# Full wwPDB EM Validation Report ⓘ

Nov 3, 2024 – 07:12 am GMT

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|---|---|---|
| PDB ID | : | 7O7S |
| EMDB ID | : | EMD-12755 |
| Title | : | (h-alpha2M)4 plasmin-activated II state |
| Authors | : | Luque, D.; Goulas, T.; Mata, C.P.; Mendes, S.R.; Gomis-Ruth, F.X.; Caston, J.R. |
| Deposited on | : | 2021-04-13 |
| Resolution | : | 4.30 Å(reported) |

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

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

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

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

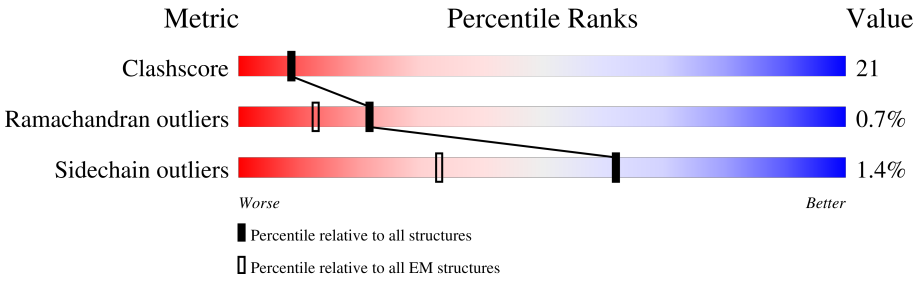
| | | |
|---|---|---|
| EMDB validation analysis | : | 0.0.1.dev113 |
| Mogul | : | 1.8.4, CSD as541be (2020) |
| MolProbity | : | 4.02b-467 |
| Percentile statistics | : | 20231227.v01 (using entries in the PDB archive December 27th 2023) |
| MapQ | : | 1.9.13 |
| Ideal geometry (proteins) | : | Engh & Huber (2001) |
| Ideal geometry (DNA, RNA) | : | Parkinson et al. (1996) |
| Validation Pipeline (wwPDB-VP) | : | 2.39 |

# 1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
*ELECTRON MICROSCOPY*

The reported resolution of this entry is 4.30 Å.

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




| Metric | Whole archive (#Entries) | EM structures (#Entries) |
|---|---|---|
| Clashscore | 210492 | 15764 |
| Ramachandran outliers | 207382 | 16835 |
| Sidechain outliers | 206894 | 16415 |

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 1 | A | 1474 | 19% 50% 36% • 13% |
| 1 | B | 1474 | 24% 53% 33% • 13% |
| 1 | C | 1474 | 32% 52% 34% • 13% |
| 1 | D | 1474 | 48% 61% 33% • 5% |
| 2 | E | 2 | 50% 100% |
| 2 | G | 2 | 100% |
| 2 | I | 2 | 50% 50% 50% |
| 2 | K | 2 | 50% 50% 50% |

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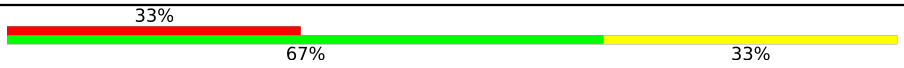
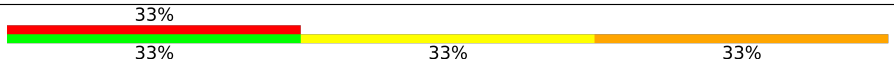
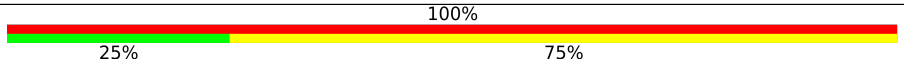
| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 3 | F | 3 |   |
| 3 | H | 3 |   |
| 3 | J | 3 |   |
| 3 | M | 3 |   |
| 4 | L | 4 |   |

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

| Mol | Type | Chain | Res | Chirality | Geometry | Clashes | Electron density |
|---|---|---|---|---|---|---|---|
| 5 | NAG | C | 2004 | - | - | X | - |

# 2 Entry composition

There are 5 unique types of molecules in this entry. The entry contains 41466 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

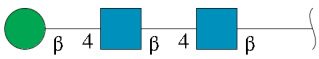
- Molecule 1 is a protein called Alpha-2-macroglobulin.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 1 | A | 1276 | Total | C | N | O | S | 0 | 0 |
| | | | 9958 | 6331 | 1672 | 1912 | 43 | | |
| 1 | B | 1276 | Total | C | N | O | S | 0 | 0 |
| | | | 9958 | 6331 | 1672 | 1912 | 43 | | |
| 1 | C | 1277 | Total | C | N | O | S | 0 | 0 |
| | | | 9967 | 6336 | 1673 | 1915 | 43 | | |
| 1 | D | 1407 | Total | C | N | O | S | 0 | 0 |
| | | | 10985 | 6988 | 1836 | 2113 | 48 | | |

- Molecule 2 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.


| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|
| 2 | E | 2 | Total | C | N | O | 0 | 0 |
| | | | 28 | 16 | 2 | 10 | | |
| 2 | G | 2 | Total | C | N | O | 0 | 0 |
| | | | 28 | 16 | 2 | 10 | | |
| 2 | I | 2 | Total | C | N | O | 0 | 0 |
| | | | 28 | 16 | 2 | 10 | | |
| 2 | K | 2 | Total | C | N | O | 0 | 0 |
| | | | 28 | 16 | 2 | 10 | | |

- Molecule 3 is an oligosaccharide called beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.

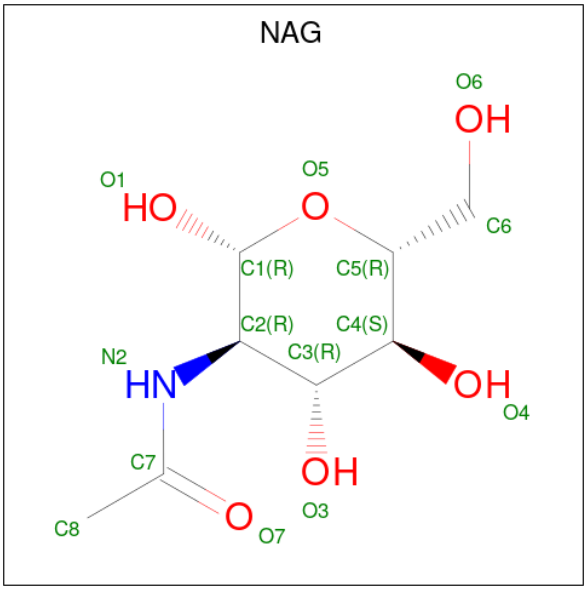


| Mol | Chain | Residues | Atoms | AltConf | Trace |
|---|---|---|---|---|---|
| 3 | F | 3 | Total C N O<br>39 22 2 15 | 0 | 0 |
| 3 | H | 3 | Total C N O<br>39 22 2 15 | 0 | 0 |
| 3 | J | 3 | Total C N O<br>39 22 2 15 | 0 | 0 |
| 3 | M | 3 | Total C N O<br>39 22 2 15 | 0 | 0 |

- Molecule 4 is an oligosaccharide called alpha-D-mannopyranose-(1-6)-beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.


| Mol | Chain | Residues | Atoms | AltConf | Trace |
|---|---|---|---|---|---|
| 4 | L | 4 | Total C N O<br>50 28 2 20 | 0 | 0 |

- Molecule 5 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: $C_8H_{15}NO_6$).




| Mol | Chain | Residues | Atoms | AltConf |
|---|---|---|---|---|
| 5 | A | 1 | Total C N O<br>14 8 1 5 | 0 |

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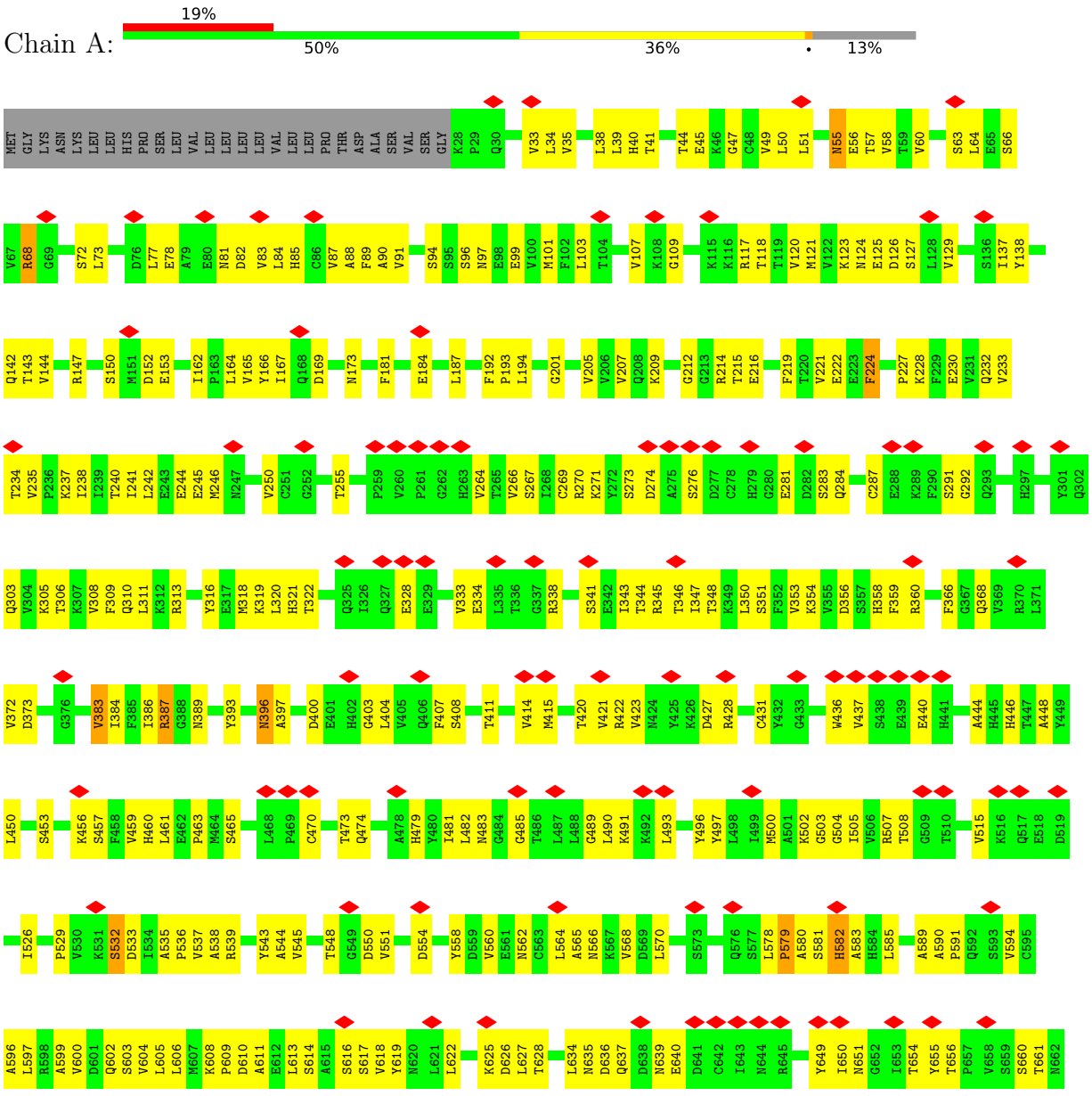
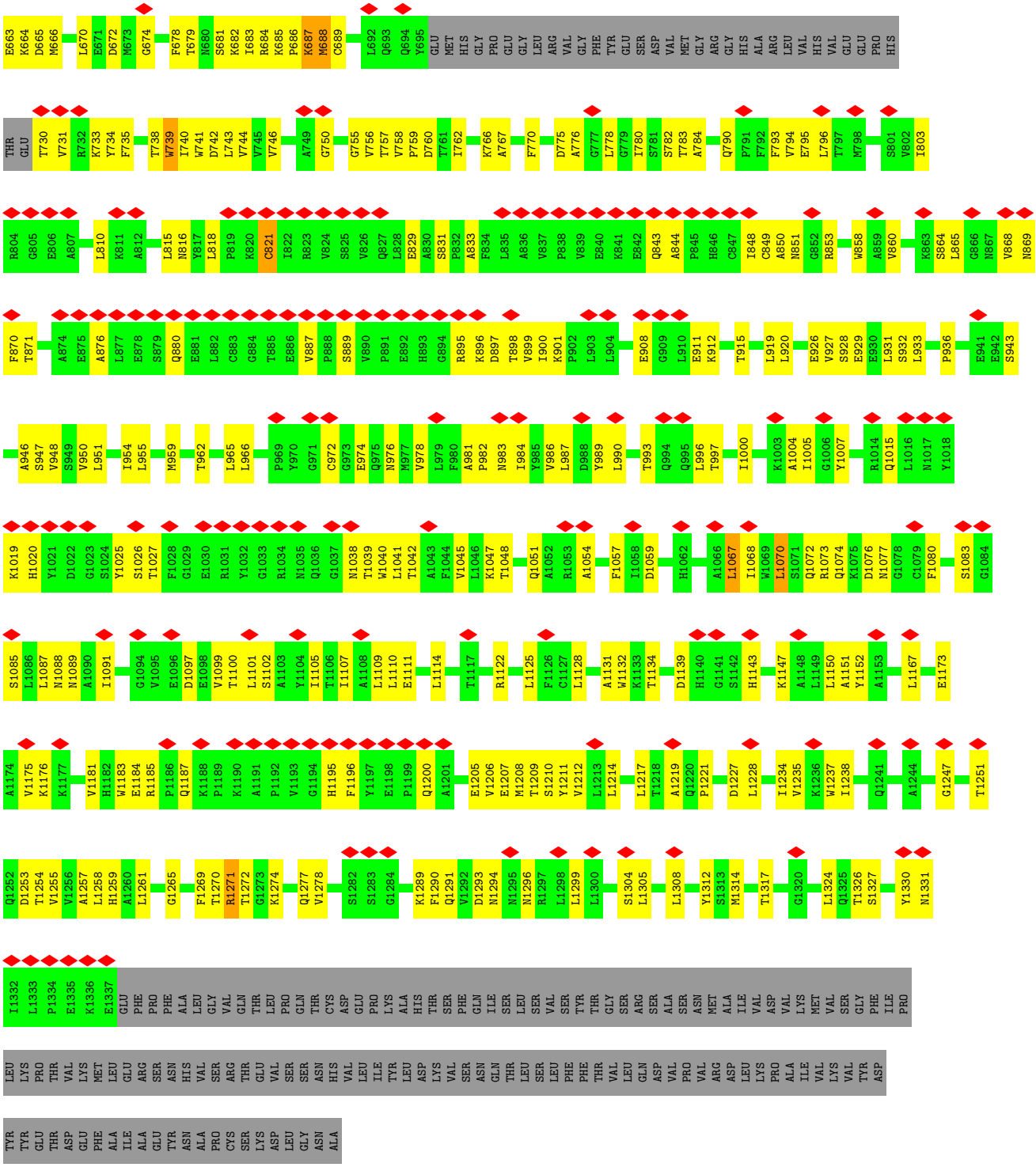
| Mol | Chain | Residues | Atoms | | | | AltConf |
|---|---|---|---|---|---|---|---|
| 5 | A | 1 | Total | C | N | O | 0 |
| | | | 14 | 8 | 1 | 5 | |
| 5 | A | 1 | Total | C | N | O | 0 |
| | | | 14 | 8 | 1 | 5 | |
| 5 | A | 1 | Total | C | N | O | 0 |
| | | | 14 | 8 | 1 | 5 | |
| 5 | A | 1 | Total | C | N | O | 0 |
| | | | 14 | 8 | 1 | 5 | |
| 5 | B | 1 | Total | C | N | O | 0 |
| | | | 14 | 8 | 1 | 5 | |
| 5 | B | 1 | Total | C | N | O | 0 |
| | | | 14 | 8 | 1 | 5 | |
| 5 | B | 1 | Total | C | N | O | 0 |
| | | | 14 | 8 | 1 | 5 | |
| 5 | B | 1 | Total | C | N | O | 0 |
| | | | 14 | 8 | 1 | 5 | |
| 5 | B | 1 | Total | C | N | O | 0 |
| | | | 14 | 8 | 1 | 5 | |
| 5 | C | 1 | Total | C | N | O | 0 |
| | | | 14 | 8 | 1 | 5 | |
| 5 | C | 1 | Total | C | N | O | 0 |
| | | | 14 | 8 | 1 | 5 | |
| 5 | C | 1 | Total | C | N | O | 0 |
| | | | 14 | 8 | 1 | 5 | |
| 5 | C | 1 | Total | C | N | O | 0 |
| | | | 14 | 8 | 1 | 5 | |
| 5 | C | 1 | Total | C | N | O | 0 |
| | | | 14 | 8 | 1 | 5 | |
| 5 | D | 1 | Total | C | N | O | 0 |
| | | | 14 | 8 | 1 | 5 | |
| 5 | D | 1 | Total | C | N | O | 0 |
| | | | 14 | 8 | 1 | 5 | |
| 5 | D | 1 | Total | C | N | O | 0 |
| | | | 14 | 8 | 1 | 5 | |
| 5 | D | 1 | Total | C | N | O | 0 |
| | | | 14 | 8 | 1 | 5 | |
| 5 | D | 1 | Total | C | N | O | 0 |
| | | | 14 | 8 | 1 | 5 | |

# 3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

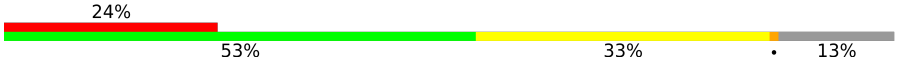
- Molecule 1: Alpha-2-macroglobulin

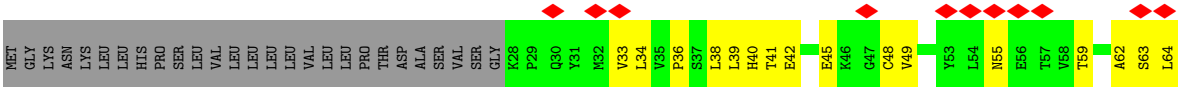


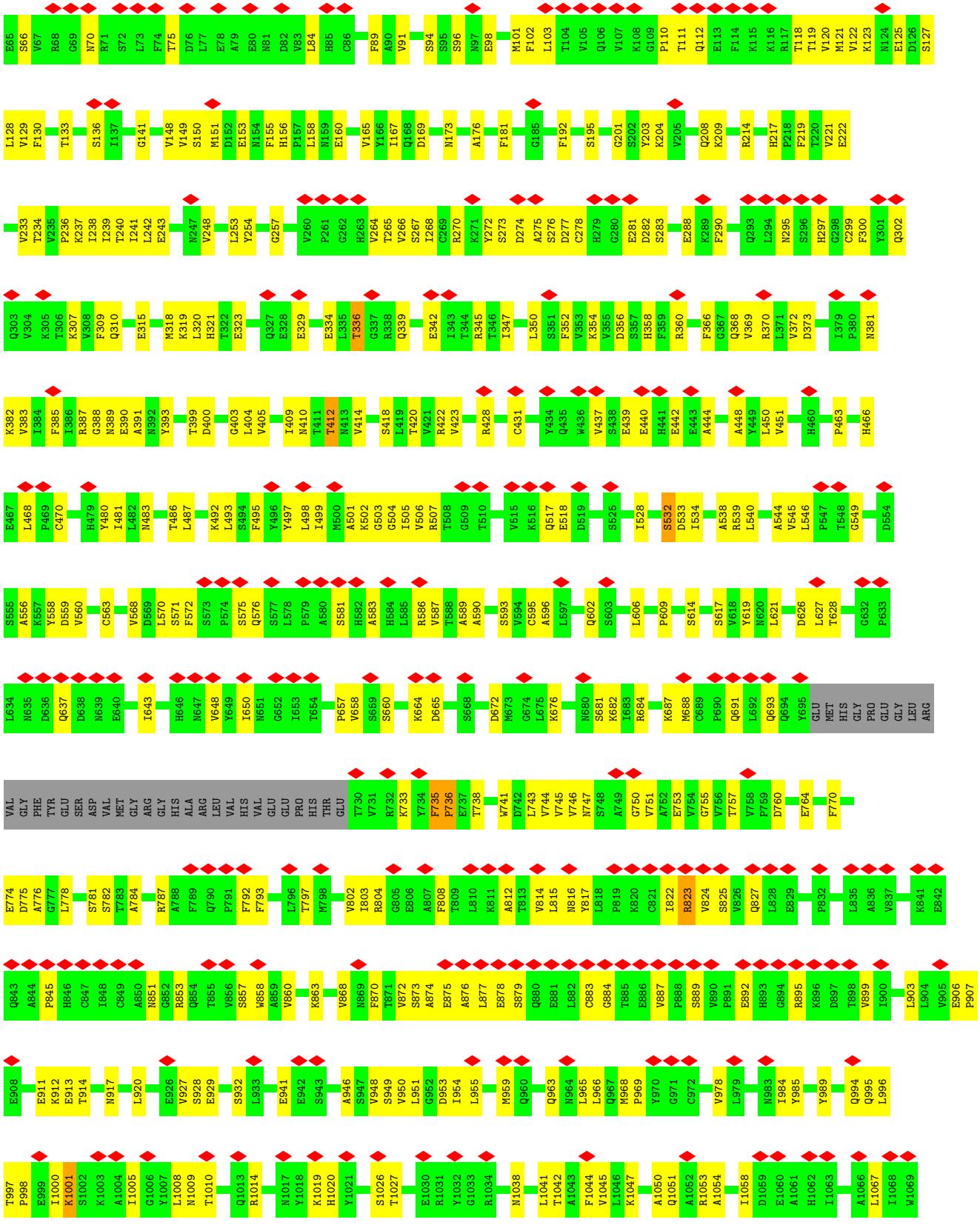


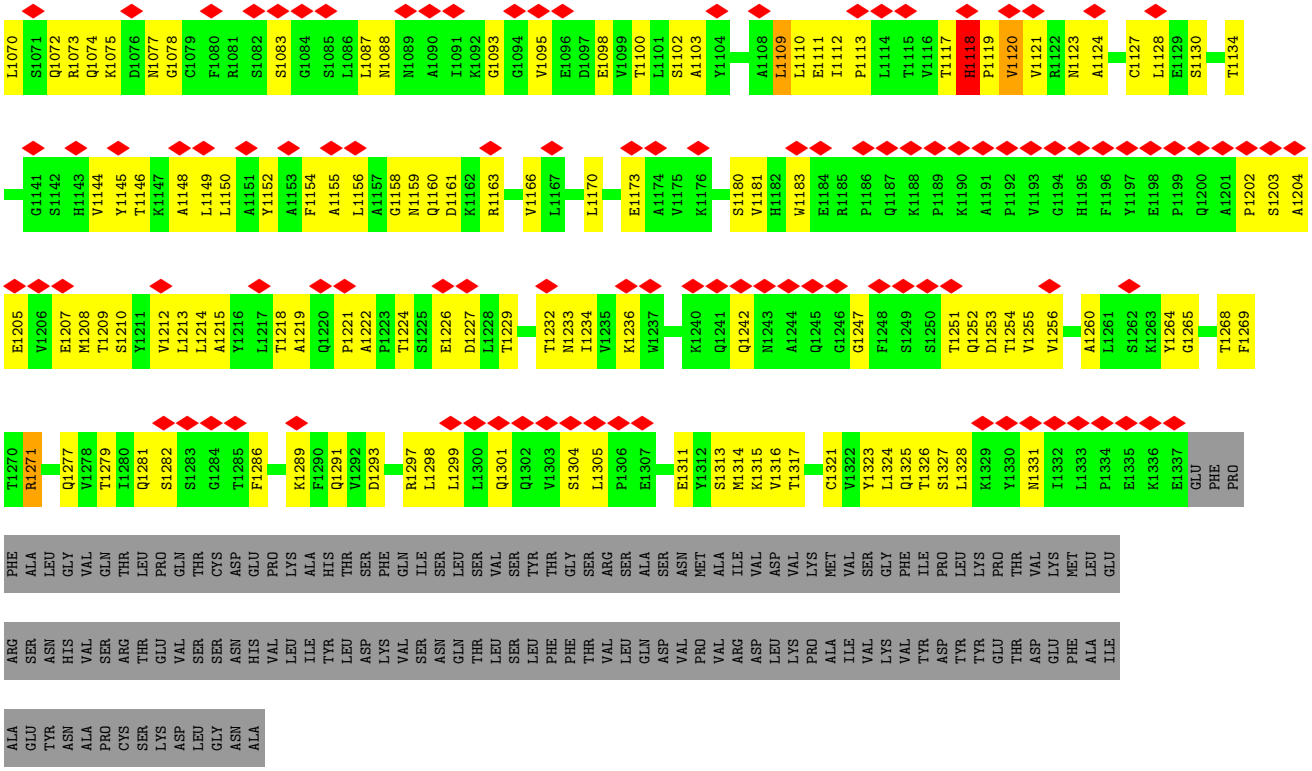
• Molecule 1: Alpha-2-macroglobulin

Chain B:



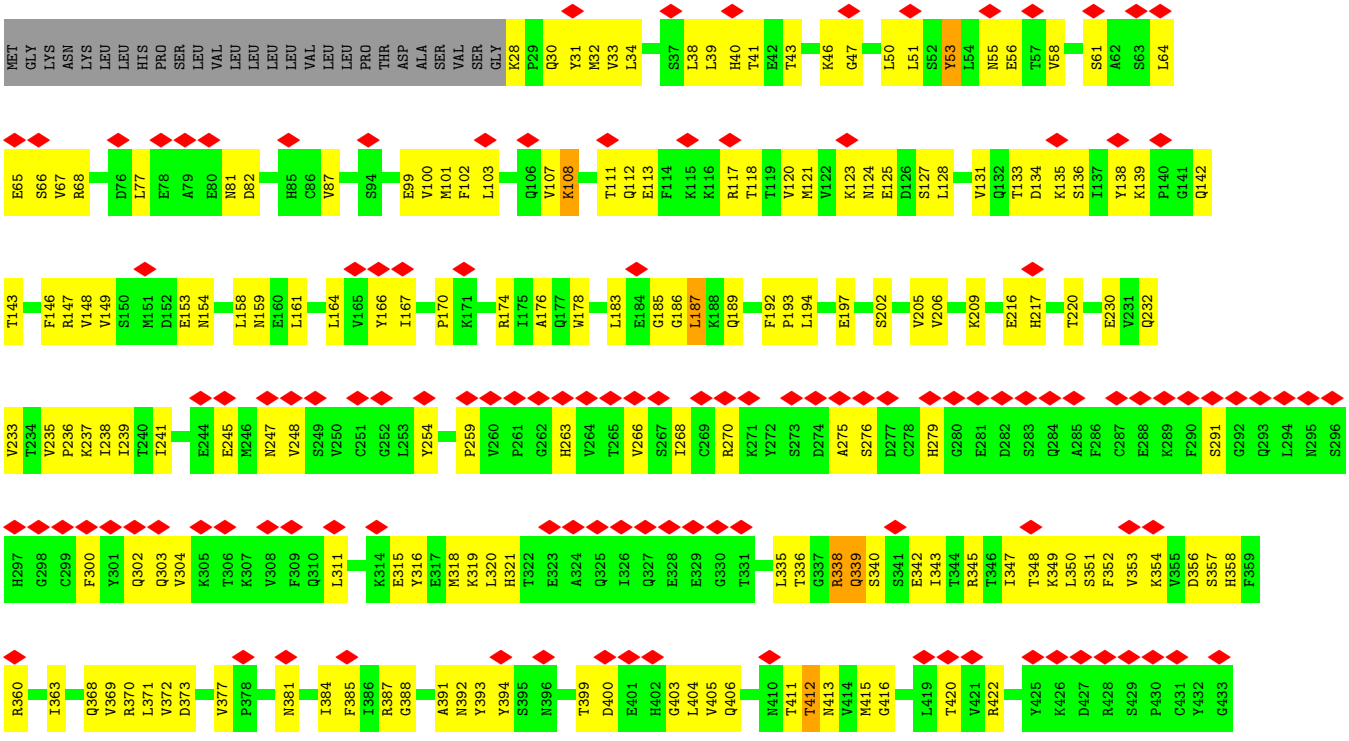



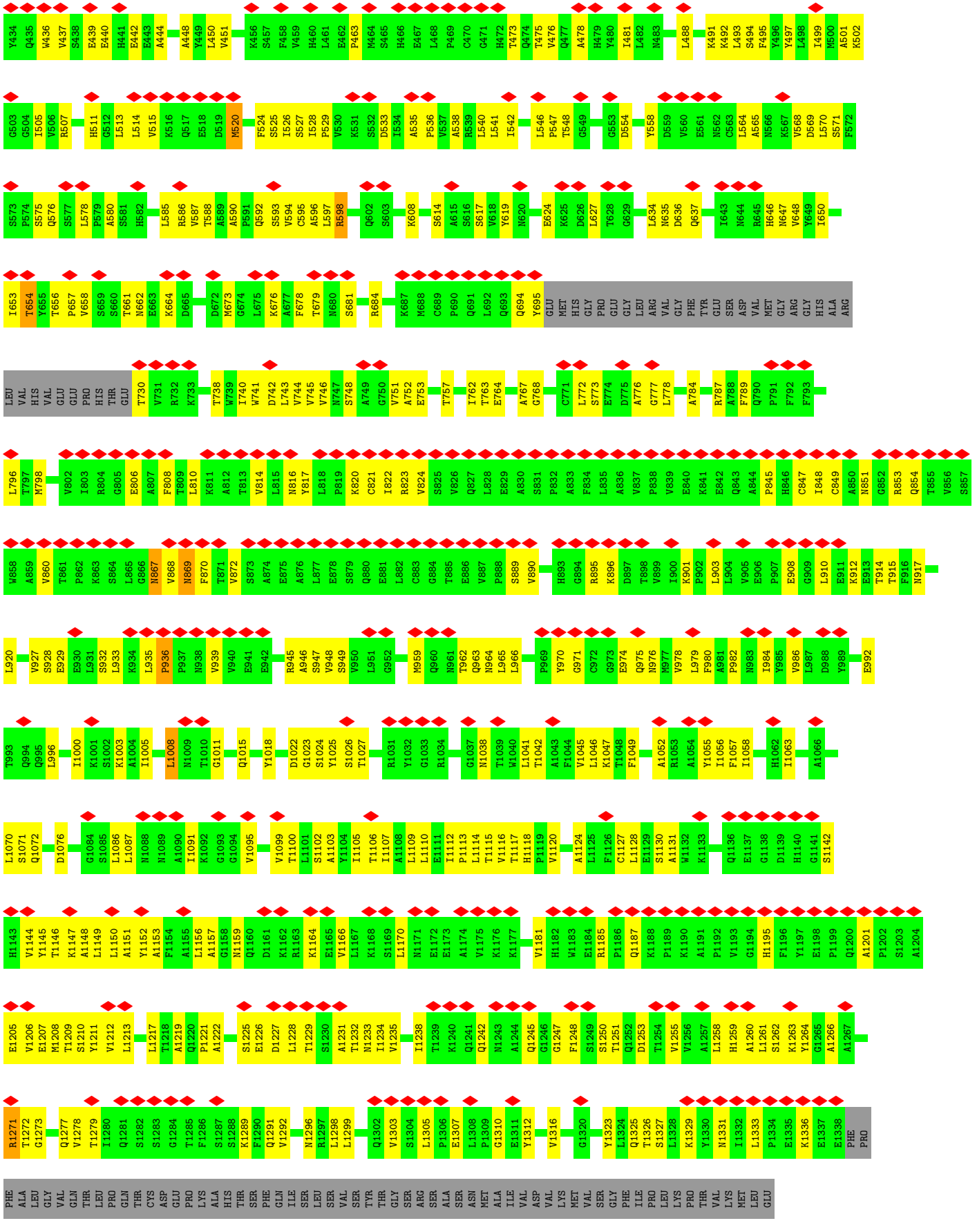

E65 S66 V67 R68 G69 N70 R71 S72 L73 F74 T75 D76 L77 E78 A79 E80 N81 D82 V83 L84 H85 C86 F89 A90 V91 S94 S95 S96 N97 E98 M101 F102 L103 T104 V105 Q106 V107 K108 G109 P110 T111 Q112 E113 F114 K115 K116 R117 T118 T119 V120 M121 V122 K123 N124 E125 D126 S127
L128 V129 F130 T133 S136 I137 G141 V148 V149 S150 M151 D152 E153 N154 F155 H156 F157 L158 N159 E160 V165 Y166 I167 Q168 D169 N173 A176 F181 G185 F192 S195 G201 S202 Y203 K204 V205 Q208 K209 R214 H217 P218 F219 T220 V221 E222
V233 T234 V235 P236 K237 I238 I239 T240 I241 L242 E243 N247 V248 L253 Y254 G257 V260 P261 G262 H263 V264 T265 V266 S267 I268 C269 R270 K271 Y272 S273 D274 A275 S276 D277 C278 H279 G280 E281 D282 S283 E288 K289 F290 Q293 L294 N295 S296 H297 G298 C299 F300 Y301 Q302
Q303 V304 K305 T306 K307 V308 F309 Q310 E315 M318 K319 L320 H321 T322 E323 Q327 E328 E329 E334 L335 T336 G337 R338 Q339 E342 I343 T344 R345 T346 I347 L350 S351 F352 V353 K354 V355 D356 S357 H358 F359 R360 F366 G367 Q368 V369 R370 L371 V372 D373 I379 P380 N381
K382 V383 I384 F385 I386 R387 G388 N389 E390 A391 N392 Y393 T399 D400 G403 L404 V405 I409 N410 T411 T412 N413 V414 S418 L419 T420 V421 R422 V423 R428 C431 Y434 Q435 W436 V437 S438 E439 E440 H441 E442 E443 A444 A448 Y449 L450 V451 H460 P463 H466
E467 L468 P469 C470 H479 Y480 I481 L482 N483 T486 L487 K492 L493 S494 F495 Y496 Y497 L498 I499 N500 A501 K502 G503 G504 I505 V506 R507 T508 G509 T510 V515 K516 Q517 E518 D519 S525 I528 S532 D533 I534 A538 R539 L540 A544 V545 L546 P547 T548 G549 D554
S555 A556 K557 Y558 D559 V560 C563 V568 D569 L570 S571 F572 S573 P574 S575 Q576 S577 L578 P579 A580 S581 H582 A583 H584 L585 R586 V587 T588 A589 A590 S593 V594 C595 A596 L597 Q602 S603 L606 P609 S614 S617 Y618 Y619 N620 L621 D626 L627 T628 G632 P633
L634 N635 D636 Q637 D638 N639 E640 I643 H646 N647 V648 Y649 I650 N651 G652 I653 T654 P657 V658 S659 S660 K664 D665 S668 D672 M673 G674 L675 K676 N680 S681 K682 I683 R684 K687 M688 C689 P690 Q691 L692 Q693 Q694 Y695 GLU MET HIS GLY PRO GLU GLY LEU ARG
VAL GLY PHE TYR GLU SER ASP VAL MET GLY ARG GLY HIS ALA ARG LEU VAL VAL HIS VAL GLU GLU PRO HIS THR GLU T730 V731 R732 K733 Y734 F735 P736 E737 T738 W741 D742 L743 V744 V745 V746 N747 S748 A749 G750 V751 A752 E753 V754 G755 V756 T757 V758 P759 D760 E764 F770
E774 D775 A776 G777 L778 S781 S782 T783 A784 R787 A788 F789 Q790 P791 F792 F793 L796 T797 M798 V802 I803 R804 G805 E806 A807 F808 T809 L810 K811 A812 T813 V814 L815 N816 Y817 L818 P819 K820 C821 I822 R823 V824 S825 V826 Q827 L828 E829 P832 L835 A836 V837 K841 E842
Q843 A844 P845 H846 C847 I848 C849 A850 N851 Q852 R853 Q854 T855 V856 S857 W858 A859 V860 K863 V868 N869 F870 T871 V872 S873 A874 E875 A876 L877 E878 S879 Q880 E881 L882 C883 G884 T885 E886 V887 P888 S889 V890 P891 E892 H893 G894 R895 K896 D897 T898 V899 I900 L903 L904 V905 E906 P907
E908 E911 K912 E913 T914 N917 L920 E926 V927 S928 E929 S932 L933 E941 E942 S943 A946 S947 V948 S949 V960 L951 G952 D953 I954 L955 M959 Q960 Q963 N964 L965 L966 Q967 M968 P969 Y970 G971 C972 V978 L979 N983 I984 Y985 Y989 Q994 Q995 L996
T997 P998 E999 I1000 K1001 S1002 K1003 A1004 I1005 G1006 Y1007 L1008 N1009 T1010 Q1013 R1014 N1017 Y1018 K1019 H1020 Y1021 S1026 T1027 E1030 R1031 Y1032 G1033 R1034 N1038 L1041 T1042 A1043 F1044 V1045 L1046 K1047 A1050 Q1051 A1052 R1053 A1054 I1058 D1059 E1060 A1061 H1062 I1063 A1066 I1067 I1068 W1069



• Molecule 1: Alpha-2-macroglobulin

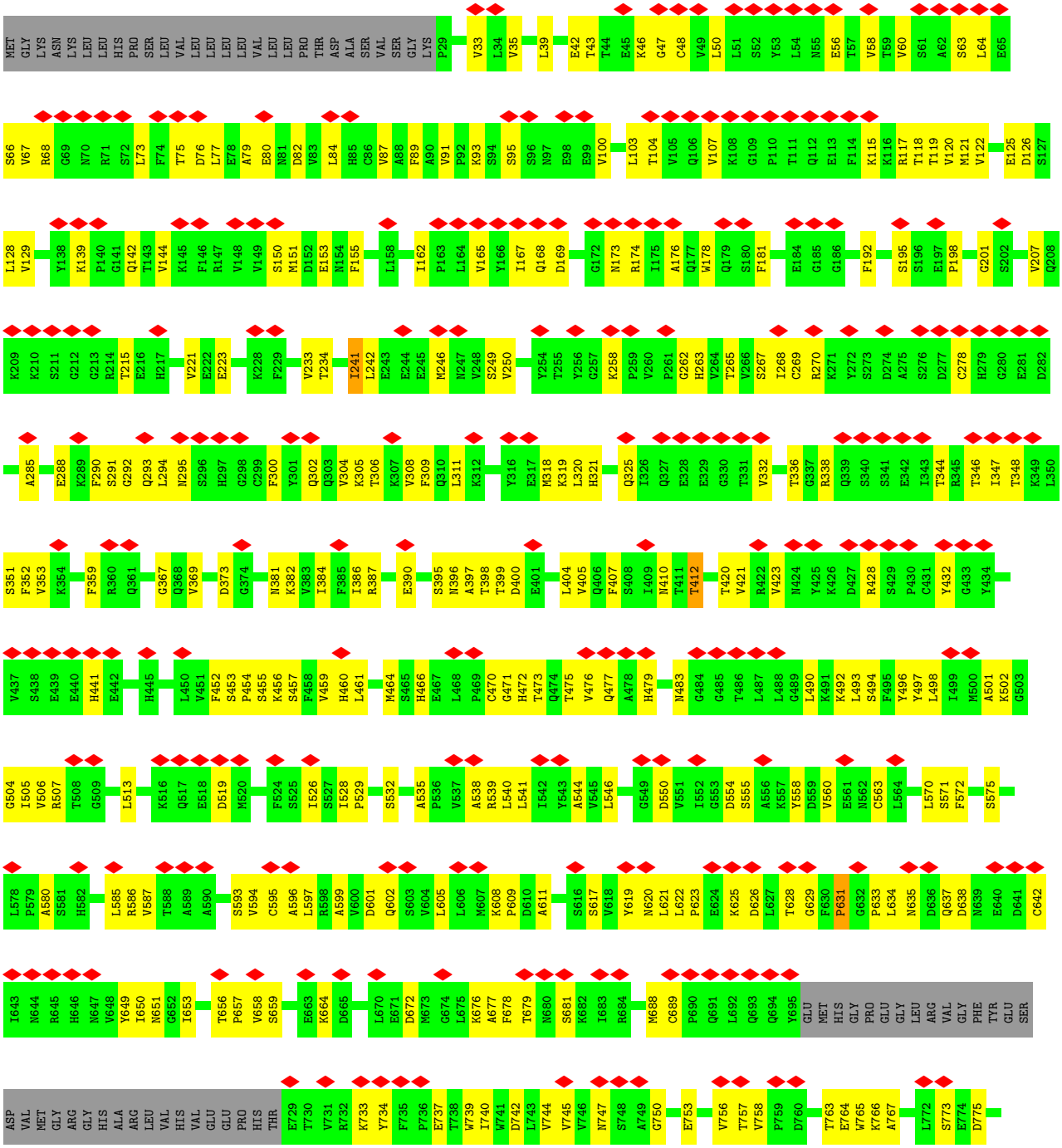
Chain C:

