Full wwPDB EM Validation Report ⓘ

Nov 9, 2024 – 08:24 AM EST

PDB ID	:	6BAA
EMDB ID	:	EMD-7073
Title	:	Cryo-EM structure of the pancreatic beta-cell KATP channel bound to ATP and glibenclamide
Authors	:	Martin, G.M.; Yoshioka, C.; Shyng, S.L.
Deposited on	:	2017-10-12
Resolution	:	3.63 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:

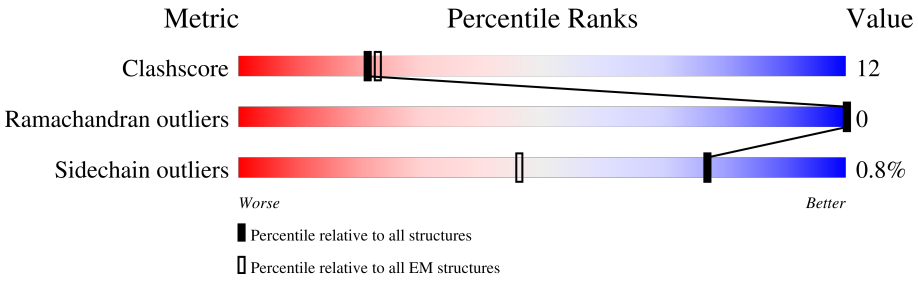
EMDB validation analysis	:	0.0.1.dev113
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.39

1 Overall quality at a glance

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

The reported resolution of this entry is 3.63 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	390	57% 25% • 18%
1	B	390	57% 25% • 18%
1	C	390	57% 25% • 18%
1	D	390	57% 25% • 18%
2	E	1582	38% 72% 11% 17%
2	F	1582	38% 72% 11% 17%
2	G	1582	38% 72% 11% 17%
2	H	1582	38% 72% 11% 17%

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 44852 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 ATP-sensitive inward rectifier potassium channel 11.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	321	Total	C	N	O	S	0	0
			2507	1615	431	444	17		
1	B	321	Total	C	N	O	S	0	0
			2507	1615	431	444	17		
1	C	321	Total	C	N	O	S	0	0
			2507	1615	431	444	17		
1	D	321	Total	C	N	O	S	0	0
			2507	1615	431	444	17		

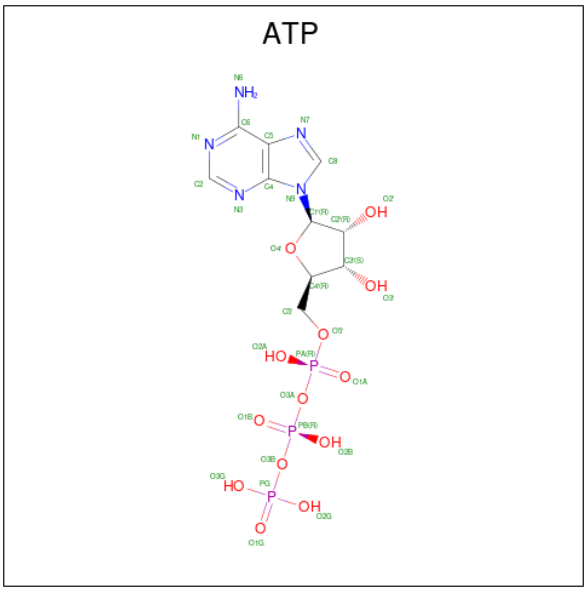
There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	191	PRO	LEU	conflict	UNP P70673
B	191	PRO	LEU	conflict	UNP P70673
C	191	PRO	LEU	conflict	UNP P70673
D	191	PRO	LEU	conflict	UNP P70673

- Molecule 2 is a protein called ATP-binding cassette sub-family C member 8.

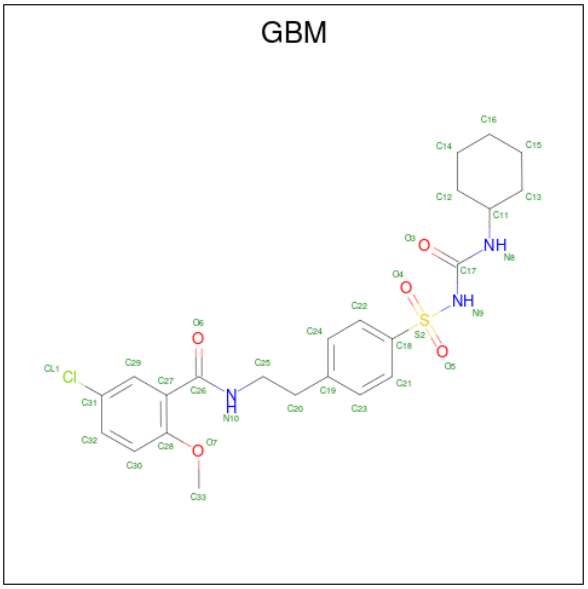
Mol	Chain	Residues	Atoms					AltConf	Trace
2	E	1317	Total	C	N	O	S	0	0
			8642	5534	1532	1547	29		
2	F	1317	Total	C	N	O	S	0	0
			8642	5534	1532	1547	29		
2	G	1317	Total	C	N	O	S	0	0
			8642	5534	1532	1547	29		
2	H	1317	Total	C	N	O	S	0	0
			8642	5534	1532	1547	29		

- Molecule 3 is ADENOSINE-5'-TRIPHOSPHATE (three-letter code: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
3	A	1	Total	C	N	O	P	0
			31	10	5	13	3	
3	B	1	Total	C	N	O	P	0
			31	10	5	13	3	
3	C	1	Total	C	N	O	P	0
			31	10	5	13	3	
3	D	1	Total	C	N	O	P	0
			31	10	5	13	3	

- Molecule 4 is 5-chloro-N-(2-{4-[(cyclohexylcarbamoyl)sulfamoyl]phenyl}ethyl)-2-metho xybenzamide (three-letter code: GBM) (formula: $C_{23}H_{28}ClN_3O_5S$) (labeled as "Ligand of Interest" by depositor).



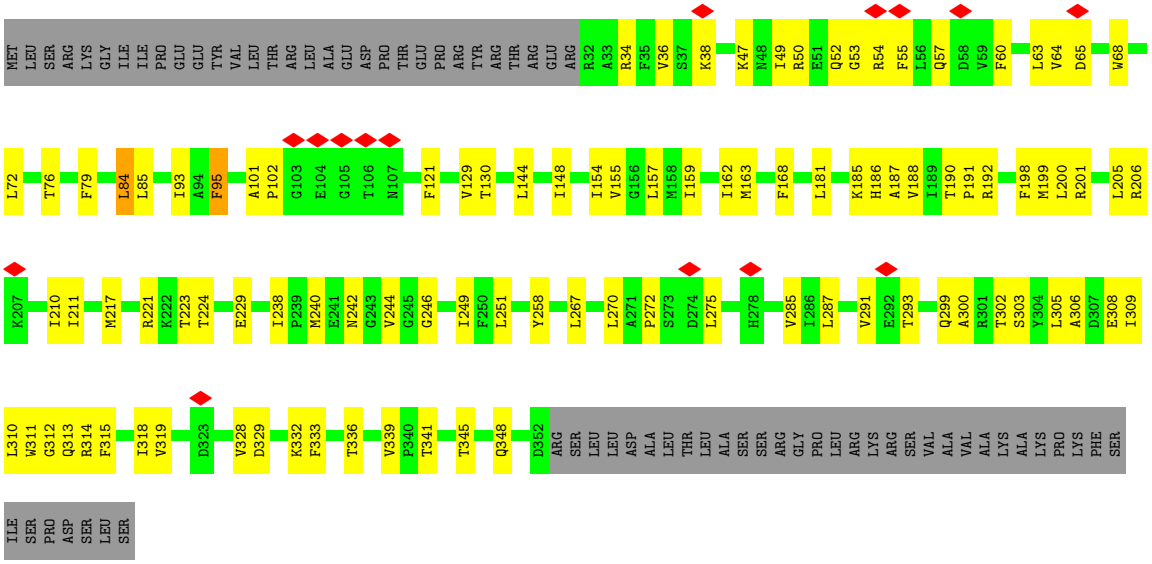
Mol	Chain	Residues	Atoms						AltConf
4	E	1	Total	C	Cl	N	O	S	0
			33	23	1	3	5	1	
4	F	1	Total	C	Cl	N	O	S	0
			33	23	1	3	5	1	
4	G	1	Total	C	Cl	N	O	S	0
			33	23	1	3	5	1	
4	H	1	Total	C	Cl	N	O	S	0
			33	23	1	3	5	1	

3 Residue-property plots (i)

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

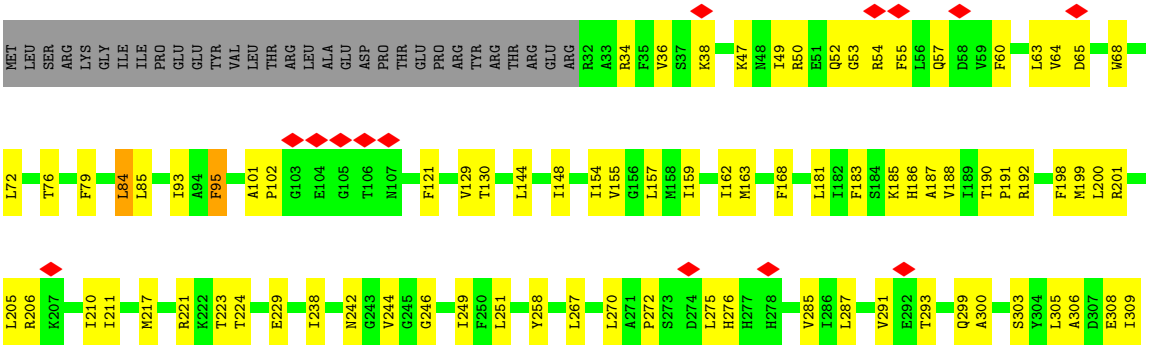
• Molecule 1: ATP-sensitive inward rectifier potassium channel 11

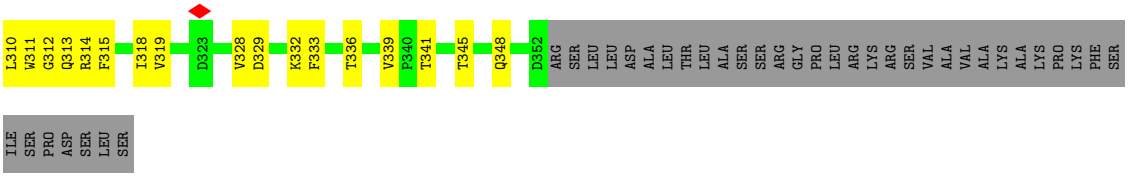
Chain A:



• Molecule 1: ATP-sensitive inward rectifier potassium channel 11

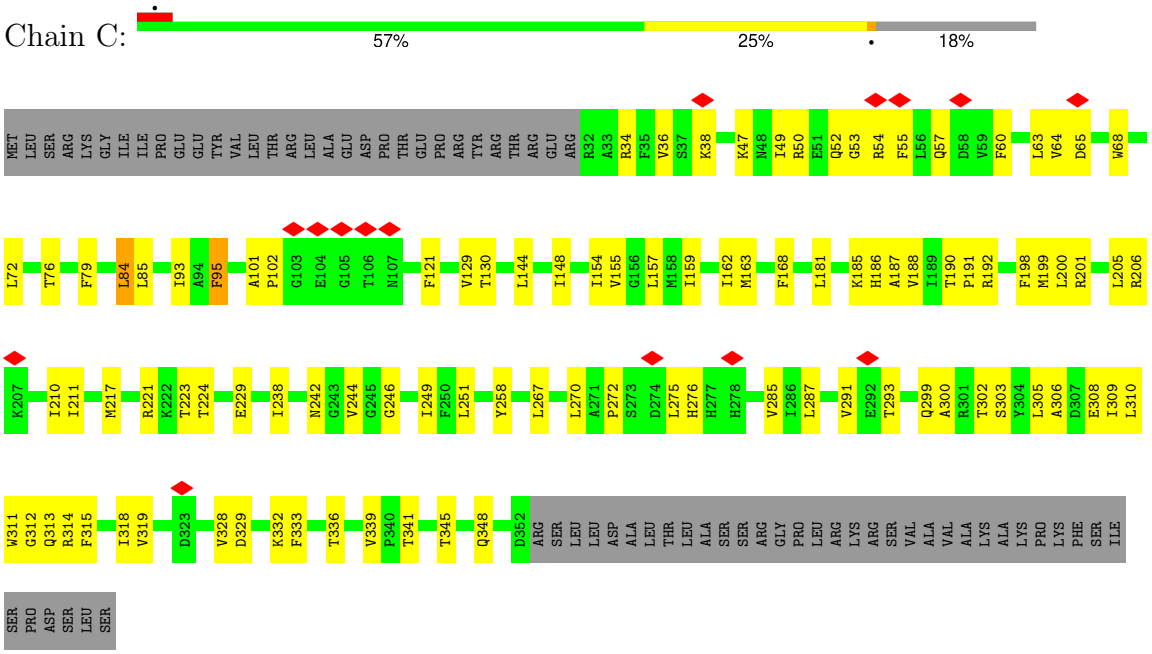
Chain B:





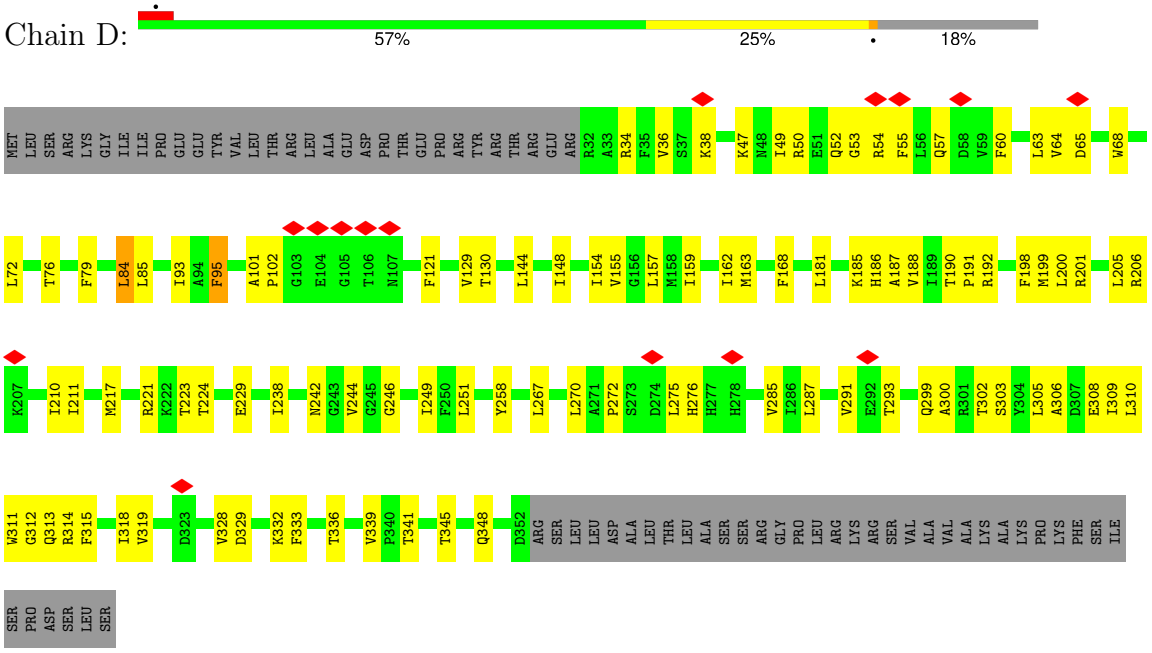
• Molecule 1: ATP-sensitive inward rectifier potassium channel 11

