# Full wwPDB X-ray Structure Validation Report ⓘ

Jun 12, 2024 – 10:50 PM EDT

| | | |
|---|---|---|
| PDB ID | : | 3MKU |
| Title | : | Structure of a Cation-bound Multidrug and Toxin Compound Extrusion (MATE) transporter |
| Authors | : | He, X.; Szewczyk, P.; Karyakin, A.; Evin, M.; Hong, W.-X.; Zhang, Q.; Chang, G. |
| Deposited on | : | 2010-04-15 |
| Resolution | : | 4.20 Å(reported) |

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

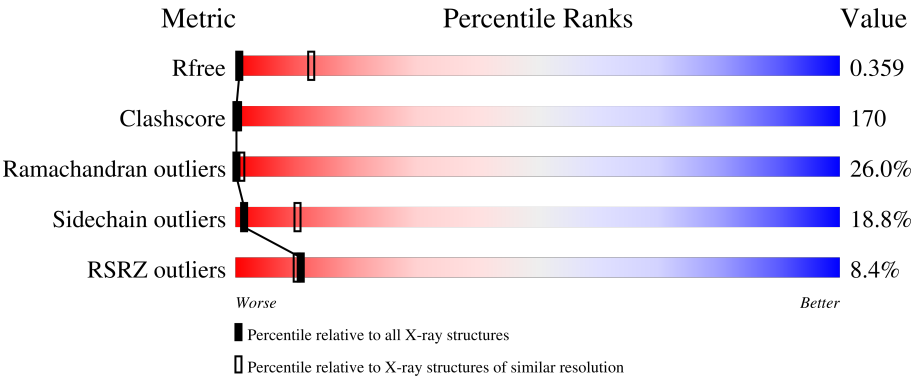
| | | |
|---|---|---|
| MolProbity | : | 4.02b-467 |
| Xtriage (Phenix) | : | 1.20.1 |
| EDS | : | 2.36.2 |
| Percentile statistics | : | 20191225.v01 (using entries in the PDB archive December 25th 2019) |
| Refmac | : | 5.8.0158 |
| CCP4 | : | 7.0.044 (Gargrove) |
| Ideal geometry (proteins) | : | Engh & Huber (2001) |
| Ideal geometry (DNA, RNA) | : | Parkinson et al. (1996) |
| Validation Pipeline (wwPDB-VP) | : | 2.36.2 |

# 1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
*X-RAY DIFFRACTION*

The reported resolution of this entry is 4.20 Å.

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




| Metric | Whole archive (#Entries) | Similar resolution (#Entries, resolution range(Å)) |
|---|---|---|
| $R_{free}$ | 130704 | 1005 (4.62-3.78) |
| Clashscore | 141614 | 1044 (4.60-3.80) |
| Ramachandran outliers | 138981 | 1000 (4.60-3.80) |
| Sidechain outliers | 138945 | 1007 (4.62-3.78) |
| RSRZ outliers | 127900 | 1063 (4.70-3.70) |

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower 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 <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 1 | A | 460 | 11% 5% 58% 33% . |
| 1 | B | 460 | 6% . 59% 33% . |

## 2 Entry composition (i)

There are 2 unique types of molecules in this entry. The entry contains 7013 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Multi antimicrobial extrusion protein (Na(+)/drug antiporter) MATE-like MDR efflux pump.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | A | 460 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 3505 | 2326 | 569 | 589 | 21 | | | |
| 1 | B | 460 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 3506 | 2326 | 569 | 590 | 21 | | | |

- Molecule 2 is RUBIDIUM ION (three-letter code: RB) (formula: Rb).

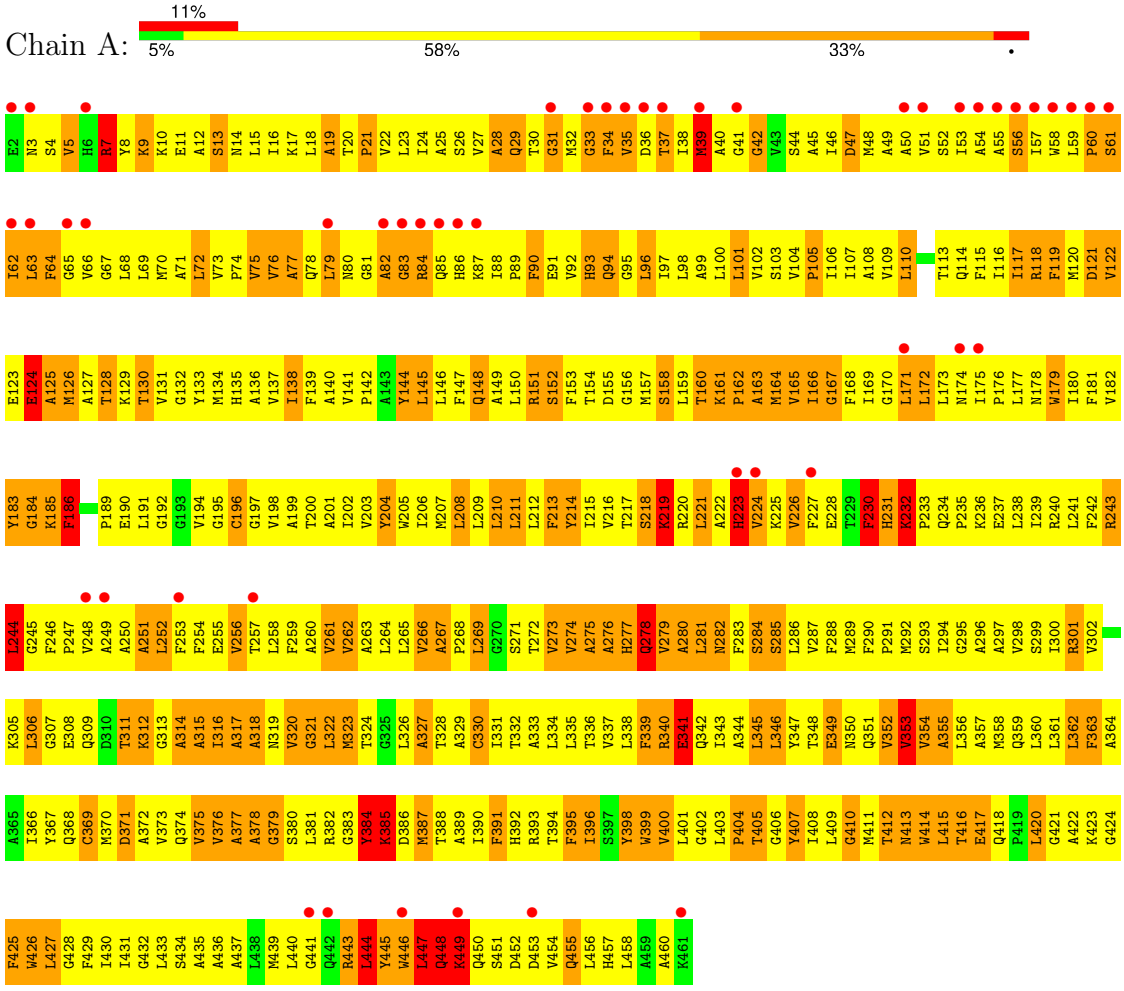
| Mol | Chain | Residues | Atoms | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|
| 2 | A | 1 | Total | Rb | 0 | 0 |
| | | | 1 | 1 | | |
| 2 | B | 1 | Total | Rb | 0 | 0 |
| | | | 1 | 1 | | |

# 3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

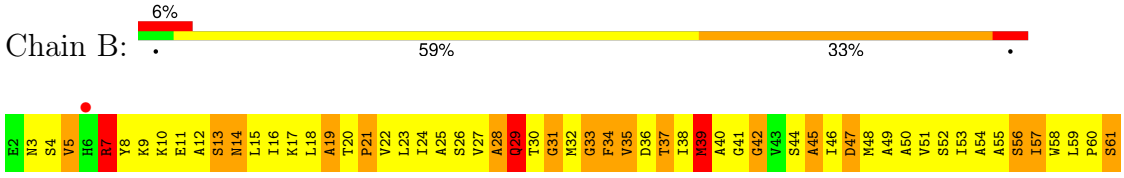
• Molecule 1: Multi antimicrobial extrusion protein (Na(+)/drug antiporter) MATE-like MDR efflux pump

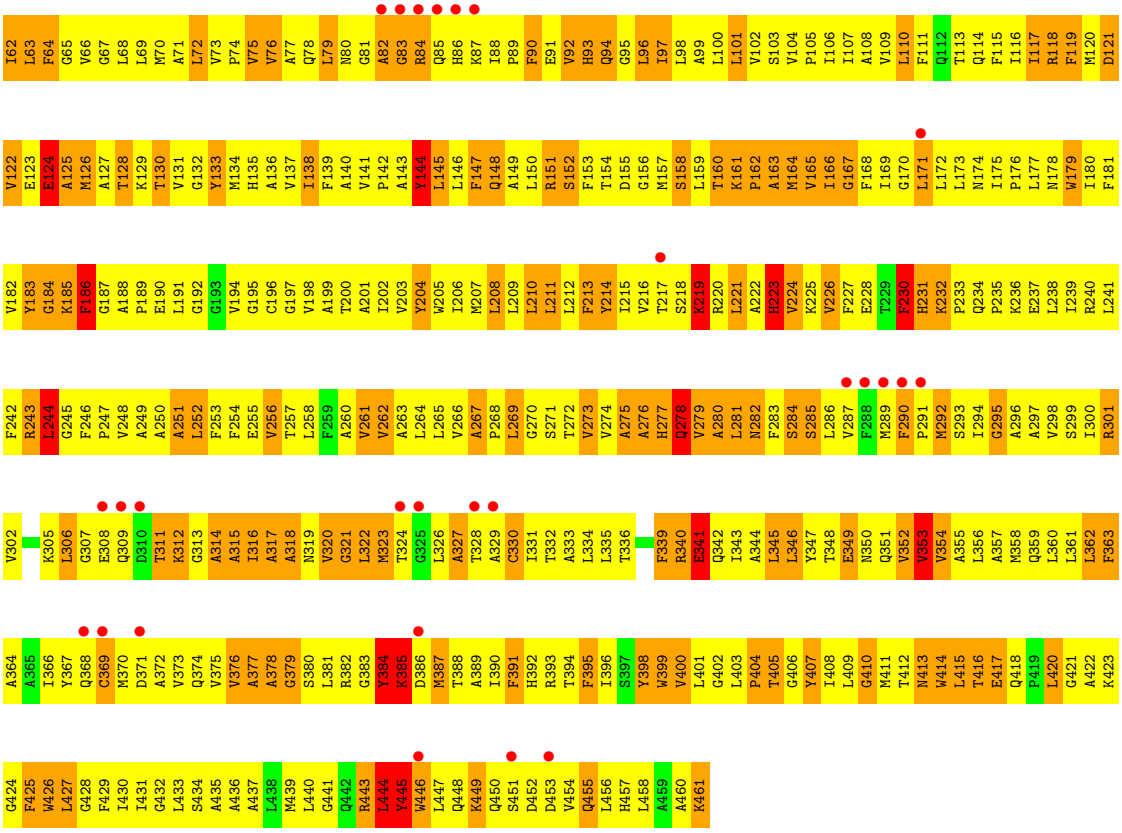
Chain A:




• Molecule 1: Multi antimicrobial extrusion protein (Na(+)/drug antiporter) MATE-like MDR efflux pump

Chain B:




I62 L63 F64 G65 V66 G67 L68 L69 M70 A71 L72 V73 P74 V75 V76 A77 Q78 L79 N80 G81 A82 G83 R84 Q85 H86 K87 I88 P89 F90 E91 V92 H93 Q94 G95 L96 I97 L98 A99 L100 L101 V102 S103 V104 P105 I106 I107 A108 V109 L110 F111 Q112 T113 Q114 F115 I116 I117 R118 F119 M120 D121
V122 E123 E124 A125 M126 A127 T128 K129 T130 V131 G132 Y133 M134 H135 A136 V137 I138 F139 A140 V141 P142 A143 Y144 L145 L146 F147 Q148 A149 L150 R151 S152 F153 T154 D155 G156 M157 S158 L159 T160 K161 P162 A163 M164 V165 I166 G167 F168 I169 G170 L171 L172 L173 N174 I175 P176 L177 N178 W179 I180 F181
V182 Y183 G184 K185 F186 G187 A188 P189 E190 L191 G192 G193 V194 G195 C196 G197 V198 A199 T200 A201 I202 V203 Y204 W205 I206 M207 L208 L209 L210 L211 L212 F213 Y214 I215 V216 T217 S218 K219 R220 L221 A222 H223 V224 K225 V226 F227 E228 T229 P230 H231 K232 P233 Q234 P235 K236 E237 L238 I239 R240 L241
F242 R243 L244 G245 F246 P247 V248 A249 A250 A251 L252 F253 F254 E255 V256 T257 L258 F259 A260 V261 V262 A263 L264 L265 V266 A267 P268 L269 G270 S271 T272 V273 V274 A275 A276 H277 Q278 V279 A280 L281 N282 F283 S284 S285 L286 V287 F288 M289 F290 P291 M292 S293 I294 G295 A296 A297 V298 S299 I300 R301
V302 K305 L306 G307 E308 Q309 D310 T311 K312 G313 A314 A315 I316 A317 A318 N319 V320 G321 L322 M323 T324 G325 L326 A327 T328 A329 C330 I331 T332 A333 L334 L335 T336 F339 R340 E341 Q342 I343 A344 L345 L346 Y347 T348 E349 N350 Q351 V352 V353 V354 A355 L356 A357 M358 Q359 L360 L361 L362 F363
A364 A365 I366 Y367 Q368 C369 M370 D371 A372 V373 Q374 V375 V376 A377 A378 G379 S380 L381 R382 G383 Y384 K385 D386 M387 T388 A389 I390 F391 H392 R393 T394 F395 I396 S397 Y398 W399 V400 L401 G402 L403 P404 T405 G406 Y407 I408 L409 G410 M411 T412 N413 W414 L415 T416 E417 Q418 P419 L420 G421 A422 K423
G424 F425 W426 L427 G428 F429 I430 I431 G432 L433 S434 A435 A436 A437 L438 M439 L440 G441 Q442 R443 L444 Y445 W446 L447 Q448 K449 Q450 S451 D452 D453 V454 Q455 L456 H457 L458 A459 A460 K461

# 4 Data and refinement statistics (i)

| Property | Value | Source |
|---|---|---|
| Space group | P 21 21 2 | Depositor |
| Cell constants<br>a, b, c, $\alpha$, $\beta$, $\gamma$ | 159.80Å 241.85Å 46.15Å<br>90.00° 90.00° 90.00° | Depositor |
| Resolution (Å) | 20.00 – 4.20<br>133.33 – 4.00 | Depositor<br>EDS |
| % Data completeness<br>(in resolution range) | 99.0 (20.00-4.20)<br>99.0 (133.33-4.00) | Depositor<br>EDS |
| $R_{merge}$ | (Not available) | Depositor |
| $R_{sym}$ | (Not available) | Depositor |
| $< I/\sigma(I) >$ [1] | 2.87 (at 4.01Å) | Xtriage |
| Refinement program | CNS | Depositor |
| R, $R_{free}$ | 0.309 , 0.342<br>0.324 , 0.359 | Depositor<br>DCC |
| $R_{free}$ test set | 791 reflections (4.99%) | wwPDB-VP |
| Wilson B-factor (Å$^2$) | 105.5 | Xtriage |
| Anisotropy | 1.074 | Xtriage |
| Bulk solvent $k_{sol}$(e/Å$^3$), $B_{sol}$(Å$^2$) | 0.17 , 145.5 | EDS |
| L-test for twinning[2] | $< \|L\| > = 0.36$, $< L^2 > = 0.19$ | Xtriage |
| Estimated twinning fraction | No twinning to report. | Xtriage |
| $F_o$,$F_c$ correlation | 0.73 | EDS |
| Total number of atoms | 7013 | wwPDB-VP |
| Average B, all atoms (Å$^2$) | 118.0 | wwPDB-VP |

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.00% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

# 5 Model quality

## 5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: RB

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 | 0.65 | 0/3585 | 0.97 | 13/4879 (0.3%) |
| 1 | B | 0.64 | 0/3586 | 0.93 | 9/4879 (0.2%) |
| All | All | 0.64 | 0/7171 | 0.95 | 22/9758 (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 | B | 0 | 2 |

There are no bond length outliers.

All (22) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A | 353 | VAL | CB-CA-C | -8.84 | 94.61 | 111.40 |
| 1 | A | 410 | GLY | N-CA-C | -8.24 | 92.50 | 113.10 |
| 1 | A | 384 | TYR | CB-CA-C | 7.94 | 126.28 | 110.40 |
| 1 | B | 410 | GLY | N-CA-C | -7.78 | 93.65 | 113.10 |
| 1 | A | 447 | LEU | N-CA-C | -7.57 | 90.56 | 111.00 |
| 1 | A | 449 | LYS | N-CA-CB | -7.45 | 97.19 | 110.60 |
| 1 | B | 353 | VAL | CB-CA-C | -7.08 | 97.94 | 111.40 |
| 1 | A | 385 | LYS | N-CA-CB | -6.88 | 98.22 | 110.60 |
| 1 | A | 448 | GLN | N-CA-C | -6.42 | 93.66 | 111.00 |
| 1 | B | 444 | LEU | CA-CB-CG | 5.99 | 129.08 | 115.30 |
| 1 | A | 75 | VAL | N-CA-C | -5.92 | 95.03 | 111.00 |
| 1 | B | 446 | TRP | N-CA-C | -5.89 | 95.08 | 111.00 |
| 1 | A | 413 | ASN | N-CA-C | -5.89 | 95.10 | 111.00 |
| 1 | A | 444 | LEU | CA-CB-CG | 5.86 | 128.78 | 115.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | B | 413 | ASN | N-CA-C | -5.65 | 95.75 | 111.00 |
| 1 | A | 385 | LYS | N-CA-C | 5.59 | 126.08 | 111.00 |
| 1 | A | 306 | LEU | CA-CB-CG | 5.56 | 128.09 | 115.30 |
| 1 | B | 420 | LEU | CA-CB-CG | 5.46 | 127.86 | 115.30 |
| 1 | B | 75 | VAL | N-CA-C | -5.41 | 96.40 | 111.00 |
| 1 | B | 384 | TYR | CA-CB-CG | 5.38 | 123.62 | 113.40 |
| 1 | B | 306 | LEU | CA-CB-CG | 5.20 | 127.27 | 115.30 |
| 1 | A | 420 | LEU | CA-CB-CG | 5.10 | 127.02 | 115.30 |

There are no chirality outliers.

All (2) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 1 | B | 133 | TYR | Sidechain |
| 1 | B | 144 | 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 | 3505 | 0 | 3676 | 1224 | 0 |
| 1 | B | 3506 | 0 | 3676 | 1223 | 0 |
| 2 | A | 1 | 0 | 0 | 0 | 0 |
| 2 | B | 1 | 0 | 0 | 0 | 0 |
| All | All | 7013 | 0 | 7352 | 2440 | 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 170.