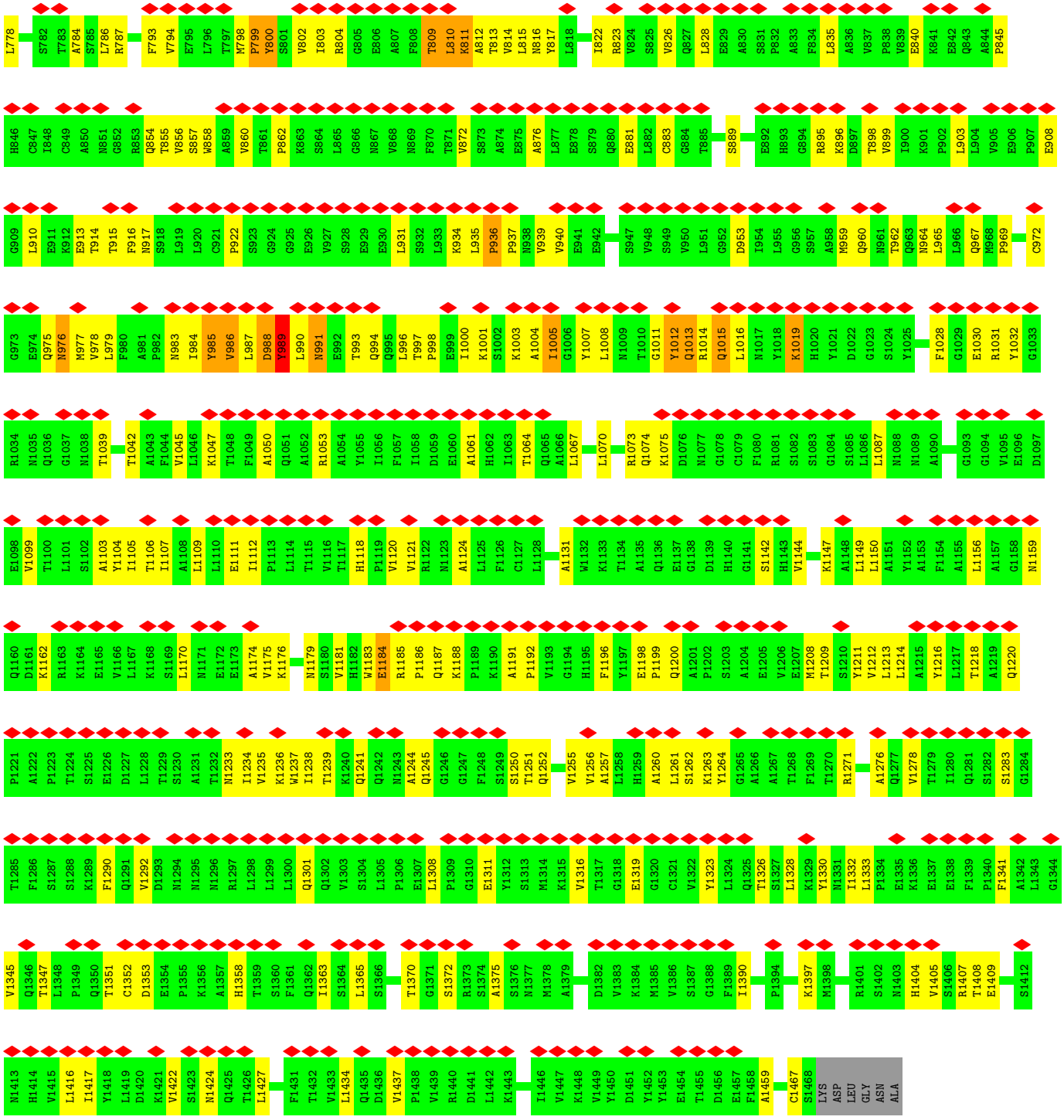




Y434 Q435 W436 V437 S438 E439 E440 H441 E442 E443 A444 A448 Y449 L450 V451 K456 S457 F458 V459 H460 L461 E462 P463 M464 S465 H466 E467 L468 P469 C470 G471 H472 T473 Q474 T475 V476 Q477 A478 H479 Y480 I481 L482 N483 L488 K491 K492 L493 S494 F495 Y496 Y497 L498 I499 M500 A501 K502
G503 G504 I505 V506 R507 H511 G512 L513 L514 V515 K516 Q517 E518 D519 M520 F524 S525 I526 S527 I528 P529 V530 K531 S532 D533 I534 A535 P536 V537 A538 R539 L540 L541 I542 L546 P547 T548 G549 G553 D554 Y558 D559 V560 E561 N562 C563 L564 A565 N566 K567 V568 D569 L570 S571 F572
S573 P574 S575 Q576 S577 L578 P579 A580 S581 H582 L585 R586 V587 T588 A589 A590 P591 Q592 S593 V594 C595 A596 L597 R598 Q602 Q603 K608 S614 A615 S616 S617 V618 Y619 N620 E624 K625 D626 L627 T628 G629 L634 N635 D636 Q637 I643 N644 R645 H646 N647 V648 Y649 I650
I653 T654 Y655 T656 P657 V658 S659 S660 T661 N662 E663 K664 D665 D672 M673 G674 L675 K676 A677 F678 T679 N680 S681 R684 K687 M688 C689 P690 Q691 L692 Q693 Q694 Y695 GLU MET HIS GLY PRO GLU GLY LEU ARG VAL GLY PHE TYR GLU SER ASP VAL MET GLY ARG GLY HIS ALA ARG
LEU VAL HIS VAL GLU GLU PRO HIS THR GLU T730 V731 R732 K733 T738 W739 I740 W741 D742 L743 V744 V745 V746 N747 S748 A749 G750 V751 A752 E753 T757 I762 T763 E764 A767 G768 C771 L772 S773 E774 D775 A776 G777 L778 A784 R787 A788 F789 Q790 P791 F792 F793
L796 T797 W798 V802 I803 R804 G805 E806 A807 F808 T809 L810 K811 A812 T813 V814 L815 N816 Y817 L818 P819 K820 C821 I822 R823 V824 S825 V826 Q827 L828 E829 A830 S831 P832 A833 F834 L835 A836 V837 P838 V839 E840 K841 E842 Q843 A844 P845 H846 C847 I848 C849 A850 N851 G852 R853 Q854 T855 V856 S857
W858 A859 V860 T861 P862 K863 S864 L865 G866 N867 V868 N869 F870 T871 V872 S873 A874 E875 A876 L877 E878 S879 Q880 E881 L882 C883 G884 T885 E886 V887 P888 S889 V890 H893 G894 R895 K896 D897 T898 V899 I900 K901 P902 L903 L904 V905 E906 P907 E908 G909 L910 E911 K912 E913 T914 T915 F916 N917
L920 V927 S928 E929 E930 L931 S932 L933 K934 L935 P936 P937 N938 V939 V940 E941 E942 R945 A946 S947 V948 S949 V950 L951 G952 M959 Q960 N961 T962 Q963 N964 L965 L966 P969 Y970 G971 C972 G973 E974 Q975 N976 N977 V978 L979 F980 A981 P982 N983 I984 Y985 V986 L987 D988 Y989 E992
T993 Q994 Q995 L996 I1000 K1001 S1002 K1003 A1004 I1005 L1008 N1009 T1010 G1011 Q1015 Y1018 D1022 G1023 S1024 Y1025 S1026 T1027 R1031 Y1032 G1033 R1034 G1037 N1038 T1039 W1040 L1041 T1042 A1043 F1044 V1045 L1046 K1047 T1048 F1049 A1052 R1053 A1054 Y1055 I1056 F1057 I1058 H1062 I1063 A1066
L1070 S1071 Q1072 D1076 G1084 S1085 L1086 L1087 N1088 N1089 A1090 I1091 K1092 G1093 G1094 V1095 V1099 T1100 L1101 S1102 A1103 Y1104 I1105 T1106 I1107 A1108 L1109 L1110 E1111 I1112 P1113 L1114 T1115 V1116 T1117 H1118 P1119 V1120 A1124 L1125 F1126 C1127 L1128 E1129 S1130 A1131 W1132 K1133 Q1136 E1137 G1138 D1139 H1140 G1141 S1142
H1143 V1144 Y1145 T1146 K1147 A1148 L1149 L1150 A1151 Y1152 A1153 F1154 A1155 L1156 A1157 G1158 N1159 Q1160 D1161 K1162 R1163 K1164 E1165 V1166 L1167 K1168 S1169 L1170 N1171 E1172 E1173 A1174 V1175 K1176 K1177 V1181 H1182 W1183 E1184 R1185 P1186 Q1187 K1188 P1189 K1190 A1191 P1192 V1193 G1194 H1195 F1196 Y1197 E1198 P1199 Q1200 A1201 P1202 S1203 A1204
E1205 V1206 E1207 M1208 T1209 S1210 Y1211 V1212 L1213 L1217 T1218 A1219 Q1220 P1221 A1222 S1225 E1226 D1227 L1228 T1229 S1230 A1231 T1232 N1233 I1234 V1235 I1238 T1239 K1240 Q1241 Q1242 N1243 A1244 Q1245 G1246 G1247 F1248 S1249 S1250 T1251 Q1252 D1253 T1254 V1255 V1256 A1257 L1258 H1259 A1260 L1261 S1262 K1263 Y1264 G1265 A1266 A1267
R1271 T1272 G1273 Q1277 V1278 T1279 I1280 Q1281 S1282 S1283 G1284 T1285 F1286 S1287 S1288 K1289 F1290 Q1291 V1292 N1296 R1297 L1298 L1299 Q1302 V1303 S1304 L1305 P1306 E1307 L1308 P1309 G1310 E1311 Y1312 V1316 G1320 Y1323 L1324 Q1325 T1326 S1327 L1328 K1329 Y1330 N1331 I1332 L1333 P1334 E1335 K1336 E1337 E1338 PHE PRO
PHE ALA LEU GLY VAL GLN THR LEU PRO GLN THR CYS ASP GLU PRO LYS ALA HIS THR SER PHE GLN ILE SER LEU SER VAL SER TYR THR GLY SER ARG SER ALA SER ASN MET ALA ILE VAL ASP VAL LYS MET VAL SER GLY PHE ILE PRO LEU LYS PRO THR VAL LYS MET LEU GLU


• Molecule 1: Alpha-2-macroglobulin

Chain D:

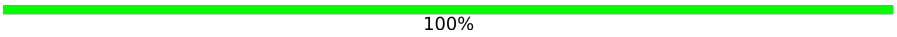






• Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose


• Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain G:





• Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain I:



• Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain K:



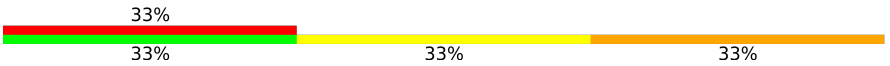
• Molecule 3: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain F:



• Molecule 3: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain H:





• Molecule 3: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain J:

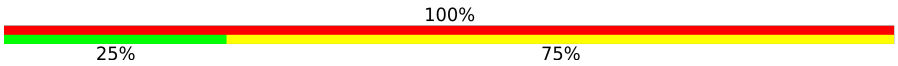

• Molecule 3: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

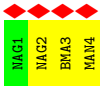
Chain M:



• Molecule 4: alpha-D-mannopyranose-(1-6)-beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain L:



# 4 Experimental information (i)

| Property | Value | Source |
|---|---|---|
| EM reconstruction method | SINGLE PARTICLE | Depositor |
| Imposed symmetry | POINT, C1 | Depositor |
| Number of particles used | 466082 | Depositor |
| Resolution determination method | FSC 0.143 CUT-OFF | Depositor |
| CTF correction method | NONE | Depositor |
| Microscope | FEI TITAN KRIOS | Depositor |
| Voltage (kV) | 300 | Depositor |
| Electron dose ($e^-/Å^2$) | 38.7 | Depositor |
| Minimum defocus (nm) | 1300 | Depositor |
| Maximum defocus (nm) | 3700 | Depositor |
| Magnification | 130000 | Depositor |
| Image detector | GATAN K2 SUMMIT (4k x 4k) | Depositor |
| Maximum map value | 0.104 | Depositor |
| Minimum map value | -0.003 | Depositor |
| Average map value | -0.000 | Depositor |
| Map value standard deviation | 0.003 | Depositor |
| Recommended contour level | 0.013 | Depositor |
| Map size (Å) | 336.64, 336.64, 336.64 | wwPDB |
| Map dimensions | 320, 320, 320 | wwPDB |
| Map angles (°) | 90.0, 90.0, 90.0 | wwPDB |
| Pixel spacing (Å) | 1.052, 1.052, 1.052 | Depositor |

# 5 Model quality

## 5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: BMA, MAN, NAG

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 | 0.49 | 0/10179 | 0.74 | 4/13829 (0.0%) |
| 1 | B | 0.42 | 0/10179 | 0.71 | 5/13829 (0.0%) |
| 1 | C | 0.46 | 0/10188 | 0.74 | 5/13841 (0.0%) |
| 1 | D | 0.39 | 0/11230 | 0.67 | 1/15261 (0.0%) |
| All | All | 0.44 | 0/41776 | 0.71 | 15/56760 (0.0%) |

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

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|---|---|---|---|
| 1 | D | 0 | 1 |

There are no bond length outliers.

All (15) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | B | 1120 | VAL | CG1-CB-CG2 | 7.29 | 122.56 | 110.90 |
| 1 | B | 1120 | VAL | CA-CB-CG2 | 7.28 | 121.82 | 110.90 |
| 1 | D | 989 | TYR | CB-CA-C | -6.94 | 96.52 | 110.40 |
| 1 | A | 1070 | LEU | CA-CB-CG | 6.74 | 130.80 | 115.30 |
| 1 | C | 598 | ARG | NE-CZ-NH1 | 6.25 | 123.42 | 120.30 |
| 1 | B | 277 | ASP | CB-CG-OD1 | 6.15 | 123.83 | 118.30 |
| 1 | B | 1067 | LEU | CA-CB-CG | 5.95 | 129.00 | 115.30 |
| 1 | B | 1109 | LEU | CA-CB-CG | 5.92 | 128.92 | 115.30 |
| 1 | A | 796 | LEU | CA-CB-CG | 5.89 | 128.84 | 115.30 |
| 1 | A | 68 | ARG | NE-CZ-NH1 | 5.82 | 123.21 | 120.30 |
| 1 | A | 1067 | LEU | CA-CB-CG | 5.66 | 128.32 | 115.30 |
| 1 | C | 1008 | LEU | CA-CB-CG | 5.54 | 128.05 | 115.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | C | 128 | LEU | CA-CB-CG | 5.22 | 127.31 | 115.30 |
| 1 | C | 187 | LEU | CA-CB-CG | 5.15 | 127.15 | 115.30 |
| 1 | C | 488 | LEU | CA-CB-CG | 5.13 | 127.09 | 115.30 |

There are no chirality outliers.

All (1) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 1 | D | 985 | TYR | Mainchain |

## 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 | 9958 | 0 | 9859 | 452 | 0 |
| 1 | B | 9958 | 0 | 9859 | 413 | 0 |
| 1 | C | 9967 | 0 | 9865 | 436 | 0 |
| 1 | D | 10985 | 0 | 10870 | 439 | 0 |
| 2 | E | 28 | 0 | 25 | 0 | 0 |
| 2 | G | 28 | 0 | 25 | 0 | 0 |
| 2 | I | 28 | 0 | 25 | 1 | 0 |
| 2 | K | 28 | 0 | 25 | 0 | 0 |
| 3 | F | 39 | 0 | 34 | 0 | 0 |
| 3 | H | 39 | 0 | 34 | 3 | 0 |
| 3 | J | 39 | 0 | 34 | 1 | 0 |
| 3 | M | 39 | 0 | 34 | 2 | 0 |
| 4 | L | 50 | 0 | 43 | 2 | 0 |
| 5 | A | 70 | 0 | 65 | 2 | 0 |
| 5 | B | 70 | 0 | 65 | 3 | 0 |
| 5 | C | 70 | 0 | 65 | 11 | 0 |
| 5 | D | 70 | 0 | 65 | 1 | 0 |
| All | All | 41466 | 0 | 40992 | 1717 | 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 21.

