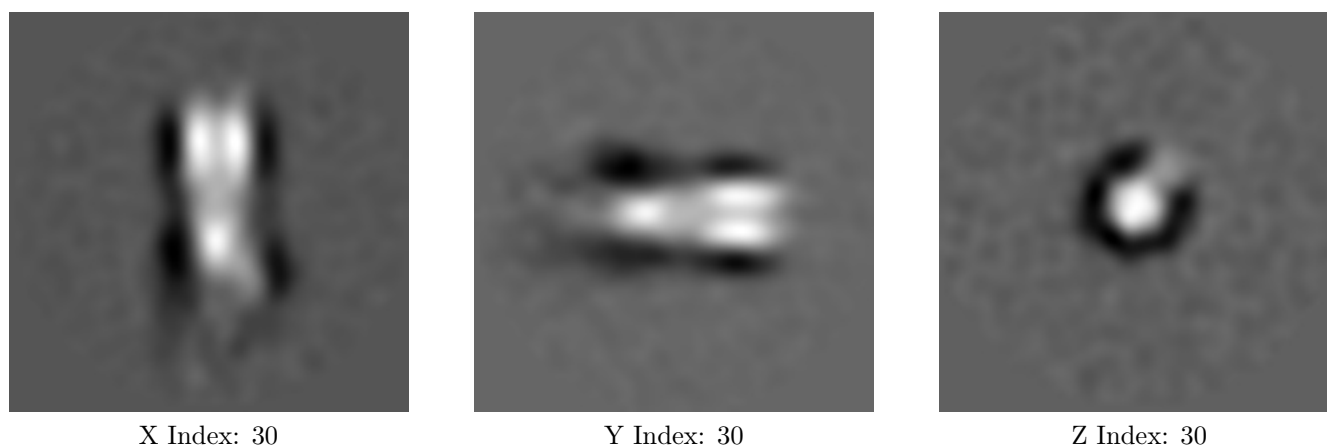
This section contains visualisations of the EMDB entry EMD-2378. These allow visual inspection of the internal detail of the tomogram and identification of artifacts.

6.1 Orthogonal projections [i](#)



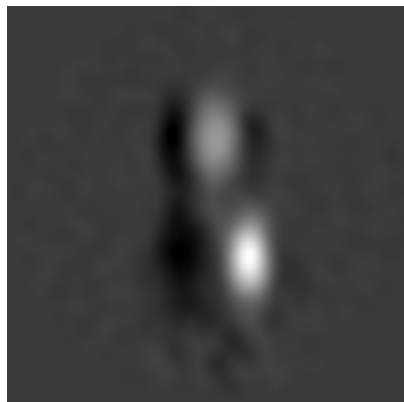
The images above show the tomogram projected in three orthogonal directions.

6.2 Central slices [i](#)

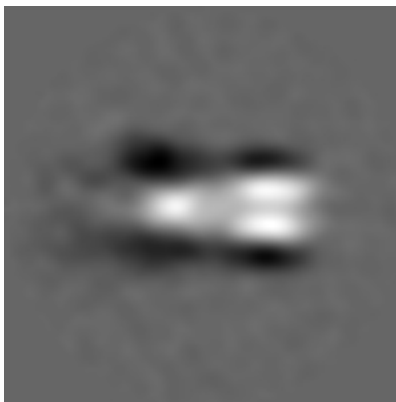


The images above show central slices of the tomogram in three orthogonal directions.