All (2440) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:447:LEU:CD1 | 1:A:450:GLN:HE21 | 1.27 | 1.48 |
| 1:A:447:LEU:CD1 | 1:A:450:GLN:NE2 | 1.96 | 1.27 |
| 1:A:447:LEU:HD13 | 1:A:450:GLN:NE2 | 1.50 | 1.24 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:162:PRO:O | 1:B:165:VAL:HG12 | 1.38 | 1.17 |
| 1:A:162:PRO:O | 1:A:165:VAL:HG12 | 1.43 | 1.17 |
| 1:A:320:VAL:HG13 | 1:A:321:GLY:H | 1.04 | 1.17 |
| 1:A:447:LEU:C | 1:A:447:LEU:HD12 | 1.65 | 1.16 |
| 1:A:151:ARG:HG3 | 1:A:162:PRO:HG2 | 1.27 | 1.16 |
| 1:A:358:MET:HA | 1:A:361:LEU:HD12 | 1.22 | 1.16 |
| 1:A:231:HIS:HB3 | 1:A:235:PRO:HD3 | 1.27 | 1.15 |
| 1:B:320:VAL:HG13 | 1:B:321:GLY:H | 0.99 | 1.15 |
| 1:B:235:PRO:HA | 1:B:238:LEU:HB2 | 1.26 | 1.15 |
| 1:B:73:VAL:HB | 1:B:74:PRO:HD3 | 1.19 | 1.14 |
| 1:B:398:TYR:HB3 | 1:B:436:ALA:HB2 | 1.18 | 1.14 |
| 1:A:447:LEU:HD12 | 1:A:447:LEU:O | 1.45 | 1.14 |
| 1:B:408:ILE:HA | 1:B:411:MET:HB2 | 1.16 | 1.14 |
| 1:A:398:TYR:CB | 1:A:436:ALA:HB2 | 1.77 | 1.13 |
| 1:B:151:ARG:HG3 | 1:B:162:PRO:HG2 | 1.23 | 1.13 |
| 1:B:165:VAL:HG13 | 1:B:166:ILE:H | 1.09 | 1.13 |
| 1:A:447:LEU:CD1 | 1:A:447:LEU:O | 1.97 | 1.12 |
| 1:A:398:TYR:HB3 | 1:A:436:ALA:HB2 | 1.11 | 1.11 |
| 1:A:266:VAL:HG12 | 1:A:269:LEU:HD11 | 1.33 | 1.11 |
| 1:A:45:ALA:HB3 | 1:A:49:ALA:HB2 | 1.31 | 1.10 |
| 1:A:117:ILE:HG22 | 1:A:118:ARG:H | 1.15 | 1.10 |
| 1:B:398:TYR:CB | 1:B:436:ALA:HB2 | 1.80 | 1.10 |
| 1:A:73:VAL:HB | 1:A:74:PRO:HD3 | 1.20 | 1.10 |
| 1:A:165:VAL:HG13 | 1:A:166:ILE:H | 1.13 | 1.09 |
| 1:A:447:LEU:HD11 | 1:A:450:GLN:HE21 | 0.94 | 1.08 |
| 1:A:235:PRO:HA | 1:A:238:LEU:HB2 | 1.34 | 1.08 |
| 1:A:408:ILE:HA | 1:A:411:MET:HB2 | 1.11 | 1.08 |
| 1:B:445:TYR:HB2 | 1:B:448:GLN:HA | 1.31 | 1.07 |
| 1:B:118:ARG:HE | 1:B:119:PHE:HB2 | 1.14 | 1.07 |
| 1:B:420:LEU:HD12 | 1:B:423:LYS:H | 1.18 | 1.07 |
| 1:B:231:HIS:HB3 | 1:B:235:PRO:HD3 | 1.32 | 1.07 |
| 1:B:11:GLU:HA | 1:B:301:ARG:HH22 | 1.13 | 1.07 |
| 1:A:118:ARG:HE | 1:A:119:PHE:HB2 | 1.12 | 1.06 |
| 1:B:4:SER:O | 1:B:8:TYR:CD2 | 2.08 | 1.06 |
| 1:B:266:VAL:HG12 | 1:B:269:LEU:HD11 | 1.30 | 1.06 |
| 1:B:147:PHE:HB2 | 1:B:211:LEU:HD13 | 1.39 | 1.05 |
| 1:B:45:ALA:HB3 | 1:B:49:ALA:HB2 | 1.34 | 1.05 |
| 1:B:340:ARG:HD2 | 1:B:358:MET:HG2 | 1.32 | 1.04 |
| 1:B:358:MET:HA | 1:B:361:LEU:HD12 | 1.08 | 1.04 |
| 1:A:420:LEU:HD12 | 1:A:423:LYS:H | 1.22 | 1.03 |
| 1:B:262:VAL:HG11 | 1:B:403:LEU:HD22 | 1.41 | 1.02 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:353:VAL:O | 1:B:357:ALA:N | 1.92 | 1.01 |
| 1:A:145:LEU:HD13 | 1:A:146:LEU:N | 1.74 | 1.01 |
| 1:B:145:LEU:HD13 | 1:B:146:LEU:N | 1.74 | 1.01 |
| 1:A:12:ALA:O | 1:A:15:LEU:HG | 1.58 | 1.01 |
| 1:B:165:VAL:CG1 | 1:B:166:ILE:H | 1.71 | 1.01 |
| 1:A:165:VAL:CG1 | 1:A:166:ILE:H | 1.73 | 1.00 |
| 1:A:11:GLU:HA | 1:A:301:ARG:HH22 | 1.27 | 1.00 |
| 1:A:262:VAL:HG11 | 1:A:403:LEU:HD22 | 1.44 | 0.99 |
| 1:A:231:HIS:HB3 | 1:A:235:PRO:CD | 1.90 | 0.99 |
| 1:B:12:ALA:O | 1:B:15:LEU:HG | 1.62 | 0.99 |
| 1:A:385:LYS:O | 1:A:388:THR:OG1 | 1.80 | 0.98 |
| 1:B:231:HIS:HB3 | 1:B:235:PRO:CD | 1.94 | 0.98 |
| 1:A:151:ARG:HA | 1:A:155:ASP:HA | 1.46 | 0.97 |
| 1:B:76:VAL:HA | 1:B:78:GLN:HE21 | 1.28 | 0.97 |
| 1:B:165:VAL:HG13 | 1:B:166:ILE:N | 1.78 | 0.97 |
| 1:B:376:VAL:HG13 | 1:B:377:ALA:H | 1.27 | 0.97 |
| 1:A:287:VAL:HG11 | 1:A:368:GLN:OE1 | 1.64 | 0.97 |
| 1:A:312:LYS:O | 1:A:316:ILE:HG12 | 1.65 | 0.97 |
| 1:A:244:LEU:HD23 | 1:A:385:LYS:O | 1.65 | 0.97 |
| 1:A:340:ARG:HD2 | 1:A:358:MET:HG2 | 1.43 | 0.97 |
| 1:B:97:ILE:HG22 | 1:B:101:LEU:HD11 | 1.45 | 0.96 |
| 1:A:343:ILE:O | 1:A:346:LEU:HB2 | 1.65 | 0.96 |
| 1:B:272:THR:HG23 | 1:B:275:ALA:HB3 | 1.47 | 0.96 |
| 1:A:272:THR:HG23 | 1:A:275:ALA:HB3 | 1.44 | 0.96 |
| 1:B:208:LEU:HD23 | 1:B:209:LEU:N | 1.80 | 0.96 |
| 1:B:177:LEU:HD12 | 1:B:202:ILE:HD13 | 1.45 | 0.96 |
| 1:A:420:LEU:HB3 | 1:A:423:LYS:HG2 | 1.48 | 0.96 |
| 1:B:17:LYS:O | 1:B:21:PRO:HG2 | 1.63 | 0.95 |
| 1:A:17:LYS:O | 1:A:21:PRO:HG2 | 1.64 | 0.95 |
| 1:A:62:ILE:HG13 | 1:A:63:LEU:N | 1.78 | 0.95 |
| 1:A:165:VAL:HG13 | 1:A:166:ILE:N | 1.80 | 0.95 |
| 1:A:28:ALA:O | 1:A:32:MET:HG2 | 1.65 | 0.95 |
| 1:A:118:ARG:NE | 1:A:119:PHE:HB2 | 1.80 | 0.95 |
| 1:B:235:PRO:CA | 1:B:238:LEU:HB2 | 1.97 | 0.95 |
| 1:A:262:VAL:HG21 | 1:A:403:LEU:HD13 | 1.46 | 0.95 |
| 1:A:177:LEU:HD12 | 1:A:202:ILE:HD13 | 1.47 | 0.95 |
| 1:B:343:ILE:O | 1:B:346:LEU:HB2 | 1.66 | 0.95 |
| 1:A:445:TYR:CB | 1:A:448:GLN:HA | 1.97 | 0.95 |
| 1:A:147:PHE:HB2 | 1:A:211:LEU:HD13 | 1.46 | 0.94 |
| 1:A:203:VAL:O | 1:A:206:ILE:HG12 | 1.67 | 0.94 |
| 1:B:358:MET:CA | 1:B:361:LEU:HD12 | 1.98 | 0.94 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:320:VAL:HG13 | 1:B:321:GLY:N | 1.80 | 0.94 |
| 1:B:177:LEU:HG | 1:B:202:ILE:HG21 | 1.50 | 0.94 |
| 1:A:398:TYR:HB3 | 1:A:436:ALA:CB | 1.99 | 0.93 |
| 1:B:203:VAL:O | 1:B:206:ILE:HG12 | 1.67 | 0.93 |
| 1:A:180:ILE:HA | 1:A:184:GLY:HA3 | 1.49 | 0.93 |
| 1:B:407:TYR:HA | 1:B:425:PHE:HD2 | 1.34 | 0.93 |
| 1:B:118:ARG:NE | 1:B:119:PHE:HB2 | 1.82 | 0.93 |
| 1:A:445:TYR:HB2 | 1:A:448:GLN:HA | 1.51 | 0.93 |
| 1:B:16:ILE:HA | 1:B:19:ALA:CB | 1.99 | 0.93 |
| 1:B:353:VAL:HG12 | 1:B:357:ALA:N | 1.83 | 0.92 |
| 1:A:208:LEU:HD23 | 1:A:209:LEU:N | 1.83 | 0.92 |
| 1:A:222:ALA:O | 1:A:224:VAL:HG13 | 1.68 | 0.92 |
| 1:A:94:GLN:NE2 | 1:A:231:HIS:HB2 | 1.85 | 0.92 |
| 1:B:62:ILE:HG13 | 1:B:63:LEU:N | 1.80 | 0.92 |
| 1:B:16:ILE:HA | 1:B:19:ALA:HB3 | 1.52 | 0.92 |
| 1:B:96:LEU:O | 1:B:99:ALA:HB3 | 1.67 | 0.92 |
| 1:A:407:TYR:HA | 1:A:425:PHE:HD2 | 1.35 | 0.92 |
| 1:B:4:SER:O | 1:B:8:TYR:CE2 | 2.22 | 0.92 |
| 1:B:88:ILE:HG12 | 1:B:89:PRO:HD3 | 1.52 | 0.92 |
| 1:A:110:LEU:O | 1:A:114:GLN:HG2 | 1.69 | 0.92 |
| 1:A:74:PRO:HB3 | 1:A:149:ALA:HB1 | 1.51 | 0.91 |
| 1:B:76:VAL:C | 1:B:78:GLN:H | 1.74 | 0.91 |
| 1:B:222:ALA:O | 1:B:224:VAL:HG13 | 1.71 | 0.91 |
| 1:A:63:LEU:HD23 | 1:A:64:PHE:H | 1.33 | 0.91 |
| 1:A:276:ALA:HB1 | 1:A:426:TRP:CZ2 | 2.04 | 0.91 |
| 1:B:315:ALA:O | 1:B:319:ASN:HB2 | 1.71 | 0.91 |
| 1:B:73:VAL:CB | 1:B:74:PRO:HD3 | 2.01 | 0.91 |
| 1:B:262:VAL:HG21 | 1:B:403:LEU:HD13 | 1.52 | 0.90 |
| 1:A:76:VAL:HA | 1:A:78:GLN:HE21 | 1.33 | 0.90 |
| 1:A:320:VAL:HG13 | 1:A:321:GLY:N | 1.85 | 0.90 |
| 1:B:287:VAL:HG11 | 1:B:368:GLN:OE1 | 1.71 | 0.90 |
| 1:B:391:PHE:HD2 | 1:B:392:HIS:N | 1.70 | 0.90 |
| 1:A:11:GLU:HB3 | 1:A:320:VAL:CG2 | 2.02 | 0.90 |
| 1:A:88:ILE:HG12 | 1:A:89:PRO:HD3 | 1.50 | 0.90 |
| 1:A:382:ARG:NH2 | 1:A:445:TYR:H | 1.68 | 0.90 |
| 1:A:73:VAL:CB | 1:A:74:PRO:HD3 | 2.02 | 0.90 |
| 1:A:177:LEU:HG | 1:A:202:ILE:HG21 | 1.54 | 0.90 |
| 1:A:418:GLN:NE2 | 1:A:421:GLY:HA2 | 1.87 | 0.90 |
| 1:B:382:ARG:NH2 | 1:B:445:TYR:H | 1.70 | 0.90 |
| 1:B:385:LYS:O | 1:B:388:THR:OG1 | 1.89 | 0.90 |
| 1:B:238:LEU:HA | 1:B:241:LEU:HB2 | 1.52 | 0.89 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:76:VAL:C | 1:A:78:GLN:H | 1.74 | 0.89 |
| 1:A:97:ILE:HG22 | 1:A:101:LEU:HD11 | 1.53 | 0.89 |
| 1:A:59:LEU:H | 1:A:59:LEU:HD12 | 1.37 | 0.89 |
| 1:A:123:GLU:O | 1:A:124:GLU:O | 1.88 | 0.89 |
| 1:B:11:GLU:HB3 | 1:B:320:VAL:CG2 | 2.02 | 0.89 |
| 1:A:206:ILE:O | 1:A:210:LEU:HD22 | 1.72 | 0.89 |
| 1:A:253:PHE:HA | 1:A:256:VAL:HB | 1.53 | 0.89 |
| 1:A:353:VAL:O | 1:A:357:ALA:N | 2.06 | 0.89 |
| 1:B:232:LYS:HB3 | 1:B:233:PRO:HD3 | 1.55 | 0.88 |
| 1:B:398:TYR:HB3 | 1:B:436:ALA:CB | 2.03 | 0.88 |
| 1:A:315:ALA:O | 1:A:319:ASN:HB2 | 1.73 | 0.88 |
| 1:A:117:ILE:HG22 | 1:A:118:ARG:N | 1.88 | 0.88 |
| 1:A:16:ILE:HA | 1:A:19:ALA:HB3 | 1.56 | 0.88 |
| 1:B:320:VAL:CG1 | 1:B:321:GLY:H | 1.82 | 0.88 |
| 1:B:327:ALA:O | 1:B:331:ILE:HG22 | 1.72 | 0.88 |
| 1:A:391:PHE:HD2 | 1:A:392:HIS:N | 1.71 | 0.88 |
| 1:A:16:ILE:HA | 1:A:19:ALA:CB | 2.04 | 0.88 |
| 1:B:276:ALA:HB1 | 1:B:426:TRP:CZ2 | 2.09 | 0.88 |
| 1:A:376:VAL:HG13 | 1:A:377:ALA:H | 1.37 | 0.88 |
| 1:A:238:LEU:HA | 1:A:241:LEU:HB2 | 1.54 | 0.87 |
| 1:A:113:THR:HA | 1:A:116:ILE:HG22 | 1.56 | 0.87 |
| 1:B:15:LEU:HD12 | 1:B:16:ILE:N | 1.89 | 0.87 |
| 1:A:4:SER:O | 1:A:8:TYR:CD2 | 2.26 | 0.87 |
| 1:A:231:HIS:O | 1:A:235:PRO:HG2 | 1.73 | 0.87 |
| 1:A:15:LEU:HD12 | 1:A:16:ILE:N | 1.89 | 0.87 |
| 1:B:110:LEU:O | 1:B:114:GLN:HG2 | 1.75 | 0.87 |
| 1:B:266:VAL:CG1 | 1:B:269:LEU:HD11 | 2.05 | 0.87 |
| 1:A:211:LEU:O | 1:A:215:ILE:HG22 | 1.75 | 0.87 |
| 1:B:353:VAL:O | 1:B:353:VAL:HG12 | 1.73 | 0.86 |
| 1:A:93:HIS:CE1 | 1:A:225:LYS:HB3 | 2.09 | 0.86 |
| 1:A:173:LEU:O | 1:A:177:LEU:HD23 | 1.75 | 0.86 |
| 1:B:420:LEU:HB3 | 1:B:423:LYS:HG2 | 1.54 | 0.86 |
| 1:A:155:ASP:HB2 | 1:A:159:LEU:H | 1.38 | 0.86 |
| 1:A:235:PRO:O | 1:A:239:ILE:HG13 | 1.76 | 0.86 |
| 1:A:408:ILE:HA | 1:A:411:MET:CB | 2.02 | 0.86 |
| 1:B:28:ALA:O | 1:B:32:MET:HG2 | 1.75 | 0.86 |
| 1:B:94:GLN:NE2 | 1:B:231:HIS:HB2 | 1.89 | 0.86 |
| 1:A:327:ALA:O | 1:A:331:ILE:HG22 | 1.74 | 0.86 |
| 1:A:420:LEU:CD1 | 1:A:423:LYS:H | 1.89 | 0.86 |
| 1:A:96:LEU:O | 1:A:99:ALA:HB3 | 1.76 | 0.86 |
| 1:A:276:ALA:HA | 1:A:426:TRP:HE1 | 1.38 | 0.86 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:63:LEU:HD23 | 1:B:64:PHE:H | 1.40 | 0.86 |
| 1:B:72:LEU:HD12 | 1:B:244:LEU:HD21 | 1.58 | 0.86 |
| 1:B:206:ILE:O | 1:B:209:LEU:HB3 | 1.75 | 0.86 |
| 1:B:401:LEU:O | 1:B:405:THR:HB | 1.76 | 0.86 |
| 1:B:26:SER:HB2 | 1:B:289:MET:SD | 2.14 | 0.86 |
| 1:A:231:HIS:C | 1:A:235:PRO:HG2 | 1.96 | 0.86 |
| 1:B:395:PHE:O | 1:B:398:TYR:HD1 | 1.58 | 0.86 |
| 1:A:265:LEU:O | 1:A:268:PRO:HD3 | 1.75 | 0.86 |
| 1:A:353:VAL:HG12 | 1:A:357:ALA:N | 1.91 | 0.86 |
| 1:B:72:LEU:O | 1:B:75:VAL:HG22 | 1.76 | 0.85 |
| 1:B:235:PRO:HA | 1:B:238:LEU:CB | 2.05 | 0.85 |
| 1:B:107:ILE:HA | 1:B:139:PHE:CZ | 2.09 | 0.85 |
| 1:A:251:ALA:O | 1:A:255:GLU:HB3 | 1.77 | 0.85 |
| 1:B:173:LEU:O | 1:B:177:LEU:HD23 | 1.75 | 0.85 |
| 1:B:395:PHE:O | 1:B:398:TYR:CD1 | 2.29 | 0.85 |
| 1:B:180:ILE:HA | 1:B:184:GLY:HA3 | 1.59 | 0.85 |
| 1:B:231:HIS:O | 1:B:235:PRO:HG2 | 1.77 | 0.85 |
| 1:A:235:PRO:CA | 1:A:238:LEU:HB2 | 2.05 | 0.84 |
| 1:A:395:PHE:O | 1:A:398:TYR:CD1 | 2.30 | 0.84 |
| 1:B:154:THR:O | 1:B:158:SER:HA | 1.77 | 0.84 |
| 1:A:206:ILE:O | 1:A:209:LEU:HB3 | 1.78 | 0.84 |
| 1:A:320:VAL:CG1 | 1:A:321:GLY:H | 1.88 | 0.84 |
| 1:B:211:LEU:O | 1:B:215:ILE:HG22 | 1.77 | 0.84 |
| 1:B:93:HIS:CE1 | 1:B:225:LYS:HB3 | 2.12 | 0.84 |
| 1:A:401:LEU:O | 1:A:405:THR:HB | 1.74 | 0.84 |
| 1:B:312:LYS:O | 1:B:316:ILE:HG12 | 1.76 | 0.84 |
| 1:A:232:LYS:HB3 | 1:A:233:PRO:HD3 | 1.59 | 0.84 |
| 1:A:408:ILE:CA | 1:A:411:MET:HB2 | 2.03 | 0.83 |
| 1:B:445:TYR:HB2 | 1:B:448:GLN:CA | 2.08 | 0.83 |
| 1:B:151:ARG:HA | 1:B:155:ASP:HA | 1.60 | 0.83 |
| 1:B:206:ILE:O | 1:B:210:LEU:HD22 | 1.76 | 0.83 |
| 1:B:251:ALA:O | 1:B:255:GLU:HB3 | 1.76 | 0.83 |
| 1:A:59:LEU:HB2 | 1:A:60:PRO:HD3 | 1.60 | 0.83 |
| 1:B:235:PRO:O | 1:B:239:ILE:HG13 | 1.76 | 0.83 |
| 1:B:420:LEU:CD1 | 1:B:423:LYS:H | 1.90 | 0.83 |
| 1:B:72:LEU:HA | 1:B:75:VAL:HG13 | 1.60 | 0.83 |
| 1:B:46:ILE:C | 1:B:48:MET:H | 1.81 | 0.83 |
| 1:B:55:ALA:O | 1:B:58:TRP:HB2 | 1.78 | 0.83 |
| 1:B:406:GLY:O | 1:B:409:LEU:HB3 | 1.77 | 0.83 |
| 1:B:418:GLN:NE2 | 1:B:421:GLY:HA2 | 1.93 | 0.83 |
| 1:A:71:ALA:C | 1:A:74:PRO:HD2 | 1.99 | 0.83 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:118:ARG:HE | 1:A:119:PHE:CB | 1.92 | 0.83 |
| 1:B:74:PRO:HB3 | 1:B:149:ALA:HB1 | 1.60 | 0.83 |
| 1:A:74:PRO:CB | 1:A:149:ALA:HB1 | 2.08 | 0.82 |
| 1:B:118:ARG:HE | 1:B:119:PHE:CB | 1.92 | 0.82 |
| 1:A:72:LEU:HA | 1:A:75:VAL:HG13 | 1.59 | 0.82 |
| 1:A:142:PRO:HA | 1:A:145:LEU:HB3 | 1.58 | 0.82 |
| 1:A:244:LEU:HB2 | 1:A:385:LYS:HZ3 | 1.44 | 0.82 |
| 1:A:266:VAL:CG1 | 1:A:269:LEU:HD11 | 2.07 | 0.82 |
| 1:A:72:LEU:O | 1:A:75:VAL:HG22 | 1.78 | 0.82 |
| 1:A:137:VAL:CG1 | 1:A:201:ALA:HA | 2.10 | 0.82 |
| 1:A:445:TYR:O | 1:A:446:TRP:HB3 | 1.80 | 0.82 |
| 1:A:266:VAL:HG12 | 1:A:269:LEU:CD1 | 2.10 | 0.82 |
| 1:B:403:LEU:HD21 | 1:B:429:PHE:HD2 | 1.44 | 0.82 |
| 1:A:107:ILE:HA | 1:A:139:PHE:CZ | 2.15 | 0.82 |
| 1:A:151:ARG:CG | 1:A:162:PRO:HG2 | 2.08 | 0.82 |
| 1:A:236:LYS:HA | 1:A:239:ILE:HD12 | 1.61 | 0.82 |
| 1:A:353:VAL:O | 1:A:353:VAL:HG12 | 1.79 | 0.82 |
| 1:B:71:ALA:CA | 1:B:74:PRO:HD2 | 2.10 | 0.82 |
| 1:B:420:LEU:HD12 | 1:B:423:LYS:N | 1.95 | 0.81 |
| 1:B:71:ALA:C | 1:B:74:PRO:HD2 | 2.00 | 0.81 |
| 1:B:266:VAL:HG12 | 1:B:269:LEU:CD1 | 2.10 | 0.81 |
| 1:B:276:ALA:HB1 | 1:B:426:TRP:CE2 | 2.15 | 0.81 |
| 1:A:420:LEU:HD12 | 1:A:423:LYS:N | 1.95 | 0.81 |
| 1:B:398:TYR:CG | 1:B:436:ALA:HB2 | 2.16 | 0.81 |
| 1:B:427:LEU:HD23 | 1:B:428:GLY:N | 1.95 | 0.81 |
| 1:A:72:LEU:HD12 | 1:A:244:LEU:HD21 | 1.61 | 0.81 |
| 1:A:77:ALA:CB | 1:A:154:THR:HG23 | 2.11 | 0.81 |
| 1:B:58:TRP:O | 1:B:61:SER:HB3 | 1.79 | 0.81 |
| 1:A:226:VAL:HG12 | 1:A:227:PHE:N | 1.94 | 0.81 |
| 1:B:155:ASP:HB2 | 1:B:159:LEU:H | 1.46 | 0.81 |
| 1:A:208:LEU:O | 1:A:211:LEU:HB3 | 1.80 | 0.81 |
| 1:A:137:VAL:HG11 | 1:A:201:ALA:HA | 1.62 | 0.81 |
| 1:A:252:LEU:O | 1:A:255:GLU:HG2 | 1.81 | 0.80 |
| 1:B:137:VAL:CG1 | 1:B:201:ALA:HA | 2.09 | 0.80 |
| 1:B:296:ALA:O | 1:B:300:ILE:HG23 | 1.82 | 0.80 |
| 1:A:57:ILE:HA | 1:A:60:PRO:HG2 | 1.62 | 0.80 |
| 1:A:329:ALA:HB1 | 1:A:369:CYS:HA | 1.63 | 0.80 |
| 1:A:395:PHE:O | 1:A:398:TYR:HD1 | 1.62 | 0.80 |
| 1:B:151:ARG:CG | 1:B:162:PRO:HG2 | 2.08 | 0.80 |
| 1:A:63:LEU:HD12 | 1:A:106:ILE:HG21 | 1.61 | 0.80 |
| 1:A:74:PRO:CG | 1:A:149:ALA:HB1 | 2.11 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:73:VAL:HB | 1:B:74:PRO:CD | 2.07 | 0.80 |
| 1:B:226:VAL:HG12 | 1:B:227:PHE:N | 1.97 | 0.80 |
| 1:B:276:ALA:HA | 1:B:426:TRP:HE1 | 1.47 | 0.80 |
| 1:B:407:TYR:HA | 1:B:425:PHE:CD2 | 2.16 | 0.80 |
| 1:A:267:ALA:N | 1:A:268:PRO:CD | 2.45 | 0.80 |
| 1:B:59:LEU:HD22 | 1:B:59:LEU:H | 1.47 | 0.80 |
| 1:B:266:VAL:HB | 1:B:425:PHE:CZ | 2.16 | 0.80 |
| 1:A:87:LYS:HZ1 | 1:B:308:GLU:HG2 | 1.46 | 0.80 |
| 1:A:407:TYR:HA | 1:A:425:PHE:CD2 | 2.16 | 0.80 |
| 1:A:447:LEU:HD11 | 1:A:450:GLN:NE2 | 1.76 | 0.80 |
| 1:B:74:PRO:CG | 1:B:149:ALA:HB1 | 2.12 | 0.80 |
| 1:A:53:ILE:O | 1:A:56:SER:HB3 | 1.80 | 0.80 |
| 1:A:154:THR:O | 1:A:158:SER:HA | 1.82 | 0.80 |
| 1:B:211:LEU:HG | 1:B:212:LEU:H | 1.47 | 0.80 |
| 1:B:11:GLU:HA | 1:B:301:ARG:NH2 | 1.95 | 0.79 |
| 1:A:398:TYR:CG | 1:A:436:ALA:HB2 | 2.16 | 0.79 |
| 1:A:447:LEU:O | 1:A:448:GLN:HB2 | 1.82 | 0.79 |
| 1:B:77:ALA:CB | 1:B:154:THR:HG23 | 2.11 | 0.79 |
| 1:B:329:ALA:HB1 | 1:B:369:CYS:HA | 1.63 | 0.79 |
| 1:A:46:ILE:C | 1:A:48:MET:H | 1.85 | 0.79 |
| 1:A:272:THR:O | 1:A:275:ALA:N | 2.15 | 0.79 |
| 1:A:379:GLY:O | 1:A:383:GLY:HA3 | 1.83 | 0.79 |
| 1:B:98:LEU:HA | 1:B:101:LEU:HD12 | 1.65 | 0.79 |
| 1:B:200:THR:HA | 1:B:203:VAL:HG23 | 1.64 | 0.79 |
| 1:B:208:LEU:O | 1:B:211:LEU:HB3 | 1.82 | 0.79 |
| 1:B:340:ARG:HD2 | 1:B:358:MET:CG | 2.12 | 0.79 |
| 1:A:332:THR:O | 1:A:335:LEU:HG | 1.83 | 0.79 |
| 1:A:444:LEU:O | 1:A:446:TRP:N | 2.12 | 0.79 |
| 1:B:32:MET:HG3 | 1:B:33:GLY:N | 1.98 | 0.79 |
| 1:A:276:ALA:HB1 | 1:A:426:TRP:CE2 | 2.16 | 0.79 |
| 1:A:84:ARG:HB3 | 1:A:87:LYS:HD2 | 1.65 | 0.79 |
| 1:A:98:LEU:HA | 1:A:101:LEU:HD12 | 1.64 | 0.79 |
| 1:B:236:LYS:HA | 1:B:239:ILE:HD12 | 1.64 | 0.79 |
| 1:B:353:VAL:HG12 | 1:B:357:ALA:CA | 2.13 | 0.79 |
| 1:A:155:ASP:HB2 | 1:A:159:LEU:N | 1.98 | 0.79 |
| 1:B:55:ALA:HB3 | 1:B:123:GLU:OE2 | 1.83 | 0.79 |
| 1:A:104:VAL:HA | 1:A:107:ILE:HG13 | 1.63 | 0.78 |
| 1:A:445:TYR:HB2 | 1:A:448:GLN:CA | 2.12 | 0.78 |
| 1:A:150:LEU:O | 1:A:155:ASP:N | 2.16 | 0.78 |
| 1:B:203:VAL:HG12 | 1:B:207:MET:SD | 2.23 | 0.78 |
| 1:A:382:ARG:HH22 | 1:A:445:TYR:H | 1.32 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:63:LEU:HD23 | 1:A:64:PHE:N | 1.98 | 0.78 |
| 1:A:341:GLU:CD | 1:A:342:GLN:H | 1.87 | 0.78 |
| 1:A:358:MET:CA | 1:A:361:LEU:HD12 | 2.10 | 0.78 |
| 1:B:420:LEU:HD11 | 1:B:422:ALA:HB3 | 1.66 | 0.78 |
| 1:A:124:GLU:O | 1:A:125:ALA:C | 2.22 | 0.78 |
| 1:B:341:GLU:O | 1:B:344:ALA:HB3 | 1.84 | 0.78 |
| 1:A:235:PRO:HA | 1:A:238:LEU:CB | 2.12 | 0.78 |
| 1:A:327:ALA:C | 1:A:331:ILE:HG22 | 2.02 | 0.78 |
| 1:B:231:HIS:C | 1:B:235:PRO:HG2 | 2.03 | 0.78 |
| 1:A:11:GLU:HB3 | 1:A:320:VAL:HG21 | 1.64 | 0.78 |
| 1:A:272:THR:CG2 | 1:A:275:ALA:HB3 | 2.13 | 0.78 |
| 1:B:253:PHE:HA | 1:B:256:VAL:HB | 1.63 | 0.78 |
| 1:A:341:GLU:O | 1:A:344:ALA:HB3 | 1.83 | 0.77 |
| 1:B:137:VAL:HG11 | 1:B:201:ALA:HA | 1.64 | 0.77 |
| 1:B:379:GLY:O | 1:B:383:GLY:HA3 | 1.85 | 0.77 |
| 1:A:403:LEU:HD21 | 1:A:429:PHE:HD2 | 1.49 | 0.77 |
| 1:B:31:GLY:O | 1:B:35:VAL:HG23 | 1.84 | 0.77 |
| 1:B:267:ALA:N | 1:B:268:PRO:CD | 2.47 | 0.77 |
| 1:B:340:ARG:CB | 1:B:361:LEU:HD13 | 2.14 | 0.77 |
| 1:A:161:LYS:H | 1:A:162:PRO:CD | 1.98 | 0.77 |
| 1:A:166:ILE:HB | 1:A:210:LEU:CD2 | 2.12 | 0.77 |
| 1:B:104:VAL:HB | 1:B:105:PRO:HD3 | 1.65 | 0.77 |
| 1:A:75:VAL:C | 1:A:77:ALA:H | 1.85 | 0.77 |
| 1:A:387:MET:HA | 1:A:443:ARG:HH21 | 1.49 | 0.77 |
| 1:A:146:LEU:O | 1:A:149:ALA:HB3 | 1.83 | 0.77 |
| 1:A:406:GLY:O | 1:A:409:LEU:HB3 | 1.84 | 0.77 |
| 1:B:96:LEU:HD12 | 1:B:146:LEU:HD12 | 1.66 | 0.77 |
| 1:B:146:LEU:O | 1:B:149:ALA:HB3 | 1.85 | 0.77 |
| 1:A:447:LEU:HD13 | 1:A:447:LEU:O | 1.85 | 0.76 |
| 1:B:77:ALA:HB1 | 1:B:154:THR:HG23 | 1.65 | 0.76 |
| 1:B:116:ILE:HG23 | 1:B:117:ILE:O | 1.85 | 0.76 |
| 1:B:161:LYS:H | 1:B:162:PRO:CD | 1.98 | 0.76 |
| 1:B:272:THR:O | 1:B:275:ALA:N | 2.17 | 0.76 |
| 1:B:411:MET:HA | 1:B:414:TRP:CG | 2.21 | 0.76 |
| 1:A:152:SER:O | 1:A:160:THR:HA | 1.85 | 0.76 |
| 1:A:272:THR:O | 1:A:274:VAL:N | 2.19 | 0.76 |
| 1:A:316:ILE:O | 1:A:320:VAL:HG12 | 1.86 | 0.76 |
| 1:B:63:LEU:HD12 | 1:B:106:ILE:HG21 | 1.67 | 0.76 |
| 1:A:246:PHE:HB3 | 1:A:247:PRO:HD3 | 1.68 | 0.76 |
| 1:B:246:PHE:HB3 | 1:B:247:PRO:HD3 | 1.66 | 0.76 |
| 1:A:20:THR:OG1 | 1:A:21:PRO:HD3 | 1.85 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:151:ARG:HD2 | 1:A:155:ASP:HA | 1.67 | 0.76 |
| 1:A:411:MET:HA | 1:A:414:TRP:CG | 2.21 | 0.76 |
| 1:B:142:PRO:HA | 1:B:145:LEU:HB3 | 1.66 | 0.76 |
| 1:B:266:VAL:HG13 | 1:B:407:TYR:CE2 | 2.21 | 0.76 |
| 1:A:88:ILE:CG1 | 1:A:89:PRO:HD3 | 2.15 | 0.76 |
| 1:A:57:ILE:C | 1:A:60:PRO:HD2 | 2.06 | 0.76 |
| 1:A:73:VAL:O | 1:A:76:VAL:HB | 1.85 | 0.76 |
| 1:A:273:VAL:HG13 | 1:A:274:VAL:H | 1.50 | 0.76 |
| 1:B:24:ILE:HG21 | 1:B:164:MET:HG3 | 1.68 | 0.76 |
| 1:B:90:PHE:HE2 | 1:B:228:GLU:HA | 1.51 | 0.76 |
| 1:B:275:ALA:CB | 1:B:353:VAL:HG11 | 2.15 | 0.76 |
| 1:B:327:ALA:C | 1:B:331:ILE:HG22 | 2.05 | 0.76 |
| 1:A:71:ALA:CA | 1:A:74:PRO:HD2 | 2.17 | 0.75 |
| 1:A:90:PHE:CE2 | 1:A:228:GLU:HA | 2.21 | 0.75 |
| 1:A:155:ASP:CB | 1:A:159:LEU:H | 1.98 | 0.75 |
| 1:B:182:VAL:HG22 | 1:B:195:GLY:HA3 | 1.68 | 0.75 |
| 1:A:447:LEU:CD1 | 1:A:447:LEU:C | 2.36 | 0.75 |
| 1:B:74:PRO:CB | 1:B:149:ALA:HB1 | 2.16 | 0.75 |
| 1:B:165:VAL:CG1 | 1:B:166:ILE:N | 2.41 | 0.75 |
| 1:A:276:ALA:HA | 1:A:426:TRP:NE1 | 2.00 | 0.75 |
| 1:A:445:TYR:CD2 | 1:A:448:GLN:HG2 | 2.22 | 0.75 |
| 1:B:46:ILE:O | 1:B:48:MET:N | 2.19 | 0.75 |
| 1:A:145:LEU:HD22 | 1:A:145:LEU:C | 2.06 | 0.75 |
| 1:A:265:LEU:O | 1:A:268:PRO:CD | 2.35 | 0.75 |
| 1:A:407:TYR:O | 1:A:411:MET:N | 2.19 | 0.75 |
| 1:B:80:ASN:C | 1:B:82:ALA:H | 1.88 | 0.75 |
| 1:A:45:ALA:CB | 1:A:49:ALA:HB2 | 2.13 | 0.75 |
| 1:A:76:VAL:HG23 | 1:A:78:GLN:NE2 | 2.02 | 0.75 |
| 1:A:266:VAL:HG13 | 1:A:407:TYR:CE2 | 2.21 | 0.75 |
| 1:A:314:ALA:HB1 | 1:A:445:TYR:CE1 | 2.21 | 0.75 |
| 1:A:413:ASN:HB3 | 1:A:414:TRP:CE3 | 2.21 | 0.75 |
| 1:B:252:LEU:O | 1:B:255:GLU:HG2 | 1.87 | 0.75 |
| 1:B:358:MET:HA | 1:B:361:LEU:CD1 | 2.04 | 0.75 |
| 1:A:191:LEU:HB3 | 1:A:194:VAL:HG23 | 1.67 | 0.75 |
| 1:B:117:ILE:HG22 | 1:B:118:ARG:N | 2.02 | 0.75 |
| 1:B:123:GLU:O | 1:B:124:GLU:O | 2.04 | 0.75 |
| 1:A:142:PRO:O | 1:A:145:LEU:HB3 | 1.86 | 0.75 |
| 1:A:326:LEU:O | 1:A:330:CYS:CB | 2.34 | 0.75 |
| 1:B:272:THR:CG2 | 1:B:275:ALA:HB3 | 2.15 | 0.75 |
| 1:A:117:ILE:CG2 | 1:A:118:ARG:H | 1.90 | 0.74 |
| 1:A:272:THR:O | 1:A:273:VAL:C | 2.24 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:90:PHE:CE2 | 1:B:228:GLU:HA | 2.22 | 0.74 |
| 1:B:185:LYS:HB2 | 1:B:189:PRO:HB3 | 1.68 | 0.74 |
| 1:B:216:VAL:HG22 | 1:B:225:LYS:HD3 | 1.68 | 0.74 |
| 1:B:273:VAL:HG13 | 1:B:274:VAL:H | 1.52 | 0.74 |
| 1:A:211:LEU:HG | 1:A:212:LEU:H | 1.50 | 0.74 |
| 1:B:166:ILE:HB | 1:B:210:LEU:CD2 | 2.18 | 0.74 |
| 1:B:141:VAL:HB | 1:B:142:PRO:HD3 | 1.69 | 0.74 |
| 1:B:142:PRO:O | 1:B:145:LEU:HB3 | 1.88 | 0.74 |
| 1:B:265:LEU:O | 1:B:268:PRO:HD3 | 1.87 | 0.74 |
| 1:B:332:THR:O | 1:B:335:LEU:HG | 1.86 | 0.74 |
| 1:A:171:LEU:HD23 | 1:A:172:LEU:N | 2.01 | 0.74 |
| 1:A:340:ARG:CA | 1:A:361:LEU:HD13 | 2.18 | 0.74 |
| 1:B:210:LEU:HD22 | 1:B:210:LEU:H | 1.51 | 0.74 |
| 1:A:36:ASP:HB2 | 1:A:178:ASN:ND2 | 2.03 | 0.73 |
| 1:B:93:HIS:HD2 | 1:B:228:GLU:HB3 | 1.51 | 0.73 |
| 1:B:113:THR:HA | 1:B:116:ILE:HG22 | 1.69 | 0.73 |
| 1:B:391:PHE:C | 1:B:391:PHE:CD2 | 2.60 | 0.73 |
| 1:B:123:GLU:HG2 | 1:B:127:ALA:HB3 | 1.70 | 0.73 |
| 1:A:267:ALA:H | 1:A:268:PRO:CD | 2.01 | 0.73 |
| 1:B:20:THR:OG1 | 1:B:21:PRO:HD3 | 1.88 | 0.73 |
| 1:A:202:ILE:O | 1:A:205:TRP:HB3 | 1.88 | 0.73 |
| 1:B:53:ILE:O | 1:B:56:SER:HB3 | 1.89 | 0.73 |
| 1:B:211:LEU:HG | 1:B:212:LEU:N | 2.03 | 0.73 |
| 1:A:93:HIS:HD2 | 1:A:228:GLU:HB3 | 1.52 | 0.73 |
| 1:A:409:LEU:HD12 | 1:A:424:GLY:O | 1.88 | 0.73 |
| 1:B:416:THR:O | 1:B:417:GLU:HB2 | 1.86 | 0.73 |
| 1:A:116:ILE:HG23 | 1:A:117:ILE:O | 1.88 | 0.73 |
| 1:B:238:LEU:HD12 | 1:B:241:LEU:HD13 | 1.71 | 0.73 |
| 1:B:332:THR:HA | 1:B:335:LEU:CD2 | 2.18 | 0.73 |
| 1:B:449:LYS:O | 1:B:449:LYS:HG2 | 1.89 | 0.73 |