All (1717) 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:B:1118:HIS:ND1 | 1:B:1119:PRO:HD2 | 1.49 | 1.26 |
| 1:B:1118:HIS:HB2 | 1:B:1119:PRO:HD3 | 1.24 | 1.11 |
| 1:B:1118:HIS:ND1 | 1:B:1119:PRO:CD | 2.20 | 1.03 |
| 1:B:101:MET:HG3 | 1:B:122:VAL:HG13 | 1.36 | 1.03 |
| 1:B:1118:HIS:CB | 1:B:1119:PRO:HD3 | 1.90 | 1.01 |
| 1:D:989:TYR:HA | 1:D:1262:SER:HB3 | 1.41 | 1.01 |
| 3:H:2:NAG:H3 | 3:H:2:NAG:H83 | 1.42 | 0.99 |
| 1:D:1185:ARG:HB3 | 1:D:1186:PRO:HD2 | 1.47 | 0.96 |
| 1:B:39:LEU:HB2 | 1:B:122:VAL:HG12 | 1.49 | 0.93 |
| 1:D:914:THR:HG21 | 1:D:935:LEU:HD22 | 1.49 | 0.93 |
| 1:B:950:VAL:HG13 | 1:B:1324:LEU:HD11 | 1.51 | 0.92 |
| 1:A:954:ILE:HD11 | 1:A:993:THR:HG22 | 1.51 | 0.90 |
| 1:D:1013:GLN:HA | 1:D:1013:GLN:HE21 | 1.38 | 0.89 |
| 1:A:387:ARG:HB2 | 1:A:420:THR:HG23 | 1.54 | 0.89 |
| 1:A:1181:VAL:HG23 | 1:A:1234:ILE:HG23 | 1.56 | 0.87 |
| 1:D:990:LEU:HG | 1:D:998:PRO:HB3 | 1.57 | 0.86 |
| 1:C:136:SER:HB2 | 1:C:608:LYS:HD3 | 1.54 | 0.86 |
| 1:B:1118:HIS:HB2 | 1:B:1119:PRO:CD | 2.05 | 0.85 |
| 1:D:1175:VAL:HG21 | 1:D:1186:PRO:HD3 | 1.56 | 0.85 |
| 1:C:254:TYR:O | 1:C:787:ARG:NH2 | 2.11 | 0.84 |
| 1:D:1000:ILE:HG23 | 1:D:1001:LYS:HD2 | 1.60 | 0.84 |
| 1:C:1047:LYS:NZ | 1:C:1211:TYR:OH | 2.10 | 0.84 |
| 1:B:1118:HIS:CB | 1:B:1119:PRO:CD | 2.56 | 0.84 |
| 1:C:108:LYS:HE2 | 1:C:108:LYS:HA | 1.59 | 0.83 |
| 1:B:153:GLU:O | 1:B:502:LYS:NZ | 2.11 | 0.83 |
| 1:B:62:ALA:HB1 | 1:B:103:LEU:HD11 | 1.59 | 0.83 |
| 1:C:394:TYR:O | 5:C:2004:NAG:O6 | 1.97 | 0.82 |
| 1:C:1152:TYR:OH | 1:C:1263:LYS:NZ | 2.13 | 0.82 |
| 1:C:637:GLN:O | 1:C:684:ARG:NH2 | 2.13 | 0.81 |
| 1:A:153:GLU:O | 1:A:502:LYS:NZ | 2.11 | 0.81 |
| 1:C:39:LEU:HD12 | 1:C:120:VAL:HG11 | 1.62 | 0.81 |
| 1:A:581:SER:O | 1:A:756:VAL:HA | 1.81 | 0.80 |
| 1:D:597:LEU:HD11 | 1:D:744:VAL:HG13 | 1.61 | 0.80 |
| 1:A:1067:LEU:HD12 | 1:A:1070:LEU:HD12 | 1.62 | 0.79 |
| 1:B:1103:ALA:HB3 | 1:B:1149:LEU:HD23 | 1.62 | 0.79 |
| 1:C:135:LYS:NZ | 1:C:738:THR:OG1 | 2.15 | 0.79 |
| 1:B:45:GLU:N | 1:B:89:PHE:O | 2.16 | 0.79 |
| 1:B:354:LYS:NZ | 1:B:463:PRO:O | 2.15 | 0.79 |
| 1:D:507:ARG:NH2 | 1:D:529:PRO:O | 2.17 | 0.78 |
| 1:C:576:GLN:NE2 | 1:C:580:ALA:O | 2.17 | 0.78 |
| 1:A:420:THR:OG1 | 1:A:422:ARG:NH1 | 2.17 | 0.78 |
| 1:B:912:LYS:NZ | 1:B:913:GLU:O | 2.17 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C:571:SER:N | 1:C:586:ARG:O | 2.16 | 0.78 |
| 1:A:507:ARG:NH1 | 1:A:529:PRO:O | 2.16 | 0.78 |
| 1:C:394:TYR:HD2 | 5:C:2004:NAG:C6 | 1.96 | 0.78 |
| 1:B:350:LEU:N | 1:B:442:GLU:OE1 | 2.17 | 0.77 |
| 1:A:1038:ASN:ND2 | 1:A:1083:SER:O | 2.18 | 0.77 |
| 1:C:394:TYR:HD2 | 5:C:2004:NAG:O6 | 1.67 | 0.77 |
| 1:A:1122:ARG:NH1 | 1:C:65:GLU:OE1 | 2.18 | 0.77 |
| 1:C:319:LYS:NZ | 1:C:340:SER:OG | 2.13 | 0.77 |
| 1:B:1118:HIS:CG | 1:B:1119:PRO:HD3 | 2.20 | 0.77 |
| 1:A:1278:VAL:O | 1:A:1289:LYS:NZ | 2.18 | 0.76 |
| 1:D:1179:ASN:ND2 | 1:D:1233:ASN:O | 2.18 | 0.76 |
| 1:A:73:LEU:HD12 | 1:A:91:VAL:HG22 | 1.66 | 0.76 |
| 1:D:457:SER:OG | 1:D:483:ASN:OD1 | 2.01 | 0.76 |
| 1:B:1077:ASN:O | 1:D:117:ARG:N | 2.19 | 0.76 |
| 1:A:539:ARG:NH1 | 1:A:672:ASP:O | 2.18 | 0.76 |
| 1:B:966:LEU:HD13 | 1:B:1000:ILE:HD11 | 1.67 | 0.76 |
| 1:C:392:ASN:OD1 | 1:C:413:ASN:ND2 | 2.19 | 0.76 |
| 1:A:232:GLN:OE1 | 1:A:338:ARG:NH1 | 2.18 | 0.75 |
| 1:A:1070:LEU:HD11 | 1:A:1109:LEU:HD21 | 1.68 | 0.75 |
| 1:C:507:ARG:NH1 | 1:C:529:PRO:O | 2.19 | 0.75 |
| 1:C:590:ALA:O | 1:C:593:SER:OG | 2.01 | 0.75 |
| 1:B:1111:GLU:OE2 | 1:B:1152:TYR:OH | 2.04 | 0.75 |
| 1:C:64:LEU:HD13 | 1:C:103:LEU:HD13 | 1.68 | 0.75 |
| 1:B:1299:LEU:O | 1:B:1301:GLN:NE2 | 2.20 | 0.75 |
| 1:C:624:GLU:HB3 | 1:C:627:LEU:HD12 | 1.69 | 0.75 |
| 1:B:1072:GLN:OE1 | 1:D:635:ASN:N | 2.19 | 0.75 |
| 1:C:915:THR:OG1 | 1:C:1326:THR:O | 2.05 | 0.75 |
| 1:D:953:ASP:O | 1:D:1264:TYR:OH | 2.05 | 0.75 |
| 1:A:147:ARG:NH2 | 1:A:742:ASP:O | 2.20 | 0.74 |
| 1:B:1118:HIS:CG | 1:B:1119:PRO:CD | 2.70 | 0.74 |
| 1:D:1179:ASN:ND2 | 1:D:1233:ASN:OD1 | 2.20 | 0.74 |
| 1:B:816:ASN:O | 1:B:851:ASN:N | 2.20 | 0.74 |
| 1:B:637:GLN:OE1 | 1:B:684:ARG:NH1 | 2.20 | 0.74 |
| 1:D:493:LEU:HD21 | 1:D:544:ALA:HB1 | 1.68 | 0.74 |
| 1:D:626:ASP:OD1 | 1:D:628:THR:OG1 | 2.06 | 0.74 |
| 1:B:94:SER:OG | 1:B:96:SER:O | 2.06 | 0.73 |
| 1:A:313:ARG:N | 1:B:274:ASP:OD2 | 2.20 | 0.73 |
| 1:C:46:LYS:NZ | 1:C:533:ASP:OD2 | 2.21 | 0.73 |
| 1:D:267:SER:OG | 1:D:269:CYS:SG | 2.46 | 0.73 |
| 1:C:101:MET:O | 1:C:120:VAL:N | 2.21 | 0.73 |
| 1:A:1272:THR:O | 1:A:1274:LYS:NZ | 2.21 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C:66:SER:OG | 1:C:100:VAL:O | 2.06 | 0.73 |
| 1:D:501:ALA:N | 1:D:504:GLY:O | 2.21 | 0.73 |
| 1:D:978:VAL:O | 1:D:1252:GLN:NE2 | 2.21 | 0.73 |
| 1:D:1283:SER:N | 1:D:1311:GLU:OE2 | 2.21 | 0.73 |
| 1:A:96:SER:O | 1:A:124:ASN:ND2 | 2.21 | 0.73 |
| 1:B:1072:GLN:O | 1:B:1074:GLN:N | 2.22 | 0.73 |
| 1:A:926:GLU:OE2 | 1:A:928:SER:OG | 2.03 | 0.73 |
| 1:C:986:VAL:HG22 | 1:C:1258:LEU:HD13 | 1.69 | 0.73 |
| 1:A:356:ASP:O | 1:A:446:HIS:NE2 | 2.22 | 0.73 |
| 1:A:978:VAL:HG13 | 1:A:1251:THR:HG21 | 1.71 | 0.72 |
| 1:A:829:GLU:O | 1:A:871:THR:OG1 | 2.08 | 0.72 |
| 1:A:1005:ILE:HD13 | 1:C:1057:PHE:CE1 | 2.24 | 0.72 |
| 1:B:169:ASP:N | 1:B:173:ASN:O | 2.22 | 0.72 |
| 1:B:276:SER:OG | 1:B:278:CYS:O | 2.05 | 0.72 |
| 1:C:847:CYS:N | 1:C:854:GLN:OE1 | 2.21 | 0.72 |
| 1:B:955:LEU:HB2 | 1:B:1298:LEU:HD13 | 1.72 | 0.72 |
| 1:D:622:LEU:O | 1:D:625:LYS:NZ | 2.17 | 0.72 |
| 1:B:101:MET:O | 1:B:120:VAL:N | 2.23 | 0.72 |
| 1:A:1235:VAL:HG22 | 1:A:1261:LEU:HD23 | 1.71 | 0.71 |
| 1:C:259:PRO:O | 1:C:817:TYR:OH | 2.08 | 0.71 |
| 1:A:45:GLU:N | 1:A:89:PHE:O | 2.23 | 0.71 |
| 1:A:581:SER:HB2 | 1:A:756:VAL:HG13 | 1.72 | 0.71 |
| 1:A:1099:VAL:O | 1:A:1102:SER:OG | 2.06 | 0.71 |
| 1:B:321:HIS:ND1 | 1:B:334:GLU:OE2 | 2.24 | 0.71 |
| 1:B:1075:LYS:O | 1:D:118:THR:OG1 | 2.06 | 0.71 |
| 1:C:1100:THR:HG22 | 1:C:1149:LEU:HD23 | 1.71 | 0.71 |
| 1:D:201:GLY:N | 1:D:221:VAL:O | 2.23 | 0.71 |
| 1:B:1098:GLU:O | 1:B:1102:SER:OG | 2.07 | 0.71 |
| 1:C:635:ASN:OD1 | 1:C:636:ASP:N | 2.23 | 0.71 |
| 1:C:415:MET:SD | 1:C:416:GLY:N | 2.64 | 0.71 |
| 1:D:139:LYS:NZ | 1:D:142:GLN:OE1 | 2.22 | 0.71 |
| 1:B:1277:GLN:N | 1:B:1317:THR:O | 2.24 | 0.71 |
| 1:D:594:VAL:HG12 | 1:D:745:VAL:HG22 | 1.73 | 0.71 |
| 1:D:1159:ASN:O | 1:D:1162:LYS:NZ | 2.23 | 0.71 |
| 1:A:931:LEU:HD11 | 1:A:933:LEU:HD21 | 1.73 | 0.70 |
| 1:A:976:ASN:ND2 | 1:A:1015:GLN:OE1 | 2.24 | 0.70 |
| 1:C:473:THR:OG1 | 1:C:528:ILE:O | 2.09 | 0.70 |
| 1:C:394:TYR:CD2 | 5:C:2004:NAG:O6 | 2.43 | 0.70 |
| 1:D:580:ALA:O | 1:D:757:THR:OG1 | 2.08 | 0.70 |
| 1:C:205:VAL:O | 1:C:217:HIS:N | 2.24 | 0.70 |
| 1:D:739:TRP:NE1 | 1:D:756:VAL:O | 2.25 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:D:1073:ARG:O | 1:D:1075:LYS:NZ | 2.25 | 0.70 |
| 1:D:1236:LYS:O | 1:D:1239:THR:OG1 | 2.09 | 0.70 |
| 1:D:1050:ALA:O | 1:D:1053:ARG:NH1 | 2.25 | 0.69 |
| 1:A:125:GLU:N | 1:A:125:GLU:OE1 | 2.25 | 0.69 |
| 1:A:1183:TRP:CE3 | 1:A:1209:THR:HG22 | 2.27 | 0.69 |
| 1:C:1277:GLN:NE2 | 1:C:1291:GLN:OE1 | 2.24 | 0.69 |
| 1:A:570:LEU:HD21 | 1:A:784:ALA:HB2 | 1.74 | 0.69 |
| 1:B:657:PRO:O | 1:C:656:THR:OG1 | 2.10 | 0.69 |
| 1:B:1019:LYS:NZ | 1:B:1020:HIS:O | 2.24 | 0.69 |
| 1:D:812:ALA:N | 1:D:856:VAL:O | 2.25 | 0.69 |
| 1:B:929:GLU:O | 1:B:1314:MET:N | 2.26 | 0.69 |
| 1:A:954:ILE:CD1 | 1:A:993:THR:HG22 | 2.21 | 0.69 |
| 1:C:153:GLU:O | 1:C:502:LYS:NZ | 2.24 | 0.69 |
| 1:C:183:LEU:HD13 | 1:C:186:GLY:HA2 | 1.74 | 0.69 |
| 1:C:354:LYS:NZ | 1:C:463:PRO:O | 2.25 | 0.69 |
| 1:C:373:ASP:N | 1:C:377:VAL:O | 2.26 | 0.69 |
| 1:C:949:SER:N | 1:C:1325:GLN:O | 2.25 | 0.69 |
| 1:C:1070:LEU:HD13 | 1:C:1109:LEU:HD21 | 1.73 | 0.69 |
| 1:D:412:THR:O | 1:D:412:THR:HG22 | 1.91 | 0.69 |
| 1:D:1175:VAL:CG2 | 1:D:1186:PRO:HD3 | 2.21 | 0.69 |
| 1:A:414:VAL:HG12 | 1:D:651:ASN:HB3 | 1.75 | 0.69 |
| 1:B:911:GLU:OE2 | 1:B:1331:ASN:ND2 | 2.26 | 0.69 |
| 1:D:555:SER:N | 1:D:672:ASP:OD2 | 2.26 | 0.69 |
| 1:A:400:ASP:OD1 | 1:A:404:LEU:N | 2.26 | 0.69 |
| 1:C:320:LEU:O | 1:C:321:HIS:ND1 | 2.27 | 0.68 |
| 1:D:965:LEU:HD13 | 1:D:1000:ILE:HD11 | 1.75 | 0.68 |
| 1:A:1205:GLU:HG3 | 1:A:1206:VAL:HG23 | 1.74 | 0.68 |
| 1:B:1073:ARG:O | 1:D:637:GLN:NE2 | 2.26 | 0.68 |
| 1:C:111:THR:HB | 5:C:2001:NAG:H2 | 1.73 | 0.68 |
| 1:B:1291:GLN:NE2 | 1:B:1293:ASP:OD1 | 2.26 | 0.68 |
| 1:C:851:ASN:O | 1:C:853:ARG:NH1 | 2.27 | 0.68 |
| 1:D:800:TYR:O | 1:D:802:VAL:HG13 | 1.94 | 0.68 |
| 1:A:876:ALA:O | 1:A:895:ARG:NH2 | 2.26 | 0.68 |
| 1:A:635:ASN:OD1 | 1:C:1072:GLN:NE2 | 2.25 | 0.68 |
| 1:A:775:ASP:OD1 | 1:A:776:ALA:N | 2.27 | 0.68 |
| 1:A:1152:TYR:CZ | 1:A:1214:LEU:HD22 | 2.29 | 0.68 |
| 1:B:295:ASN:ND2 | 1:B:297:HIS:O | 2.27 | 0.68 |
| 1:B:345:ARG:O | 1:B:440:GLU:N | 2.27 | 0.68 |
| 1:B:602:GLN:N | 1:B:764:GLU:O | 2.27 | 0.68 |
| 1:B:1109:LEU:HD21 | 1:B:1120:VAL:HB | 1.75 | 0.68 |
| 1:B:1120:VAL:HA | 1:D:119:THR:HG21 | 1.74 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:1265:GLY:O | 1:A:1269:PHE:N | 2.27 | 0.67 |
| 1:B:389:ASN:ND2 | 1:B:418:SER:O | 2.27 | 0.67 |
| 1:B:883:CYS:SG | 1:B:884:GLY:N | 2.66 | 0.67 |
| 1:B:1298:LEU:HD23 | 1:B:1298:LEU:O | 1.94 | 0.67 |
| 1:D:631:PRO:HB2 | 1:D:634:LEU:HD13 | 1.75 | 0.67 |
| 1:D:773:SER:OG | 1:D:775:ASP:OD1 | 2.09 | 0.67 |
| 1:C:394:TYR:CD2 | 5:C:2004:NAG:C6 | 2.77 | 0.67 |
| 1:C:53:TYR:N | 1:C:81:ASN:OD1 | 2.27 | 0.67 |
| 1:C:230:GLU:OE2 | 1:C:232:GLN:NE2 | 2.26 | 0.67 |
| 1:C:594:VAL:HG23 | 1:C:745:VAL:HG22 | 1.75 | 0.67 |
| 1:C:773:SER:N | 1:C:777:GLY:O | 2.27 | 0.67 |
| 1:D:1013:GLN:HA | 1:D:1013:GLN:NE2 | 2.08 | 0.67 |
| 1:D:1185:ARG:HB3 | 1:D:1186:PRO:CD | 2.21 | 0.67 |
| 1:A:962:THR:HG21 | 1:A:989:TYR:CE2 | 2.30 | 0.67 |
| 1:C:497:TYR:HB3 | 1:C:542:ILE:HD12 | 1.76 | 0.67 |
| 1:A:1125:LEU:HD23 | 1:A:1128:LEU:HD12 | 1.77 | 0.67 |
| 1:A:450:LEU:O | 1:A:664:LYS:N | 2.27 | 0.67 |
| 1:A:1238:ILE:HD12 | 1:A:1257:ALA:HB1 | 1.77 | 0.67 |
| 1:B:112:GLN:HB2 | 5:B:2001:NAG:H83 | 1.76 | 0.67 |
| 1:B:968:MET:HG3 | 1:B:969:PRO:HD2 | 1.77 | 0.67 |
| 1:C:808:PHE:O | 1:C:860:VAL:N | 2.27 | 0.67 |
| 1:C:1103:ALA:O | 1:C:1107:ILE:HG22 | 1.95 | 0.67 |
| 1:D:988:ASP:OD1 | 1:D:988:ASP:N | 2.28 | 0.67 |
| 1:C:136:SER:O | 1:C:220:THR:OG1 | 2.10 | 0.66 |
| 1:A:1041:LEU:O | 1:A:1045:VAL:HG23 | 1.95 | 0.66 |
| 3:M:1:NAG:H62 | 3:M:2:NAG:HN2 | 1.60 | 0.66 |
| 1:C:38:LEU:HD12 | 1:C:121:MET:CE | 2.25 | 0.66 |
| 1:C:381:ASN:N | 1:C:399:THR:OG1 | 2.28 | 0.66 |
| 1:C:170:PRO:HG3 | 1:C:202:SER:O | 1.95 | 0.66 |
| 1:A:1107:ILE:HA | 1:A:1110:LEU:HD12 | 1.78 | 0.66 |
| 1:A:428:ARG:NH2 | 1:A:440:GLU:OE2 | 2.29 | 0.66 |
| 1:B:101:MET:N | 1:B:120:VAL:O | 2.29 | 0.66 |
| 1:D:563:CYS:O | 1:D:619:TYR:OH | 2.12 | 0.66 |
| 1:A:581:SER:CB | 1:A:756:VAL:HG13 | 2.26 | 0.66 |
| 1:A:688:MET:HE3 | 1:A:688:MET:H | 1.59 | 0.66 |
| 1:A:929:GLU:O | 1:A:1314:MET:N | 2.29 | 0.66 |
| 1:B:736:PRO:C | 1:B:738:THR:H | 2.00 | 0.66 |
| 1:C:388:GLY:CA | 1:C:391:ALA:HB3 | 2.26 | 0.66 |
| 1:A:578:LEU:O | 1:A:580:ALA:N | 2.27 | 0.66 |
| 1:A:986:VAL:HG12 | 1:A:990:LEU:HD13 | 1.78 | 0.66 |
| 1:B:593:SER:O | 1:B:745:VAL:HG13 | 1.95 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:1282:SER:OG | 1:B:1286:PHE:O | 2.11 | 0.66 |
| 1:C:103:LEU:HD23 | 1:C:118:THR:HG23 | 1.78 | 0.66 |
| 1:C:492:LYS:NZ | 1:C:494:SER:OG | 2.28 | 0.66 |
| 1:C:1232:THR:HG21 | 1:C:1323:TYR:CD2 | 2.31 | 0.66 |
| 1:D:93:LYS:NZ | 1:D:125:GLU:O | 2.23 | 0.66 |
| 1:A:68:ARG:NH1 | 1:C:1113:PRO:O | 2.28 | 0.66 |
| 1:B:1180:SER:OG | 1:B:1181:VAL:N | 2.29 | 0.66 |
| 1:C:1109:LEU:HD13 | 1:C:1112:ILE:HD11 | 1.78 | 0.66 |
| 1:D:399:THR:OG1 | 1:D:400:ASP:O | 2.13 | 0.65 |
| 1:D:452:PHE:O | 1:D:454:PRO:HD3 | 1.97 | 0.65 |
| 1:A:688:MET:H | 1:A:688:MET:CE | 2.08 | 0.65 |
| 1:B:428:ARG:NE | 1:B:439:GLU:O | 2.29 | 0.65 |
| 1:D:400:ASP:OD1 | 1:D:404:LEU:N | 2.28 | 0.65 |
| 1:C:38:LEU:HD12 | 1:C:121:MET:HE3 | 1.79 | 0.65 |
| 1:C:965:LEU:HD13 | 1:C:1247:GLY:N | 2.12 | 0.65 |
| 1:D:1016:LEU:HD23 | 1:D:1016:LEU:C | 2.17 | 0.65 |
| 1:D:571:SER:O | 1:D:586:ARG:N | 2.29 | 0.65 |
| 1:B:350:LEU:HD11 | 1:B:444:ALA:HB2 | 1.79 | 0.65 |
| 1:B:928:SER:OG | 1:B:1314:MET:O | 2.14 | 0.65 |
| 1:B:1163:ARG:NH2 | 1:B:1215:ALA:O | 2.28 | 0.65 |
| 1:C:1070:LEU:CD1 | 1:C:1109:LEU:HD21 | 2.27 | 0.65 |
| 1:D:64:LEU:HD23 | 1:D:100:VAL:HG22 | 1.76 | 0.65 |
| 1:D:1070:LEU:O | 1:D:1074:GLN:N | 2.29 | 0.65 |
| 1:D:1200:GLN:NE2 | 1:D:1375:ALA:O | 2.29 | 0.65 |
| 1:A:965:LEU:HD11 | 1:A:1247:GLY:N | 2.12 | 0.65 |
| 1:B:1073:ARG:O | 1:B:1074:GLN:NE2 | 2.30 | 0.65 |
| 1:D:747:ASN:OD1 | 1:D:750:GLY:N | 2.30 | 0.65 |
| 1:C:38:LEU:HD13 | 1:C:627:LEU:HD21 | 1.78 | 0.65 |
| 1:C:1025:TYR:HB2 | 1:C:1042:THR:HG22 | 1.79 | 0.65 |
| 1:B:400:ASP:OD1 | 1:B:404:LEU:N | 2.30 | 0.64 |
| 1:D:539:ARG:NE | 1:D:626:ASP:OD2 | 2.29 | 0.64 |
| 1:A:843:GLN:NE2 | 1:A:844:ALA:O | 2.30 | 0.64 |
| 1:B:1236:LYS:NZ | 1:B:1325:GLN:OE1 | 2.29 | 0.64 |
| 1:C:966:LEU:HD11 | 1:C:1000:ILE:HD11 | 1.79 | 0.64 |
| 1:A:864:SER:OG | 1:A:865:LEU:N | 2.30 | 0.64 |
| 1:A:912:LYS:O | 1:A:1330:TYR:N | 2.29 | 0.64 |
| 1:C:1208:MET:O | 1:C:1212:VAL:HG23 | 1.96 | 0.64 |
| 1:D:470:CYS:SG | 1:D:471:GLY:N | 2.71 | 0.64 |
| 1:B:1152:TYR:CE1 | 1:B:1156:LEU:HD23 | 2.33 | 0.64 |
| 1:D:233:VAL:HG23 | 1:D:250:VAL:HG22 | 1.79 | 0.64 |
| 1:A:564:LEU:HD21 | 1:A:780:ILE:HD13 | 1.79 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C:64:LEU:HD12 | 1:C:102:PHE:O | 1.97 | 0.64 |
| 1:C:143:THR:HG22 | 1:C:193:PRO:HB3 | 1.80 | 0.64 |
| 1:C:237:LYS:O | 1:C:238:ILE:HD13 | 1.98 | 0.64 |
| 1:D:983:ASN:HB3 | 1:D:1008:LEU:HD21 | 1.79 | 0.64 |
| 1:D:1005:ILE:HA | 1:D:1008:LEU:HD12 | 1.80 | 0.64 |
| 1:B:1038:ASN:O | 1:B:1042:THR:OG1 | 2.15 | 0.64 |
| 1:C:497:TYR:HD1 | 1:C:499:ILE:HD11 | 1.63 | 0.64 |
| 1:D:129:VAL:HG23 | 1:D:215:THR:HG21 | 1.80 | 0.64 |
| 1:A:532:SER:OG | 1:A:565:ALA:N | 2.31 | 0.63 |
| 1:D:764:GLU:OE2 | 1:D:786:LEU:N | 2.31 | 0.63 |
| 1:A:1040:TRP:HB2 | 1:A:1101:LEU:HD11 | 1.79 | 0.63 |
| 1:C:64:LEU:HD11 | 1:C:120:VAL:HB | 1.80 | 0.63 |
| 1:C:388:GLY:N | 1:C:393:TYR:O | 2.31 | 0.63 |
| 1:A:39:LEU:N | 1:A:121:MET:O | 2.31 | 0.63 |
| 1:A:538:ALA:O | 1:A:558:TYR:N | 2.30 | 0.63 |
| 1:B:270:ARG:NH2 | 1:B:315:GLU:O | 2.30 | 0.63 |
| 1:B:507:ARG:NH2 | 1:B:532:SER:O | 2.31 | 0.63 |
| 1:A:276:SER:OG | 1:A:281:GLU:OE1 | 2.15 | 0.63 |
| 1:A:284:GLN:NE2 | 1:A:287:CYS:SG | 2.71 | 0.63 |
| 1:A:947:SER:OG | 1:A:1327:SER:OG | 2.16 | 0.63 |
| 1:C:158:LEU:HD12 | 1:C:159:ASN:H | 1.62 | 0.63 |
| 1:D:367:GLY:N | 1:D:407:PHE:O | 2.31 | 0.63 |
| 1:D:1372:SER:HB2 | 1:D:1422:VAL:HG13 | 1.79 | 0.63 |
| 1:A:305:LYS:HE3 | 1:A:308:VAL:HG23 | 1.81 | 0.63 |
| 1:C:101:MET:N | 1:C:120:VAL:O | 2.31 | 0.63 |
| 1:C:412:THR:HG22 | 1:C:412:THR:O | 1.99 | 0.63 |
| 1:C:594:VAL:CG2 | 1:C:745:VAL:HG22 | 2.28 | 0.63 |
| 1:C:1100:THR:HG21 | 1:C:1145:TYR:CD2 | 2.33 | 0.63 |
| 1:C:1110:LEU:HD22 | 1:C:1116:VAL:HG12 | 1.80 | 0.63 |
| 1:D:599:ALA:HB3 | 1:D:740:ILE:HG13 | 1.80 | 0.63 |
| 1:A:637:GLN:O | 1:A:684:ARG:NH1 | 2.31 | 0.63 |
| 1:A:1139:ASP:O | 1:A:1143:HIS:NE2 | 2.31 | 0.63 |
| 1:C:39:LEU:CD1 | 1:C:120:VAL:HG11 | 2.29 | 0.63 |
| 1:C:982:PRO:O | 1:C:986:VAL:HG23 | 1.99 | 0.63 |
| 1:C:917:ASN:ND2 | 1:C:1323:TYR:OH | 2.31 | 0.63 |
| 1:A:60:VAL:HG23 | 1:A:107:VAL:HG23 | 1.81 | 0.62 |
| 1:B:253:LEU:HD21 | 1:B:606:LEU:HD21 | 1.80 | 0.62 |
| 1:C:235:VAL:HG12 | 1:C:236:PRO:HD2 | 1.81 | 0.62 |
| 1:C:1105:ILE:O | 1:C:1109:LEU:HD23 | 1.99 | 0.62 |
| 1:A:400:ASP:OD1 | 1:A:403:GLY:N | 2.32 | 0.62 |
| 1:D:816:ASN:OD1 | 1:D:817:TYR:N | 2.32 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:D:1099:VAL:HG11 | 1:D:1131:ALA:HB2 | 1.81 | 0.62 |
| 1:D:1186:PRO:O | 1:D:1188:LYS:HD3 | 1.98 | 0.62 |
| 1:A:1076:ASP:OD1 | 1:A:1077:ASN:N | 2.32 | 0.62 |
| 1:D:810:LEU:HD13 | 1:D:860:VAL:HG12 | 1.81 | 0.62 |
| 1:B:33:VAL:HG12 | 1:B:49:VAL:HG23 | 1.81 | 0.62 |
| 1:D:258:LYS:NZ | 1:D:815:LEU:HD21 | 2.14 | 0.62 |
| 1:D:964:ASN:ND2 | 1:D:1244:ALA:O | 2.31 | 0.62 |
| 1:A:224:PHE:CE1 | 1:A:604:VAL:HG11 | 2.35 | 0.62 |
| 1:C:564:LEU:HD13 | 1:C:619:TYR:OH | 2.00 | 0.62 |
| 1:C:592:GLN:OE1 | 1:C:748:SER:OG | 2.18 | 0.62 |
| 1:A:321:HIS:ND1 | 1:A:334:GLU:OE2 | 2.31 | 0.62 |
| 1:B:264:VAL:HG21 | 1:B:300:PHE:CE2 | 2.34 | 0.62 |
| 1:C:1208:MET:O | 1:C:1212:VAL:N | 2.32 | 0.62 |
| 1:B:571:SER:N | 1:B:586:ARG:O | 2.32 | 0.62 |
| 1:B:590:ALA:HB2 | 1:B:776:ALA:HB3 | 1.81 | 0.62 |
| 1:A:1088:ASN:HD21 | 1:A:1091:ILE:HD12 | 1.65 | 0.62 |
| 1:B:295:ASN:ND2 | 1:B:299:CYS:O | 2.32 | 0.62 |
| 1:C:345:ARG:O | 1:C:440:GLU:N | 2.32 | 0.62 |
| 1:D:914:THR:CG2 | 1:D:935:LEU:HD22 | 2.26 | 0.62 |
| 1:D:965:LEU:O | 1:D:967:GLN:NE2 | 2.32 | 0.62 |
| 1:D:989:TYR:CA | 1:D:1262:SER:HB3 | 2.23 | 0.62 |
| 3:H:2:NAG:H83 | 3:H:2:NAG:C3 | 2.21 | 0.62 |
| 1:A:291:SER:OG | 1:A:292:GLY:N | 2.33 | 0.61 |
| 1:A:359:PHE:CZ | 1:A:450:LEU:HD23 | 2.34 | 0.61 |
| 1:B:1044:PHE:HZ | 1:B:1255:VAL:HG21 | 1.64 | 0.61 |
| 1:B:1154:PHE:O | 1:B:1158:GLY:N | 2.32 | 0.61 |
| 1:C:1099:VAL:HG13 | 1:C:1131:ALA:HB1 | 1.82 | 0.61 |
| 1:A:368:GLN:HG2 | 1:A:404:LEU:HD22 | 1.81 | 0.61 |
| 1:B:141:GLY:N | 1:B:195:SER:O | 2.33 | 0.61 |
| 1:C:133:THR:HG22 | 1:C:146:PHE:HB2 | 1.82 | 0.61 |
| 1:A:250:VAL:HG11 | 1:A:264:VAL:HG21 | 1.83 | 0.61 |
| 1:A:532:SER:OG | 1:A:533:ASP:N | 2.32 | 0.61 |
| 1:A:915:THR:OG1 | 1:A:1326:THR:O | 2.10 | 0.61 |
| 1:C:138:TYR:HD2 | 1:C:142:GLN:HB3 | 1.64 | 0.61 |
| 1:C:235:VAL:HG12 | 1:C:236:PRO:CD | 2.30 | 0.61 |
| 1:C:502:LYS:HB2 | 1:C:535:ALA:HB2 | 1.83 | 0.61 |
| 1:D:50:LEU:HD23 | 1:D:84:LEU:HD21 | 1.82 | 0.61 |
| 1:D:476:VAL:HB | 1:D:526:ILE:HG23 | 1.82 | 0.61 |
| 1:A:138:TYR:CZ | 1:A:144:VAL:HG23 | 2.36 | 0.61 |
| 1:A:626:ASP:O | 1:A:628:THR:HG22 | 2.01 | 0.61 |
| 1:A:870:PHE:N | 1:A:901:LYS:O | 2.33 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:352:PHE:CZ | 1:B:444:ALA:HB1 | 2.36 | 0.61 |
| 1:B:1155:ALA:HB1 | 1:B:1218:THR:OG1 | 2.01 | 0.61 |
| 1:A:636:ASP:O | 1:C:1072:GLN:NE2 | 2.34 | 0.61 |
| 1:A:650:ILE:HD12 | 1:A:656:THR:CG2 | 2.30 | 0.61 |
| 1:B:382:LYS:O | 1:B:399:THR:HG23 | 2.01 | 0.61 |
| 1:C:159:ASN:OD1 | 1:C:186:GLY:N | 2.34 | 0.61 |
| 1:C:1292:VAL:HA | 1:C:1296:ASN:HD21 | 1.66 | 0.61 |
| 1:D:470:CYS:O | 1:D:472:HIS:ND1 | 2.33 | 0.61 |
| 1:D:969:PRO:HD3 | 1:D:979:LEU:HD11 | 1.81 | 0.60 |
| 1:D:318:MET:O | 1:D:319:LYS:NZ | 2.33 | 0.60 |
| 1:A:1183:TRP:CZ2 | 1:A:1212:VAL:HG21 | 2.36 | 0.60 |
| 1:C:575:SER:OG | 1:C:787:ARG:N | 2.33 | 0.60 |
| 1:D:570:LEU:HD13 | 1:D:585:LEU:HD11 | 1.82 | 0.60 |
| 1:D:1008:LEU:O | 1:D:1012:TYR:N | 2.21 | 0.60 |
| 1:A:660:SER:OG | 1:A:661:THR:N | 2.35 | 0.60 |
| 1:C:437:VAL:HG11 | 1:D:278:CYS:HB2 | 1.83 | 0.60 |
| 1:C:554:ASP:N | 1:C:554:ASP:OD1 | 2.33 | 0.60 |
| 1:D:347:ILE:HG22 | 1:D:348:THR:HG23 | 1.83 | 0.60 |
| 1:D:570:LEU:HD11 | 1:D:784:ALA:CB | 2.32 | 0.60 |
| 1:A:73:LEU:CD1 | 1:A:91:VAL:HG22 | 2.32 | 0.60 |
| 1:A:103:LEU:HB2 | 1:A:120:VAL:HG21 | 1.83 | 0.60 |
| 1:A:1253:ASP:OD1 | 1:A:1254:THR:N | 2.35 | 0.60 |
| 1:B:319:LYS:C | 1:B:320:LEU:HD12 | 2.22 | 0.60 |
| 1:B:920:LEU:HD13 | 1:B:927:VAL:HG12 | 1.83 | 0.60 |
| 1:C:966:LEU:HD13 | 1:C:1003:LYS:NZ | 2.17 | 0.60 |
| 1:D:1235:VAL:O | 1:D:1239:THR:HG23 | 2.02 | 0.60 |
| 1:A:360:ARG:NH2 | 1:A:459:VAL:O | 2.34 | 0.60 |
| 1:A:997:THR:HG23 | 1:A:1000:ILE:HB | 1.82 | 0.60 |
| 1:D:994:GLN:O | 1:D:994:GLN:NE2 | 2.35 | 0.60 |
| 1:B:36:PRO:HB3 | 1:B:503:GLY:O | 2.02 | 0.60 |
| 1:B:241:ILE:HG13 | 1:B:347:ILE:HD11 | 1.84 | 0.60 |
| 1:C:1024:SER:OG | 1:C:1042:THR:HG21 | 2.01 | 0.60 |
| 1:C:1110:LEU:HD22 | 1:C:1156:LEU:HD12 | 1.83 | 0.60 |
| 1:B:775:ASP:OD1 | 1:B:776:ALA:N | 2.34 | 0.60 |
| 1:D:39:LEU:HD12 | 1:D:122:VAL:HA | 1.83 | 0.60 |
| 1:A:237:LYS:O | 1:A:238:ILE:HD13 | 2.02 | 0.60 |
| 1:B:614:SER:O | 1:B:617:SER:OG | 2.08 | 0.60 |
| 1:C:478:ALA:N | 1:C:524:PHE:O | 2.35 | 0.60 |
| 1:D:1179:ASN:OD1 | 1:D:1236:LYS:NZ | 2.34 | 0.60 |
| 1:A:47:GLY:HA2 | 1:A:505:ILE:HD12 | 1.84 | 0.59 |
| 1:A:50:LEU:O | 1:A:51:LEU:HD22 | 2.02 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:68:ARG:HD2 | 1:C:1114:LEU:HD21 | 1.84 | 0.59 |
| 1:A:457:SER:OG | 1:A:483:ASN:N | 2.34 | 0.59 |
| 1:C:189:GLN:OE1 | 1:C:741:TRP:NE1 | 2.35 | 0.59 |
| 1:D:1147:LYS:HG2 | 1:D:1170:LEU:HD22 | 1.84 | 0.59 |
| 1:B:877:LEU:O | 1:B:889:SER:OG | 2.09 | 0.59 |
| 1:C:1157:ALA:HB3 | 1:C:1159:ASN:HB2 | 1.83 | 0.59 |
| 1:D:631:PRO:HG2 | 1:D:634:LEU:HD22 | 1.84 | 0.59 |
| 1:D:1039:THR:HG21 | 1:D:1105:ILE:HG22 | 1.84 | 0.59 |
| 1:D:1185:ARG:CB | 1:D:1186:PRO:HD2 | 2.29 | 0.59 |
| 1:A:328:GLU:OE2 | 1:A:853:ARG:NE | 2.34 | 0.59 |
| 1:A:366:PHE:HB3 | 1:A:408:SER:HB2 | 1.83 | 0.59 |
| 1:A:733:LYS:N | 1:A:760:ASP:OD2 | 2.35 | 0.59 |
| 1:A:1251:THR:O | 1:A:1255:VAL:HG23 | 2.02 | 0.59 |
| 1:C:1217:LEU:HD21 | 1:C:1228:LEU:HD21 | 1.84 | 0.59 |
| 1:D:793:PHE:CZ | 1:D:815:LEU:HD23 | 2.36 | 0.59 |
| 1:D:1106:THR:HG21 | 1:D:1124:ALA:HB2 | 1.84 | 0.59 |
| 1:D:1150:LEU:CD1 | 1:D:1170:LEU:HD21 | 2.32 | 0.59 |
| 1:A:271:LYS:NZ | 1:A:283:SER:OG | 2.29 | 0.59 |
| 1:B:156:HIS:ND1 | 1:B:774:GLU:OE2 | 2.34 | 0.59 |
| 1:C:520:MET:N | 1:C:520:MET:SD | 2.76 | 0.59 |
| 1:D:810:LEU:CD1 | 1:D:860:VAL:HG12 | 2.33 | 0.59 |
| 1:B:39:LEU:HD12 | 1:B:122:VAL:CG1 | 2.33 | 0.59 |
| 1:B:466:HIS:O | 1:B:468:LEU:HD12 | 2.02 | 0.59 |
| 1:B:497:TYR:HB2 | 1:B:540:LEU:HD11 | 1.84 | 0.59 |
| 1:C:823:ARG:NH1 | 1:C:845:PRO:O | 2.36 | 0.59 |
| 1:D:498:LEU:O | 1:D:541:LEU:N | 2.36 | 0.59 |
| 1:D:1067:LEU:HD13 | 1:D:1112:ILE:HG21 | 1.84 | 0.59 |
| 1:A:387:ARG:HG2 | 1:A:387:ARG:HH11 | 1.66 | 0.59 |
| 1:A:954:ILE:HG23 | 1:A:955:LEU:HG | 1.85 | 0.59 |
| 1:B:499:ILE:HG22 | 1:B:534:ILE:HD12 | 1.84 | 0.59 |
| 1:B:1100:THR:HG21 | 1:B:1145:TYR:CE2 | 2.38 | 0.59 |
| 1:A:579:PRO:HA | 1:A:757:THR:HG21 | 1.85 | 0.59 |
| 1:A:816:ASN:ND2 | 1:A:848:ILE:O | 2.35 | 0.59 |
| 1:C:50:LEU:O | 1:C:51:LEU:HD22 | 2.02 | 0.59 |
| 1:C:139:LYS:HG2 | 1:C:142:GLN:HG3 | 1.85 | 0.59 |
| 1:D:554:ASP:OD1 | 1:D:555:SER:N | 2.36 | 0.59 |
| 1:D:814:VAL:HG23 | 1:D:856:VAL:HG21 | 1.85 | 0.59 |
| 1:D:1014:ARG:CB | 1:D:1014:ARG:HH11 | 2.15 | 0.59 |
| 1:A:201:GLY:N | 1:A:221:VAL:O | 2.34 | 0.59 |
| 1:A:273:SER:OG | 1:A:274:ASP:N | 2.35 | 0.59 |
| 1:A:948:VAL:HG12 | 1:A:1326:THR:HA | 1.84 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:1207:GLU:O | 1:A:1210:SER:OG | 2.09 | 0.59 |
| 1:B:815:LEU:HD21 | 1:B:853:ARG:CZ | 2.32 | 0.59 |
| 1:B:1213:LEU:HD13 | 1:B:1234:ILE:CG2 | 2.33 | 0.59 |
| 1:A:760:ASP:HB3 | 1:A:899:VAL:HG13 | 1.85 | 0.59 |
| 1:A:816:ASN:O | 1:A:851:ASN:N | 2.36 | 0.59 |
| 1:B:352:PHE:CE1 | 1:B:444:ALA:HB1 | 2.38 | 0.59 |
| 1:B:984:ILE:HG13 | 1:B:1008:LEU:HD21 | 1.85 | 0.59 |
| 1:C:816:ASN:O | 1:C:851:ASN:N | 2.34 | 0.59 |
| 1:C:869:ASN:HD22 | 1:C:869:ASN:N | 2.01 | 0.59 |
| 1:A:614:SER:O | 1:A:617:SER:OG | 2.12 | 0.58 |
| 1:B:39:LEU:CB | 1:B:122:VAL:HG12 | 2.28 | 0.58 |
| 1:B:804:ARG:NE | 1:B:863:LYS:O | 2.35 | 0.58 |
| 1:B:1323:TYR:OH | 1:B:1325:GLN:OE1 | 2.12 | 0.58 |
| 1:B:208:GLN:NE2 | 1:B:209:LYS:O | 2.36 | 0.58 |
| 1:B:617:SER:O | 1:B:621:LEU:HD13 | 2.02 | 0.58 |
| 1:B:1208:MET:O | 1:B:1212:VAL:N | 2.32 | 0.58 |
| 1:C:1185:ARG:O | 1:C:1187:GLN:N | 2.32 | 0.58 |
| 1:D:268:ILE:HD12 | 1:D:309:PHE:CZ | 2.38 | 0.58 |
| 1:D:597:LEU:CD1 | 1:D:744:VAL:HG13 | 2.33 | 0.58 |
| 1:C:384:ILE:HD11 | 1:C:405:VAL:CG1 | 2.33 | 0.58 |
| 1:D:241:ILE:O | 1:D:311:LEU:HD13 | 2.03 | 0.58 |
| 1:A:735:PHE:CE2 | 1:A:738:THR:HB | 2.37 | 0.58 |
| 1:B:650:ILE:HG23 | 1:C:650:ILE:HD11 | 1.84 | 0.58 |
| 1:C:238:ILE:HD12 | 1:C:342:GLU:HB2 | 1.85 | 0.58 |
| 1:D:174:ARG:O | 1:D:1003:LYS:HG3 | 2.03 | 0.58 |
| 1:D:293:GLN:NE2 | 1:D:293:GLN:O | 2.36 | 0.58 |
| 1:D:1039:THR:HG21 | 1:D:1105:ILE:HA | 1.84 | 0.58 |
| 1:A:38:LEU:HD22 | 1:A:40:HIS:CE1 | 2.39 | 0.58 |
| 1:B:241:ILE:HG22 | 1:B:242:LEU:HD22 | 1.85 | 0.58 |
| 1:B:878:GLU:OE2 | 1:B:879:SER:N | 2.36 | 0.58 |
| 1:C:1226:GLU:O | 1:C:1229:THR:OG1 | 2.18 | 0.58 |
| 1:D:575:SER:OG | 1:D:787:ARG:O | 2.09 | 0.58 |
| 1:A:608:LYS:NZ | 1:A:609:PRO:O | 2.25 | 0.58 |
| 1:B:400:ASP:OD1 | 1:B:403:GLY:N | 2.36 | 0.58 |
| 1:C:1046:LEU:HD12 | 1:C:1049:PHE:CD2 | 2.38 | 0.58 |
| 1:B:503:GLY:HA3 | 1:B:627:LEU:HD23 | 1.85 | 0.58 |
| 1:B:822:ILE:HG21 | 1:B:876:ALA:HB1 | 1.84 | 0.58 |
| 1:C:598:ARG:O | 1:C:768:GLY:N | 2.36 | 0.58 |
| 1:C:945:ARG:O | 1:C:1329:LYS:N | 2.35 | 0.58 |
| 1:C:1296:ASN:HD22 | 1:C:1299:LEU:HD23 | 1.69 | 0.58 |
| 1:D:854:GLN:O | 1:D:856:VAL:HG23 | 2.03 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C:595:CYS:C | 1:C:743:LEU:HD23 | 2.24 | 0.58 |
| 1:C:927:VAL:HG12 | 1:C:928:SER:H | 1.68 | 0.58 |
| 1:D:658:VAL:HG21 | 1:D:688:MET:SD | 2.44 | 0.58 |
| 1:B:532:SER:OG | 1:B:533:ASP:N | 2.37 | 0.58 |
| 1:B:1150:LEU:HD12 | 1:B:1154:PHE:CE2 | 2.38 | 0.58 |
| 1:C:31:TYR:O | 1:C:679:THR:HG22 | 2.04 | 0.58 |
| 1:C:966:LEU:CD1 | 1:C:1000:ILE:HD11 | 2.34 | 0.58 |
| 1:D:1208:MET:SD | 1:D:1209:THR:N | 2.77 | 0.58 |
| 1:B:1173:GLU:O | 1:B:1183:TRP:NE1 | 2.36 | 0.57 |
| 1:C:66:SER:OG | 1:C:67:VAL:N | 2.36 | 0.57 |
| 1:C:167:ILE:HD12 | 1:C:176:ALA:HB3 | 1.86 | 0.57 |
| 1:D:916:PHE:HB3 | 1:D:931:LEU:HD11 | 1.85 | 0.57 |
| 1:C:187:LEU:HD21 | 1:C:596:ALA:HB2 | 1.86 | 0.57 |
| 1:C:870:PHE:N | 1:C:901:LYS:O | 2.37 | 0.57 |
| 1:D:826:VAL:HG11 | 1:D:856:VAL:HG11 | 1.86 | 0.57 |
| 1:D:960:GLN:OE1 | 1:D:960:GLN:N | 2.35 | 0.57 |
| 1:A:387:ARG:HB2 | 1:A:420:THR:CG2 | 2.31 | 0.57 |
| 1:C:949:SER:O | 1:C:1325:GLN:N | 2.34 | 0.57 |
| 1:D:129:VAL:CG2 | 1:D:215:THR:HG21 | 2.35 | 0.57 |
| 1:D:234:THR:N | 1:D:249:SER:O | 2.38 | 0.57 |
| 1:A:1291:GLN:O | 1:A:1296:ASN:ND2 | 2.37 | 0.57 |
| 1:C:127:SER:O | 1:C:209:LYS:NZ | 2.38 | 0.57 |
| 1:C:597:LEU:HB3 | 1:C:740:ILE:HG21 | 1.85 | 0.57 |
| 1:C:908:GLU:O | 1:C:1331:ASN:ND2 | 2.38 | 0.57 |
| 1:C:1278:VAL:O | 1:C:1289:LYS:NZ | 2.38 | 0.57 |
| 1:D:1255:VAL:HG23 | 1:D:1256:VAL:HG23 | 1.85 | 0.57 |
| 1:B:815:LEU:HD23 | 1:B:817:TYR:HE1 | 1.67 | 0.57 |
| 1:B:1252:GLN:O | 1:B:1256:VAL:HG22 | 2.05 | 0.57 |
| 1:B:1297:ARG:O | 1:B:1297:ARG:HD2 | 2.05 | 0.57 |
| 1:C:976:ASN:ND2 | 1:C:1015:GLN:OE1 | 2.36 | 0.57 |
| 1:D:889:SER:O | 1:D:895:ARG:NH1 | 2.36 | 0.57 |
| 1:A:538:ALA:HB3 | 1:A:558:TYR:HB2 | 1.86 | 0.57 |
| 1:A:821:CYS:SG | 1:A:849:CYS:N | 2.78 | 0.57 |
| 1:C:596:ALA:C | 1:C:597:LEU:HD12 | 2.25 | 0.57 |
| 1:D:845:PRO:HB3 | 1:D:856:VAL:HG22 | 1.86 | 0.57 |
| 1:B:1281:GLN:N | 1:B:1313:SER:O | 2.38 | 0.57 |
| 1:D:386:ILE:HD12 | 1:D:395:SER:O | 2.04 | 0.57 |
| 1:D:475:THR:OG1 | 1:D:477:GLN:NE2 | 2.37 | 0.57 |
| 1:D:1347:THR:HA | 1:D:1363:ILE:HG23 | 1.87 | 0.57 |
| 1:A:946:ALA:O | 1:A:1304:SER:OG | 2.22 | 0.57 |
| 1:D:799:PRO:O | 1:D:800:TYR:HB2 | 2.05 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:38:LEU:HD23 | 1:A:39:LEU:N | 2.20 | 0.57 |
| 1:A:368:GLN:CG | 1:A:404:LEU:HD22 | 2.34 | 0.57 |
| 1:A:810:LEU:HD23 | 1:A:858:TRP:HB2 | 1.86 | 0.57 |
| 1:A:1125:LEU:HD23 | 1:A:1128:LEU:CD1 | 2.35 | 0.57 |
| 1:C:347:ILE:HG21 | 1:C:439:GLU:CD | 2.24 | 0.57 |
| 1:C:442:GLU:OE1 | 1:C:444:ALA:N | 2.37 | 0.57 |
| 1:A:389:ASN:OD1 | 1:A:420:THR:HG22 | 2.05 | 0.56 |
| 1:A:1147:LYS:HA | 1:A:1150:LEU:HD12 | 1.87 | 0.56 |
| 1:B:549:GLY:O | 1:B:682:LYS:N | 2.38 | 0.56 |
| 1:B:387:ARG:HB2 | 1:B:420:THR:HG23 | 1.86 | 0.56 |
| 1:B:538:ALA:HB3 | 1:B:558:TYR:HB2 | 1.86 | 0.56 |
| 1:B:1100:THR:HG23 | 1:B:1146:THR:HG22 | 1.86 | 0.56 |
| 1:C:67:VAL:HG12 | 1:C:100:VAL:O | 2.05 | 0.56 |
| 1:C:476:VAL:N | 1:C:526:ILE:O | 2.38 | 0.56 |
| 1:D:605:LEU:HD12 | 1:D:608:LYS:O | 2.05 | 0.56 |
| 1:A:58:VAL:HG22 | 1:A:109:GLY:HA2 | 1.87 | 0.56 |
| 1:A:581:SER:HB2 | 1:A:756:VAL:CG1 | 2.34 | 0.56 |
| 1:A:1038:ASN:ND2 | 1:A:1085:SER:OG | 2.37 | 0.56 |
| 1:B:1110:LEU:O | 1:B:1112:ILE:HG22 | 2.05 | 0.56 |
| 1:C:593:SER:O | 1:C:746:VAL:N | 2.38 | 0.56 |
| 1:D:241:ILE:HG22 | 1:D:242:LEU:HD22 | 1.87 | 0.56 |
| 1:D:1000:ILE:O | 1:D:1004:ALA:N | 2.38 | 0.56 |
| 1:D:126:ASP:OD1 | 1:D:126:ASP:N | 2.37 | 0.56 |
| 1:D:1370:THR:HG23 | 1:D:1424:ASN:HB3 | 1.86 | 0.56 |
| 1:C:648:VAL:CG2 | 1:C:658:VAL:HG22 | 2.36 | 0.56 |
| 1:A:596:ALA:HB1 | 1:A:741:TRP:CZ3 | 2.41 | 0.56 |
| 1:A:596:ALA:HB1 | 1:A:741:TRP:HZ3 | 1.70 | 0.56 |
| 1:C:103:LEU:HD22 | 1:C:120:VAL:HG21 | 1.87 | 0.56 |
| 1:C:187:LEU:HG | 1:C:772:LEU:HD11 | 1.87 | 0.56 |
| 1:D:809:THR:CG2 | 1:D:1437:VAL:HG13 | 2.36 | 0.56 |
| 1:A:610:ASP:OD1 | 1:A:611:ALA:N | 2.37 | 0.56 |
| 1:B:1232:THR:HG21 | 1:B:1323:TYR:CG | 2.41 | 0.56 |
| 1:A:1111:GLU:OE1 | 1:A:1152:TYR:OH | 2.09 | 0.56 |
| 1:B:203:TYR:N | 1:B:219:PHE:O | 2.36 | 0.56 |
| 1:C:889:SER:O | 1:C:895:ARG:NH1 | 2.38 | 0.56 |
| 1:D:80:GLU:OE1 | 1:D:80:GLU:N | 2.39 | 0.56 |
| 1:D:1352:CYS:N | 1:D:1467:CYS:SG | 2.78 | 0.56 |
| 1:C:347:ILE:HG23 | 1:C:348:THR:HG23 | 1.88 | 0.56 |
| 1:D:1278:VAL:HG22 | 1:D:1316:VAL:CG1 | 2.36 | 0.56 |
| 1:A:77:LEU:HD13 | 1:A:87:VAL:HB | 1.87 | 0.56 |
| 1:A:227:PRO:O | 1:A:603:SER:OG | 2.24 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:650:ILE:HD12 | 1:A:656:THR:HG21 | 1.88 | 0.56 |
| 1:A:666:MET:HB3 | 1:A:683:ILE:HG23 | 1.88 | 0.56 |
| 1:B:39:LEU:CD1 | 1:B:122:VAL:HG12 | 2.36 | 0.56 |
| 1:B:339:GLN:OE1 | 1:B:339:GLN:N | 2.38 | 0.56 |
| 1:B:583:ALA:HB3 | 1:B:755:GLY:C | 2.26 | 0.56 |
| 1:C:661:THR:OG1 | 1:C:662:ASN:N | 2.39 | 0.56 |
| 1:C:948:VAL:HA | 1:C:1326:THR:HG23 | 1.86 | 0.56 |
| 1:A:602:GLN:HA | 1:A:605:LEU:HB3 | 1.88 | 0.55 |
| 1:B:1128:LEU:CD1 | 1:B:1150:LEU:HD13 | 2.36 | 0.55 |
| 1:D:1183:TRP:CZ3 | 1:D:1184:GLU:HG2 | 2.41 | 0.55 |
| 1:A:152:ASP:N | 1:A:152:ASP:OD1 | 2.39 | 0.55 |
| 1:A:966:LEU:HD21 | 1:A:1004:ALA:HB2 | 1.87 | 0.55 |
| 1:B:827:GLN:N | 1:B:873:SER:O | 2.36 | 0.55 |
| 1:C:1025:TYR:CE2 | 1:C:1045:VAL:HG11 | 2.41 | 0.55 |
| 1:C:1219:ALA:HB1 | 1:C:1222:ALA:N | 2.20 | 0.55 |
| 1:D:405:VAL:HG13 | 1:D:407:PHE:CE2 | 2.42 | 0.55 |
| 1:D:656:THR:HG22 | 1:D:657:PRO:O | 2.05 | 0.55 |
| 1:A:1217:LEU:O | 1:A:1219:ALA:N | 2.39 | 0.55 |
| 1:C:493:LEU:HD12 | 1:C:494:SER:H | 1.69 | 0.55 |
| 1:C:497:TYR:CD1 | 1:C:499:ILE:HD11 | 2.40 | 0.55 |
| 1:D:223:GLU:N | 1:D:223:GLU:OE2 | 2.40 | 0.55 |
| 1:A:81:ASN:O | 1:A:83:VAL:HG23 | 2.07 | 0.55 |
| 1:A:103:LEU:CB | 1:A:120:VAL:HG21 | 2.36 | 0.55 |
| 1:A:230:GLU:HA | 1:A:606:LEU:HD11 | 1.88 | 0.55 |
| 1:A:350:LEU:HD12 | 1:A:351:SER:N | 2.21 | 0.55 |
| 1:B:1093:GLY:O | 1:B:1204:ALA:HB2 | 2.07 | 0.55 |
| 1:A:596:ALA:N | 1:A:770:PHE:O | 2.37 | 0.55 |
| 1:B:238:ILE:HG23 | 1:B:342:GLU:HB2 | 1.88 | 0.55 |
| 1:C:1127:CYS:O | 1:C:1130:SER:OG | 2.18 | 0.55 |
| 1:A:493:LEU:HD11 | 1:A:544:ALA:HB1 | 1.87 | 0.55 |
| 1:A:762:ILE:HD11 | 1:A:795:GLU:OE2 | 2.06 | 0.55 |
| 1:A:1208:MET:O | 1:A:1212:VAL:N | 2.38 | 0.55 |
| 1:B:101:MET:CG | 1:B:122:VAL:HG13 | 2.24 | 0.55 |
| 1:B:1150:LEU:HD12 | 1:B:1154:PHE:CZ | 2.41 | 0.55 |
| 1:D:359:PHE:O | 1:D:664:LYS:NZ | 2.39 | 0.55 |
| 1:D:1278:VAL:HG22 | 1:D:1316:VAL:HG12 | 1.88 | 0.55 |
| 1:D:1352:CYS:SG | 1:D:1358:HIS:N | 2.80 | 0.55 |
| 1:A:735:PHE:HE2 | 1:A:738:THR:HB | 1.71 | 0.55 |
| 1:B:1026:SER:OG | 1:B:1027:THR:N | 2.40 | 0.55 |