Chain C:



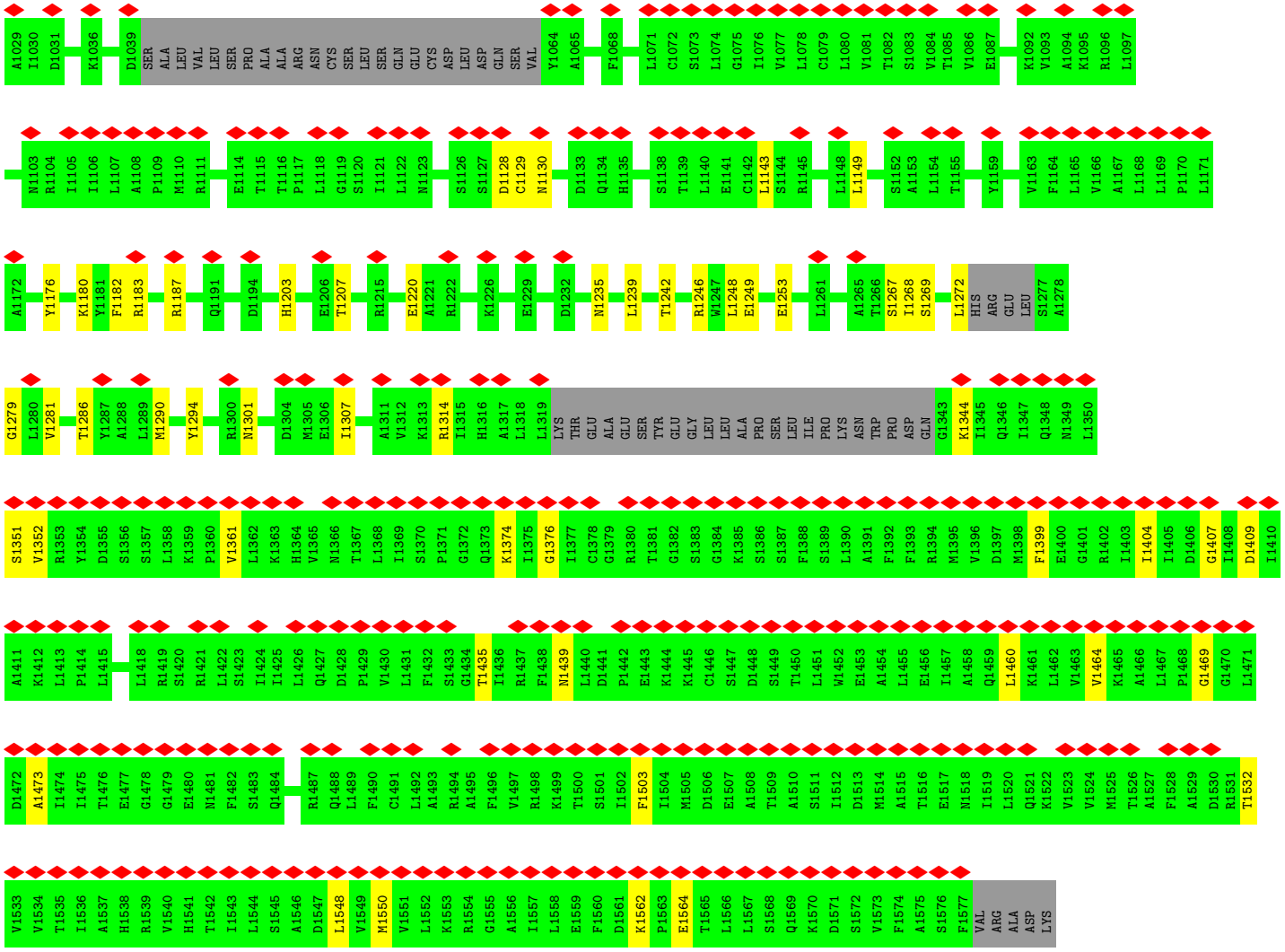
• Molecule 1: ATP-sensitive inward rectifier potassium channel 11

Chain D:



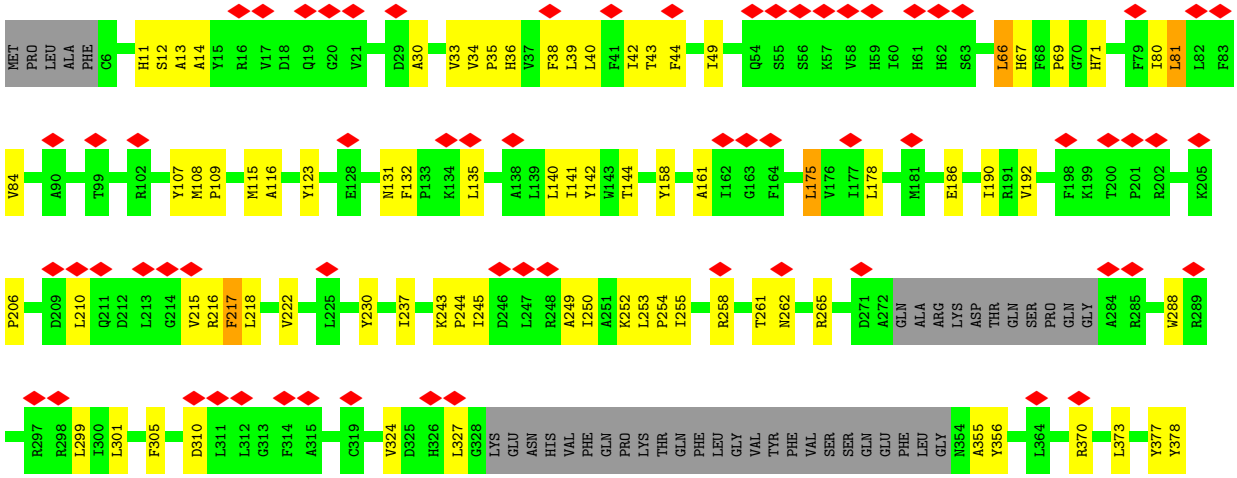
• Molecule 2: ATP-binding cassette sub-family C member 8

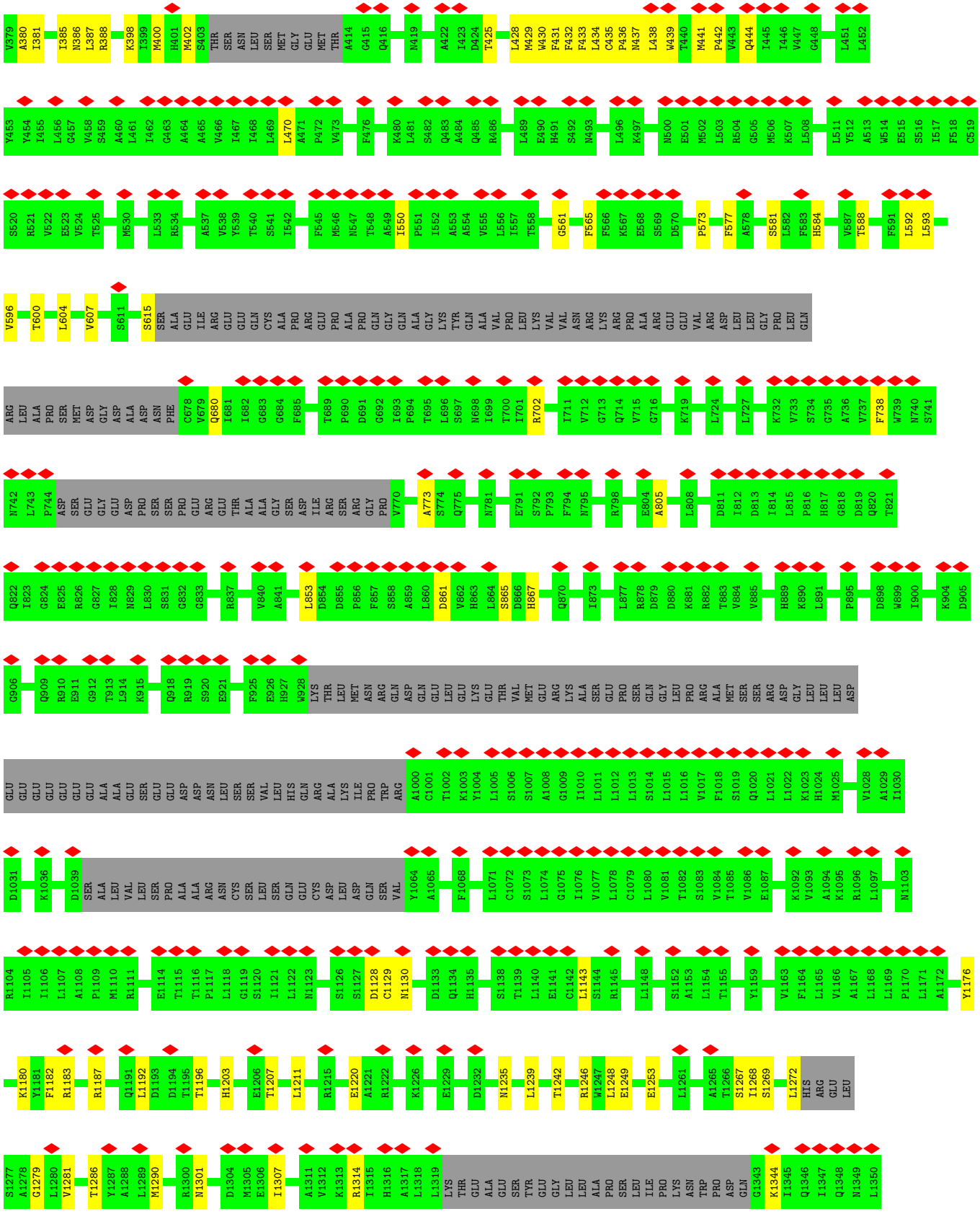
Chain E:



• Molecule 2: ATP-binding cassette sub-family C member 8

Chain F:

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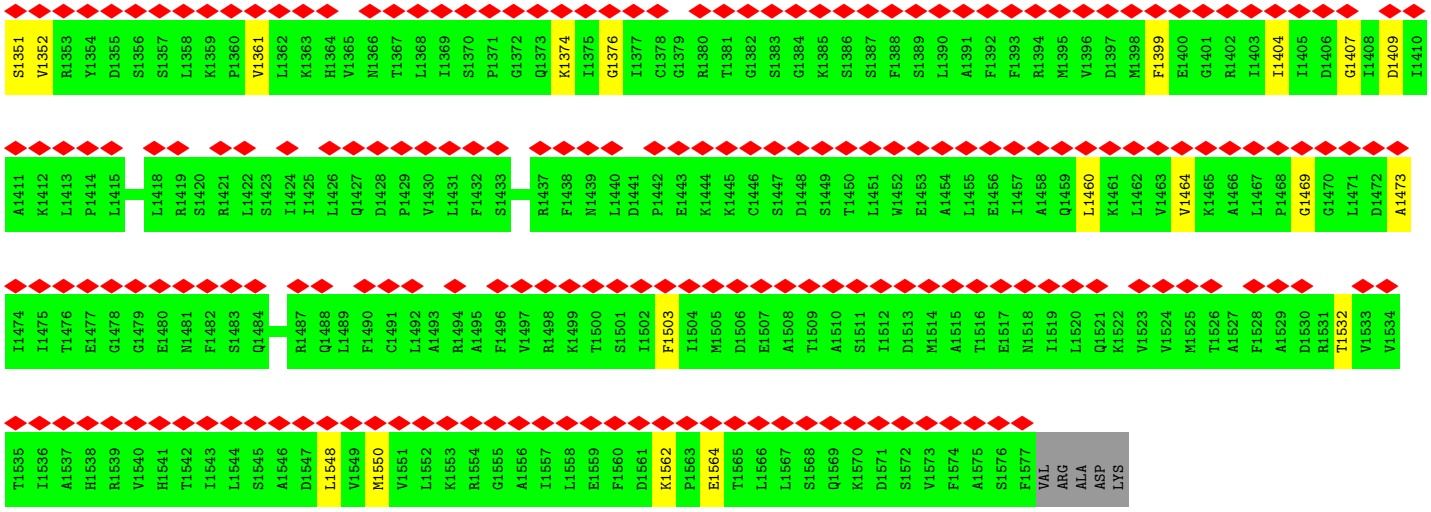
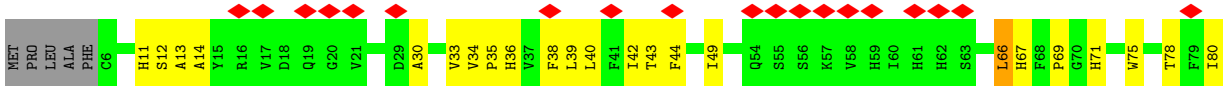
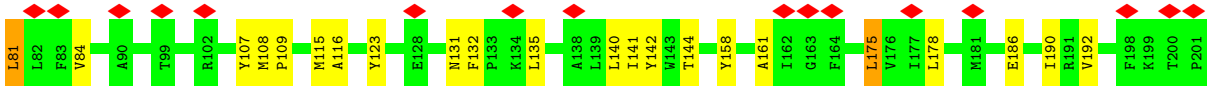
Y453 Y454 I455 L456 G457 V458 S459 A460 L461 I462 G463 A464 A465 V466 I467 I468 L469 L470 A471 P472 V473 F476 K480 L481 S482 Q483 A484 Q485 R486 L489 E490 H491 S492 N493 L496 K497 N500 E501 M502 L503 R504 G505 M506 K507 L508 L511 Y512 A513 W514 E515 S516 I517 F518 C519
S520 R521 V522 E523 V524 T525 M530 L533 R534 A537 V538 Y539 T540 S541 I542 F545 M546 N547 T548 A549 I550 P551 I552 A553 A554 V555 L556 I557 T558 G561 F565 F566 K567 E568 S569 D570 P573 F577 A578 S581 L582 F583 H584 V587 T588 F591 L592 L593
V596 T600 L604 V607 S611 S615 SER ALA GLU ILE ARG GLU GLU GLN CYS ALA PRO ARG GLU PRO ALA PRO GLN GLY GLN ALA GLY LYS TYR GLN ALA VAL PRO LEU LYS VAL VAL ASN ARG LYS ARG PRO ALA ARG GLU GLU VAL ARG ASP LEU LEU GLY PRO LEU GLN
ARG LEU ALA PRO SER MET ASP GLY ASP ALA ASP ASN PHE C678 V679 Q680 I681 I682 G683 G684 F685 T689 P690 D691 G692 I693 P694 T695 L696 S697 N698 I699 T700 I701 R702 I711 V712 G713 Q714 V715 G716 K719 L724 L727 K732 V733 S734 G735 A736 V737 F738 W739 N740 S741
N742 L743 P744 ASP SER GLU GLY GLU ASP PRO SER SER PRO GLU ARG GLU THR ALA ALA GLY SER ASP ILE ARG SER ARG GLY PRO V770 A773 S774 Q775 N781 E791 S792 P793 F794 N795 R798 E804 A805 L808 D811 I812 D813 I814 L815 P816 H817 G818 D819 Q820 T821
Q822 I823 G824 E825 R826 G827 I828 N829 L830 S831 G832 G833 R837 V840 A841 L853 D854 D855 P856 F857 S858 A859 L860 D861 V862 H863 L864 S865 D866 H867 Q870 I873 L877 R878 D879 D880 K881 R882 T883 V884 V885 H889 K890 L891 P895 D898 W899 I900 K904 D905
Q906 Q909 R910 E911 G912 T913 L914 K915 Q918 R919 S920 E921 P925 E926 H927 W928 LYS THR LEU MET ASN ARG GLN ASP GLN GLU LEU GLU LYS GLU THR VAL MET GLU ARG LYS ALA SER GLU PRO SER GLN GLY LEU PRO ARG ALA MET SER SER ARG ASP GLY LEU LEU LEU ASP
GLU GLU GLU GLU GLU GLU GLU ALA ALA GLU SER GLU GLU ASP ASP ASN LEU SER SER VAL LEU HIS GLN ARG ALA LYS ILE PRO TRP ARG A1000 C1001 T1002 K1003 Y1004 L1005 S1006 S1007 A1008 G1009 I1010 L1011 L1012 L1013 S1014 L1015 L1016 V1017 F1018 S1019 Q1020 L1021 L1022 K1023 H1024 M1025 V1028 A1029 I1030
D1031 K1036 D1039 SER ALA LEU VAL LEU SER PRO ALA ALA ARG ASN CYS SER LEU SER GLN GLU CYS ASP LEU ASP GLN SER VAL Y1064 A1065 F1068 L1071 C1072 S1073 L1074 G1075 L1076 V1077 L1078 C1079 L1080 V1081 T1082 S1083 V1084 T1085 V1086 E1087 K1092 V1093 A1094 K1095 R1096 L1097 W1103
R1104 I1105 I1106 L1107 A1108 P1109 M1110 R1111 E1114 T1115 T1116 P1117 L1118 G1119 S1120 I1121 L1122 N1123 S1126 S1127 D1128 C1129 N1130 D1133 Q1134 H1135 S1138 T1139 L1140 E1141 C1142 L1143 S1144 R1145 L1148 S1152 A1153 L1154 T1155 Y1159 V1163 F1164 L1165 V1166 A1167 L1168 L1169 P1170 L1171 A1172 Y1176
K1180 Y1181 F1182 R1183 R1187 Q1191 L1192 D1193 D1194 T1195 T1196 H1203 E1206 T1207 L1211 R1215 E1220 A1221 R1222 K1226 E1229 D1232 N1235 L1239 T1242 R1246 W1247 L1248 E1249 E1253 L1261 A1265 T1266 S1267 I1268 S1269 L1272 HIS ARG GLU LEU
S1277 A1278 G1279 L1280 V1281 T1286 Y1287 A1288 L1289 M1290 R1300 N1301 D1304 M1305 E1306 I1307 A1311 V1312 K1313 R1314 I1315 H1316 A1317 L1318 L1319 LYS THR GLU ALA GLU SER TYR GLU GLY LEU LEU ALA PRO SER LEU ILE PRO LYS ASN TRP PRO ASP GLN G1343 K1344 I1345 Q1346 I1347 Q1348 N1349 L1350