| 1:B:134:MET:O | 1:B:137:VAL:HB | 1.88 | 0.73 |
| 1:B:267:ALA:H | 1:B:268:PRO:CD | 2.00 | 0.73 |
| 1:B:423:LYS:HG3 | 1:B:424:GLY:N | 2.04 | 0.73 |
| 1:A:45:ALA:HB3 | 1:A:49:ALA:CB | 2.15 | 0.73 |
| 1:A:113:THR:CA | 1:A:116:ILE:HG22 | 2.18 | 0.73 |
| 1:A:275:ALA:CA | 1:A:353:VAL:HG21 | 2.18 | 0.73 |
| 1:A:427:LEU:HD23 | 1:A:428:GLY:N | 2.04 | 0.73 |
| 1:B:44:SER:C | 1:B:46:ILE:H | 1.93 | 0.73 |
| 1:B:45:ALA:HB3 | 1:B:49:ALA:CB | 2.16 | 0.73 |
| 1:B:117:ILE:HG22 | 1:B:118:ARG:H | 1.54 | 0.73 |
| 1:B:200:THR:HA | 1:B:203:VAL:CG2 | 2.18 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:300:ILE:HG13 | 1:B:301:ARG:N | 2.04 | 0.73 |
| 1:A:123:GLU:HG2 | 1:A:127:ALA:HB3 | 1.71 | 0.72 |
| 1:B:208:LEU:HD23 | 1:B:209:LEU:H | 1.55 | 0.72 |
| 1:A:253:PHE:O | 1:A:256:VAL:HG12 | 1.88 | 0.72 |
| 1:B:275:ALA:HA | 1:B:353:VAL:HG11 | 1.71 | 0.72 |
| 1:A:26:SER:HB2 | 1:A:289:MET:SD | 2.28 | 0.72 |
| 1:A:90:PHE:HE2 | 1:A:228:GLU:HA | 1.55 | 0.72 |
| 1:A:141:VAL:HB | 1:A:142:PRO:HD3 | 1.70 | 0.72 |
| 1:A:244:LEU:HB2 | 1:A:385:LYS:NZ | 2.04 | 0.72 |
| 1:B:266:VAL:HG22 | 1:B:407:TYR:CE1 | 2.24 | 0.72 |
| 1:B:433:LEU:O | 1:B:437:ALA:HB2 | 1.89 | 0.72 |
| 1:B:76:VAL:HG23 | 1:B:78:GLN:NE2 | 2.05 | 0.72 |
| 1:B:385:LYS:HD3 | 1:B:386:ASP:N | 2.05 | 0.72 |
| 1:A:27:VAL:O | 1:A:31:GLY:HA3 | 1.89 | 0.72 |
| 1:A:35:VAL:O | 1:A:39:MET:HB3 | 1.89 | 0.72 |
| 1:B:75:VAL:C | 1:B:77:ALA:H | 1.91 | 0.72 |
| 1:B:215:ILE:HG23 | 1:B:216:VAL:H | 1.54 | 0.72 |
| 1:A:250:ALA:O | 1:A:254:PHE:HB3 | 1.88 | 0.72 |
| 1:B:213:PHE:O | 1:B:217:THR:HG22 | 1.89 | 0.72 |
| 1:A:73:VAL:HB | 1:A:74:PRO:CD | 2.10 | 0.72 |
| 1:A:327:ALA:O | 1:A:331:ILE:N | 2.22 | 0.72 |
| 1:B:77:ALA:HB2 | 1:B:154:THR:OG1 | 1.89 | 0.72 |
| 1:A:46:ILE:O | 1:A:48:MET:N | 2.23 | 0.72 |
| 1:A:340:ARG:CB | 1:A:361:LEU:HD13 | 2.19 | 0.72 |
| 1:A:393:ARG:HH11 | 1:A:393:ARG:HG3 | 1.55 | 0.72 |
| 1:B:46:ILE:O | 1:B:46:ILE:HG22 | 1.88 | 0.72 |
| 1:B:132:GLY:O | 1:B:135:HIS:HB2 | 1.89 | 0.72 |
| 1:B:171:LEU:HD23 | 1:B:172:LEU:N | 2.04 | 0.72 |
| 1:B:275:ALA:CA | 1:B:353:VAL:HG21 | 2.19 | 0.72 |
| 1:B:326:LEU:O | 1:B:330:CYS:CB | 2.37 | 0.72 |
| 1:B:316:ILE:O | 1:B:320:VAL:HG12 | 1.90 | 0.72 |
| 1:A:145:LEU:HD22 | 1:A:145:LEU:O | 1.90 | 0.71 |
| 1:A:234:GLN:N | 1:A:235:PRO:CD | 2.53 | 0.71 |
| 1:A:326:LEU:O | 1:A:330:CYS:N | 2.19 | 0.71 |
| 1:A:340:ARG:HA | 1:A:361:LEU:HD13 | 1.72 | 0.71 |
| 1:A:353:VAL:HG12 | 1:A:357:ALA:CA | 2.21 | 0.71 |
| 1:A:391:PHE:C | 1:A:391:PHE:CD2 | 2.63 | 0.71 |
| 1:A:252:LEU:HD22 | 1:A:255:GLU:OE2 | 1.90 | 0.71 |
| 1:A:266:VAL:HB | 1:A:425:PHE:CZ | 2.25 | 0.71 |
| 1:A:272:THR:HG23 | 1:A:275:ALA:CB | 2.20 | 0.71 |
| 1:A:299:SER:O | 1:A:302:VAL:HG12 | 1.88 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:88:ILE:CG1 | 1:B:89:PRO:HD3 | 2.19 | 0.71 |
| 1:A:151:ARG:O | 1:A:155:ASP:N | 2.23 | 0.71 |
| 1:B:63:LEU:HD23 | 1:B:64:PHE:N | 2.03 | 0.71 |
| 1:A:104:VAL:HB | 1:A:105:PRO:HD3 | 1.72 | 0.71 |
| 1:B:411:MET:O | 1:B:414:TRP:HB2 | 1.90 | 0.71 |
| 1:B:24:ILE:O | 1:B:27:VAL:HB | 1.91 | 0.71 |
| 1:A:275:ALA:CB | 1:A:353:VAL:HG11 | 2.20 | 0.71 |
| 1:A:148:GLN:O | 1:A:152:SER:HB3 | 1.90 | 0.71 |
| 1:B:96:LEU:CA | 1:B:146:LEU:HG | 2.20 | 0.71 |
| 1:B:150:LEU:O | 1:B:155:ASP:N | 2.24 | 0.71 |
| 1:B:244:LEU:HB2 | 1:B:385:LYS:HZ3 | 1.55 | 0.71 |
| 1:B:409:LEU:HD12 | 1:B:424:GLY:O | 1.91 | 0.71 |
| 1:A:59:LEU:H | 1:A:59:LEU:CD1 | 2.04 | 0.71 |
| 1:A:94:GLN:OE1 | 1:A:238:LEU:HD11 | 1.91 | 0.71 |
| 1:A:130:THR:HG21 | 1:A:194:VAL:HG22 | 1.72 | 0.71 |
| 1:B:69:LEU:HG | 1:B:245:GLY:HA3 | 1.72 | 0.71 |
| 1:A:77:ALA:HB1 | 1:A:154:THR:HG23 | 1.71 | 0.71 |
| 1:A:433:LEU:O | 1:A:437:ALA:HB2 | 1.91 | 0.71 |
| 1:B:11:GLU:HB3 | 1:B:320:VAL:HG21 | 1.71 | 0.70 |
| 1:B:251:ALA:HB1 | 1:B:395:PHE:CD1 | 2.26 | 0.70 |
| 1:B:341:GLU:CD | 1:B:342:GLN:H | 1.94 | 0.70 |
| 1:B:104:VAL:HA | 1:B:107:ILE:HG13 | 1.74 | 0.70 |
| 1:B:155:ASP:HB2 | 1:B:159:LEU:N | 2.04 | 0.70 |
| 1:B:340:ARG:CA | 1:B:361:LEU:HD13 | 2.21 | 0.70 |
| 1:B:420:LEU:CD1 | 1:B:422:ALA:HB3 | 2.21 | 0.70 |
| 1:A:173:LEU:O | 1:A:176:PRO:HD2 | 1.91 | 0.70 |
| 1:A:423:LYS:HG3 | 1:A:424:GLY:N | 2.04 | 0.70 |
| 1:B:408:ILE:HA | 1:B:411:MET:CB | 2.10 | 0.70 |
| 1:A:191:LEU:HB3 | 1:A:194:VAL:CG2 | 2.22 | 0.70 |
| 1:A:216:VAL:HG22 | 1:A:225:LYS:HD3 | 1.71 | 0.70 |
| 1:A:232:LYS:C | 1:A:235:PRO:HD2 | 2.11 | 0.70 |
| 1:B:326:LEU:O | 1:B:330:CYS:N | 2.24 | 0.70 |
| 1:B:408:ILE:CA | 1:B:411:MET:HB2 | 2.09 | 0.70 |
| 1:A:32:MET:HG3 | 1:A:33:GLY:N | 2.07 | 0.70 |
| 1:A:68:LEU:HD13 | 1:A:68:LEU:O | 1.91 | 0.70 |
| 1:A:150:LEU:O | 1:A:154:THR:HB | 1.92 | 0.70 |
| 1:B:40:ALA:O | 1:B:44:SER:HB2 | 1.91 | 0.70 |
| 1:B:68:LEU:O | 1:B:68:LEU:HD13 | 1.91 | 0.70 |
| 1:A:385:LYS:C | 1:A:385:LYS:HD3 | 2.10 | 0.70 |
| 1:A:416:THR:O | 1:A:417:GLU:HB2 | 1.92 | 0.70 |
| 1:A:132:GLY:O | 1:A:135:HIS:HB2 | 1.91 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:151:ARG:HD2 | 1:B:155:ASP:HA | 1.73 | 0.70 |
| 1:B:155:ASP:CB | 1:B:159:LEU:H | 2.03 | 0.70 |
| 1:A:211:LEU:HG | 1:A:212:LEU:N | 2.06 | 0.70 |
| 1:A:215:ILE:HG23 | 1:A:216:VAL:N | 2.07 | 0.70 |
| 1:A:215:ILE:HG23 | 1:A:216:VAL:H | 1.57 | 0.70 |
| 1:A:244:LEU:HG | 1:A:385:LYS:NZ | 2.07 | 0.70 |
| 1:B:41:GLY:C | 1:B:49:ALA:HB1 | 2.13 | 0.70 |
| 1:B:252:LEU:HD22 | 1:B:255:GLU:OE2 | 1.92 | 0.70 |
| 1:A:182:VAL:HG22 | 1:A:195:GLY:HA3 | 1.73 | 0.69 |
| 1:A:390:ILE:O | 1:A:390:ILE:HG22 | 1.92 | 0.69 |
| 1:B:118:ARG:HH21 | 1:B:119:PHE:HB2 | 1.57 | 0.69 |
| 1:A:76:VAL:C | 1:A:78:GLN:N | 2.46 | 0.69 |
| 1:A:80:ASN:C | 1:A:82:ALA:H | 1.94 | 0.69 |
| 1:B:152:SER:O | 1:B:160:THR:HA | 1.92 | 0.69 |
| 1:B:173:LEU:O | 1:B:176:PRO:HD2 | 1.92 | 0.69 |
| 1:B:423:LYS:HG3 | 1:B:424:GLY:H | 1.57 | 0.69 |
| 1:A:266:VAL:HG22 | 1:A:407:TYR:CE1 | 2.27 | 0.69 |
| 1:A:412:THR:C | 1:A:415:LEU:H | 1.96 | 0.69 |
| 1:A:421:GLY:O | 1:A:425:PHE:HB3 | 1.92 | 0.69 |
| 1:B:45:ALA:CB | 1:B:49:ALA:HB2 | 2.15 | 0.69 |
| 1:A:75:VAL:O | 1:A:77:ALA:N | 2.26 | 0.69 |
| 1:A:203:VAL:HG12 | 1:A:207:MET:SD | 2.33 | 0.69 |
| 1:A:236:LYS:HA | 1:A:239:ILE:CD1 | 2.22 | 0.69 |
| 1:A:366:ILE:O | 1:A:369:CYS:HB3 | 1.91 | 0.69 |
| 1:A:410:GLY:CA | 1:A:425:PHE:HB2 | 2.22 | 0.69 |
| 1:A:300:ILE:HG13 | 1:A:301:ARG:N | 2.05 | 0.69 |
| 1:A:74:PRO:HB3 | 1:A:149:ALA:CB | 2.22 | 0.69 |
| 1:A:118:ARG:HH21 | 1:A:119:PHE:HB2 | 1.58 | 0.69 |
| 1:A:353:VAL:HG12 | 1:A:357:ALA:HB2 | 1.73 | 0.69 |
| 1:B:165:VAL:O | 1:B:169:ILE:HB | 1.92 | 0.69 |
| 1:B:403:LEU:HD21 | 1:B:429:PHE:CD2 | 2.27 | 0.69 |
| 1:A:131:VAL:HA | 1:A:134:MET:HB2 | 1.74 | 0.69 |
| 1:A:174:ASN:HD21 | 1:A:203:VAL:HG22 | 1.58 | 0.69 |
| 1:A:314:ALA:HB2 | 1:A:449:LYS:NZ | 2.07 | 0.69 |
| 1:A:449:LYS:HG2 | 1:A:449:LYS:O | 1.93 | 0.69 |
| 1:B:57:ILE:C | 1:B:60:PRO:HD2 | 2.12 | 0.69 |
| 1:B:215:ILE:HG23 | 1:B:216:VAL:N | 2.07 | 0.69 |
| 1:B:236:LYS:HA | 1:B:239:ILE:CD1 | 2.23 | 0.69 |
| 1:B:328:THR:HA | 1:B:331:ILE:CG2 | 2.23 | 0.69 |
| 1:A:124:GLU:O | 1:A:126:MET:N | 2.26 | 0.69 |
| 1:A:219:LYS:HD2 | 1:A:220:ARG:HG2 | 1.75 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:353:VAL:CG1 | 1:A:357:ALA:HB2 | 2.23 | 0.69 |
| 1:A:411:MET:O | 1:A:414:TRP:HB2 | 1.92 | 0.69 |
| 1:B:55:ALA:HA | 1:B:58:TRP:CD1 | 2.27 | 0.69 |
| 1:B:166:ILE:O | 1:B:166:ILE:HD13 | 1.93 | 0.69 |
| 1:B:191:LEU:HB3 | 1:B:194:VAL:HG23 | 1.73 | 0.69 |
| 1:B:250:ALA:O | 1:B:254:PHE:HB3 | 1.93 | 0.69 |
| 1:B:339:PHE:HB3 | 1:B:343:ILE:CG1 | 2.23 | 0.69 |
| 1:B:393:ARG:HG3 | 1:B:393:ARG:HH11 | 1.56 | 0.69 |
| 1:A:24:ILE:HG21 | 1:A:164:MET:HG3 | 1.75 | 0.69 |
| 1:A:92:VAL:HG12 | 1:A:93:HIS:N | 2.08 | 0.69 |
| 1:A:410:GLY:HA3 | 1:A:425:PHE:HB2 | 1.75 | 0.69 |
| 1:B:13:SER:O | 1:B:16:ILE:HG22 | 1.92 | 0.69 |
| 1:B:272:THR:HG23 | 1:B:275:ALA:CB | 2.20 | 0.69 |
| 1:B:353:VAL:HG12 | 1:B:357:ALA:H | 1.54 | 0.69 |
| 1:A:251:ALA:HB1 | 1:A:395:PHE:CD1 | 2.27 | 0.68 |
| 1:A:281:LEU:HD22 | 1:A:282:ASN:HD22 | 1.59 | 0.68 |
| 1:B:240:ARG:HD3 | 1:B:460:ALA:HA | 1.75 | 0.68 |
| 1:A:232:LYS:H | 1:A:233:PRO:CD | 2.05 | 0.68 |
| 1:A:354:VAL:HA | 1:A:357:ALA:HB3 | 1.74 | 0.68 |
| 1:A:441:GLY:O | 1:A:444:LEU:HB2 | 1.93 | 0.68 |
| 1:B:86:HIS:CG | 1:B:87:LYS:N | 2.61 | 0.68 |
| 1:B:144:TYR:CD1 | 1:B:145:LEU:N | 2.62 | 0.68 |
| 1:B:362:LEU:HD23 | 1:B:363:PHE:N | 2.08 | 0.68 |
| 1:A:4:SER:O | 1:A:8:TYR:CE2 | 2.47 | 0.68 |
| 1:A:275:ALA:HA | 1:A:353:VAL:HG11 | 1.75 | 0.68 |
| 1:A:185:LYS:HB2 | 1:A:189:PRO:HB3 | 1.73 | 0.68 |
| 1:A:420:LEU:HB3 | 1:A:423:LYS:CG | 2.20 | 0.68 |
| 1:B:244:LEU:HB2 | 1:B:385:LYS:NZ | 2.09 | 0.68 |
| 1:B:247:PRO:O | 1:B:251:ALA:HB2 | 1.93 | 0.68 |
| 1:A:130:THR:CG2 | 1:A:194:VAL:HG22 | 2.23 | 0.68 |
| 1:A:213:PHE:O | 1:A:217:THR:HG22 | 1.93 | 0.68 |
| 1:A:295:GLY:O | 1:A:299:SER:N | 2.25 | 0.68 |
| 1:A:312:LYS:HA | 1:A:312:LYS:NZ | 2.08 | 0.68 |
| 1:B:93:HIS:CD2 | 1:B:228:GLU:HB3 | 2.28 | 0.68 |
| 1:B:370:MET:O | 1:B:373:VAL:HG12 | 1.93 | 0.68 |
| 1:A:362:LEU:HD23 | 1:A:363:PHE:N | 2.09 | 0.68 |
| 1:A:13:SER:O | 1:A:16:ILE:HG22 | 1.94 | 0.68 |
| 1:A:96:LEU:O | 1:A:96:LEU:HD23 | 1.93 | 0.68 |
| 1:A:166:ILE:HD13 | 1:A:166:ILE:O | 1.93 | 0.68 |
| 1:A:457:HIS:HA | 1:A:460:ALA:HB3 | 1.75 | 0.68 |
| 1:B:232:LYS:C | 1:B:235:PRO:HD2 | 2.13 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:359:GLN:O | 1:A:362:LEU:HB3 | 1.94 | 0.68 |
| 1:A:447:LEU:HD21 | 1:A:450:GLN:HG2 | 1.76 | 0.68 |
| 1:A:423:LYS:HG3 | 1:A:424:GLY:H | 1.58 | 0.68 |
| 1:B:387:MET:HG3 | 1:B:446:TRP:HZ2 | 1.59 | 0.68 |
| 1:B:244:LEU:HG | 1:B:385:LYS:NZ | 2.09 | 0.68 |
| 1:B:72:LEU:CD1 | 1:B:244:LEU:HD21 | 2.24 | 0.67 |
| 1:B:443:ARG:O | 1:B:445:TYR:N | 2.26 | 0.67 |
| 1:A:93:HIS:CD2 | 1:A:228:GLU:HB3 | 2.28 | 0.67 |
| 1:A:387:MET:O | 1:A:391:PHE:N | 2.28 | 0.67 |
| 1:B:296:ALA:HA | 1:B:299:SER:HB3 | 1.76 | 0.67 |
| 1:B:299:SER:O | 1:B:302:VAL:HG12 | 1.95 | 0.67 |
| 1:A:238:LEU:HD12 | 1:A:241:LEU:HD13 | 1.77 | 0.67 |
| 1:B:124:GLU:O | 1:B:125:ALA:C | 2.31 | 0.67 |
| 1:B:272:THR:O | 1:B:273:VAL:C | 2.32 | 0.67 |
| 1:A:200:THR:HA | 1:A:203:VAL:HG23 | 1.77 | 0.67 |
| 1:A:414:TRP:N | 1:A:414:TRP:HE3 | 1.92 | 0.67 |
| 1:B:290:PHE:CB | 1:B:291:PRO:HD3 | 2.24 | 0.67 |
| 1:A:46:ILE:O | 1:A:46:ILE:HG22 | 1.93 | 0.67 |
| 1:A:413:ASN:HB2 | 1:A:418:GLN:HE21 | 1.57 | 0.67 |
| 1:B:73:VAL:O | 1:B:76:VAL:HB | 1.95 | 0.67 |
| 1:B:76:VAL:HA | 1:B:78:GLN:NE2 | 2.08 | 0.67 |
| 1:B:185:LYS:HD3 | 1:B:185:LYS:C | 2.15 | 0.67 |
| 1:B:275:ALA:N | 1:B:353:VAL:HG21 | 2.10 | 0.67 |
| 1:B:445:TYR:CB | 1:B:448:GLN:HA | 2.17 | 0.67 |
| 1:A:225:LYS:O | 1:A:226:VAL:HG23 | 1.95 | 0.67 |
| 1:A:238:LEU:HA | 1:A:241:LEU:HD13 | 1.77 | 0.67 |
| 1:A:273:VAL:HG13 | 1:A:274:VAL:N | 2.10 | 0.67 |
| 1:A:328:THR:HA | 1:A:331:ILE:CG2 | 2.23 | 0.67 |
| 1:B:134:MET:HG3 | 1:B:197:GLY:HA3 | 1.75 | 0.67 |
| 1:A:231:HIS:HB3 | 1:A:235:PRO:CG | 2.25 | 0.67 |
| 1:A:264:LEU:O | 1:A:267:ALA:N | 2.27 | 0.67 |
| 1:A:34:PHE:CD1 | 1:A:34:PHE:C | 2.68 | 0.67 |
| 1:A:55:ALA:O | 1:A:58:TRP:HB3 | 1.94 | 0.67 |
| 1:A:340:ARG:HD2 | 1:A:358:MET:CG | 2.24 | 0.67 |
| 1:B:161:LYS:H | 1:B:162:PRO:HD2 | 1.60 | 0.67 |
| 1:B:376:VAL:HG13 | 1:B:377:ALA:N | 2.07 | 0.67 |
| 1:A:77:ALA:HB2 | 1:A:154:THR:OG1 | 1.94 | 0.67 |
| 1:A:86:HIS:CG | 1:A:87:LYS:N | 2.63 | 0.67 |
| 1:B:413:ASN:HB2 | 1:B:418:GLN:NE2 | 2.10 | 0.67 |
| 1:A:18:LEU:C | 1:A:21:PRO:HD2 | 2.15 | 0.66 |
| 1:A:118:ARG:CZ | 1:A:119:PHE:HB2 | 2.24 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:238:LEU:HA | 1:B:241:LEU:HD13 | 1.76 | 0.66 |
| 1:B:279:VAL:HG21 | 1:B:357:ALA:HA | 1.77 | 0.66 |
| 1:B:118:ARG:CZ | 1:B:119:PHE:HB2 | 2.26 | 0.66 |
| 1:B:130:THR:HG21 | 1:B:194:VAL:HG22 | 1.77 | 0.66 |
| 1:B:247:PRO:CB | 1:B:389:ALA:HA | 2.25 | 0.66 |
| 1:B:316:ILE:C | 1:B:320:VAL:HG12 | 2.16 | 0.66 |
| 1:B:340:ARG:HA | 1:B:361:LEU:HD13 | 1.77 | 0.66 |
| 1:B:148:GLN:O | 1:B:152:SER:HB3 | 1.95 | 0.66 |
| 1:B:234:GLN:O | 1:B:238:LEU:N | 2.29 | 0.66 |
| 1:B:281:LEU:HD22 | 1:B:282:ASN:HD22 | 1.59 | 0.66 |
| 1:A:262:VAL:CG2 | 1:A:403:LEU:HD13 | 2.23 | 0.66 |
| 1:A:353:VAL:HG12 | 1:A:357:ALA:H | 1.59 | 0.66 |
| 1:A:413:ASN:HB2 | 1:A:418:GLN:NE2 | 2.10 | 0.66 |
| 1:A:417:GLU:OE1 | 1:A:417:GLU:HA | 1.95 | 0.66 |
| 1:B:225:LYS:O | 1:B:226:VAL:HG23 | 1.95 | 0.66 |
| 1:B:327:ALA:O | 1:B:331:ILE:N | 2.29 | 0.66 |
| 1:A:144:TYR:CD1 | 1:A:145:LEU:N | 2.63 | 0.66 |
| 1:A:165:VAL:O | 1:A:169:ILE:HB | 1.96 | 0.66 |
| 1:A:210:LEU:HD22 | 1:A:210:LEU:H | 1.59 | 0.66 |
| 1:B:234:GLN:N | 1:B:235:PRO:CD | 2.58 | 0.66 |
| 1:B:253:PHE:O | 1:B:256:VAL:HG12 | 1.96 | 0.66 |
| 1:B:353:VAL:HG12 | 1:B:357:ALA:HB2 | 1.76 | 0.66 |
| 1:A:118:ARG:NH2 | 1:A:119:PHE:HB2 | 2.10 | 0.66 |
| 1:A:423:LYS:O | 1:A:426:TRP:HB2 | 1.95 | 0.66 |
| 1:B:389:ALA:O | 1:B:392:HIS:HB3 | 1.95 | 0.66 |
| 1:A:44:SER:C | 1:A:46:ILE:H | 1.97 | 0.66 |
| 1:A:113:THR:HA | 1:A:116:ILE:CG2 | 2.24 | 0.66 |
| 1:A:284:SER:O | 1:A:286:LEU:N | 2.29 | 0.66 |
| 1:A:290:PHE:CB | 1:A:291:PRO:HD3 | 2.25 | 0.66 |
| 1:B:298:VAL:HG21 | 1:B:321:GLY:HA3 | 1.77 | 0.66 |
| 1:A:183:TYR:O | 1:A:185:LYS:N | 2.28 | 0.66 |
| 1:B:118:ARG:NH2 | 1:B:119:PHE:HB2 | 2.11 | 0.66 |
| 1:B:145:LEU:C | 1:B:145:LEU:HD22 | 2.16 | 0.66 |
| 1:B:276:ALA:HA | 1:B:426:TRP:NE1 | 2.10 | 0.66 |
| 1:A:63:LEU:O | 1:A:65:GLY:N | 2.29 | 0.66 |
| 1:A:296:ALA:HA | 1:A:299:SER:HB3 | 1.78 | 0.66 |
| 1:A:379:GLY:HA2 | 1:A:391:PHE:HE1 | 1.61 | 0.66 |
| 1:B:354:VAL:CA | 1:B:357:ALA:HB3 | 2.26 | 0.66 |
| 1:A:87:LYS:NZ | 1:B:308:GLU:HG2 | 2.10 | 0.66 |
| 1:A:96:LEU:CA | 1:A:146:LEU:HG | 2.26 | 0.66 |
| 1:A:208:LEU:HD23 | 1:A:209:LEU:H | 1.57 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:236:LYS:O | 1:B:239:ILE:HB | 1.96 | 0.66 |
| 1:B:420:LEU:HB3 | 1:B:423:LYS:CG | 2.25 | 0.66 |
| 1:A:161:LYS:H | 1:A:162:PRO:HD2 | 1.60 | 0.65 |
| 1:A:391:PHE:CD2 | 1:A:392:HIS:N | 2.61 | 0.65 |
| 1:B:12:ALA:HA | 1:B:15:LEU:HD21 | 1.76 | 0.65 |
| 1:B:354:VAL:HA | 1:B:357:ALA:HB3 | 1.78 | 0.65 |
| 1:B:382:ARG:O | 1:B:387:MET:HB2 | 1.96 | 0.65 |
| 1:A:296:ALA:O | 1:A:300:ILE:HG23 | 1.97 | 0.65 |
| 1:B:63:LEU:O | 1:B:65:GLY:N | 2.28 | 0.65 |
| 1:A:73:VAL:O | 1:A:76:VAL:CB | 2.44 | 0.65 |
| 1:A:114:GLN:O | 1:A:128:THR:HG23 | 1.95 | 0.65 |
| 1:A:378:ALA:HB2 | 1:A:440:LEU:HG | 1.78 | 0.65 |
| 1:A:420:LEU:HD11 | 1:A:422:ALA:HB3 | 1.78 | 0.65 |
| 1:B:11:GLU:CG | 1:B:320:VAL:HB | 2.26 | 0.65 |
| 1:B:262:VAL:CG2 | 1:B:403:LEU:HD13 | 2.25 | 0.65 |
| 1:A:240:ARG:HD3 | 1:A:460:ALA:HA | 1.76 | 0.65 |
| 1:B:94:GLN:HE21 | 1:B:231:HIS:HB2 | 1.61 | 0.65 |
| 1:B:146:LEU:HD22 | 1:B:149:ALA:HB3 | 1.78 | 0.65 |
| 1:B:235:PRO:C | 1:B:238:LEU:HB2 | 2.16 | 0.65 |
| 1:B:413:ASN:HB2 | 1:B:418:GLN:HE21 | 1.61 | 0.65 |
| 1:A:146:LEU:HD22 | 1:A:149:ALA:HB3 | 1.79 | 0.65 |
| 1:B:128:THR:HG22 | 1:B:129:LYS:N | 2.11 | 0.65 |
| 1:B:130:THR:CG2 | 1:B:194:VAL:HG22 | 2.27 | 0.65 |
| 1:B:244:LEU:HD23 | 1:B:385:LYS:O | 1.97 | 0.65 |
| 1:B:247:PRO:CG | 1:B:389:ALA:HA | 2.27 | 0.65 |
| 1:B:407:TYR:O | 1:B:411:MET:N | 2.23 | 0.65 |
| 1:A:444:LEU:C | 1:A:446:TRP:H | 1.98 | 0.65 |
| 1:B:96:LEU:O | 1:B:99:ALA:CB | 2.44 | 0.65 |
| 1:B:135:HIS:HA | 1:B:138:ILE:HG22 | 1.78 | 0.65 |
| 1:A:275:ALA:N | 1:A:353:VAL:HG21 | 2.11 | 0.65 |
| 1:A:301:ARG:O | 1:A:301:ARG:HD3 | 1.95 | 0.65 |
| 1:A:332:THR:HA | 1:A:335:LEU:CD2 | 2.27 | 0.65 |
| 1:B:70:MET:CE | 1:B:99:ALA:HB2 | 2.27 | 0.65 |
| 1:B:428:GLY:O | 1:B:431:ILE:HB | 1.97 | 0.65 |
| 1:A:279:VAL:HG21 | 1:A:357:ALA:HA | 1.79 | 0.65 |
| 1:B:247:PRO:HB3 | 1:B:389:ALA:HA | 1.79 | 0.65 |
| 1:B:290:PHE:HB3 | 1:B:291:PRO:HD3 | 1.79 | 0.65 |
| 1:A:134:MET:HG3 | 1:A:197:GLY:HA3 | 1.79 | 0.65 |
| 1:A:290:PHE:HB3 | 1:A:291:PRO:HD3 | 1.79 | 0.65 |
| 1:A:326:LEU:O | 1:A:330:CYS:HB2 | 1.96 | 0.65 |
| 1:A:339:PHE:HB3 | 1:A:343:ILE:CG1 | 2.27 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:94:GLN:HE21 | 1:A:231:HIS:HB2 | 1.62 | 0.64 |
| 1:A:258:LEU:O | 1:A:261:VAL:HB | 1.97 | 0.64 |
| 1:B:264:LEU:O | 1:B:265:LEU:C | 2.34 | 0.64 |
| 1:A:96:LEU:HD12 | 1:A:146:LEU:HD12 | 1.79 | 0.64 |
| 1:A:258:LEU:HD22 | 1:A:399:TRP:CZ2 | 2.32 | 0.64 |
| 1:B:18:LEU:C | 1:B:21:PRO:HD2 | 2.18 | 0.64 |
| 1:B:134:MET:SD | 1:B:198:VAL:HA | 2.37 | 0.64 |
| 1:B:275:ALA:CA | 1:B:353:VAL:HG11 | 2.27 | 0.64 |
| 1:A:93:HIS:HE1 | 1:A:225:LYS:HB3 | 1.61 | 0.64 |
| 1:A:131:VAL:HB | 1:A:135:HIS:NE2 | 2.13 | 0.64 |
| 1:A:273:VAL:O | 1:A:277:HIS:N | 2.30 | 0.64 |
| 1:B:125:ALA:O | 1:B:126:MET:O | 2.16 | 0.64 |
| 1:B:301:ARG:NH2 | 1:B:316:ILE:HG22 | 2.11 | 0.64 |
| 1:B:353:VAL:CG1 | 1:B:357:ALA:HB2 | 2.28 | 0.64 |
| 1:B:382:ARG:HH22 | 1:B:445:TYR:H | 1.44 | 0.64 |
| 1:A:98:LEU:HA | 1:A:101:LEU:CD1 | 2.27 | 0.64 |
| 1:A:137:VAL:HG11 | 1:A:201:ALA:CA | 2.28 | 0.64 |
| 1:B:36:ASP:HB2 | 1:B:178:ASN:ND2 | 2.11 | 0.64 |
| 1:B:96:LEU:O | 1:B:96:LEU:HD23 | 1.98 | 0.64 |
| 1:B:359:GLN:O | 1:B:362:LEU:HB3 | 1.98 | 0.64 |
| 1:A:251:ALA:HB2 | 1:A:392:HIS:ND1 | 2.13 | 0.64 |
| 1:A:354:VAL:CA | 1:A:357:ALA:HB3 | 2.27 | 0.64 |
| 1:B:273:VAL:HG13 | 1:B:274:VAL:N | 2.11 | 0.64 |
| 1:A:5:VAL:HA | 1:A:8:TYR:CZ | 2.32 | 0.64 |
| 1:A:185:LYS:C | 1:A:185:LYS:HD3 | 2.18 | 0.64 |
| 1:B:145:LEU:HA | 1:B:148:GLN:NE2 | 2.13 | 0.64 |
| 1:B:275:ALA:CB | 1:B:353:VAL:CG1 | 2.74 | 0.64 |
| 1:B:350:ASN:OD1 | 1:B:352:VAL:HB | 1.98 | 0.64 |
| 1:B:436:ALA:O | 1:B:439:MET:N | 2.31 | 0.64 |
| 1:A:144:TYR:CD2 | 1:A:207:MET:HB3 | 2.33 | 0.64 |
| 1:A:177:LEU:CD1 | 1:A:202:ILE:HD13 | 2.25 | 0.64 |
| 1:A:274:VAL:O | 1:A:275:ALA:C | 2.35 | 0.64 |
| 1:B:35:VAL:O | 1:B:39:MET:HB3 | 1.98 | 0.64 |
| 1:B:51:VAL:O | 1:B:54:ALA:HB3 | 1.97 | 0.64 |
| 1:B:145:LEU:HD22 | 1:B:145:LEU:O | 1.97 | 0.64 |
| 1:B:326:LEU:O | 1:B:330:CYS:HB2 | 1.97 | 0.64 |
| 1:A:207:MET:HA | 1:A:210:LEU:HD23 | 1.80 | 0.64 |
| 1:B:63:LEU:O | 1:B:66:VAL:HG22 | 1.98 | 0.64 |
| 1:B:102:VAL:C | 1:B:105:PRO:HD2 | 2.19 | 0.64 |
| 1:B:353:VAL:HG12 | 1:B:357:ALA:CB | 2.28 | 0.64 |
| 1:A:173:LEU:C | 1:A:177:LEU:HD23 | 2.18 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:275:ALA:CB | 1:A:353:VAL:CG1 | 2.76 | 0.64 |
| 1:A:276:ALA:CA | 1:A:426:TRP:HE1 | 2.09 | 0.64 |
| 1:A:394:THR:HG23 | 1:A:439:MET:HB3 | 1.80 | 0.64 |
| 1:B:45:ALA:HB1 | 1:B:126:MET:HE1 | 1.80 | 0.64 |
| 1:B:302:VAL:O | 1:B:306:LEU:HB2 | 1.98 | 0.64 |
| 1:B:366:ILE:O | 1:B:369:CYS:HB3 | 1.97 | 0.64 |
| 1:B:390:ILE:HG22 | 1:B:390:ILE:O | 1.97 | 0.64 |
| 1:B:12:ALA:HA | 1:B:15:LEU:CD2 | 2.27 | 0.63 |
| 1:B:173:LEU:C | 1:B:177:LEU:HD23 | 2.17 | 0.63 |
| 1:B:236:LYS:HA | 1:B:239:ILE:CG1 | 2.29 | 0.63 |
| 1:A:17:LYS:O | 1:A:21:PRO:CG | 2.43 | 0.63 |
| 1:A:63:LEU:C | 1:A:65:GLY:N | 2.50 | 0.63 |
| 1:A:102:VAL:C | 1:A:105:PRO:HD2 | 2.19 | 0.63 |
| 1:A:128:THR:HG22 | 1:A:129:LYS:N | 2.12 | 0.63 |
| 1:A:148:GLN:HA | 1:A:152:SER:HB2 | 1.80 | 0.63 |
| 1:B:11:GLU:CD | 1:B:320:VAL:HB | 2.18 | 0.63 |
| 1:B:378:ALA:HB2 | 1:B:440:LEU:HG | 1.80 | 0.63 |
| 1:B:441:GLY:O | 1:B:444:LEU:HB2 | 1.97 | 0.63 |
| 1:A:125:ALA:O | 1:A:126:MET:O | 2.16 | 0.63 |
| 1:B:96:LEU:HA | 1:B:146:LEU:HG | 1.80 | 0.63 |
| 1:B:117:ILE:HG22 | 1:B:119:PHE:H | 1.63 | 0.63 |
| 1:B:181:PHE:CD2 | 1:B:198:VAL:HG11 | 2.34 | 0.63 |
| 1:B:191:LEU:HB3 | 1:B:194:VAL:CG2 | 2.28 | 0.63 |
| 1:B:272:THR:O | 1:B:274:VAL:N | 2.31 | 0.63 |
| 1:B:373:VAL:HG13 | 1:B:437:ALA:HB1 | 1.80 | 0.63 |
| 1:A:12:ALA:HA | 1:A:15:LEU:HD21 | 1.80 | 0.63 |
| 1:A:72:LEU:CD1 | 1:A:244:LEU:HD21 | 2.26 | 0.63 |
| 1:A:135:HIS:HA | 1:A:138:ILE:HG22 | 1.79 | 0.63 |
| 1:A:342:GLN:O | 1:A:345:LEU:HB2 | 1.99 | 0.63 |
| 1:A:352:VAL:O | 1:A:352:VAL:HG13 | 1.99 | 0.63 |
| 1:B:231:HIS:HB3 | 1:B:235:PRO:CG | 2.27 | 0.63 |
| 1:A:40:ALA:O | 1:A:44:SER:HB2 | 1.99 | 0.63 |
| 1:A:45:ALA:O | 1:A:48:MET:HB2 | 1.99 | 0.63 |
| 1:A:386:ASP:O | 1:A:389:ALA:N | 2.31 | 0.63 |
| 1:B:264:LEU:O | 1:B:267:ALA:N | 2.31 | 0.63 |
| 1:B:414:TRP:N | 1:B:414:TRP:HE3 | 1.96 | 0.63 |
| 1:B:420:LEU:HD13 | 1:B:422:ALA:H | 1.62 | 0.63 |
| 1:A:63:LEU:O | 1:A:66:VAL:HG22 | 1.98 | 0.63 |
| 1:A:287:VAL:O | 1:A:290:PHE:HB2 | 1.99 | 0.63 |
| 1:B:363:PHE:CE2 | 1:B:426:TRP:HB3 | 2.33 | 0.63 |
| 1:B:445:TYR:O | 1:B:448:GLN:N | 2.32 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:25:ALA:O | 1:A:28:ALA:HB3 | 1.99 | 0.63 |
| 1:A:52:SER:O | 1:A:123:GLU:OE2 | 2.16 | 0.63 |
| 1:A:264:LEU:O | 1:A:265:LEU:C | 2.36 | 0.63 |
| 1:B:238:LEU:CA | 1:B:241:LEU:HB2 | 2.27 | 0.63 |
| 1:A:55:ALA:HB3 | 1:A:123:GLU:OE2 | 1.99 | 0.63 |
| 1:A:89:PRO:O | 1:A:93:HIS:ND1 | 2.32 | 0.63 |
| 1:A:267:ALA:N | 1:A:268:PRO:HD2 | 2.13 | 0.63 |
| 1:A:373:VAL:HG13 | 1:A:437:ALA:HB1 | 1.81 | 0.63 |
| 1:A:408:ILE:HG22 | 1:A:408:ILE:O | 1.99 | 0.63 |
| 1:B:16:ILE:HA | 1:B:19:ALA:HB2 | 1.76 | 0.63 |
| 1:B:45:ALA:O | 1:B:48:MET:HB2 | 1.99 | 0.63 |
| 1:A:120:MET:O | 1:A:120:MET:HG2 | 1.99 | 0.63 |
| 1:B:25:ALA:O | 1:B:28:ALA:HB3 | 1.98 | 0.63 |
| 1:B:113:THR:CA | 1:B:116:ILE:HG22 | 2.29 | 0.63 |
| 1:A:149:ALA:O | 1:A:154:THR:HB | 1.98 | 0.62 |
| 1:A:299:SER:CB | 1:A:380:SER:HA | 2.28 | 0.62 |
| 1:A:59:LEU:HD12 | 1:A:59:LEU:N | 2.12 | 0.62 |
| 1:A:117:ILE:HG22 | 1:A:119:PHE:H | 1.64 | 0.62 |
| 1:A:147:PHE:HE2 | 1:A:215:ILE:HB | 1.64 | 0.62 |
| 1:A:298:VAL:HG21 | 1:A:321:GLY:HA3 | 1.81 | 0.62 |
| 1:B:344:ALA:HB1 | 1:B:354:VAL:HG22 | 1.80 | 0.62 |
| 1:A:445:TYR:O | 1:A:446:TRP:CB | 2.47 | 0.62 |
| 1:B:7:ARG:HB3 | 1:B:11:GLU:OE1 | 1.98 | 0.62 |
| 1:B:63:LEU:C | 1:B:65:GLY:N | 2.50 | 0.62 |