| 1:C:387:ARG:HD3 | 1:C:420:THR:HG23 | 1.89 | 0.55 |
| 1:C:980:PHE:CE1 | 1:C:1008:LEU:HD22 | 2.42 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:270:ARG:NH1 | 1:B:309:PHE:O | 2.40 | 0.55 |
| 1:B:736:PRO:O | 1:B:738:THR:N | 2.39 | 0.55 |
| 1:C:352:PHE:HD1 | 1:C:369:VAL:HG22 | 1.71 | 0.55 |
| 1:D:387:ARG:HB2 | 1:D:420:THR:HG23 | 1.89 | 0.55 |
| 1:D:1106:THR:HG21 | 1:D:1124:ALA:CB | 2.37 | 0.55 |
| 1:A:84:LEU:HD23 | 1:A:508:THR:OG1 | 2.06 | 0.55 |
| 1:A:144:VAL:HG21 | 1:A:219:PHE:CZ | 2.42 | 0.55 |
| 1:A:481:ILE:N | 1:A:482:LEU:HD12 | 2.22 | 0.55 |
| 1:D:744:VAL:HG11 | 1:D:753:GLU:OE2 | 2.06 | 0.55 |
| 1:A:981:ALA:HB3 | 1:A:982:PRO:HD3 | 1.89 | 0.55 |
| 1:B:1152:TYR:HE1 | 1:B:1156:LEU:HD23 | 1.71 | 0.55 |
| 1:D:504:GLY:O | 1:D:505:ILE:HD13 | 2.07 | 0.55 |
| 1:A:931:LEU:CD1 | 1:A:933:LEU:HD21 | 2.37 | 0.54 |
| 1:A:965:LEU:HD11 | 1:A:1247:GLY:CA | 2.37 | 0.54 |
| 1:B:241:ILE:CG1 | 1:B:347:ILE:HD11 | 2.37 | 0.54 |
| 1:C:514:LEU:HD23 | 1:C:515:VAL:N | 2.22 | 0.54 |
| 1:C:778:LEU:HD23 | 1:C:778:LEU:H | 1.72 | 0.54 |
| 1:D:896:LYS:HG3 | 1:D:898:THR:HG23 | 1.89 | 0.54 |
| 1:A:384:ILE:N | 1:A:397:ALA:O | 2.40 | 0.54 |
| 1:A:386:ILE:HD13 | 1:A:407:PHE:HB3 | 1.89 | 0.54 |
| 1:B:431:CYS:O | 1:B:437:VAL:HG11 | 2.06 | 0.54 |
| 1:C:345:ARG:NH1 | 1:C:437:VAL:O | 2.40 | 0.54 |
| 1:C:976:ASN:ND2 | 1:C:1011:GLY:O | 2.39 | 0.54 |
| 1:D:538:ALA:HB2 | 1:D:560:VAL:HG23 | 1.90 | 0.54 |
| 1:B:385:PHE:N | 1:B:422:ARG:O | 2.41 | 0.54 |
| 1:C:103:LEU:HD22 | 1:C:120:VAL:CG2 | 2.37 | 0.54 |
| 1:C:187:LEU:HD11 | 1:C:743:LEU:HD21 | 1.90 | 0.54 |
| 1:C:475:THR:HG1 | 1:C:525:SER:HG | 1.51 | 0.54 |
| 1:C:1181:VAL:HG22 | 1:C:1233:ASN:CB | 2.37 | 0.54 |
| 1:D:617:SER:O | 1:D:621:LEU:HD23 | 2.08 | 0.54 |
| 1:D:1363:ILE:HG22 | 1:D:1365:LEU:CD1 | 2.38 | 0.54 |
| 1:A:681:SER:OG | 1:A:682:LYS:N | 2.41 | 0.54 |
| 1:A:1097:ASP:O | 1:A:1100:THR:N | 2.39 | 0.54 |
| 1:B:39:LEU:HD12 | 1:B:122:VAL:HG13 | 1.89 | 0.54 |
| 1:B:214:ARG:NH1 | 1:B:959:MET:SD | 2.80 | 0.54 |
| 1:B:1265:GLY:O | 1:B:1269:PHE:N | 2.40 | 0.54 |
| 1:C:356:ASP:OD1 | 1:C:358:HIS:N | 2.39 | 0.54 |
| 1:C:1110:LEU:HD13 | 1:C:1156:LEU:HB3 | 1.89 | 0.54 |
| 1:D:739:TRP:O | 1:D:740:ILE:HD13 | 2.07 | 0.54 |
| 1:B:996:LEU:HD23 | 1:B:996:LEU:H | 1.72 | 0.54 |
| 1:C:206:VAL:HG13 | 1:C:216:GLU:CG | 2.38 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:D:1014:ARG:NH1 | 1:D:1014:ARG:HB2 | 2.22 | 0.54 |
| 1:A:137:ILE:HD11 | 1:A:222:GLU:N | 2.22 | 0.54 |
| 1:A:688:MET:SD | 1:A:688:MET:N | 2.81 | 0.54 |
| 1:B:222:GLU:OE1 | 1:B:222:GLU:N | 2.41 | 0.54 |
| 1:B:744:VAL:HG23 | 1:B:751:VAL:HG21 | 1.90 | 0.54 |
| 1:C:187:LEU:CG | 1:C:772:LEU:HD11 | 2.37 | 0.54 |
| 1:C:197:GLU:O | 1:C:945:ARG:NH1 | 2.41 | 0.54 |
| 1:C:1213:LEU:HG | 1:C:1260:ALA:HB1 | 1.88 | 0.54 |
| 1:D:155:PHE:HB3 | 1:D:778:LEU:HD22 | 1.89 | 0.54 |
| 1:B:539:ARG:NH2 | 1:B:628:THR:OG1 | 2.41 | 0.54 |
| 1:B:1148:ALA:CB | 1:B:1212:VAL:HG22 | 2.38 | 0.54 |
| 1:C:914:THR:HG21 | 1:C:935:LEU:HD11 | 1.90 | 0.54 |
| 1:D:64:LEU:HD22 | 1:D:73:LEU:HD23 | 1.89 | 0.54 |
| 1:A:650:ILE:HD11 | 1:D:653:ILE:HD11 | 1.89 | 0.54 |
| 1:A:1206:VAL:O | 1:A:1209:THR:N | 2.41 | 0.54 |
| 1:C:33:VAL:C | 1:C:34:LEU:HD12 | 2.29 | 0.54 |
| 1:C:1147:LYS:O | 1:C:1166:VAL:HG21 | 2.08 | 0.54 |
| 1:D:990:LEU:HD23 | 1:D:990:LEU:C | 2.28 | 0.54 |
| 1:D:1107:ILE:HG21 | 1:D:1149:LEU:HD22 | 1.90 | 0.54 |
| 1:B:506:VAL:HG11 | 1:B:534:ILE:HD12 | 1.90 | 0.54 |
| 1:B:803:ILE:HD12 | 1:B:906:GLU:HB2 | 1.89 | 0.54 |
| 1:C:117:ARG:HB2 | 1:C:117:ARG:HH11 | 1.72 | 0.54 |
| 1:C:176:ALA:HB2 | 1:C:192:PHE:CD1 | 2.43 | 0.54 |
| 1:C:1181:VAL:HG23 | 1:C:1234:ILE:HG23 | 1.90 | 0.54 |
| 1:D:64:LEU:HD13 | 1:D:73:LEU:HB2 | 1.89 | 0.54 |
| 1:A:308:VAL:O | 1:A:310:GLN:NE2 | 2.38 | 0.53 |
| 1:C:187:LEU:HD23 | 1:C:772:LEU:HD11 | 1.88 | 0.53 |
| 1:A:600:VAL:O | 1:A:766:LYS:N | 2.41 | 0.53 |
| 1:A:911:GLU:N | 1:A:1331:ASN:OD1 | 2.41 | 0.53 |
| 1:A:1184:GLU:OE1 | 1:A:1187:GLN:NE2 | 2.36 | 0.53 |
| 1:B:237:LYS:O | 1:B:238:ILE:HD13 | 2.07 | 0.53 |
| 1:B:267:SER:O | 1:B:267:SER:OG | 2.24 | 0.53 |
| 1:C:315:GLU:OE1 | 1:C:315:GLU:N | 2.41 | 0.53 |
| 1:C:371:LEU:N | 1:C:403:GLY:O | 2.41 | 0.53 |
| 1:C:1110:LEU:CD2 | 1:C:1116:VAL:HG12 | 2.39 | 0.53 |
| 1:D:128:LEU:N | 1:D:151:MET:O | 2.37 | 0.53 |
| 1:D:265:THR:CB | 1:D:291:SER:HB3 | 2.39 | 0.53 |
| 1:A:833:ALA:HB3 | 1:A:868:VAL:HG21 | 1.89 | 0.53 |
| 1:A:1125:LEU:HA | 1:A:1128:LEU:HD12 | 1.89 | 0.53 |
| 1:B:49:VAL:O | 1:B:84:LEU:HD12 | 2.08 | 0.53 |
| 1:B:381:ASN:N | 1:B:399:THR:OG1 | 2.41 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:596:ALA:N | 1:B:770:PHE:O | 2.41 | 0.53 |
| 1:B:1050:ALA:HB1 | 1:B:1113:PRO:CG | 2.39 | 0.53 |
| 1:D:47:GLY:N | 1:D:87:VAL:O | 2.39 | 0.53 |
| 1:D:144:VAL:HG22 | 1:D:192:PHE:O | 2.08 | 0.53 |
| 1:B:318:MET:HE3 | 1:B:320:LEU:HD11 | 1.91 | 0.53 |
| 1:D:73:LEU:HD12 | 1:D:91:VAL:HG12 | 1.91 | 0.53 |
| 1:D:989:TYR:HD1 | 1:D:989:TYR:H | 1.55 | 0.53 |
| 1:D:1211:TYR:HD1 | 1:D:1214:LEU:HD12 | 1.73 | 0.53 |
| 1:B:368:GLN:CD | 1:B:404:LEU:HD22 | 2.29 | 0.53 |
| 1:B:336:THR:O | 1:B:336:THR:OG1 | 2.23 | 0.53 |
| 1:B:356:ASP:OD2 | 1:B:366:PHE:N | 2.41 | 0.53 |
| 1:B:372:VAL:HG12 | 1:B:373:ASP:H | 1.73 | 0.53 |
| 1:B:648:VAL:HG11 | 1:C:653:ILE:HD13 | 1.90 | 0.53 |
| 1:B:1242:GLN:NE2 | 1:B:1247:GLY:O | 2.38 | 0.53 |
| 1:C:205:VAL:N | 1:C:217:HIS:O | 2.41 | 0.53 |
| 1:A:665:ASP:OD1 | 1:A:666:MET:N | 2.42 | 0.53 |
| 1:A:731:VAL:O | 1:A:898:THR:OG1 | 2.26 | 0.53 |
| 1:B:1123:ASN:ND2 | 1:D:103:LEU:O | 2.42 | 0.53 |
| 1:C:30:GLN:NE2 | 1:C:681:SER:OG | 2.39 | 0.53 |
| 1:C:394:TYR:HD2 | 5:C:2004:NAG:H61 | 1.74 | 0.53 |
| 1:D:1183:TRP:CE3 | 1:D:1183:TRP:O | 2.61 | 0.53 |
| 1:A:1070:LEU:CD1 | 1:A:1109:LEU:HD11 | 2.38 | 0.53 |
| 1:B:267:SER:OG | 1:B:321:HIS:N | 2.38 | 0.53 |
| 1:C:103:LEU:HD23 | 1:C:118:THR:CG2 | 2.38 | 0.53 |
| 1:C:388:GLY:HA2 | 1:C:391:ALA:HB3 | 1.89 | 0.53 |
| 1:C:653:ILE:O | 1:C:654:THR:HG23 | 2.09 | 0.53 |
| 1:C:992:GLU:HG3 | 1:C:1266:ALA:HB2 | 1.91 | 0.53 |
| 1:C:1026:SER:OG | 1:C:1027:THR:N | 2.40 | 0.53 |
| 1:D:622:LEU:HD23 | 1:D:623:PRO:O | 2.09 | 0.53 |
| 1:D:622:LEU:HD22 | 1:D:625:LYS:HG3 | 1.89 | 0.53 |
| 1:D:910:LEU:HB2 | 1:D:1333:LEU:HD23 | 1.89 | 0.53 |
| 5:D:2002:NAG:HO3 | 5:D:2002:NAG:C7 | 2.22 | 0.53 |
| 1:A:919:LEU:O | 1:A:920:LEU:HD23 | 2.09 | 0.53 |
| 1:B:804:ARG:NH2 | 1:B:941:GLU:OE2 | 2.39 | 0.53 |
| 1:B:1047:LYS:O | 1:B:1050:ALA:HB3 | 2.09 | 0.53 |
| 1:C:187:LEU:CD2 | 1:C:772:LEU:HD11 | 2.39 | 0.53 |
| 1:C:233:VAL:HG23 | 1:C:338:ARG:HH22 | 1.74 | 0.53 |
| 1:A:431:CYS:CB | 1:A:437:VAL:HG11 | 2.39 | 0.53 |
| 1:B:129:VAL:HG12 | 1:B:149:VAL:O | 2.09 | 0.53 |
| 1:B:570:LEU:N | 1:B:781:SER:OG | 2.42 | 0.53 |
| 1:A:496:TYR:N | 1:A:543:TYR:O | 2.42 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:899:VAL:HG12 | 1:A:901:LYS:HG2 | 1.90 | 0.52 |
| 1:C:38:LEU:O | 1:C:38:LEU:HD23 | 2.08 | 0.52 |
| 1:C:541:LEU:HD22 | 1:C:673:MET:CE | 2.39 | 0.52 |
| 1:C:1049:PHE:HD1 | 1:C:1058:ILE:HD11 | 1.74 | 0.52 |
| 1:C:1095:VAL:HG13 | 1:C:1201:ALA:HA | 1.90 | 0.52 |
| 1:C:1106:THR:HG21 | 1:C:1124:ALA:HB1 | 1.90 | 0.52 |
| 1:D:405:VAL:HG13 | 1:D:407:PHE:HE2 | 1.74 | 0.52 |
| 1:D:914:THR:HG23 | 1:D:1330:TYR:HE1 | 1.74 | 0.52 |
| 1:A:333:VAL:HG12 | 1:A:334:GLU:H | 1.74 | 0.52 |
| 1:A:955:LEU:HD21 | 1:A:993:THR:HB | 1.91 | 0.52 |
| 1:B:288:GLU:N | 1:B:288:GLU:OE1 | 2.42 | 0.52 |
| 1:B:637:GLN:O | 1:B:684:ARG:NH1 | 2.40 | 0.52 |
| 1:B:1279:THR:O | 1:B:1315:LYS:N | 2.42 | 0.52 |
| 1:C:276:SER:OG | 1:C:279:HIS:O | 2.23 | 0.52 |
| 1:C:335:LEU:HD23 | 1:C:336:THR:N | 2.23 | 0.52 |
| 1:C:1146:THR:O | 1:C:1150:LEU:HD23 | 2.09 | 0.52 |
| 1:D:390:GLU:OE1 | 1:D:390:GLU:HA | 2.09 | 0.52 |
| 1:A:266:VAL:HG22 | 1:A:322:THR:OG1 | 2.09 | 0.52 |
| 1:B:1072:GLN:NE2 | 1:D:634:LEU:HD23 | 2.24 | 0.52 |
| 1:C:974:GLU:OE1 | 1:C:1091:ILE:HD13 | 2.09 | 0.52 |
| 1:C:1041:LEU:O | 1:C:1045:VAL:HG23 | 2.09 | 0.52 |
| 1:D:288:GLU:OE1 | 1:D:288:GLU:N | 2.43 | 0.52 |
| 1:D:473:THR:OG1 | 1:D:528:ILE:O | 2.27 | 0.52 |
| 1:B:329:GLU:CG | 1:B:797:THR:HG21 | 2.38 | 0.52 |
| 1:C:238:ILE:HG23 | 1:C:342:GLU:HB2 | 1.91 | 0.52 |
| 1:C:1217:LEU:HD21 | 1:C:1228:LEU:CD2 | 2.40 | 0.52 |
| 1:D:1042:THR:HA | 1:D:1045:VAL:HG12 | 1.92 | 0.52 |
| 1:A:581:SER:HB2 | 1:A:756:VAL:HG22 | 1.92 | 0.52 |
| 5:A:2003:NAG:H3 | 5:A:2003:NAG:H82 | 1.90 | 0.52 |
| 1:B:808:PHE:N | 1:B:860:VAL:O | 2.40 | 0.52 |
| 1:C:117:ARG:HB2 | 1:C:117:ARG:NH1 | 2.24 | 0.52 |
| 1:C:385:PHE:N | 1:C:422:ARG:O | 2.43 | 0.52 |
| 1:D:66:SER:OG | 1:D:67:VAL:N | 2.43 | 0.52 |
| 1:D:233:VAL:O | 1:D:338:ARG:NH1 | 2.42 | 0.52 |
| 1:D:386:ILE:HD11 | 1:D:397:ALA:HB3 | 1.92 | 0.52 |
| 1:A:144:VAL:O | 1:A:192:PHE:N | 2.42 | 0.52 |
| 1:A:347:ILE:HG22 | 1:A:348:THR:H | 1.73 | 0.52 |
| 1:B:747:ASN:ND2 | 1:B:750:GLY:O | 2.43 | 0.52 |
| 1:C:176:ALA:HB1 | 1:C:178:TRP:CZ3 | 2.43 | 0.52 |
| 1:D:117:ARG:O | 1:D:118:THR:OG1 | 2.28 | 0.52 |
| 1:D:268:ILE:HD11 | 1:D:290:PHE:HD1 | 1.74 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:122:VAL:HG23 | 1:B:122:VAL:O | 2.08 | 0.52 |
| 1:C:798:MET:CB | 1:C:810:LEU:HD22 | 2.40 | 0.52 |
| 1:C:1181:VAL:HG23 | 1:C:1234:ILE:CG2 | 2.40 | 0.52 |
| 1:D:292:GLY:HA3 | 1:D:300:PHE:HZ | 1.75 | 0.52 |
| 1:B:743:LEU:HD11 | 1:B:745:VAL:HG22 | 1.92 | 0.52 |
| 1:B:1109:LEU:HD21 | 1:B:1120:VAL:CG1 | 2.39 | 0.52 |
| 1:B:1148:ALA:HB1 | 1:B:1212:VAL:HG22 | 1.92 | 0.52 |
| 1:C:499:ILE:HD13 | 1:C:507:ARG:HG3 | 1.90 | 0.52 |
| 1:D:290:PHE:CB | 1:D:304:VAL:HG12 | 2.39 | 0.52 |
| 1:D:490:LEU:HD23 | 1:D:492:LYS:O | 2.10 | 0.52 |
| 1:A:793:PHE:CZ | 1:A:815:LEU:HD13 | 2.45 | 0.52 |
| 1:A:912:LYS:HG3 | 1:A:1330:TYR:CE1 | 2.45 | 0.52 |
| 1:A:1296:ASN:N | 1:A:1296:ASN:OD1 | 2.42 | 0.52 |
| 1:B:329:GLU:HG2 | 1:B:797:THR:HG21 | 1.92 | 0.52 |
| 1:B:814:VAL:HG21 | 1:B:874:ALA:CB | 2.40 | 0.52 |
| 1:B:1271:ARG:NE | 1:B:1271:ARG:H | 2.08 | 0.52 |
| 1:C:61:SER:O | 1:C:61:SER:OG | 2.26 | 0.52 |
| 1:C:363:ILE:HD13 | 1:C:481:ILE:HD11 | 1.92 | 0.52 |
| 1:D:620:ASN:O | 1:D:625:LYS:NZ | 2.23 | 0.52 |
| 1:D:913:GLU:OE2 | 1:D:1176:LYS:N | 2.43 | 0.52 |
| 1:D:1011:GLY:HA2 | 1:D:1014:ARG:CZ | 2.40 | 0.52 |
| 1:A:77:LEU:HD22 | 1:A:87:VAL:CG1 | 2.40 | 0.52 |
| 1:A:996:LEU:HD12 | 1:A:997:THR:H | 1.75 | 0.52 |
| 1:A:1183:TRP:CH2 | 1:A:1212:VAL:HG11 | 2.45 | 0.52 |
| 1:B:450:LEU:O | 1:B:664:LYS:N | 2.41 | 0.52 |
| 1:C:319:LYS:CA | 1:C:320:LEU:HD12 | 2.40 | 0.52 |
| 1:C:350:LEU:HD12 | 1:C:351:SER:N | 2.25 | 0.52 |
| 1:C:1076:ASP:N | 1:C:1076:ASP:OD1 | 2.43 | 0.52 |
| 1:D:165:VAL:CG2 | 1:D:207:VAL:HG22 | 2.40 | 0.52 |
| 1:A:742:ASP:N | 1:A:742:ASP:OD1 | 2.43 | 0.51 |
| 1:A:1105:ILE:O | 1:A:1109:LEU:HD23 | 2.09 | 0.51 |
| 1:A:1305:LEU:HD13 | 1:A:1312:TYR:CD1 | 2.46 | 0.51 |
| 1:B:911:GLU:N | 1:B:1331:ASN:OD1 | 2.43 | 0.51 |
| 1:D:828:LEU:HD13 | 1:D:858:TRP:HB2 | 1.91 | 0.51 |
| 1:D:910:LEU:HD21 | 1:D:1183:TRP:CE2 | 2.44 | 0.51 |
| 1:A:60:VAL:HG23 | 1:A:107:VAL:CG2 | 2.39 | 0.51 |
| 1:A:372:VAL:HG12 | 1:A:373:ASP:H | 1.74 | 0.51 |
| 1:B:626:ASP:O | 1:B:628:THR:HG22 | 2.11 | 0.51 |
| 1:B:802:VAL:O | 1:B:803:ILE:HD13 | 2.09 | 0.51 |
| 1:C:1022:ASP:OD1 | 1:C:1023:GLY:N | 2.43 | 0.51 |
| 1:C:1253:ASP:N | 1:C:1253:ASP:OD1 | 2.40 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:D:348:THR:OG1 | 1:D:441:HIS:ND1 | 2.37 | 0.51 |
| 1:A:869:ASN:HB3 | 1:A:900:ILE:CG2 | 2.39 | 0.51 |
| 1:A:1068:ILE:HD12 | 1:A:1072:GLN:HE22 | 1.75 | 0.51 |
| 1:B:1070:LEU:HD22 | 1:B:1120:VAL:CG1 | 2.40 | 0.51 |
| 1:D:233:VAL:HA | 1:D:250:VAL:HG13 | 1.92 | 0.51 |
| 1:D:502:LYS:HA | 1:D:535:ALA:HB2 | 1.92 | 0.51 |
| 1:D:1218:THR:HG23 | 1:D:1263:LYS:HZ2 | 1.76 | 0.51 |
| 2:I:2:NAG:C7 | 2:I:2:NAG:HO3 | 2.23 | 0.51 |
| 1:A:562:ASN:OD1 | 1:A:616:SER:OG | 2.28 | 0.51 |
| 1:A:1088:ASN:ND2 | 1:A:1091:ILE:HD12 | 2.25 | 0.51 |
| 1:A:1210:SER:OG | 1:A:1211:TYR:N | 2.43 | 0.51 |
| 1:B:568:VAL:CG2 | 1:B:589:ALA:HB2 | 2.40 | 0.51 |
| 1:C:798:MET:HB2 | 1:C:810:LEU:HD22 | 1.91 | 0.51 |
| 1:C:1099:VAL:HG11 | 1:C:1146:THR:HG22 | 1.91 | 0.51 |
| 1:D:173:ASN:OD1 | 1:D:173:ASN:N | 2.43 | 0.51 |
| 1:D:599:ALA:HB3 | 1:D:740:ILE:CG1 | 2.40 | 0.51 |
| 1:D:1251:THR:HG21 | 1:D:1407:ARG:CG | 2.41 | 0.51 |
| 1:A:237:LYS:HB2 | 1:A:338:ARG:HG3 | 1.93 | 0.51 |
| 1:A:270:ARG:NE | 1:A:316:TYR:O | 2.38 | 0.51 |
| 1:B:39:LEU:CD1 | 1:B:122:VAL:CG1 | 2.88 | 0.51 |
| 1:B:64:LEU:HD13 | 1:B:103:LEU:HD13 | 1.92 | 0.51 |
| 1:B:660:SER:OG | 1:B:687:LYS:NZ | 2.22 | 0.51 |
| 1:C:112:GLN:NE2 | 1:C:112:GLN:HA | 2.26 | 0.51 |
| 1:C:133:THR:HG22 | 1:C:146:PHE:CB | 2.39 | 0.51 |
| 1:D:959:MET:N | 1:D:959:MET:SD | 2.84 | 0.51 |
| 1:A:415:MET:HG3 | 1:A:450:LEU:HD21 | 1.93 | 0.51 |
| 1:B:1044:PHE:CZ | 1:B:1255:VAL:HG21 | 2.43 | 0.51 |
| 1:C:1210:SER:OG | 1:C:1211:TYR:N | 2.43 | 0.51 |
| 1:A:989:TYR:CE2 | 1:A:993:THR:HG21 | 2.46 | 0.51 |
| 1:B:501:ALA:O | 1:B:504:GLY:N | 2.43 | 0.51 |
| 1:C:148:VAL:HG22 | 1:C:149:VAL:H | 1.74 | 0.51 |
| 1:C:400:ASP:OD1 | 1:C:404:LEU:N | 2.39 | 0.51 |
| 1:D:35:VAL:HG22 | 1:D:677:ALA:HA | 1.92 | 0.51 |
| 1:D:46:LYS:NZ | 1:D:506:VAL:O | 2.30 | 0.51 |
| 1:D:165:VAL:HG21 | 1:D:207:VAL:HG22 | 1.91 | 0.51 |
| 1:C:142:GLN:O | 1:C:194:LEU:HG | 2.10 | 0.51 |
| 1:C:270:ARG:NE | 1:C:316:TYR:O | 2.41 | 0.51 |
| 1:C:527:SER:O | 1:C:528:ILE:HG23 | 2.10 | 0.51 |
| 1:A:184:GLU:OE1 | 1:A:184:GLU:N | 2.44 | 0.51 |
| 1:A:345:ARG:O | 1:A:440:GLU:N | 2.43 | 0.51 |
| 1:A:431:CYS:HB2 | 1:A:437:VAL:HG11 | 1.92 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:871:THR:HG22 | 1:A:900:ILE:HG23 | 1.92 | 0.51 |
| 1:B:203:TYR:O | 1:B:219:PHE:N | 2.37 | 0.51 |
| 1:B:307:LYS:O | 1:B:310:GLN:NE2 | 2.44 | 0.51 |
| 1:B:907:PRO:O | 1:B:1331:ASN:ND2 | 2.44 | 0.51 |
| 1:C:975:GLN:O | 1:C:979:LEU:HD23 | 2.11 | 0.51 |
| 1:A:78:GLU:OE2 | 1:A:85:HIS:ND1 | 2.42 | 0.51 |
| 1:A:767:ALA:HB3 | 1:A:783:THR:HA | 1.93 | 0.51 |
| 1:A:950:VAL:HG22 | 1:A:1324:LEU:HD21 | 1.92 | 0.51 |
| 1:B:499:ILE:HG12 | 1:B:528:ILE:HD12 | 1.92 | 0.51 |
| 1:B:1027:THR:HG21 | 1:B:1087:LEU:CD1 | 2.42 | 0.51 |
| 1:C:147:ARG:NH1 | 1:C:742:ASP:O | 2.40 | 0.51 |
| 1:C:451:VAL:HG23 | 1:C:664:LYS:C | 2.31 | 0.51 |
| 1:C:1086:LEU:HD12 | 1:C:1087:LEU:N | 2.26 | 0.51 |
| 1:C:1292:VAL:HA | 1:C:1296:ASN:ND2 | 2.26 | 0.51 |
| 1:D:195:SER:OG | 1:D:1244:ALA:O | 2.16 | 0.51 |
| 1:D:321:HIS:HB3 | 1:D:336:THR:HG22 | 1.92 | 0.51 |
| 1:D:917:ASN:ND2 | 1:D:1323:TYR:OH | 2.43 | 0.51 |
| 1:A:497:TYR:CE1 | 1:A:526:ILE:HD11 | 2.46 | 0.50 |
| 1:B:978:VAL:HG22 | 1:B:1251:THR:HG21 | 1.93 | 0.50 |
| 1:C:38:LEU:HD11 | 1:C:123:LYS:HD3 | 1.93 | 0.50 |
| 1:C:932:SER:OG | 1:C:1310:GLY:O | 2.20 | 0.50 |
| 1:D:538:ALA:O | 1:D:558:TYR:N | 2.40 | 0.50 |
| 1:D:763:THR:HG23 | 1:D:765:TRP:NE1 | 2.26 | 0.50 |
| 1:D:1019:LYS:O | 1:D:1030:GLU:N | 2.44 | 0.50 |
| 1:D:1150:LEU:HD12 | 1:D:1170:LEU:HD21 | 1.92 | 0.50 |
| 1:A:536:PRO:HA | 1:A:560:VAL:HB | 1.92 | 0.50 |
| 1:A:550:ASP:OD1 | 1:A:551:VAL:N | 2.44 | 0.50 |
| 1:A:1067:LEU:HD12 | 1:A:1070:LEU:CD1 | 2.38 | 0.50 |
| 1:B:133:THR:HG23 | 1:B:217:HIS:CD2 | 2.45 | 0.50 |
| 1:B:236:PRO:HD2 | 1:B:248:VAL:HG22 | 1.93 | 0.50 |
| 1:D:142:GLN:NE2 | 1:D:737:GLU:OE1 | 2.44 | 0.50 |
| 1:D:399:THR:OG1 | 1:D:400:ASP:N | 2.44 | 0.50 |
| 1:D:570:LEU:CB | 1:D:587:VAL:HG22 | 2.41 | 0.50 |
| 1:A:94:SER:OG | 1:A:124:ASN:ND2 | 2.41 | 0.50 |
| 1:A:270:ARG:NH1 | 1:A:309:PHE:O | 2.44 | 0.50 |
| 1:B:129:VAL:HG12 | 1:B:150:SER:HB2 | 1.92 | 0.50 |
| 1:C:491:LYS:O | 1:C:515:VAL:HG22 | 2.11 | 0.50 |
| 1:D:793:PHE:CE1 | 1:D:815:LEU:HD23 | 2.46 | 0.50 |
| 1:A:101:MET:O | 1:A:120:VAL:N | 2.40 | 0.50 |
| 1:B:1152:TYR:CE2 | 1:B:1214:LEU:HD13 | 2.46 | 0.50 |
| 1:C:239:ILE:CG2 | 1:C:343:ILE:HD11 | 2.42 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C:578:LEU:O | 1:C:580:ALA:N | 2.45 | 0.50 |
| 1:D:1016:LEU:HD23 | 1:D:1016:LEU:O | 2.10 | 0.50 |
| 1:D:1238:ILE:HD12 | 1:D:1257:ALA:O | 2.11 | 0.50 |
| 1:A:164:LEU:O | 1:A:207:VAL:HG23 | 2.12 | 0.50 |
| 1:A:984:ILE:HA | 1:A:987:LEU:HD12 | 1.93 | 0.50 |
| 1:B:1160:GLN:OE1 | 1:B:1160:GLN:N | 2.38 | 0.50 |
| 1:C:1115:THR:CB | 1:C:1117:THR:HG22 | 2.41 | 0.50 |
| 1:C:1181:VAL:HG22 | 1:C:1233:ASN:HB3 | 1.93 | 0.50 |
| 1:C:1208:MET:SD | 1:C:1209:THR:HG23 | 2.51 | 0.50 |
| 1:D:914:THR:OG1 | 1:D:935:LEU:HD13 | 2.11 | 0.50 |
| 1:A:44:THR:OG1 | 1:A:88:ALA:HB1 | 2.12 | 0.50 |
| 1:A:147:ARG:CD | 1:A:743:LEU:HD11 | 2.42 | 0.50 |
| 1:B:369:VAL:N | 1:B:405:VAL:O | 2.44 | 0.50 |
| 1:B:590:ALA:O | 1:B:593:SER:OG | 2.28 | 0.50 |
| 1:B:969:PRO:HB2 | 1:B:1014:ARG:HD3 | 1.94 | 0.50 |
| 1:C:576:GLN:HE21 | 1:C:757:THR:HG21 | 1.76 | 0.50 |
| 1:C:1225:SER:O | 1:C:1229:THR:HG23 | 2.12 | 0.50 |
| 1:A:639:ASN:OD1 | 1:A:640:GLU:N | 2.43 | 0.50 |
| 1:B:59:THR:O | 1:B:59:THR:OG1 | 2.27 | 0.50 |
| 1:B:1112:ILE:HG13 | 1:B:1117:THR:HG23 | 1.92 | 0.50 |
| 1:C:164:LEU:HD11 | 1:C:166:TYR:CD1 | 2.47 | 0.50 |
| 1:C:185:GLY:O | 1:C:772:LEU:HD13 | 2.12 | 0.50 |
| 1:D:476:VAL:N | 1:D:526:ILE:O | 2.40 | 0.50 |
| 1:D:538:ALA:HB3 | 1:D:558:TYR:HB2 | 1.93 | 0.50 |
| 1:A:912:LYS:N | 1:A:1330:TYR:O | 2.40 | 0.50 |
| 1:B:1077:ASN:OD1 | 1:B:1078:GLY:N | 2.45 | 0.50 |
| 1:C:495:PHE:O | 1:C:511:HIS:N | 2.44 | 0.50 |
| 1:C:1107:ILE:HD13 | 1:C:1153:ALA:HA | 1.93 | 0.50 |
| 1:D:546:LEU:HD23 | 1:D:550:ASP:N | 2.27 | 0.50 |
| 1:D:975:GLN:O | 1:D:978:VAL:N | 2.45 | 0.50 |
| 1:A:919:LEU:HD23 | 1:A:920:LEU:N | 2.26 | 0.50 |
| 1:A:1257:ALA:O | 1:A:1261:LEU:HD12 | 2.12 | 0.50 |
| 1:B:812:ALA:CB | 1:B:872:VAL:HG11 | 2.42 | 0.50 |
| 1:D:934:LYS:NZ | 1:D:1308:LEU:O | 2.23 | 0.50 |
| 1:A:346:THR:O | 1:A:347:ILE:HD13 | 2.12 | 0.49 |
| 1:A:966:LEU:HD11 | 1:A:1000:ILE:HG12 | 1.93 | 0.49 |
| 1:A:1152:TYR:OH | 1:A:1214:LEU:HD22 | 2.11 | 0.49 |
| 1:B:812:ALA:HB2 | 1:B:872:VAL:HG11 | 1.94 | 0.49 |
| 1:D:168:GLN:NE2 | 1:D:169:ASP:O | 2.44 | 0.49 |
| 1:D:318:MET:HB3 | 1:D:320:LEU:HD21 | 1.94 | 0.49 |
| 1:A:730:THR:OG1 | 1:A:896:LYS:O | 2.11 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:167:ILE:HG23 | 1:B:204:LYS:O | 2.11 | 0.49 |
| 1:C:565:ALA:HB3 | 1:C:776:ALA:O | 2.12 | 0.49 |
| 1:D:881:GLU:OE1 | 1:D:881:GLU:N | 2.46 | 0.49 |
| 1:A:1070:LEU:CD1 | 1:A:1109:LEU:HD21 | 2.40 | 0.49 |
| 1:B:581:SER:O | 1:B:757:THR:N | 2.41 | 0.49 |
| 1:D:42:GLU:N | 1:D:91:VAL:O | 2.39 | 0.49 |
| 1:C:744:VAL:HG23 | 1:C:751:VAL:HG11 | 1.94 | 0.49 |
| 1:A:33:VAL:C | 1:A:34:LEU:HD12 | 2.33 | 0.49 |
| 1:A:305:LYS:CE | 1:A:308:VAL:HG23 | 2.41 | 0.49 |
| 1:A:978:VAL:HG22 | 1:A:1251:THR:HG21 | 1.94 | 0.49 |
| 1:B:414:VAL:HG21 | 1:C:646:HIS:HB3 | 1.94 | 0.49 |
| 1:C:107:VAL:HG11 | 1:C:112:GLN:HG3 | 1.94 | 0.49 |
| 1:C:648:VAL:HG21 | 1:C:657:PRO:O | 2.12 | 0.49 |
| 1:A:187:LEU:HD13 | 1:A:743:LEU:HD21 | 1.94 | 0.49 |
| 1:B:414:VAL:HG11 | 1:C:647:ASN:H | 1.78 | 0.49 |
| 1:C:437:VAL:HG11 | 1:D:278:CYS:CB | 2.41 | 0.49 |
| 1:C:535:ALA:HB1 | 1:C:536:PRO:HD2 | 1.95 | 0.49 |
| 1:C:1307:GLU:OE2 | 1:C:1312:TYR:OH | 2.30 | 0.49 |
| 1:D:1416:LEU:O | 1:D:1417:ILE:HD13 | 2.13 | 0.49 |
| 1:A:912:LYS:HG2 | 1:A:1330:TYR:O | 2.12 | 0.49 |
| 1:B:122:VAL:O | 1:B:122:VAL:CG2 | 2.60 | 0.49 |
| 1:B:151:MET:CE | 1:B:778:LEU:HD13 | 2.43 | 0.49 |
| 1:D:1278:VAL:N | 1:D:1290:PHE:O | 2.45 | 0.49 |
| 1:A:911:GLU:OE2 | 1:A:1331:ASN:ND2 | 2.45 | 0.49 |
| 1:A:1235:VAL:HG22 | 1:A:1261:LEU:CD2 | 2.42 | 0.49 |
| 1:C:384:ILE:HD11 | 1:C:405:VAL:HG13 | 1.94 | 0.49 |
| 1:C:964:ASN:O | 1:C:966:LEU:N | 2.45 | 0.49 |
| 1:D:270:ARG:O | 1:D:285:ALA:N | 2.45 | 0.49 |
| 1:D:352:PHE:HA | 1:D:369:VAL:HG22 | 1.94 | 0.49 |
| 1:D:650:ILE:HD11 | 1:D:659:SER:H | 1.78 | 0.49 |
| 1:A:72:SER:O | 1:A:73:LEU:HD23 | 2.12 | 0.49 |
| 1:A:267:SER:O | 1:A:321:HIS:N | 2.45 | 0.49 |
| 1:A:876:ALA:HB1 | 1:A:889:SER:OG | 2.11 | 0.49 |
| 1:B:420:THR:OG1 | 1:B:422:ARG:NH1 | 2.45 | 0.49 |
| 1:B:735:PHE:CD1 | 1:B:735:PHE:O | 2.66 | 0.49 |
| 1:C:32:MET:HG2 | 1:C:34:LEU:HD11 | 1.95 | 0.49 |
| 1:C:1103:ALA:HB3 | 1:C:1149:LEU:HD21 | 1.95 | 0.49 |
| 1:D:733:LYS:NZ | 1:D:734:TYR:O | 2.28 | 0.49 |
| 1:D:811:LYS:NZ | 1:D:813:THR:OG1 | 2.45 | 0.49 |
| 1:D:936:PRO:HB2 | 1:D:939:VAL:HG11 | 1.94 | 0.49 |
| 1:D:1047:LYS:N | 1:D:1111:GLU:OE1 | 2.46 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:D:1390:ILE:O | 1:D:1434:LEU:N | 2.43 | 0.49 |
| 1:A:453:SER:OG | 1:A:456:LYS:N | 2.46 | 0.49 |
| 5:B:2001:NAG:O3 | 5:B:2001:NAG:H82 | 2.13 | 0.49 |
| 1:D:599:ALA:HB3 | 1:D:740:ILE:HB | 1.95 | 0.49 |
| 1:D:975:GLN:CD | 1:D:975:GLN:N | 2.66 | 0.49 |
| 1:B:1042:THR:HA | 1:B:1045:VAL:HG22 | 1.93 | 0.48 |
| 1:C:134:ASP:OD1 | 1:C:135:LYS:NZ | 2.46 | 0.48 |
| 1:D:77:LEU:HD21 | 1:D:87:VAL:HG11 | 1.95 | 0.48 |
| 1:A:387:ARG:HG2 | 1:A:387:ARG:NH1 | 2.28 | 0.48 |
| 1:B:736:PRO:C | 1:B:738:THR:N | 2.66 | 0.48 |
| 1:B:870:PHE:HE2 | 1:B:872:VAL:HG13 | 1.78 | 0.48 |
| 1:B:1027:THR:HG21 | 1:B:1087:LEU:HD11 | 1.94 | 0.48 |
| 1:C:585:LEU:N | 1:C:753:GLU:O | 2.43 | 0.48 |
| 1:D:1175:VAL:O | 1:D:1181:VAL:HG13 | 2.13 | 0.48 |
| 1:B:62:ALA:HB3 | 1:B:75:THR:HB | 1.95 | 0.48 |
| 1:B:539:ARG:NH1 | 1:B:672:ASP:O | 2.46 | 0.48 |
| 1:B:1226:GLU:O | 1:B:1229:THR:OG1 | 2.26 | 0.48 |
| 1:C:357:SER:O | 1:C:448:ALA:HB1 | 2.12 | 0.48 |
| 1:C:1118:HIS:CE1 | 1:C:1120:VAL:HG23 | 2.48 | 0.48 |
| 1:D:63:SER:C | 1:D:64:LEU:HD12 | 2.33 | 0.48 |
| 1:D:103:LEU:HD23 | 1:D:104:THR:N | 2.27 | 0.48 |
| 1:D:176:ALA:HB2 | 1:D:192:PHE:CE1 | 2.48 | 0.48 |
| 1:D:1103:ALA:HB1 | 1:D:1149:LEU:HD12 | 1.93 | 0.48 |
| 1:D:1208:MET:O | 1:D:1212:VAL:HG23 | 2.13 | 0.48 |
| 1:C:493:LEU:N | 1:C:513:LEU:O | 2.43 | 0.48 |
| 1:C:806:GLU:OE2 | 1:C:806:GLU:N | 2.45 | 0.48 |
| 1:D:464:MET:O | 1:D:466:HIS:N | 2.47 | 0.48 |
| 1:A:421:VAL:HG13 | 1:A:444:ALA:HB3 | 1.96 | 0.48 |
| 1:A:634:LEU:HD23 | 1:A:634:LEU:H | 1.79 | 0.48 |
| 1:B:358:HIS:HA | 1:B:448:ALA:HB1 | 1.96 | 0.48 |
| 1:B:571:SER:O | 1:B:586:ARG:N | 2.46 | 0.48 |
| 1:C:233:VAL:HG23 | 1:C:338:ARG:NH2 | 2.28 | 0.48 |
| 1:A:568:VAL:HG23 | 1:A:589:ALA:HB2 | 1.94 | 0.48 |
| 1:A:650:ILE:HD12 | 1:A:656:THR:HG22 | 1.94 | 0.48 |
| 1:A:831:SER:OG | 1:A:868:VAL:HG22 | 2.13 | 0.48 |
| 1:B:1205:GLU:O | 1:B:1209:THR:OG1 | 2.12 | 0.48 |
| 1:D:68:ARG:HA | 1:D:68:ARG:NH1 | 2.29 | 0.48 |
| 1:A:463:PRO:O | 1:A:465:SER:N | 2.47 | 0.48 |
| 1:B:493:LEU:HD11 | 1:B:545:VAL:O | 2.13 | 0.48 |
| 1:C:206:VAL:HG13 | 1:C:216:GLU:HG3 | 1.95 | 0.48 |
| 1:D:268:ILE:HA | 1:D:320:LEU:HD22 | 1.96 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:D:381:ASN:H | 1:D:399:THR:HG23 | 1.78 | 0.48 |
| 1:D:835:LEU:O | 1:D:860:VAL:HG23 | 2.13 | 0.48 |
| 1:D:1276:ALA:HB3 | 1:D:1292:VAL:HB | 1.96 | 0.48 |
| 1:B:927:VAL:O | 1:B:1316:VAL:N | 2.43 | 0.48 |
| 1:B:955:LEU:HD21 | 1:B:995:GLN:CD | 2.34 | 0.48 |
| 1:B:1083:SER:N | 1:D:638:ASP:OD2 | 2.47 | 0.48 |
| 1:D:386:ILE:HA | 1:D:421:VAL:HG13 | 1.96 | 0.48 |
| 1:D:597:LEU:N | 1:D:742:ASP:O | 2.41 | 0.48 |
| 1:D:985:TYR:O | 1:D:987:LEU:N | 2.46 | 0.48 |
| 1:D:1301:GLN:OE1 | 1:D:1301:GLN:N | 2.47 | 0.48 |
| 1:A:1227:ASP:OD1 | 1:A:1227:ASP:N | 2.45 | 0.48 |
| 1:B:34:LEU:N | 1:B:48:CYS:O | 2.42 | 0.48 |
| 1:C:914:THR:HG21 | 1:C:935:LEU:CD1 | 2.43 | 0.48 |
| 1:C:1025:TYR:CB | 1:C:1042:THR:HG22 | 2.44 | 0.48 |
| 1:D:382:LYS:O | 1:D:398:THR:OG1 | 2.25 | 0.48 |
| 1:D:1012:TYR:C | 1:D:1012:TYR:CD1 | 2.87 | 0.48 |
| 1:D:1390:ILE:N | 1:D:1434:LEU:O | 2.46 | 0.48 |
| 1:A:214:ARG:NH2 | 1:A:959:MET:SD | 2.87 | 0.48 |
| 1:A:396:ASN:OD1 | 1:A:396:ASN:N | 2.46 | 0.48 |
| 1:A:617:SER:OG | 1:A:618:VAL:N | 2.47 | 0.48 |
| 1:B:1180:SER:OG | 1:B:1233:ASN:O | 2.28 | 0.48 |
| 1:C:962:THR:O | 1:C:963:GLN:NE2 | 2.45 | 0.48 |
| 1:D:33:VAL:HG12 | 1:D:678:PHE:HB2 | 1.95 | 0.48 |
| 1:D:1351:THR:OG1 | 1:D:1353:ASP:OD1 | 2.29 | 0.48 |
| 1:B:254:TYR:O | 1:B:257:GLY:N | 2.45 | 0.47 |
| 1:C:587:VAL:HG12 | 1:C:588:THR:N | 2.29 | 0.47 |
| 1:C:1231:ALA:O | 1:C:1235:VAL:HG23 | 2.14 | 0.47 |
| 1:D:642:CYS:SG | 1:D:689:CYS:N | 2.80 | 0.47 |
| 1:D:810:LEU:HG | 1:D:810:LEU:O | 2.14 | 0.47 |
| 1:D:903:LEU:O | 1:D:903:LEU:HD12 | 2.13 | 0.47 |
| 1:D:1198:GLU:HB3 | 1:D:1199:PRO:HD2 | 1.96 | 0.47 |
| 1:C:493:LEU:O | 1:C:513:LEU:N | 2.45 | 0.47 |
| 1:D:58:VAL:O | 1:D:79:ALA:HB3 | 2.14 | 0.47 |
| 1:D:167:ILE:HD12 | 1:D:176:ALA:HB3 | 1.96 | 0.47 |
| 1:D:803:ILE:HG22 | 1:D:804:ARG:H | 1.79 | 0.47 |
| 1:D:1218:THR:HG23 | 1:D:1263:LYS:NZ | 2.29 | 0.47 |
| 3:J:2:NAG:H3 | 3:J:2:NAG:H83 | 1.97 | 0.47 |
| 1:B:267:SER:HG | 1:B:321:HIS:H | 1.61 | 0.47 |
| 1:B:1123:ASN:ND2 | 1:D:119:THR:HG22 | 2.29 | 0.47 |
| 1:C:992:GLU:HA | 1:C:992:GLU:OE1 | 2.13 | 0.47 |
| 1:D:914:THR:HG23 | 1:D:1330:TYR:CE1 | 2.48 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:320:LEU:N | 1:A:320:LEU:HD12 | 2.30 | 0.47 |
| 1:A:348:THR:N | 1:A:373:ASP:OD1 | 2.47 | 0.47 |
| 1:A:1025:TYR:CD2 | 1:A:1042:THR:HG22 | 2.49 | 0.47 |
| 1:B:318:MET:HB3 | 1:B:320:LEU:HD11 | 1.95 | 0.47 |
| 1:C:1109:LEU:HD13 | 1:C:1112:ILE:CD1 | 2.42 | 0.47 |
| 1:C:1213:LEU:HB2 | 1:C:1234:ILE:HD11 | 1.96 | 0.47 |
| 1:A:162:ILE:N | 1:A:181:PHE:O | 2.42 | 0.47 |
| 1:A:649:TYR:OH | 1:A:651:ASN:ND2 | 2.47 | 0.47 |
| 1:A:947:SER:N | 1:A:1327:SER:O | 2.44 | 0.47 |
| 1:B:38:LEU:HD22 | 1:B:40:HIS:CD2 | 2.50 | 0.47 |
| 1:B:38:LEU:HD23 | 1:B:39:LEU:N | 2.30 | 0.47 |
| 1:B:176:ALA:HB2 | 1:B:192:PHE:CE1 | 2.49 | 0.47 |
| 1:B:540:LEU:O | 1:B:556:ALA:N | 2.47 | 0.47 |
| 1:B:914:THR:O | 1:B:1327:SER:OG | 2.24 | 0.47 |
| 1:C:368:GLN:OE1 | 1:C:406:GLN:NE2 | 2.46 | 0.47 |
| 1:C:1142:SER:O | 1:C:1144:VAL:HG22 | 2.14 | 0.47 |
| 1:D:270:ARG:NH1 | 1:D:309:PHE:O | 2.44 | 0.47 |
| 1:D:353:VAL:HG21 | 1:D:404:LEU:HD23 | 1.96 | 0.47 |
| 1:D:986:VAL:HG23 | 1:D:987:LEU:HD22 | 1.96 | 0.47 |
| 1:A:55:ASN:C | 1:A:57:THR:H | 2.18 | 0.47 |
| 1:A:63:SER:C | 1:A:64:LEU:HD12 | 2.35 | 0.47 |
| 1:A:118:THR:HG23 | 1:A:120:VAL:HG23 | 1.97 | 0.47 |
| 1:A:954:ILE:CG1 | 1:A:993:THR:HG22 | 2.44 | 0.47 |
| 1:A:1175:VAL:HG12 | 1:A:1175:VAL:O | 2.14 | 0.47 |
| 1:D:608:LYS:NZ | 1:D:611:ALA:HB3 | 2.29 | 0.47 |
| 1:A:1019:LYS:NZ | 1:A:1020:HIS:O | 2.37 | 0.47 |
| 1:A:1025:TYR:HB2 | 1:A:1041:LEU:HD21 | 1.96 | 0.47 |
| 1:B:165:VAL:HG21 | 1:B:181:PHE:CZ | 2.49 | 0.47 |
| 1:C:311:LEU:HD23 | 1:C:311:LEU:H | 1.80 | 0.47 |
| 1:C:336:THR:O | 1:C:336:THR:OG1 | 2.29 | 0.47 |
| 1:C:614:SER:OG | 1:C:617:SER:N | 2.44 | 0.47 |
| 1:C:980:PHE:HE1 | 1:C:1008:LEU:HD22 | 1.79 | 0.47 |
| 1:C:1326:THR:HG22 | 1:C:1327:SER:N | 2.30 | 0.47 |
| 1:D:854:GLN:O | 1:D:856:VAL:N | 2.48 | 0.47 |
| 1:D:1015:GLN:HA | 1:D:1015:GLN:HE21 | 1.80 | 0.47 |
| 1:D:1191:ALA:HB3 | 1:D:1192:PRO:HD3 | 1.97 | 0.47 |
| 1:A:215:THR:HG22 | 1:A:216:GLU:H | 1.79 | 0.47 |
| 1:A:974:GLU:HB3 | 1:A:1091:ILE:HD13 | 1.96 | 0.47 |
| 1:B:920:LEU:HD11 | 1:B:929:GLU:HB2 | 1.97 | 0.47 |
| 1:B:954:ILE:HD11 | 1:B:989:TYR:CE1 | 2.50 | 0.47 |
| 1:B:969:PRO:HG3 | 1:B:1010:THR:HG22 | 1.97 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C:241:ILE:CG1 | 1:C:347:ILE:HD13 | 2.44 | 0.47 |
| 1:C:319:LYS:C | 1:C:320:LEU:HD12 | 2.35 | 0.47 |
| 1:D:176:ALA:HB1 | 1:D:178:TRP:CZ3 | 2.50 | 0.47 |
| 1:D:826:VAL:HG11 | 1:D:856:VAL:CG1 | 2.44 | 0.47 |
| 1:A:143:THR:HA | 1:A:193:PRO:HA | 1.97 | 0.47 |
| 1:A:209:LYS:O | 1:A:212:GLY:N | 2.42 | 0.47 |
| 1:A:581:SER:O | 1:A:582:HIS:C | 2.53 | 0.47 |
| 1:A:920:LEU:HD22 | 1:A:927:VAL:HG12 | 1.97 | 0.47 |
| 1:B:127:SER:OG | 1:B:128:LEU:N | 2.47 | 0.47 |
| 1:B:368:GLN:OE1 | 1:B:404:LEU:HD22 | 2.15 | 0.47 |
| 1:B:1183:TRP:CE3 | 1:B:1212:VAL:HG11 | 2.50 | 0.47 |
| 1:B:1204:ALA:HB1 | 1:B:1207:GLU:OE2 | 2.15 | 0.47 |
| 1:C:41:THR:HG23 | 1:C:124:ASN:HA | 1.96 | 0.47 |
| 1:A:919:LEU:HD13 | 1:A:1228:LEU:CB | 2.45 | 0.47 |
| 1:A:1181:VAL:CG2 | 1:A:1234:ILE:HG23 | 2.35 | 0.47 |
| 1:B:272:TYR:N | 1:B:283:SER:O | 2.45 | 0.47 |
| 1:B:643:ILE:O | 1:B:643:ILE:HG22 | 2.15 | 0.47 |
| 1:B:781:SER:OG | 1:B:782:SER:N | 2.45 | 0.47 |
| 1:B:1304:SER:C | 1:B:1305:LEU:HD12 | 2.35 | 0.47 |
| 1:D:348:THR:HG1 | 1:D:441:HIS:CE1 | 2.30 | 0.47 |
| 1:D:1238:ILE:HD13 | 1:D:1241:GLN:OE1 | 2.15 | 0.47 |
| 1:A:622:LEU:HD23 | 1:A:625:LYS:HG2 | 1.98 | 0.46 |
| 1:B:102:PHE:CE1 | 1:B:119:THR:HG22 | 2.50 | 0.46 |
| 1:D:233:VAL:HG23 | 1:D:250:VAL:CG2 | 2.44 | 0.46 |
| 1:D:975:GLN:O | 1:D:976:ASN:C | 2.53 | 0.46 |
| 1:D:1013:GLN:HE21 | 1:D:1013:GLN:CA | 2.09 | 0.46 |
| 1:A:1027:THR:CG2 | 1:A:1087:LEU:HD12 | 2.46 | 0.46 |
| 1:A:1070:LEU:HD22 | 1:A:1080:PHE:CZ | 2.51 | 0.46 |
| 1:C:67:VAL:HG13 | 1:C:68:ARG:N | 2.29 | 0.46 |
| 1:C:235:VAL:O | 1:C:338:ARG:NE | 2.49 | 0.46 |
| 1:C:319:LYS:HE3 | 1:C:339:GLN:HB2 | 1.96 | 0.46 |
| 1:C:1278:VAL:O | 1:C:1279:THR:OG1 | 2.34 | 0.46 |
| 1:D:198:PRO:HG2 | 1:D:221:VAL:HG11 | 1.98 | 0.46 |
| 1:D:347:ILE:O | 1:D:348:THR:OG1 | 2.33 | 0.46 |
| 1:D:597:LEU:HD21 | 1:D:753:GLU:HG3 | 1.97 | 0.46 |
| 1:D:766:LYS:NZ | 1:D:767:ALA:O | 2.49 | 0.46 |
| 1:D:798:MET:CE | 1:D:1390:ILE:HD12 | 2.46 | 0.46 |
| 1:D:1142:SER:O | 1:D:1144:VAL:HG22 | 2.16 | 0.46 |
| 1:A:602:GLN:CA | 1:A:605:LEU:HB3 | 2.46 | 0.46 |
| 1:C:1151:ALA:HB2 | 1:C:1166:VAL:HG13 | 1.97 | 0.46 |
| 1:D:75:THR:HG21 | 1:D:89:PHE:HB3 | 1.97 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:D:344:THR:O | 1:D:344:THR:OG1 | 2.31 | 0.46 |
| 1:D:601:ASP:OD1 | 1:D:602:GLN:N | 2.44 | 0.46 |
| 1:A:483:ASN:O | 1:A:485:GLY:N | 2.44 | 0.46 |
| 1:C:816:ASN:HB2 | 1:C:848:ILE:HD12 | 1.97 | 0.46 |
| 1:A:144:VAL:N | 1:A:192:PHE:O | 2.46 | 0.46 |
| 1:A:989:TYR:CZ | 1:A:993:THR:HG21 | 2.50 | 0.46 |
| 1:A:1025:TYR:CE2 | 1:A:1045:VAL:HG21 | 2.51 | 0.46 |
| 1:A:1051:GLN:O | 1:A:1054:ALA:HB3 | 2.16 | 0.46 |
| 1:A:1072:GLN:OE1 | 1:C:635:ASN:ND2 | 2.48 | 0.46 |
| 1:B:360:ARG:HG2 | 1:B:451:VAL:HG12 | 1.97 | 0.46 |
| 1:B:793:PHE:O | 1:B:814:VAL:HG23 | 2.15 | 0.46 |
| 1:B:892:GLU:O | 1:B:895:ARG:N | 2.48 | 0.46 |
| 1:B:1124:ALA:HA | 1:D:117:ARG:HD3 | 1.98 | 0.46 |
| 1:C:767:ALA:HB3 | 1:C:784:ALA:HB3 | 1.98 | 0.46 |
| 1:C:1232:THR:OG1 | 1:C:1264:TYR:OH | 2.30 | 0.46 |
| 1:D:119:THR:O | 1:D:676:LYS:NZ | 2.42 | 0.46 |
| 1:D:456:LYS:O | 1:D:483:ASN:ND2 | 2.49 | 0.46 |
| 1:D:914:THR:O | 1:D:1328:LEU:N | 2.45 | 0.46 |
| 1:D:1156:LEU:O | 1:D:1220:GLN:NE2 | 2.49 | 0.46 |
| 1:A:58:VAL:HG22 | 1:A:109:GLY:CA | 2.45 | 0.46 |
| 1:B:388:GLY:O | 1:B:393:TYR:N | 2.47 | 0.46 |
| 1:B:570:LEU:HD22 | 1:B:784:ALA:HB2 | 1.98 | 0.46 |
| 1:B:664:LYS:NZ | 1:B:665:ASP:O | 2.46 | 0.46 |
| 1:B:954:ILE:HD11 | 1:B:989:TYR:HE1 | 1.81 | 0.46 |
| 1:B:1219:ALA:HB3 | 1:B:1222:ALA:C | 2.36 | 0.46 |
| 1:D:262:GLY:O | 1:D:294:LEU:N | 2.48 | 0.46 |
| 1:D:546:LEU:HD23 | 1:D:550:ASP:H | 1.81 | 0.46 |
| 1:D:975:GLN:O | 1:D:978:VAL:HG22 | 2.16 | 0.46 |
| 1:A:164:LEU:HD12 | 1:A:165:VAL:H | 1.81 | 0.46 |
| 1:B:111:THR:HB | 5:B:2001:NAG:H2 | 1.98 | 0.46 |
| 1:B:563:CYS:N | 1:B:619:TYR:OH | 2.48 | 0.46 |
| 1:B:827:GLN:O | 1:B:873:SER:N | 2.47 | 0.46 |
| 1:B:1123:ASN:HD22 | 1:D:119:THR:HG22 | 1.81 | 0.46 |
| 1:B:1232:THR:OG1 | 1:B:1264:TYR:OH | 2.34 | 0.46 |
| 1:D:167:ILE:HD12 | 1:D:176:ALA:CB | 2.46 | 0.46 |
| 1:D:428:ARG:NH1 | 1:D:432:TYR:O | 2.49 | 0.46 |
| 1:D:1147:LYS:NZ | 1:D:1170:LEU:O | 2.49 | 0.46 |
| 1:D:1214:LEU:O | 1:D:1263:LYS:NZ | 2.48 | 0.46 |