6.3 Largest variance slices [i](#)



X Index: 33



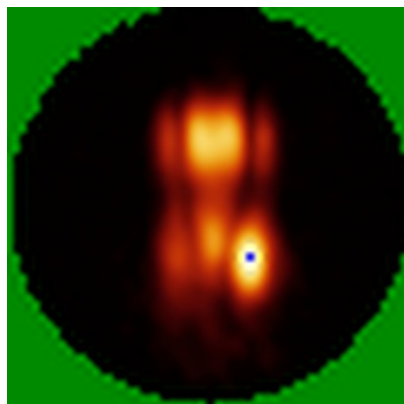
Y Index: 30



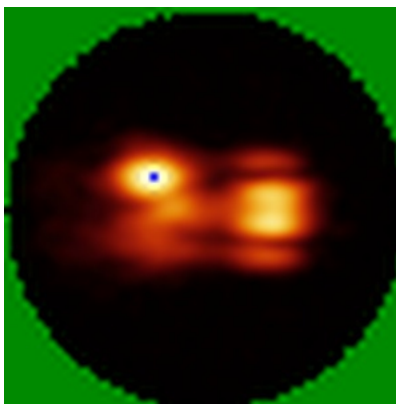
Z Index: 22

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

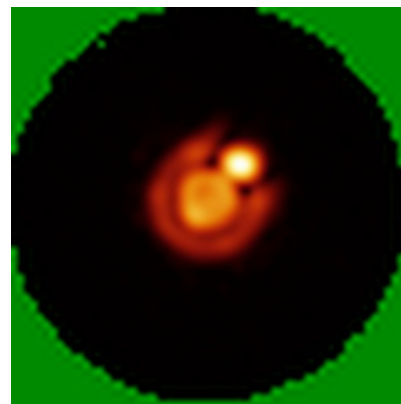
6.4 Orthogonal standard-deviation projections (False-color) [i](#)



X



Y



Z

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

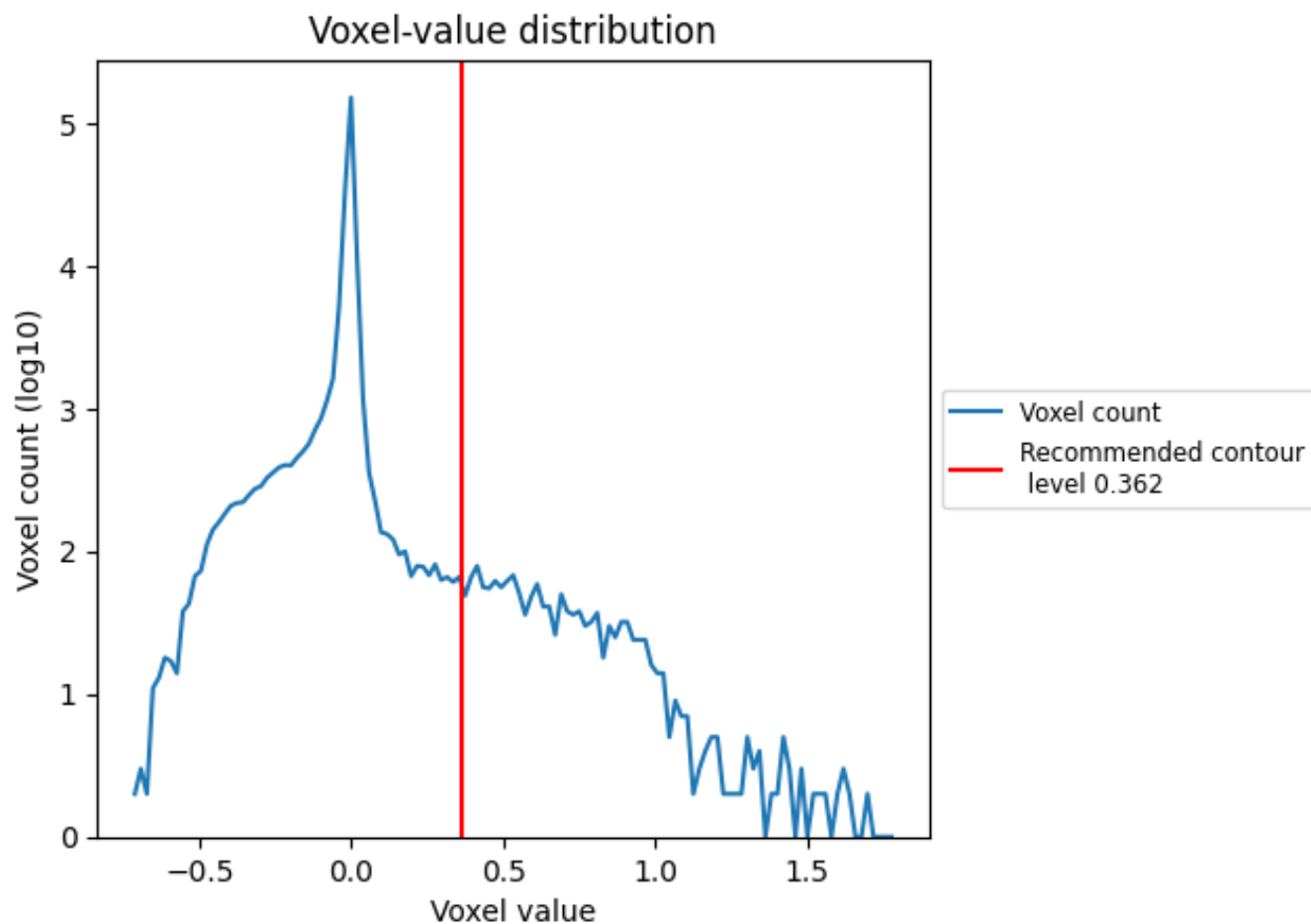
6.5 Mask visualisation [i](#)