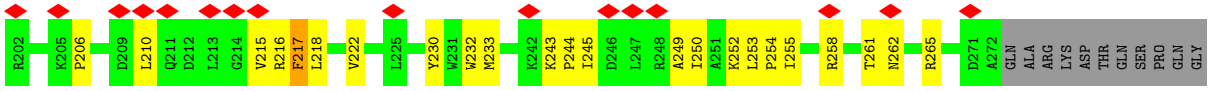


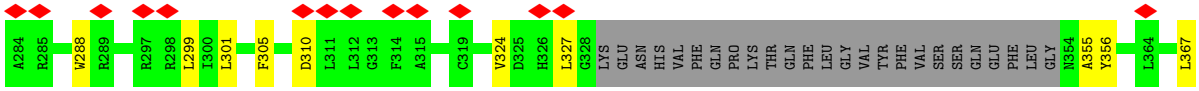
• Molecule 2: ATP-binding cassette sub-family C member 8

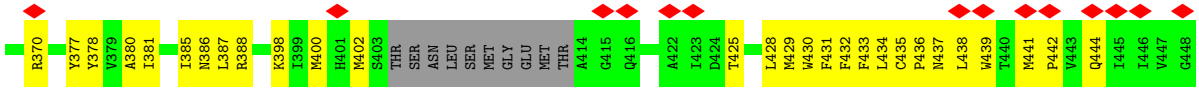
Chain G:

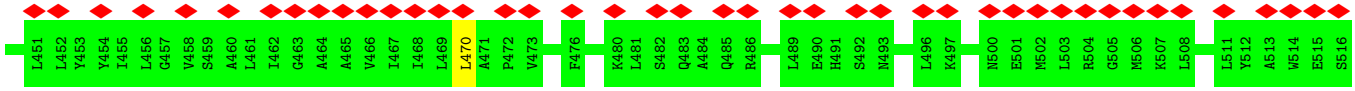


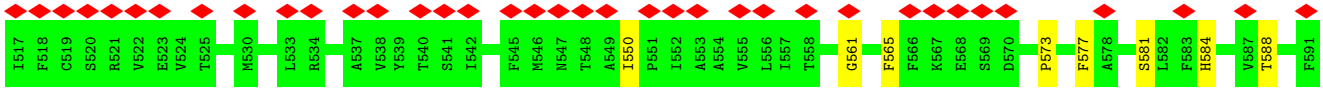


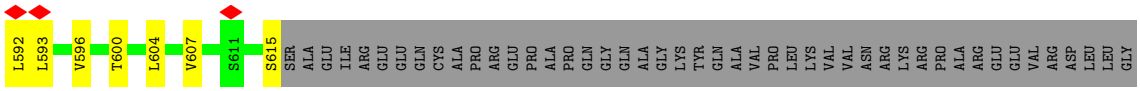


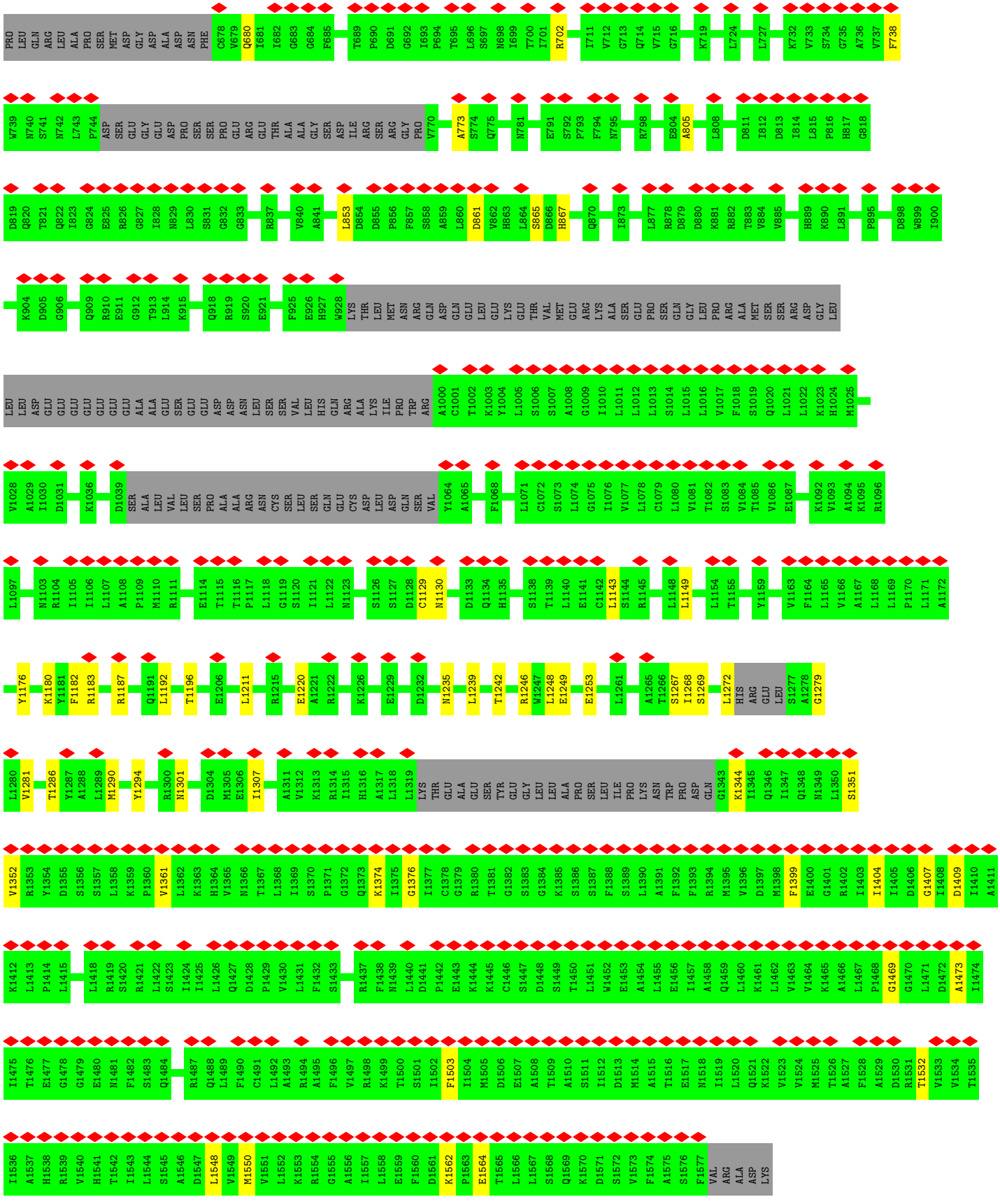








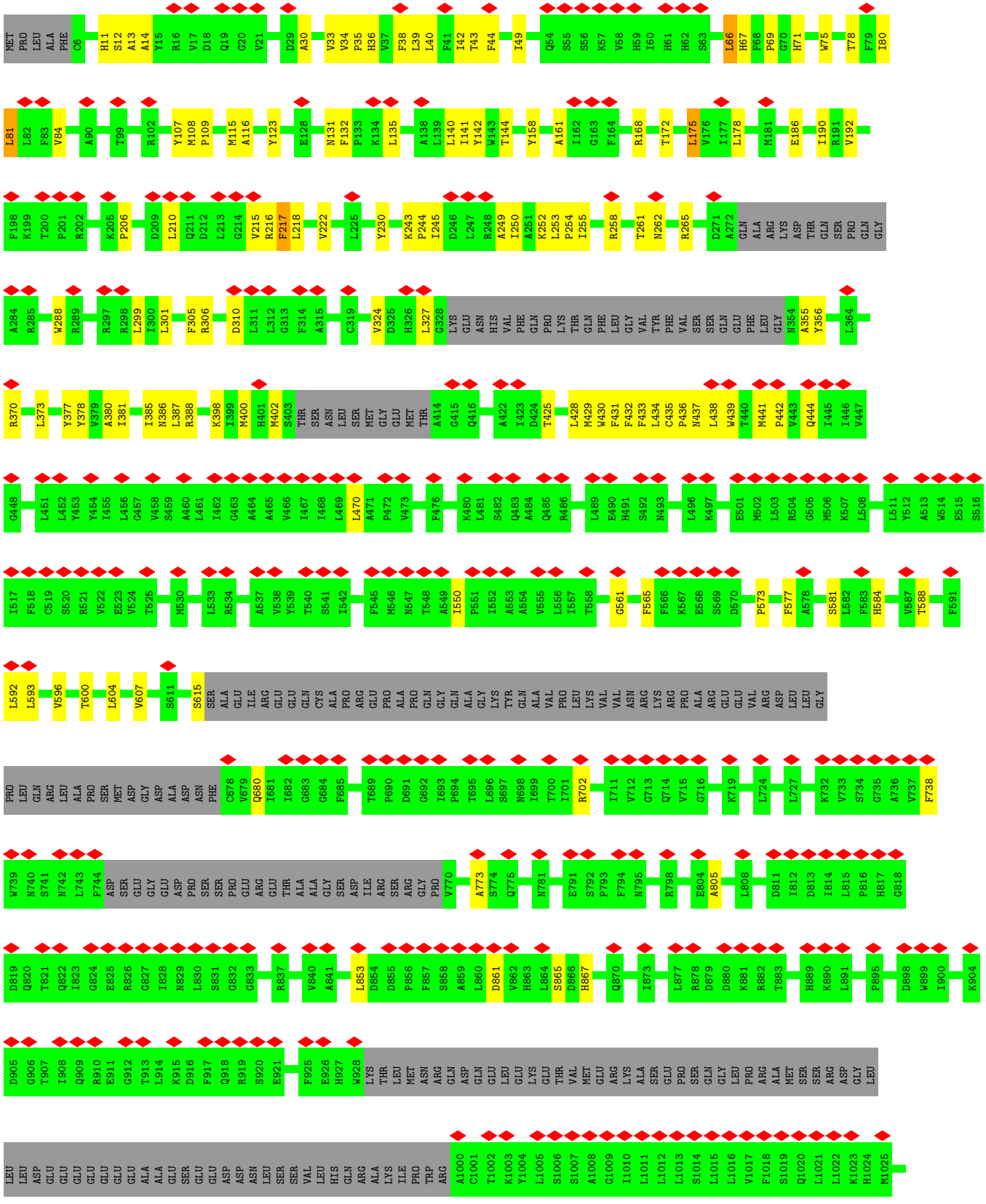




• Molecule 2: ATP-binding cassette sub-family C member 8

Chain H:


38%
72%
11%
17%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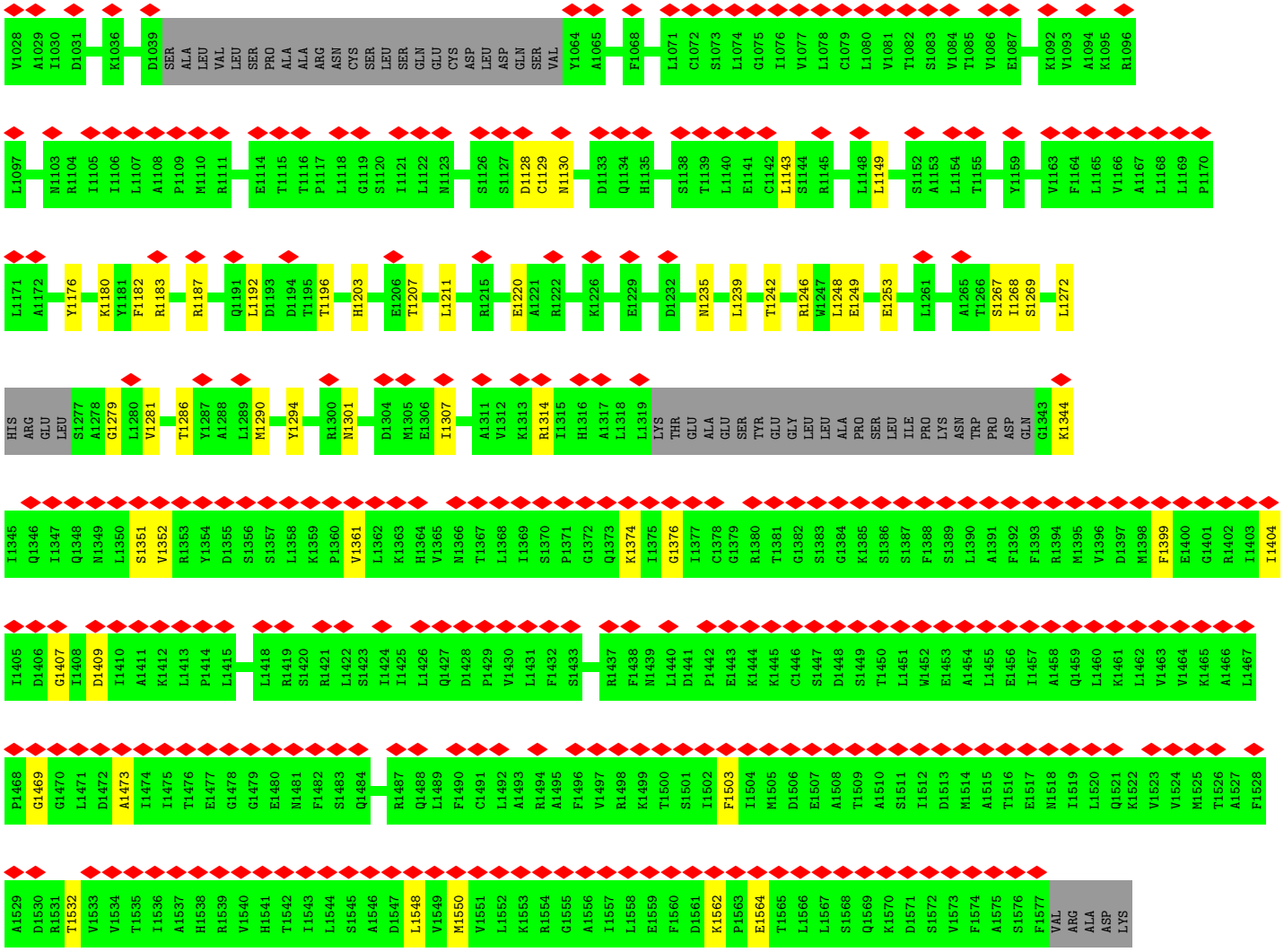
L81 L82 F83 V84 A90 T99 R102 Y107 M108 P109 M115 A116 Y123 E128 N131 F132 P133 K134 L135 A138 L139 L140 I141 Y142 W143 T144 Y158 A161 I162 G163 F164 R168 T172 L175 V176 I177 L178 M181 E186 I190 R191 V192
F198 K199 T200 P201 R202 K205 P206 D209 L210 Q211 D212 L213 G214 V215 R216 F217 L218 V222 L225 Y230 K243 P244 I245 D246 L247 R248 A249 I250 A251 K252 L253 P254 I255 R258 T261 N262 R265 D271 A272 GLN ALA ARG LYS ASP THR GLN SER PRO GLN GLY
A284 R285 W288 R289 R297 R298 L299 I300 L301 F305 R306 D310 L311 L312 G313 F314 A315 C319 V324 D325 H326 L327 G328 LYS GLU ASN HIS VAL PHE GLN PRO LYS THR GLN PHE LEU GLY VAL TYR PHE VAL SER SER GLN GLU PHE LEU GLY N354 A355 Y356 L364
R370 L373 Y377 Y378 V379 A380 I381 I385 N386 L387 R388 K398 I399 M400 H401 M402 S403 THR SER ASN LEU SER MET GLY GLU MET THR A414 G415 Q416 A422 I423 D424 T425 L428 M429 W430 F431 F432 F433 L434 C435 P436 N437 L438 W439 T440 M441 P442 V443 Q444 I445 I446 V447
G448 L451 L452 Y453 Y454 I455 L456 G457 V458 S459 A460 L461 I462 G463 A464 A465 V466 I467 I468 L469 L470 A471 P472 V473 F476 K480 L481 S482 Q483 A484 Q485 R486 L489 E490 H491 S492 N493 L496 K497 E501 M502 L503 R504 G505 M506 K507 L508 L511 Y512 A513 W514 E515 S516
I517 F518 C519 S520 R521 V522 E523 V524 T525 M530 L533 R534 A537 V538 Y539 T540 S541 I542 F545 M546 N547 T548 A549 I550 P551 I552 A553 A554 V555 L556 I557 T558 G561 F565 F566 K567 E568 S569 D570 P573 F577 A578 S581 L582 F583 H584 V587 T588 F591
L592 L593 V596 T600 L604 V607 S611 S615 SER ALA GLU ILE ARG GLU GLU GLN CYS ALA PRO ARG GLU PRO ALA PRO GLN GLY GLN ALA GLY LYS TYR GLN ALA VAL PRO LEU LYS VAL VAL ASN ARG LYS ARG PRO ALA ARG GLU GLU VAL ARG ASP LEU LEU GLY
PRO LEU GLN ARG LEU ALA PRO SER MET ASP GLY ASP ALA ASP ASN PHE C678 V679 Q680 I681 I682 G683 G684 F685 T689 P690 D691 G692 I693 P694 T695 L696 S697 N698 I699 T700 I701 R702 I711 V712 G713 Q714 V715 G716 K719 L724 L727 K732 V733 S734 G735 A736 V737 F738
W739 N740 S741 N742 L743 P744 ASP SER GLU GLY GLU ASP PRO SER SER PRO GLU ARG GLU THR ALA ALA GLY SER ASP ILE ARG SER ARG GLY PRO V770 A773 S774 Q775 N781 E791 S792 P793 F794 N795 R798 E804 A805 L808 D811 I812 D813 I814 L815 P816 H817 G818
D819 Q820 T821 Q822 I823 G824 E825 R826 G827 I828 N829 L830 S831 G832 G833 R837 V840 A841 L853 D854 D855 P856 F857 S858 A859 L860 D861 V862 H863 L864 S865 D866 H867 Q870 I873 L877 R878 D879 D880 K881 R882 T883 H889 K890 L891 P895 D898 W899 I900 K904
D905 G906 T907 I908 Q909 R910 E911 G912 T913 L914 K915 D916 F917 Q918 R919 S920 E921 F925 E926 H927 W928 LYS THR LEU MET ASN ARG GLN ASP GLN GLU LEU GLU LYS GLU THR VAL MET GLU ARG LYS ALA SER GLU PRO SER GLN GLY LEU PRO ARG ALA MET SER SER ARG ASP GLY LEU
LEU LEU ASP GLU GLU GLU GLU GLU GLU ALA ALA GLU SER GLU GLU ASP ASP ASN LEU SER SER VAL LEU HIS GLN ARG ALA LYS ILE PRO TRP ARG A1000 C1001 T1002 K1003 Y1004 L1005 S1006 S1007 A1008 G1009 I1010 L1011 L1012 L1013 S1014 L1015 L1016 V1017 F1018 S1019 Q1020 L1021 L1022 K1023 H1024 M1025


V1028 A1029 I1030 D1031 K1036 D1039 SER ALA LEU VAL LEU SER PRO ALA ALA ARG ASN CYS SER LEU SER GLN GLU CYS ASP LEU ASP GLN SER VAL Y1064 A1065 F1068 L1071 C1072 S1073 L1074 G1075 I1076 V1077 L1078 C1079 L1080 V1081 T1082 S1083 V1084 T1085 V1086 E1087 K1092 V1093 A1094 K1095 R1096
L1097 N1103 R1104 I1105 I1106 L1107 A1108 P1109 M1110 R1111 E1114 T1115 T1116 P1117 L1118 G1119 S1120 I1121 L1122 N1123 S1126 S1127 D1128 C1129 N1130 D1133 Q1134 H1135 S1138 T1139 L1140 E1141 C1142 L1143 S1144 R1145 L1148 L1149 S1152 A1153 L1154 T1155 Y1159 V1163 F1164 L1165 V1166 A1167 L1168 L1169 P1170
L1171 A1172 Y1176 K1180 Y1181 F1182 R1183 R1187 Q1191 L1192 D1193 D1194 T1195 T1196 H1203 E1206 T1207 L1211 R1215 E1220 A1221 R1222 K1226 E1229 D1232 N1235 L1239 T1242 R1246 W1247 L1248 E1249 E1253 L1261 A1265 T1266 S1267 I1268 S1269 L1272
HIS ARG GLU LEU S1277 A1278 G1279 L1280 V1281 T1286 Y1287 A1288 L1289 M1290 Y1294 R1300 N1301 D1304 M1305 E1306 I1307 A1311 V1312 K1313 R1314 I1315 H1316 A1317 L1318 L1319 LYS THR GLU ALA GLU SER TYR GLU GLY LEU LEU ALA PRO SER LEU ILE PRO LYS ASN TRP PRO ASP GLN G1343 K1344
I1345 Q1346 I1347 Q1348 N1349 L1350 S1351 V1352 R1353 Y1354 D1355 S1356 S1357 L1358 K1359 P1360 V1361 L1362 K1363 H1364 V1365 N1366 T1367 L1368 I1369 S1370 P1371 G1372 Q1373 K1374 I1375 G1376 I1377 C1378 G1379 R1380 T1381 G1382 S1383 G1384 K1385 S1386 S1387 F1388 S1389 L1390 A1391 F1392 F1393 R1394 M1395 V1396 D1397 M1398 F1399 E1400 G1401 R1402 I1403 I1404
I1405 D1406 G1407 I1408 D1409 I1410 A1411 K1412 L1413 P1414 L1415 L1418 R1419 S1420 R1421 L1422 S1423 I1424 I1425 L1426 Q1427 D1428 P1429 V1430 L1431 F1432 S1433 R1437 F1438 N1439 L1440 D1441 P1442 E1443 K1444 K1445 C1446 S1447 D1448 S1449 T1450 L1451 W1452 E1453 A1454 L1455 E1456 I1457 A1458 Q1459 L1460 K1461 L1462 V1463 V1464 K1465 A1466 L1467
P1468 G1469 G1470 L1471 D1472 A1473 I1474 I1475 T1476 E1477 G1478 G1479 E1480 N1481 F1482 S1483 Q1484 R1487 Q1488 L1489 F1490 C1491 L1492 A1493 R1494 A1495 F1496 V1497 R1498 K1499 T1500 S1501 I1502 F1503 I1504 M1505 D1506 E1507 A1508 T1509 A1510 S1511 I1512 D1513 M1514 A1515 T1516 E1517 N1518 I1519 L1520 Q1521 K1522 V1523 V1524 M1525 T1526 A1527 F1528
A1529 D1530 R1531 T1532 V1533 V1534 T1535 I1536 A1537 H1538 R1539 V1540 H1541 T1542 I1543 L1544 S1545 A1546 D1547 L1548 V1549 M1550 V1551 L1552 K1553 R1554 G1555 A1556 I1557 L1558 E1559 F1560 D1561 K1562 P1563 E1564 T1565 L1566 L1567 S1568 Q1569 K1570 D1571 S1572 V1573 F1574 A1575 S1576 F1577 VAL ARG ALA ASP LYS

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C4	Depositor
Number of particles used	59417	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	40	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	21.048	Depositor
Minimum map value	-9.948	Depositor
Average map value	0.167	Depositor
Map value standard deviation	1.369	Depositor
Recommended contour level	5	Depositor
Map size (Å)	256.5, 256.5, 256.5	wwPDB
Map dimensions	300, 300, 300	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.855, 0.855, 0.855	Depositor

5 Model quality

5.1 Standard geometry

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

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	0.30	0/2565	0.59	0/3489
1	B	0.30	0/2565	0.59	0/3489
1	C	0.30	0/2565	0.59	0/3489
1	D	0.30	0/2565	0.59	0/3489
2	E	0.38	0/8801	0.60	5/12092 (0.0%)
2	F	0.38	0/8801	0.60	5/12092 (0.0%)
2	G	0.38	0/8801	0.60	5/12092 (0.0%)
2	H	0.38	0/8801	0.60	5/12092 (0.0%)
All	All	0.37	0/45464	0.60	20/62324 (0.0%)

There are no bond length outliers.

All (20) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	E	387	LEU	CA-CB-CG	-7.10	98.96	115.30
2	F	387	LEU	CA-CB-CG	-7.10	98.96	115.30
2	G	387	LEU	CA-CB-CG	-7.10	98.96	115.30
2	H	387	LEU	CA-CB-CG	-7.10	98.96	115.30
2	H	217	PHE	N-CA-C	-6.40	93.71	111.00
2	E	217	PHE	N-CA-C	-6.39	93.74	111.00
2	F	217	PHE	N-CA-C	-6.39	93.74	111.00
2	G	217	PHE	N-CA-C	-6.39	93.74	111.00
2	E	175	LEU	CA-CB-CG	5.84	128.73	115.30
2	F	175	LEU	CA-CB-CG	5.84	128.73	115.30
2	G	175	LEU	CA-CB-CG	5.84	128.73	115.30
2	H	175	LEU	CA-CB-CG	5.83	128.70	115.30
2	E	66	LEU	CA-CB-CG	5.09	127.00	115.30
2	F	66	LEU	CA-CB-CG	5.09	127.00	115.30
2	G	66	LEU	CA-CB-CG	5.09	127.00	115.30
2	H	66	LEU	CA-CB-CG	5.09	127.00	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	E	81	LEU	CA-CB-CG	5.06	126.93	115.30
2	F	81	LEU	CA-CB-CG	5.06	126.93	115.30
2	G	81	LEU	CA-CB-CG	5.06	126.93	115.30
2	H	81	LEU	CA-CB-CG	5.05	126.93	115.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2507	0	2533	110	0
1	B	2507	0	2533	109	0
1	C	2507	0	2533	111	0
1	D	2507	0	2533	110	0
2	E	8642	0	7143	146	0
2	F	8642	0	7143	145	0
2	G	8642	0	7143	148	0
2	H	8642	0	7143	150	0
3	A	31	0	12	4	0
3	B	31	0	12	4	0
3	C	31	0	12	4	0
3	D	31	0	12	4	0
4	E	33	0	28	12	0
4	F	33	0	28	11	0
4	G	33	0	28	11	0
4	H	33	0	28	11	0
All	All	44852	0	38864	968	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 12.