| 5:A:2005:NAG:H3 | 5:A:2005:NAG:H83 | 1.98 | 0.46 |
| 1:C:1259:HIS:O | 1:C:1262:SER:OG | 2.32 | 0.46 |
| 1:D:570:LEU:HB3 | 1:D:587:VAL:HG22 | 1.98 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:D:972:CYS:H | 1:D:975:GLN:HG2 | 1.80 | 0.46 |
| 1:D:1061:ALA:HA | 1:D:1064:THR:HG22 | 1.98 | 0.46 |
| 3:H:2:NAG:C8 | 3:H:2:NAG:C1 | 2.94 | 0.46 |
| 1:A:117:ARG:NE | 1:C:1071:SER:O | 2.45 | 0.46 |
| 1:A:810:LEU:HB2 | 1:A:860:VAL:HG12 | 1.97 | 0.46 |
| 1:B:596:ALA:HB1 | 1:B:741:TRP:CH2 | 2.50 | 0.46 |
| 1:C:763:THR:OG1 | 1:C:764:GLU:N | 2.49 | 0.46 |
| 1:C:1099:VAL:CG1 | 1:C:1146:THR:HG22 | 2.46 | 0.46 |
| 1:D:454:PRO:O | 1:D:456:LYS:NZ | 2.45 | 0.46 |
| 1:D:794:VAL:HG21 | 1:D:872:VAL:HG11 | 1.98 | 0.46 |
| 1:D:1004:ALA:O | 1:D:1008:LEU:HG | 2.16 | 0.46 |
| 3:M:1:NAG:HO3 | 3:M:1:NAG:C7 | 2.29 | 0.46 |
| 1:A:241:ILE:HD11 | 1:A:345:ARG:HA | 1.98 | 0.46 |
| 1:A:880:GLN:HG2 | 1:A:887:VAL:HG11 | 1.98 | 0.46 |
| 1:A:1070:LEU:HD22 | 1:A:1080:PHE:CE2 | 2.51 | 0.46 |
| 1:A:1088:ASN:OD1 | 1:A:1088:ASN:N | 2.47 | 0.46 |
| 1:B:1161:ASP:N | 1:B:1161:ASP:OD1 | 2.49 | 0.46 |
| 1:C:263:HIS:NE2 | 1:C:291:SER:OG | 2.48 | 0.46 |
| 1:C:388:GLY:HA3 | 1:C:391:ALA:HB3 | 1.98 | 0.46 |
| 1:C:767:ALA:HB3 | 1:C:784:ALA:H | 1.81 | 0.46 |
| 1:C:869:ASN:N | 1:C:869:ASN:ND2 | 2.64 | 0.46 |
| 1:D:1014:ARG:CB | 1:D:1014:ARG:NH1 | 2.79 | 0.46 |
| 1:D:1028:PHE:O | 1:D:1031:ARG:NH2 | 2.49 | 0.46 |
| 1:D:1251:THR:HG21 | 1:D:1407:ARG:HE | 1.81 | 0.46 |
| 1:D:1408:THR:HA | 1:D:1417:ILE:HD11 | 1.97 | 0.46 |
| 1:A:51:LEU:O | 1:A:82:ASP:N | 2.41 | 0.45 |
| 1:B:1210:SER:O | 1:B:1214:LEU:N | 2.49 | 0.45 |
| 1:D:82:ASP:O | 1:D:496:TYR:OH | 2.25 | 0.45 |
| 1:D:633:PRO:C | 1:D:634:LEU:HD12 | 2.36 | 0.45 |
| 1:D:917:ASN:OD1 | 1:D:1174:ALA:HB3 | 2.16 | 0.45 |
| 1:D:1251:THR:HG21 | 1:D:1407:ARG:HG2 | 1.96 | 0.45 |
| 1:D:1345:VAL:HG23 | 1:D:1365:LEU:CD1 | 2.46 | 0.45 |
| 1:A:164:LEU:HD21 | 1:A:166:TYR:CD1 | 2.52 | 0.45 |
| 1:A:386:ILE:HD13 | 1:A:407:PHE:CB | 2.46 | 0.45 |
| 1:A:1208:MET:O | 1:A:1212:VAL:HG23 | 2.17 | 0.45 |
| 1:B:241:ILE:HG21 | 1:B:439:GLU:OE1 | 2.16 | 0.45 |
| 1:C:275:ALA:O | 1:C:276:SER:OG | 2.35 | 0.45 |
| 1:C:1227:ASP:OD1 | 1:C:1227:ASP:N | 2.49 | 0.45 |
| 1:D:351:SER:O | 1:D:369:VAL:HG13 | 2.17 | 0.45 |
| 1:D:810:LEU:HD23 | 1:D:810:LEU:H | 1.81 | 0.45 |
| 1:D:989:TYR:HD1 | 1:D:989:TYR:N | 2.15 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:489:GLY:O | 1:A:490:LEU:HD12 | 2.17 | 0.45 |
| 1:A:581:SER:CA | 1:A:756:VAL:HG13 | 2.46 | 0.45 |
| 1:A:1070:LEU:HD11 | 1:A:1109:LEU:HD11 | 1.99 | 0.45 |
| 1:A:489:GLY:C | 1:A:490:LEU:HD12 | 2.37 | 0.45 |
| 1:B:350:LEU:CD1 | 1:B:444:ALA:HB2 | 2.47 | 0.45 |
| 1:B:390:GLU:OE1 | 1:B:390:GLU:HA | 2.16 | 0.45 |
| 1:B:596:ALA:HB1 | 1:B:741:TRP:HH2 | 1.81 | 0.45 |
| 1:B:1070:LEU:HD22 | 1:B:1120:VAL:HG11 | 1.97 | 0.45 |
| 1:B:1202:PRO:O | 1:B:1203:SER:OG | 2.30 | 0.45 |
| 1:C:384:ILE:HD11 | 1:C:405:VAL:HG11 | 1.99 | 0.45 |
| 5:C:2001:NAG:C7 | 5:C:2001:NAG:HO3 | 2.29 | 0.45 |
| 1:D:601:ASP:OD2 | 1:D:763:THR:HG21 | 2.16 | 0.45 |
| 1:D:1185:ARG:CB | 1:D:1186:PRO:CD | 2.90 | 0.45 |
| 1:A:127:SER:O | 1:A:209:LYS:NZ | 2.50 | 0.45 |
| 1:A:554:ASP:N | 1:A:554:ASP:OD1 | 2.50 | 0.45 |
| 1:A:600:VAL:N | 1:A:766:LYS:O | 2.46 | 0.45 |
| 1:A:1039:THR:O | 1:A:1042:THR:OG1 | 2.26 | 0.45 |
| 1:A:1057:PHE:CD1 | 1:C:1005:ILE:HD13 | 2.52 | 0.45 |
| 1:B:571:SER:OG | 1:B:572:PHE:N | 2.50 | 0.45 |
| 1:B:953:ASP:OD2 | 1:B:1264:TYR:OH | 2.34 | 0.45 |
| 1:C:248:VAL:N | 1:C:302:GLN:O | 2.48 | 0.45 |
| 1:C:1205:GLU:HG3 | 1:C:1206:VAL:HG23 | 1.98 | 0.45 |
| 1:A:1278:VAL:HG22 | 1:A:1290:PHE:O | 2.17 | 0.45 |
| 1:B:33:VAL:HG12 | 1:B:49:VAL:CG2 | 2.45 | 0.45 |
| 1:B:963:GLN:O | 1:B:966:LEU:HD12 | 2.17 | 0.45 |
| 1:C:450:LEU:O | 1:C:664:LYS:N | 2.40 | 0.45 |
| 1:C:1333:LEU:HD13 | 1:C:1336:LYS:HE2 | 1.99 | 0.45 |
| 1:D:121:MET:SD | 1:D:634:LEU:HD21 | 2.57 | 0.45 |
| 1:A:566:ASN:HB2 | 1:A:776:ALA:HB1 | 1.98 | 0.45 |
| 1:B:98:GLU:OE2 | 1:B:123:LYS:HE2 | 2.16 | 0.45 |
| 1:B:770:PHE:CE1 | 1:B:778:LEU:HD12 | 2.52 | 0.45 |
| 1:B:793:PHE:HZ | 1:B:815:LEU:HD22 | 1.82 | 0.45 |
| 1:C:66:SER:HG | 1:C:101:MET:HA | 1.82 | 0.45 |
| 1:C:920:LEU:HD22 | 1:C:927:VAL:HG11 | 1.99 | 0.45 |
| 1:C:948:VAL:CG1 | 1:C:1305:LEU:HD11 | 2.47 | 0.45 |
| 1:C:992:GLU:O | 1:C:1271:ARG:NH2 | 2.49 | 0.45 |
| 1:D:346:THR:O | 1:D:347:ILE:HD13 | 2.17 | 0.45 |
| 1:D:989:TYR:N | 1:D:989:TYR:CD1 | 2.84 | 0.45 |
| 1:A:686:PRO:O | 1:A:687:LYS:C | 2.54 | 0.45 |
| 1:A:972:CYS:O | 1:A:976:ASN:N | 2.39 | 0.45 |
| 1:B:792:PHE:CE2 | 1:B:824:VAL:HG21 | 2.51 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:955:LEU:HD21 | 1:B:995:GLN:NE2 | 2.32 | 0.45 |
| 1:C:41:THR:OG1 | 1:C:125:GLU:OE1 | 2.30 | 0.45 |
| 1:C:108:LYS:HA | 1:C:108:LYS:CE | 2.38 | 0.45 |
| 1:C:174:ARG:HG3 | 1:C:1298:LEU:HD23 | 1.99 | 0.45 |
| 1:C:585:LEU:HD21 | 1:C:587:VAL:CG2 | 2.46 | 0.45 |
| 1:C:597:LEU:CB | 1:C:740:ILE:HG21 | 2.47 | 0.45 |
| 1:C:927:VAL:HG12 | 1:C:928:SER:N | 2.31 | 0.45 |
| 1:D:1278:VAL:HG13 | 1:D:1316:VAL:HG12 | 1.99 | 0.45 |
| 1:D:1341:PHE:CB | 1:D:1459:ALA:HB1 | 2.47 | 0.45 |
| 1:A:142:GLN:O | 1:A:194:LEU:N | 2.49 | 0.45 |
| 1:A:353:VAL:HG21 | 1:A:404:LEU:HD21 | 1.98 | 0.45 |
| 1:A:654:THR:OG1 | 1:A:655:TYR:N | 2.50 | 0.45 |
| 1:B:319:LYS:CA | 1:B:320:LEU:HD12 | 2.47 | 0.45 |
| 1:C:936:PRO:HA | 1:C:939:VAL:HG11 | 1.98 | 0.45 |
| 1:D:325:GLN:OE1 | 1:D:325:GLN:N | 2.49 | 0.45 |
| 1:A:237:LYS:HB2 | 1:A:338:ARG:CG | 2.47 | 0.45 |
| 1:A:535:ALA:HB3 | 1:A:537:VAL:HG12 | 1.99 | 0.45 |
| 1:A:619:TYR:O | 1:A:622:LEU:HB3 | 2.17 | 0.45 |
| 1:B:948:VAL:HG21 | 1:B:1324:LEU:HD23 | 1.99 | 0.45 |
| 1:C:914:THR:HG22 | 1:C:933:LEU:HD13 | 1.99 | 0.45 |
| 1:D:129:VAL:HG12 | 1:D:150:SER:CB | 2.47 | 0.45 |
| 1:D:263:HIS:HA | 1:D:293:GLN:HA | 2.00 | 0.45 |
| 4:L:2:NAG:H3 | 4:L:2:NAG:H82 | 1.97 | 0.45 |
| 1:A:581:SER:HB2 | 1:A:756:VAL:CG2 | 2.47 | 0.44 |
| 1:B:372:VAL:HG12 | 1:B:373:ASP:N | 2.32 | 0.44 |
| 1:B:917:ASN:OD1 | 1:B:917:ASN:N | 2.50 | 0.44 |
| 1:D:922:PRO:HG3 | 1:D:1316:VAL:HG23 | 1.99 | 0.44 |
| 1:D:937:PRO:O | 1:D:1332:ILE:HG22 | 2.17 | 0.44 |
| 1:B:155:PHE:HB3 | 1:B:778:LEU:HD22 | 1.98 | 0.44 |
| 1:B:1053:ARG:HG3 | 1:B:1058:ILE:HG22 | 2.00 | 0.44 |
| 1:C:247:ASN:OD1 | 1:C:247:ASN:N | 2.49 | 0.44 |
| 1:C:1272:THR:HG22 | 1:C:1273:GLY:H | 1.82 | 0.44 |
| 1:D:373:ASP:OD1 | 1:D:373:ASP:N | 2.48 | 0.44 |
| 1:D:1213:LEU:HD23 | 1:D:1260:ALA:HA | 2.00 | 0.44 |
| 1:D:1252:GLN:O | 1:D:1255:VAL:HG13 | 2.16 | 0.44 |
| 1:A:129:VAL:HG12 | 1:A:150:SER:CB | 2.48 | 0.44 |
| 1:A:137:ILE:HD11 | 1:A:222:GLU:H | 1.81 | 0.44 |
| 1:A:245:GLU:OE1 | 1:A:246:MET:N | 2.50 | 0.44 |
| 1:A:613:LEU:O | 1:A:614:SER:OG | 2.29 | 0.44 |
| 1:B:264:VAL:O | 1:B:265:THR:OG1 | 2.25 | 0.44 |
| 1:B:914:THR:OG1 | 1:B:1328:LEU:O | 2.34 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C:540:LEU:HD23 | 1:C:558:TYR:HE2 | 1.82 | 0.44 |
| 5:C:2005:NAG:HO3 | 5:C:2005:NAG:C7 | 2.30 | 0.44 |
| 1:D:33:VAL:HG13 | 1:D:33:VAL:O | 2.17 | 0.44 |
| 1:D:75:THR:HG21 | 1:D:89:PHE:CB | 2.47 | 0.44 |
| 1:D:915:THR:OG1 | 1:D:1326:THR:O | 2.32 | 0.44 |
| 1:D:1175:VAL:HG21 | 1:D:1186:PRO:CD | 2.38 | 0.44 |
| 1:A:233:VAL:O | 1:A:338:ARG:NH1 | 2.51 | 0.44 |
| 1:B:760:ASP:HB3 | 1:B:899:VAL:HG13 | 2.00 | 0.44 |
| 1:B:1051:GLN:O | 1:B:1054:ALA:HB3 | 2.18 | 0.44 |
| 1:C:131:VAL:HG22 | 1:C:148:VAL:HB | 1.98 | 0.44 |
| 1:D:570:LEU:HD11 | 1:D:784:ALA:HB1 | 1.98 | 0.44 |
| 1:D:599:ALA:HB3 | 1:D:740:ILE:CB | 2.46 | 0.44 |
| 1:A:35:VAL:HG21 | 1:A:103:LEU:HD22 | 1.99 | 0.44 |
| 1:A:1293:ASP:N | 1:A:1296:ASN:OD1 | 2.50 | 0.44 |
| 1:D:460:HIS:O | 1:D:479:HIS:N | 2.50 | 0.44 |
| 1:A:94:SER:N | 1:A:124:ASN:OD1 | 2.50 | 0.44 |
| 1:A:318:MET:CG | 1:A:320:LEU:HD11 | 2.47 | 0.44 |
| 1:A:1132:TRP:HD1 | 1:A:1150:LEU:HD13 | 1.81 | 0.44 |
| 1:A:1185:ARG:O | 1:A:1187:GLN:N | 2.43 | 0.44 |
| 1:B:1100:THR:CG2 | 1:B:1146:THR:HG22 | 2.45 | 0.44 |
| 1:C:353:VAL:HG13 | 1:C:370:ARG:HB2 | 1.99 | 0.44 |
| 1:C:1238:ILE:O | 1:C:1242:GLN:N | 2.46 | 0.44 |
| 1:D:996:LEU:HD23 | 1:D:997:THR:C | 2.37 | 0.44 |
| 1:A:739:TRP:O | 1:A:740:ILE:HD13 | 2.18 | 0.44 |
| 1:A:1047:LYS:HG3 | 1:A:1048:THR:HG23 | 2.00 | 0.44 |
| 1:B:323:GLU:N | 1:B:323:GLU:OE2 | 2.51 | 0.44 |
| 1:B:570:LEU:HA | 1:B:587:VAL:HG22 | 1.99 | 0.44 |
| 1:B:823:ARG:NH1 | 1:B:845:PRO:O | 2.51 | 0.44 |
| 1:B:1088:ASN:N | 1:B:1088:ASN:OD1 | 2.50 | 0.44 |
| 1:C:821:CYS:SG | 1:C:849:CYS:N | 2.91 | 0.44 |
| 1:C:946:ALA:HB1 | 1:C:1326:THR:HG21 | 1.99 | 0.44 |
| 1:C:948:VAL:HG22 | 1:C:1303:VAL:HG22 | 1.99 | 0.44 |
| 1:C:1128:LEU:HD11 | 1:C:1153:ALA:HB1 | 1.99 | 0.44 |
| 1:A:372:VAL:HG12 | 1:A:373:ASP:N | 2.33 | 0.44 |
| 1:A:437:VAL:HG22 | 1:B:276:SER:HB2 | 1.98 | 0.44 |
| 1:A:818:LEU:O | 1:A:850:ALA:N | 2.50 | 0.44 |
| 1:B:370:ARG:HB3 | 1:B:404:LEU:HD23 | 1.99 | 0.44 |
| 1:B:1112:ILE:HG23 | 1:B:1112:ILE:O | 2.17 | 0.44 |
| 1:C:890:VAL:HG13 | 1:C:890:VAL:O | 2.18 | 0.44 |
| 1:C:910:LEU:HD22 | 1:C:912:LYS:HD2 | 1.99 | 0.44 |
| 1:C:1144:VAL:HG23 | 1:C:1145:TYR:N | 2.33 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:D:609:PRO:O | 1:D:611:ALA:N | 2.50 | 0.44 |
| 1:D:763:THR:HG23 | 1:D:765:TRP:CE2 | 2.53 | 0.44 |
| 1:A:366:PHE:HB3 | 1:A:408:SER:CB | 2.47 | 0.44 |
| 1:A:597:LEU:O | 1:A:599:ALA:N | 2.51 | 0.44 |
| 1:A:966:LEU:CD2 | 1:A:1004:ALA:HB2 | 2.48 | 0.44 |
| 1:B:151:MET:HE2 | 1:B:778:LEU:HD13 | 2.00 | 0.44 |
| 1:C:51:LEU:O | 1:C:82:ASP:N | 2.50 | 0.44 |
| 1:C:1181:VAL:HG22 | 1:C:1233:ASN:HB2 | 2.00 | 0.44 |
| 1:C:1250:SER:OG | 1:C:1253:ASP:OD1 | 2.22 | 0.44 |
| 5:C:2003:NAG:H3 | 5:C:2003:NAG:H82 | 2.00 | 0.44 |
| 1:D:1187:GLN:CA | 1:D:1187:GLN:NE2 | 2.81 | 0.44 |
| 1:D:1319:GLU:N | 1:D:1319:GLU:OE1 | 2.51 | 0.44 |
| 1:A:358:HIS:N | 1:A:448:ALA:HB1 | 2.33 | 0.43 |
| 1:A:1173:GLU:O | 1:A:1176:LYS:NZ | 2.46 | 0.43 |
| 1:A:1238:ILE:HG13 | 1:A:1261:LEU:HD11 | 2.00 | 0.43 |
| 1:B:173:ASN:N | 1:B:173:ASN:OD1 | 2.51 | 0.43 |
| 1:B:240:THR:OG1 | 1:B:241:ILE:N | 2.50 | 0.43 |
| 1:C:245:GLU:OE1 | 1:C:303:GLN:NE2 | 2.51 | 0.43 |
| 1:C:569:ASP:OD1 | 1:C:570:LEU:N | 2.51 | 0.43 |
| 1:C:1038:ASN:O | 1:C:1042:THR:HG23 | 2.18 | 0.43 |
| 1:D:493:LEU:HD12 | 1:D:494:SER:H | 1.82 | 0.43 |
| 1:D:860:VAL:HG22 | 1:D:862:PRO:HD3 | 2.00 | 0.43 |
| 1:D:1104:TYR:HD1 | 1:D:1149:LEU:HD11 | 1.83 | 0.43 |
| 1:A:240:THR:HA | 1:A:343:ILE:HG23 | 2.00 | 0.43 |
| 1:B:1327:SER:OG | 1:B:1328:LEU:N | 2.51 | 0.43 |
| 1:C:47:GLY:HA2 | 1:C:505:ILE:HD12 | 2.00 | 0.43 |
| 1:D:241:ILE:CD1 | 1:D:347:ILE:HD11 | 2.48 | 0.43 |
| 1:A:912:LYS:HG3 | 1:A:1330:TYR:CZ | 2.53 | 0.43 |
| 1:B:120:VAL:HG12 | 1:B:121:MET:H | 1.83 | 0.43 |
| 1:B:208:GLN:HB2 | 1:B:214:ARG:HE | 1.83 | 0.43 |
| 1:B:264:VAL:HG21 | 1:B:300:PHE:CD2 | 2.54 | 0.43 |
| 1:B:746:VAL:HG13 | 1:B:750:GLY:HA2 | 2.00 | 0.43 |
| 1:B:948:VAL:HG23 | 1:B:1326:THR:OG1 | 2.18 | 0.43 |
| 1:B:998:PRO:HA | 1:B:1001:LYS:HB3 | 1.99 | 0.43 |
| 1:B:1072:GLN:NE2 | 1:D:629:GLY:O | 2.51 | 0.43 |
| 1:A:66:SER:OG | 1:A:99:GLU:OE2 | 2.34 | 0.43 |
| 1:A:228:LYS:O | 1:A:255:THR:HG23 | 2.18 | 0.43 |
| 1:A:1026:SER:OG | 1:A:1027:THR:N | 2.49 | 0.43 |
| 1:B:42:GLU:OE2 | 1:B:125:GLU:HB3 | 2.18 | 0.43 |
| 1:B:266:VAL:HG22 | 1:B:267:SER:N | 2.33 | 0.43 |
| 1:B:390:GLU:HB3 | 1:B:414:VAL:HG22 | 1.99 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:1100:THR:HG21 | 1:B:1145:TYR:CZ | 2.53 | 0.43 |
| 1:C:762:ILE:HG21 | 1:C:789:PHE:C | 2.38 | 0.43 |
| 1:C:814:VAL:HG11 | 1:C:824:VAL:HG21 | 2.00 | 0.43 |
| 1:D:306:THR:HG22 | 1:D:309:PHE:CD2 | 2.53 | 0.43 |
| 1:A:44:THR:HA | 1:A:90:ALA:HB2 | 1.99 | 0.43 |
| 1:A:414:VAL:HG21 | 1:D:649:TYR:CD1 | 2.53 | 0.43 |
| 1:A:635:ASN:OD1 | 1:A:635:ASN:N | 2.48 | 0.43 |
| 1:A:790:GLN:NE2 | 1:A:897:ASP:OD1 | 2.51 | 0.43 |
| 1:A:1067:LEU:CD1 | 1:A:1109:LEU:HD11 | 2.49 | 0.43 |
| 1:A:1131:ALA:HA | 1:A:1134:THR:HG22 | 2.01 | 0.43 |
| 1:B:130:PHE:O | 1:B:148:VAL:HG23 | 2.17 | 0.43 |
| 1:B:951:LEU:HD12 | 1:B:1298:LEU:CD2 | 2.48 | 0.43 |
| 1:B:1130:SER:O | 1:B:1134:THR:HG23 | 2.17 | 0.43 |
| 1:C:118:THR:HG22 | 1:C:678:PHE:HZ | 1.83 | 0.43 |
| 1:C:139:LYS:HG2 | 1:C:142:GLN:CG | 2.48 | 0.43 |
| 1:C:497:TYR:CD2 | 1:C:526:ILE:HD11 | 2.54 | 0.43 |
| 1:C:546:LEU:HB3 | 1:C:548:THR:HG22 | 2.00 | 0.43 |
| 1:C:575:SER:OG | 1:C:787:ARG:O | 2.29 | 0.43 |
| 1:C:948:VAL:CG2 | 1:C:1303:VAL:HG22 | 2.49 | 0.43 |
| 1:A:233:VAL:HG11 | 1:A:250:VAL:HG23 | 1.99 | 0.43 |
| 1:A:503:GLY:HA2 | 1:A:627:LEU:HB3 | 2.01 | 0.43 |
| 1:A:810:LEU:N | 1:A:858:TRP:O | 2.46 | 0.43 |
| 1:A:1074:GLN:HB3 | 1:C:117:ARG:NH2 | 2.33 | 0.43 |
| 1:C:266:VAL:HG21 | 1:C:300:PHE:HE2 | 1.83 | 0.43 |
| 1:C:744:VAL:HB | 1:C:751:VAL:HG21 | 2.01 | 0.43 |
| 1:C:796:LEU:HD23 | 1:C:872:VAL:HG21 | 2.00 | 0.43 |
| 1:C:1185:ARG:NH1 | 1:C:1201:ALA:HB1 | 2.33 | 0.43 |
| 1:C:1305:LEU:HD22 | 1:C:1312:TYR:CE2 | 2.54 | 0.43 |
| 1:D:492:LYS:NZ | 1:D:513:LEU:HD12 | 2.33 | 0.43 |
| 1:A:932:SER:O | 1:A:933:LEU:HD23 | 2.19 | 0.43 |
| 1:A:1073:ARG:NH1 | 1:C:636:ASP:OD1 | 2.51 | 0.43 |
| 1:B:41:THR:HG22 | 1:B:91:VAL:CG1 | 2.48 | 0.43 |
| 1:B:648:VAL:HG11 | 1:C:653:ILE:CD1 | 2.48 | 0.43 |
| 1:B:691:GLN:HG3 | 1:B:693:GLN:H | 1.84 | 0.43 |
| 1:C:947:SER:C | 1:C:1326:THR:HG23 | 2.39 | 0.43 |
| 1:C:996:LEU:HD12 | 1:C:996:LEU:HA | 1.83 | 0.43 |
| 1:D:268:ILE:HD12 | 1:D:309:PHE:HZ | 1.82 | 0.43 |
| 1:D:459:VAL:HG13 | 1:D:461:LEU:HD11 | 2.01 | 0.43 |
| 1:A:500:MET:HB2 | 1:A:504:GLY:O | 2.19 | 0.43 |
| 1:A:570:LEU:CD2 | 1:A:784:ALA:HB2 | 2.46 | 0.43 |
| 1:A:678:PHE:O | 1:A:679:THR:HG23 | 2.19 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:986:VAL:HG22 | 1:A:1258:LEU:HD21 | 2.00 | 0.43 |
| 1:C:28:LYS:N | 1:C:547:PRO:O | 2.51 | 0.43 |
| 1:C:371:LEU:HD13 | 1:C:399:THR:HG21 | 2.00 | 0.43 |
| 1:C:624:GLU:HB3 | 1:C:627:LEU:CD1 | 2.46 | 0.43 |
| 1:C:1115:THR:HB | 1:C:1117:THR:HG22 | 2.01 | 0.43 |
| 1:D:1015:GLN:HE21 | 1:D:1015:GLN:CA | 2.31 | 0.43 |
| 1:A:97:ASN:O | 1:A:124:ASN:N | 2.49 | 0.43 |
| 1:A:545:VAL:O | 1:A:545:VAL:HG13 | 2.19 | 0.43 |
| 1:A:670:LEU:O | 1:A:674:GLY:N | 2.49 | 0.43 |
| 1:A:1025:TYR:CE2 | 1:A:1045:VAL:HG11 | 2.54 | 0.43 |
| 1:A:1074:GLN:HB3 | 1:C:117:ARG:HH21 | 1.84 | 0.43 |
| 1:B:66:SER:O | 1:B:66:SER:OG | 2.31 | 0.43 |
| 1:B:1224:THR:OG1 | 1:B:1227:ASP:OD2 | 2.24 | 0.43 |
| 1:C:568:VAL:HG23 | 1:C:588:THR:O | 2.19 | 0.43 |
| 1:D:965:LEU:HD13 | 1:D:1000:ILE:CD1 | 2.44 | 0.43 |
| 1:A:427:ASP:OD1 | 1:A:428:ARG:N | 2.52 | 0.43 |
| 1:A:548:THR:HG23 | 1:A:550:ASP:H | 1.84 | 0.43 |
| 1:A:989:TYR:O | 1:A:993:THR:HG23 | 2.19 | 0.43 |
| 1:B:985:TYR:CE2 | 1:B:1255:VAL:HG13 | 2.54 | 0.43 |
| 1:B:1268:THR:HG22 | 1:B:1321:CYS:SG | 2.59 | 0.43 |
| 1:C:491:LYS:HD3 | 1:C:514:LEU:HD11 | 2.01 | 0.43 |
| 1:C:527:SER:OG | 1:C:528:ILE:N | 2.51 | 0.43 |
| 1:D:519:ASP:OD1 | 1:D:519:ASP:N | 2.52 | 0.43 |
| 1:D:959:MET:O | 1:D:962:THR:HG23 | 2.19 | 0.43 |
| 1:D:1001:LYS:HA | 1:D:1004:ALA:HB3 | 2.01 | 0.43 |
| 1:A:358:HIS:CA | 1:A:448:ALA:HB1 | 2.49 | 0.42 |
| 1:A:663:GLU:O | 1:A:685:LYS:NZ | 2.52 | 0.42 |
| 1:A:1039:THR:O | 1:A:1042:THR:N | 2.52 | 0.42 |
| 1:B:133:THR:HG23 | 1:B:217:HIS:NE2 | 2.34 | 0.42 |
| 1:C:820:LYS:NZ | 1:C:822:ILE:HD11 | 2.34 | 0.42 |
| 1:C:1112:ILE:HG21 | 1:C:1114:LEU:HD12 | 2.01 | 0.42 |
| 1:C:1147:LYS:HB2 | 1:C:1170:LEU:HD21 | 2.00 | 0.42 |
| 1:D:246:MET:O | 1:D:304:VAL:N | 2.45 | 0.42 |
| 1:D:872:VAL:HG12 | 1:D:899:VAL:HB | 2.01 | 0.42 |
| 1:D:1014:ARG:HH11 | 1:D:1014:ARG:HB3 | 1.84 | 0.42 |
| 1:D:1016:LEU:C | 1:D:1016:LEU:CD2 | 2.87 | 0.42 |
| 1:D:1032:TYR:HE2 | 1:D:1087:LEU:HD11 | 1.83 | 0.42 |
| 1:A:169:ASP:N | 1:A:173:ASN:O | 2.48 | 0.42 |
| 1:A:235:VAL:O | 1:A:237:LYS:N | 2.48 | 0.42 |
| 1:A:281:GLU:N | 1:A:281:GLU:OE2 | 2.52 | 0.42 |
| 1:B:62:ALA:O | 1:B:75:THR:N | 2.49 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:468:LEU:HD13 | 1:B:559:ASP:O | 2.19 | 0.42 |
| 1:C:1055:TYR:C | 1:C:1056:ILE:HG23 | 2.39 | 0.42 |
| 1:C:1102:SER:HA | 1:C:1105:ILE:HD12 | 2.01 | 0.42 |
| 1:D:1070:LEU:HD22 | 1:D:1105:ILE:HB | 2.00 | 0.42 |
| 1:D:1179:ASN:OD1 | 1:D:1237:TRP:N | 2.52 | 0.42 |
| 1:D:1238:ILE:CG2 | 1:D:1261:LEU:HD23 | 2.49 | 0.42 |
| 1:A:125:GLU:HG2 | 1:A:126:ASP:O | 2.19 | 0.42 |
| 1:A:237:LYS:O | 1:A:341:SER:OG | 2.30 | 0.42 |
| 1:A:614:SER:N | 1:A:617:SER:OG | 2.50 | 0.42 |
| 1:A:794:VAL:CG1 | 1:A:899:VAL:HG23 | 2.50 | 0.42 |
| 1:A:919:LEU:HD13 | 1:A:1228:LEU:HB2 | 2.00 | 0.42 |
| 1:B:42:GLU:CD | 1:B:125:GLU:HB3 | 2.39 | 0.42 |
| 1:B:568:VAL:HG21 | 1:B:589:ALA:HB2 | 2.00 | 0.42 |
| 1:B:753:GLU:OE2 | 1:B:755:GLY:N | 2.51 | 0.42 |
| 1:B:1213:LEU:HB2 | 1:B:1234:ILE:HG21 | 2.00 | 0.42 |
| 1:B:1253:ASP:OD1 | 1:B:1254:THR:N | 2.52 | 0.42 |
| 1:D:595:CYS:SG | 1:D:596:ALA:N | 2.92 | 0.42 |
| 1:D:763:THR:OG1 | 1:D:764:GLU:N | 2.52 | 0.42 |
| 1:D:810:LEU:HD13 | 1:D:860:VAL:CG1 | 2.49 | 0.42 |
| 1:A:55:ASN:O | 1:A:58:VAL:HG23 | 2.19 | 0.42 |
| 1:B:744:VAL:HG21 | 1:B:753:GLU:HB2 | 2.01 | 0.42 |
| 1:B:1298:LEU:O | 1:B:1298:LEU:CD2 | 2.66 | 0.42 |
| 1:C:77:LEU:HD13 | 1:C:87:VAL:HB | 2.01 | 0.42 |
| 1:C:730:THR:OG1 | 1:C:896:LYS:O | 2.32 | 0.42 |
| 1:D:908:GLU:HG3 | 1:D:940:VAL:HG11 | 2.02 | 0.42 |
| 1:A:393:TYR:CD2 | 1:A:393:TYR:O | 2.72 | 0.42 |
| 1:B:498:LEU:HD22 | 1:B:505:ILE:CG2 | 2.49 | 0.42 |
| 1:C:868:VAL:O | 1:C:903:LEU:N | 2.52 | 0.42 |
| 1:C:1110:LEU:HD21 | 1:C:1116:VAL:HA | 2.01 | 0.42 |
| 1:D:290:PHE:HB2 | 1:D:304:VAL:HG12 | 2.01 | 0.42 |
| 1:D:744:VAL:HG11 | 1:D:753:GLU:CD | 2.39 | 0.42 |
| 4:L:3:BMA:H62 | 4:L:4:MAN:H2 | 1.85 | 0.42 |
| 1:A:234:THR:O | 1:A:234:THR:OG1 | 2.38 | 0.42 |
| 1:A:353:VAL:HG23 | 1:A:354:LYS:H | 1.85 | 0.42 |
| 1:A:566:ASN:HB2 | 1:A:776:ALA:CB | 2.49 | 0.42 |
| 1:A:583:ALA:HB3 | 1:A:755:GLY:C | 2.40 | 0.42 |
| 1:A:585:LEU:HD21 | 1:A:739:TRP:CH2 | 2.55 | 0.42 |
| 1:A:810:LEU:O | 1:A:858:TRP:N | 2.50 | 0.42 |
| 1:B:1005:ILE:O | 1:B:1009:ASN:ND2 | 2.46 | 0.42 |
| 1:B:1181:VAL:HG22 | 1:B:1233:ASN:HB3 | 2.02 | 0.42 |
| 1:B:1277:GLN:HB2 | 1:B:1317:THR:HG23 | 2.01 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C:946:ALA:HB1 | 1:C:1326:THR:CG2 | 2.49 | 0.42 |
| 1:A:55:ASN:O | 1:A:57:THR:N | 2.52 | 0.42 |
| 1:A:343:ILE:O | 1:A:344:THR:HG23 | 2.20 | 0.42 |
| 1:B:118:THR:HG21 | 1:B:676:LYS:HD3 | 2.02 | 0.42 |
| 1:B:468:LEU:HD21 | 1:B:558:TYR:HB3 | 2.02 | 0.42 |
| 1:B:823:ARG:NH1 | 1:B:825:SER:OG | 2.52 | 0.42 |
| 1:B:868:VAL:HB | 1:B:903:LEU:HD11 | 2.01 | 0.42 |
| 1:C:270:ARG:NH2 | 1:C:316:TYR:O | 2.50 | 0.42 |
| 1:C:744:VAL:HG23 | 1:C:751:VAL:HG21 | 2.02 | 0.42 |
| 1:C:970:TYR:CE1 | 1:C:979:LEU:HD21 | 2.55 | 0.42 |
| 1:C:971:GLY:O | 1:C:1018:TYR:OH | 2.33 | 0.42 |
| 1:C:980:PHE:O | 1:C:984:ILE:HD12 | 2.20 | 0.42 |
| 1:D:822:ILE:HG21 | 1:D:876:ALA:HB1 | 2.01 | 0.42 |
| 1:D:1363:ILE:HG22 | 1:D:1365:LEU:HD11 | 2.01 | 0.42 |
| 1:A:164:LEU:HD12 | 1:A:165:VAL:N | 2.35 | 0.42 |
| 1:A:387:ARG:H | 1:A:387:ARG:HD2 | 1.84 | 0.42 |
| 1:B:681:SER:OG | 1:B:682:LYS:N | 2.52 | 0.42 |
| 1:B:950:VAL:HG22 | 1:B:1324:LEU:HD21 | 2.02 | 0.42 |
| 1:B:1041:LEU:HD23 | 1:B:1042:THR:N | 2.35 | 0.42 |
| 1:B:1146:THR:O | 1:B:1150:LEU:HD23 | 2.20 | 0.42 |
| 1:C:187:LEU:CD2 | 1:C:596:ALA:HB2 | 2.49 | 0.42 |
| 1:C:493:LEU:HD12 | 1:C:494:SER:N | 2.35 | 0.42 |
| 1:D:572:PHE:CD2 | 1:D:786:LEU:HD12 | 2.55 | 0.42 |
| 1:D:1187:GLN:NE2 | 1:D:1187:GLN:HA | 2.34 | 0.42 |
| 1:A:123:LYS:HG2 | 1:A:125:GLU:HA | 2.02 | 0.42 |
| 1:A:224:PHE:CD1 | 1:A:604:VAL:HG11 | 2.55 | 0.42 |
| 1:A:602:GLN:HB2 | 1:A:605:LEU:HD23 | 2.01 | 0.42 |
| 1:B:49:VAL:C | 1:B:84:LEU:HD12 | 2.39 | 0.42 |
| 1:B:63:SER:O | 1:B:103:LEU:HD12 | 2.19 | 0.42 |
| 1:B:158:LEU:HD11 | 1:B:160:GLU:OE2 | 2.20 | 0.42 |
| 1:B:238:ILE:HD12 | 1:B:342:GLU:HB2 | 2.02 | 0.42 |
| 1:B:746:VAL:HG12 | 1:B:747:ASN:O | 2.20 | 0.42 |
| 1:C:43:THR:OG1 | 1:C:154:ASN:ND2 | 2.53 | 0.42 |
| 1:C:161:LEU:H | 1:C:161:LEU:HD23 | 1.85 | 0.42 |
| 1:C:360:ARG:O | 1:C:411:THR:OG1 | 2.34 | 0.42 |
| 1:D:50:LEU:CD2 | 1:D:84:LEU:HD21 | 2.50 | 0.42 |
| 1:D:1216:TYR:CE2 | 1:D:1234:ILE:HD12 | 2.54 | 0.42 |
| 1:A:1296:ASN:HB3 | 1:A:1299:LEU:HD23 | 2.02 | 0.42 |
| 1:B:201:GLY:N | 1:B:221:VAL:O | 2.45 | 0.42 |
| 1:B:857:SER:OG | 1:B:858:TRP:N | 2.53 | 0.42 |
| 1:C:889:SER:HG | 1:C:895:ARG:HH22 | 1.67 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:D:295:ASN:N | 1:D:295:ASN:OD1 | 2.53 | 0.42 |
| 1:D:1184:GLU:HG3 | 1:D:1185:ARG:N | 2.35 | 0.42 |
| 1:A:33:VAL:HG12 | 1:A:49:VAL:HG13 | 2.02 | 0.41 |
| 1:A:303:GLN:OE1 | 1:A:303:GLN:HA | 2.19 | 0.41 |
| 1:A:570:LEU:HD13 | 1:A:782:SER:O | 2.20 | 0.41 |
| 1:B:34:LEU:N | 1:B:34:LEU:HD12 | 2.35 | 0.41 |
| 1:B:319:LYS:N | 1:B:320:LEU:HD12 | 2.36 | 0.41 |
| 1:B:793:PHE:CZ | 1:B:815:LEU:HD22 | 2.55 | 0.41 |
| 1:B:1118:HIS:ND1 | 1:B:1119:PRO:HD3 | 2.15 | 0.41 |
| 1:C:614:SER:N | 1:C:617:SER:OG | 2.51 | 0.41 |
| 1:C:694:GLN:NE2 | 1:C:695:TYR:O | 2.52 | 0.41 |
| 1:C:867:ASN:HD22 | 1:C:867:ASN:H | 1.68 | 0.41 |
| 1:D:1109:LEU:HD13 | 1:D:1120:VAL:HG11 | 2.03 | 0.41 |
| 1:A:55:ASN:C | 1:A:57:THR:N | 2.73 | 0.41 |
| 1:A:94:SER:OG | 1:A:96:SER:O | 2.39 | 0.41 |
| 1:A:233:VAL:HG23 | 1:A:235:VAL:HG23 | 2.01 | 0.41 |
| 1:A:241:ILE:CG2 | 1:A:242:LEU:HD22 | 2.50 | 0.41 |
| 1:A:267:SER:N | 1:A:321:HIS:O | 2.44 | 0.41 |
| 1:A:538:ALA:HB2 | 1:A:560:VAL:CG2 | 2.51 | 0.41 |
| 1:A:746:VAL:HG13 | 1:A:750:GLY:HA2 | 2.02 | 0.41 |
| 1:B:517:GLN:NE2 | 1:B:518:GLU:OE2 | 2.53 | 0.41 |
| 1:B:824:VAL:HG23 | 1:B:875:GLU:O | 2.20 | 0.41 |
| 1:B:968:MET:CG | 1:B:969:PRO:HD2 | 2.49 | 0.41 |
| 1:B:1277:GLN:OE1 | 1:B:1289:LYS:NZ | 2.32 | 0.41 |
| 1:C:40:HIS:HB2 | 1:C:43:THR:HG22 | 2.00 | 0.41 |
| 1:C:501:ALA:HB1 | 1:C:535:ALA:HB3 | 2.02 | 0.41 |
| 1:C:1046:LEU:HD11 | 1:C:1063:ILE:CG2 | 2.50 | 0.41 |
| 1:D:497:TYR:CG | 1:D:526:ILE:HD11 | 2.55 | 0.41 |
| 1:D:593:SER:C | 1:D:745:VAL:HG13 | 2.41 | 0.41 |
| 1:A:244:GLU:C | 1:A:306:THR:HG22 | 2.41 | 0.41 |
| 1:A:578:LEU:C | 1:A:580:ALA:H | 2.21 | 0.41 |
| 1:A:603:SER:O | 1:A:606:LEU:N | 2.50 | 0.41 |
| 1:A:943:SER:OG | 1:A:1308:LEU:HD11 | 2.20 | 0.41 |
| 1:B:290:PHE:O | 1:B:302:GLN:NE2 | 2.48 | 0.41 |
| 1:B:595:CYS:H | 1:B:743:LEU:HD13 | 1.84 | 0.41 |
| 1:B:946:ALA:HB2 | 1:B:1328:LEU:HB2 | 2.02 | 0.41 |
| 1:C:318:MET:SD | 1:C:319:LYS:N | 2.91 | 0.41 |
| 1:D:43:THR:HG21 | 1:D:153:GLU:HB2 | 2.02 | 0.41 |
| 1:D:679:THR:HG22 | 1:D:681:SER:H | 1.85 | 0.41 |
| 1:A:41:THR:HG22 | 1:A:91:VAL:HG12 | 2.03 | 0.41 |
| 1:A:491:LYS:C | 1:A:515:VAL:HG22 | 2.40 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A:579:PRO:HB3 | 1:A:759:PRO:HG3 | 2.02 | 0.41 |
| 1:A:869:ASN:HB3 | 1:A:900:ILE:HG22 | 2.02 | 0.41 |
| 1:B:136:SER:OG | 1:B:609:PRO:O | 2.38 | 0.41 |
| 1:B:275:ALA:HB3 | 1:B:282:ASP:O | 2.20 | 0.41 |
| 1:B:575:SER:OG | 1:B:576:GLN:N | 2.51 | 0.41 |
| 1:C:67:VAL:HG12 | 1:C:99:GLU:HG2 | 2.03 | 0.41 |
| 1:C:751:VAL:HG22 | 1:C:752:ALA:N | 2.36 | 0.41 |
| 1:C:978:VAL:CG2 | 1:C:1251:THR:HG21 | 2.51 | 0.41 |
| 1:D:35:VAL:HG23 | 1:D:35:VAL:O | 2.20 | 0.41 |
| 1:D:1103:ALA:CB | 1:D:1149:LEU:HD12 | 2.51 | 0.41 |
| 1:D:1345:VAL:HG23 | 1:D:1365:LEU:HD11 | 2.02 | 0.41 |
| 1:A:383:VAL:O | 1:A:423:VAL:HG23 | 2.19 | 0.41 |
| 1:A:460:HIS:NE2 | 1:A:461:LEU:O | 2.53 | 0.41 |
| 1:B:268:ILE:HA | 1:B:320:LEU:HD23 | 2.02 | 0.41 |
| 1:B:658:VAL:HG21 | 1:B:688:MET:CE | 2.51 | 0.41 |
| 1:B:1144:VAL:HG12 | 1:B:1183:TRP:HD1 | 1.86 | 0.41 |
| 1:C:108:LYS:HG3 | 1:C:108:LYS:O | 2.20 | 0.41 |
| 1:C:143:THR:HG22 | 1:C:193:PRO:CB | 2.49 | 0.41 |
| 1:C:353:VAL:HG23 | 1:C:354:LYS:H | 1.85 | 0.41 |
| 1:C:1144:VAL:HG11 | 1:C:1185:ARG:HA | 2.02 | 0.41 |
| 1:D:103:LEU:HD11 | 1:D:120:VAL:HG23 | 2.02 | 0.41 |
| 1:D:292:GLY:HA3 | 1:D:300:PHE:CZ | 2.53 | 0.41 |
| 1:D:384:ILE:HG22 | 1:D:423:VAL:HG22 | 2.02 | 0.41 |
| 1:D:855:THR:O | 1:D:855:THR:HG23 | 2.21 | 0.41 |
| 1:D:991:ASN:O | 1:D:991:ASN:ND2 | 2.54 | 0.41 |
| 1:A:129:VAL:HG22 | 1:A:209:LYS:HZ1 | 1.84 | 0.41 |
| 1:A:269:CYS:O | 1:A:319:LYS:N | 2.49 | 0.41 |
| 1:B:480:TYR:O | 1:B:481:ILE:HG23 | 2.20 | 0.41 |
| 1:B:486:THR:HG23 | 1:B:486:THR:O | 2.21 | 0.41 |
| 1:B:1128:LEU:HD11 | 1:B:1150:LEU:HD13 | 2.01 | 0.41 |
| 1:C:984:ILE:HG12 | 1:C:1052:ALA:HB2 | 2.02 | 0.41 |
| 1:D:68:ARG:HA | 1:D:68:ARG:CZ | 2.50 | 0.41 |
| 1:D:325:GLN:HA | 1:D:332:VAL:HG13 | 2.02 | 0.41 |
| 1:D:501:ALA:CB | 1:D:506:VAL:HG12 | 2.50 | 0.41 |
| 1:D:758:VAL:O | 1:D:758:VAL:HG13 | 2.21 | 0.41 |
| 1:D:1007:TYR:O | 1:D:1011:GLY:N | 2.44 | 0.41 |
| 1:D:1067:LEU:CD1 | 1:D:1112:ILE:HG21 | 2.48 | 0.41 |
| 1:A:1270:THR:O | 1:A:1271:ARG:C | 2.59 | 0.41 |
| 1:B:275:ALA:HB1 | 1:B:281:GLU:HB3 | 2.02 | 0.41 |
| 1:B:389:ASN:C | 1:B:391:ALA:H | 2.24 | 0.41 |
| 1:B:545:VAL:C | 1:B:546:LEU:HD23 | 2.41 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:B:965:LEU:HD12 | 1:B:1247:GLY:N | 2.36 | 0.41 |
| 1:B:1072:GLN:O | 1:B:1072:GLN:HG2 | 2.21 | 0.41 |
| 1:C:394:TYR:CD2 | 5:C:2004:NAG:H61 | 2.53 | 0.41 |
| 1:C:1238:ILE:HG23 | 1:C:1248:PHE:CE2 | 2.56 | 0.41 |
| 1:D:198:PRO:CG | 1:D:221:VAL:HG11 | 2.50 | 0.41 |
| 1:D:258:LYS:HZ3 | 1:D:815:LEU:HD21 | 1.85 | 0.41 |
| 1:D:305:LYS:NZ | 1:D:308:VAL:HG13 | 2.35 | 0.41 |
| 1:D:353:VAL:HG23 | 1:D:369:VAL:HA | 2.02 | 0.41 |
| 1:D:453:SER:OG | 1:D:455:SER:OG | 2.38 | 0.41 |
| 1:D:1187:GLN:HA | 1:D:1187:GLN:HE21 | 1.86 | 0.41 |
| 1:A:311:LEU:H | 1:A:311:LEU:HD23 | 1.86 | 0.41 |
| 1:A:497:TYR:CD1 | 1:A:526:ILE:HD11 | 2.56 | 0.41 |
| 1:A:654:THR:HG21 | 1:D:659:SER:HB2 | 2.03 | 0.41 |
| 1:B:48:CYS:SG | 1:B:498:LEU:HD21 | 2.61 | 0.41 |
| 1:B:233:VAL:HG22 | 1:B:234:THR:N | 2.35 | 0.41 |
| 1:B:914:THR:C | 1:B:1327:SER:HG | 2.17 | 0.41 |
| 1:B:997:THR:HG23 | 1:B:1000:ILE:HG22 | 2.02 | 0.41 |
| 1:B:1271:ARG:N | 1:B:1271:ARG:CD | 2.84 | 0.41 |
| 1:C:118:THR:OG1 | 1:C:676:LYS:HG3 | 2.20 | 0.41 |
| 1:C:1107:ILE:HG21 | 1:C:1149:LEU:CD1 | 2.50 | 0.41 |
| 1:D:840:GLU:OE2 | 1:D:857:SER:N | 2.50 | 0.41 |
| 1:D:1016:LEU:O | 1:D:1019:LYS:HG2 | 2.20 | 0.41 |
| 1:A:63:SER:OG | 1:A:64:LEU:N | 2.54 | 0.41 |
| 1:A:215:THR:HG22 | 1:A:216:GLU:N | 2.36 | 0.41 |
| 1:A:473:THR:O | 1:A:474:GLN:NE2 | 2.54 | 0.41 |
| 1:A:491:LYS:HA | 1:A:515:VAL:HG22 | 2.03 | 0.41 |
| 1:A:594:VAL:HG23 | 1:A:744:VAL:O | 2.21 | 0.41 |
| 1:A:734:TYR:C | 1:A:758:VAL:HG23 | 2.41 | 0.41 |
| 1:A:1209:THR:HG21 | 1:A:1237:TRP:CZ3 | 2.56 | 0.41 |
| 1:A:1293:ASP:OD1 | 1:A:1294:ASN:N | 2.49 | 0.41 |
| 1:B:241:ILE:CD1 | 1:B:347:ILE:HD11 | 2.51 | 0.41 |
| 1:B:887:VAL:O | 1:B:887:VAL:HG13 | 2.21 | 0.41 |
| 1:B:948:VAL:HG22 | 1:B:949:SER:N | 2.36 | 0.41 |
| 1:B:1159:ASN:O | 1:B:1163:ARG:N | 2.47 | 0.41 |
| 1:B:1323:TYR:C | 1:B:1324:LEU:HD12 | 2.40 | 0.41 |
| 1:C:372:VAL:HG12 | 1:C:373:ASP:N | 2.36 | 0.41 |
| 1:C:920:LEU:HD11 | 1:C:929:GLU:HB2 | 2.03 | 0.41 |
| 1:C:928:SER:HA | 1:C:1316:VAL:HG22 | 2.03 | 0.41 |
| 1:C:1217:LEU:O | 1:C:1219:ALA:N | 2.53 | 0.41 |
| 1:C:1251:THR:O | 1:C:1255:VAL:HG23 | 2.21 | 0.41 |
| 1:D:452:PHE:C | 1:D:454:PRO:HD3 | 2.41 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:D:650:ILE:HD11 | 1:D:659:SER:N | 2.36 | 0.41 |
| 1:D:809:THR:HG22 | 1:D:1437:VAL:HG13 | 2.03 | 0.41 |
| 1:D:1105:ILE:HG13 | 1:D:1106:THR:HG23 | 2.02 | 0.41 |
| 1:A:407:PHE:CD2 | 1:A:407:PHE:C | 2.93 | 0.41 |
| 1:A:564:LEU:HD21 | 1:A:780:ILE:CD1 | 2.50 | 0.41 |
| 1:A:581:SER:HA | 1:A:756:VAL:HG13 | 2.02 | 0.41 |
| 1:A:803:ILE:HD12 | 1:A:908:GLU:HA | 2.03 | 0.41 |
| 1:A:983:ASN:HB3 | 1:A:984:ILE:HD12 | 2.03 | 0.41 |
| 1:B:483:ASN:O | 1:B:487:LEU:HD21 | 2.20 | 0.41 |
| 1:B:1121:VAL:O | 1:B:1124:ALA:HB3 | 2.21 | 0.41 |
| 1:C:959:MET:O | 1:C:962:THR:OG1 | 2.32 | 0.41 |
| 1:D:241:ILE:HG22 | 1:D:242:LEU:CD2 | 2.50 | 0.41 |
| 1:A:33:VAL:O | 1:A:34:LEU:HD12 | 2.21 | 0.40 |
| 1:A:230:GLU:CA | 1:A:606:LEU:HD11 | 2.50 | 0.40 |
| 1:A:887:VAL:O | 1:A:887:VAL:HG13 | 2.20 | 0.40 |
| 1:A:1059:ASP:N | 1:A:1059:ASP:OD1 | 2.55 | 0.40 |
| 1:B:239:ILE:HD11 | 1:B:243:GLU:HB3 | 2.04 | 0.40 |
| 1:B:383:VAL:HG13 | 1:B:423:VAL:HG23 | 2.03 | 0.40 |
| 1:B:390:GLU:N | 1:B:390:GLU:CD | 2.74 | 0.40 |
| 1:B:495:PHE:CD1 | 1:B:544:ALA:HB2 | 2.57 | 0.40 |
| 1:B:538:ALA:HB2 | 1:B:560:VAL:CG2 | 2.51 | 0.40 |
| 1:B:1214:LEU:HD21 | 1:B:1260:ALA:HB2 | 2.02 | 0.40 |
| 1:B:1311:GLU:N | 1:B:1311:GLU:OE1 | 2.54 | 0.40 |
| 1:C:100:VAL:HG12 | 1:C:121:MET:HG3 | 2.03 | 0.40 |
| 1:C:139:LYS:CG | 1:C:142:GLN:HG3 | 2.51 | 0.40 |
| 1:C:634:LEU:HD23 | 1:C:634:LEU:H | 1.85 | 0.40 |
| 1:D:984:ILE:HG12 | 1:D:1045:VAL:HG23 | 2.04 | 0.40 |
| 1:D:1118:HIS:HA | 1:D:1121:VAL:HG22 | 2.02 | 0.40 |
| 1:D:1216:TYR:HE2 | 1:D:1234:ILE:HD12 | 1.86 | 0.40 |
| 1:D:1250:SER:OG | 1:D:1252:GLN:N | 2.54 | 0.40 |
| 1:A:590:ALA:HB1 | 1:A:591:PRO:CD | 2.50 | 0.40 |
| 1:A:1151:ALA:HB1 | 1:A:1167:LEU:HD11 | 2.03 | 0.40 |
| 1:B:733:LYS:N | 1:B:760:ASP:OD2 | 2.55 | 0.40 |
| 1:B:1095:VAL:HG12 | 1:B:1145:TYR:HE2 | 1.87 | 0.40 |
| 1:C:349:LYS:NZ | 1:C:372:VAL:HG11 | 2.36 | 0.40 |
| 1:C:1046:LEU:CD1 | 1:C:1063:ILE:HG22 | 2.50 | 0.40 |
| 1:C:1207:GLU:O | 1:C:1210:SER:OG | 2.16 | 0.40 |
| 1:D:76:ASP:OD1 | 1:D:77:LEU:N | 2.54 | 0.40 |
| 1:D:290:PHE:O | 1:D:302:GLN:HG2 | 2.21 | 0.40 |
| 1:D:800:TYR:C | 1:D:802:VAL:HG13 | 2.40 | 0.40 |
| 1:D:975:GLN:O | 1:D:977:MET:N | 2.54 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:D:1087:LEU:H | 1:D:1087:LEU:HD12 | 1.86 | 0.40 |
| 1:D:1185:ARG:HD3 | 1:D:1196:PHE:HB3 | 2.03 | 0.40 |
| 1:D:1404:HIS:O | 1:D:1405:VAL:HG13 | 2.20 | 0.40 |
| 1:A:966:LEU:HD22 | 1:A:1007:TYR:CE2 | 2.56 | 0.40 |
| 1:B:241:ILE:HD12 | 1:B:347:ILE:HD11 | 2.02 | 0.40 |
| 1:B:498:LEU:HD22 | 1:B:505:ILE:HG23 | 2.04 | 0.40 |
| 1:B:1166:VAL:O | 1:B:1170:LEU:HD23 | 2.21 | 0.40 |
| 1:C:339:GLN:H | 1:C:339:GLN:HG2 | 1.71 | 0.40 |
| 1:C:514:LEU:HD23 | 1:C:515:VAL:O | 2.22 | 0.40 |
| 1:C:570:LEU:HD23 | 1:C:571:SER:N | 2.36 | 0.40 |
| 1:C:1100:THR:CG2 | 1:C:1149:LEU:HD23 | 2.46 | 0.40 |
| 1:D:60:VAL:HG23 | 1:D:107:VAL:HA | 2.02 | 0.40 |
| 1:D:162:ILE:HG22 | 1:D:181:PHE:O | 2.21 | 0.40 |
| 1:D:993:THR:HG21 | 1:D:996:LEU:HD13 | 2.04 | 0.40 |
| 1:A:167:ILE:CG1 | 1:A:205:VAL:HG13 | 2.50 | 0.40 |
| 1:A:319:LYS:C | 1:A:320:LEU:HD12 | 2.42 | 0.40 |
| 1:A:794:VAL:O | 1:A:794:VAL:HG13 | 2.21 | 0.40 |
| 1:A:1067:LEU:HA | 1:A:1070:LEU:HD12 | 2.02 | 0.40 |
| 1:A:1277:GLN:O | 1:A:1317:THR:N | 2.48 | 0.40 |
| 1:C:268:ILE:HD12 | 1:C:304:VAL:HG21 | 2.03 | 0.40 |
| 1:C:351:SER:O | 1:C:370:ARG:N | 2.48 | 0.40 |
| 1:C:964:ASN:ND2 | 1:C:1245:GLN:O | 2.54 | 0.40 |
| 1:C:1148:ALA:HA | 1:C:1170:LEU:HD11 | 2.03 | 0.40 |
| 1:C:1278:VAL:HG12 | 1:C:1279:THR:N | 2.36 | 0.40 |
| 1:D:265:THR:OG1 | 1:D:291:SER:HB3 | 2.20 | 0.40 |
| 1:D:1427:LEU:H | 1:D:1427:LEU:HD23 | 1.87 | 0.40 |
| 1:A:436:TRP:NE1 | 1:B:273:SER:O | 2.46 | 0.40 |
| 1:A:459:VAL:HG23 | 1:A:479:HIS:O | 2.21 | 0.40 |
| 1:A:1089:ASN:OD1 | 1:A:1200:GLN:NE2 | 2.55 | 0.40 |
| 1:A:1109:LEU:O | 1:A:1114:LEU:HD11 | 2.22 | 0.40 |
| 1:B:792:PHE:CZ | 1:B:824:VAL:HG21 | 2.56 | 0.40 |
| 1:C:538:ALA:N | 1:C:558:TYR:O | 2.53 | 0.40 |
| 1:C:1235:VAL:HG13 | 1:C:1261:LEU:CD2 | 2.52 | 0.40 |
| 1:D:540:LEU:HD12 | 1:D:541:LEU:H | 1.87 | 0.40 |
| 1:D:1251:THR:HG22 | 1:D:1409:GLU:OE1 | 2.21 | 0.40 |