| 1:B:333:ALA:O | 1:B:336:THR:HB | 1.99 | 0.62 |
| 1:A:284:SER:O | 1:A:287:VAL:N | 2.33 | 0.62 |
| 1:A:428:GLY:O | 1:A:431:ILE:HB | 1.98 | 0.62 |
| 1:B:59:LEU:HD22 | 1:B:59:LEU:N | 2.13 | 0.62 |
| 1:B:147:PHE:HE2 | 1:B:215:ILE:HB | 1.64 | 0.62 |
| 1:B:444:LEU:O | 1:B:446:TRP:O | 2.18 | 0.62 |
| 1:A:45:ALA:HB1 | 1:A:126:MET:HE1 | 1.82 | 0.62 |
| 1:B:219:LYS:HD2 | 1:B:220:ARG:HG2 | 1.81 | 0.62 |
| 1:B:339:PHE:HB3 | 1:B:343:ILE:HG13 | 1.79 | 0.62 |
| 1:B:423:LYS:O | 1:B:426:TRP:HB2 | 1.99 | 0.62 |
| 1:A:40:ALA:HB1 | 1:A:182:VAL:HG11 | 1.81 | 0.62 |
| 1:A:215:ILE:HG23 | 1:A:216:VAL:HG23 | 1.81 | 0.62 |
| 1:A:314:ALA:O | 1:A:318:ALA:HB3 | 1.99 | 0.62 |
| 1:B:262:VAL:O | 1:B:266:VAL:HG23 | 2.00 | 0.62 |
| 1:B:265:LEU:O | 1:B:268:PRO:CD | 2.48 | 0.62 |
| 1:B:408:ILE:O | 1:B:408:ILE:HG22 | 1.98 | 0.62 |
| 1:B:412:THR:C | 1:B:415:LEU:H | 2.02 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:84:ARG:C | 1:A:86:HIS:H | 2.02 | 0.62 |
| 1:A:141:VAL:HG22 | 1:A:204:TYR:HB3 | 1.81 | 0.62 |
| 1:B:284:SER:O | 1:B:287:VAL:N | 2.33 | 0.62 |
| 1:B:417:GLU:OE1 | 1:B:417:GLU:HA | 1.99 | 0.62 |
| 1:A:15:LEU:O | 1:A:19:ALA:N | 2.30 | 0.62 |
| 1:A:316:ILE:C | 1:A:320:VAL:HG12 | 2.20 | 0.62 |
| 1:B:14:ASN:N | 1:B:14:ASN:HD22 | 1.97 | 0.62 |
| 1:B:34:PHE:CD1 | 1:B:34:PHE:C | 2.72 | 0.62 |
| 1:B:52:SER:O | 1:B:123:GLU:OE2 | 2.17 | 0.62 |
| 1:B:69:LEU:C | 1:B:69:LEU:HD23 | 2.20 | 0.62 |
| 1:B:141:VAL:HG22 | 1:B:204:TYR:HB3 | 1.81 | 0.62 |
| 1:B:174:ASN:HD21 | 1:B:203:VAL:HG22 | 1.63 | 0.62 |
| 1:B:328:THR:O | 1:B:332:THR:HG23 | 2.00 | 0.62 |
| 1:A:200:THR:HA | 1:A:203:VAL:CG2 | 2.30 | 0.62 |
| 1:A:203:VAL:O | 1:A:207:MET:HG3 | 2.00 | 0.62 |
| 1:A:398:TYR:HB2 | 1:A:432:GLY:O | 2.00 | 0.62 |
| 1:B:53:ILE:C | 1:B:53:ILE:HD12 | 2.19 | 0.62 |
| 1:B:238:LEU:HG | 1:B:241:LEU:HD22 | 1.81 | 0.62 |
| 1:A:353:VAL:HG12 | 1:A:357:ALA:CB | 2.29 | 0.62 |
| 1:B:40:ALA:HB1 | 1:B:182:VAL:HG11 | 1.82 | 0.62 |
| 1:B:60:PRO:O | 1:B:63:LEU:HD23 | 2.00 | 0.62 |
| 1:B:92:VAL:HG12 | 1:B:93:HIS:N | 2.15 | 0.62 |
| 1:B:421:GLY:O | 1:B:425:PHE:HB3 | 2.00 | 0.62 |
| 1:A:171:LEU:HD23 | 1:A:172:LEU:H | 1.63 | 0.61 |
| 1:B:32:MET:CG | 1:B:33:GLY:N | 2.63 | 0.61 |
| 1:B:100:LEU:N | 1:B:100:LEU:HD12 | 2.15 | 0.61 |
| 1:B:137:VAL:HG11 | 1:B:201:ALA:CA | 2.28 | 0.61 |
| 1:B:221:LEU:HD12 | 1:B:221:LEU:N | 2.15 | 0.61 |
| 1:A:247:PRO:CG | 1:A:389:ALA:HA | 2.30 | 0.61 |
| 1:A:403:LEU:HD21 | 1:A:429:PHE:CD2 | 2.32 | 0.61 |
| 1:B:74:PRO:HB3 | 1:B:149:ALA:CB | 2.30 | 0.61 |
| 1:B:250:ALA:O | 1:B:251:ALA:O | 2.18 | 0.61 |
| 1:B:423:LYS:CG | 1:B:424:GLY:H | 2.13 | 0.61 |
| 1:B:73:VAL:HG13 | 1:B:241:LEU:HG | 1.83 | 0.61 |
| 1:B:342:GLN:O | 1:B:345:LEU:HB2 | 2.00 | 0.61 |
| 1:B:98:LEU:HA | 1:B:101:LEU:CD1 | 2.29 | 0.61 |
| 1:B:340:ARG:HB2 | 1:B:361:LEU:HD13 | 1.83 | 0.61 |
| 1:A:391:PHE:HD2 | 1:A:391:PHE:C | 2.02 | 0.61 |
| 1:B:26:SER:HB2 | 1:B:289:MET:CG | 2.30 | 0.61 |
| 1:B:92:VAL:O | 1:B:93:HIS:C | 2.38 | 0.61 |
| 1:B:284:SER:O | 1:B:286:LEU:N | 2.34 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:295:GLY:O | 1:B:299:SER:N | 2.27 | 0.61 |
| 1:A:57:ILE:HA | 1:A:60:PRO:CG | 2.29 | 0.61 |
| 1:A:126:MET:O | 1:A:130:THR:HG23 | 2.01 | 0.61 |
| 1:A:144:TYR:CG | 1:A:207:MET:HB3 | 2.35 | 0.61 |
| 1:A:339:PHE:HB3 | 1:A:343:ILE:HG12 | 1.81 | 0.61 |
| 1:B:74:PRO:HG3 | 1:B:149:ALA:HB1 | 1.82 | 0.61 |
| 1:B:94:GLN:OE1 | 1:B:238:LEU:HD11 | 2.00 | 0.61 |
| 1:B:202:ILE:O | 1:B:205:TRP:HB3 | 2.00 | 0.61 |
| 1:A:423:LYS:CG | 1:A:424:GLY:H | 2.13 | 0.61 |
| 1:B:126:MET:O | 1:B:130:THR:HG23 | 2.01 | 0.61 |
| 1:A:86:HIS:O | 1:A:87:LYS:HB2 | 2.01 | 0.61 |
| 1:A:443:ARG:O | 1:A:445:TYR:N | 2.33 | 0.61 |
| 1:B:84:ARG:HB3 | 1:B:87:LYS:HD2 | 1.81 | 0.61 |
| 1:B:131:VAL:HB | 1:B:135:HIS:NE2 | 2.16 | 0.61 |
| 1:B:251:ALA:HB2 | 1:B:392:HIS:ND1 | 2.16 | 0.61 |
| 1:B:276:ALA:CA | 1:B:426:TRP:HE1 | 2.13 | 0.61 |
| 1:B:312:LYS:HA | 1:B:312:LYS:NZ | 2.15 | 0.61 |
| 1:B:385:LYS:HD3 | 1:B:385:LYS:C | 2.21 | 0.61 |
| 1:A:58:TRP:O | 1:A:61:SER:HB3 | 2.00 | 0.61 |
| 1:A:245:GLY:HA2 | 1:A:248:VAL:HG22 | 1.83 | 0.61 |
| 1:A:252:LEU:HA | 1:A:255:GLU:OE2 | 2.00 | 0.61 |
| 1:B:21:PRO:CB | 1:B:160:THR:HG23 | 2.31 | 0.61 |
| 1:B:33:GLY:O | 1:B:37:THR:HB | 2.00 | 0.61 |
| 1:B:153:PHE:O | 1:B:155:ASP:OD1 | 2.19 | 0.61 |
| 1:A:33:GLY:O | 1:A:37:THR:HB | 2.01 | 0.61 |
| 1:A:41:GLY:C | 1:A:49:ALA:HB1 | 2.21 | 0.61 |
| 1:A:72:LEU:HD12 | 1:A:244:LEU:HD11 | 1.81 | 0.61 |
| 1:A:220:ARG:HG3 | 1:A:221:LEU:HD12 | 1.83 | 0.61 |
| 1:A:238:LEU:CA | 1:A:241:LEU:HB2 | 2.30 | 0.61 |
| 1:A:328:THR:O | 1:A:332:THR:HG23 | 2.01 | 0.61 |
| 1:A:414:TRP:CE3 | 1:A:414:TRP:N | 2.68 | 0.61 |
| 1:B:387:MET:HG3 | 1:B:446:TRP:CZ2 | 2.35 | 0.61 |
| 1:A:96:LEU:HA | 1:A:146:LEU:HG | 1.83 | 0.60 |
| 1:B:89:PRO:O | 1:B:93:HIS:ND1 | 2.34 | 0.60 |
| 1:A:7:ARG:HB3 | 1:A:11:GLU:OE1 | 2.02 | 0.60 |
| 1:A:24:ILE:O | 1:A:27:VAL:HB | 2.01 | 0.60 |
| 1:A:406:GLY:HA2 | 1:A:428:GLY:HA3 | 1.81 | 0.60 |
| 1:B:75:VAL:O | 1:B:77:ALA:N | 2.34 | 0.60 |
| 1:B:181:PHE:CG | 1:B:198:VAL:HG11 | 2.35 | 0.60 |
| 1:A:53:ILE:C | 1:A:53:ILE:HD12 | 2.22 | 0.60 |
| 1:A:69:LEU:HG | 1:A:245:GLY:HA3 | 1.82 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:131:VAL:HA | 1:B:134:MET:HB2 | 1.84 | 0.60 |
| 1:B:314:ALA:HB2 | 1:B:449:LYS:NZ | 2.15 | 0.60 |
| 1:B:353:VAL:O | 1:B:353:VAL:CG1 | 2.46 | 0.60 |
| 1:A:31:GLY:O | 1:A:35:VAL:HG23 | 2.02 | 0.60 |
| 1:A:431:ILE:O | 1:A:435:ALA:HB2 | 2.01 | 0.60 |
| 1:B:114:GLN:O | 1:B:128:THR:HG23 | 2.01 | 0.60 |
| 1:B:183:TYR:O | 1:B:185:LYS:N | 2.35 | 0.60 |
| 1:B:301:ARG:HH12 | 1:B:320:VAL:HG11 | 1.66 | 0.60 |
| 1:A:11:GLU:CD | 1:A:320:VAL:HB | 2.21 | 0.60 |
| 1:B:248:VAL:O | 1:B:251:ALA:HB3 | 2.02 | 0.60 |
| 1:B:252:LEU:HA | 1:B:255:GLU:OE2 | 2.02 | 0.60 |
| 1:B:46:ILE:C | 1:B:48:MET:N | 2.47 | 0.60 |
| 1:B:250:ALA:HA | 1:B:254:PHE:HB2 | 1.84 | 0.60 |
| 1:A:166:ILE:O | 1:A:170:GLY:HA3 | 2.01 | 0.60 |
| 1:B:72:LEU:HB3 | 1:B:244:LEU:HD13 | 1.83 | 0.60 |
| 1:B:147:PHE:CG | 1:B:211:LEU:HA | 2.37 | 0.60 |
| 1:B:166:ILE:O | 1:B:170:GLY:N | 2.35 | 0.60 |
| 1:B:273:VAL:O | 1:B:277:HIS:N | 2.33 | 0.60 |
| 1:B:398:TYR:HB2 | 1:B:432:GLY:O | 2.02 | 0.60 |
| 1:A:129:LYS:HA | 1:A:132:GLY:HA3 | 1.83 | 0.60 |
| 1:A:370:MET:O | 1:A:373:VAL:HG12 | 2.01 | 0.60 |
| 1:B:5:VAL:HA | 1:B:8:TYR:CZ | 2.37 | 0.60 |
| 1:A:196:CYS:SG | 1:A:197:GLY:N | 2.74 | 0.60 |
| 1:A:239:ILE:HA | 1:A:242:PHE:HB2 | 1.83 | 0.60 |
| 1:B:59:LEU:H | 1:B:59:LEU:CD2 | 2.14 | 0.60 |
| 1:B:232:LYS:H | 1:B:233:PRO:CD | 2.15 | 0.60 |
| 1:B:267:ALA:N | 1:B:268:PRO:HD2 | 2.15 | 0.60 |
| 1:B:314:ALA:O | 1:B:315:ALA:C | 2.40 | 0.60 |
| 1:A:221:LEU:HD12 | 1:A:221:LEU:N | 2.17 | 0.60 |
| 1:B:211:LEU:CG | 1:B:212:LEU:N | 2.64 | 0.60 |
| 1:A:69:LEU:HD23 | 1:A:69:LEU:C | 2.23 | 0.59 |
| 1:B:177:LEU:CD1 | 1:B:202:ILE:HD13 | 2.25 | 0.59 |
| 1:B:202:ILE:O | 1:B:206:ILE:HG23 | 2.02 | 0.59 |
| 1:B:209:LEU:HD12 | 1:B:210:LEU:HD13 | 1.82 | 0.59 |
| 1:B:387:MET:HA | 1:B:443:ARG:HH21 | 1.66 | 0.59 |
| 1:A:118:ARG:HH21 | 1:A:119:PHE:CB | 2.15 | 0.59 |
| 1:A:235:PRO:C | 1:A:238:LEU:HB2 | 2.23 | 0.59 |
| 1:A:250:ALA:O | 1:A:251:ALA:O | 2.20 | 0.59 |
| 1:A:420:LEU:CD1 | 1:A:422:ALA:HB3 | 2.32 | 0.59 |
| 1:A:420:LEU:CB | 1:A:423:LYS:HG2 | 2.28 | 0.59 |
| 1:B:123:GLU:CG | 1:B:127:ALA:HB3 | 2.32 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:147:PHE:CE2 | 1:B:215:ILE:HB | 2.37 | 0.59 |
| 1:B:178:ASN:CG | 1:B:199:ALA:HB2 | 2.23 | 0.59 |
| 1:B:207:MET:HA | 1:B:210:LEU:HD23 | 1.84 | 0.59 |
| 1:B:367:TYR:HA | 1:B:430:ILE:HG13 | 1.84 | 0.59 |
| 1:A:81:GLY:HA3 | 1:A:307:GLY:O | 2.02 | 0.59 |
| 1:A:123:GLU:CG | 1:A:127:ALA:HB3 | 2.32 | 0.59 |
| 1:A:166:ILE:HB | 1:A:210:LEU:HD21 | 1.83 | 0.59 |
| 1:A:275:ALA:CA | 1:A:353:VAL:HG11 | 2.31 | 0.59 |
| 1:A:299:SER:OG | 1:A:380:SER:HA | 2.02 | 0.59 |
| 1:A:354:VAL:O | 1:A:358:MET:N | 2.28 | 0.59 |
| 1:B:21:PRO:HB3 | 1:B:160:THR:O | 2.03 | 0.59 |
| 1:B:65:GLY:HA2 | 1:B:253:PHE:CD2 | 2.37 | 0.59 |
| 1:B:127:ALA:O | 1:B:131:VAL:HG22 | 2.01 | 0.59 |
| 1:A:191:LEU:O | 1:A:195:GLY:N | 2.34 | 0.59 |
| 1:B:147:PHE:CD2 | 1:B:211:LEU:HA | 2.37 | 0.59 |
| 1:B:171:LEU:HD23 | 1:B:172:LEU:H | 1.67 | 0.59 |
| 1:B:263:ALA:O | 1:B:266:VAL:C | 2.41 | 0.59 |
| 1:A:16:ILE:HA | 1:A:19:ALA:HB2 | 1.81 | 0.59 |
| 1:A:68:LEU:HD22 | 1:A:71:ALA:HB3 | 1.82 | 0.59 |
| 1:A:147:PHE:CD2 | 1:A:211:LEU:HA | 2.38 | 0.59 |
| 1:A:234:GLN:O | 1:A:238:LEU:HD13 | 2.02 | 0.59 |
| 1:A:333:ALA:O | 1:A:336:THR:HB | 2.02 | 0.59 |
| 1:A:445:TYR:HD2 | 1:A:448:GLN:HG2 | 1.64 | 0.59 |
| 1:B:88:ILE:N | 1:B:89:PRO:CD | 2.65 | 0.59 |
| 1:B:233:PRO:O | 1:B:236:LYS:HB3 | 2.02 | 0.59 |
| 1:B:379:GLY:HA2 | 1:B:391:PHE:HE1 | 1.68 | 0.59 |
| 1:A:202:ILE:O | 1:A:206:ILE:HG23 | 2.03 | 0.59 |
| 1:A:234:GLN:O | 1:A:238:LEU:N | 2.36 | 0.59 |
| 1:B:277:HIS:HD2 | 1:B:278:GLN:OE1 | 1.86 | 0.59 |
| 1:A:7:ARG:HB3 | 1:A:7:ARG:HH11 | 1.68 | 0.59 |
| 1:A:235:PRO:HA | 1:A:238:LEU:HD22 | 1.84 | 0.59 |
| 1:A:354:VAL:O | 1:A:358:MET:CB | 2.51 | 0.59 |
| 1:B:80:ASN:C | 1:B:82:ALA:N | 2.54 | 0.59 |
| 1:B:106:ILE:HG22 | 1:B:139:PHE:HE1 | 1.68 | 0.59 |
| 1:A:11:GLU:OE2 | 1:A:320:VAL:HB | 2.03 | 0.59 |
| 1:B:443:ARG:CZ | 1:B:446:TRP:NE1 | 2.66 | 0.59 |
| 1:B:452:ASP:O | 1:B:456:LEU:HG | 2.03 | 0.59 |
| 1:A:11:GLU:CG | 1:A:320:VAL:HB | 2.32 | 0.59 |
| 1:A:142:PRO:CA | 1:A:145:LEU:HB3 | 2.30 | 0.59 |
| 1:A:151:ARG:HG3 | 1:A:152:SER:N | 2.18 | 0.59 |
| 1:A:314:ALA:O | 1:A:315:ALA:C | 2.40 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:151:ARG:HG3 | 1:B:152:SER:H | 1.67 | 0.59 |
| 1:B:11:GLU:HG2 | 1:B:316:ILE:CG2 | 2.33 | 0.59 |
| 1:B:86:HIS:CG | 1:B:87:LYS:H | 2.21 | 0.59 |
| 1:B:382:ARG:CD | 1:B:382:ARG:N | 2.65 | 0.59 |
| 1:A:142:PRO:O | 1:A:145:LEU:HD12 | 2.03 | 0.58 |
| 1:A:236:LYS:O | 1:A:239:ILE:HB | 2.02 | 0.58 |
| 1:A:351:GLN:O | 1:A:354:VAL:HG23 | 2.03 | 0.58 |
| 1:B:17:LYS:O | 1:B:21:PRO:CG | 2.46 | 0.58 |
| 1:B:63:LEU:CG | 1:B:64:PHE:N | 2.66 | 0.58 |
| 1:B:151:ARG:O | 1:B:155:ASP:N | 2.35 | 0.58 |
| 1:B:251:ALA:HB1 | 1:B:395:PHE:HD1 | 1.67 | 0.58 |
| 1:B:301:ARG:NH1 | 1:B:320:VAL:HG11 | 2.18 | 0.58 |
| 1:B:313:GLY:O | 1:B:317:ALA:HB3 | 2.03 | 0.58 |
| 1:A:74:PRO:HG3 | 1:A:149:ALA:HB1 | 1.85 | 0.58 |
| 1:A:355:ALA:O | 1:A:358:MET:HB3 | 2.02 | 0.58 |
| 1:A:370:MET:HG3 | 1:A:434:SER:HB2 | 1.85 | 0.58 |
| 1:B:72:LEU:HD12 | 1:B:244:LEU:HD11 | 1.85 | 0.58 |
| 1:A:55:ALA:O | 1:A:59:LEU:CD1 | 2.50 | 0.58 |
| 1:A:92:VAL:O | 1:A:93:HIS:C | 2.40 | 0.58 |
| 1:A:141:VAL:HA | 1:A:204:TYR:HB2 | 1.86 | 0.58 |
| 1:A:250:ALA:O | 1:A:254:PHE:N | 2.36 | 0.58 |
| 1:A:281:LEU:HD22 | 1:A:282:ASN:ND2 | 2.17 | 0.58 |
| 1:A:363:PHE:CD1 | 1:A:364:ALA:N | 2.71 | 0.58 |
| 1:A:407:TYR:C | 1:A:409:LEU:H | 2.06 | 0.58 |
| 1:A:408:ILE:HG12 | 1:A:411:MET:SD | 2.44 | 0.58 |
| 1:A:426:TRP:HA | 1:A:426:TRP:CE3 | 2.38 | 0.58 |
| 1:A:65:GLY:HA2 | 1:A:253:PHE:CD2 | 2.38 | 0.58 |
| 1:A:219:LYS:HD3 | 1:A:220:ARG:HE | 1.68 | 0.58 |
| 1:A:302:VAL:O | 1:A:306:LEU:HB2 | 2.03 | 0.58 |
| 1:B:178:ASN:ND2 | 1:B:199:ALA:CB | 2.67 | 0.58 |
| 1:B:244:LEU:HG | 1:B:385:LYS:HZ1 | 1.67 | 0.58 |
| 1:B:340:ARG:HG3 | 1:B:341:GLU:H | 1.66 | 0.58 |
| 1:B:354:VAL:O | 1:B:358:MET:CB | 2.51 | 0.58 |
| 1:B:274:VAL:O | 1:B:275:ALA:C | 2.41 | 0.58 |
| 1:B:353:VAL:O | 1:B:357:ALA:CB | 2.52 | 0.58 |
| 1:A:70:MET:CE | 1:A:99:ALA:HB2 | 2.34 | 0.58 |
| 1:B:151:ARG:HG3 | 1:B:152:SER:N | 2.19 | 0.58 |
| 1:B:281:LEU:HD22 | 1:B:282:ASN:ND2 | 2.18 | 0.58 |
| 1:B:314:ALA:O | 1:B:318:ALA:HB3 | 2.03 | 0.58 |
| 1:B:413:ASN:HB2 | 1:B:418:GLN:HG2 | 1.85 | 0.58 |
| 1:A:326:LEU:HD13 | 1:A:330:CYS:HB2 | 1.85 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:15:LEU:CD1 | 1:B:16:ILE:N | 2.66 | 0.58 |
| 1:B:53:ILE:C | 1:B:56:SER:HB3 | 2.24 | 0.58 |
| 1:B:245:GLY:HA2 | 1:B:248:VAL:HG22 | 1.86 | 0.58 |
| 1:A:21:PRO:HB3 | 1:A:160:THR:O | 2.03 | 0.58 |
| 1:A:247:PRO:CB | 1:A:389:ALA:HA | 2.34 | 0.58 |
| 1:A:251:ALA:HB1 | 1:A:395:PHE:HD1 | 1.67 | 0.58 |
| 1:A:367:TYR:HA | 1:A:430:ILE:HG13 | 1.86 | 0.58 |
| 1:B:302:VAL:HG23 | 1:B:317:ALA:HB3 | 1.86 | 0.58 |
| 1:B:351:GLN:O | 1:B:352:VAL:C | 2.41 | 0.58 |
| 1:A:72:LEU:HA | 1:A:75:VAL:CG1 | 2.33 | 0.58 |
| 1:A:236:LYS:HA | 1:A:239:ILE:CG1 | 2.34 | 0.58 |
| 1:A:312:LYS:HA | 1:A:312:LYS:HZ2 | 1.68 | 0.58 |
| 1:B:86:HIS:O | 1:B:87:LYS:HB2 | 2.04 | 0.58 |
| 1:B:141:VAL:HA | 1:B:204:TYR:HB2 | 1.86 | 0.58 |
| 1:B:398:TYR:CD1 | 1:B:399:TRP:N | 2.71 | 0.58 |
| 1:B:461:LYS:OXT | 1:B:461:LYS:HD2 | 2.04 | 0.58 |
| 1:A:12:ALA:HA | 1:A:15:LEU:CD2 | 2.33 | 0.58 |
| 1:A:147:PHE:CE2 | 1:A:215:ILE:HB | 2.39 | 0.58 |
| 1:A:367:TYR:HE2 | 1:A:429:PHE:CD1 | 2.21 | 0.58 |
| 1:B:410:GLY:HA3 | 1:B:425:PHE:HB2 | 1.86 | 0.58 |
| 1:A:379:GLY:HA2 | 1:A:391:PHE:CE1 | 2.39 | 0.57 |
| 1:B:62:ILE:CG1 | 1:B:63:LEU:N | 2.63 | 0.57 |
| 1:B:353:VAL:C | 1:B:357:ALA:HB2 | 2.25 | 0.57 |
| 1:B:455:GLN:HA | 1:B:458:LEU:HB2 | 1.85 | 0.57 |
| 1:A:160:THR:O | 1:A:160:THR:HG23 | 2.04 | 0.57 |
| 1:A:250:ALA:O | 1:A:254:PHE:CB | 2.52 | 0.57 |
| 1:A:363:PHE:CE2 | 1:A:426:TRP:HB3 | 2.40 | 0.57 |
| 1:A:447:LEU:O | 1:A:448:GLN:CB | 2.51 | 0.57 |
| 1:B:407:TYR:C | 1:B:409:LEU:H | 2.06 | 0.57 |
| 1:B:443:ARG:CZ | 1:B:446:TRP:HE1 | 2.16 | 0.57 |
| 1:A:74:PRO:CG | 1:A:149:ALA:CB | 2.82 | 0.57 |
| 1:A:96:LEU:O | 1:A:99:ALA:CB | 2.52 | 0.57 |
| 1:A:389:ALA:O | 1:A:392:HIS:HB3 | 2.04 | 0.57 |
| 1:B:73:VAL:CB | 1:B:74:PRO:CD | 2.77 | 0.57 |
| 1:B:144:TYR:CD2 | 1:B:207:MET:HB3 | 2.39 | 0.57 |
| 1:B:413:ASN:HB3 | 1:B:414:TRP:CE3 | 2.39 | 0.57 |
| 1:A:57:ILE:O | 1:A:60:PRO:HB2 | 2.04 | 0.57 |
| 1:B:57:ILE:HA | 1:B:60:PRO:HG2 | 1.87 | 0.57 |
| 1:B:318:ALA:HA | 1:B:381:LEU:HD11 | 1.86 | 0.57 |
| 1:B:406:GLY:HA2 | 1:B:428:GLY:HA3 | 1.86 | 0.57 |
| 1:A:63:LEU:CD2 | 1:A:64:PHE:N | 2.65 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:145:LEU:HA | 1:A:148:GLN:NE2 | 2.18 | 0.57 |
| 1:A:275:ALA:HA | 1:A:353:VAL:HG21 | 1.85 | 0.57 |
| 1:B:149:ALA:O | 1:B:154:THR:HB | 2.04 | 0.57 |
| 1:B:172:LEU:O | 1:B:176:PRO:HD2 | 2.04 | 0.57 |
| 1:B:324:THR:O | 1:B:327:ALA:HB3 | 2.05 | 0.57 |
| 1:B:376:VAL:O | 1:B:380:SER:HB3 | 2.04 | 0.57 |
| 1:A:19:ALA:O | 1:A:22:VAL:HG22 | 2.03 | 0.57 |
| 1:A:106:ILE:HG22 | 1:A:139:PHE:HE1 | 1.70 | 0.57 |
| 1:B:97:ILE:HG22 | 1:B:101:LEU:CD1 | 2.29 | 0.57 |
| 1:B:211:LEU:O | 1:B:212:LEU:C | 2.43 | 0.57 |
| 1:B:460:ALA:O | 1:B:461:LYS:O | 2.23 | 0.57 |
| 1:A:350:ASN:ND2 | 1:A:352:VAL:H | 2.02 | 0.57 |
| 1:B:314:ALA:HB2 | 1:B:449:LYS:HZ1 | 1.68 | 0.57 |
| 1:B:352:VAL:HG13 | 1:B:352:VAL:O | 2.04 | 0.57 |
| 1:A:147:PHE:CG | 1:A:211:LEU:HA | 2.40 | 0.57 |
| 1:A:152:SER:O | 1:A:155:ASP:OD1 | 2.23 | 0.57 |
| 1:A:420:LEU:HD13 | 1:A:422:ALA:H | 1.69 | 0.57 |
| 1:B:107:ILE:O | 1:B:110:LEU:HB3 | 2.05 | 0.57 |
| 1:B:215:ILE:HG23 | 1:B:216:VAL:HG23 | 1.85 | 0.57 |
| 1:B:235:PRO:HA | 1:B:238:LEU:CG | 2.35 | 0.57 |
| 1:B:237:GLU:O | 1:B:241:LEU:HD12 | 2.05 | 0.57 |
| 1:A:88:ILE:CG1 | 1:A:89:PRO:CD | 2.82 | 0.57 |
| 1:A:191:LEU:HG | 1:A:192:GLY:N | 2.19 | 0.57 |
| 1:B:239:ILE:HA | 1:B:242:PHE:HB2 | 1.87 | 0.57 |
| 1:A:14:ASN:HD22 | 1:A:14:ASN:N | 2.03 | 0.56 |
| 1:A:63:LEU:CG | 1:A:64:PHE:N | 2.67 | 0.56 |
| 1:A:72:LEU:HD13 | 1:A:75:VAL:HG21 | 1.86 | 0.56 |
| 1:A:139:PHE:C | 1:A:142:PRO:HD2 | 2.26 | 0.56 |
| 1:B:299:SER:CB | 1:B:380:SER:HA | 2.35 | 0.56 |
| 1:A:88:ILE:N | 1:A:89:PRO:CD | 2.68 | 0.56 |
| 1:A:178:ASN:CG | 1:A:199:ALA:HB2 | 2.25 | 0.56 |
| 1:A:292:MET:HA | 1:A:375:VAL:HG11 | 1.86 | 0.56 |
| 1:A:418:GLN:HE22 | 1:A:421:GLY:HA2 | 1.69 | 0.56 |
| 1:B:83:GLY:O | 1:B:85:GLN:N | 2.37 | 0.56 |
| 1:B:84:ARG:C | 1:B:86:HIS:H | 2.09 | 0.56 |
| 1:B:136:ALA:HA | 1:B:139:PHE:HD2 | 1.70 | 0.56 |
| 1:B:332:THR:HA | 1:B:335:LEU:HG | 1.87 | 0.56 |
| 1:B:426:TRP:HA | 1:B:426:TRP:CE3 | 2.40 | 0.56 |
| 1:A:68:LEU:HD12 | 1:A:248:VAL:HB | 1.87 | 0.56 |
| 1:A:110:LEU:HD13 | 1:A:114:GLN:HG3 | 1.86 | 0.56 |
| 1:A:237:GLU:O | 1:A:240:ARG:HB3 | 2.05 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:247:PRO:HB3 | 1:A:389:ALA:HA | 1.88 | 0.56 |
| 1:A:353:VAL:O | 1:A:353:VAL:CG1 | 2.51 | 0.56 |
| 1:A:398:TYR:CD1 | 1:A:399:TRP:N | 2.73 | 0.56 |
| 1:B:81:GLY:HA3 | 1:B:307:GLY:O | 2.04 | 0.56 |
| 1:B:118:ARG:HH21 | 1:B:119:PHE:CB | 2.17 | 0.56 |
| 1:B:146:LEU:O | 1:B:149:ALA:CB | 2.52 | 0.56 |
| 1:B:159:LEU:O | 1:B:161:LYS:N | 2.38 | 0.56 |
| 1:B:181:PHE:O | 1:B:190:GLU:HG2 | 2.05 | 0.56 |
| 1:B:248:VAL:HG12 | 1:B:391:PHE:CZ | 2.40 | 0.56 |
| 1:B:376:VAL:O | 1:B:377:ALA:C | 2.43 | 0.56 |
| 1:B:391:PHE:CD2 | 1:B:392:HIS:N | 2.60 | 0.56 |
| 1:B:427:LEU:O | 1:B:430:ILE:N | 2.38 | 0.56 |
| 1:A:237:GLU:O | 1:A:241:LEU:HD12 | 2.05 | 0.56 |
| 1:A:261:VAL:HG12 | 1:A:262:VAL:N | 2.20 | 0.56 |
| 1:A:367:TYR:N | 1:A:430:ILE:HD11 | 2.20 | 0.56 |
| 1:A:376:VAL:O | 1:A:377:ALA:C | 2.44 | 0.56 |
| 1:A:390:ILE:O | 1:A:390:ILE:CG2 | 2.53 | 0.56 |
| 1:A:407:TYR:CD2 | 1:A:411:MET:HG3 | 2.41 | 0.56 |
| 1:B:15:LEU:O | 1:B:19:ALA:N | 2.32 | 0.56 |
| 1:B:100:LEU:C | 1:B:102:VAL:H | 2.08 | 0.56 |
| 1:B:199:ALA:O | 1:B:203:VAL:HG23 | 2.06 | 0.56 |
| 1:B:235:PRO:HA | 1:B:238:LEU:HD22 | 1.86 | 0.56 |
| 1:A:73:VAL:CB | 1:A:74:PRO:CD | 2.79 | 0.56 |
| 1:B:74:PRO:CG | 1:B:149:ALA:CB | 2.84 | 0.56 |
| 1:B:75:VAL:C | 1:B:77:ALA:N | 2.58 | 0.56 |
| 1:B:78:GLN:HG3 | 1:B:79:LEU:HD12 | 1.86 | 0.56 |
| 1:B:160:THR:HG23 | 1:B:160:THR:O | 2.05 | 0.56 |
| 1:B:382:ARG:HA | 1:B:387:MET:HG2 | 1.86 | 0.56 |
| 1:B:384:TYR:HE1 | 1:B:446:TRP:HH2 | 1.52 | 0.56 |
| 1:A:88:ILE:HG13 | 1:A:89:PRO:N | 2.20 | 0.56 |
| 1:B:79:LEU:O | 1:B:84:ARG:O | 2.24 | 0.56 |
| 1:B:178:ASN:O | 1:B:181:PHE:N | 2.39 | 0.56 |
| 1:B:209:LEU:O | 1:B:213:PHE:HB2 | 2.05 | 0.56 |
| 1:B:394:THR:HG23 | 1:B:439:MET:HB3 | 1.87 | 0.56 |
| 1:B:400:VAL:O | 1:B:404:PRO:HD2 | 2.06 | 0.56 |
| 1:A:175:ILE:HG22 | 1:A:176:PRO:N | 2.19 | 0.56 |
| 1:B:63:LEU:CD2 | 1:B:64:PHE:N | 2.69 | 0.56 |
| 1:B:97:ILE:CG2 | 1:B:101:LEU:HD11 | 2.29 | 0.56 |
| 1:B:114:GLN:NE2 | 1:B:135:HIS:CE1 | 2.74 | 0.56 |
| 1:B:145:LEU:HD13 | 1:B:146:LEU:CA | 2.35 | 0.56 |
| 1:B:150:LEU:O | 1:B:154:THR:HB | 2.06 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:320:VAL:O | 1:B:322:LEU:N | 2.39 | 0.56 |
| 1:B:320:VAL:O | 1:B:321:GLY:C | 2.44 | 0.56 |
| 1:A:13:SER:O | 1:A:16:ILE:CG2 | 2.53 | 0.56 |
| 1:A:77:ALA:HB2 | 1:A:154:THR:HG23 | 1.87 | 0.56 |
| 1:A:220:ARG:HG3 | 1:A:221:LEU:CD1 | 2.35 | 0.56 |
| 1:A:423:LYS:CG | 1:A:424:GLY:N | 2.69 | 0.56 |
| 1:B:72:LEU:HD13 | 1:B:75:VAL:HG21 | 1.86 | 0.56 |
| 1:B:257:THR:O | 1:B:261:VAL:HG23 | 2.06 | 0.56 |
| 1:B:414:TRP:N | 1:B:414:TRP:CE3 | 2.74 | 0.56 |
| 1:B:457:HIS:HA | 1:B:460:ALA:HB3 | 1.86 | 0.56 |
| 1:A:141:VAL:CG2 | 1:A:204:TYR:HB3 | 2.36 | 0.56 |
| 1:A:382:ARG:CD | 1:A:382:ARG:N | 2.69 | 0.56 |
| 1:B:219:LYS:HD3 | 1:B:220:ARG:HE | 1.71 | 0.56 |
| 1:B:275:ALA:HA | 1:B:353:VAL:HG21 | 1.87 | 0.56 |
| 1:B:350:ASN:ND2 | 1:B:352:VAL:H | 2.04 | 0.56 |
| 1:B:387:MET:O | 1:B:391:PHE:N | 2.39 | 0.56 |
| 1:A:165:VAL:HG13 | 1:A:210:LEU:HG | 1.87 | 0.56 |
| 1:A:356:LEU:O | 1:A:360:LEU:N | 2.27 | 0.56 |
| 1:A:400:VAL:O | 1:A:404:PRO:HD2 | 2.06 | 0.56 |
| 1:B:70:MET:HE1 | 1:B:99:ALA:HB2 | 1.88 | 0.56 |
| 1:B:146:LEU:HD13 | 1:B:146:LEU:C | 2.27 | 0.56 |
| 1:B:151:ARG:O | 1:B:153:PHE:N | 2.39 | 0.56 |
| 1:B:166:ILE:O | 1:B:170:GLY:HA3 | 2.06 | 0.56 |
| 1:B:343:ILE:O | 1:B:344:ALA:C | 2.45 | 0.56 |
| 1:A:250:ALA:HA | 1:A:254:PHE:HB2 | 1.88 | 0.55 |
| 1:B:387:MET:HE2 | 1:B:456:LEU:HD13 | 1.88 | 0.55 |
| 1:A:98:LEU:HA | 1:A:101:LEU:CG | 2.36 | 0.55 |
| 1:A:117:ILE:CG2 | 1:A:118:ARG:N | 2.58 | 0.55 |
| 1:A:151:ARG:O | 1:A:152:SER:C | 2.45 | 0.55 |
| 1:A:166:ILE:O | 1:A:170:GLY:N | 2.38 | 0.55 |
| 1:B:27:VAL:O | 1:B:31:GLY:HA3 | 2.06 | 0.55 |
| 1:B:138:ILE:HA | 1:B:141:VAL:CG2 | 2.36 | 0.55 |
| 1:B:208:LEU:CD2 | 1:B:209:LEU:N | 2.63 | 0.55 |
| 1:A:151:ARG:HG3 | 1:A:152:SER:H | 1.70 | 0.55 |
| 1:A:213:PHE:O | 1:A:215:ILE:N | 2.40 | 0.55 |
| 1:A:262:VAL:O | 1:A:266:VAL:HG23 | 2.05 | 0.55 |
| 1:B:151:ARG:O | 1:B:152:SER:C | 2.44 | 0.55 |
| 1:B:287:VAL:O | 1:B:290:PHE:HB2 | 2.05 | 0.55 |
| 1:B:382:ARG:N | 1:B:382:ARG:HD3 | 2.22 | 0.55 |
| 1:A:100:LEU:N | 1:A:100:LEU:HD12 | 2.22 | 0.55 |
| 1:A:122:VAL:O | 1:A:124:GLU:OE1 | 2.23 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:211:LEU:CG | 1:A:212:LEU:N | 2.67 | 0.55 |
| 1:A:233:PRO:O | 1:A:236:LYS:HB3 | 2.06 | 0.55 |
| 1:A:238:LEU:HG | 1:A:241:LEU:HD22 | 1.88 | 0.55 |
| 1:A:286:LEU:O | 1:A:289:MET:HB3 | 2.05 | 0.55 |
| 1:A:413:ASN:HB3 | 1:A:414:TRP:CZ3 | 2.40 | 0.55 |
| 1:B:137:VAL:HG21 | 1:B:201:ALA:HB2 | 1.87 | 0.55 |
| 1:B:144:TYR:O | 1:B:147:PHE:N | 2.39 | 0.55 |
| 1:B:144:TYR:CG | 1:B:207:MET:HB3 | 2.41 | 0.55 |
| 1:B:145:LEU:HA | 1:B:148:GLN:HE21 | 1.70 | 0.55 |
| 1:A:53:ILE:C | 1:A:56:SER:HB3 | 2.26 | 0.55 |
| 1:B:129:LYS:HA | 1:B:132:GLY:HA3 | 1.88 | 0.55 |
| 1:B:213:PHE:O | 1:B:215:ILE:N | 2.39 | 0.55 |
| 1:B:218:SER:O | 1:B:220:ARG:N | 2.40 | 0.55 |
| 1:B:220:ARG:HG3 | 1:B:221:LEU:HD12 | 1.88 | 0.55 |
| 1:B:242:PHE:O | 1:B:244:LEU:N | 2.35 | 0.55 |
| 1:A:134:MET:SD | 1:A:198:VAL:HA | 2.46 | 0.55 |
| 1:A:146:LEU:O | 1:A:149:ALA:CB | 2.52 | 0.55 |
| 1:A:165:VAL:CG1 | 1:A:166:ILE:N | 2.42 | 0.55 |
| 1:B:180:ILE:HG23 | 1:B:181:PHE:HD1 | 1.71 | 0.55 |
| 1:A:97:ILE:O | 1:A:101:LEU:HG | 2.07 | 0.55 |
| 1:A:134:MET:O | 1:A:137:VAL:HB | 2.06 | 0.55 |
| 1:A:146:LEU:C | 1:A:146:LEU:HD13 | 2.27 | 0.55 |