All (968) 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:C:186:HIS:HB2	1:C:308:GLU:O	1.74	0.87
1:D:186:HIS:HB2	1:D:308:GLU:O	1.74	0.87
1:A:186:HIS:HB2	1:A:308:GLU:O	1.74	0.87
1:B:186:HIS:HB2	1:B:308:GLU:O	1.74	0.86
1:C:129:VAL:HG12	1:C:129:VAL:O	1.80	0.81
1:A:129:VAL:HG12	1:A:129:VAL:O	1.80	0.80
1:B:129:VAL:HG12	1:B:129:VAL:O	1.80	0.80
1:D:129:VAL:HG12	1:D:129:VAL:O	1.80	0.79
2:F:381:ILE:HG21	2:F:1242:THR:HG21	1.65	0.79
2:E:381:ILE:HG21	2:E:1242:THR:HG21	1.65	0.78
1:D:34:ARG:HH12	1:D:38:LYS:HG2	1.49	0.78
1:A:181:LEU:HD12	1:A:300:ALA:HB2	1.66	0.77
1:B:181:LEU:HD12	1:B:300:ALA:HB2	1.66	0.77
1:C:34:ARG:HH12	1:C:38:LYS:HG2	1.49	0.77
2:H:381:ILE:HG21	2:H:1242:THR:HG21	1.64	0.77
1:A:34:ARG:HH12	1:A:38:LYS:HG2	1.49	0.77
2:G:381:ILE:HG21	2:G:1242:THR:HG21	1.65	0.76
1:D:181:LEU:HD12	1:D:300:ALA:HB2	1.66	0.76
1:C:181:LEU:HD12	1:C:300:ALA:HB2	1.66	0.76
2:F:1246:ARG:HA	2:F:1246:ARG:NE	2.02	0.75
2:E:1246:ARG:HA	2:E:1246:ARG:NE	2.02	0.74
1:B:34:ARG:HH12	1:B:38:LYS:HG2	1.49	0.74
2:H:1246:ARG:HA	2:H:1246:ARG:NE	2.02	0.74
2:G:1246:ARG:NE	2:G:1246:ARG:HA	2.02	0.74
2:G:377:TYR:CD1	4:G:2001:GBM:H15	2.24	0.72
2:H:377:TYR:CD1	4:H:2001:GBM:H15	2.24	0.72
2:F:377:TYR:CD1	4:F:2001:GBM:H15	2.24	0.72
2:E:377:TYR:CD1	4:E:2001:GBM:H15	2.24	0.72
2:E:216:ARG:HH22	2:E:252:LYS:HB2	1.58	0.69
2:F:216:ARG:HH22	2:F:252:LYS:HB2	1.58	0.68
2:H:216:ARG:HH22	2:H:252:LYS:HB2	1.58	0.67
2:H:34:VAL:HB	2:H:35:PRO:HD3	1.77	0.67
2:E:588:THR:O	2:E:592:LEU:HD23	1.95	0.67
2:F:377:TYR:O	2:F:381:ILE:HG12	1.95	0.67
2:G:34:VAL:HB	2:G:35:PRO:HD3	1.77	0.67
2:G:588:THR:O	2:G:592:LEU:HD23	1.95	0.67
2:H:588:THR:O	2:H:592:LEU:HD23	1.95	0.67
2:G:216:ARG:HH22	2:G:252:LYS:HB2	1.58	0.66
1:D:186:HIS:CB	1:D:308:GLU:O	2.43	0.66
2:E:377:TYR:O	2:E:381:ILE:HG12	1.95	0.66
2:G:377:TYR:O	2:G:381:ILE:HG12	1.95	0.66
2:H:377:TYR:O	2:H:381:ILE:HG12	1.95	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:588:THR:O	2:F:592:LEU:HD23	1.95	0.66
2:G:301:LEU:HD11	2:G:305:PHE:CZ	2.31	0.66
1:C:186:HIS:CB	1:C:308:GLU:O	2.43	0.66
2:E:301:LEU:HD11	2:E:305:PHE:CZ	2.31	0.66
1:D:314:ARG:HE	1:D:339:VAL:HB	1.61	0.66
2:F:34:VAL:HB	2:F:35:PRO:HD3	1.77	0.65
1:A:186:HIS:CB	1:A:308:GLU:O	2.43	0.65
1:C:314:ARG:HE	1:C:339:VAL:HB	1.61	0.65
2:F:301:LEU:HD11	2:F:305:PHE:CZ	2.31	0.65
2:H:301:LEU:HD11	2:H:305:PHE:CZ	2.31	0.65
1:A:287:LEU:HB3	1:A:300:ALA:HB3	1.79	0.65
1:A:314:ARG:HE	1:A:339:VAL:HB	1.61	0.65
1:B:186:HIS:CB	1:B:308:GLU:O	2.43	0.65
1:D:287:LEU:HB3	1:D:300:ALA:HB3	1.79	0.65
2:E:34:VAL:HB	2:E:35:PRO:HD3	1.77	0.65
1:B:314:ARG:HE	1:B:339:VAL:HB	1.61	0.64
1:C:287:LEU:HB3	1:C:300:ALA:HB3	1.79	0.64
2:G:431:PHE:HE1	2:G:600:THR:HG22	1.62	0.64
2:F:431:PHE:HE1	2:F:600:THR:HG22	1.62	0.64
1:B:287:LEU:HB3	1:B:300:ALA:HB3	1.79	0.64
2:E:431:PHE:HE1	2:E:600:THR:HG22	1.62	0.64
2:H:431:PHE:HE1	2:H:600:THR:HG22	1.63	0.64
2:H:435:CYS:N	2:H:436:PRO:HD2	2.14	0.63
2:H:1246:ARG:NH1	4:H:2001:GBM:H18	2.14	0.63
1:B:312:GLY:HA2	1:B:341:THR:HG21	1.80	0.63
1:D:312:GLY:HA2	1:D:341:THR:HG21	1.80	0.63
2:G:435:CYS:N	2:G:436:PRO:HD2	2.14	0.63
2:E:435:CYS:N	2:E:436:PRO:HD2	2.14	0.63
2:F:435:CYS:N	2:F:436:PRO:HD2	2.14	0.63
2:H:206:PRO:HB3	2:H:255:ILE:HG13	1.81	0.63
1:C:312:GLY:HA2	1:C:341:THR:HG21	1.80	0.62
2:E:206:PRO:HB3	2:E:255:ILE:HG13	1.81	0.62
2:E:1246:ARG:NH1	4:E:2001:GBM:H18	2.14	0.62
2:H:377:TYR:HD1	4:H:2001:GBM:H15	1.64	0.62
1:A:312:GLY:HA2	1:A:341:THR:HG21	1.80	0.62
2:G:377:TYR:HD1	4:G:2001:GBM:H15	1.64	0.62
1:C:157:LEU:HD21	1:D:163:MET:HE2	1.81	0.62
2:G:1246:ARG:NH1	4:G:2001:GBM:H18	2.14	0.62
2:F:1246:ARG:NH1	4:F:2001:GBM:H18	2.14	0.62
1:C:186:HIS:CE1	1:C:310:LEU:HD12	2.35	0.62
1:D:34:ARG:NH1	1:D:38:LYS:HG2	2.15	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:186:HIS:CE1	1:D:310:LEU:HD12	2.35	0.62
1:A:84:LEU:HG	1:A:121:PHE:HE1	1.65	0.61
1:C:34:ARG:NH1	1:C:38:LYS:HG2	2.15	0.61
2:E:108:MET:N	2:E:109:PRO:CD	2.63	0.61
2:E:327:LEU:HD11	2:E:1268:ILE:HG12	1.83	0.61
1:A:186:HIS:CE1	1:A:310:LEU:HD12	2.35	0.61
2:F:108:MET:N	2:F:109:PRO:CD	2.63	0.61
2:H:40:LEU:HD11	2:H:116:ALA:HA	1.82	0.61
2:H:108:MET:N	2:H:109:PRO:CD	2.63	0.61
1:B:186:HIS:CE1	1:B:310:LEU:HD12	2.35	0.61
2:E:40:LEU:HD11	2:E:116:ALA:HA	1.82	0.61
2:E:377:TYR:HD1	4:E:2001:GBM:H15	1.64	0.61
2:G:108:MET:N	2:G:109:PRO:CD	2.63	0.61
2:F:40:LEU:HD11	2:F:116:ALA:HA	1.82	0.61
1:A:34:ARG:NH1	1:A:38:LYS:HG2	2.15	0.61
2:G:40:LEU:HD11	2:G:116:ALA:HA	1.82	0.61
2:G:206:PRO:HB3	2:G:255:ILE:HG13	1.81	0.61
1:A:65:ASP:OD1	1:B:293:THR:HG21	2.01	0.61
2:F:327:LEU:HD11	2:F:1268:ILE:HG12	1.83	0.61
1:D:84:LEU:HG	1:D:121:PHE:HE1	1.66	0.61
2:H:327:LEU:HD11	2:H:1268:ILE:HG12	1.83	0.60
1:A:36:VAL:HG23	1:A:303:SER:HB3	1.83	0.60
3:D:401:ATP:H5'1	3:D:401:ATP:C8	2.36	0.60
3:B:401:ATP:C8	3:B:401:ATP:H5'1	2.36	0.60
2:F:206:PRO:HB3	2:F:255:ILE:HG13	1.81	0.60
2:G:327:LEU:HD11	2:G:1268:ILE:HG12	1.83	0.60
1:C:65:ASP:OD1	1:D:293:THR:HG21	2.01	0.60
3:C:401:ATP:H5'1	3:C:401:ATP:C8	2.36	0.60
3:A:401:ATP:H5'1	3:A:401:ATP:C8	2.36	0.60
1:B:65:ASP:OD1	1:C:293:THR:HG21	2.02	0.60
1:B:84:LEU:HG	1:B:121:PHE:HE1	1.65	0.60
2:F:441:MET:HB2	2:F:442:PRO:HD3	1.83	0.60
2:E:441:MET:HB2	2:E:442:PRO:HD3	1.83	0.60
1:B:34:ARG:NH1	1:B:38:LYS:HG2	2.15	0.59
1:B:36:VAL:HG23	1:B:303:SER:HB3	1.83	0.59
2:E:253:LEU:CD2	2:E:1239:LEU:HD12	2.32	0.59
1:C:84:LEU:HG	1:C:121:PHE:HE1	1.65	0.59
2:F:377:TYR:HD1	4:F:2001:GBM:H15	1.64	0.59
2:G:370:ARG:HG3	2:G:1253:GLU:HB3	1.84	0.59
2:H:253:LEU:CD2	2:H:1239:LEU:HD12	2.32	0.59
1:B:63:LEU:HD21	2:F:49:ILE:HD11	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:200:LEU:C	1:A:200:LEU:HD23	2.23	0.59
2:E:370:ARG:HG3	2:E:1253:GLU:HB3	1.84	0.59
1:A:293:THR:HG21	1:D:65:ASP:OD1	2.02	0.59
2:H:370:ARG:HG3	2:H:1253:GLU:HB3	1.84	0.59
1:A:63:LEU:HD21	2:E:49:ILE:HD11	1.85	0.59
1:C:36:VAL:HG23	1:C:303:SER:HB3	1.83	0.59
1:C:63:LEU:HD21	2:G:49:ILE:HD11	1.85	0.59
2:H:434:LEU:N	2:H:434:LEU:HD12	2.18	0.59
1:D:200:LEU:C	1:D:200:LEU:HD23	2.23	0.59
1:D:36:VAL:HG23	1:D:303:SER:HB3	1.83	0.59
2:G:434:LEU:HD12	2:G:434:LEU:N	2.18	0.59
2:H:441:MET:HB2	2:H:442:PRO:HD3	1.83	0.59
1:D:63:LEU:HD21	2:H:49:ILE:HD11	1.85	0.58
2:E:435:CYS:N	2:E:436:PRO:CD	2.66	0.58
2:G:437:ASN:O	2:G:441:MET:HG2	2.04	0.58
2:H:437:ASN:O	2:H:441:MET:HG2	2.04	0.58
1:B:200:LEU:HD23	1:B:200:LEU:C	2.23	0.58
2:G:253:LEU:CD2	2:G:1239:LEU:HD12	2.32	0.58
2:F:253:LEU:CD2	2:F:1239:LEU:HD12	2.32	0.58
2:F:370:ARG:HG3	2:F:1253:GLU:HB3	1.84	0.58
2:G:441:MET:HB2	2:G:442:PRO:HD3	1.83	0.58
2:H:435:CYS:N	2:H:436:PRO:CD	2.66	0.58
1:C:200:LEU:C	1:C:200:LEU:HD23	2.23	0.58
1:B:47:LYS:N	1:C:328:VAL:O	2.37	0.58
4:E:2001:GBM:H5	4:E:2001:GBM:O3	2.04	0.58
2:F:434:LEU:N	2:F:434:LEU:HD12	2.18	0.58
2:G:435:CYS:N	2:G:436:PRO:CD	2.66	0.58
2:H:39:LEU:HD23	2:H:39:LEU:O	2.04	0.58
1:B:129:VAL:O	1:B:129:VAL:CG1	2.51	0.57
2:E:437:ASN:O	2:E:441:MET:HG2	2.04	0.57
2:F:435:CYS:N	2:F:436:PRO:CD	2.66	0.57
2:F:437:ASN:O	2:F:441:MET:HG2	2.04	0.57
2:G:39:LEU:HD23	2:G:39:LEU:O	2.04	0.57
2:G:1268:ILE:O	2:G:1272:LEU:HG	2.05	0.57
1:A:47:LYS:N	1:B:328:VAL:O	2.35	0.57
1:A:129:VAL:O	1:A:129:VAL:CG1	2.51	0.57
2:E:434:LEU:HD12	2:E:434:LEU:N	2.18	0.57
2:H:470:LEU:HD13	2:H:550:ILE:HG13	1.86	0.57
1:A:168:PHE:HE2	1:D:168:PHE:CD2	2.23	0.57
1:C:299:GLN:HG3	1:D:211:ILE:HG12	1.87	0.57
1:D:129:VAL:O	1:D:129:VAL:CG1	2.51	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:F:2001:GBM:O3	4:F:2001:GBM:H5	2.04	0.57
1:B:168:PHE:CD2	1:C:168:PHE:HE2	2.23	0.57
2:E:108:MET:N	2:E:109:PRO:HD3	2.20	0.57
1:A:211:ILE:HG12	1:D:299:GLN:HG3	1.86	0.57
2:F:470:LEU:HD13	2:F:550:ILE:HG13	1.86	0.57
1:A:229:GLU:HA	1:A:229:GLU:OE1	2.05	0.57
3:A:401:ATP:H3'	3:A:401:ATP:O3A	2.05	0.57
3:D:401:ATP:H3'	3:D:401:ATP:O3A	2.05	0.57
2:E:39:LEU:HD23	2:E:39:LEU:O	2.04	0.57
2:H:108:MET:N	2:H:109:PRO:HD3	2.20	0.57
2:E:115:MET:HE3	2:E:115:MET:HA	1.87	0.57
2:E:1268:ILE:O	2:E:1272:LEU:HG	2.05	0.57
1:B:299:GLN:HG3	1:C:211:ILE:HG12	1.87	0.57
3:C:401:ATP:H3'	3:C:401:ATP:O3A	2.05	0.57
2:E:34:VAL:HB	2:E:35:PRO:CD	2.35	0.57
2:G:108:MET:N	2:G:109:PRO:HD3	2.20	0.57