There are no symmetry-related clashes.

## 5.3 Torsion angles (i)

### 5.3.1 Protein backbone (i)

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

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

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|---|---|---|---|---|---|---|---|
| 1 | A | 1272/1474 (86%) | 986 (78%) | 277 (22%) | 9 (1%) | 19 | 56 |
| 1 | B | 1272/1474 (86%) | 1033 (81%) | 230 (18%) | 9 (1%) | 19 | 56 |
| 1 | C | 1273/1474 (86%) | 992 (78%) | 274 (22%) | 7 (0%) | 25 | 63 |
| 1 | D | 1403/1474 (95%) | 1122 (80%) | 270 (19%) | 11 (1%) | 16 | 53 |
| All | All | 5220/5896 (88%) | 4133 (79%) | 1051 (20%) | 36 (1%) | 21 | 56 |

All (36) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A | 56 | GLU |
| 1 | B | 1118 | HIS |
| 1 | C | 339 | GLN |
| 1 | C | 412 | THR |
| 1 | D | 412 | THR |
| 1 | D | 800 | TYR |
| 1 | A | 55 | ASN |
| 1 | A | 579 | PRO |
| 1 | B | 736 | PRO |
| 1 | D | 532 | SER |
| 1 | D | 809 | THR |
| 1 | D | 976 | ASN |
| 1 | A | 687 | LYS |
| 1 | A | 1196 | PHE |
| 1 | A | 1221 | PRO |
| 1 | B | 70 | ASN |
| 1 | D | 95 | SER |
| 1 | D | 799 | PRO |
| 1 | B | 55 | ASN |
| 1 | B | 412 | THR |
| 1 | B | 532 | SER |
| 1 | C | 53 | TYR |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C | 338 | ARG |
| 1 | C | 1221 | PRO |
| 1 | A | 532 | SER |
| 1 | A | 582 | HIS |
| 1 | B | 994 | GLN |
| 1 | B | 1221 | PRO |
| 1 | C | 436 | TRP |
| 1 | C | 936 | PRO |
| 1 | D | 936 | PRO |
| 1 | D | 241 | ILE |
| 1 | D | 986 | VAL |
| 1 | D | 631 | PRO |
| 1 | A | 936 | PRO |
| 1 | B | 110 | PRO |

### 5.3.2 Protein sidechains (i)

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

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

| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|---|---|---|---|---|---|---|
| 1 | A | 1114/1290 (86%) | 1099 (99%) | 15 (1%) | 65 | 77 |
| 1 | B | 1114/1290 (86%) | 1100 (99%) | 14 (1%) | 65 | 77 |
| 1 | C | 1115/1290 (86%) | 1103 (99%) | 12 (1%) | 70 | 80 |
| 1 | D | 1234/1290 (96%) | 1213 (98%) | 21 (2%) | 56 | 73 |
| All | All | 4577/5160 (89%) | 4515 (99%) | 62 (1%) | 62 | 76 |

All (62) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A | 224 | PHE |
| 1 | A | 383 | VAL |
| 1 | A | 387 | ARG |
| 1 | A | 396 | ASN |
| 1 | A | 411 | THR |
| 1 | A | 470 | CYS |
| 1 | A | 688 | MET |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A | 689 | CYS |
| 1 | A | 739 | TRP |
| 1 | A | 778 | LEU |
| 1 | A | 821 | CYS |
| 1 | A | 951 | LEU |
| 1 | A | 1195 | HIS |
| 1 | A | 1259 | HIS |
| 1 | A | 1271 | ARG |
| 1 | B | 336 | THR |
| 1 | B | 409 | ILE |
| 1 | B | 410 | ASN |
| 1 | B | 412 | THR |
| 1 | B | 470 | CYS |
| 1 | B | 492 | LYS |
| 1 | B | 735 | PHE |
| 1 | B | 787 | ARG |
| 1 | B | 823 | ARG |
| 1 | B | 932 | SER |
| 1 | B | 1001 | LYS |
| 1 | B | 1118 | HIS |
| 1 | B | 1127 | CYS |
| 1 | B | 1271 | ARG |
| 1 | C | 55 | ASN |
| 1 | C | 56 | GLU |
| 1 | C | 58 | VAL |
| 1 | C | 108 | LYS |
| 1 | C | 113 | GLU |
| 1 | C | 520 | MET |
| 1 | C | 654 | THR |
| 1 | C | 867 | ASN |
| 1 | C | 869 | ASN |
| 1 | C | 1164 | LYS |
| 1 | C | 1195 | HIS |
| 1 | C | 1271 | ARG |
| 1 | D | 48 | CYS |
| 1 | D | 56 | GLU |
| 1 | D | 115 | LYS |
| 1 | D | 396 | ASN |
| 1 | D | 410 | ASN |
| 1 | D | 810 | LEU |
| 1 | D | 811 | LYS |
| 1 | D | 823 | ARG |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | D | 883 | CYS |
| 1 | D | 988 | ASP |
| 1 | D | 989 | TYR |
| 1 | D | 991 | ASN |
| 1 | D | 1005 | ILE |
| 1 | D | 1012 | TYR |
| 1 | D | 1013 | GLN |
| 1 | D | 1015 | GLN |
| 1 | D | 1019 | LYS |
| 1 | D | 1184 | GLU |
| 1 | D | 1245 | GLN |
| 1 | D | 1271 | ARG |
| 1 | D | 1397 | LYS |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (52) such sidechains are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A | 132 | GLN |
| 1 | A | 168 | GLN |
| 1 | A | 474 | GLN |
| 1 | A | 477 | GLN |
| 1 | A | 479 | HIS |
| 1 | A | 511 | HIS |
| 1 | A | 576 | GLN |
| 1 | A | 651 | ASN |
| 1 | A | 662 | ASN |
| 1 | A | 976 | ASN |
| 1 | A | 1038 | ASN |
| 1 | A | 1259 | HIS |
| 1 | B | 132 | GLN |
| 1 | B | 310 | GLN |
| 1 | B | 413 | ASN |
| 1 | B | 511 | HIS |
| 1 | B | 584 | HIS |
| 1 | B | 602 | GLN |
| 1 | B | 880 | GLN |
| 1 | B | 1015 | GLN |
| 1 | B | 1062 | HIS |
| 1 | B | 1123 | ASN |
| 1 | B | 1296 | ASN |
| 1 | C | 97 | ASN |
| 1 | C | 303 | GLN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C | 368 | GLN |
| 1 | C | 406 | GLN |
| 1 | C | 413 | ASN |
| 1 | C | 511 | HIS |
| 1 | C | 584 | HIS |
| 1 | C | 620 | ASN |
| 1 | C | 647 | ASN |
| 1 | C | 867 | ASN |
| 1 | C | 1009 | ASN |
| 1 | C | 1179 | ASN |
| 1 | C | 1242 | GLN |
| 1 | C | 1243 | ASN |
| 1 | D | 179 | GLN |
| 1 | D | 217 | HIS |
| 1 | D | 293 | GLN |
| 1 | D | 327 | GLN |
| 1 | D | 406 | GLN |
| 1 | D | 424 | ASN |
| 1 | D | 477 | GLN |
| 1 | D | 843 | GLN |
| 1 | D | 964 | ASN |
| 1 | D | 967 | GLN |
| 1 | D | 1013 | GLN |
| 1 | D | 1015 | GLN |
| 1 | D | 1051 | GLN |
| 1 | D | 1259 | HIS |
| 1 | D | 1331 | ASN |

### 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

24 monosaccharides are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and

the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. 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 $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Counts | RMSZ | $\#\|Z\| > 2$ | Counts | RMSZ | $\#\|Z\| > 2$ |
| 2 | NAG | E | 1 | 1,2 | 14,14,15 | 0.25 | 0 | 17,19,21 | 0.52 | 0 |
| 2 | NAG | E | 2 | 2 | 14,14,15 | 0.29 | 0 | 17,19,21 | 0.56 | 0 |
| 3 | NAG | F | 1 | 3,1 | 14,14,15 | 0.37 | 0 | 17,19,21 | 1.23 | 2 (11%) |
| 3 | NAG | F | 2 | 3 | 14,14,15 | 0.35 | 0 | 17,19,21 | 0.76 | 0 |
| 3 | BMA | F | 3 | 3 | 11,11,12 | 0.24 | 0 | 15,15,17 | 0.76 | 0 |
| 2 | NAG | G | 1 | 1,2 | 14,14,15 | 0.32 | 0 | 17,19,21 | 0.60 | 0 |
| 2 | NAG | G | 2 | 2 | 14,14,15 | 0.29 | 0 | 17,19,21 | 0.63 | 0 |
| 3 | NAG | H | 1 | 3,1 | 14,14,15 | 0.37 | 0 | 17,19,21 | 1.03 | 2 (11%) |
| 3 | NAG | H | 2 | 3 | 14,14,15 | 0.44 | 0 | 17,19,21 | 1.24 | 2 (11%) |
| 3 | BMA | H | 3 | 3 | 11,11,12 | 0.22 | 0 | 15,15,17 | 0.52 | 0 |
| 2 | NAG | I | 1 | 1,2 | 14,14,15 | 0.32 | 0 | 17,19,21 | 0.48 | 0 |
| 2 | NAG | I | 2 | 2 | 14,14,15 | 0.29 | 0 | 17,19,21 | 0.52 | 0 |
| 3 | NAG | J | 1 | 3,1 | 14,14,15 | 0.33 | 0 | 17,19,21 | 0.93 | 1 (5%) |
| 3 | NAG | J | 2 | 3 | 14,14,15 | 0.34 | 0 | 17,19,21 | 0.73 | 0 |
| 3 | BMA | J | 3 | 3 | 11,11,12 | 0.23 | 0 | 15,15,17 | 0.57 | 0 |
| 2 | NAG | K | 1 | 1,2 | 14,14,15 | 0.29 | 0 | 17,19,21 | 0.82 | 1 (5%) |
| 2 | NAG | K | 2 | 2 | 14,14,15 | 0.30 | 0 | 17,19,21 | 0.64 | 0 |
| 4 | NAG | L | 1 | 1,4 | 14,14,15 | 0.32 | 0 | 17,19,21 | 0.50 | 0 |
| 4 | NAG | L | 2 | 4 | 14,14,15 | 0.37 | 0 | 17,19,21 | 0.79 | 0 |
| 4 | BMA | L | 3 | 4 | 11,11,12 | 0.24 | 0 | 15,15,17 | 0.55 | 0 |
| 4 | MAN | L | 4 | 4 | 11,11,12 | 0.26 | 0 | 15,15,17 | 0.60 | 0 |
| 3 | NAG | M | 1 | 3,1 | 14,14,15 | 0.37 | 0 | 17,19,21 | 0.80 | 0 |
| 3 | NAG | M | 2 | 3 | 14,14,15 | 0.37 | 0 | 17,19,21 | 0.68 | 0 |
| 3 | BMA | M | 3 | 3 | 11,11,12 | 0.22 | 0 | 15,15,17 | 0.63 | 0 |

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings |
|---|---|---|---|---|---|---|---|
| 2 | NAG | E | 1 | 1,2 | - | 5/6/23/26 | 0/1/1/1 |
| 2 | NAG | E | 2 | 2 | - | 4/6/23/26 | 0/1/1/1 |
| 3 | NAG | F | 1 | 3,1 | - | 4/6/23/26 | 0/1/1/1 |
| 3 | NAG | F | 2 | 3 | - | 3/6/23/26 | 0/1/1/1 |

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| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings |
|---|---|---|---|---|---|---|---|
| 3 | BMA | F | 3 | 3 | - | 0/2/19/22 | 0/1/1/1 |
| 2 | NAG | G | 1 | 1,2 | - | 2/6/23/26 | 0/1/1/1 |
| 2 | NAG | G | 2 | 2 | - | 5/6/23/26 | 0/1/1/1 |
| 3 | NAG | H | 1 | 3,1 | - | 5/6/23/26 | 0/1/1/1 |
| 3 | NAG | H | 2 | 3 | - | 4/6/23/26 | 0/1/1/1 |
| 3 | BMA | H | 3 | 3 | - | 0/2/19/22 | 0/1/1/1 |
| 2 | NAG | I | 1 | 1,2 | - | 4/6/23/26 | 0/1/1/1 |
| 2 | NAG | I | 2 | 2 | - | 3/6/23/26 | 0/1/1/1 |
| 3 | NAG | J | 1 | 3,1 | - | 2/6/23/26 | 0/1/1/1 |
| 3 | NAG | J | 2 | 3 | - | 3/6/23/26 | 0/1/1/1 |
| 3 | BMA | J | 3 | 3 | - | 0/2/19/22 | 0/1/1/1 |
| 2 | NAG | K | 1 | 1,2 | - | 2/6/23/26 | 0/1/1/1 |
| 2 | NAG | K | 2 | 2 | - | 2/6/23/26 | 0/1/1/1 |
| 4 | NAG | L | 1 | 1,4 | - | 4/6/23/26 | 0/1/1/1 |
| 4 | NAG | L | 2 | 4 | - | 3/6/23/26 | 0/1/1/1 |
| 4 | BMA | L | 3 | 4 | - | 2/2/19/22 | 0/1/1/1 |
| 4 | MAN | L | 4 | 4 | - | 1/2/19/22 | 0/1/1/1 |
| 3 | NAG | M | 1 | 3,1 | - | 3/6/23/26 | 0/1/1/1 |
| 3 | NAG | M | 2 | 3 | - | 4/6/23/26 | 0/1/1/1 |
| 3 | BMA | M | 3 | 3 | - | 1/2/19/22 | 0/1/1/1 |

There are no bond length outliers.