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

7 Tomogram analysis [i](#)

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

7.1 Voxel-value distribution [i](#)



The voxel-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic.

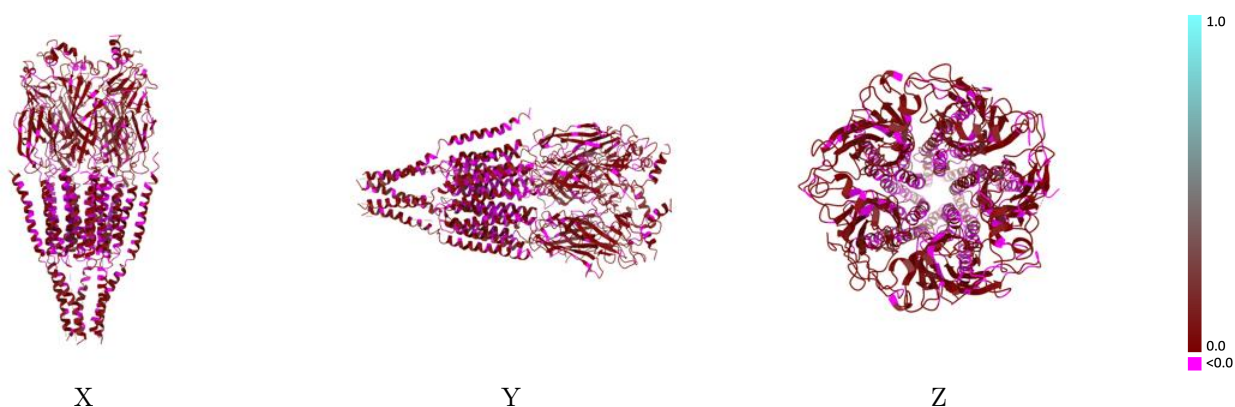
8 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-2378 and PDB model 4BON. Per-residue inclusion information can be found in section 3 on page 4.

8.1 Map-model overlay [i](#)

This section was not generated.