2:G:470:LEU:HD13	2:G:550:ILE:HG13	1.86	0.57
1:A:168:PHE:CD2	1:B:168:PHE:HE2	2.24	0.56
1:C:229:GLU:HA	1:C:229:GLU:OE1	2.05	0.56
2:E:470:LEU:HD13	2:E:550:ILE:HG13	1.86	0.56
1:C:129:VAL:O	1:C:129:VAL:CG1	2.51	0.56
2:F:39:LEU:O	2:F:39:LEU:HD23	2.04	0.56
1:B:101:ALA:N	1:B:102:PRO:CD	2.69	0.56
1:B:312:GLY:CA	1:B:341:THR:HG21	2.36	0.56
1:D:229:GLU:OE1	1:D:229:GLU:HA	2.05	0.56
2:F:1268:ILE:O	2:F:1272:LEU:HG	2.05	0.56
2:G:34:VAL:HB	2:G:35:PRO:CD	2.35	0.56
2:H:1267:SER:HB3	2:H:1281:VAL:HG22	1.88	0.56
2:H:1268:ILE:O	2:H:1272:LEU:HG	2.05	0.56
4:H:2001:GBM:O3	4:H:2001:GBM:H5	2.04	0.56
1:A:312:GLY:CA	1:A:341:THR:HG21	2.36	0.56
1:C:168:PHE:CD2	1:D:168:PHE:HE2	2.23	0.56
2:E:1351:SER:O	2:E:1399:PHE:N	2.35	0.56
2:F:108:MET:N	2:F:109:PRO:HD3	2.20	0.56
1:B:229:GLU:OE1	1:B:229:GLU:HA	2.05	0.56
2:G:1267:SER:HB3	2:G:1281:VAL:HG22	1.88	0.56
4:G:2001:GBM:H5	4:G:2001:GBM:O3	2.04	0.56
1:B:181:LEU:CD1	1:B:300:ALA:HB2	2.36	0.56
3:B:401:ATP:H3'	3:B:401:ATP:O3A	2.05	0.56
1:D:101:ALA:N	1:D:102:PRO:CD	2.69	0.56
2:F:1267:SER:HB3	2:F:1281:VAL:HG22	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:101:ALA:N	1:A:102:PRO:CD	2.69	0.56
1:A:181:LEU:CD1	1:A:300:ALA:HB2	2.36	0.56
2:F:34:VAL:HB	2:F:35:PRO:CD	2.35	0.56
1:A:79:PHE:HE2	1:D:157:LEU:HD22	1.71	0.56
1:C:101:ALA:N	1:C:102:PRO:CD	2.69	0.56
1:D:312:GLY:CA	1:D:341:THR:HG21	2.36	0.56
2:H:34:VAL:HB	2:H:35:PRO:CD	2.35	0.56
2:H:604:LEU:N	2:H:604:LEU:HD23	2.21	0.56
1:A:185:LYS:HE3	3:A:401:ATP:O1B	2.06	0.56
2:F:604:LEU:N	2:F:604:LEU:HD23	2.21	0.56
2:H:1351:SER:O	2:H:1399:PHE:N	2.35	0.55
2:E:324:VAL:HG11	2:E:573:PRO:HB2	1.89	0.55
2:G:324:VAL:HG11	2:G:573:PRO:HB2	1.89	0.55
2:G:434:LEU:HB3	2:G:596:VAL:HG22	1.89	0.55
2:G:604:LEU:HD23	2:G:604:LEU:N	2.21	0.55
1:B:36:VAL:CG2	1:B:303:SER:HB3	2.37	0.55
2:F:434:LEU:HB3	2:F:596:VAL:HG22	1.89	0.55
1:A:36:VAL:CG2	1:A:303:SER:HB3	2.37	0.55
1:A:50:ARG:HH21	1:A:52:GLN:NE2	2.05	0.55
1:A:272:PRO:HG3	1:A:311:TRP:CZ2	2.42	0.55
1:D:36:VAL:CG2	1:D:303:SER:HB3	2.37	0.55
2:E:434:LEU:HB3	2:E:596:VAL:HG22	1.89	0.55
2:F:324:VAL:HG11	2:F:573:PRO:HB2	1.89	0.55
2:G:175:LEU:HA	2:G:178:LEU:HB2	1.89	0.55
1:C:312:GLY:CA	1:C:341:THR:HG21	2.36	0.55
2:E:1267:SER:HB3	2:E:1281:VAL:HG22	1.88	0.55
2:F:175:LEU:HA	2:F:178:LEU:HB2	1.89	0.55
1:A:101:ALA:N	1:A:102:PRO:HD3	2.22	0.55
1:C:272:PRO:HG3	1:C:311:TRP:CZ2	2.42	0.55
1:D:155:VAL:O	1:D:159:ILE:HG13	2.07	0.55
1:D:272:PRO:HG3	1:D:311:TRP:CZ2	2.42	0.55
2:H:324:VAL:HG11	2:H:573:PRO:HB2	1.89	0.55
2:H:434:LEU:HB3	2:H:596:VAL:HG22	1.89	0.55
1:B:50:ARG:HH21	1:B:52:GLN:NE2	2.04	0.55
1:C:101:ALA:N	1:C:102:PRO:HD3	2.22	0.55
1:D:50:ARG:HH21	1:D:52:GLN:NE2	2.04	0.55
1:A:299:GLN:HG3	1:B:211:ILE:HG12	1.88	0.54
1:B:155:VAL:O	1:B:159:ILE:HG13	2.07	0.54
1:B:192:ARG:HE	1:B:199:MET:HE1	1.72	0.54
1:C:50:ARG:HH21	1:C:52:GLN:NE2	2.05	0.54
1:C:155:VAL:O	1:C:159:ILE:HG13	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:157:LEU:HD22	1:D:79:PHE:HE2	1.71	0.54
1:B:101:ALA:N	1:B:102:PRO:HD3	2.22	0.54
1:B:157:LEU:HD22	1:C:79:PHE:HE2	1.70	0.54
1:C:36:VAL:CG2	1:C:303:SER:HB3	2.37	0.54
1:B:272:PRO:HG3	1:B:311:TRP:CZ2	2.42	0.54
1:D:101:ALA:N	1:D:102:PRO:HD3	2.22	0.54
2:E:175:LEU:HA	2:E:178:LEU:HB2	1.89	0.54
1:D:185:LYS:HE3	3:D:401:ATP:O1B	2.07	0.54
2:E:592:LEU:HG	4:E:2001:GBM:C32	2.38	0.54
2:F:592:LEU:HG	4:F:2001:GBM:C32	2.38	0.54
1:A:192:ARG:HE	1:A:199:MET:HE1	1.73	0.54
2:E:604:LEU:N	2:E:604:LEU:HD23	2.21	0.54
2:H:592:LEU:HG	4:H:2001:GBM:C32	2.38	0.54
1:A:328:VAL:O	1:D:47:LYS:N	2.37	0.53
1:C:291:VAL:HG12	1:C:293:THR:H	1.74	0.53
2:G:592:LEU:HG	4:G:2001:GBM:C32	2.38	0.53
1:A:155:VAL:O	1:A:159:ILE:HG13	2.07	0.53
1:B:157:LEU:HD21	1:C:163:MET:HE2	1.89	0.53
2:E:381:ILE:HA	2:E:433:PHE:CE1	2.43	0.53
2:F:388:ARG:HG3	2:F:425:THR:HG22	1.91	0.53
2:H:381:ILE:HA	2:H:433:PHE:CE1	2.43	0.53
1:A:157:LEU:HD22	1:B:79:PHE:HE2	1.72	0.53
2:H:175:LEU:HA	2:H:178:LEU:HB2	1.89	0.53
1:A:291:VAL:HG12	1:A:293:THR:H	1.74	0.53
1:B:52:GLN:HA	1:B:52:GLN:OE1	2.09	0.53
2:H:434:LEU:HD12	4:H:2001:GBM:H22	1.91	0.53
1:A:49:ILE:HG23	1:B:205:LEU:HD22	1.90	0.53
1:C:185:LYS:HE3	3:C:401:ATP:O1B	2.07	0.53
1:D:291:VAL:HG12	1:D:293:THR:H	1.74	0.53
2:F:380:ALA:HB1	2:F:433:PHE:HA	1.91	0.53
2:G:381:ILE:HA	2:G:433:PHE:CE1	2.43	0.53
1:D:52:GLN:HA	1:D:52:GLN:OE1	2.09	0.53
2:E:388:ARG:HG3	2:E:425:THR:HG22	1.91	0.53
2:G:355:ALA:HB1	2:G:1268:ILE:HG21	1.90	0.53
1:C:192:ARG:HE	1:C:199:MET:HE1	1.74	0.53
2:G:253:LEU:HD21	2:G:1239:LEU:HD12	1.91	0.53
1:A:52:GLN:OE1	1:A:52:GLN:HA	2.09	0.53
1:B:185:LYS:HE3	3:B:401:ATP:O1B	2.09	0.53
2:E:253:LEU:HD21	2:E:1239:LEU:HD12	1.91	0.53
2:E:355:ALA:HB1	2:E:1268:ILE:HG21	1.90	0.53
1:D:192:ARG:HE	1:D:199:MET:HE1	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:388:ARG:HG3	2:G:425:THR:HG22	1.91	0.53
2:G:434:LEU:HD12	4:G:2001:GBM:H22	1.91	0.53
2:H:388:ARG:HG3	2:H:425:THR:HG22	1.91	0.53
1:C:49:ILE:HG23	1:D:205:LEU:HD22	1.91	0.53
2:H:115:MET:HA	2:H:115:MET:HE3	1.91	0.53
1:C:47:LYS:N	1:D:328:VAL:O	2.36	0.52
1:C:251:LEU:C	1:C:251:LEU:HD23	2.30	0.52
2:F:310:ASP:OD1	2:F:444:GLN:NE2	2.33	0.52
2:G:380:ALA:HB1	2:G:433:PHE:HA	1.91	0.52
2:H:1246:ARG:NE	2:H:1246:ARG:CA	2.72	0.52
1:B:291:VAL:HG12	1:B:293:THR:H	1.74	0.52
2:E:434:LEU:HD12	4:E:2001:GBM:H22	1.91	0.52
2:F:115:MET:HE3	2:F:115:MET:HA	1.91	0.52
2:G:1246:ARG:NE	2:G:1246:ARG:CA	2.72	0.52
2:F:253:LEU:HD21	2:F:1239:LEU:HD12	1.91	0.52
2:F:381:ILE:HA	2:F:433:PHE:CE1	2.43	0.52
1:A:205:LEU:HD22	1:D:49:ILE:HG23	1.91	0.52
1:D:181:LEU:CD1	1:D:300:ALA:HB2	2.36	0.52
1:A:60:PHE:HE2	1:A:162:ILE:HG23	1.75	0.52
1:A:251:LEU:HD23	1:A:251:LEU:C	2.30	0.52
2:F:355:ALA:HB1	2:F:1268:ILE:HG21	1.90	0.52
1:A:163:MET:HE2	1:D:157:LEU:HD21	1.92	0.52
1:B:251:LEU:C	1:B:251:LEU:HD23	2.30	0.52
1:C:181:LEU:CD1	1:C:300:ALA:HB2	2.36	0.52
2:H:355:ALA:HB1	2:H:1268:ILE:HG21	1.90	0.52
1:C:60:PHE:O	1:C:64:VAL:HG23	2.10	0.52
2:G:218:LEU:C	2:G:218:LEU:HD12	2.30	0.52
1:A:157:LEU:HD21	1:B:163:MET:CE	2.40	0.52
1:B:49:ILE:HG23	1:C:205:LEU:HD22	1.91	0.52
2:E:434:LEU:N	2:E:434:LEU:CD1	2.73	0.52
2:H:253:LEU:HD21	2:H:1239:LEU:HD12	1.91	0.52
2:H:380:ALA:HB1	2:H:433:PHE:HA	1.91	0.52
1:B:314:ARG:NE	1:B:339:VAL:HB	2.25	0.52
2:G:299:LEU:HD12	2:G:299:LEU:O	2.10	0.52
1:A:314:ARG:NE	1:A:339:VAL:HB	2.25	0.52
1:C:52:GLN:OE1	1:C:52:GLN:HA	2.09	0.52
2:F:218:LEU:C	2:F:218:LEU:HD12	2.30	0.52
2:F:299:LEU:HD12	2:F:299:LEU:O	2.10	0.52
2:F:434:LEU:HD12	4:F:2001:GBM:H22	1.91	0.52
2:G:381:ILE:HD13	2:G:433:PHE:CD1	2.46	0.52
1:D:60:PHE:O	1:D:64:VAL:HG23	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:39:LEU:HD23	2:F:39:LEU:C	2.31	0.51
2:H:218:LEU:HD12	2:H:218:LEU:C	2.30	0.51
1:A:181:LEU:HD13	1:A:287:LEU:HD23	1.92	0.51
1:B:60:PHE:O	1:B:64:VAL:HG23	2.10	0.51
2:E:381:ILE:HG21	2:E:1242:THR:CG2	2.39	0.51
2:G:288:TRP:CZ2	2:G:607:VAL:HG11	2.46	0.51
2:G:433:PHE:HB3	4:G:2001:GBM:H16	1.93	0.51
2:H:381:ILE:HD13	2:H:433:PHE:CD1	2.46	0.51
2:H:435:CYS:H	2:H:436:PRO:HD2	1.75	0.51
1:D:251:LEU:C	1:D:251:LEU:HD23	2.30	0.51
2:E:299:LEU:O	2:E:299:LEU:HD12	2.10	0.51
2:E:380:ALA:HB1	2:E:433:PHE:HA	1.91	0.51
2:E:1182:PHE:CG	2:E:1248:LEU:HD22	2.45	0.51
2:E:1246:ARG:NE	2:E:1246:ARG:CA	2.72	0.51
2:F:1182:PHE:CG	2:F:1248:LEU:HD22	2.45	0.51
2:H:680:GLN:HA	2:H:702:ARG:HG2	1.93	0.51
1:B:60:PHE:HE2	1:B:162:ILE:HG23	1.75	0.51
1:C:60:PHE:HE2	1:C:162:ILE:HG23	1.75	0.51
2:E:218:LEU:HD12	2:E:218:LEU:C	2.30	0.51
2:F:434:LEU:N	2:F:434:LEU:CD1	2.73	0.51
2:H:253:LEU:HD11	2:H:1235:ASN:HB3	1.93	0.51
1:A:60:PHE:O	1:A:64:VAL:HG23	2.10	0.51
1:D:181:LEU:HD13	1:D:287:LEU:HD23	1.92	0.51
2:E:310:ASP:OD1	2:E:444:GLN:NE2	2.33	0.51
2:F:381:ILE:HD13	2:F:433:PHE:CD1	2.46	0.51
2:F:561:GLY:O	2:F:565:PHE:CB	2.59	0.51
2:F:805:ALA:O	2:F:867:HIS:NE2	2.44	0.51
2:G:1182:PHE:CG	2:G:1248:LEU:HD22	2.45	0.51
2:H:39:LEU:HD23	2:H:39:LEU:C	2.31	0.51
1:D:60:PHE:HE2	1:D:162:ILE:HG23	1.75	0.51
2:E:435:CYS:H	2:E:436:PRO:HD2	1.75	0.51
2:F:1246:ARG:NE	2:F:1246:ARG:CA	2.72	0.51
2:G:39:LEU:HD23	2:G:39:LEU:C	2.31	0.51
2:H:434:LEU:N	2:H:434:LEU:CD1	2.73	0.51
2:H:1182:PHE:CG	2:H:1248:LEU:HD22	2.45	0.51