All (8) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 3 | H | 2 | NAG | C1-O5-C5 | 3.65 | 117.14 | 112.19 |
| 3 | F | 1 | NAG | C1-O5-C5 | 2.78 | 115.96 | 112.19 |
| 3 | J | 1 | NAG | C1-O5-C5 | 2.58 | 115.69 | 112.19 |
| 3 | H | 1 | NAG | C1-O5-C5 | 2.39 | 115.43 | 112.19 |
| 3 | F | 1 | NAG | C3-C4-C5 | 2.31 | 114.36 | 110.24 |
| 2 | K | 1 | NAG | C4-C3-C2 | -2.17 | 107.83 | 111.02 |
| 3 | H | 2 | NAG | C3-C4-C5 | -2.11 | 106.48 | 110.24 |
| 3 | H | 1 | NAG | O4-C4-C5 | 2.11 | 114.53 | 109.30 |

There are no chirality outliers.

All (66) torsion outliers are listed below:

| Mol | Chain | Res | Type | Atoms |
|---|---|---|---|---|
| 2 | E | 2 | NAG | C3-C2-N2-C7 |
| 2 | G | 1 | NAG | C8-C7-N2-C2 |
| 2 | G | 1 | NAG | O7-C7-N2-C2 |
| 2 | G | 2 | NAG | C1-C2-N2-C7 |
| 2 | G | 2 | NAG | C8-C7-N2-C2 |
| 2 | G | 2 | NAG | O7-C7-N2-C2 |
| 2 | I | 1 | NAG | C8-C7-N2-C2 |
| 2 | I | 1 | NAG | O7-C7-N2-C2 |
| 2 | I | 2 | NAG | C3-C2-N2-C7 |
| 2 | I | 2 | NAG | C8-C7-N2-C2 |
| 2 | I | 2 | NAG | O7-C7-N2-C2 |
| 2 | K | 1 | NAG | C8-C7-N2-C2 |
| 2 | K | 1 | NAG | O7-C7-N2-C2 |
| 2 | K | 2 | NAG | C8-C7-N2-C2 |
| 2 | K | 2 | NAG | O7-C7-N2-C2 |
| 3 | F | 1 | NAG | C8-C7-N2-C2 |
| 3 | F | 1 | NAG | O7-C7-N2-C2 |
| 3 | F | 2 | NAG | C3-C2-N2-C7 |
| 3 | F | 2 | NAG | C8-C7-N2-C2 |
| 3 | F | 2 | NAG | O7-C7-N2-C2 |
| 3 | H | 1 | NAG | C1-C2-N2-C7 |
| 3 | H | 1 | NAG | C8-C7-N2-C2 |
| 3 | H | 1 | NAG | O7-C7-N2-C2 |
| 3 | H | 2 | NAG | C8-C7-N2-C2 |
| 3 | H | 2 | NAG | O7-C7-N2-C2 |
| 3 | J | 1 | NAG | C8-C7-N2-C2 |
| 3 | J | 1 | NAG | O7-C7-N2-C2 |
| 3 | J | 2 | NAG | C3-C2-N2-C7 |
| 3 | J | 2 | NAG | C8-C7-N2-C2 |
| 3 | J | 2 | NAG | O7-C7-N2-C2 |
| 3 | M | 1 | NAG | C3-C2-N2-C7 |
| 3 | M | 1 | NAG | C8-C7-N2-C2 |
| 3 | M | 1 | NAG | O7-C7-N2-C2 |
| 3 | M | 2 | NAG | C8-C7-N2-C2 |
| 3 | M | 2 | NAG | O7-C7-N2-C2 |
| 4 | L | 1 | NAG | C8-C7-N2-C2 |
| 4 | L | 1 | NAG | O7-C7-N2-C2 |
| 4 | L | 2 | NAG | C8-C7-N2-C2 |
| 4 | L | 2 | NAG | O7-C7-N2-C2 |
| 2 | E | 2 | NAG | C8-C7-N2-C2 |
| 2 | E | 2 | NAG | O7-C7-N2-C2 |
| 2 | E | 1 | NAG | C8-C7-N2-C2 |
| 2 | E | 1 | NAG | O7-C7-N2-C2 |

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| Mol | Chain | Res | Type | Atoms |
|---|---|---|---|---|
| 3 | H | 1 | NAG | O5-C5-C6-O6 |
| 3 | M | 2 | NAG | C1-C2-N2-C7 |
| 4 | L | 3 | BMA | O5-C5-C6-O6 |
| 2 | E | 1 | NAG | C4-C5-C6-O6 |
| 4 | L | 1 | NAG | C1-C2-N2-C7 |
| 3 | H | 1 | NAG | C4-C5-C6-O6 |
| 3 | F | 1 | NAG | C4-C5-C6-O6 |
| 2 | E | 1 | NAG | C1-C2-N2-C7 |
| 2 | E | 2 | NAG | C1-C2-N2-C7 |
| 3 | M | 3 | BMA | O5-C5-C6-O6 |
| 4 | L | 4 | MAN | O5-C5-C6-O6 |
| 2 | E | 1 | NAG | O5-C5-C6-O6 |
| 3 | H | 2 | NAG | O5-C5-C6-O6 |
| 2 | G | 2 | NAG | O5-C5-C6-O6 |
| 3 | H | 2 | NAG | C3-C2-N2-C7 |
| 3 | M | 2 | NAG | C3-C2-N2-C7 |
| 2 | I | 1 | NAG | C1-C2-N2-C7 |
| 4 | L | 3 | BMA | C4-C5-C6-O6 |
| 2 | G | 2 | NAG | C3-C2-N2-C7 |
| 3 | F | 1 | NAG | O5-C5-C6-O6 |
| 2 | I | 1 | NAG | C3-C2-N2-C7 |
| 4 | L | 1 | NAG | C3-C2-N2-C7 |
| 4 | L | 2 | NAG | C3-C2-N2-C7 |

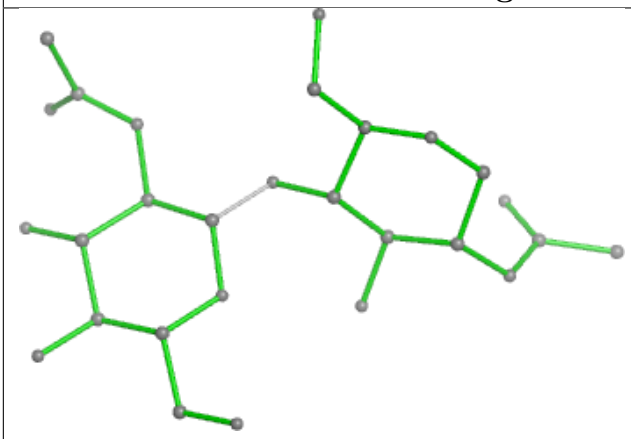
There are no ring outliers.

8 monomers are involved in 9 short contacts:

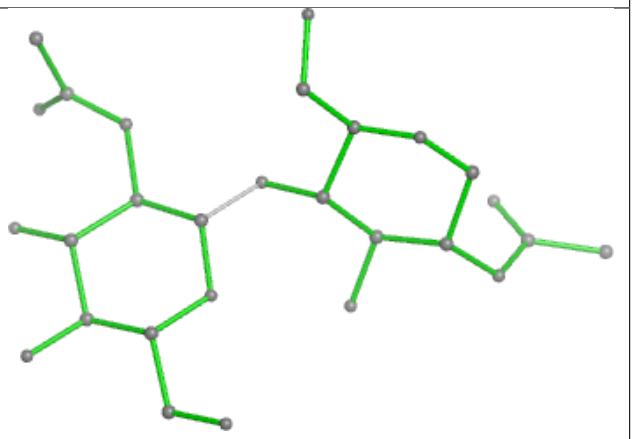
| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|---|---|---|---|---|---|
| 4 | L | 4 | MAN | 1 | 0 |
| 2 | I | 2 | NAG | 1 | 0 |
| 4 | L | 2 | NAG | 1 | 0 |
| 3 | M | 2 | NAG | 1 | 0 |
| 3 | H | 2 | NAG | 3 | 0 |
| 4 | L | 3 | BMA | 1 | 0 |
| 3 | M | 1 | NAG | 2 | 0 |
| 3 | J | 2 | NAG | 1 | 0 |

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.

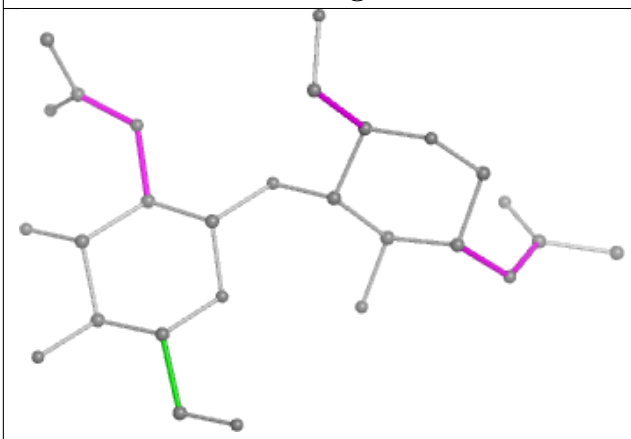
**Oligosaccharide Chain E**



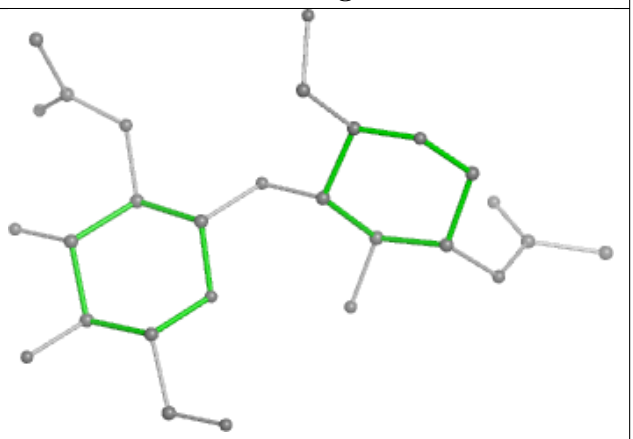
**Bond lengths**



**Bond angles**

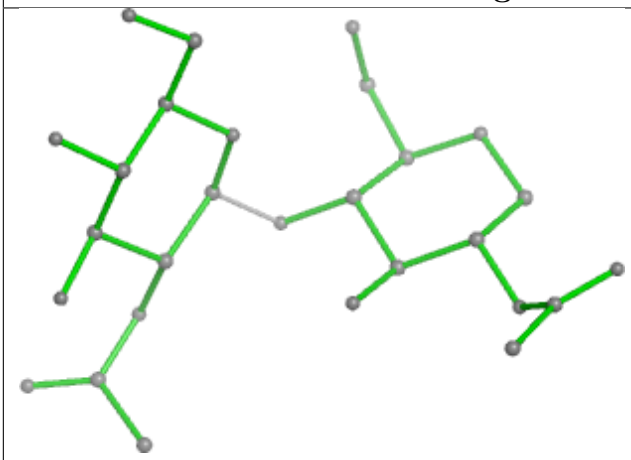


**Torsions**

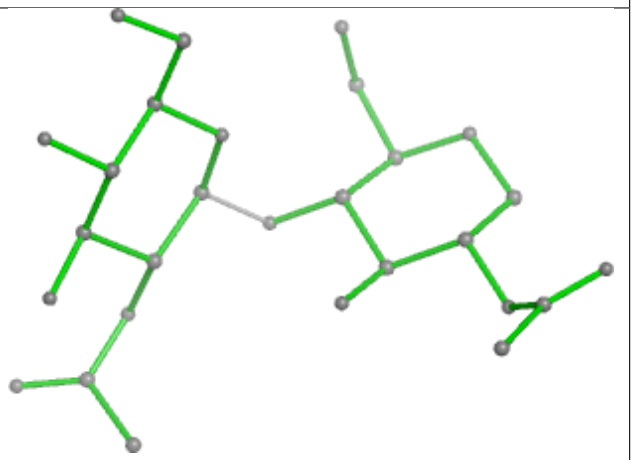


**Rings**

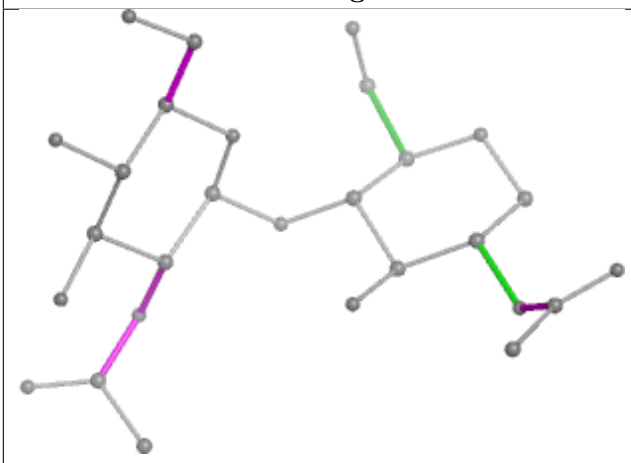
**Oligosaccharide Chain G**



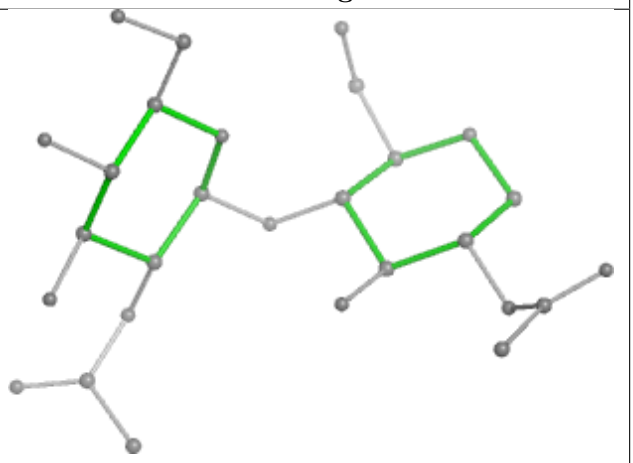
**Bond lengths**



**Bond angles**

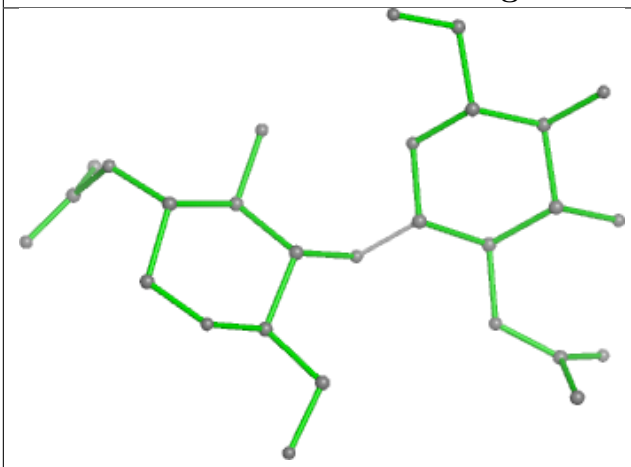


**Torsions**

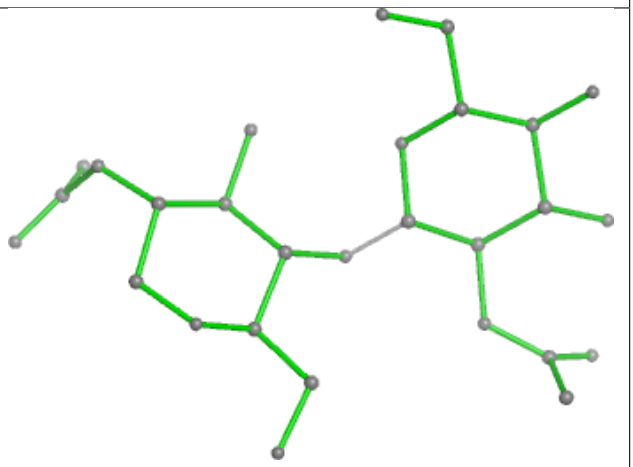


**Rings**

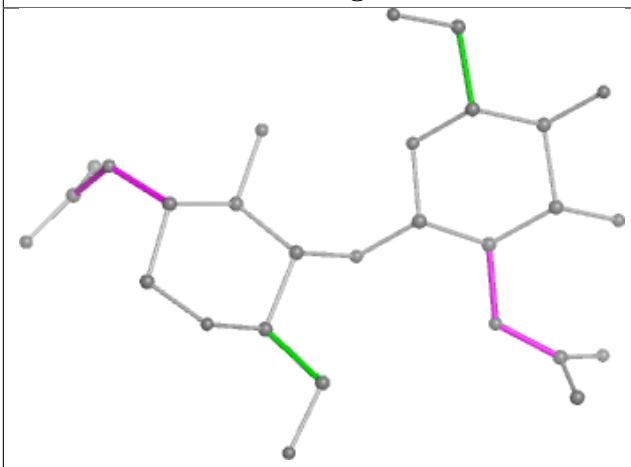
**Oligosaccharide Chain I**



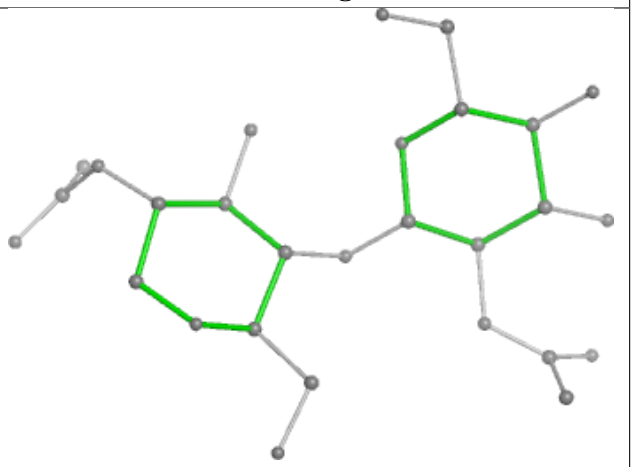
**Bond lengths**



**Bond angles**

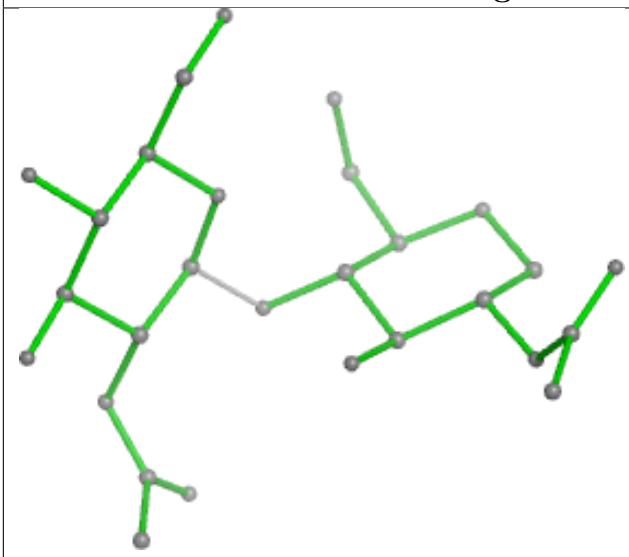


**Torsions**

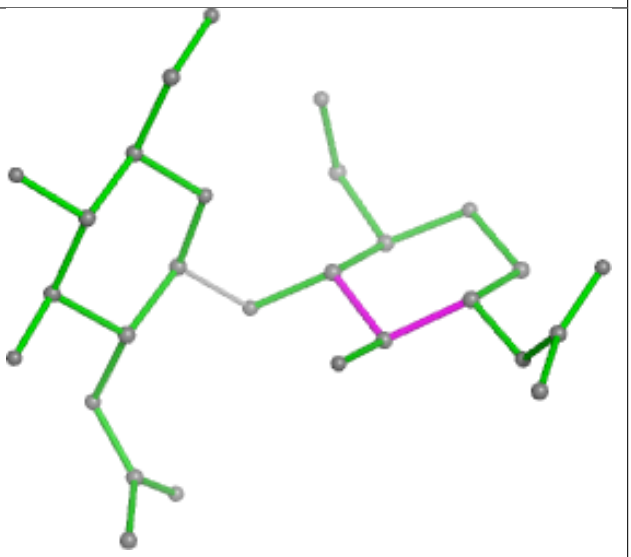


**Rings**

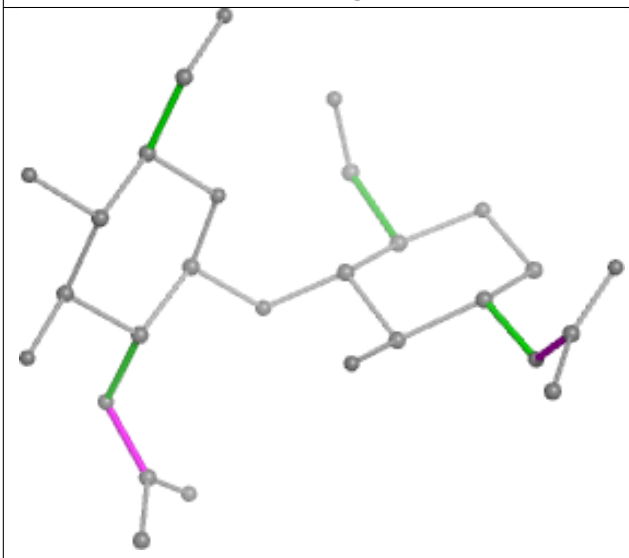
**Oligosaccharide Chain K**



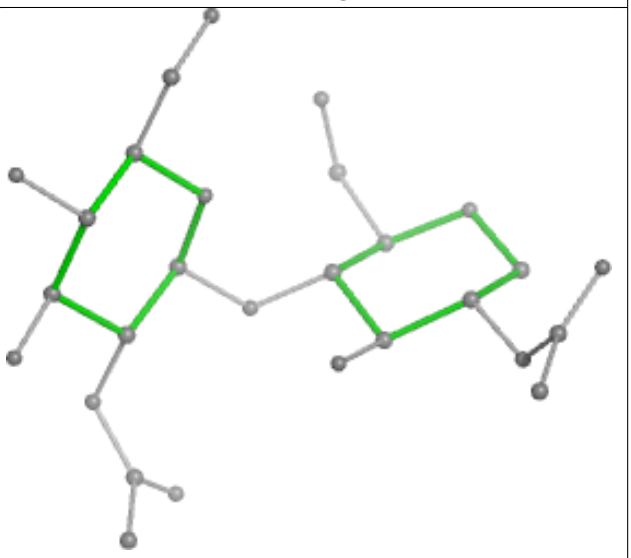
**Bond lengths**



**Bond angles**

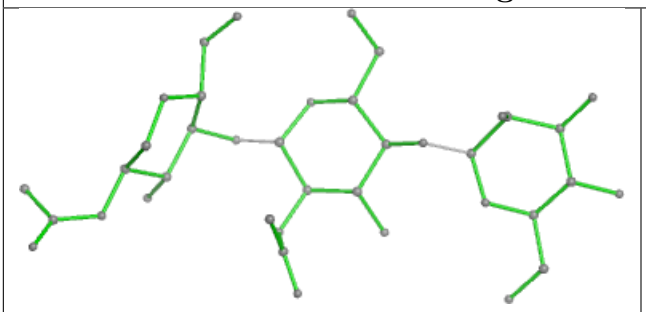


**Torsions**

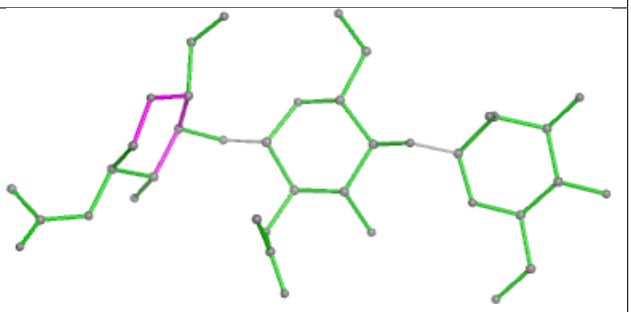


**Rings**

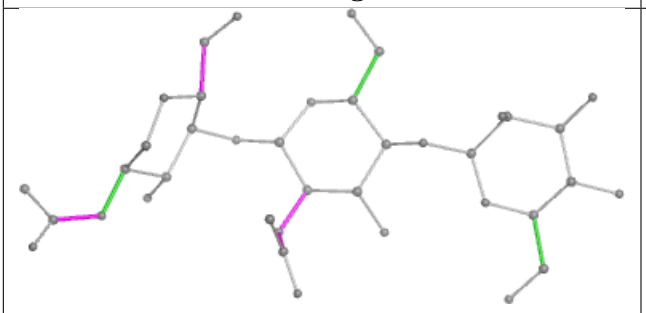
## Oligosaccharide Chain F



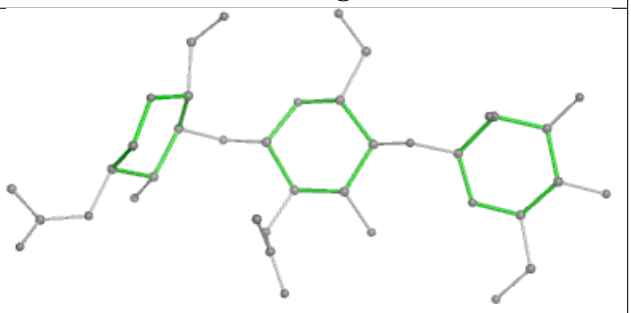
Bond lengths



Bond angles

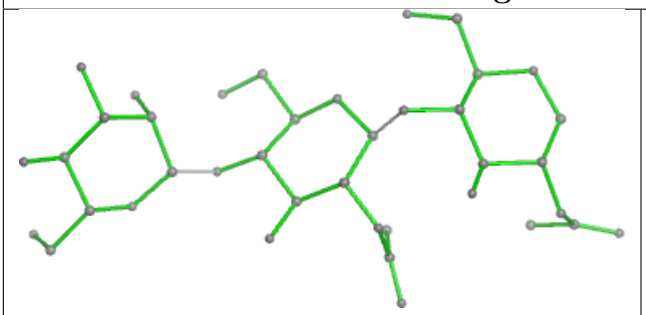


Torsions

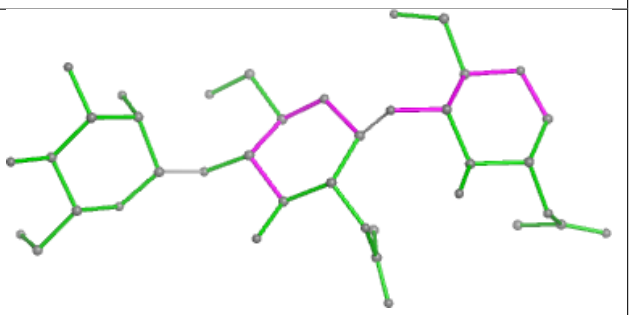


Rings

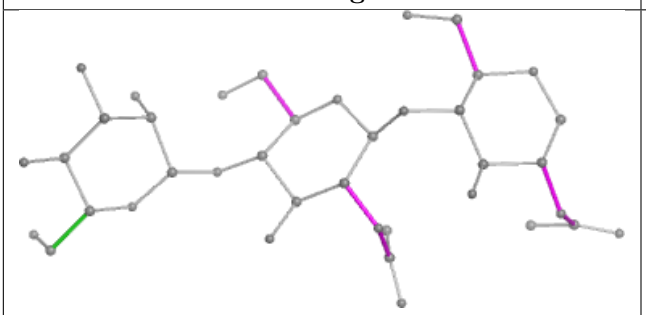
## Oligosaccharide Chain H



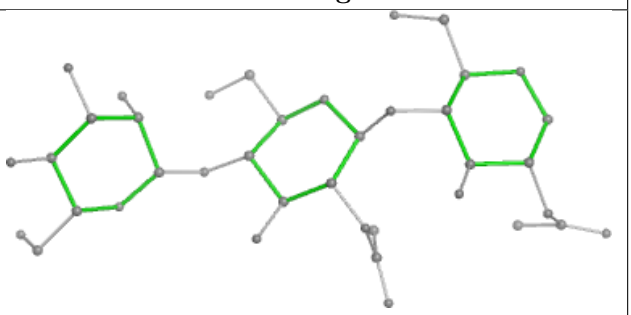
Bond lengths



Bond angles

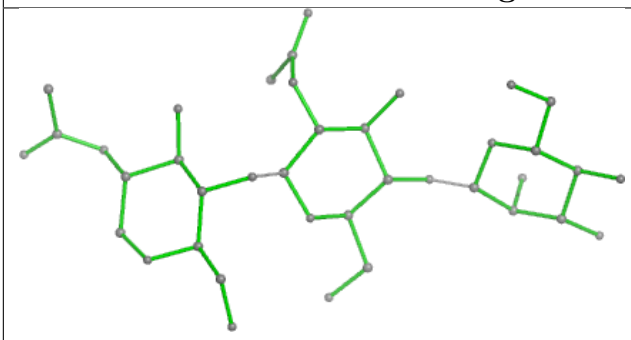


Torsions

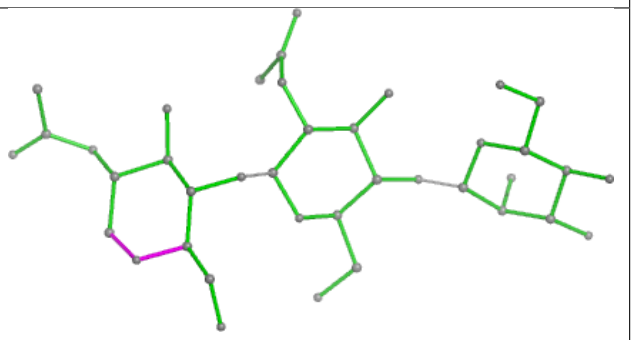


Rings

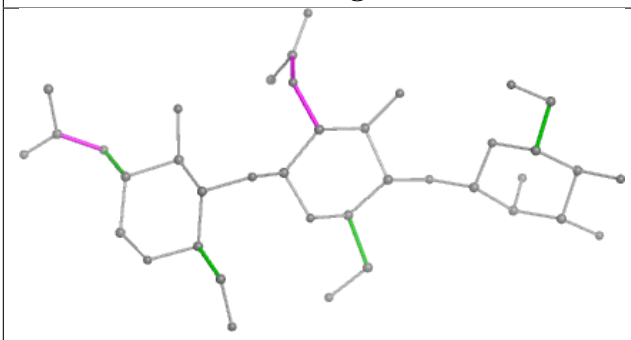
## Oligosaccharide Chain J



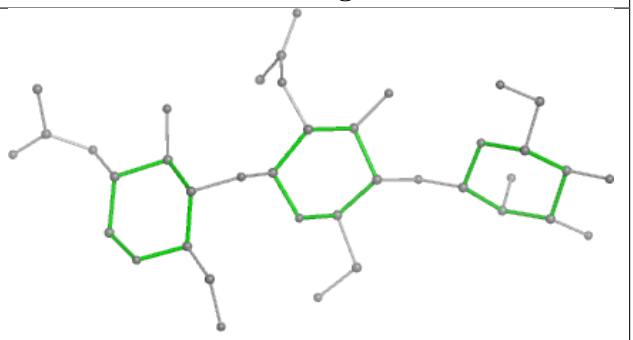
Bond lengths



Bond angles

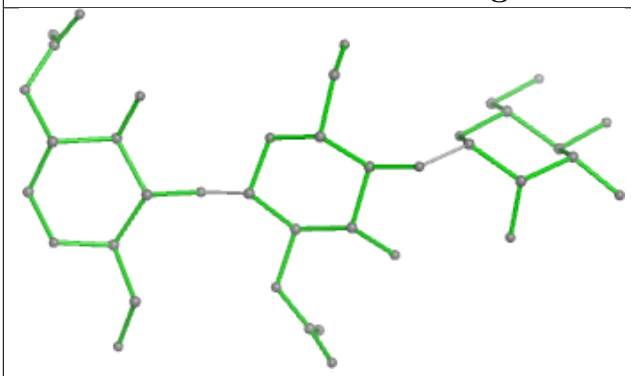


Torsions

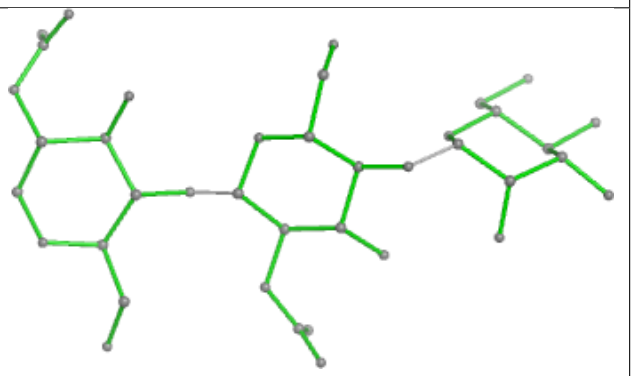


Rings

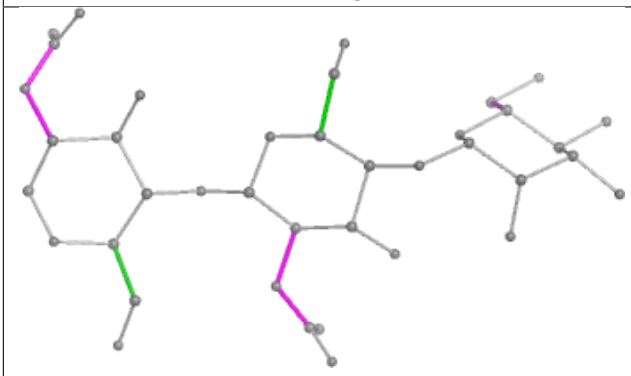
## Oligosaccharide Chain M



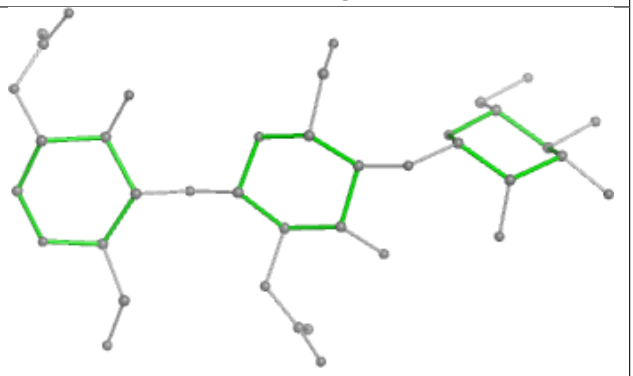
Bond lengths



Bond angles

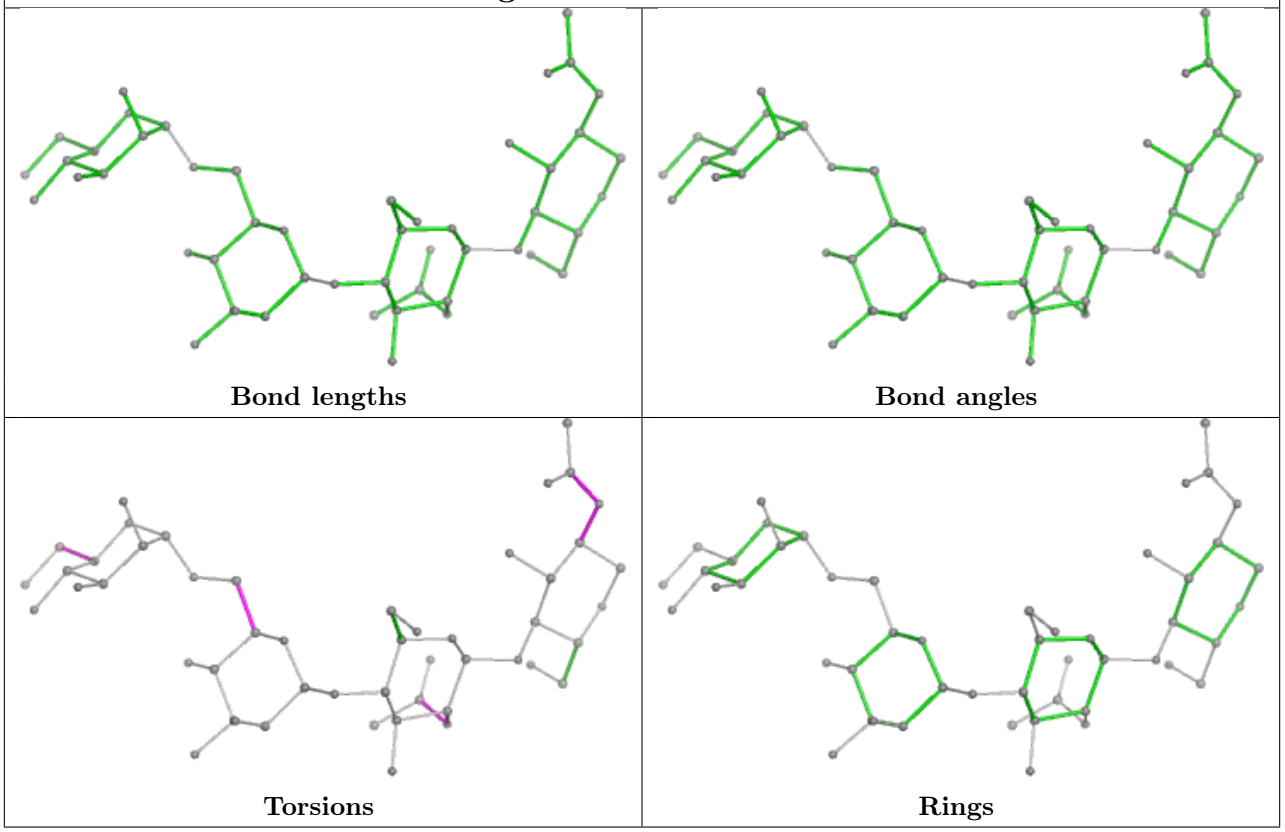


Torsions



Rings

**Oligosaccharide Chain L**




## 5.6 Ligand geometry (i)

20 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. 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 $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Counts | RMSZ | $\#\|Z\|>2$ | Counts | RMSZ | $\#\|Z\|>2$ |
| 5 | NAG | D | 2002 | 1 | 14,14,15 | 0.29 | 0 | 17,19,21 | 0.53 | 0 |
| 5 | NAG | B | 2002 | 1 | 14,14,15 | 0.29 | 0 | 17,19,21 | 0.66 | 0 |
| 5 | NAG | D | 2001 | 1 | 14,14,15 | 0.28 | 0 | 17,19,21 | 0.69 | 1 (5%) |
| 5 | NAG | A | 2002 | 1 | 14,14,15 | 0.29 | 0 | 17,19,21 | 0.54 | 0 |
| 5 | NAG | A | 2001 | 1 | 14,14,15 | 0.30 | 0 | 17,19,21 | 0.61 | 0 |
| 5 | NAG | A | 2003 | 1 | 14,14,15 | 0.30 | 0 | 17,19,21 | 0.45 | 0 |
| 5 | NAG | C | 2005 | 1 | 14,14,15 | 0.29 | 0 | 17,19,21 | 0.54 | 0 |
| 5 | NAG | A | 2005 | 1 | 14,14,15 | 0.30 | 0 | 17,19,21 | 0.55 | 0 |
| 5 | NAG | C | 2004 | 1 | 14,14,15 | 0.28 | 0 | 17,19,21 | 0.58 | 0 |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Counts | RMSZ | $\#\|Z\|>2$ | Counts | RMSZ | $\#\|Z\|>2$ |
| 5 | NAG | B | 2005 | 1 | 14,14,15 | 0.29 | 0 | 17,19,21 | 0.62 | 0 |
| 5 | NAG | D | 2003 | 1 | 14,14,15 | 0.29 | 0 | 17,19,21 | 0.53 | 0 |
| 5 | NAG | A | 2004 | 1 | 14,14,15 | 0.30 | 0 | 17,19,21 | 0.57 | 0 |
| 5 | NAG | C | 2002 | 1 | 14,14,15 | 0.35 | 0 | 17,19,21 | 0.81 | 1 (5%) |
| 5 | NAG | B | 2003 | 1 | 14,14,15 | 0.29 | 0 | 17,19,21 | 0.67 | 1 (5%) |
| 5 | NAG | B | 2004 | 1 | 14,14,15 | 0.27 | 0 | 17,19,21 | 0.65 | 0 |
| 5 | NAG | C | 2001 | 1 | 14,14,15 | 0.40 | 0 | 17,19,21 | 0.70 | 0 |
| 5 | NAG | D | 2005 | 1 | 14,14,15 | 0.27 | 0 | 17,19,21 | 0.52 | 0 |
| 5 | NAG | B | 2001 | 1 | 14,14,15 | 0.33 | 0 | 17,19,21 | 0.73 | 0 |
| 5 | NAG | C | 2003 | 1 | 14,14,15 | 0.26 | 0 | 17,19,21 | 0.53 | 0 |
| 5 | NAG | D | 2004 | 1 | 14,14,15 | 0.30 | 0 | 17,19,21 | 0.55 | 0 |