| 1:A:324:THR:O | 1:A:327:ALA:HB3 | 2.06 | 0.55 |
| 1:A:366:ILE:C | 1:A:430:ILE:HD11 | 2.27 | 0.55 |
| 1:B:72:LEU:HD13 | 1:B:75:VAL:CG2 | 2.36 | 0.55 |
| 1:B:166:ILE:HB | 1:B:210:LEU:HD21 | 1.89 | 0.55 |
| 1:B:258:LEU:O | 1:B:261:VAL:HB | 2.06 | 0.55 |
| 1:A:83:GLY:O | 1:A:85:GLN:N | 2.40 | 0.55 |
| 1:A:84:ARG:HG2 | 1:B:309:GLN:HG2 | 1.89 | 0.55 |
| 1:A:217:THR:O | 1:A:218:SER:C | 2.44 | 0.55 |
| 1:B:13:SER:O | 1:B:16:ILE:CG2 | 2.55 | 0.55 |
| 1:B:410:GLY:CA | 1:B:425:PHE:HB2 | 2.37 | 0.55 |
| 1:A:159:LEU:O | 1:A:161:LYS:N | 2.40 | 0.55 |
| 1:A:197:GLY:O | 1:A:200:THR:HB | 2.06 | 0.55 |
| 1:A:207:MET:HA | 1:A:210:LEU:CD2 | 2.37 | 0.55 |
| 1:A:343:ILE:O | 1:A:344:ALA:C | 2.46 | 0.55 |
| 1:B:120:MET:O | 1:B:120:MET:HG2 | 2.06 | 0.55 |
| 1:B:122:VAL:O | 1:B:124:GLU:OE1 | 2.25 | 0.55 |
| 1:B:162:PRO:HA | 1:B:165:VAL:HB | 1.87 | 0.55 |
| 1:B:299:SER:OG | 1:B:380:SER:HA | 2.07 | 0.55 |
| 1:A:114:GLN:NE2 | 1:A:135:HIS:CE1 | 2.75 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:382:ARG:NH2 | 1:A:445:TYR:N | 2.47 | 0.55 |
| 1:B:42:GLY:O | 1:B:47:ASP:HA | 2.07 | 0.55 |
| 1:A:78:GLN:HG3 | 1:A:79:LEU:HD12 | 1.88 | 0.54 |
| 1:A:178:ASN:ND2 | 1:A:199:ALA:CB | 2.71 | 0.54 |
| 1:A:275:ALA:HB1 | 1:A:353:VAL:HG11 | 1.89 | 0.54 |
| 1:A:302:VAL:HG23 | 1:A:317:ALA:HB3 | 1.88 | 0.54 |
| 1:B:203:VAL:O | 1:B:207:MET:HG3 | 2.07 | 0.54 |
| 1:A:23:LEU:HD13 | 1:A:23:LEU:C | 2.27 | 0.54 |
| 1:A:276:ALA:CA | 1:A:426:TRP:NE1 | 2.70 | 0.54 |
| 1:A:394:THR:HG21 | 1:A:440:LEU:HD13 | 1.89 | 0.54 |
| 1:B:23:LEU:C | 1:B:23:LEU:HD13 | 2.28 | 0.54 |
| 1:B:73:VAL:O | 1:B:76:VAL:CB | 2.54 | 0.54 |
| 1:B:367:TYR:HE2 | 1:B:429:PHE:CD1 | 2.24 | 0.54 |
| 1:A:137:VAL:HG21 | 1:A:201:ALA:HB2 | 1.90 | 0.54 |
| 1:A:199:ALA:O | 1:A:203:VAL:HG23 | 2.08 | 0.54 |
| 1:A:244:LEU:HG | 1:A:385:LYS:CE | 2.38 | 0.54 |
| 1:B:93:HIS:HE1 | 1:B:225:LYS:HB3 | 1.65 | 0.54 |
| 1:B:275:ALA:HB1 | 1:B:353:VAL:HG11 | 1.88 | 0.54 |
| 1:B:366:ILE:C | 1:B:430:ILE:HD11 | 2.27 | 0.54 |
| 1:A:86:HIS:CG | 1:A:87:LYS:H | 2.25 | 0.54 |
| 1:A:137:VAL:HG13 | 1:A:201:ALA:HA | 1.89 | 0.54 |
| 1:A:209:LEU:O | 1:A:213:PHE:HB2 | 2.08 | 0.54 |
| 1:A:328:THR:O | 1:A:332:THR:OG1 | 2.21 | 0.54 |
| 1:B:68:LEU:HD12 | 1:B:248:VAL:HB | 1.89 | 0.54 |
| 1:B:76:VAL:C | 1:B:78:GLN:N | 2.47 | 0.54 |
| 1:B:176:PRO:O | 1:B:180:ILE:HG22 | 2.07 | 0.54 |
| 1:B:367:TYR:N | 1:B:430:ILE:HD11 | 2.23 | 0.54 |
| 1:A:72:LEU:HB3 | 1:A:244:LEU:HD13 | 1.88 | 0.54 |
| 1:A:155:ASP:O | 1:A:157:MET:N | 2.40 | 0.54 |
| 1:A:350:ASN:OD1 | 1:A:352:VAL:HB | 2.08 | 0.54 |
| 1:A:382:ARG:HH21 | 1:A:443:ARG:C | 2.11 | 0.54 |
| 1:A:398:TYR:CB | 1:A:436:ALA:CB | 2.68 | 0.54 |
| 1:B:78:GLN:HG3 | 1:B:79:LEU:CD1 | 2.38 | 0.54 |
| 1:B:113:THR:HA | 1:B:116:ILE:CG2 | 2.38 | 0.54 |
| 1:B:191:LEU:HG | 1:B:192:GLY:N | 2.22 | 0.54 |
| 1:A:104:VAL:HA | 1:A:107:ILE:CG1 | 2.37 | 0.54 |
| 1:A:151:ARG:O | 1:A:153:PHE:N | 2.41 | 0.54 |
| 1:A:345:LEU:O | 1:A:347:TYR:O | 2.25 | 0.54 |
| 1:B:266:VAL:CG1 | 1:B:407:TYR:CE2 | 2.89 | 0.54 |
| 1:A:56:SER:O | 1:A:60:PRO:HD2 | 2.07 | 0.54 |
| 1:A:116:ILE:O | 1:A:117:ILE:C | 2.46 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:181:PHE:CD2 | 1:A:198:VAL:HG11 | 2.43 | 0.54 |
| 1:B:206:ILE:O | 1:B:209:LEU:CB | 2.52 | 0.54 |
| 1:B:226:VAL:CG1 | 1:B:227:PHE:N | 2.68 | 0.54 |
| 1:B:237:GLU:O | 1:B:241:LEU:N | 2.41 | 0.54 |
| 1:B:250:ALA:O | 1:B:254:PHE:N | 2.40 | 0.54 |
| 1:A:235:PRO:HA | 1:A:238:LEU:CG | 2.37 | 0.54 |
| 1:A:345:LEU:O | 1:A:347:TYR:N | 2.41 | 0.54 |
| 1:B:273:VAL:O | 1:B:277:HIS:CB | 2.56 | 0.54 |
| 1:B:420:LEU:O | 1:B:423:LYS:HG2 | 2.08 | 0.54 |
| 1:A:72:LEU:HD13 | 1:A:75:VAL:CG2 | 2.37 | 0.54 |
| 1:A:140:ALA:HB1 | 1:A:204:TYR:CE2 | 2.43 | 0.54 |
| 1:A:178:ASN:O | 1:A:181:PHE:N | 2.40 | 0.54 |
| 1:A:266:VAL:HG13 | 1:A:269:LEU:HD21 | 1.90 | 0.54 |
| 1:A:406:GLY:CA | 1:A:428:GLY:HA3 | 2.38 | 0.54 |
| 1:A:410:GLY:HA2 | 1:A:421:GLY:O | 2.08 | 0.54 |
| 1:A:426:TRP:HA | 1:A:426:TRP:HE3 | 1.73 | 0.54 |
| 1:A:455:GLN:HA | 1:A:458:LEU:HB2 | 1.90 | 0.54 |
| 1:B:11:GLU:OE2 | 1:B:320:VAL:HB | 2.08 | 0.54 |
| 1:B:60:PRO:HA | 1:B:63:LEU:HB3 | 1.90 | 0.54 |
| 1:B:137:VAL:HG13 | 1:B:201:ALA:HA | 1.88 | 0.54 |
| 1:B:144:TYR:O | 1:B:145:LEU:C | 2.46 | 0.54 |
| 1:B:220:ARG:HG3 | 1:B:221:LEU:CD1 | 2.38 | 0.54 |
| 1:B:418:GLN:HE22 | 1:B:421:GLY:HA2 | 1.71 | 0.54 |
| 1:B:436:ALA:HA | 1:B:439:MET:CG | 2.38 | 0.54 |
| 1:A:73:VAL:HG13 | 1:A:241:LEU:HG | 1.90 | 0.53 |
| 1:A:142:PRO:O | 1:A:145:LEU:CD1 | 2.56 | 0.53 |
| 1:A:191:LEU:HG | 1:A:192:GLY:H | 1.73 | 0.53 |
| 1:B:8:TYR:O | 1:B:12:ALA:CB | 2.56 | 0.53 |
| 1:B:100:LEU:CD1 | 1:B:100:LEU:H | 2.20 | 0.53 |
| 1:B:197:GLY:O | 1:B:200:THR:HB | 2.08 | 0.53 |
| 1:B:301:ARG:O | 1:B:301:ARG:HD3 | 2.08 | 0.53 |
| 1:B:423:LYS:CG | 1:B:424:GLY:N | 2.69 | 0.53 |
| 1:A:80:ASN:C | 1:A:82:ALA:N | 2.60 | 0.53 |
| 1:A:218:SER:O | 1:A:220:ARG:N | 2.41 | 0.53 |
| 1:A:320:VAL:O | 1:A:321:GLY:C | 2.46 | 0.53 |
| 1:A:454:VAL:O | 1:A:458:LEU:HD13 | 2.08 | 0.53 |
| 1:B:180:ILE:HG23 | 1:B:181:PHE:CD1 | 2.43 | 0.53 |
| 1:B:369:CYS:O | 1:B:372:ALA:HB3 | 2.08 | 0.53 |
| 1:B:392:HIS:O | 1:B:395:PHE:HB2 | 2.08 | 0.53 |
| 1:A:4:SER:HA | 1:A:7:ARG:HB2 | 1.91 | 0.53 |
| 1:A:35:VAL:HG12 | 1:A:36:ASP:N | 2.23 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:277:HIS:HD2 | 1:A:278:GLN:OE1 | 1.91 | 0.53 |
| 1:A:301:ARG:HD3 | 1:A:301:ARG:C | 2.29 | 0.53 |
| 1:B:18:LEU:O | 1:B:22:VAL:HG13 | 2.08 | 0.53 |
| 1:B:191:LEU:O | 1:B:195:GLY:N | 2.42 | 0.53 |
| 1:B:236:LYS:HG3 | 1:B:239:ILE:HD12 | 1.90 | 0.53 |
| 1:B:340:ARG:HB2 | 1:B:361:LEU:CD1 | 2.38 | 0.53 |
| 1:B:417:GLU:CD | 1:B:418:GLN:H | 2.12 | 0.53 |
| 1:B:454:VAL:O | 1:B:458:LEU:HD13 | 2.07 | 0.53 |
| 1:A:107:ILE:O | 1:A:110:LEU:HB3 | 2.07 | 0.53 |
| 1:A:318:ALA:HA | 1:A:381:LEU:HD11 | 1.90 | 0.53 |
| 1:B:22:VAL:HG23 | 1:B:293:SER:HB3 | 1.89 | 0.53 |
| 1:B:148:GLN:HA | 1:B:152:SER:HB2 | 1.89 | 0.53 |
| 1:A:72:LEU:CA | 1:A:75:VAL:HG13 | 2.34 | 0.53 |
| 1:A:136:ALA:HA | 1:A:139:PHE:HD2 | 1.74 | 0.53 |
| 1:A:181:PHE:CG | 1:A:198:VAL:HG11 | 2.43 | 0.53 |
| 1:A:340:ARG:HG3 | 1:A:341:GLU:H | 1.72 | 0.53 |
| 1:A:432:GLY:O | 1:A:435:ALA:HB3 | 2.08 | 0.53 |
| 1:B:234:GLN:O | 1:B:238:LEU:HD13 | 2.08 | 0.53 |
| 1:B:382:ARG:NH2 | 1:B:445:TYR:N | 2.49 | 0.53 |
| 1:B:72:LEU:CA | 1:B:75:VAL:HG13 | 2.36 | 0.53 |
| 1:A:68:LEU:O | 1:A:71:ALA:HB3 | 2.09 | 0.53 |
| 1:A:123:GLU:O | 1:A:123:GLU:HG2 | 2.07 | 0.53 |
| 1:A:178:ASN:O | 1:A:179:TRP:C | 2.46 | 0.53 |
| 1:A:279:VAL:HG12 | 1:A:280:ALA:N | 2.23 | 0.53 |
| 1:A:351:GLN:C | 1:A:351:GLN:CD | 2.67 | 0.53 |
| 1:A:409:LEU:O | 1:A:410:GLY:C | 2.43 | 0.53 |
| 1:B:93:HIS:O | 1:B:97:ILE:HG13 | 2.08 | 0.53 |
| 1:B:238:LEU:O | 1:B:242:PHE:HD1 | 1.91 | 0.53 |
| 1:B:418:GLN:CD | 1:B:421:GLY:HA2 | 2.29 | 0.53 |
| 1:A:244:LEU:HG | 1:A:385:LYS:HE2 | 1.91 | 0.53 |
| 1:A:367:TYR:HE2 | 1:A:429:PHE:CE1 | 2.27 | 0.53 |
| 1:A:382:ARG:HA | 1:A:387:MET:HG2 | 1.91 | 0.53 |
| 1:A:411:MET:HA | 1:A:414:TRP:CD2 | 2.43 | 0.53 |
| 1:B:94:GLN:OE1 | 1:B:238:LEU:HD21 | 2.09 | 0.53 |
| 1:B:238:LEU:O | 1:B:242:PHE:N | 2.41 | 0.53 |
| 1:A:7:ARG:HH11 | 1:A:7:ARG:CB | 2.21 | 0.53 |
| 1:A:433:LEU:O | 1:A:437:ALA:CB | 2.55 | 0.53 |
| 1:B:35:VAL:HG12 | 1:B:36:ASP:N | 2.23 | 0.53 |
| 1:B:182:VAL:HG22 | 1:B:195:GLY:CA | 2.37 | 0.53 |
| 1:B:200:THR:CA | 1:B:203:VAL:HG23 | 2.38 | 0.53 |
| 1:A:239:ILE:CA | 1:A:242:PHE:HB2 | 2.39 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:266:VAL:CG1 | 1:A:407:TYR:CE2 | 2.90 | 0.53 |
| 1:A:447:LEU:HD12 | 1:A:448:GLN:N | 2.23 | 0.53 |
| 1:A:267:ALA:H | 1:A:268:PRO:HD3 | 1.72 | 0.52 |
| 1:A:387:MET:CE | 1:A:456:LEU:HD13 | 2.39 | 0.52 |
| 1:A:436:ALA:O | 1:A:439:MET:N | 2.43 | 0.52 |
| 1:B:326:LEU:HD13 | 1:B:330:CYS:HB2 | 1.92 | 0.52 |
| 1:B:398:TYR:HD2 | 1:B:432:GLY:C | 2.12 | 0.52 |
| 1:B:411:MET:HA | 1:B:414:TRP:CD2 | 2.45 | 0.52 |
| 1:B:413:ASN:HB2 | 1:B:418:GLN:CG | 2.39 | 0.52 |
| 1:B:433:LEU:O | 1:B:437:ALA:CB | 2.56 | 0.52 |
| 1:A:18:LEU:O | 1:A:21:PRO:HD2 | 2.09 | 0.52 |
| 1:A:263:ALA:O | 1:A:266:VAL:C | 2.46 | 0.52 |
| 1:A:287:VAL:HG11 | 1:A:368:GLN:CD | 2.29 | 0.52 |
| 1:A:447:LEU:HD21 | 1:A:450:GLN:CG | 2.39 | 0.52 |
| 1:B:72:LEU:HA | 1:B:75:VAL:CG1 | 2.36 | 0.52 |
| 1:B:353:VAL:CB | 1:B:357:ALA:HB2 | 2.39 | 0.52 |
| 1:A:101:LEU:O | 1:A:105:PRO:HG2 | 2.09 | 0.52 |
| 1:A:120:MET:O | 1:A:121:ASP:C | 2.47 | 0.52 |
| 1:A:274:VAL:O | 1:A:278:GLN:N | 2.42 | 0.52 |
| 1:B:45:ALA:HB1 | 1:B:126:MET:CE | 2.39 | 0.52 |
| 1:B:63:LEU:C | 1:B:65:GLY:H | 2.12 | 0.52 |
| 1:B:113:THR:O | 1:B:116:ILE:HG22 | 2.09 | 0.52 |
| 1:B:398:TYR:CB | 1:B:436:ALA:CB | 2.72 | 0.52 |
| 1:A:130:THR:C | 1:A:132:GLY:N | 2.60 | 0.52 |
| 1:A:234:GLN:O | 1:A:237:GLU:HB3 | 2.09 | 0.52 |
| 1:A:320:VAL:O | 1:A:322:LEU:N | 2.42 | 0.52 |
| 1:A:382:ARG:O | 1:A:387:MET:HB2 | 2.09 | 0.52 |
| 1:B:101:LEU:O | 1:B:105:PRO:HG2 | 2.09 | 0.52 |
| 1:B:155:ASP:O | 1:B:157:MET:N | 2.42 | 0.52 |
| 1:B:430:ILE:CG2 | 1:B:431:ILE:N | 2.72 | 0.52 |
| 1:A:68:LEU:HD22 | 1:A:71:ALA:CB | 2.40 | 0.52 |
| 1:A:127:ALA:O | 1:A:131:VAL:HG22 | 2.09 | 0.52 |
| 1:B:141:VAL:CG2 | 1:B:204:TYR:HB3 | 2.39 | 0.52 |
| 1:B:154:THR:O | 1:B:158:SER:CA | 2.54 | 0.52 |
| 1:B:165:VAL:HG13 | 1:B:210:LEU:HG | 1.91 | 0.52 |
| 1:B:298:VAL:HA | 1:B:301:ARG:HB3 | 1.91 | 0.52 |
| 1:B:390:ILE:O | 1:B:390:ILE:CG2 | 2.57 | 0.52 |
| 1:A:26:SER:HB2 | 1:A:289:MET:CG | 2.39 | 0.52 |
| 1:A:32:MET:CG | 1:A:33:GLY:N | 2.72 | 0.52 |
| 1:A:236:LYS:HG3 | 1:A:239:ILE:HD12 | 1.92 | 0.52 |
| 1:A:360:LEU:O | 1:A:361:LEU:C | 2.46 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:376:VAL:HG13 | 1:A:377:ALA:N | 2.17 | 0.52 |
| 1:A:394:THR:HG23 | 1:A:439:MET:CB | 2.39 | 0.52 |
| 1:A:430:ILE:CG2 | 1:A:431:ILE:N | 2.72 | 0.52 |
| 1:B:152:SER:O | 1:B:155:ASP:OD1 | 2.28 | 0.52 |
| 1:A:21:PRO:CB | 1:A:160:THR:HG23 | 2.40 | 0.52 |
| 1:A:63:LEU:C | 1:A:65:GLY:H | 2.12 | 0.52 |
| 1:A:145:LEU:HD13 | 1:A:146:LEU:CA | 2.39 | 0.52 |
| 1:A:238:LEU:O | 1:A:242:PHE:N | 2.43 | 0.52 |
| 1:B:11:GLU:HG2 | 1:B:316:ILE:HG22 | 1.90 | 0.52 |
| 1:B:104:VAL:C | 1:B:106:ILE:H | 2.13 | 0.52 |
| 1:B:248:VAL:HG23 | 1:B:249:ALA:H | 1.75 | 0.52 |
| 1:B:267:ALA:H | 1:B:268:PRO:HD3 | 1.72 | 0.52 |
| 1:B:332:THR:HA | 1:B:335:LEU:CG | 2.39 | 0.52 |
| 1:B:351:GLN:O | 1:B:354:VAL:HG23 | 2.08 | 0.52 |
| 1:B:379:GLY:HA2 | 1:B:391:PHE:CE1 | 2.45 | 0.52 |
| 1:A:86:HIS:O | 1:A:87:LYS:CB | 2.57 | 0.52 |
| 1:A:123:GLU:C | 1:A:124:GLU:O | 2.47 | 0.52 |
| 1:A:212:LEU:O | 1:A:215:ILE:HG22 | 2.10 | 0.52 |
| 1:A:420:LEU:HB3 | 1:A:423:LYS:CD | 2.40 | 0.52 |
| 1:B:142:PRO:O | 1:B:145:LEU:HD12 | 2.09 | 0.52 |
| 1:B:312:LYS:HA | 1:B:312:LYS:HZ2 | 1.72 | 0.52 |
| 1:A:113:THR:O | 1:A:116:ILE:HG22 | 2.10 | 0.52 |
| 1:A:145:LEU:HA | 1:A:148:GLN:HE21 | 1.75 | 0.52 |
| 1:A:159:LEU:HD21 | 1:A:220:ARG:HH11 | 1.75 | 0.52 |
| 1:A:226:VAL:HG12 | 1:A:227:PHE:H | 1.71 | 0.52 |
| 1:A:394:THR:HG21 | 1:A:440:LEU:HD22 | 1.91 | 0.52 |
| 1:A:451:SER:HA | 1:A:453:ASP:OD1 | 2.09 | 0.52 |
| 1:B:11:GLU:HB3 | 1:B:320:VAL:CB | 2.40 | 0.52 |
| 1:B:42:GLY:CA | 1:B:49:ALA:HB3 | 2.40 | 0.52 |
| 1:B:161:LYS:N | 1:B:162:PRO:CD | 2.68 | 0.52 |
| 1:B:298:VAL:HG21 | 1:B:321:GLY:CA | 2.40 | 0.52 |
| 1:B:339:PHE:HB3 | 1:B:343:ILE:HG12 | 1.91 | 0.52 |
| 1:B:387:MET:CE | 1:B:456:LEU:HD13 | 2.40 | 0.52 |
| 1:A:62:ILE:CG1 | 1:A:63:LEU:N | 2.63 | 0.52 |
| 1:A:69:LEU:HB2 | 1:A:249:ALA:HB2 | 1.92 | 0.52 |
| 1:A:72:LEU:HD22 | 1:A:75:VAL:HG11 | 1.92 | 0.52 |
| 1:A:182:VAL:HG22 | 1:A:195:GLY:CA | 2.40 | 0.52 |
| 1:A:340:ARG:HB2 | 1:A:361:LEU:HD13 | 1.91 | 0.52 |
| 1:A:367:TYR:HA | 1:A:430:ILE:CG1 | 2.40 | 0.52 |
| 1:B:191:LEU:HG | 1:B:192:GLY:H | 1.75 | 0.52 |
| 1:B:431:ILE:O | 1:B:435:ALA:HB2 | 2.09 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:166:ILE:HB | 1:A:210:LEU:CG | 2.40 | 0.51 |
| 1:A:166:ILE:HB | 1:A:210:LEU:HG | 1.90 | 0.51 |
| 1:A:181:PHE:O | 1:A:190:GLU:HG2 | 2.09 | 0.51 |
| 1:A:436:ALA:HA | 1:A:439:MET:CG | 2.40 | 0.51 |
| 1:B:237:GLU:O | 1:B:240:ARG:HB3 | 2.10 | 0.51 |
| 1:B:367:TYR:HE2 | 1:B:429:PHE:CE1 | 2.28 | 0.51 |
| 1:B:385:LYS:N | 1:B:387:MET:SD | 2.83 | 0.51 |
| 1:B:445:TYR:O | 1:B:448:GLN:O | 2.27 | 0.51 |
| 1:A:51:VAL:O | 1:A:54:ALA:HB3 | 2.10 | 0.51 |
| 1:A:144:TYR:CD1 | 1:A:144:TYR:C | 2.83 | 0.51 |
| 1:A:206:ILE:CG1 | 1:A:207:MET:N | 2.72 | 0.51 |
| 1:A:15:LEU:CD1 | 1:A:16:ILE:N | 2.66 | 0.51 |
| 1:A:53:ILE:HD12 | 1:A:54:ALA:N | 2.25 | 0.51 |
| 1:A:127:ALA:O | 1:A:128:THR:C | 2.48 | 0.51 |
| 1:A:240:ARG:C | 1:A:242:PHE:N | 2.63 | 0.51 |
| 1:B:234:GLN:O | 1:B:237:GLU:HB3 | 2.09 | 0.51 |
| 1:B:250:ALA:O | 1:B:254:PHE:CB | 2.59 | 0.51 |
| 1:B:258:LEU:HD22 | 1:B:399:TRP:CZ2 | 2.45 | 0.51 |
| 1:B:314:ALA:O | 1:B:318:ALA:N | 2.42 | 0.51 |
| 1:A:316:ILE:O | 1:A:318:ALA:N | 2.44 | 0.51 |
| 1:A:392:HIS:O | 1:A:395:PHE:HB2 | 2.09 | 0.51 |
| 1:B:290:PHE:CB | 1:B:291:PRO:CD | 2.88 | 0.51 |
| 1:B:335:LEU:C | 1:B:335:LEU:HD12 | 2.30 | 0.51 |
| 1:B:348:THR:C | 1:B:349:GLU:HG3 | 2.30 | 0.51 |
| 1:B:420:LEU:CB | 1:B:423:LYS:HG2 | 2.34 | 0.51 |
| 1:A:131:VAL:CA | 1:A:134:MET:HB2 | 2.41 | 0.51 |
| 1:A:408:ILE:O | 1:A:412:THR:N | 2.44 | 0.51 |
| 1:B:212:LEU:O | 1:B:215:ILE:HG22 | 2.10 | 0.51 |
| 1:B:386:ASP:O | 1:B:389:ALA:N | 2.43 | 0.51 |
| 1:A:81:GLY:HA3 | 1:A:307:GLY:C | 2.30 | 0.51 |
| 1:A:222:ALA:O | 1:A:223:HIS:C | 2.49 | 0.51 |
| 1:A:242:PHE:O | 1:A:244:LEU:N | 2.42 | 0.51 |
| 1:A:273:VAL:CG1 | 1:A:274:VAL:H | 2.23 | 0.51 |
| 1:A:353:VAL:CB | 1:A:357:ALA:HB2 | 2.40 | 0.51 |
| 1:B:32:MET:CG | 1:B:33:GLY:H | 2.23 | 0.51 |
| 1:B:77:ALA:HB2 | 1:B:154:THR:CG2 | 2.41 | 0.51 |
| 1:B:96:LEU:CB | 1:B:146:LEU:HG | 2.40 | 0.51 |
| 1:A:84:ARG:CG | 1:B:309:GLN:HG2 | 2.41 | 0.51 |
| 1:A:209:LEU:HD12 | 1:A:210:LEU:HD13 | 1.92 | 0.51 |
| 1:A:226:VAL:CG1 | 1:A:227:PHE:N | 2.66 | 0.51 |
| 1:A:301:ARG:NH2 | 1:A:316:ILE:HG22 | 2.26 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:332:THR:HA | 1:A:335:LEU:HD21 | 1.91 | 0.51 |
| 1:B:97:ILE:O | 1:B:98:LEU:C | 2.48 | 0.51 |
| 1:B:130:THR:C | 1:B:132:GLY:N | 2.61 | 0.51 |
| 1:B:222:ALA:O | 1:B:223:HIS:C | 2.49 | 0.51 |
| 1:B:332:THR:HA | 1:B:335:LEU:HD21 | 1.90 | 0.51 |
| 1:B:393:ARG:HH11 | 1:B:393:ARG:CG | 2.23 | 0.51 |
| 1:A:74:PRO:O | 1:A:154:THR:OG1 | 2.29 | 0.51 |
| 1:A:146:LEU:O | 1:A:146:LEU:HD22 | 2.10 | 0.51 |
| 1:A:166:ILE:O | 1:A:170:GLY:CA | 2.58 | 0.51 |
| 1:A:274:VAL:HG12 | 1:A:275:ALA:N | 2.26 | 0.51 |
| 1:A:311:THR:C | 1:A:312:LYS:HZ3 | 2.14 | 0.51 |
| 1:A:353:VAL:HB | 1:A:357:ALA:HB2 | 1.93 | 0.51 |
| 1:A:371:ASP:O | 1:A:375:VAL:HG23 | 2.10 | 0.51 |
| 1:A:433:LEU:N | 1:A:433:LEU:HD12 | 2.26 | 0.51 |
| 1:B:3:ASN:C | 1:B:5:VAL:H | 2.14 | 0.51 |
| 1:B:353:VAL:HB | 1:B:357:ALA:HB2 | 1.93 | 0.51 |
| 1:A:30:THR:O | 1:A:31:GLY:C | 2.49 | 0.51 |
| 1:B:98:LEU:HA | 1:B:101:LEU:CG | 2.41 | 0.51 |
| 1:B:313:GLY:O | 1:B:317:ALA:N | 2.44 | 0.51 |
| 1:B:363:PHE:CD1 | 1:B:364:ALA:N | 2.79 | 0.51 |
| 1:B:436:ALA:O | 1:B:439:MET:HB2 | 2.10 | 0.51 |
| 1:A:142:PRO:O | 1:A:145:LEU:CB | 2.55 | 0.51 |
| 1:A:145:LEU:O | 1:A:148:GLN:HB3 | 2.11 | 0.51 |
| 1:A:290:PHE:CB | 1:A:291:PRO:CD | 2.89 | 0.51 |
| 1:A:348:THR:C | 1:A:349:GLU:HG3 | 2.31 | 0.51 |
| 1:B:146:LEU:O | 1:B:149:ALA:N | 2.44 | 0.51 |
| 1:A:73:VAL:O | 1:A:76:VAL:CG1 | 2.59 | 0.50 |
| 1:A:76:VAL:HG23 | 1:A:78:GLN:HE21 | 1.76 | 0.50 |
| 1:A:154:THR:O | 1:A:158:SER:CA | 2.56 | 0.50 |
| 1:A:176:PRO:O | 1:A:180:ILE:HG22 | 2.09 | 0.50 |
| 1:A:238:LEU:O | 1:A:242:PHE:HD1 | 1.93 | 0.50 |
| 1:A:244:LEU:CD2 | 1:A:385:LYS:O | 2.49 | 0.50 |
| 1:B:14:ASN:HD22 | 1:B:14:ASN:H | 1.57 | 0.50 |
| 1:B:142:PRO:CA | 1:B:145:LEU:HB3 | 2.39 | 0.50 |
| 1:A:73:VAL:O | 1:A:76:VAL:HG12 | 2.11 | 0.50 |
| 1:A:255:GLU:HG2 | 1:A:256:VAL:N | 2.27 | 0.50 |
| 1:A:410:GLY:HA3 | 1:A:425:PHE:CB | 2.41 | 0.50 |
| 1:B:88:ILE:CG1 | 1:B:89:PRO:CD | 2.88 | 0.50 |
| 1:B:386:ASP:O | 1:B:389:ALA:HB3 | 2.12 | 0.50 |
| 1:A:162:PRO:HA | 1:A:165:VAL:HB | 1.92 | 0.50 |
| 1:A:339:PHE:HB3 | 1:A:343:ILE:HG13 | 1.94 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:385:LYS:HD3 | 1:A:386:ASP:N | 2.26 | 0.50 |
| 1:A:398:TYR:HD2 | 1:A:432:GLY:C | 2.15 | 0.50 |
| 1:B:69:LEU:HG | 1:B:245:GLY:CA | 2.40 | 0.50 |
| 1:B:76:VAL:CA | 1:B:78:GLN:HE21 | 2.11 | 0.50 |
| 1:B:127:ALA:O | 1:B:128:THR:C | 2.50 | 0.50 |
| 1:B:282:ASN:O | 1:B:285:SER:HB3 | 2.11 | 0.50 |
| 1:B:398:TYR:HE2 | 1:B:433:LEU:HG | 1.77 | 0.50 |
| 1:A:28:ALA:O | 1:A:29:GLN:C | 2.50 | 0.50 |
| 1:A:387:MET:O | 1:A:391:PHE:HB3 | 2.12 | 0.50 |
| 1:A:395:PHE:O | 1:A:398:TYR:CE1 | 2.64 | 0.50 |
| 1:B:102:VAL:O | 1:B:105:PRO:HD2 | 2.11 | 0.50 |
| 1:B:261:VAL:HG12 | 1:B:262:VAL:N | 2.27 | 0.50 |
| 1:B:299:SER:HA | 1:B:380:SER:OG | 2.12 | 0.50 |
| 1:B:343:ILE:O | 1:B:346:LEU:N | 2.45 | 0.50 |
| 1:B:367:TYR:HA | 1:B:430:ILE:CG1 | 2.41 | 0.50 |
| 1:B:369:CYS:SG | 1:B:370:MET:HE1 | 2.52 | 0.50 |
| 1:B:394:THR:HG23 | 1:B:439:MET:CB | 2.42 | 0.50 |
| 1:A:445:TYR:HB3 | 1:A:448:GLN:HA | 1.88 | 0.50 |
| 1:B:18:LEU:HD13 | 1:B:300:ILE:HD11 | 1.92 | 0.50 |
| 1:B:100:LEU:HD12 | 1:B:100:LEU:H | 1.74 | 0.50 |
| 1:B:345:LEU:O | 1:B:347:TYR:O | 2.30 | 0.50 |
| 1:A:76:VAL:HA | 1:A:78:GLN:NE2 | 2.14 | 0.50 |
| 1:A:89:PRO:O | 1:A:93:HIS:CE1 | 2.64 | 0.50 |
| 1:A:232:LYS:N | 1:A:235:PRO:HD2 | 2.26 | 0.50 |
| 1:A:233:PRO:N | 1:A:235:PRO:HD2 | 2.27 | 0.50 |
| 1:A:445:TYR:CB | 1:A:448:GLN:CA | 2.76 | 0.50 |
| 1:B:97:ILE:O | 1:B:101:LEU:HG | 2.12 | 0.50 |
| 1:B:104:VAL:C | 1:B:106:ILE:N | 2.65 | 0.50 |
| 1:B:185:LYS:HD3 | 1:B:186:PHE:N | 2.26 | 0.50 |
| 1:B:239:ILE:CA | 1:B:242:PHE:HB2 | 2.41 | 0.50 |
| 1:B:420:LEU:HB3 | 1:B:423:LYS:CD | 2.41 | 0.50 |
| 1:B:443:ARG:O | 1:B:444:LEU:C | 2.50 | 0.50 |
| 1:A:58:TRP:HE3 | 1:A:59:LEU:HD12 | 1.76 | 0.50 |
| 1:A:151:ARG:CA | 1:A:155:ASP:HA | 2.31 | 0.50 |
| 1:A:208:LEU:CD2 | 1:A:209:LEU:N | 2.66 | 0.50 |
| 1:A:344:ALA:O | 1:A:345:LEU:C | 2.49 | 0.50 |
| 1:B:81:GLY:HA3 | 1:B:307:GLY:C | 2.33 | 0.50 |
| 1:B:110:LEU:HD13 | 1:B:114:GLN:HG3 | 1.94 | 0.50 |
| 1:B:283:PHE:O | 1:B:284:SER:C | 2.49 | 0.50 |
| 1:B:403:LEU:HB2 | 1:B:404:PRO:HD3 | 1.94 | 0.50 |
| 1:B:406:GLY:O | 1:B:409:LEU:CB | 2.53 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:120:MET:O | 1:A:121:ASP:O | 2.30 | 0.50 |
| 1:A:287:VAL:O | 1:A:291:PRO:CD | 2.60 | 0.50 |
| 1:A:382:ARG:HE | 1:A:443:ARG:HB3 | 1.77 | 0.50 |
| 1:A:393:ARG:HH11 | 1:A:393:ARG:CG | 2.23 | 0.50 |
| 1:A:413:ASN:HD22 | 1:A:421:GLY:H | 1.59 | 0.50 |
| 1:B:20:THR:O | 1:B:21:PRO:O | 2.29 | 0.50 |
| 1:B:33:GLY:O | 1:B:37:THR:CB | 2.60 | 0.50 |
| 1:B:63:LEU:HG | 1:B:64:PHE:N | 2.27 | 0.50 |
| 1:B:100:LEU:N | 1:B:100:LEU:CD1 | 2.75 | 0.50 |
| 1:B:137:VAL:HG11 | 1:B:201:ALA:N | 2.27 | 0.50 |
| 1:B:178:ASN:ND2 | 1:B:199:ALA:HB2 | 2.27 | 0.50 |
| 1:B:351:GLN:CD | 1:B:351:GLN:C | 2.70 | 0.50 |
| 1:B:406:GLY:CA | 1:B:428:GLY:HA3 | 2.42 | 0.50 |
| 1:A:409:LEU:HD12 | 1:A:424:GLY:C | 2.31 | 0.50 |
| 1:B:22:VAL:O | 1:B:25:ALA:HB3 | 2.12 | 0.50 |
| 1:B:173:LEU:O | 1:B:176:PRO:CD | 2.58 | 0.50 |
| 1:B:178:ASN:HD21 | 1:B:199:ALA:CB | 2.25 | 0.50 |
| 1:B:207:MET:HA | 1:B:210:LEU:CD2 | 2.42 | 0.50 |
| 1:B:215:ILE:CG2 | 1:B:216:VAL:H | 2.23 | 0.50 |
| 1:B:398:TYR:HD2 | 1:B:432:GLY:O | 1.94 | 0.50 |
| 1:A:386:ASP:O | 1:A:389:ALA:HB3 | 2.12 | 0.49 |
| 1:B:72:LEU:HB3 | 1:B:244:LEU:CD1 | 2.41 | 0.49 |
| 1:B:120:MET:O | 1:B:121:ASP:C | 2.51 | 0.49 |
| 1:B:140:ALA:HB1 | 1:B:204:TYR:CE2 | 2.47 | 0.49 |
| 1:B:226:VAL:HG12 | 1:B:227:PHE:H | 1.76 | 0.49 |
| 1:B:354:VAL:O | 1:B:358:MET:N | 2.40 | 0.49 |
| 1:A:44:SER:C | 1:A:46:ILE:N | 2.66 | 0.49 |
| 1:A:60:PRO:O | 1:A:63:LEU:HD23 | 2.13 | 0.49 |
| 1:A:244:LEU:HD23 | 1:A:388:THR:OG1 | 2.11 | 0.49 |
| 1:A:313:GLY:O | 1:A:317:ALA:N | 2.45 | 0.49 |
| 1:A:447:LEU:HD11 | 1:A:450:GLN:HG2 | 1.93 | 0.49 |
| 1:B:44:SER:C | 1:B:46:ILE:N | 2.61 | 0.49 |
| 1:B:145:LEU:CD1 | 1:B:146:LEU:N | 2.64 | 0.49 |
| 1:B:217:THR:O | 1:B:218:SER:C | 2.48 | 0.49 |
| 1:B:276:ALA:CA | 1:B:426:TRP:NE1 | 2.75 | 0.49 |
| 1:A:5:VAL:HA | 1:A:8:TYR:OH | 2.12 | 0.49 |
| 1:A:72:LEU:HD12 | 1:A:244:LEU:CD2 | 2.37 | 0.49 |
| 1:A:84:ARG:C | 1:A:86:HIS:N | 2.64 | 0.49 |
| 1:B:21:PRO:HA | 1:B:164:MET:CE | 2.43 | 0.49 |
| 1:B:70:MET:HE2 | 1:B:99:ALA:HB2 | 1.95 | 0.49 |
| 1:B:240:ARG:C | 1:B:242:PHE:N | 2.64 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:248:VAL:HG23 | 1:B:249:ALA:N | 2.28 | 0.49 |
| 1:B:279:VAL:HG12 | 1:B:280:ALA:N | 2.26 | 0.49 |
| 1:B:314:ALA:O | 1:B:316:ILE:N | 2.45 | 0.49 |
| 1:A:314:ALA:O | 1:A:318:ALA:N | 2.44 | 0.49 |
| 1:A:354:VAL:O | 1:A:358:MET:HB2 | 2.12 | 0.49 |
| 1:A:455:GLN:C | 1:A:455:GLN:NE2 | 2.66 | 0.49 |
| 1:B:3:ASN:O | 1:B:4:SER:OG | 2.21 | 0.49 |
| 1:B:7:ARG:HB3 | 1:B:7:ARG:HH11 | 1.77 | 0.49 |
| 1:B:72:LEU:HD12 | 1:B:244:LEU:CD2 | 2.36 | 0.49 |
| 1:B:77:ALA:HB2 | 1:B:154:THR:HG23 | 1.90 | 0.49 |
| 1:B:126:MET:CE | 1:B:191:LEU:HD21 | 2.42 | 0.49 |
| 1:B:175:ILE:HG22 | 1:B:176:PRO:N | 2.27 | 0.49 |
| 1:B:328:THR:O | 1:B:332:THR:OG1 | 2.22 | 0.49 |
| 1:A:78:GLN:HG3 | 1:A:79:LEU:CD1 | 2.41 | 0.49 |
| 1:A:206:ILE:HG13 | 1:A:207:MET:N | 2.27 | 0.49 |
| 1:B:162:PRO:O | 1:B:165:VAL:CG1 | 2.33 | 0.49 |
| 1:A:77:ALA:HB2 | 1:A:154:THR:CG2 | 2.43 | 0.49 |
| 1:A:244:LEU:CG | 1:A:385:LYS:NZ | 2.76 | 0.49 |
| 1:A:279:VAL:HG13 | 1:A:361:LEU:HD23 | 1.94 | 0.49 |
| 1:A:422:ALA:O | 1:A:423:LYS:C | 2.51 | 0.49 |