2:E:381:ILE:HD13	2:E:433:PHE:CD1	2.46	0.51
2:F:288:TRP:CZ2	2:F:607:VAL:HG11	2.46	0.51
2:G:434:LEU:N	2:G:434:LEU:CD1	2.73	0.51
2:H:433:PHE:HB3	4:H:2001:GBM:H16	1.92	0.51
1:B:221:ARG:HD2	1:B:223:THR:OG1	2.11	0.51
2:E:39:LEU:HD23	2:E:39:LEU:C	2.31	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:433:PHE:HB3	4:E:2001:GBM:H16	1.93	0.51
2:H:299:LEU:HD12	2:H:299:LEU:O	2.10	0.51
1:A:221:ARG:HD2	1:A:223:THR:OG1	2.11	0.51
2:E:561:GLY:O	2:E:565:PHE:CB	2.59	0.51
2:F:435:CYS:H	2:F:436:PRO:HD2	1.75	0.51
2:F:1503:PHE:N	2:F:1532:THR:O	2.43	0.51
1:C:181:LEU:HD13	1:C:287:LEU:HD23	1.92	0.51
2:G:253:LEU:HD11	2:G:1235:ASN:HB3	1.93	0.51
2:H:805:ALA:O	2:H:867:HIS:NE2	2.44	0.51
1:A:101:ALA:HB3	2:E:13:ALA:CB	2.42	0.50
1:B:57:GLN:NE2	2:F:132:PHE:HE1	2.09	0.50
1:C:57:GLN:NE2	2:G:132:PHE:HE1	2.09	0.50
2:H:861:ASP:O	2:H:865:SER:N	2.40	0.50
2:E:253:LEU:HD11	2:E:1235:ASN:HB3	1.93	0.50
2:F:861:ASP:O	2:F:865:SER:N	2.40	0.50
1:B:101:ALA:HB3	2:F:13:ALA:CB	2.41	0.50
2:E:805:ALA:O	2:E:867:HIS:NE2	2.44	0.50
2:H:429:MET:HG2	2:H:433:PHE:CZ	2.47	0.50
1:B:181:LEU:HD13	1:B:287:LEU:HD23	1.92	0.50
1:C:314:ARG:NE	1:C:339:VAL:HB	2.25	0.50
1:D:314:ARG:NE	1:D:339:VAL:HB	2.25	0.50
2:E:429:MET:HG2	2:E:433:PHE:CZ	2.47	0.50
2:G:680:GLN:HA	2:G:702:ARG:HG2	1.93	0.50
2:H:288:TRP:CZ2	2:H:607:VAL:HG11	2.46	0.50
1:B:157:LEU:HD21	1:C:163:MET:CE	2.41	0.50
1:C:157:LEU:HD21	1:D:163:MET:CE	2.41	0.50
2:G:805:ALA:O	2:G:867:HIS:NE2	2.44	0.50
2:E:288:TRP:CZ2	2:E:607:VAL:HG11	2.46	0.50
2:E:680:GLN:HA	2:E:702:ARG:HG2	1.92	0.50
2:E:1503:PHE:N	2:E:1532:THR:O	2.43	0.50
2:G:115:MET:HE3	2:G:115:MET:HA	1.93	0.50
2:G:561:GLY:O	2:G:565:PHE:CB	2.59	0.50
1:B:201:ARG:NH2	1:B:315:PHE:HB3	2.27	0.50
2:H:39:LEU:HD12	2:H:142:TYR:CZ	2.47	0.50
2:H:381:ILE:HG21	2:H:1242:THR:CG2	2.39	0.50
1:A:201:ARG:NH2	1:A:315:PHE:HB3	2.27	0.50
1:C:201:ARG:NH2	1:C:315:PHE:HB3	2.27	0.50
1:D:221:ARG:HD2	1:D:223:THR:OG1	2.11	0.50
2:F:680:GLN:HA	2:F:702:ARG:HG2	1.93	0.50
1:C:221:ARG:HD2	1:C:223:THR:OG1	2.11	0.50
2:F:253:LEU:HD11	2:F:1235:ASN:HB3	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:680:GLN:O	2:G:738:PHE:N	2.41	0.50
2:H:80:ILE:HD11	2:H:178:LEU:HD11	1.94	0.50
2:H:561:GLY:O	2:H:565:PHE:CB	2.59	0.50
1:A:57:GLN:NE2	2:E:132:PHE:HE1	2.10	0.49
1:D:201:ARG:NH2	1:D:315:PHE:HB3	2.27	0.49
2:E:39:LEU:HD12	2:E:142:TYR:CZ	2.47	0.49
2:F:433:PHE:HB3	4:F:2001:GBM:H16	1.93	0.49
1:A:157:LEU:HD21	1:B:163:MET:HE2	1.93	0.49
2:F:400:MET:SD	2:F:1220:GLU:HB2	2.52	0.49
2:F:429:MET:HG2	2:F:433:PHE:CZ	2.47	0.49
2:G:429:MET:HG2	2:G:433:PHE:CZ	2.47	0.49
2:G:435:CYS:H	2:G:436:PRO:HD2	1.75	0.49
2:H:400:MET:SD	2:H:1220:GLU:HB2	2.52	0.49
2:F:39:LEU:HD12	2:F:142:TYR:CZ	2.47	0.49
1:D:57:GLN:NE2	2:H:132:PHE:HE1	2.10	0.49
1:D:198:PHE:O	1:D:258:TYR:HA	2.13	0.49
2:E:80:ILE:HD11	2:E:178:LEU:HD11	1.94	0.49
2:G:400:MET:SD	2:G:1220:GLU:HB2	2.52	0.49
2:G:115:MET:HA	2:G:115:MET:CE	2.43	0.49
2:G:1351:SER:O	2:G:1399:PHE:N	2.35	0.49
1:A:52:GLN:HG3	1:A:54:ARG:HH12	1.78	0.49
1:B:52:GLN:HG3	1:B:54:ARG:HH12	1.78	0.49
1:D:101:ALA:HB3	2:H:13:ALA:CB	2.43	0.49
1:D:318:ILE:HG23	1:D:329:ASP:O	2.13	0.49
2:E:1562:LYS:O	2:E:1564:GLU:N	2.41	0.49
2:G:39:LEU:HD12	2:G:142:TYR:CZ	2.47	0.49
1:C:52:GLN:HG3	1:C:54:ARG:HH12	1.78	0.49
1:A:198:PHE:O	1:A:258:TYR:HA	2.13	0.49
1:D:52:GLN:HG3	1:D:54:ARG:HH12	1.78	0.49
2:E:400:MET:SD	2:E:1220:GLU:HB2	2.52	0.49
1:B:186:HIS:HE1	1:B:336:THR:HG21	1.78	0.49
1:A:163:MET:CE	1:D:157:LEU:HD21	2.42	0.49
1:A:186:HIS:HE1	1:A:336:THR:HG21	1.78	0.49
1:B:318:ILE:HG23	1:B:329:ASP:O	2.13	0.49
2:F:80:ILE:HD11	2:F:178:LEU:HD11	1.94	0.49
2:F:1128:ASP:OD1	2:F:1314:ARG:NH2	2.39	0.49
2:G:381:ILE:HG21	2:G:1242:THR:CG2	2.39	0.49
2:E:1404:ILE:HA	2:E:1409:ASP:HA	1.95	0.48
2:H:115:MET:HA	2:H:115:MET:CE	2.43	0.48
1:B:275:LEU:O	1:B:306:ALA:HB1	2.14	0.48
1:C:318:ILE:HG23	1:C:329:ASP:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:80:ILE:HD11	2:G:178:LEU:HD11	1.94	0.48
2:G:1503:PHE:N	2:G:1532:THR:O	2.43	0.48
1:C:198:PHE:O	1:C:258:TYR:HA	2.13	0.48
2:E:1129:CYS:SG	2:E:1130:ASN:N	2.86	0.48
2:F:115:MET:HA	2:F:115:MET:CE	2.43	0.48
2:F:1351:SER:O	2:F:1399:PHE:N	2.35	0.48
2:F:1352:VAL:O	2:F:1361:VAL:N	2.44	0.48
1:B:79:PHE:HE1	1:B:159:ILE:HG22	1.79	0.48
1:C:186:HIS:HE1	1:C:336:THR:HG21	1.78	0.48
1:C:223:THR:HG22	1:C:224:THR:N	2.28	0.48
2:F:1129:CYS:SG	2:F:1130:ASN:N	2.86	0.48
1:C:79:PHE:HE1	1:C:159:ILE:HG22	1.79	0.48
1:C:101:ALA:HB3	2:G:13:ALA:CB	2.44	0.48
2:G:1129:CYS:SG	2:G:1130:ASN:N	2.86	0.48
2:H:1129:CYS:SG	2:H:1130:ASN:N	2.86	0.48
1:A:318:ILE:HG23	1:A:329:ASP:O	2.13	0.48
1:D:223:THR:HG22	1:D:224:THR:N	2.28	0.48
1:B:198:PHE:O	1:B:258:TYR:HA	2.13	0.48
2:E:1182:PHE:CD2	2:E:1248:LEU:HD22	2.49	0.48
2:F:1203:HIS:O	2:F:1207:THR:OG1	2.24	0.48
1:D:79:PHE:HE1	1:D:159:ILE:HG22	1.79	0.48
1:D:186:HIS:HE1	1:D:336:THR:HG21	1.78	0.48
2:G:310:ASP:OD1	2:G:444:GLN:NE2	2.33	0.48
2:G:1404:ILE:HA	2:G:1409:ASP:HA	1.95	0.48
1:A:275:LEU:O	1:A:306:ALA:HB1	2.14	0.48
2:E:262:ASN:OD1	2:E:265:ARG:NH2	2.47	0.48
2:F:1404:ILE:HA	2:F:1409:ASP:HA	1.95	0.48
2:H:441:MET:N	2:H:442:PRO:HD2	2.29	0.48
2:H:1503:PHE:N	2:H:1532:THR:O	2.43	0.48
1:A:79:PHE:HE1	1:A:159:ILE:HG22	1.79	0.48
1:B:186:HIS:CE1	1:B:310:LEU:CD1	2.97	0.48
1:B:223:THR:HG22	1:B:224:THR:N	2.28	0.48
1:D:186:HIS:CE1	1:D:310:LEU:CD1	2.97	0.48
1:D:201:ARG:HG3	1:D:201:ARG:HH11	1.79	0.48
2:E:430:TRP:HA	2:E:433:PHE:CD2	2.48	0.48
2:E:441:MET:N	2:E:442:PRO:HD2	2.29	0.48
2:G:1182:PHE:CD2	2:G:1248:LEU:HD22	2.49	0.48
2:H:430:TRP:HA	2:H:433:PHE:CD2	2.48	0.48
3:A:401:ATP:C8	3:A:401:ATP:C3'	2.97	0.47
1:B:95:PHE:HD2	1:B:95:PHE:O	1.97	0.47
1:D:275:LEU:O	1:D:306:ALA:HB1	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:430:TRP:HA	2:G:433:PHE:CD2	2.48	0.47
2:G:861:ASP:O	2:G:865:SER:N	2.40	0.47
1:A:55:PHE:HD1	1:B:206:ARG:CZ	2.27	0.47
1:B:201:ARG:HG3	1:B:201:ARG:HH11	1.79	0.47
1:C:201:ARG:HG3	1:C:201:ARG:HH11	1.79	0.47
2:E:69:PRO:HG2	2:E:192:VAL:HG11	1.96	0.47
2:F:430:TRP:HA	2:F:433:PHE:CD2	2.48	0.47
2:G:584:HIS:HB3	2:G:1290:MET:SD	2.54	0.47
2:H:584:HIS:HB3	2:H:1290:MET:SD	2.55	0.47
2:H:1182:PHE:CD2	2:H:1248:LEU:HD22	2.49	0.47
2:E:861:ASP:O	2:E:865:SER:N	2.40	0.47
2:H:217:PHE:CE1	2:H:1239:LEU:HB3	2.50	0.47
2:H:1374:LYS:O	2:H:1548:LEU:N	2.47	0.47
1:B:154:ILE:HD13	1:C:76:THR:HG23	1.97	0.47
3:B:401:ATP:C8	3:B:401:ATP:C3'	2.97	0.47
1:C:55:PHE:HD1	1:D:206:ARG:CZ	2.28	0.47
1:C:95:PHE:HD2	1:C:95:PHE:O	1.97	0.47
2:F:217:PHE:CE1	2:F:1239:LEU:HB3	2.50	0.47
1:A:251:LEU:HD23	1:A:251:LEU:O	2.14	0.47
1:C:85:LEU:HD13	2:G:38:PHE:HA	1.96	0.47
1:C:275:LEU:O	1:C:306:ALA:HB1	2.14	0.47
2:E:115:MET:HA	2:E:115:MET:CE	2.43	0.47
2:F:258:ARG:HB2	2:F:261:THR:H	1.80	0.47
2:F:441:MET:N	2:F:442:PRO:HD2	2.29	0.47
1:A:345:THR:OG1	1:A:348:GLN:HG3	2.15	0.47
1:C:154:ILE:HD13	1:D:76:THR:HG23	1.97	0.47
1:D:85:LEU:HD13	2:H:38:PHE:HA	1.96	0.47
2:H:1404:ILE:HA	2:H:1409:ASP:HA	1.95	0.47
1:A:85:LEU:HD13	2:E:38:PHE:HA	1.95	0.47
1:A:186:HIS:CE1	1:A:310:LEU:CD1	2.97	0.47
1:A:201:ARG:HH11	1:A:201:ARG:HG3	1.79	0.47
1:C:186:HIS:CE1	1:C:310:LEU:CD1	2.97	0.47
3:C:401:ATP:C8	3:C:401:ATP:C3'	2.97	0.47
2:E:584:HIS:HB3	2:E:1290:MET:SD	2.55	0.47
2:E:1344:LYS:O	2:E:1407:GLY:N	2.48	0.47
2:F:584:HIS:HB3	2:F:1290:MET:SD	2.55	0.47
2:F:1182:PHE:CD2	2:F:1248:LEU:HD22	2.49	0.47
2:F:1374:LYS:O	2:F:1548:LEU:N	2.47	0.47
2:G:441:MET:N	2:G:442:PRO:HD2	2.29	0.47
2:G:1352:VAL:O	2:G:1361:VAL:N	2.44	0.47
2:G:1469:GLY:H	2:G:1473:ALA:HB2	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:69:PRO:HG2	2:H:192:VAL:HG11	1.96	0.47
1:A:223:THR:HG22	1:A:224:THR:N	2.28	0.47
1:D:251:LEU:HD23	1:D:251:LEU:O	2.14	0.47
2:E:217:PHE:CE1	2:E:1239:LEU:HB3	2.50	0.47
2:E:258:ARG:HB2	2:E:261:THR:H	1.80	0.47
2:F:1562:LYS:O	2:F:1564:GLU:N	2.41	0.47
1:B:55:PHE:HD1	1:C:206:ARG:CZ	2.28	0.47
1:B:267:LEU:HB3	1:B:270:LEU:CD1	2.45	0.47
1:B:345:THR:OG1	1:B:348:GLN:HG3	2.15	0.47
2:F:69:PRO:HG2	2:F:192:VAL:HG11	1.96	0.47
2:F:206:PRO:O	2:F:210:LEU:CB	2.63	0.47
2:G:217:PHE:CE1	2:G:1239:LEU:HB3	2.50	0.47
2:H:258:ARG:HB2	2:H:261:THR:H	1.80	0.47
2:H:262:ASN:OD1	2:H:265:ARG:NH2	2.47	0.47