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

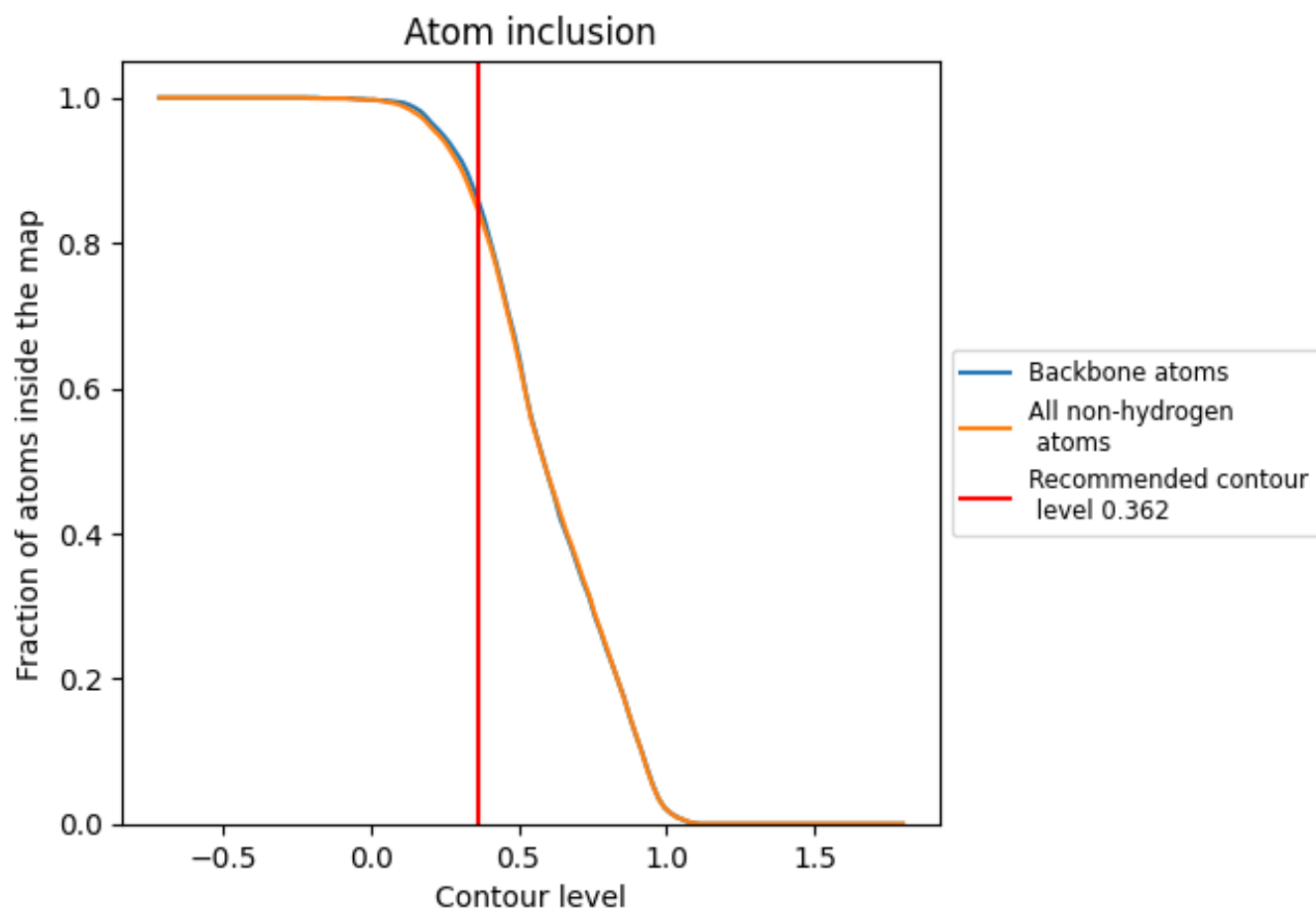


The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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

This section was not generated.













8.4 Atom inclusion [i](#)



At the recommended contour level, 86% of all backbone atoms, 85% of all non-hydrogen atoms, are inside the map.

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

The table lists the average atom inclusion at the recommended contour level (0.362) and Q-score for the entire model and for each chain.

| Chain | Atom inclusion | Q-score |
|-------|--|--|
| All |  0.8460 |  0.0420 |
| A |  0.8040 |  0.0400 |
| B |  0.8800 |  0.0400 |
| C |  0.8370 |  0.0430 |
| D |  0.8110 |  0.0360 |
| E |  0.8980 |  0.0540 |