| 1:A:455:GLN:C | 1:A:455:GLN:HE21 | 2.16 | 0.49 |
| 1:B:144:TYR:O | 1:B:147:PHE:HB3 | 2.13 | 0.49 |
| 1:B:166:ILE:O | 1:B:170:GLY:CA | 2.61 | 0.49 |
| 1:B:279:VAL:HG13 | 1:B:361:LEU:HD23 | 1.94 | 0.49 |
| 1:A:102:VAL:CA | 1:A:105:PRO:HD2 | 2.43 | 0.49 |
| 1:A:142:PRO:C | 1:A:145:LEU:HB3 | 2.32 | 0.49 |
| 1:A:161:LYS:O | 1:A:163:ALA:N | 2.45 | 0.49 |
| 1:A:339:PHE:C | 1:A:341:GLU:OE1 | 2.51 | 0.49 |
| 1:B:155:ASP:CB | 1:B:159:LEU:N | 2.71 | 0.49 |
| 1:B:176:PRO:HG2 | 1:B:177:LEU:HD22 | 1.95 | 0.49 |
| 1:B:274:VAL:O | 1:B:278:GLN:N | 2.45 | 0.49 |
| 1:A:45:ALA:HB1 | 1:A:126:MET:CE | 2.42 | 0.49 |
| 1:A:145:LEU:HD13 | 1:A:146:LEU:H | 1.70 | 0.49 |
| 1:A:339:PHE:O | 1:A:340:ARG:O | 2.30 | 0.49 |
| 1:B:28:ALA:O | 1:B:29:GLN:C | 2.50 | 0.49 |
| 1:A:106:ILE:HG22 | 1:A:139:PHE:CE1 | 2.48 | 0.49 |
| 1:A:338:LEU:O | 1:A:340:ARG:HG2 | 2.12 | 0.49 |
| 1:B:244:LEU:HG | 1:B:385:LYS:CE | 2.42 | 0.49 |
| 1:B:271:SER:O | 1:B:273:VAL:HG12 | 2.13 | 0.49 |
| 1:B:407:TYR:CD2 | 1:B:411:MET:HG3 | 2.47 | 0.49 |
| 1:A:18:LEU:O | 1:A:22:VAL:HG13 | 2.13 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:92:VAL:O | 1:A:95:GLY:N | 2.45 | 0.49 |
| 1:A:124:GLU:OE1 | 1:A:124:GLU:C | 2.50 | 0.49 |
| 1:A:257:THR:O | 1:A:260:ALA:HB3 | 2.12 | 0.49 |
| 1:A:339:PHE:O | 1:A:340:ARG:C | 2.52 | 0.49 |
| 1:B:123:GLU:O | 1:B:123:GLU:HG2 | 2.13 | 0.49 |
| 1:B:178:ASN:O | 1:B:179:TRP:C | 2.50 | 0.49 |
| 1:B:236:LYS:HA | 1:B:239:ILE:HG13 | 1.94 | 0.49 |
| 1:B:292:MET:HA | 1:B:375:VAL:HG11 | 1.95 | 0.49 |
| 1:A:76:VAL:CA | 1:A:78:GLN:HE21 | 2.17 | 0.48 |
| 1:A:118:ARG:HD2 | 1:A:118:ARG:O | 2.12 | 0.48 |
| 1:A:407:TYR:C | 1:A:409:LEU:N | 2.66 | 0.48 |
| 1:A:420:LEU:HD12 | 1:A:423:LYS:HG2 | 1.95 | 0.48 |
| 1:A:427:LEU:O | 1:A:430:ILE:N | 2.46 | 0.48 |
| 1:B:76:VAL:HA | 1:B:78:GLN:HG2 | 1.95 | 0.48 |
| 1:B:116:ILE:O | 1:B:117:ILE:C | 2.49 | 0.48 |
| 1:B:146:LEU:O | 1:B:147:PHE:C | 2.50 | 0.48 |
| 1:B:248:VAL:HG12 | 1:B:391:PHE:HZ | 1.77 | 0.48 |
| 1:B:290:PHE:O | 1:B:293:SER:HB2 | 2.13 | 0.48 |
| 1:A:144:TYR:O | 1:A:145:LEU:C | 2.50 | 0.48 |
| 1:A:161:LYS:N | 1:A:162:PRO:CD | 2.67 | 0.48 |
| 1:A:345:LEU:HD23 | 1:A:345:LEU:HA | 1.57 | 0.48 |
| 1:B:68:LEU:O | 1:B:71:ALA:HB3 | 2.13 | 0.48 |
| 1:B:106:ILE:HG22 | 1:B:139:PHE:CE1 | 2.46 | 0.48 |
| 1:B:205:TRP:CE3 | 1:B:206:ILE:HG22 | 2.48 | 0.48 |
| 1:B:317:ALA:CA | 1:B:320:VAL:HG12 | 2.42 | 0.48 |
| 1:B:387:MET:HE2 | 1:B:446:TRP:CH2 | 2.47 | 0.48 |
| 1:B:446:TRP:CH2 | 1:B:456:LEU:HD11 | 2.48 | 0.48 |
| 1:A:46:ILE:O | 1:A:48:MET:HE2 | 2.13 | 0.48 |
| 1:A:162:PRO:O | 1:A:165:VAL:CG1 | 2.37 | 0.48 |
| 1:A:257:THR:O | 1:A:261:VAL:HG23 | 2.12 | 0.48 |
| 1:A:272:THR:O | 1:A:274:VAL:C | 2.50 | 0.48 |
| 1:A:299:SER:HB2 | 1:A:380:SER:HA | 1.94 | 0.48 |
| 1:A:376:VAL:O | 1:A:380:SER:HB3 | 2.13 | 0.48 |
| 1:A:381:LEU:O | 1:A:384:TYR:CD2 | 2.66 | 0.48 |
| 1:B:266:VAL:HG22 | 1:B:407:TYR:CZ | 2.47 | 0.48 |
| 1:B:314:ALA:C | 1:B:318:ALA:HB3 | 2.33 | 0.48 |
| 1:B:353:VAL:C | 1:B:357:ALA:CB | 2.82 | 0.48 |
| 1:B:409:LEU:HD12 | 1:B:424:GLY:C | 2.32 | 0.48 |
| 1:A:137:VAL:HG11 | 1:A:201:ALA:N | 2.28 | 0.48 |
| 1:A:331:ILE:HG13 | 1:A:335:LEU:HD23 | 1.95 | 0.48 |
| 1:A:387:MET:HB3 | 1:A:443:ARG:HE | 1.78 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:394:THR:HG21 | 1:A:440:LEU:CD1 | 2.43 | 0.48 |
| 1:B:89:PRO:O | 1:B:93:HIS:CE1 | 2.67 | 0.48 |
| 1:B:316:ILE:O | 1:B:318:ALA:N | 2.46 | 0.48 |
| 1:B:369:CYS:SG | 1:B:370:MET:CE | 3.02 | 0.48 |
| 1:A:258:LEU:HA | 1:A:261:VAL:CG2 | 2.43 | 0.48 |
| 1:A:370:MET:HA | 1:A:373:VAL:HG12 | 1.96 | 0.48 |
| 1:B:139:PHE:C | 1:B:142:PRO:HD2 | 2.33 | 0.48 |
| 1:B:161:LYS:O | 1:B:163:ALA:N | 2.46 | 0.48 |
| 1:B:215:ILE:CG2 | 1:B:216:VAL:N | 2.76 | 0.48 |
| 1:A:146:LEU:O | 1:A:147:PHE:C | 2.51 | 0.48 |
| 1:A:163:ALA:HB3 | 1:A:164:MET:SD | 2.54 | 0.48 |
| 1:A:271:SER:O | 1:A:273:VAL:HG12 | 2.13 | 0.48 |
| 1:A:410:GLY:CA | 1:A:425:PHE:CB | 2.92 | 0.48 |
| 1:B:100:LEU:O | 1:B:102:VAL:N | 2.47 | 0.48 |
| 1:B:144:TYR:CD1 | 1:B:144:TYR:C | 2.85 | 0.48 |
| 1:B:208:LEU:HD23 | 1:B:209:LEU:CA | 2.44 | 0.48 |
| 1:B:344:ALA:O | 1:B:345:LEU:C | 2.50 | 0.48 |
| 1:B:426:TRP:HA | 1:B:426:TRP:HE3 | 1.77 | 0.48 |
| 1:A:22:VAL:HG23 | 1:A:293:SER:HB3 | 1.95 | 0.48 |
| 1:A:70:MET:HE1 | 1:A:99:ALA:HB2 | 1.95 | 0.48 |
| 1:A:244:LEU:CB | 1:A:385:LYS:HZ3 | 2.22 | 0.48 |
| 1:A:276:ALA:O | 1:A:277:HIS:C | 2.51 | 0.48 |
| 1:A:287:VAL:O | 1:A:291:PRO:HD2 | 2.13 | 0.48 |
| 1:A:314:ALA:HB2 | 1:A:449:LYS:HZ1 | 1.78 | 0.48 |
| 1:A:385:LYS:N | 1:A:387:MET:SD | 2.83 | 0.48 |
| 1:B:96:LEU:HD23 | 1:B:96:LEU:C | 2.34 | 0.48 |
| 1:B:218:SER:C | 1:B:220:ARG:H | 2.16 | 0.48 |
| 1:B:244:LEU:HG | 1:B:385:LYS:HE2 | 1.96 | 0.48 |
| 1:A:192:GLY:O | 1:A:195:GLY:N | 2.47 | 0.48 |
| 1:A:284:SER:O | 1:A:285:SER:C | 2.52 | 0.48 |
| 1:A:314:ALA:O | 1:A:316:ILE:N | 2.46 | 0.48 |
| 1:A:326:LEU:O | 1:A:330:CYS:HB3 | 2.11 | 0.48 |
| 1:A:345:LEU:O | 1:A:346:LEU:C | 2.51 | 0.48 |
| 1:A:360:LEU:CD2 | 1:A:423:LYS:CB | 2.92 | 0.48 |
| 1:A:391:PHE:O | 1:A:394:THR:HB | 2.13 | 0.48 |
| 1:B:92:VAL:O | 1:B:95:GLY:N | 2.46 | 0.48 |
| 1:B:134:MET:SD | 1:B:198:VAL:N | 2.87 | 0.48 |
| 1:B:283:PHE:CE1 | 1:B:287:VAL:HG21 | 2.49 | 0.48 |
| 1:A:21:PRO:HA | 1:A:164:MET:CE | 2.44 | 0.48 |
| 1:A:144:TYR:O | 1:A:147:PHE:HB3 | 2.14 | 0.48 |
| 1:A:273:VAL:O | 1:A:277:HIS:CB | 2.62 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:12:ALA:O | 1:B:13:SER:C | 2.52 | 0.48 |
| 1:B:18:LEU:O | 1:B:21:PRO:HD2 | 2.14 | 0.48 |
| 1:B:69:LEU:HD23 | 1:B:69:LEU:O | 2.14 | 0.48 |
| 1:B:116:ILE:CG2 | 1:B:117:ILE:N | 2.76 | 0.48 |
| 1:B:410:GLY:O | 1:B:413:ASN:HB3 | 2.14 | 0.48 |
| 1:B:81:GLY:O | 1:B:82:ALA:CB | 2.62 | 0.48 |
| 1:B:165:VAL:C | 1:B:167:GLY:N | 2.67 | 0.48 |
| 1:B:354:VAL:O | 1:B:358:MET:HB2 | 2.13 | 0.48 |
| 1:B:408:ILE:O | 1:B:408:ILE:CG2 | 2.61 | 0.48 |
| 1:A:145:LEU:CD1 | 1:A:146:LEU:N | 2.64 | 0.47 |
| 1:A:165:VAL:C | 1:A:167:GLY:H | 2.17 | 0.47 |
| 1:A:215:ILE:CG2 | 1:A:216:VAL:N | 2.75 | 0.47 |
| 1:A:223:HIS:ND1 | 1:A:223:HIS:N | 2.62 | 0.47 |
| 1:A:403:LEU:O | 1:A:404:PRO:C | 2.48 | 0.47 |
| 1:A:408:ILE:O | 1:A:408:ILE:CG2 | 2.62 | 0.47 |
| 1:B:71:ALA:HA | 1:B:74:PRO:HD2 | 1.94 | 0.47 |
| 1:B:165:VAL:C | 1:B:167:GLY:H | 2.17 | 0.47 |
| 1:B:275:ALA:HB2 | 1:B:353:VAL:CG1 | 2.43 | 0.47 |
| 1:A:141:VAL:HG22 | 1:A:204:TYR:CB | 2.43 | 0.47 |
| 1:A:178:ASN:OD1 | 1:A:199:ALA:HB2 | 2.14 | 0.47 |
| 1:A:224:VAL:HB | 1:A:225:LYS:H | 1.43 | 0.47 |
| 1:A:374:GLN:HB2 | 1:A:437:ALA:HB2 | 1.96 | 0.47 |
| 1:A:418:GLN:CD | 1:A:421:GLY:HA2 | 2.32 | 0.47 |
| 1:B:94:GLN:O | 1:B:97:ILE:HB | 2.13 | 0.47 |
| 1:B:196:CYS:SG | 1:B:197:GLY:N | 2.87 | 0.47 |
| 1:B:409:LEU:O | 1:B:410:GLY:C | 2.49 | 0.47 |
| 1:A:60:PRO:O | 1:A:61:SER:C | 2.52 | 0.47 |
| 1:A:172:LEU:O | 1:A:176:PRO:HD2 | 2.14 | 0.47 |
| 1:A:180:ILE:HG23 | 1:A:181:PHE:HD1 | 1.78 | 0.47 |
| 1:A:255:GLU:CG | 1:A:256:VAL:N | 2.76 | 0.47 |
| 1:A:328:THR:HA | 1:A:331:ILE:HG23 | 1.96 | 0.47 |
| 1:B:61:SER:O | 1:B:253:PHE:CE1 | 2.67 | 0.47 |
| 1:B:77:ALA:CB | 1:B:154:THR:CG2 | 2.90 | 0.47 |
| 1:B:126:MET:HE3 | 1:B:191:LEU:HD21 | 1.97 | 0.47 |
| 1:B:266:VAL:HG22 | 1:B:407:TYR:CD1 | 2.49 | 0.47 |
| 1:B:346:LEU:HB3 | 1:B:347:TYR:H | 1.50 | 0.47 |
| 1:B:394:THR:HG21 | 1:B:440:LEU:HD22 | 1.96 | 0.47 |
| 1:B:451:SER:HA | 1:B:453:ASP:OD1 | 2.14 | 0.47 |
| 1:A:178:ASN:ND2 | 1:A:199:ALA:HB2 | 2.29 | 0.47 |
| 1:A:335:LEU:C | 1:A:335:LEU:HD12 | 2.34 | 0.47 |
| 1:A:403:LEU:HB2 | 1:A:404:PRO:HD3 | 1.96 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:100:LEU:C | 1:B:102:VAL:N | 2.66 | 0.47 |
| 1:B:146:LEU:HD22 | 1:B:149:ALA:CB | 2.45 | 0.47 |
| 1:B:273:VAL:CG1 | 1:B:274:VAL:H | 2.24 | 0.47 |
| 1:B:287:VAL:O | 1:B:291:PRO:CD | 2.63 | 0.47 |
| 1:B:301:ARG:NH2 | 1:B:316:ILE:CG2 | 2.76 | 0.47 |
| 1:A:104:VAL:C | 1:A:106:ILE:H | 2.18 | 0.47 |
| 1:A:244:LEU:HG | 1:A:385:LYS:HZ1 | 1.76 | 0.47 |
| 1:A:344:ALA:HB1 | 1:A:354:VAL:HG22 | 1.97 | 0.47 |
| 1:B:10:LYS:HA | 1:B:13:SER:OG | 2.14 | 0.47 |
| 1:B:332:THR:CA | 1:B:335:LEU:HG | 2.43 | 0.47 |
| 1:B:394:THR:HG21 | 1:B:440:LEU:HD13 | 1.96 | 0.47 |
| 1:B:405:THR:HG22 | 1:B:406:GLY:N | 2.30 | 0.47 |
| 1:B:206:ILE:HG13 | 1:B:207:MET:N | 2.30 | 0.47 |
| 1:B:314:ALA:HB1 | 1:B:445:TYR:CZ | 2.49 | 0.47 |
| 1:B:345:LEU:O | 1:B:346:LEU:C | 2.53 | 0.47 |
| 1:B:445:TYR:O | 1:B:446:TRP:C | 2.53 | 0.47 |
| 1:A:72:LEU:HB3 | 1:A:244:LEU:CD1 | 2.45 | 0.47 |
| 1:A:74:PRO:HB3 | 1:A:149:ALA:CA | 2.45 | 0.47 |
| 1:A:96:LEU:HD23 | 1:A:96:LEU:C | 2.34 | 0.47 |
| 1:A:178:ASN:HD21 | 1:A:199:ALA:CB | 2.28 | 0.47 |
| 1:A:215:ILE:CG2 | 1:A:216:VAL:H | 2.24 | 0.47 |
| 1:A:266:VAL:HG22 | 1:A:407:TYR:CZ | 2.49 | 0.47 |
| 1:A:382:ARG:HB3 | 1:A:387:MET:HB2 | 1.96 | 0.47 |
| 1:B:18:LEU:HA | 1:B:160:THR:CG2 | 2.45 | 0.47 |
| 1:B:42:GLY:N | 1:B:49:ALA:CB | 2.78 | 0.47 |
| 1:B:53:ILE:HA | 1:B:56:SER:HB3 | 1.97 | 0.47 |
| 1:B:68:LEU:HD22 | 1:B:71:ALA:HB3 | 1.96 | 0.47 |
| 1:B:69:LEU:O | 1:B:73:VAL:HG23 | 2.14 | 0.47 |
| 1:B:86:HIS:O | 1:B:87:LYS:CB | 2.62 | 0.47 |
| 1:B:161:LYS:C | 1:B:163:ALA:H | 2.17 | 0.47 |
| 1:B:206:ILE:CG1 | 1:B:207:MET:N | 2.77 | 0.47 |
| 1:B:210:LEU:HD13 | 1:B:210:LEU:N | 2.30 | 0.47 |
| 1:B:299:SER:CA | 1:B:380:SER:OG | 2.63 | 0.47 |
| 1:B:331:ILE:HG13 | 1:B:335:LEU:HD23 | 1.97 | 0.47 |
| 1:B:332:THR:C | 1:B:335:LEU:HG | 2.34 | 0.47 |
| 1:B:382:ARG:HH21 | 1:B:443:ARG:C | 2.17 | 0.47 |
| 1:B:403:LEU:O | 1:B:407:TYR:N | 2.30 | 0.47 |
| 1:B:413:ASN:C | 1:B:415:LEU:H | 2.18 | 0.47 |
| 1:B:435:ALA:O | 1:B:439:MET:HG2 | 2.15 | 0.47 |
| 1:A:78:GLN:C | 1:A:80:ASN:H | 2.18 | 0.47 |
| 1:A:149:ALA:O | 1:A:154:THR:CB | 2.62 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:150:LEU:O | 1:A:154:THR:CB | 2.60 | 0.47 |
| 1:A:311:THR:OG1 | 1:A:312:LYS:N | 2.47 | 0.47 |
| 1:A:436:ALA:O | 1:A:439:MET:HB2 | 2.14 | 0.47 |
| 1:B:71:ALA:N | 1:B:74:PRO:HD2 | 2.30 | 0.47 |
| 1:B:143:ALA:O | 1:B:146:LEU:HB3 | 2.15 | 0.47 |
| 1:B:235:PRO:HA | 1:B:238:LEU:CD2 | 2.45 | 0.47 |
| 1:B:376:VAL:CG1 | 1:B:377:ALA:H | 2.10 | 0.47 |
| 1:A:10:LYS:NZ | 1:A:305:LYS:NZ | 2.62 | 0.47 |
| 1:A:65:GLY:C | 1:A:67:GLY:N | 2.67 | 0.47 |
| 1:A:181:PHE:C | 1:A:183:TYR:N | 2.66 | 0.47 |
| 1:A:191:LEU:H | 1:A:194:VAL:HB | 1.79 | 0.47 |
| 1:A:206:ILE:O | 1:A:209:LEU:CB | 2.55 | 0.47 |
| 1:A:244:LEU:CD2 | 1:A:388:THR:OG1 | 2.63 | 0.47 |
| 1:A:275:ALA:HB2 | 1:A:353:VAL:CG2 | 2.45 | 0.47 |
| 1:A:399:TRP:NE1 | 1:A:403:LEU:HD12 | 2.30 | 0.47 |
| 1:B:42:GLY:N | 1:B:49:ALA:HB3 | 2.30 | 0.47 |
| 1:B:120:MET:O | 1:B:121:ASP:O | 2.32 | 0.47 |
| 1:A:42:GLY:O | 1:A:47:ASP:HA | 2.14 | 0.47 |
| 1:A:61:SER:O | 1:A:253:PHE:CE1 | 2.68 | 0.47 |
| 1:A:210:LEU:HD13 | 1:A:210:LEU:N | 2.30 | 0.47 |
| 1:A:211:LEU:O | 1:A:212:LEU:C | 2.52 | 0.47 |
| 1:A:218:SER:C | 1:A:220:ARG:H | 2.19 | 0.47 |
| 1:A:235:PRO:HA | 1:A:238:LEU:CD2 | 2.45 | 0.47 |
| 1:A:316:ILE:O | 1:A:317:ALA:C | 2.53 | 0.47 |
| 1:B:412:THR:HG23 | 1:B:416:THR:HB | 1.96 | 0.47 |
| 1:A:3:ASN:C | 1:A:5:VAL:H | 2.18 | 0.46 |
| 1:A:153:PHE:O | 1:A:155:ASP:OD1 | 2.32 | 0.46 |
| 1:B:102:VAL:CA | 1:B:105:PRO:HD2 | 2.45 | 0.46 |
| 1:B:104:VAL:O | 1:B:106:ILE:N | 2.48 | 0.46 |
| 1:B:178:ASN:HD21 | 1:B:199:ALA:HB1 | 1.80 | 0.46 |
| 1:B:300:ILE:CG1 | 1:B:301:ARG:N | 2.77 | 0.46 |
| 1:B:387:MET:O | 1:B:391:PHE:HB3 | 2.15 | 0.46 |
| 1:B:433:LEU:HD12 | 1:B:433:LEU:N | 2.30 | 0.46 |
| 1:A:5:VAL:O | 1:A:9:LYS:HB2 | 2.15 | 0.46 |
| 1:A:155:ASP:CG | 1:A:159:LEU:H | 2.17 | 0.46 |
| 1:A:173:LEU:O | 1:A:177:LEU:CD2 | 2.57 | 0.46 |
| 1:A:382:ARG:C | 1:A:384:TYR:N | 2.67 | 0.46 |
| 1:B:219:LYS:HD3 | 1:B:220:ARG:NE | 2.30 | 0.46 |
| 1:B:339:PHE:O | 1:B:343:ILE:HB | 2.15 | 0.46 |
| 1:B:348:THR:O | 1:B:349:GLU:HG3 | 2.15 | 0.46 |
| 1:B:355:ALA:O | 1:B:358:MET:HB3 | 2.15 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:11:GLU:HA | 1:A:301:ARG:NH2 | 2.11 | 0.46 |
| 1:A:104:VAL:C | 1:A:106:ILE:N | 2.68 | 0.46 |
| 1:A:233:PRO:HA | 1:A:236:LYS:HB2 | 1.96 | 0.46 |
| 1:A:340:ARG:HB2 | 1:A:361:LEU:CD1 | 2.44 | 0.46 |
| 1:B:16:ILE:CA | 1:B:19:ALA:HB3 | 2.35 | 0.46 |
| 1:B:173:LEU:O | 1:B:174:ASN:C | 2.53 | 0.46 |
| 1:B:191:LEU:CG | 1:B:192:GLY:H | 2.29 | 0.46 |
| 1:B:232:LYS:CB | 1:B:233:PRO:HD3 | 2.30 | 0.46 |
| 1:B:268:PRO:C | 1:B:270:GLY:H | 2.19 | 0.46 |
| 1:B:360:LEU:O | 1:B:361:LEU:C | 2.53 | 0.46 |
| 1:A:59:LEU:HB2 | 1:A:60:PRO:CD | 2.40 | 0.46 |
| 1:A:75:VAL:C | 1:A:77:ALA:N | 2.53 | 0.46 |
| 1:A:100:LEU:CD1 | 1:A:100:LEU:H | 2.28 | 0.46 |
| 1:A:206:ILE:O | 1:A:210:LEU:CD2 | 2.55 | 0.46 |
| 1:A:230:PHE:CG | 1:A:231:HIS:N | 2.81 | 0.46 |
| 1:A:381:LEU:O | 1:A:384:TYR:CG | 2.68 | 0.46 |
| 1:B:30:THR:O | 1:B:31:GLY:C | 2.53 | 0.46 |
| 1:B:118:ARG:HD2 | 1:B:118:ARG:O | 2.15 | 0.46 |
| 1:B:178:ASN:OD1 | 1:B:199:ALA:HB2 | 2.14 | 0.46 |
| 1:B:413:ASN:C | 1:B:415:LEU:N | 2.68 | 0.46 |
| 1:A:232:LYS:N | 1:A:233:PRO:CD | 2.70 | 0.46 |
| 1:A:298:VAL:HA | 1:A:301:ARG:HB3 | 1.97 | 0.46 |
| 1:B:166:ILE:HB | 1:B:210:LEU:HG | 1.96 | 0.46 |
| 1:B:311:THR:OG1 | 1:B:312:LYS:N | 2.47 | 0.46 |
| 1:B:316:ILE:O | 1:B:317:ALA:C | 2.54 | 0.46 |
| 1:B:455:GLN:HE21 | 1:B:455:GLN:C | 2.18 | 0.46 |
| 1:A:100:LEU:C | 1:A:102:VAL:H | 2.18 | 0.46 |
| 1:A:139:PHE:O | 1:A:142:PRO:HD2 | 2.16 | 0.46 |
| 1:A:237:GLU:O | 1:A:241:LEU:N | 2.48 | 0.46 |
| 1:A:410:GLY:O | 1:A:413:ASN:HB3 | 2.16 | 0.46 |
| 1:B:14:ASN:H | 1:B:14:ASN:ND2 | 2.14 | 0.46 |
| 1:B:19:ALA:O | 1:B:22:VAL:HG22 | 2.15 | 0.46 |
| 1:B:21:PRO:HA | 1:B:164:MET:HE1 | 1.97 | 0.46 |
| 1:B:131:VAL:O | 1:B:134:MET:HB2 | 2.16 | 0.46 |
| 1:B:274:VAL:HG13 | 1:B:278:GLN:NE2 | 2.31 | 0.46 |
| 1:B:318:ALA:HA | 1:B:381:LEU:CD1 | 2.45 | 0.46 |
| 1:B:328:THR:CA | 1:B:331:ILE:CG2 | 2.94 | 0.46 |
| 1:B:409:LEU:C | 1:B:409:LEU:HD13 | 2.36 | 0.46 |
| 1:B:443:ARG:NH2 | 1:B:446:TRP:HE1 | 2.13 | 0.46 |
| 1:A:231:HIS:C | 1:A:235:PRO:CG | 2.77 | 0.46 |
| 1:A:232:LYS:CB | 1:A:233:PRO:HD3 | 2.32 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:238:LEU:HA | 1:A:241:LEU:CB | 2.37 | 0.46 |
| 1:A:260:ALA:O | 1:A:261:VAL:C | 2.54 | 0.46 |
| 1:A:290:PHE:HB3 | 1:A:291:PRO:CD | 2.46 | 0.46 |
| 1:A:317:ALA:CA | 1:A:320:VAL:HG12 | 2.46 | 0.46 |
| 1:A:445:TYR:HD2 | 1:A:448:GLN:CG | 2.29 | 0.46 |
| 1:B:388:THR:O | 1:B:391:PHE:CD2 | 2.69 | 0.46 |
| 1:A:63:LEU:HG | 1:A:64:PHE:N | 2.28 | 0.46 |
| 1:A:131:VAL:HB | 1:A:135:HIS:HE2 | 1.80 | 0.46 |
| 1:A:173:LEU:O | 1:A:174:ASN:C | 2.52 | 0.46 |
| 1:A:238:LEU:HA | 1:A:241:LEU:CD1 | 2.45 | 0.46 |
| 1:A:300:ILE:CG1 | 1:A:301:ARG:N | 2.75 | 0.46 |
| 1:A:301:ARG:C | 1:A:301:ARG:CD | 2.84 | 0.46 |
| 1:A:431:ILE:O | 1:A:435:ALA:CB | 2.63 | 0.46 |
| 1:B:88:ILE:HG13 | 1:B:89:PRO:N | 2.30 | 0.46 |
| 1:B:116:ILE:HG23 | 1:B:117:ILE:N | 2.31 | 0.46 |
| 1:B:166:ILE:HB | 1:B:210:LEU:CG | 2.46 | 0.46 |
| 1:B:238:LEU:CA | 1:B:241:LEU:HD13 | 2.46 | 0.46 |
| 1:A:299:SER:N | 1:A:380:SER:OG | 2.49 | 0.46 |
| 1:A:335:LEU:HD12 | 1:A:336:THR:N | 2.31 | 0.46 |
| 1:B:32:MET:HG3 | 1:B:33:GLY:H | 1.74 | 0.46 |
| 1:B:65:GLY:CA | 1:B:253:PHE:CG | 2.99 | 0.46 |
| 1:B:76:VAL:C | 1:B:78:GLN:HG2 | 2.36 | 0.46 |
| 1:B:178:ASN:ND2 | 1:B:199:ALA:HB1 | 2.31 | 0.46 |
| 1:B:213:PHE:O | 1:B:217:THR:CG2 | 2.63 | 0.46 |
| 1:B:232:LYS:N | 1:B:235:PRO:HD2 | 2.31 | 0.46 |
| 1:A:81:GLY:O | 1:A:82:ALA:CB | 2.63 | 0.46 |
| 1:A:86:HIS:NE2 | 1:B:83:GLY:HA2 | 2.31 | 0.46 |
| 1:A:135:HIS:C | 1:A:137:VAL:N | 2.67 | 0.46 |
| 1:A:135:HIS:O | 1:A:138:ILE:HG22 | 2.16 | 0.46 |
| 1:A:205:TRP:CE3 | 1:A:206:ILE:HG22 | 2.50 | 0.46 |
| 1:A:299:SER:CA | 1:A:380:SER:OG | 2.64 | 0.46 |
| 1:B:7:ARG:HH11 | 1:B:7:ARG:CB | 2.29 | 0.46 |
| 1:B:19:ALA:O | 1:B:20:THR:C | 2.55 | 0.46 |
| 1:B:76:VAL:CA | 1:B:78:GLN:HG2 | 2.46 | 0.46 |
| 1:B:191:LEU:H | 1:B:194:VAL:HB | 1.81 | 0.46 |
| 1:B:329:ALA:O | 1:B:333:ALA:CB | 2.64 | 0.46 |
| 1:A:69:LEU:HG | 1:A:245:GLY:CA | 2.46 | 0.45 |
| 1:A:94:GLN:OE1 | 1:A:238:LEU:HD21 | 2.16 | 0.45 |
| 1:A:180:ILE:HG23 | 1:A:181:PHE:CD1 | 2.51 | 0.45 |
| 1:A:339:PHE:O | 1:A:343:ILE:HB | 2.16 | 0.45 |
| 1:A:353:VAL:C | 1:A:357:ALA:HB2 | 2.36 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:369:CYS:O | 1:A:372:ALA:HB3 | 2.16 | 0.45 |
| 1:A:386:ASP:OD1 | 1:A:387:MET:N | 2.50 | 0.45 |
| 1:B:3:ASN:O | 1:B:5:VAL:HG23 | 2.15 | 0.45 |
| 1:B:145:LEU:O | 1:B:148:GLN:HB3 | 2.15 | 0.45 |
| 1:B:238:LEU:HA | 1:B:241:LEU:CB | 2.35 | 0.45 |
| 1:B:247:PRO:HG2 | 1:B:389:ALA:HA | 1.98 | 0.45 |
| 1:B:381:LEU:O | 1:B:384:TYR:CD2 | 2.69 | 0.45 |
| 1:A:18:LEU:HD13 | 1:A:300:ILE:HD11 | 1.98 | 0.45 |
| 1:A:20:THR:O | 1:A:21:PRO:C | 2.51 | 0.45 |
| 1:A:46:ILE:C | 1:A:48:MET:N | 2.51 | 0.45 |
| 1:A:87:LYS:HZ1 | 1:B:308:GLU:C | 2.19 | 0.45 |
| 1:A:328:THR:O | 1:A:332:THR:CG2 | 2.64 | 0.45 |
| 1:A:358:MET:O | 1:A:361:LEU:HB2 | 2.17 | 0.45 |
| 1:A:407:TYR:O | 1:A:410:GLY:N | 2.49 | 0.45 |
| 1:A:447:LEU:HD12 | 1:A:448:GLN:C | 2.36 | 0.45 |
| 1:B:262:VAL:HG12 | 1:B:263:ALA:N | 2.29 | 0.45 |
| 1:B:399:TRP:NE1 | 1:B:403:LEU:HD12 | 2.30 | 0.45 |
| 1:A:69:LEU:C | 1:A:71:ALA:H | 2.20 | 0.45 |
| 1:A:73:VAL:N | 1:A:74:PRO:CD | 2.79 | 0.45 |
| 1:A:76:VAL:O | 1:A:78:GLN:N | 2.46 | 0.45 |
| 1:A:124:GLU:HB2 | 1:A:125:ALA:H | 1.59 | 0.45 |
| 1:A:244:LEU:CB | 1:A:385:LYS:NZ | 2.76 | 0.45 |
| 1:A:409:LEU:O | 1:A:410:GLY:O | 2.34 | 0.45 |
| 1:B:31:GLY:O | 1:B:35:VAL:CG2 | 2.59 | 0.45 |
| 1:B:46:ILE:O | 1:B:48:MET:HE2 | 2.17 | 0.45 |
| 1:B:77:ALA:HB2 | 1:B:154:THR:CB | 2.46 | 0.45 |
| 1:B:81:GLY:O | 1:B:308:GLU:HA | 2.16 | 0.45 |
| 1:B:88:ILE:O | 1:B:91:GLU:HB3 | 2.17 | 0.45 |
| 1:A:58:TRP:O | 1:A:61:SER:N | 2.49 | 0.45 |
| 1:A:148:GLN:HA | 1:A:152:SER:CB | 2.45 | 0.45 |
| 1:A:180:ILE:HD11 | 1:A:186:PHE:HB2 | 1.98 | 0.45 |
| 1:A:319:ASN:O | 1:A:323:MET:HB2 | 2.16 | 0.45 |
| 1:B:341:GLU:CD | 1:B:342:GLN:N | 2.68 | 0.45 |
| 1:B:407:TYR:C | 1:B:409:LEU:N | 2.68 | 0.45 |
| 1:B:429:PHE:CE1 | 1:B:433:LEU:HD11 | 2.52 | 0.45 |
| 1:A:79:LEU:O | 1:A:84:ARG:O | 2.34 | 0.45 |
| 1:A:93:HIS:N | 1:A:93:HIS:ND1 | 2.65 | 0.45 |
| 1:A:195:GLY:C | 1:A:197:GLY:N | 2.68 | 0.45 |
| 1:A:413:ASN:HB3 | 1:A:414:TRP:HE3 | 1.74 | 0.45 |
| 1:A:445:TYR:CG | 1:A:448:GLN:HA | 2.49 | 0.45 |
| 1:B:63:LEU:O | 1:B:64:PHE:C | 2.55 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:185:LYS:HG2 | 1:B:189:PRO:HD3 | 1.97 | 0.45 |
| 1:B:335:LEU:HD12 | 1:B:336:THR:N | 2.31 | 0.45 |
| 1:A:183:TYR:O | 1:A:184:GLY:C | 2.55 | 0.45 |
| 1:A:266:VAL:HG22 | 1:A:407:TYR:CD1 | 2.51 | 0.45 |
| 1:A:286:LEU:N | 1:A:286:LEU:CD1 | 2.80 | 0.45 |
| 1:B:53:ILE:HD12 | 1:B:54:ALA:N | 2.31 | 0.45 |
| 1:B:204:TYR:HA | 1:B:207:MET:SD | 2.57 | 0.45 |
| 1:B:275:ALA:H | 1:B:353:VAL:HG21 | 1.82 | 0.45 |
| 1:A:8:TYR:O | 1:A:12:ALA:CB | 2.65 | 0.45 |
| 1:A:97:ILE:O | 1:A:98:LEU:C | 2.55 | 0.45 |
| 1:A:275:ALA:HB2 | 1:A:353:VAL:CG1 | 2.45 | 0.45 |
| 1:A:281:LEU:CD2 | 1:A:282:ASN:HD22 | 2.27 | 0.45 |
| 1:A:394:THR:HG21 | 1:A:440:LEU:CD2 | 2.46 | 0.45 |
| 1:A:409:LEU:C | 1:A:412:THR:H | 2.20 | 0.45 |
| 1:B:18:LEU:HB2 | 1:B:297:ALA:HB1 | 1.99 | 0.45 |
| 1:B:78:GLN:C | 1:B:80:ASN:H | 2.20 | 0.45 |
| 1:B:95:GLY:O | 1:B:96:LEU:C | 2.55 | 0.45 |
| 1:B:172:LEU:HD13 | 1:B:173:LEU:N | 2.32 | 0.45 |
| 1:B:218:SER:C | 1:B:220:ARG:N | 2.70 | 0.45 |
| 1:B:403:LEU:O | 1:B:404:PRO:C | 2.54 | 0.45 |
| 1:A:20:THR:O | 1:A:21:PRO:O | 2.34 | 0.45 |
| 1:A:21:PRO:HA | 1:A:164:MET:HE1 | 1.98 | 0.45 |
| 1:A:332:THR:C | 1:A:335:LEU:HG | 2.37 | 0.45 |
| 1:A:346:LEU:HB3 | 1:A:347:TYR:H | 1.57 | 0.45 |
| 1:A:413:ASN:C | 1:A:415:LEU:N | 2.69 | 0.45 |
| 1:B:93:HIS:CD2 | 1:B:228:GLU:OE2 | 2.70 | 0.45 |
| 1:B:244:LEU:CG | 1:B:385:LYS:NZ | 2.79 | 0.45 |
| 1:B:281:LEU:CD2 | 1:B:282:ASN:HD22 | 2.28 | 0.45 |
| 1:B:328:THR:HA | 1:B:331:ILE:HG23 | 1.96 | 0.45 |
| 1:B:370:MET:HG3 | 1:B:434:SER:HB2 | 1.97 | 0.45 |
| 1:A:88:ILE:HG13 | 1:A:89:PRO:CD | 2.46 | 0.45 |
| 1:A:128:THR:HG22 | 1:A:129:LYS:HG2 | 1.99 | 0.45 |
| 1:A:165:VAL:C | 1:A:167:GLY:N | 2.69 | 0.45 |
| 1:B:142:PRO:O | 1:B:145:LEU:CD1 | 2.65 | 0.45 |
| 1:B:290:PHE:HB3 | 1:B:291:PRO:CD | 2.46 | 0.45 |
| 1:B:326:LEU:O | 1:B:330:CYS:HB3 | 2.16 | 0.45 |
| 1:B:447:LEU:H | 1:B:447:LEU:HG | 1.56 | 0.45 |
| 1:B:455:GLN:C | 1:B:455:GLN:NE2 | 2.70 | 0.45 |
| 1:A:39:MET:CG | 1:A:40:ALA:N | 2.78 | 0.45 |
| 1:A:218:SER:C | 1:A:220:ARG:N | 2.70 | 0.45 |
| 1:A:299:SER:HA | 1:A:380:SER:OG | 2.16 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:65:GLY:C | 1:B:67:GLY:N | 2.69 | 0.45 |
| 1:B:133:TYR:C | 1:B:135:HIS:H | 2.20 | 0.45 |
| 1:B:148:GLN:HE21 | 1:B:148:GLN:HB3 | 1.56 | 0.45 |
| 1:B:262:VAL:HG21 | 1:B:403:LEU:CD1 | 2.35 | 0.45 |
| 1:A:33:GLY:O | 1:A:37:THR:CB | 2.65 | 0.44 |
| 1:A:87:LYS:NZ | 1:B:308:GLU:C | 2.70 | 0.44 |
| 1:A:118:ARG:CD | 1:A:118:ARG:C | 2.86 | 0.44 |
| 1:A:266:VAL:HG12 | 1:A:269:LEU:CG | 2.46 | 0.44 |
| 1:A:313:GLY:O | 1:A:317:ALA:HB3 | 2.17 | 0.44 |
| 1:A:314:ALA:C | 1:A:318:ALA:HB3 | 2.36 | 0.44 |
| 1:B:15:LEU:HD12 | 1:B:16:ILE:CA | 2.47 | 0.44 |
| 1:B:210:LEU:O | 1:B:211:LEU:O | 2.35 | 0.44 |
| 1:A:19:ALA:O | 1:A:20:THR:C | 2.53 | 0.44 |
| 1:A:103:SER:HB2 | 1:A:139:PHE:HD1 | 1.82 | 0.44 |
| 1:B:14:ASN:N | 1:B:14:ASN:ND2 | 2.64 | 0.44 |
| 1:B:124:GLU:HB2 | 1:B:125:ALA:H | 1.62 | 0.44 |
| 1:B:250:ALA:O | 1:B:251:ALA:C | 2.54 | 0.44 |
| 1:B:358:MET:SD | 1:B:358:MET:C | 2.96 | 0.44 |
| 1:B:422:ALA:O | 1:B:423:LYS:C | 2.55 | 0.44 |
| 1:A:116:ILE:CG2 | 1:A:117:ILE:N | 2.80 | 0.44 |