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings |
|---|---|---|---|---|---|---|---|
| 5 | NAG | D | 2002 | 1 | - | 4/6/23/26 | 0/1/1/1 |
| 5 | NAG | B | 2002 | 1 | - | 4/6/23/26 | 0/1/1/1 |
| 5 | NAG | D | 2001 | 1 | - | 4/6/23/26 | 0/1/1/1 |
| 5 | NAG | A | 2002 | 1 | - | 3/6/23/26 | 0/1/1/1 |
| 5 | NAG | A | 2001 | 1 | - | 3/6/23/26 | 0/1/1/1 |
| 5 | NAG | A | 2003 | 1 | - | 3/6/23/26 | 0/1/1/1 |
| 5 | NAG | C | 2005 | 1 | - | 4/6/23/26 | 0/1/1/1 |
| 5 | NAG | A | 2005 | 1 | - | 4/6/23/26 | 0/1/1/1 |
| 5 | NAG | C | 2004 | 1 | - | 4/6/23/26 | 0/1/1/1 |
| 5 | NAG | B | 2005 | 1 | - | 3/6/23/26 | 0/1/1/1 |
| 5 | NAG | D | 2003 | 1 | - | 2/6/23/26 | 0/1/1/1 |
| 5 | NAG | A | 2004 | 1 | - | 3/6/23/26 | 0/1/1/1 |
| 5 | NAG | C | 2002 | 1 | - | 4/6/23/26 | 0/1/1/1 |
| 5 | NAG | B | 2003 | 1 | - | 3/6/23/26 | 0/1/1/1 |
| 5 | NAG | B | 2004 | 1 | - | 5/6/23/26 | 0/1/1/1 |
| 5 | NAG | C | 2001 | 1 | - | 3/6/23/26 | 0/1/1/1 |
| 5 | NAG | D | 2005 | 1 | - | 4/6/23/26 | 0/1/1/1 |
| 5 | NAG | B | 2001 | 1 | - | 4/6/23/26 | 0/1/1/1 |
| 5 | NAG | C | 2003 | 1 | - | 3/6/23/26 | 0/1/1/1 |
| 5 | NAG | D | 2004 | 1 | - | 4/6/23/26 | 0/1/1/1 |

There are no bond length outliers.

All (3) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 5 | C | 2002 | NAG | C1-O5-C5 | 2.17 | 115.13 | 112.19 |
| 5 | B | 2003 | NAG | O5-C5-C6 | 2.10 | 110.49 | 107.20 |
| 5 | D | 2001 | NAG | O5-C5-C6 | 2.00 | 110.35 | 107.20 |

There are no chirality outliers.

All (71) torsion outliers are listed below:

| Mol | Chain | Res | Type | Atoms |
|---|---|---|---|---|
| 5 | A | 2001 | NAG | C3-C2-N2-C7 |
| 5 | A | 2001 | NAG | C8-C7-N2-C2 |
| 5 | A | 2001 | NAG | O7-C7-N2-C2 |
| 5 | A | 2002 | NAG | O7-C7-N2-C2 |
| 5 | A | 2003 | NAG | C8-C7-N2-C2 |
| 5 | A | 2003 | NAG | O7-C7-N2-C2 |
| 5 | A | 2004 | NAG | C3-C2-N2-C7 |
| 5 | A | 2004 | NAG | C8-C7-N2-C2 |
| 5 | A | 2004 | NAG | O7-C7-N2-C2 |
| 5 | A | 2005 | NAG | C3-C2-N2-C7 |
| 5 | A | 2005 | NAG | C8-C7-N2-C2 |
| 5 | A | 2005 | NAG | O7-C7-N2-C2 |
| 5 | B | 2001 | NAG | C1-C2-N2-C7 |
| 5 | B | 2001 | NAG | C8-C7-N2-C2 |
| 5 | B | 2001 | NAG | O7-C7-N2-C2 |
| 5 | B | 2002 | NAG | C8-C7-N2-C2 |
| 5 | B | 2002 | NAG | O7-C7-N2-C2 |
| 5 | B | 2004 | NAG | C3-C2-N2-C7 |
| 5 | B | 2004 | NAG | C8-C7-N2-C2 |
| 5 | B | 2004 | NAG | O7-C7-N2-C2 |
| 5 | B | 2005 | NAG | C8-C7-N2-C2 |
| 5 | B | 2005 | NAG | O7-C7-N2-C2 |
| 5 | C | 2001 | NAG | C3-C2-N2-C7 |
| 5 | C | 2001 | NAG | C8-C7-N2-C2 |
| 5 | C | 2001 | NAG | O7-C7-N2-C2 |
| 5 | C | 2002 | NAG | C3-C2-N2-C7 |
| 5 | C | 2003 | NAG | C8-C7-N2-C2 |
| 5 | C | 2003 | NAG | O7-C7-N2-C2 |
| 5 | C | 2004 | NAG | C8-C7-N2-C2 |
| 5 | C | 2004 | NAG | O7-C7-N2-C2 |
| 5 | C | 2005 | NAG | C3-C2-N2-C7 |
| 5 | C | 2005 | NAG | C8-C7-N2-C2 |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Res | Type | Atoms |
|---|---|---|---|---|
| 5 | C | 2005 | NAG | O7-C7-N2-C2 |
| 5 | D | 2002 | NAG | C3-C2-N2-C7 |
| 5 | D | 2002 | NAG | C8-C7-N2-C2 |
| 5 | D | 2002 | NAG | O7-C7-N2-C2 |
| 5 | D | 2003 | NAG | C8-C7-N2-C2 |
| 5 | D | 2003 | NAG | O7-C7-N2-C2 |
| 5 | D | 2004 | NAG | C8-C7-N2-C2 |
| 5 | D | 2004 | NAG | O7-C7-N2-C2 |
| 5 | D | 2005 | NAG | O7-C7-N2-C2 |
| 5 | A | 2002 | NAG | C8-C7-N2-C2 |
| 5 | B | 2003 | NAG | C8-C7-N2-C2 |
| 5 | B | 2003 | NAG | O7-C7-N2-C2 |
| 5 | C | 2002 | NAG | C8-C7-N2-C2 |
| 5 | C | 2002 | NAG | O7-C7-N2-C2 |
| 5 | D | 2005 | NAG | C8-C7-N2-C2 |
| 5 | C | 2004 | NAG | C1-C2-N2-C7 |
| 5 | D | 2004 | NAG | C1-C2-N2-C7 |
| 5 | A | 2003 | NAG | C1-C2-N2-C7 |
| 5 | C | 2003 | NAG | C1-C2-N2-C7 |
| 5 | B | 2003 | NAG | C1-C2-N2-C7 |
| 5 | B | 2004 | NAG | C4-C5-C6-O6 |
| 5 | D | 2005 | NAG | C1-C2-N2-C7 |
| 5 | B | 2005 | NAG | O5-C5-C6-O6 |
| 5 | D | 2002 | NAG | O5-C5-C6-O6 |
| 5 | A | 2005 | NAG | O5-C5-C6-O6 |
| 5 | A | 2002 | NAG | O5-C5-C6-O6 |
| 5 | B | 2002 | NAG | O5-C5-C6-O6 |
| 5 | C | 2005 | NAG | O5-C5-C6-O6 |
| 5 | C | 2002 | NAG | O5-C5-C6-O6 |
| 5 | D | 2005 | NAG | O5-C5-C6-O6 |
| 5 | D | 2004 | NAG | C3-C2-N2-C7 |
| 5 | D | 2001 | NAG | C8-C7-N2-C2 |
| 5 | B | 2004 | NAG | O5-C5-C6-O6 |
| 5 | D | 2001 | NAG | O7-C7-N2-C2 |
| 5 | B | 2001 | NAG | C3-C2-N2-C7 |
| 5 | B | 2002 | NAG | C3-C2-N2-C7 |
| 5 | C | 2004 | NAG | C3-C2-N2-C7 |
| 5 | D | 2001 | NAG | C1-C2-N2-C7 |
| 5 | D | 2001 | NAG | C3-C2-N2-C7 |

There are no ring outliers.

8 monomers are involved in 17 short contacts:

| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|---|---|---|---|---|---|
| 5 | D | 2002 | NAG | 1 | 0 |
| 5 | A | 2003 | NAG | 1 | 0 |
| 5 | C | 2005 | NAG | 1 | 0 |
| 5 | A | 2005 | NAG | 1 | 0 |
| 5 | C | 2004 | NAG | 7 | 0 |
| 5 | C | 2001 | NAG | 2 | 0 |
| 5 | B | 2001 | NAG | 3 | 0 |
| 5 | C | 2003 | NAG | 1 | 0 |

## 5.7 Other polymers (i)

There are no such residues in this entry.

## 5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

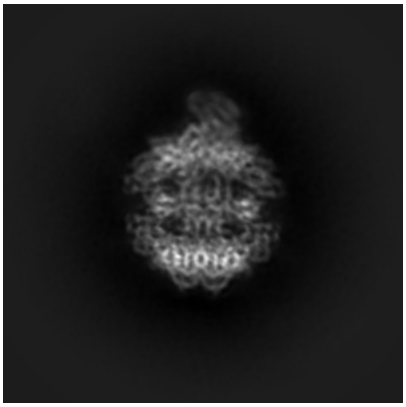
# 6 Map visualisation

This section contains visualisations of the EMDB entry EMD-12755. These allow visual inspection of the internal detail of the map and identification of artifacts.

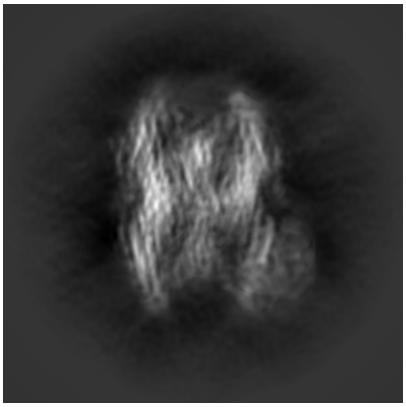
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

## 6.1 Orthogonal projections

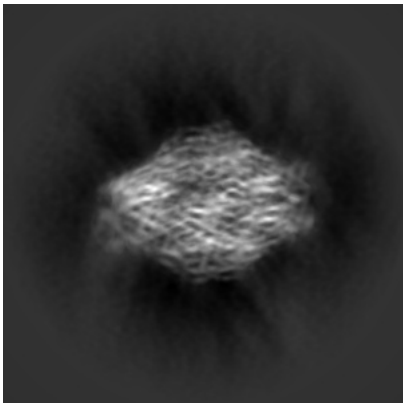
### 6.1.1 Primary map



X



Y

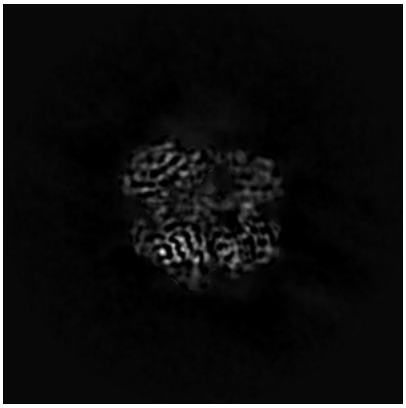


Z

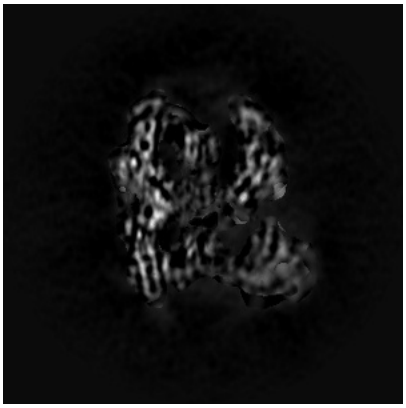
The images above show the map projected in three orthogonal directions.

## 6.2 Central slices

### 6.2.1 Primary map



X Index: 160



Y Index: 160

Z Index: 160

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

## 6.3 Largest variance slices (i)

### 6.3.1 Primary map

X Index: 175

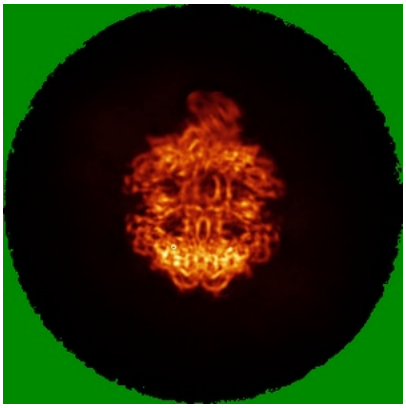
Y Index: 171

Z Index: 117

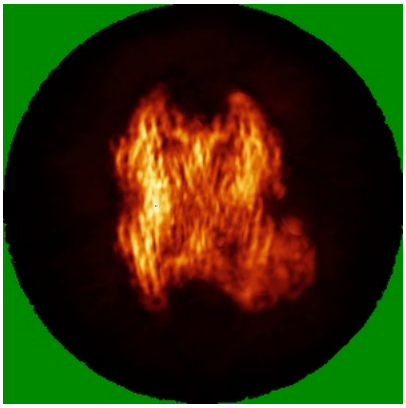
The images above show the largest variance slices of the map in three orthogonal directions.

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

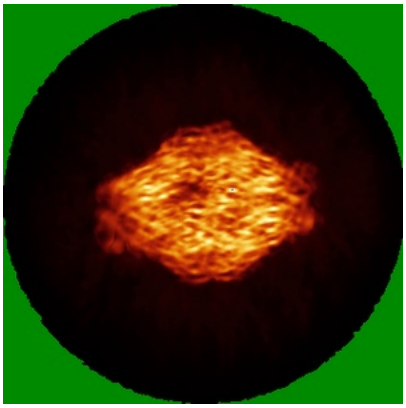
### 6.4.1 Primary map



X



Y

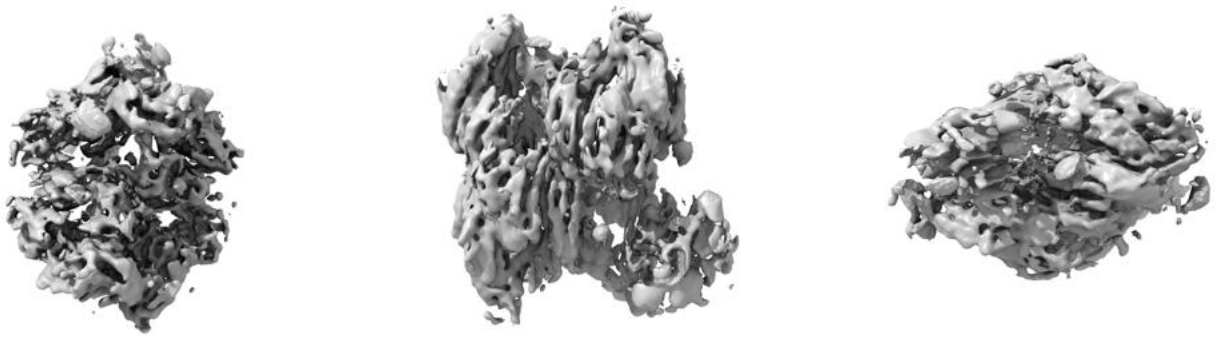


Z

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

## 6.5 Orthogonal surface views (i)

### 6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.013. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

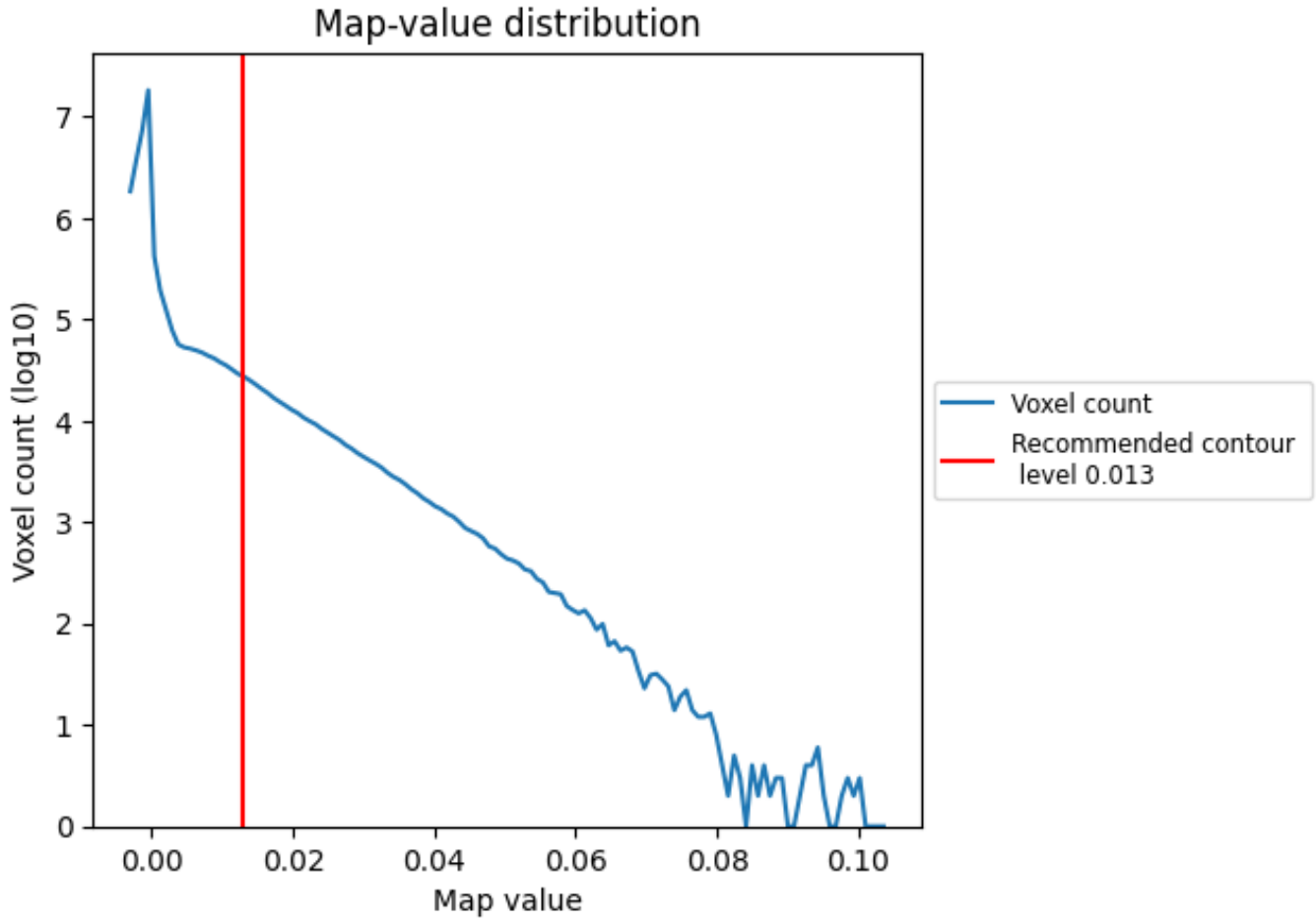
## 6.6 Mask visualisation (i)

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

# 7 Map analysis

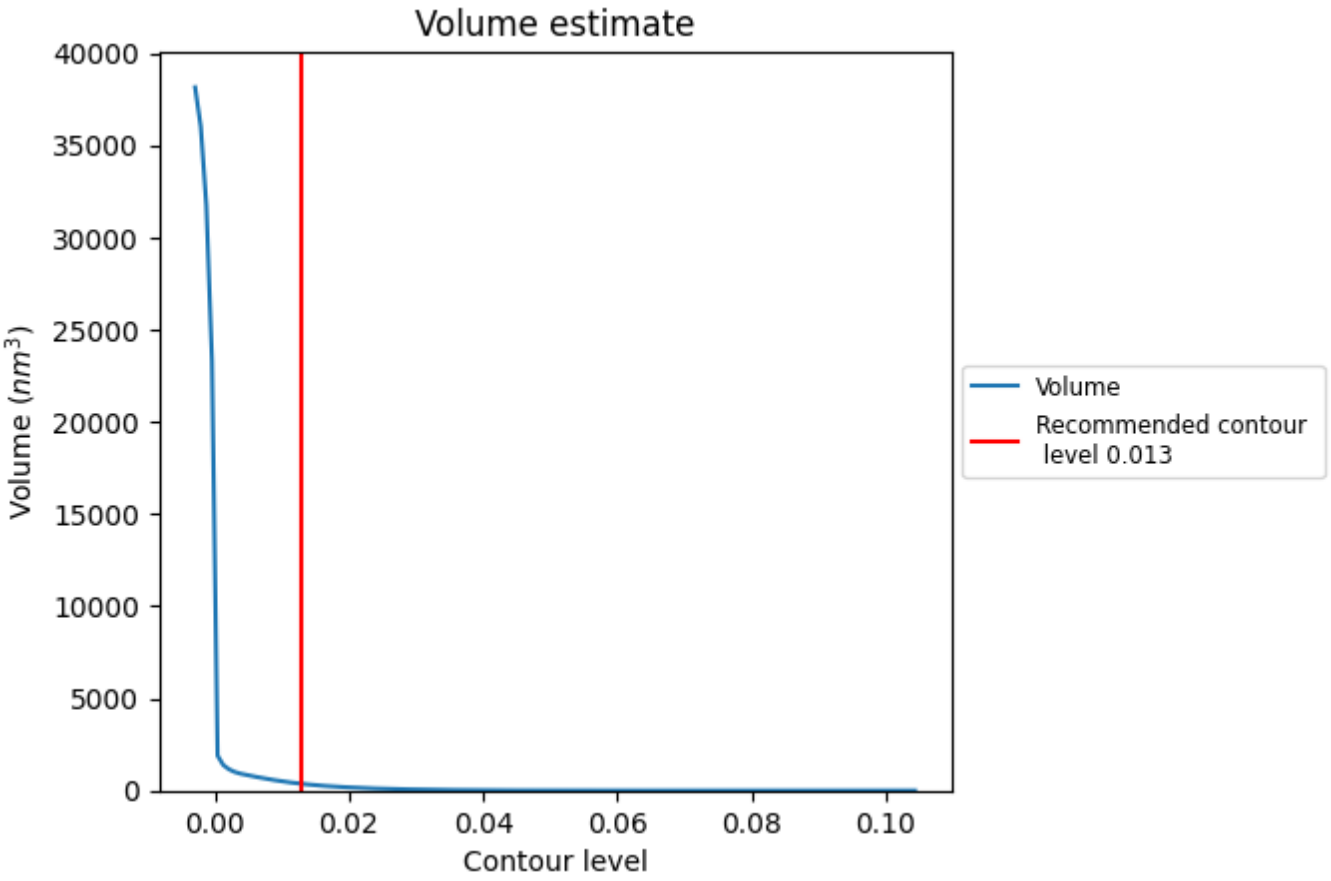
This section contains the results of statistical analysis of the map.

## 7.1 Map-value distribution




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

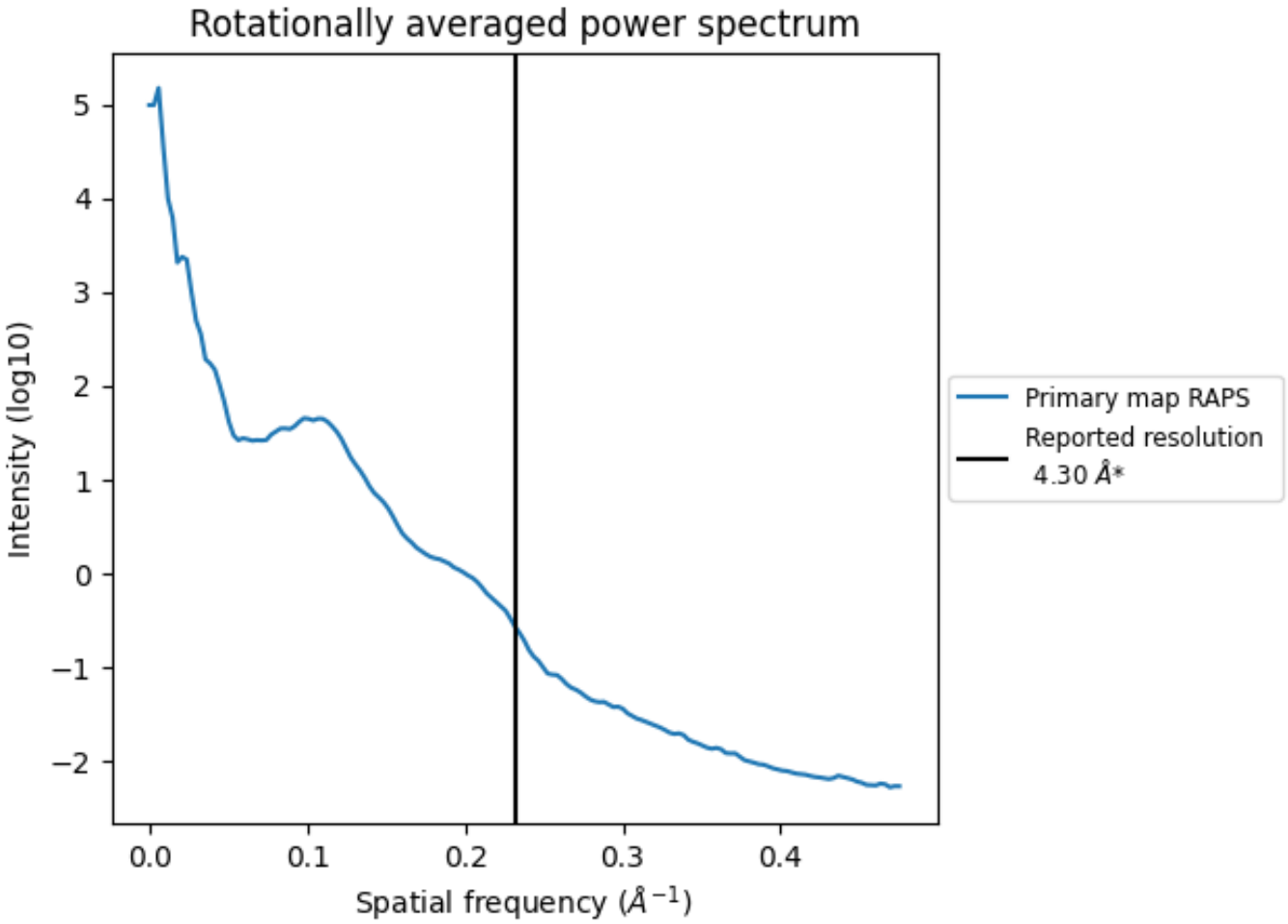
## 7.2 Volume estimate




The volume at the recommended contour level is 365 $nm^3$; this corresponds to an approximate mass of 330 kDa.

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

## 7.3 Rotationally averaged power spectrum (i)




*Reported resolution corresponds to spatial frequency of 0.233 Å$^{-1}$

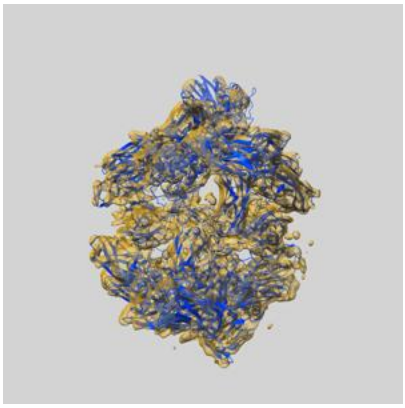
# 8 Fourier-Shell correlation

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

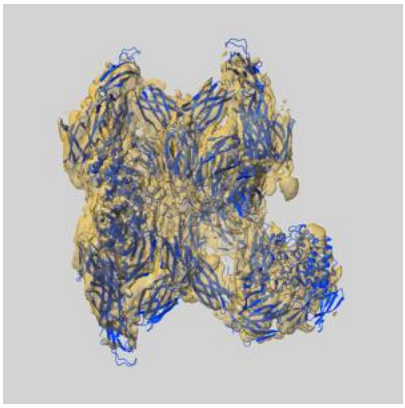
# 9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-12755 and PDB model 7O7S. Per-residue inclusion information can be found in section 3 on page 7.

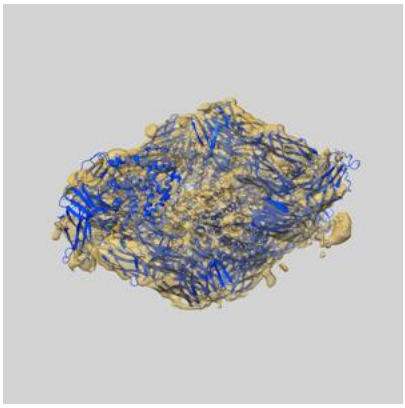
## 9.1 Map-model overlay



X



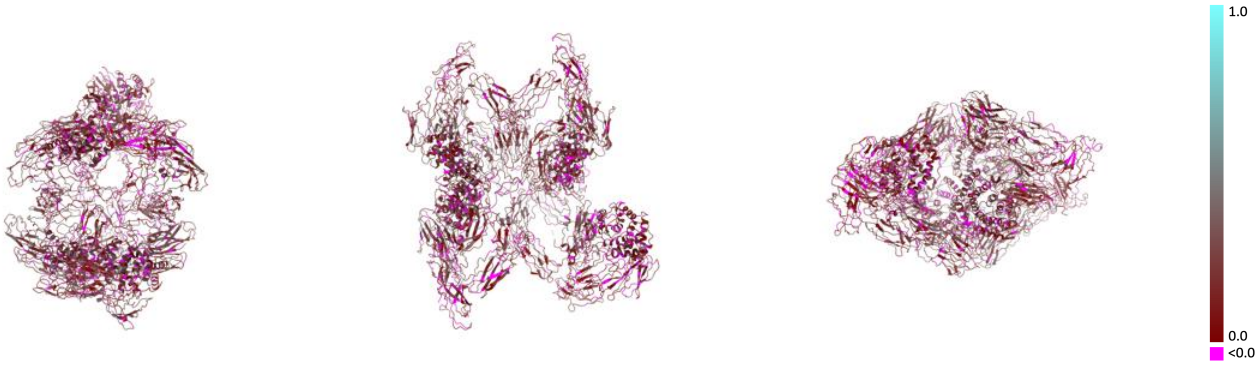
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.013 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

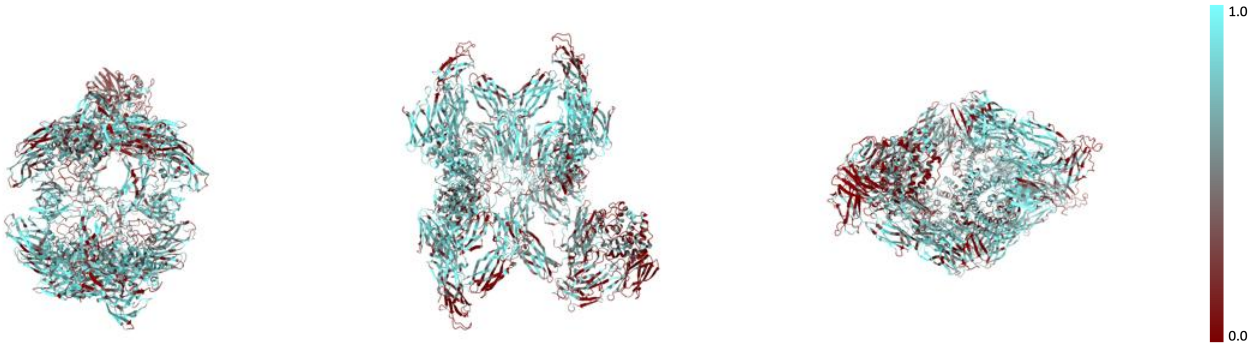
## 9.2 Q-score mapped to coordinate model (i)




X Y Z

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

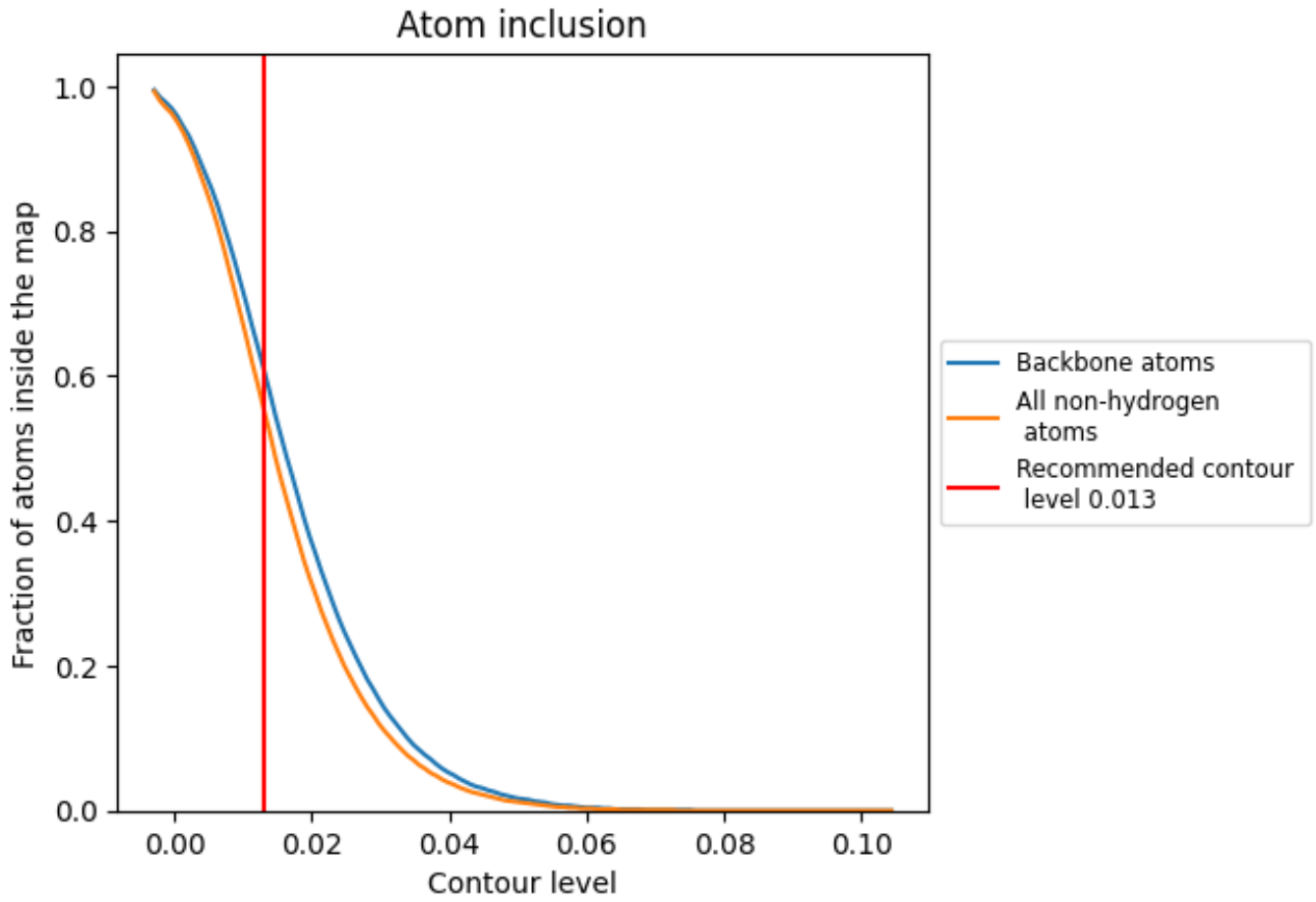
## 9.3 Atom inclusion mapped to coordinate model (i)




X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.013).

## 9.4 Atom inclusion (i)




At the recommended contour level, 61% of all backbone atoms, 55% of all non-hydrogen atoms, are inside the map.

## 9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.013) and Q-score for the entire model and for each chain.

| Chain | Atom inclusion | Q-score |
|---|---|---|
| All | 0.5540 | 0.1830 |
| A | 0.6670 | 0.2180 |
| B | 0.6060 | 0.1880 |
| C | 0.5400 | 0.1770 |
| D | 0.4200 | 0.1530 |
| E | 0.5710 | 0.2100 |
| F | 0.4870 | 0.0030 |
| G | 0.6430 | 0.2550 |
| H | 0.6410 | 0.1860 |
| I | 0.3570 | 0.2860 |
| J | 0.8460 | 0.2750 |
| K | 0.6430 | 0.1600 |
| L | 0.0000 | 0.1340 |
| M | 0.2310 | 0.2440 |