| 1:A:274:VAL:HG13 | 1:A:278:GLN:CD | 2.37 | 0.44 |
| 1:A:294:ILE:O | 1:A:297:ALA:HB3 | 2.17 | 0.44 |
| 1:A:429:PHE:CE1 | 1:A:433:LEU:HD11 | 2.52 | 0.44 |
| 1:B:84:ARG:C | 1:B:86:HIS:N | 2.70 | 0.44 |
| 1:B:141:VAL:CB | 1:B:142:PRO:HD3 | 2.44 | 0.44 |
| 1:B:275:ALA:O | 1:B:279:VAL:HB | 2.17 | 0.44 |
| 1:B:299:SER:N | 1:B:380:SER:OG | 2.51 | 0.44 |
| 1:B:409:LEU:C | 1:B:412:THR:H | 2.20 | 0.44 |
| 1:A:72:LEU:HD13 | 1:A:75:VAL:HG11 | 2.00 | 0.44 |
| 1:A:417:GLU:CD | 1:A:418:GLN:H | 2.21 | 0.44 |
| 1:A:444:LEU:HD22 | 1:A:445:TYR:CD2 | 2.52 | 0.44 |
| 1:B:7:ARG:O | 1:B:11:GLU:HG3 | 2.18 | 0.44 |
| 1:B:11:GLU:CG | 1:B:316:ILE:HG23 | 2.47 | 0.44 |
| 1:B:59:LEU:O | 1:B:60:PRO:C | 2.55 | 0.44 |
| 1:B:80:ASN:ND2 | 1:B:157:MET:HG2 | 2.33 | 0.44 |
| 1:B:328:THR:O | 1:B:332:THR:CG2 | 2.64 | 0.44 |
| 1:A:10:LYS:HA | 1:A:13:SER:OG | 2.17 | 0.44 |
| 1:A:151:ARG:HA | 1:A:155:ASP:CA | 2.31 | 0.44 |
| 1:A:185:LYS:HG2 | 1:A:189:PRO:HD3 | 1.99 | 0.44 |
| 1:A:242:PHE:O | 1:A:246:PHE:N | 2.31 | 0.44 |
| 1:A:362:LEU:HD23 | 1:A:362:LEU:C | 2.37 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:93:HIS:N | 1:B:93:HIS:ND1 | 2.62 | 0.44 |
| 1:B:155:ASP:CG | 1:B:159:LEU:H | 2.21 | 0.44 |
| 1:B:181:PHE:O | 1:B:183:TYR:N | 2.51 | 0.44 |
| 1:B:382:ARG:C | 1:B:384:TYR:N | 2.67 | 0.44 |
| 1:A:11:GLU:HB3 | 1:A:320:VAL:HG23 | 1.93 | 0.44 |
| 1:A:80:ASN:OD1 | 1:A:80:ASN:O | 2.35 | 0.44 |
| 1:A:279:VAL:O | 1:A:280:ALA:C | 2.55 | 0.44 |
| 1:A:329:ALA:O | 1:A:333:ALA:CB | 2.66 | 0.44 |
| 1:A:420:LEU:O | 1:A:423:LYS:HG2 | 2.18 | 0.44 |
| 1:A:444:LEU:C | 1:A:446:TRP:N | 2.63 | 0.44 |
| 1:A:63:LEU:O | 1:A:64:PHE:C | 2.55 | 0.44 |
| 1:A:219:LYS:HD3 | 1:A:220:ARG:NE | 2.32 | 0.44 |
| 1:A:328:THR:CA | 1:A:331:ILE:CG2 | 2.92 | 0.44 |
| 1:B:103:SER:HB2 | 1:B:139:PHE:HD1 | 1.81 | 0.44 |
| 1:B:179:TRP:O | 1:B:184:GLY:N | 2.51 | 0.44 |
| 1:B:181:PHE:C | 1:B:183:TYR:N | 2.70 | 0.44 |
| 1:B:452:ASP:HA | 1:B:455:GLN:HB2 | 2.00 | 0.44 |
| 1:A:14:ASN:HD22 | 1:A:14:ASN:H | 1.65 | 0.44 |
| 1:A:15:LEU:HD12 | 1:A:16:ILE:CA | 2.48 | 0.44 |
| 1:A:100:LEU:HD12 | 1:A:100:LEU:H | 1.81 | 0.44 |
| 1:A:133:TYR:C | 1:A:135:HIS:H | 2.21 | 0.44 |
| 1:A:146:LEU:HD22 | 1:A:149:ALA:CB | 2.46 | 0.44 |
| 1:A:452:ASP:O | 1:A:456:LEU:HG | 2.18 | 0.44 |
| 1:B:11:GLU:HB3 | 1:B:320:VAL:HG23 | 1.93 | 0.44 |
| 1:B:69:LEU:HB2 | 1:B:249:ALA:HB2 | 1.98 | 0.44 |
| 1:B:86:HIS:CD2 | 1:B:87:LYS:HG3 | 2.53 | 0.44 |
| 1:B:320:VAL:CG1 | 1:B:321:GLY:N | 2.53 | 0.44 |
| 1:A:20:THR:OG1 | 1:A:21:PRO:CD | 2.61 | 0.44 |
| 1:A:70:MET:HE2 | 1:A:99:ALA:HB2 | 1.98 | 0.44 |
| 1:A:97:ILE:HG22 | 1:A:101:LEU:CD1 | 2.37 | 0.44 |
| 1:A:234:GLN:O | 1:A:238:LEU:CD1 | 2.65 | 0.44 |
| 1:A:273:VAL:CG1 | 1:A:274:VAL:N | 2.78 | 0.44 |
| 1:A:367:TYR:O | 1:A:371:ASP:HB3 | 2.18 | 0.44 |
| 1:A:413:ASN:C | 1:A:415:LEU:H | 2.20 | 0.44 |
| 1:B:20:THR:OG1 | 1:B:21:PRO:CD | 2.63 | 0.44 |
| 1:B:72:LEU:HG | 1:B:388:THR:HG21 | 1.99 | 0.44 |
| 1:B:183:TYR:O | 1:B:184:GLY:C | 2.57 | 0.44 |
| 1:B:238:LEU:HA | 1:B:241:LEU:CD1 | 2.45 | 0.44 |
| 1:B:298:VAL:HG11 | 1:B:317:ALA:O | 2.18 | 0.44 |
| 1:B:308:GLU:HB3 | 1:B:309:GLN:H | 1.63 | 0.44 |
| 1:B:322:LEU:O | 1:B:323:MET:C | 2.56 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:360:LEU:HD21 | 1:B:423:LYS:HB3 | 2.00 | 0.44 |
| 1:B:443:ARG:NH1 | 1:B:446:TRP:CD1 | 2.85 | 0.44 |
| 1:A:144:TYR:O | 1:A:147:PHE:N | 2.51 | 0.43 |
| 1:A:178:ASN:HD21 | 1:A:199:ALA:HB1 | 1.83 | 0.43 |
| 1:A:250:ALA:O | 1:A:251:ALA:C | 2.56 | 0.43 |
| 1:B:20:THR:O | 1:B:21:PRO:C | 2.56 | 0.43 |
| 1:B:151:ARG:CG | 1:B:152:SER:N | 2.78 | 0.43 |
| 1:B:223:HIS:ND1 | 1:B:223:HIS:N | 2.65 | 0.43 |
| 1:B:374:GLN:HB2 | 1:B:437:ALA:HB2 | 2.00 | 0.43 |
| 1:A:3:ASN:O | 1:A:4:SER:OG | 2.23 | 0.43 |
| 1:A:135:HIS:CA | 1:A:138:ILE:HG22 | 2.45 | 0.43 |
| 1:A:155:ASP:CB | 1:A:159:LEU:N | 2.69 | 0.43 |
| 1:A:161:LYS:C | 1:A:163:ALA:H | 2.20 | 0.43 |
| 1:A:318:ALA:HA | 1:A:381:LEU:CD1 | 2.48 | 0.43 |
| 1:A:322:LEU:O | 1:A:324:THR:N | 2.51 | 0.43 |
| 1:A:332:THR:HA | 1:A:335:LEU:HG | 1.98 | 0.43 |
| 1:A:357:ALA:O | 1:A:358:MET:C | 2.56 | 0.43 |
| 1:A:386:ASP:OD1 | 1:A:386:ASP:C | 2.56 | 0.43 |
| 1:A:410:GLY:N | 1:A:425:PHE:HB2 | 2.32 | 0.43 |
| 1:B:4:SER:HA | 1:B:7:ARG:HB2 | 2.00 | 0.43 |
| 1:B:159:LEU:O | 1:B:160:THR:C | 2.56 | 0.43 |
| 1:B:404:PRO:O | 1:B:408:ILE:HB | 2.18 | 0.43 |
| 1:A:72:LEU:HD11 | 1:A:383:GLY:O | 2.18 | 0.43 |
| 1:A:77:ALA:HB2 | 1:A:154:THR:CB | 2.48 | 0.43 |
| 1:A:151:ARG:HD2 | 1:A:155:ASP:CA | 2.44 | 0.43 |
| 1:A:185:LYS:HD3 | 1:A:186:PHE:N | 2.32 | 0.43 |
| 1:A:208:LEU:HD23 | 1:A:209:LEU:CA | 2.47 | 0.43 |
| 1:A:234:GLN:HB3 | 1:A:235:PRO:HD3 | 2.00 | 0.43 |
| 1:B:44:SER:O | 1:B:46:ILE:N | 2.51 | 0.43 |
| 1:B:60:PRO:O | 1:B:61:SER:C | 2.55 | 0.43 |
| 1:B:72:LEU:HD22 | 1:B:75:VAL:HG11 | 2.00 | 0.43 |
| 1:B:135:HIS:CA | 1:B:138:ILE:HG22 | 2.47 | 0.43 |
| 1:B:195:GLY:C | 1:B:197:GLY:N | 2.70 | 0.43 |
| 1:B:260:ALA:O | 1:B:261:VAL:C | 2.56 | 0.43 |
| 1:B:382:ARG:C | 1:B:384:TYR:H | 2.22 | 0.43 |
| 1:A:146:LEU:O | 1:A:149:ALA:N | 2.52 | 0.43 |
| 1:A:195:GLY:O | 1:A:196:CYS:C | 2.57 | 0.43 |
| 1:A:247:PRO:O | 1:A:251:ALA:HB2 | 2.18 | 0.43 |
| 1:A:276:ALA:O | 1:A:277:HIS:O | 2.36 | 0.43 |
| 1:A:327:ALA:O | 1:A:330:CYS:HB3 | 2.18 | 0.43 |
| 1:A:412:THR:O | 1:A:416:THR:N | 2.51 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:53:ILE:CA | 1:B:56:SER:HB3 | 2.49 | 0.43 |
| 1:B:133:TYR:C | 1:B:135:HIS:N | 2.71 | 0.43 |
| 1:B:284:SER:O | 1:B:285:SER:C | 2.57 | 0.43 |
| 1:B:400:VAL:CG1 | 1:B:401:LEU:N | 2.81 | 0.43 |
| 1:A:130:THR:HB | 1:A:194:VAL:HA | 2.00 | 0.43 |
| 1:A:173:LEU:O | 1:A:176:PRO:CD | 2.64 | 0.43 |
| 1:A:353:VAL:O | 1:A:357:ALA:CB | 2.66 | 0.43 |
| 1:A:386:ASP:O | 1:A:387:MET:C | 2.54 | 0.43 |
| 1:A:388:THR:O | 1:A:391:PHE:CD2 | 2.71 | 0.43 |
| 1:B:128:THR:HG22 | 1:B:129:LYS:HG2 | 2.00 | 0.43 |
| 1:B:130:THR:O | 1:B:131:VAL:C | 2.56 | 0.43 |
| 1:B:145:LEU:HD13 | 1:B:145:LEU:C | 2.35 | 0.43 |
| 1:B:238:LEU:O | 1:B:242:PHE:CD1 | 2.71 | 0.43 |
| 1:B:316:ILE:HB | 1:B:317:ALA:H | 1.53 | 0.43 |
| 1:B:412:THR:O | 1:B:416:THR:N | 2.52 | 0.43 |
| 1:B:420:LEU:HD12 | 1:B:423:LYS:HG2 | 2.01 | 0.43 |
| 1:B:427:LEU:C | 1:B:429:PHE:N | 2.70 | 0.43 |
| 1:A:18:LEU:HB2 | 1:A:297:ALA:HB1 | 1.99 | 0.43 |
| 1:A:191:LEU:CG | 1:A:192:GLY:H | 2.30 | 0.43 |
| 1:A:191:LEU:CG | 1:A:192:GLY:N | 2.81 | 0.43 |
| 1:A:343:ILE:O | 1:A:346:LEU:N | 2.52 | 0.43 |
| 1:A:363:PHE:CD2 | 1:A:426:TRP:HB3 | 2.53 | 0.43 |
| 1:B:109:VAL:O | 1:B:113:THR:HG22 | 2.17 | 0.43 |
| 1:B:118:ARG:C | 1:B:118:ARG:CD | 2.87 | 0.43 |
| 1:B:141:VAL:HG22 | 1:B:204:TYR:CB | 2.47 | 0.43 |
| 1:B:212:LEU:O | 1:B:213:PHE:O | 2.36 | 0.43 |
| 1:B:247:PRO:HB3 | 1:B:388:THR:O | 2.18 | 0.43 |
| 1:B:273:VAL:CG1 | 1:B:274:VAL:N | 2.79 | 0.43 |
| 1:B:378:ALA:O | 1:B:380:SER:N | 2.51 | 0.43 |
| 1:A:131:VAL:O | 1:A:135:HIS:CG | 2.72 | 0.43 |
| 1:A:288:PHE:O | 1:A:289:MET:C | 2.57 | 0.43 |
| 1:B:56:SER:O | 1:B:60:PRO:HD2 | 2.18 | 0.43 |
| 1:B:131:VAL:HB | 1:B:135:HIS:HE2 | 1.84 | 0.43 |
| 1:B:173:LEU:O | 1:B:177:LEU:CD2 | 2.56 | 0.43 |
| 1:B:230:PHE:CG | 1:B:231:HIS:N | 2.83 | 0.43 |
| 1:B:345:LEU:HD23 | 1:B:345:LEU:HA | 1.54 | 0.43 |
| 1:B:420:LEU:HB3 | 1:B:423:LYS:HE2 | 2.01 | 0.43 |
| 1:A:8:TYR:CD1 | 1:A:9:LYS:N | 2.87 | 0.43 |
| 1:A:27:VAL:O | 1:A:31:GLY:CA | 2.64 | 0.43 |
| 1:A:72:LEU:HD13 | 1:A:75:VAL:CG1 | 2.49 | 0.43 |
| 1:A:179:TRP:O | 1:A:184:GLY:N | 2.50 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:275:ALA:HB1 | 1:A:353:VAL:CG1 | 2.47 | 0.43 |
| 1:A:298:VAL:HG21 | 1:A:321:GLY:CA | 2.46 | 0.43 |
| 1:B:11:GLU:HG2 | 1:B:316:ILE:HG23 | 1.99 | 0.43 |
| 1:B:60:PRO:O | 1:B:63:LEU:HB3 | 2.18 | 0.43 |
| 1:B:60:PRO:O | 1:B:63:LEU:CD2 | 2.66 | 0.43 |
| 1:B:65:GLY:HA2 | 1:B:253:PHE:CG | 2.54 | 0.43 |
| 1:B:147:PHE:CD1 | 1:B:211:LEU:HA | 2.54 | 0.43 |
| 1:B:294:ILE:O | 1:B:297:ALA:HB3 | 2.19 | 0.43 |
| 1:A:86:HIS:CE1 | 1:A:87:LYS:H | 2.35 | 0.43 |
| 1:A:212:LEU:O | 1:A:213:PHE:O | 2.37 | 0.43 |
| 1:A:271:SER:C | 1:A:273:VAL:HG12 | 2.39 | 0.43 |
| 1:A:287:VAL:HB | 1:A:368:GLN:HG2 | 2.00 | 0.43 |
| 1:A:314:ALA:HB2 | 1:A:449:LYS:HZ3 | 1.82 | 0.43 |
| 1:B:60:PRO:HA | 1:B:63:LEU:HD22 | 2.01 | 0.43 |
| 1:B:129:LYS:O | 1:B:132:GLY:HA3 | 2.19 | 0.43 |
| 1:B:366:ILE:HG22 | 1:B:430:ILE:HD11 | 2.01 | 0.43 |
| 1:A:47:ASP:C | 1:A:49:ALA:H | 2.14 | 0.43 |
| 1:A:93:HIS:O | 1:A:97:ILE:HG13 | 2.19 | 0.43 |
| 1:A:109:VAL:O | 1:A:113:THR:HG22 | 2.19 | 0.43 |
| 1:A:113:THR:O | 1:A:116:ILE:N | 2.48 | 0.43 |
| 1:A:218:SER:HB3 | 1:A:221:LEU:O | 2.19 | 0.43 |
| 1:A:382:ARG:CA | 1:A:387:MET:HB2 | 2.49 | 0.43 |
| 1:B:104:VAL:HA | 1:B:107:ILE:CG1 | 2.47 | 0.43 |
| 1:B:266:VAL:HG21 | 1:B:407:TYR:CG | 2.54 | 0.43 |
| 1:A:181:PHE:O | 1:A:183:TYR:N | 2.52 | 0.42 |
| 1:A:235:PRO:HA | 1:A:238:LEU:HD13 | 2.01 | 0.42 |
| 1:A:427:LEU:C | 1:A:429:PHE:N | 2.72 | 0.42 |
| 1:B:24:ILE:HB | 1:B:164:MET:SD | 2.59 | 0.42 |
| 1:B:317:ALA:HA | 1:B:320:VAL:CG1 | 2.49 | 0.42 |
| 1:B:413:ASN:HD22 | 1:B:421:GLY:H | 1.67 | 0.42 |
| 1:B:416:THR:HB | 1:B:417:GLU:H | 1.54 | 0.42 |
| 1:A:58:TRP:O | 1:A:59:LEU:C | 2.55 | 0.42 |
| 1:A:58:TRP:CE3 | 1:A:59:LEU:N | 2.87 | 0.42 |
| 1:A:66:VAL:O | 1:A:69:LEU:HB3 | 2.19 | 0.42 |
| 1:A:122:VAL:C | 1:A:124:GLU:N | 2.72 | 0.42 |
| 1:A:134:MET:SD | 1:A:198:VAL:N | 2.92 | 0.42 |
| 1:A:180:ILE:CA | 1:A:184:GLY:HA3 | 2.35 | 0.42 |
| 1:A:396:ILE:O | 1:A:399:TRP:HB3 | 2.19 | 0.42 |
| 1:B:95:GLY:O | 1:B:97:ILE:N | 2.52 | 0.42 |
| 1:B:237:GLU:O | 1:B:241:LEU:CD1 | 2.66 | 0.42 |
| 1:B:432:GLY:O | 1:B:435:ALA:HB3 | 2.20 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:447:LEU:HD12 | 1:B:447:LEU:O | 2.19 | 0.42 |
| 1:A:104:VAL:O | 1:A:106:ILE:N | 2.52 | 0.42 |
| 1:A:116:ILE:HG23 | 1:A:117:ILE:N | 2.35 | 0.42 |
| 1:A:236:LYS:HA | 1:A:239:ILE:HG13 | 2.02 | 0.42 |
| 1:A:298:VAL:HG11 | 1:A:317:ALA:O | 2.20 | 0.42 |
| 1:A:360:LEU:HD21 | 1:A:423:LYS:HB3 | 1.99 | 0.42 |
| 1:A:393:ARG:CG | 1:A:393:ARG:NH1 | 2.82 | 0.42 |
| 1:B:134:MET:SD | 1:B:198:VAL:CA | 3.05 | 0.42 |
| 1:B:187:GLY:O | 1:B:188:ALA:HB2 | 2.19 | 0.42 |
| 1:B:191:LEU:CG | 1:B:192:GLY:N | 2.82 | 0.42 |
| 1:A:138:ILE:HA | 1:A:141:VAL:CG2 | 2.49 | 0.42 |
| 1:A:176:PRO:HG2 | 1:A:177:LEU:HD22 | 2.00 | 0.42 |
| 1:A:200:THR:CA | 1:A:203:VAL:HG23 | 2.48 | 0.42 |
| 1:A:203:VAL:C | 1:A:205:TRP:N | 2.71 | 0.42 |
| 1:A:234:GLN:C | 1:A:238:LEU:HD13 | 2.40 | 0.42 |
| 1:A:272:THR:C | 1:A:274:VAL:N | 2.71 | 0.42 |
| 1:A:283:PHE:O | 1:A:284:SER:C | 2.58 | 0.42 |
| 1:A:413:ASN:HD22 | 1:A:421:GLY:N | 2.17 | 0.42 |
| 1:B:11:GLU:HB3 | 1:B:320:VAL:HB | 2.00 | 0.42 |
| 1:B:142:PRO:O | 1:B:143:ALA:C | 2.56 | 0.42 |
| 1:B:244:LEU:HD23 | 1:B:388:THR:OG1 | 2.20 | 0.42 |
| 1:B:266:VAL:HG13 | 1:B:269:LEU:HD21 | 2.02 | 0.42 |
| 1:B:281:LEU:HD23 | 1:B:281:LEU:C | 2.40 | 0.42 |
| 1:B:358:MET:O | 1:B:361:LEU:HB2 | 2.19 | 0.42 |
| 1:B:393:ARG:CG | 1:B:393:ARG:NH1 | 2.82 | 0.42 |
| 1:A:259:PHE:O | 1:A:260:ALA:C | 2.58 | 0.42 |
| 1:A:290:PHE:O | 1:A:293:SER:HB2 | 2.19 | 0.42 |
| 1:A:358:MET:C | 1:A:358:MET:SD | 2.98 | 0.42 |
| 1:B:73:VAL:O | 1:B:76:VAL:HG12 | 2.20 | 0.42 |
| 1:B:73:VAL:N | 1:B:74:PRO:CD | 2.82 | 0.42 |
| 1:B:96:LEU:HB2 | 1:B:146:LEU:HG | 2.01 | 0.42 |
| 1:B:163:ALA:HB3 | 1:B:164:MET:SD | 2.60 | 0.42 |
| 1:B:206:ILE:O | 1:B:210:LEU:CD2 | 2.58 | 0.42 |
| 1:B:403:LEU:HD23 | 1:B:403:LEU:HA | 1.78 | 0.42 |
| 1:A:180:ILE:CD1 | 1:A:186:PHE:HB2 | 2.50 | 0.42 |
| 1:A:274:VAL:HA | 1:A:277:HIS:HB3 | 2.01 | 0.42 |
| 1:A:332:THR:HA | 1:A:335:LEU:CG | 2.49 | 0.42 |
| 1:B:142:PRO:O | 1:B:145:LEU:CB | 2.61 | 0.42 |
| 1:B:294:ILE:O | 1:B:295:GLY:C | 2.57 | 0.42 |
| 1:B:339:PHE:O | 1:B:343:ILE:HG12 | 2.20 | 0.42 |
| 1:B:395:PHE:O | 1:B:398:TYR:CE1 | 2.71 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:131:VAL:HG23 | 1:A:135:HIS:CE1 | 2.54 | 0.42 |
| 1:A:161:LYS:C | 1:A:163:ALA:N | 2.72 | 0.42 |
| 1:A:266:VAL:CG1 | 1:A:269:LEU:HD21 | 2.49 | 0.42 |
| 1:A:436:ALA:HA | 1:A:439:MET:HG2 | 2.00 | 0.42 |
| 1:B:142:PRO:C | 1:B:145:LEU:HB3 | 2.38 | 0.42 |
| 1:B:159:LEU:HD21 | 1:B:220:ARG:HH11 | 1.83 | 0.42 |
| 1:B:161:LYS:C | 1:B:163:ALA:N | 2.73 | 0.42 |
| 1:B:185:LYS:C | 1:B:185:LYS:CD | 2.82 | 0.42 |
| 1:B:287:VAL:O | 1:B:291:PRO:HD2 | 2.18 | 0.42 |
| 1:B:318:ALA:CB | 1:B:381:LEU:HD13 | 2.50 | 0.42 |
| 1:B:399:TRP:HE1 | 1:B:403:LEU:HD12 | 1.85 | 0.42 |
| 1:A:69:LEU:HG | 1:A:245:GLY:C | 2.40 | 0.42 |
| 1:A:88:ILE:O | 1:A:91:GLU:HB3 | 2.20 | 0.42 |
| 1:A:216:VAL:CG2 | 1:A:225:LYS:HD3 | 2.47 | 0.42 |
| 1:A:392:HIS:O | 1:A:395:PHE:CB | 2.67 | 0.42 |
| 1:B:34:PHE:O | 1:B:35:VAL:O | 2.37 | 0.42 |
| 1:B:72:LEU:HD11 | 1:B:383:GLY:O | 2.19 | 0.42 |
| 1:B:452:ASP:O | 1:B:455:GLN:HB3 | 2.19 | 0.42 |
| 1:A:49:ALA:O | 1:A:53:ILE:HG13 | 2.20 | 0.42 |
| 1:A:238:LEU:CA | 1:A:241:LEU:HD13 | 2.48 | 0.42 |
| 1:A:247:PRO:HG2 | 1:A:389:ALA:HA | 1.99 | 0.42 |
| 1:A:348:THR:O | 1:A:349:GLU:HG3 | 2.20 | 0.42 |
| 1:A:351:GLN:O | 1:A:352:VAL:C | 2.58 | 0.42 |
| 1:A:443:ARG:O | 1:A:444:LEU:C | 2.57 | 0.42 |
| 1:B:47:ASP:C | 1:B:49:ALA:H | 2.14 | 0.42 |
| 1:B:71:ALA:O | 1:B:74:PRO:HB2 | 2.19 | 0.42 |
| 1:B:138:ILE:HA | 1:B:141:VAL:HG23 | 2.02 | 0.42 |
| 1:B:244:LEU:CB | 1:B:385:LYS:NZ | 2.81 | 0.42 |
| 1:B:427:LEU:HD23 | 1:B:427:LEU:C | 2.40 | 0.42 |
| 1:A:98:LEU:HA | 1:A:101:LEU:HG | 2.01 | 0.42 |
| 1:A:382:ARG:N | 1:A:382:ARG:HD3 | 2.34 | 0.42 |
| 1:A:387:MET:HE1 | 1:A:456:LEU:HD13 | 2.01 | 0.42 |
| 1:B:38:ILE:O | 1:B:39:MET:C | 2.58 | 0.42 |
| 1:B:86:HIS:CE1 | 1:B:87:LYS:H | 2.38 | 0.42 |
| 1:B:96:LEU:CD1 | 1:B:146:LEU:HD12 | 2.46 | 0.42 |
| 1:B:98:LEU:O | 1:B:99:ALA:C | 2.57 | 0.42 |
| 1:B:276:ALA:O | 1:B:277:HIS:C | 2.57 | 0.42 |
| 1:B:339:PHE:O | 1:B:340:ARG:O | 2.38 | 0.42 |
| 1:B:381:LEU:O | 1:B:384:TYR:CG | 2.73 | 0.42 |
| 1:B:392:HIS:O | 1:B:395:PHE:CB | 2.68 | 0.42 |
| 1:B:413:ASN:HB3 | 1:B:414:TRP:CZ3 | 2.55 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:415:LEU:HB3 | 1:B:416:THR:H | 1.54 | 0.42 |
| 1:A:97:ILE:CG2 | 1:A:101:LEU:HD11 | 2.39 | 0.41 |
| 1:A:308:GLU:HB3 | 1:A:309:GLN:H | 1.67 | 0.41 |
| 1:A:357:ALA:O | 1:A:360:LEU:N | 2.53 | 0.41 |
| 1:B:23:LEU:O | 1:B:24:ILE:C | 2.57 | 0.41 |
| 1:B:69:LEU:C | 1:B:71:ALA:H | 2.23 | 0.41 |
| 1:B:122:VAL:C | 1:B:124:GLU:N | 2.73 | 0.41 |
| 1:B:427:LEU:HD23 | 1:B:428:GLY:CA | 2.50 | 0.41 |
| 1:A:39:MET:SD | 1:A:40:ALA:HB2 | 2.60 | 0.41 |
| 1:A:100:LEU:N | 1:A:100:LEU:CD1 | 2.82 | 0.41 |
| 1:A:275:ALA:O | 1:A:279:VAL:HB | 2.20 | 0.41 |
| 1:A:367:TYR:O | 1:A:368:GLN:C | 2.57 | 0.41 |
| 1:A:386:ASP:C | 1:A:389:ALA:H | 2.23 | 0.41 |
| 1:A:388:THR:HA | 1:A:391:PHE:CG | 2.55 | 0.41 |
| 1:B:72:LEU:HD13 | 1:B:75:VAL:CG1 | 2.50 | 0.41 |
| 1:B:97:ILE:O | 1:B:99:ALA:N | 2.53 | 0.41 |
| 1:B:135:HIS:C | 1:B:137:VAL:N | 2.66 | 0.41 |
| 1:B:146:LEU:HD13 | 1:B:147:PHE:N | 2.35 | 0.41 |
| 1:B:147:PHE:CE2 | 1:B:211:LEU:HA | 2.55 | 0.41 |
| 1:B:287:VAL:O | 1:B:291:PRO:HD3 | 2.20 | 0.41 |
| 1:A:76:VAL:C | 1:A:78:GLN:HG2 | 2.41 | 0.41 |
| 1:A:145:LEU:HD13 | 1:A:145:LEU:C | 2.37 | 0.41 |
| 1:A:219:LYS:CD | 1:A:220:ARG:NE | 2.83 | 0.41 |
| 1:A:454:VAL:O | 1:A:458:LEU:HB2 | 2.20 | 0.41 |
| 1:B:18:LEU:HA | 1:B:160:THR:HG21 | 2.02 | 0.41 |
| 1:B:276:ALA:O | 1:B:277:HIS:O | 2.38 | 0.41 |
| 1:B:408:ILE:HG12 | 1:B:411:MET:SD | 2.60 | 0.41 |
| 1:A:248:VAL:HG12 | 1:A:391:PHE:CZ | 2.55 | 0.41 |
| 1:A:363:PHE:HD1 | 1:A:364:ALA:N | 2.16 | 0.41 |
| 1:B:8:TYR:O | 1:B:12:ALA:HB2 | 2.21 | 0.41 |
| 1:B:74:PRO:HB3 | 1:B:149:ALA:CA | 2.50 | 0.41 |
| 1:B:97:ILE:C | 1:B:99:ALA:N | 2.72 | 0.41 |
| 1:B:185:LYS:O | 1:B:186:PHE:CD2 | 2.73 | 0.41 |
| 1:B:219:LYS:CD | 1:B:220:ARG:NE | 2.84 | 0.41 |
| 1:B:408:ILE:O | 1:B:412:THR:N | 2.53 | 0.41 |
| 1:A:7:ARG:O | 1:A:11:GLU:HG3 | 2.21 | 0.41 |
| 1:A:94:GLN:O | 1:A:95:GLY:C | 2.57 | 0.41 |
| 1:A:102:VAL:O | 1:A:105:PRO:HD2 | 2.21 | 0.41 |
| 1:A:178:ASN:ND2 | 1:A:199:ALA:HB1 | 2.35 | 0.41 |
| 1:A:275:ALA:H | 1:A:353:VAL:HG21 | 1.83 | 0.41 |
| 1:A:322:LEU:O | 1:A:323:MET:C | 2.58 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:409:LEU:HA | 1:A:412:THR:HB | 2.01 | 0.41 |
| 1:B:80:ASN:OD1 | 1:B:80:ASN:O | 2.39 | 0.41 |
| 1:B:117:ILE:CG2 | 1:B:118:ARG:H | 2.18 | 0.41 |
| 1:B:266:VAL:CG2 | 1:B:407:TYR:CD1 | 3.03 | 0.41 |
| 1:B:275:ALA:HB2 | 1:B:353:VAL:CG2 | 2.49 | 0.41 |
| 1:B:276:ALA:HB1 | 1:B:426:TRP:NE1 | 2.34 | 0.41 |
| 1:B:363:PHE:CD2 | 1:B:426:TRP:HB3 | 2.55 | 0.41 |
| 1:A:38:ILE:O | 1:A:39:MET:C | 2.57 | 0.41 |
| 1:A:235:PRO:CA | 1:A:238:LEU:HD22 | 2.50 | 0.41 |
| 1:A:248:VAL:HG23 | 1:A:249:ALA:N | 2.35 | 0.41 |
| 1:A:317:ALA:HA | 1:A:320:VAL:CG1 | 2.50 | 0.41 |
| 1:B:42:GLY:HA2 | 1:B:49:ALA:HB3 | 2.01 | 0.41 |
| 1:B:110:LEU:O | 1:B:111:PHE:C | 2.59 | 0.41 |
| 1:B:380:SER:O | 1:B:383:GLY:N | 2.53 | 0.41 |
| 1:A:15:LEU:CG | 1:A:16:ILE:N | 2.84 | 0.41 |
| 1:A:131:VAL:O | 1:A:134:MET:HB2 | 2.20 | 0.41 |
| 1:B:296:ALA:O | 1:B:300:ILE:HG12 | 2.20 | 0.41 |
| 1:A:34:PHE:CD1 | 1:A:35:VAL:N | 2.88 | 0.41 |
| 1:A:81:GLY:O | 1:A:308:GLU:HG3 | 2.20 | 0.41 |
| 1:A:262:VAL:HG12 | 1:A:263:ALA:N | 2.36 | 0.41 |
| 1:A:287:VAL:O | 1:A:291:PRO:HD3 | 2.21 | 0.41 |
| 1:A:360:LEU:CD2 | 1:A:423:LYS:HB2 | 2.51 | 0.41 |
| 1:B:21:PRO:HB2 | 1:B:160:THR:HG23 | 2.03 | 0.41 |
| 1:B:127:ALA:C | 1:B:130:THR:HG1 | 2.24 | 0.41 |
| 1:B:137:VAL:O | 1:B:141:VAL:HG23 | 2.21 | 0.41 |
| 1:B:273:VAL:O | 1:B:277:HIS:HB2 | 2.20 | 0.41 |
| 1:B:286:LEU:O | 1:B:289:MET:HB3 | 2.21 | 0.41 |
| 1:B:312:LYS:HZ1 | 1:B:449:LYS:CD | 2.33 | 0.41 |
| 1:A:11:GLU:HG2 | 1:A:316:ILE:CG2 | 2.50 | 0.41 |
| 1:A:15:LEU:HD12 | 1:A:15:LEU:C | 2.39 | 0.41 |
| 1:A:58:TRP:CE3 | 1:A:59:LEU:HA | 2.56 | 0.41 |
| 1:A:63:LEU:O | 1:A:66:VAL:N | 2.53 | 0.41 |
| 1:A:73:VAL:HG11 | 1:A:241:LEU:HD23 | 2.02 | 0.41 |
| 1:A:195:GLY:O | 1:A:198:VAL:N | 2.54 | 0.41 |
| 1:A:238:LEU:O | 1:A:242:PHE:CD1 | 2.73 | 0.41 |
| 1:A:247:PRO:HB3 | 1:A:388:THR:O | 2.21 | 0.41 |
| 1:A:251:ALA:O | 1:A:255:GLU:CB | 2.58 | 0.41 |
| 1:A:314:ALA:O | 1:A:318:ALA:CB | 2.66 | 0.41 |
| 1:A:382:ARG:HB3 | 1:A:387:MET:CB | 2.51 | 0.41 |
| 1:A:382:ARG:C | 1:A:384:TYR:H | 2.24 | 0.41 |
| 1:B:8:TYR:O | 1:B:12:ALA:HB3 | 2.21 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:72:LEU:CD1 | 1:B:75:VAL:HG21 | 2.51 | 0.41 |
| 1:B:107:ILE:CA | 1:B:139:PHE:CZ | 2.94 | 0.41 |
| 1:B:131:VAL:CA | 1:B:134:MET:HB2 | 2.50 | 0.41 |
| 1:B:172:LEU:HD13 | 1:B:172:LEU:C | 2.41 | 0.41 |
| 1:B:180:ILE:HD11 | 1:B:186:PHE:HB2 | 2.01 | 0.41 |
| 1:B:225:LYS:O | 1:B:226:VAL:CG2 | 2.68 | 0.41 |
| 1:B:231:HIS:C | 1:B:235:PRO:CG | 2.84 | 0.41 |
| 1:B:272:THR:O | 1:B:274:VAL:C | 2.59 | 0.41 |
| 1:B:311:THR:HG23 | 1:B:312:LYS:N | 2.36 | 0.41 |
| 1:B:339:PHE:O | 1:B:343:ILE:CG1 | 2.69 | 0.41 |
| 1:B:356:LEU:O | 1:B:360:LEU:N | 2.34 | 0.41 |
| 1:B:384:TYR:CE1 | 1:B:446:TRP:HH2 | 2.36 | 0.41 |
| 1:B:388:THR:HA | 1:B:391:PHE:CG | 2.56 | 0.41 |
| 1:A:88:ILE:CG1 | 1:A:89:PRO:N | 2.84 | 0.41 |
| 1:A:130:THR:O | 1:A:134:MET:HG2 | 2.21 | 0.41 |
| 1:B:461:LYS:HD2 | 1:B:461:LYS:C | 2.41 | 0.41 |
| 1:A:125:ALA:O | 1:A:126:MET:C | 2.60 | 0.40 |
| 1:A:195:GLY:O | 1:A:197:GLY:N | 2.54 | 0.40 |
| 1:A:277:HIS:O | 1:A:278:GLN:C | 2.59 | 0.40 |
| 1:B:34:PHE:CD1 | 1:B:35:VAL:N | 2.90 | 0.40 |
| 1:B:41:GLY:C | 1:B:49:ALA:CB | 2.85 | 0.40 |
| 1:B:65:GLY:HA3 | 1:B:253:PHE:CG | 2.56 | 0.40 |
| 1:B:277:HIS:O | 1:B:278:GLN:C | 2.59 | 0.40 |
| 1:B:341:GLU:OE1 | 1:B:341:GLU:N | 2.53 | 0.40 |
| 1:B:447:LEU:O | 1:B:450:GLN:NE2 | 2.53 | 0.40 |
| 1:A:3:ASN:O | 1:A:5:VAL:HG23 | 2.21 | 0.40 |
| 1:A:60:PRO:HA | 1:A:63:LEU:HB3 | 2.02 | 0.40 |
| 1:A:95:GLY:O | 1:A:96:LEU:C | 2.59 | 0.40 |
| 1:A:172:LEU:HD13 | 1:A:173:LEU:N | 2.36 | 0.40 |
| 1:A:281:LEU:C | 1:A:281:LEU:HD23 | 2.42 | 0.40 |
| 1:B:447:LEU:HD13 | 1:B:450:GLN:HG2 | 2.04 | 0.40 |
| 1:A:57:ILE:O | 1:A:57:ILE:HG22 | 2.22 | 0.40 |
| 1:A:96:LEU:CB | 1:A:146:LEU:HG | 2.51 | 0.40 |
| 1:A:185:LYS:C | 1:A:185:LYS:CD | 2.86 | 0.40 |
| 1:A:232:LYS:H | 1:A:233:PRO:HD3 | 1.85 | 0.40 |
| 1:A:282:ASN:O | 1:A:283:PHE:C | 2.60 | 0.40 |
| 1:A:360:LEU:HD13 | 1:A:426:TRP:CD1 | 2.56 | 0.40 |
| 1:B:66:VAL:O | 1:B:69:LEU:HB3 | 2.21 | 0.40 |
| 1:B:70:MET:SD | 1:B:99:ALA:N | 2.94 | 0.40 |
| 1:B:195:GLY:O | 1:B:196:CYS:C | 2.60 | 0.40 |
| 1:B:233:PRO:N | 1:B:235:PRO:HD2 | 2.37 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:71:ALA:HA | 1:A:74:PRO:HD2 | 1.98 | 0.40 |
| 1:A:129:LYS:O | 1:A:132:GLY:HA3 | 2.22 | 0.40 |
| 1:A:412:THR:HA | 1:A:415:LEU:HB2 | 2.03 | 0.40 |
| 1:B:72:LEU:HD13 | 1:B:75:VAL:HG11 | 2.03 | 0.40 |
| 1:B:239:ILE:C | 1:B:242:PHE:HB2 | 2.42 | 0.40 |
| 1:B:257:THR:O | 1:B:260:ALA:HB3 | 2.21 | 0.40 |
| 1:A:98:LEU:O | 1:A:99:ALA:C | 2.59 | 0.40 |
| 1:A:398:TYR:HD2 | 1:A:432:GLY:O | 2.04 | 0.40 |
| 1:B:10:LYS:NZ | 1:B:305:LYS:NZ | 2.70 | 0.40 |
| 1:B:24:ILE:HD13 | 1:B:24:ILE:HA | 1.99 | 0.40 |
| 1:B:69:LEU:C | 1:B:69:LEU:CD2 | 2.89 | 0.40 |
| 1:B:76:VAL:HG23 | 1:B:78:GLN:HE21 | 1.83 | 0.40 |
| 1:B:186:PHE:HD2 | 1:B:186:PHE:HA | 1.83 | 0.40 |
| 1:B:209:LEU:CD1 | 1:B:210:LEU:HD13 | 2.49 | 0.40 |
| 1:B:218:SER:HB3 | 1:B:221:LEU:O | 2.21 | 0.40 |
| 1:B:234:GLN:C | 1:B:237:GLU:H | 2.24 | 0.40 |
| 1:B:353:VAL:O | 1:B:357:ALA:CA | 2.68 | 0.40 |
| 1:B:461:LYS:HB3 | 1:B:461:LYS:HE3 | 1.88 | 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 X-ray entries followed by that with respect to entries of similar resolution.

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

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles |
|---|---|---|---|---|---|---|
| 1 | A | 458/460 (100%) | 218 (48%) | 118 (26%) | 122 (27%) | 0 1 |
| 1 | B | 458/460 (100%) | 221 (48%) | 121 (26%) | 116 (25%) | 0 1 |
| All | All | 916/920 (100%) | 439 (48%) | 239 (26%) | 238 (26%) | 0 1 |

All (238) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A | 19 | ALA |
| 1 | A | 35 | VAL |
| 1 | A | 56 | SER |
| 1 | A | 76 | VAL |
| 1 | A | 121 | ASP |
| 1 | A | 124 | GLU |
| 1 | A | 125 | ALA |
| 1 | A | 126 | MET |
| 1 | A | 128 | THR |
| 1 | A | 152 | SER |
| 1 | A | 165 | VAL |
| 1 | A | 184 | GLY |
| 1 | A | 211 | LEU |
| 1 | A | 213 | PHE |
| 1 | A | 226 | VAL |
| 1 | A | 251 | ALA |
| 1 | A | 261 | VAL |
| 1 | A | 273 | VAL |
| 1 | A | 277 | HIS |
| 1 | A | 279 | VAL |
| 1 | A | 280 | ALA |
| 1 | A | 282 | ASN |
| 1 | A | 285 | SER |
| 1 | A | 311 | THR |
| 1 | A | 314 | ALA |
| 1 | A | 316 | ILE |
| 1 | A | 340 | ARG |
| 1 | A | 346 | LEU |
| 1 | A | 352 | VAL |
| 1 | A | 353 | VAL |
| 1 | A | 376 | VAL |
| 1 | A | 378 | ALA |
| 1 | A | 416 | THR |
| 1 | A | 444 | LEU |
| 1 | A | 445 | TYR |
| 1 | B | 19 | ALA |
| 1 | B | 35 | VAL |
| 1 | B | 110 | LEU |
| 1 | B | 121 | ASP |
| 1 | B | 124 | GLU |
| 1 | B | 126 | MET |
| 1 | B | 128 | THR |
| 1 | B | 152 | SER |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | B | 165 | VAL |
| 1 | B | 184 | GLY |
| 1 | B | 211 | LEU |
| 1 | B | 213 | PHE |
| 1 | B | 226 | VAL |
| 1 | B | 251 | ALA |
| 1 | B | 261 | VAL |
| 1 | B | 273 | VAL |
| 1 | B | 277 | HIS |
| 1 | B | 279 | VAL |
| 1 | B | 280 | ALA |
| 1 | B | 282 | ASN |
| 1 | B | 285 | SER |
| 1 | B | 311 | THR |
| 1 | B | 314 | ALA |
| 1 | B | 316 | ILE |
| 1 | B | 340 | ARG |
| 1 | B | 352 | VAL |
| 1 | B | 354 | VAL |
| 1 | B | 376 | VAL |
| 1 | B | 378 | ALA |
| 1 | B | 399 | TRP |
| 1 | B | 416 | THR |
| 1 | B | 444 | LEU |
| 1 | A | 7 | ARG |
| 1 | A | 9 | LYS |
| 1 | A | 33 | GLY |
| 1 | A | 47 | ASP |
| 1 | A | 50 | ALA |
| 1 | A | 110 | LEU |
| 1 | A | 160 | THR |
| 1 | A | 167 | GLY |
| 1 | A | 179 | TRP |
| 1 | A | 183 | TYR |
| 1 | A | 214 | TYR |
| 1 | A | 219 | LYS |
| 1 | A | 230 | PHE |
| 1 | A | 244 | LEU |
| 1 | A | 262 | VAL |
| 1 | A | 276 | ALA |
| 1 | A | 278 | GLN |
| 1 | A | 281 | LEU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A | 317 | ALA |
| 1 | A | 318 | ALA |
| 1 | A | 321 | GLY |
| 1 | A | 322 | LEU |
| 1 | A | 323 | MET |
| 1 | A | 399 | TRP |
| 1 | A | 402 | GLY |
| 1 | A | 417 | GLU |
| 1 | A | 446 | TRP |
| 1 | A | 448 | GLN |
| 1 | B | 7 | ARG |
| 1 | B | 21 | PRO |
| 1 | B | 33 | GLY |
| 1 | B | 47 | ASP |
| 1 | B | 50 | ALA |
| 1 | B | 56 | SER |
| 1 | B | 64 | PHE |
| 1 | B | 76 | VAL |
| 1 | B | 156 | GLY |
| 1 | B | 160 | THR |
| 1 | B | 167 | GLY |
| 1 | B | 183 | TYR |
| 1 | B | 214 | TYR |
| 1 | B | 219 | LYS |
| 1 | B | 230 | PHE |
| 1 | B | 244 | LEU |
| 1 | B | 262 | VAL |
| 1 | B | 269 | LEU |
| 1 | B | 278 | GLN |
| 1 | B | 317 | ALA |
| 1 | B | 318 | ALA |
| 1 | B | 321 | GLY |
| 1 | B | 323 | MET |
| 1 | B | 346 | LEU |
| 1 | B | 353 | VAL |
| 1 | B | 369 | CYS |
| 1 | B | 379 | GLY |
| 1 | B | 402 | GLY |
| 1 | B | 417 | GLU |
| 1 | A | 21 | PRO |
| 1 | A | 39 | MET |
| 1 | A | 64 | PHE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A | 82 | ALA |
| 1 | A | 84 | ARG |
| 1 | A | 158 | SER |
| 1 | A | 163 | ALA |
| 1 | A | 223 | HIS |
| 1 | A | 275 | ALA |
| 1 | A | 284 | SER |
| 1 | A | 327 | ALA |
| 1 | A | 334 | LEU |
| 1 | A | 339 | PHE |
| 1 | B | 9 | LYS |
| 1 | B | 39 | MET |
| 1 | B | 82 | ALA |
| 1 | B | 84 | ARG |
| 1 | B | 108 | ALA |
| 1 | B | 118 | ARG |
| 1 | B | 158 | SER |
| 1 | B | 179 | TRP |
| 1 | B | 186 | PHE |
| 1 | B | 243 | ARG |
| 1 | B | 275 | ALA |
| 1 | B | 276 | ALA |
| 1 | B | 281 | LEU |
| 1 | B | 284 | SER |
| 1 | B | 322 | LEU |
| 1 | B | 334 | LEU |
| 1 | B | 339 | PHE |
| 1 | B | 341 | GLU |
| 1 | B | 349 | GLU |
| 1 | B | 385 | LYS |
| 1 | B | 445 | TYR |
| 1 | A | 13 | SER |
| 1 | A | 29 | GLN |
| 1 | A | 31 | GLY |
| 1 | A | 37 | THR |
| 1 | A | 79 | LEU |
| 1 | A | 108 | ALA |
| 1 | A | 117 | ILE |
| 1 | A | 130 | THR |
| 1 | A | 151 | ARG |
| 1 | A | 156 | GLY |
| 1 | A | 186 | PHE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A | 218 | SER |
| 1 | A | 231 | HIS |
| 1 | A | 232 | LYS |
| 1 | A | 269 | LEU |
| 1 | A | 320 | VAL |
| 1 | A | 330 | CYS |
| 1 | A | 341 | GLU |
| 1 | A | 349 | GLU |
| 1 | A | 354 | VAL |
| 1 | A | 369 | CYS |
| 1 | A | 379 | GLY |
| 1 | A | 447 | LEU |
| 1 | B | 13 | SER |
| 1 | B | 37 | THR |
| 1 | B | 45 | ALA |
| 1 | B | 79 | LEU |
| 1 | B | 101 | LEU |
| 1 | B | 125 | ALA |
| 1 | B | 130 | THR |
| 1 | B | 163 | ALA |
| 1 | B | 223 | HIS |
| 1 | B | 231 | HIS |
| 1 | B | 232 | LYS |
| 1 | B | 320 | VAL |
| 1 | A | 28 | ALA |
| 1 | A | 42 | GLY |
| 1 | A | 77 | ALA |
| 1 | A | 122 | VAL |
| 1 | A | 161 | LYS |
| 1 | A | 162 | PRO |
| 1 | A | 172 | LEU |
| 1 | A | 185 | LYS |
| 1 | A | 243 | ARG |
| 1 | A | 315 | ALA |
| 1 | A | 355 | ALA |
| 1 | B | 29 | GLN |
| 1 | B | 42 | GLY |
| 1 | B | 96 | LEU |
| 1 | B | 117 | ILE |
| 1 | B | 122 | VAL |
| 1 | B | 161 | LYS |
| 1 | B | 315 | ALA |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | B | 327 | ALA |
| 1 | B | 330 | CYS |
| 1 | B | 377 | ALA |
| 1 | A | 96 | LEU |
| 1 | A | 101 | LEU |
| 1 | A | 375 | VAL |
| 1 | A | 377 | ALA |
| 1 | A | 385 | LYS |
| 1 | B | 28 | ALA |
| 1 | B | 31 | GLY |
| 1 | B | 83 | GLY |
| 1 | B | 138 | ILE |
| 1 | B | 151 | ARG |
| 1 | B | 162 | PRO |
| 1 | A | 83 | GLY |
| 1 | A | 138 | ILE |
| 1 | B | 5 | VAL |
| 1 | B | 267 | ALA |
| 1 | B | 295 | GLY |
| 1 | B | 92 | VAL |
| 1 | A | 5 | VAL |
| 1 | A | 224 | VAL |
| 1 | A | 266 | VAL |
| 1 | A | 267 | ALA |
| 1 | B | 97 | ILE |
| 1 | A | 274 | VAL |
| 1 | B | 224 | 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 X-ray entries followed by that with respect to entries of similar resolution.

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

| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles |
|---|---|---|---|---|---|
| 1 | A | 364/364 (100%) | 296 (81%) | 68 (19%) | 1 10 |
| 1 | B | 364/364 (100%) | 295 (81%) | 69 (19%) | 1 10 |
| All | All | 728/728 (100%) | 591 (81%) | 137 (19%) | 1 10 |

All (137) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A | 7 | ARG |
| 1 | A | 34 | PHE |
| 1 | A | 39 | MET |
| 1 | A | 60 | PRO |
| 1 | A | 61 | SER |
| 1 | A | 62 | ILE |
| 1 | A | 63 | LEU |
| 1 | A | 72 | LEU |
| 1 | A | 90 | PHE |
| 1 | A | 93 | HIS |
| 1 | A | 94 | GLN |
| 1 | A | 105 | PRO |
| 1 | A | 115 | PHE |
| 1 | A | 118 | ARG |
| 1 | A | 119 | PHE |
| 1 | A | 124 | GLU |
| 1 | A | 144 | TYR |
| 1 | A | 145 | LEU |
| 1 | A | 148 | GLN |
| 1 | A | 164 | MET |
| 1 | A | 166 | ILE |
| 1 | A | 168 | PHE |
| 1 | A | 171 | LEU |
| 1 | A | 186 | PHE |
| 1 | A | 196 | CYS |
| 1 | A | 204 | TYR |
| 1 | A | 208 | LEU |
| 1 | A | 210 | LEU |
| 1 | A | 214 | TYR |
| 1 | A | 219 | LYS |
| 1 | A | 221 | LEU |
| 1 | A | 223 | HIS |
| 1 | A | 230 | PHE |
| 1 | A | 232 | LYS |
| 1 | A | 243 | ARG |
| 1 | A | 244 | LEU |
| 1 | A | 252 | LEU |
| 1 | A | 256 | VAL |
| 1 | A | 278 | GLN |
| 1 | A | 301 | ARG |
| 1 | A | 312 | LYS |
| 1 | A | 337 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A | 341 | GLU |
| 1 | A | 345 | LEU |
| 1 | A | 362 | LEU |
| 1 | A | 363 | PHE |
| 1 | A | 371 | ASP |
| 1 | A | 384 | TYR |
| 1 | A | 385 | LYS |
| 1 | A | 387 | MET |
| 1 | A | 391 | PHE |
| 1 | A | 395 | PHE |
| 1 | A | 396 | ILE |
| 1 | A | 398 | TYR |
| 1 | A | 400 | VAL |
| 1 | A | 404 | PRO |
| 1 | A | 405 | THR |
| 1 | A | 407 | TYR |
| 1 | A | 412 | THR |
| 1 | A | 414 | TRP |
| 1 | A | 415 | LEU |
| 1 | A | 425 | PHE |
| 1 | A | 426 | TRP |
| 1 | A | 427 | LEU |
| 1 | A | 443 | ARG |
| 1 | A | 447 | LEU |
| 1 | A | 449 | LYS |
| 1 | A | 455 | GLN |
| 1 | B | 7 | ARG |
| 1 | B | 14 | ASN |
| 1 | B | 29 | GLN |
| 1 | B | 34 | PHE |
| 1 | B | 39 | MET |
| 1 | B | 57 | ILE |
| 1 | B | 61 | SER |
| 1 | B | 62 | ILE |
| 1 | B | 63 | LEU |
| 1 | B | 72 | LEU |
| 1 | B | 90 | PHE |
| 1 | B | 93 | HIS |
| 1 | B | 94 | GLN |
| 1 | B | 115 | PHE |
| 1 | B | 119 | PHE |
| 1 | B | 124 | GLU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | B | 144 | TYR |
| 1 | B | 145 | LEU |
| 1 | B | 147 | PHE |
| 1 | B | 148 | GLN |
| 1 | B | 164 | MET |
| 1 | B | 166 | ILE |
| 1 | B | 168 | PHE |
| 1 | B | 171 | LEU |
| 1 | B | 185 | LYS |
| 1 | B | 186 | PHE |
| 1 | B | 204 | TYR |
| 1 | B | 208 | LEU |
| 1 | B | 210 | LEU |
| 1 | B | 214 | TYR |
| 1 | B | 219 | LYS |
| 1 | B | 221 | LEU |
| 1 | B | 223 | HIS |
| 1 | B | 230 | PHE |
| 1 | B | 243 | ARG |
| 1 | B | 244 | LEU |
| 1 | B | 252 | LEU |
| 1 | B | 256 | VAL |
| 1 | B | 278 | GLN |
| 1 | B | 290 | PHE |
| 1 | B | 292 | MET |
| 1 | B | 301 | ARG |
| 1 | B | 312 | LYS |
| 1 | B | 341 | GLU |
| 1 | B | 345 | LEU |
| 1 | B | 362 | LEU |
| 1 | B | 363 | PHE |
| 1 | B | 371 | ASP |
| 1 | B | 384 | TYR |
| 1 | B | 385 | LYS |
| 1 | B | 387 | MET |
| 1 | B | 391 | PHE |
| 1 | B | 395 | PHE |
| 1 | B | 396 | ILE |
| 1 | B | 398 | TYR |
| 1 | B | 400 | VAL |
| 1 | B | 404 | PRO |
| 1 | B | 405 | THR |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | B | 407 | TYR |
| 1 | B | 414 | TRP |
| 1 | B | 415 | LEU |
| 1 | B | 425 | PHE |
| 1 | B | 426 | TRP |
| 1 | B | 427 | LEU |
| 1 | B | 443 | ARG |
| 1 | B | 445 | TYR |
| 1 | B | 449 | LYS |
| 1 | B | 455 | GLN |
| 1 | B | 461 | LYS |

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

| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A | 14 | ASN |
| 1 | A | 78 | GLN |
| 1 | A | 85 | GLN |
| 1 | A | 148 | GLN |
| 1 | A | 174 | ASN |
| 1 | A | 277 | HIS |
| 1 | A | 282 | ASN |
| 1 | A | 350 | ASN |
| 1 | A | 413 | ASN |
| 1 | A | 418 | GLN |
| 1 | A | 442 | GLN |
| 1 | A | 450 | GLN |
| 1 | A | 455 | GLN |
| 1 | A | 457 | HIS |
| 1 | B | 14 | ASN |
| 1 | B | 78 | GLN |
| 1 | B | 85 | GLN |
| 1 | B | 114 | GLN |
| 1 | B | 148 | GLN |
| 1 | B | 174 | ASN |
| 1 | B | 277 | HIS |
| 1 | B | 282 | ASN |
| 1 | B | 418 | GLN |
| 1 | B | 442 | GLN |
| 1 | B | 455 | GLN |
| 1 | B | 457 | HIS |

### 5.3.3 RNA

There are no RNA molecules in this entry.

## 5.4 Non-standard residues in protein, DNA, RNA chains

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

## 5.5 Carbohydrates

There are no monosaccharides in this entry.

## 5.6 Ligand geometry

Of 2 ligands modelled in this entry, 2 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

## 5.7 Other polymers

There are no such residues in this entry.

## 5.8 Polymer linkage issues

There are no chain breaks in this entry.

# 6 Fit of model and data

## 6.1 Protein, DNA and RNA chains

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

| Mol | Chain | Analysed | <RSRZ> | #RSRZ>2 | | | OWAB(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|---|---|
| 1 | A | 460/460 (100%) | 0.12 | 49 (10%) | 6 | 6 | 34, 111, 174, 267 | 0 |
| 1 | B | 460/460 (100%) | -0.03 | 28 (6%) | 21 | 17 | 28, 117, 180, 253 | 0 |
| All | All | 920/920 (100%) | 0.05 | 77 (8%) | 11 | 10 | 28, 114, 180, 267 | 0 |

All (77) RSRZ outliers are listed below:

| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 1 | B | 309 | GLN | 7.6 |
| 1 | A | 36 | ASP | 6.7 |
| 1 | B | 83 | GLY | 5.8 |
| 1 | A | 84 | ARG | 5.3 |
| 1 | A | 442 | GLN | 5.0 |
| 1 | B | 368 | GLN | 5.0 |
| 1 | A | 85 | GLN | 5.0 |
| 1 | B | 82 | ALA | 4.9 |
| 1 | A | 37 | THR | 4.6 |
| 1 | A | 58 | TRP | 4.6 |
| 1 | B | 84 | ARG | 4.6 |
| 1 | A | 57 | ILE | 4.5 |
| 1 | B | 85 | GLN | 4.4 |
| 1 | A | 2 | GLU | 4.1 |
| 1 | B | 386 | ASP | 4.1 |
| 1 | A | 62 | ILE | 4.1 |
| 1 | A | 60 | PRO | 4.0 |
| 1 | A | 86 | HIS | 4.0 |
| 1 | A | 249 | ALA | 3.9 |
| 1 | A | 56 | SER | 3.9 |
| 1 | A | 55 | ALA | 3.8 |
| 1 | A | 6 | HIS | 3.7 |
| 1 | A | 50 | ALA | 3.7 |
| 1 | A | 61 | SER | 3.7 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 1 | A | 461 | LYS | 3.4 |
| 1 | A | 446 | TRP | 3.3 |
| 1 | B | 371 | ASP | 3.3 |
| 1 | A | 253 | PHE | 3.2 |
| 1 | A | 54 | ALA | 3.2 |
| 1 | A | 441 | GLY | 3.1 |
| 1 | B | 289 | MET | 3.1 |
| 1 | A | 87 | LYS | 3.1 |
| 1 | B | 310 | ASP | 3.1 |
| 1 | B | 287 | VAL | 3.1 |
| 1 | A | 34 | PHE | 3.1 |
| 1 | A | 63 | LEU | 3.0 |
| 1 | A | 248 | VAL | 3.0 |
| 1 | A | 174 | ASN | 3.0 |
| 1 | B | 291 | PRO | 3.0 |
| 1 | B | 290 | PHE | 2.9 |
| 1 | A | 66 | VAL | 2.9 |
| 1 | A | 449 | LYS | 2.9 |
| 1 | A | 59 | LEU | 2.9 |
| 1 | A | 35 | VAL | 2.9 |
| 1 | A | 171 | LEU | 2.9 |
| 1 | A | 453 | ASP | 2.9 |
| 1 | A | 51 | VAL | 2.9 |
| 1 | B | 288 | PHE | 2.7 |
| 1 | B | 217 | THR | 2.7 |
| 1 | B | 308 | GLU | 2.7 |
| 1 | A | 175 | ILE | 2.7 |
| 1 | B | 451 | SER | 2.7 |
| 1 | A | 65 | GLY | 2.6 |
| 1 | B | 87 | LYS | 2.6 |
| 1 | A | 79 | LEU | 2.6 |
| 1 | A | 33 | GLY | 2.6 |
| 1 | A | 223 | HIS | 2.6 |
| 1 | A | 41 | GLY | 2.5 |
| 1 | A | 39 | MET | 2.5 |
| 1 | A | 83 | GLY | 2.5 |
| 1 | B | 324 | THR | 2.5 |
| 1 | B | 329 | ALA | 2.4 |
| 1 | B | 6 | HIS | 2.4 |
| 1 | A | 227 | PHE | 2.4 |
| 1 | B | 446 | TRP | 2.3 |
| 1 | B | 328 | THR | 2.3 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 1 | B | 453 | ASP | 2.3 |
| 1 | B | 171 | LEU | 2.3 |
| 1 | B | 369 | CYS | 2.2 |
| 1 | A | 31 | GLY | 2.2 |
| 1 | B | 325 | GLY | 2.2 |
| 1 | B | 86 | HIS | 2.1 |
| 1 | A | 224 | VAL | 2.1 |
| 1 | A | 53 | ILE | 2.0 |
| 1 | A | 257 | THR | 2.0 |
| 1 | A | 82 | ALA | 2.0 |
| 1 | A | 3 | ASN | 2.0 |

## 6.2 Non-standard residues in protein, DNA, RNA chains (i)

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

## 6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

## 6.4 Ligands (i)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, $95^{th}$ percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|---|---|
| 2 | RB | B | 5002 | 1/1 | 0.66 | 0.20 | 186,186,186,186 | 0 |
| 2 | RB | A | 5001 | 1/1 | 0.80 | 0.11 | 182,182,182,182 | 0 |

## 6.5 Other polymers (i)

There are no such residues in this entry.