2:H:373:LEU:HD23	2:H:373:LEU:HA	1.63	0.47
2:H:441:MET:HB2	2:H:442:PRO:CD	2.45	0.47
1:A:154:ILE:HD13	1:B:76:THR:HG23	1.97	0.47
2:E:773:ALA:HB3	2:E:853:LEU:HA	1.97	0.47
2:E:1374:LYS:O	2:E:1548:LEU:N	2.47	0.47
2:F:381:ILE:HG21	2:F:1242:THR:CG2	2.39	0.47
2:G:441:MET:HB2	2:G:442:PRO:CD	2.45	0.47
2:H:773:ALA:HB3	2:H:853:LEU:HA	1.97	0.47
1:A:188:VAL:HG21	1:A:314:ARG:HA	1.97	0.46
1:A:206:ARG:CZ	1:D:55:PHE:HD1	2.29	0.46
1:B:249:ILE:HG23	1:B:249:ILE:O	2.15	0.46
1:D:188:VAL:HG21	1:D:314:ARG:HA	1.97	0.46
2:E:1469:GLY:H	2:E:1473:ALA:HB2	1.79	0.46
2:F:773:ALA:HB3	2:F:853:LEU:HA	1.97	0.46
2:G:258:ARG:HB2	2:G:261:THR:H	1.80	0.46
1:A:267:LEU:HB3	1:A:270:LEU:CD1	2.45	0.46
1:D:345:THR:OG1	1:D:348:GLN:HG3	2.15	0.46
2:E:1460:LEU:O	2:E:1464:VAL:N	2.42	0.46
2:F:1192:LEU:O	2:F:1196:THR:OG1	2.23	0.46
2:G:69:PRO:HG2	2:G:192:VAL:HG11	1.96	0.46
2:G:773:ALA:HB3	2:G:853:LEU:HA	1.97	0.46
2:G:1344:LYS:O	2:G:1407:GLY:N	2.48	0.46
2:H:253:LEU:HD11	2:H:1235:ASN:CB	2.46	0.46
2:H:1344:LYS:O	2:H:1407:GLY:N	2.48	0.46
1:B:188:VAL:HG21	1:B:314:ARG:HA	1.97	0.46
1:C:249:ILE:HG23	1:C:249:ILE:O	2.15	0.46
3:D:401:ATP:C8	3:D:401:ATP:C3'	2.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:2001:GBM:H27	4:E:2001:GBM:O6	2.15	0.46
2:G:206:PRO:O	2:G:210:LEU:CB	2.63	0.46
2:G:1374:LYS:O	2:G:1548:LEU:N	2.47	0.46
2:H:1469:GLY:H	2:H:1473:ALA:HB2	1.79	0.46
1:A:76:THR:HG23	1:D:154:ILE:HD13	1.98	0.46
1:A:84:LEU:HG	1:A:121:PHE:CE1	2.49	0.46
1:B:85:LEU:HD13	2:F:38:PHE:HA	1.96	0.46
1:B:200:LEU:CD1	1:B:285:VAL:HG21	2.46	0.46
1:B:251:LEU:HD23	1:B:251:LEU:O	2.14	0.46
2:F:1469:GLY:H	2:F:1473:ALA:HB2	1.79	0.46
1:B:190:THR:OG1	1:B:191:PRO:HD2	2.16	0.46
1:C:267:LEU:HB3	1:C:270:LEU:CD1	2.45	0.46
2:F:253:LEU:HD11	2:F:1235:ASN:CB	2.46	0.46
2:G:253:LEU:HD11	2:G:1235:ASN:CB	2.46	0.46
1:A:249:ILE:HG23	1:A:249:ILE:O	2.15	0.46
1:C:200:LEU:CD1	1:C:285:VAL:HG21	2.46	0.46
1:C:251:LEU:HD23	1:C:251:LEU:O	2.14	0.46
1:D:95:PHE:HD2	1:D:95:PHE:O	1.98	0.46
1:D:188:VAL:HB	1:D:313:GLN:O	2.16	0.46
2:E:253:LEU:HD11	2:E:1235:ASN:CB	2.46	0.46
2:E:441:MET:HB2	2:E:442:PRO:CD	2.45	0.46
2:F:42:ILE:HG23	2:F:43:THR:HG23	1.98	0.46
2:G:262:ASN:OD1	2:G:265:ARG:NH2	2.47	0.46
2:H:206:PRO:O	2:H:210:LEU:CB	2.63	0.46
4:H:2001:GBM:O6	4:H:2001:GBM:H27	2.15	0.46
2:E:377:TYR:CE1	4:E:2001:GBM:H15	2.51	0.46
4:F:2001:GBM:O6	4:F:2001:GBM:H27	2.15	0.46
2:G:42:ILE:HG23	2:G:43:THR:HG23	1.98	0.46
2:H:1562:LYS:O	2:H:1564:GLU:N	2.41	0.46
1:A:95:PHE:HD2	1:A:95:PHE:O	1.97	0.46
1:C:188:VAL:HG21	1:C:314:ARG:HA	1.97	0.46
1:C:345:THR:OG1	1:C:348:GLN:HG3	2.15	0.46
1:D:200:LEU:CD1	1:D:285:VAL:HG21	2.46	0.46
2:F:81:LEU:HA	2:F:84:VAL:HG22	1.97	0.46
1:A:188:VAL:HB	1:A:313:GLN:O	2.16	0.46
1:D:267:LEU:HB3	1:D:270:LEU:CD1	2.45	0.46
2:F:123:TYR:OH	2:F:135:LEU:O	2.29	0.46
2:F:262:ASN:ND2	2:F:386:ASN:OD1	2.49	0.46
2:F:680:GLN:O	2:F:738:PHE:N	2.41	0.46
1:A:200:LEU:CD1	1:A:285:VAL:HG21	2.46	0.45
2:E:373:LEU:HD23	2:E:373:LEU:HA	1.63	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:42:ILE:HG23	2:E:43:THR:HG23	1.98	0.45
2:H:262:ASN:ND2	2:H:386:ASN:OD1	2.49	0.45
1:A:190:THR:OG1	1:A:191:PRO:HD2	2.16	0.45
1:C:188:VAL:HB	1:C:313:GLN:O	2.16	0.45
1:D:242:ASN:OD1	1:D:244:VAL:HG22	2.16	0.45
1:D:249:ILE:HG23	1:D:249:ILE:O	2.15	0.45
2:E:206:PRO:O	2:E:210:LEU:CB	2.63	0.45
2:F:398:LYS:NZ	2:F:615:SER:O	2.50	0.45
2:G:75:TRP:O	2:G:78:THR:OG1	2.28	0.45
2:H:158:TYR:HA	2:H:161:ALA:HB2	1.99	0.45
2:H:377:TYR:CE1	4:H:2001:GBM:H15	2.51	0.45
1:B:130:THR:HG22	1:C:129:VAL:HG12	1.98	0.45
2:E:39:LEU:C	2:E:39:LEU:CD2	2.85	0.45
2:E:158:TYR:HA	2:E:161:ALA:HB2	1.99	0.45
2:F:373:LEU:HA	2:F:373:LEU:HD23	1.63	0.45
2:F:377:TYR:CE1	4:F:2001:GBM:H15	2.51	0.45
2:G:217:PHE:CE2	2:G:1239:LEU:HD13	2.52	0.45
2:H:217:PHE:O	2:H:217:PHE:CD2	2.70	0.45
2:H:1128:ASP:OD1	2:H:1314:ARG:NH2	2.39	0.45
1:B:188:VAL:HB	1:B:313:GLN:O	2.16	0.45
2:E:217:PHE:CD2	2:E:217:PHE:O	2.70	0.45
2:E:262:ASN:ND2	2:E:386:ASN:OD1	2.49	0.45
4:E:2001:GBM:H19	4:E:2001:GBM:H21	1.85	0.45
2:F:262:ASN:OD1	2:F:265:ARG:NH2	2.47	0.45
2:G:262:ASN:ND2	2:G:386:ASN:OD1	2.49	0.45
2:H:39:LEU:C	2:H:39:LEU:CD2	2.85	0.45
2:E:81:LEU:HA	2:E:84:VAL:HG22	1.97	0.45
2:F:39:LEU:C	2:F:39:LEU:CD2	2.85	0.45
2:G:39:LEU:C	2:G:39:LEU:CD2	2.85	0.45
2:G:158:TYR:HA	2:G:161:ALA:HB2	1.99	0.45
2:G:217:PHE:CD2	2:G:217:PHE:O	2.70	0.45
2:H:217:PHE:CE2	2:H:1239:LEU:HD13	2.52	0.45
2:H:310:ASP:OD1	2:H:444:GLN:NE2	2.33	0.45
2:H:378:TYR:O	2:H:378:TYR:CD1	2.70	0.45
2:H:1203:HIS:O	2:H:1207:THR:OG1	2.24	0.45
2:H:1246:ARG:HA	2:H:1246:ARG:HE	1.79	0.45
1:D:190:THR:OG1	1:D:191:PRO:HD2	2.16	0.45
2:E:217:PHE:CE2	2:E:1239:LEU:HD13	2.52	0.45
2:F:230:TYR:CE2	2:F:1246:ARG:HB3	2.52	0.45
2:G:230:TYR:CE2	2:G:1246:ARG:HB3	2.52	0.45
4:G:2001:GBM:H27	4:G:2001:GBM:O6	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:242:ASN:OD1	1:A:244:VAL:HG22	2.16	0.45
2:E:230:TYR:CE2	2:E:1246:ARG:HB3	2.52	0.45
2:F:217:PHE:CE2	2:F:1239:LEU:HD13	2.52	0.45
2:F:1344:LYS:O	2:F:1407:GLY:N	2.48	0.45
2:G:66:LEU:HG	2:G:131:ASN:HD21	1.82	0.45
2:G:1246:ARG:HA	2:G:1246:ARG:HE	1.78	0.45
2:H:81:LEU:HA	2:H:84:VAL:HG22	1.97	0.45
1:B:57:GLN:HE21	2:F:132:PHE:HE1	1.64	0.45
1:B:130:THR:CG2	1:C:129:VAL:HG12	2.47	0.45
1:C:190:THR:OG1	1:C:191:PRO:HD2	2.16	0.45
2:F:140:LEU:HB3	2:F:186:GLU:HG3	1.99	0.45
2:H:42:ILE:HG23	2:H:43:THR:HG23	1.98	0.45
2:H:66:LEU:HG	2:H:131:ASN:HD21	1.82	0.45
1:A:314:ARG:HE	1:A:339:VAL:CB	2.30	0.45
2:E:398:LYS:NZ	2:E:615:SER:O	2.50	0.45
2:E:581:SER:OG	2:E:1286:THR:HG23	2.17	0.45
2:E:1176:TYR:CZ	2:E:1180:LYS:HD2	2.52	0.45
2:G:377:TYR:CE1	4:G:2001:GBM:H15	2.51	0.45
2:G:378:TYR:O	2:G:378:TYR:CD1	2.70	0.45
2:G:1180:LYS:HG2	2:G:1183:ARG:HH21	1.82	0.45
2:H:581:SER:OG	2:H:1286:THR:HG23	2.17	0.45
2:H:1176:TYR:CZ	2:H:1180:LYS:HD2	2.52	0.45
2:E:66:LEU:HG	2:E:131:ASN:HD21	1.82	0.44
2:E:1203:HIS:O	2:E:1207:THR:OG1	2.24	0.44
2:F:217:PHE:O	2:F:217:PHE:CD2	2.70	0.44
2:F:217:PHE:CZ	2:F:1239:LEU:HD13	2.53	0.44
2:F:378:TYR:O	2:F:378:TYR:CD1	2.70	0.44
2:F:441:MET:HB2	2:F:442:PRO:CD	2.45	0.44
2:F:592:LEU:HG	4:F:2001:GBM:C30	2.47	0.44
2:G:581:SER:OG	2:G:1286:THR:HG23	2.17	0.44
2:H:230:TYR:CE2	2:H:1246:ARG:HB3	2.52	0.44
1:B:57:GLN:HG2	2:F:132:PHE:CE1	2.52	0.44
1:C:130:THR:HG22	1:D:129:VAL:HG12	1.99	0.44
2:E:680:GLN:O	2:E:738:PHE:N	2.41	0.44
2:F:158:TYR:HA	2:F:161:ALA:HB2	1.99	0.44
2:F:581:SER:OG	2:F:1286:THR:HG23	2.17	0.44
2:H:592:LEU:HG	4:H:2001:GBM:C30	2.47	0.44
1:C:242:ASN:OD1	1:C:244:VAL:HG22	2.16	0.44
2:E:1180:LYS:HG2	2:E:1183:ARG:HH21	1.82	0.44
2:F:66:LEU:HG	2:F:131:ASN:HD21	1.82	0.44
2:G:81:LEU:HA	2:G:84:VAL:HG22	1.97	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:1180:LYS:HG2	2:H:1183:ARG:HH21	1.82	0.44
1:A:129:VAL:HG12	1:D:130:THR:HG22	1.99	0.44
1:B:101:ALA:H	1:B:102:PRO:HD3	1.83	0.44
1:B:242:ASN:OD1	1:B:244:VAL:HG22	2.16	0.44
1:D:101:ALA:H	1:D:102:PRO:HD3	1.83	0.44
2:E:217:PHE:CZ	2:E:1239:LEU:HD13	2.53	0.44
2:G:592:LEU:HG	4:G:2001:GBM:C30	2.47	0.44
2:H:1376:GLY:O	2:H:1550:MET:N	2.40	0.44
2:H:217:PHE:CZ	2:H:1239:LEU:HD13	2.53	0.44
1:C:130:THR:CG2	1:D:129:VAL:HG12	2.48	0.44
1:D:50:ARG:HH21	1:D:52:GLN:HE22	1.66	0.44
2:E:140:LEU:HB3	2:E:186:GLU:HG3	1.99	0.44
2:E:592:LEU:HG	4:E:2001:GBM:C30	2.47	0.44
2:H:75:TRP:O	2:H:78:THR:OG1	2.28	0.44
1:A:50:ARG:HH21	1:A:52:GLN:HE22	1.66	0.44
2:E:370:ARG:HD2	2:E:370:ARG:HA	1.73	0.44
2:F:34:VAL:CB	2:F:35:PRO:CD	2.96	0.44
2:G:123:TYR:OH	2:G:135:LEU:O	2.29	0.44
2:G:217:PHE:CZ	2:G:1239:LEU:HD13	2.53	0.44
2:H:398:LYS:NZ	2:H:615:SER:O	2.50	0.44
1:C:181:LEU:HD21	1:C:210:ILE:CD1	2.48	0.44
2:E:378:TYR:CD1	2:E:378:TYR:O	2.70	0.44
2:E:1128:ASP:OD1	2:E:1314:ARG:NH2	2.39	0.44
2:G:1176:TYR:CZ	2:G:1180:LYS:HD2	2.52	0.44
2:H:168:ARG:O	2:H:172:THR:OG1	2.28	0.44
1:B:181:LEU:HD21	1:B:210:ILE:HD11	2.00	0.43
1:C:57:GLN:HG2	2:G:132:PHE:CE1	2.52	0.43
1:C:181:LEU:HD21	1:C:210:ILE:HD11	2.00	0.43
2:E:1376:GLY:O	2:E:1550:MET:N	2.40	0.43
2:F:243:LYS:NZ	2:F:244:PRO:O	2.45	0.43
2:F:1180:LYS:HG2	2:F:1183:ARG:HH21	1.82	0.43
2:H:11:HIS:HA	2:H:14:ALA:HB3	2.00	0.43
1:A:144:LEU:O	1:A:148:ILE:HG13	2.18	0.43
1:B:192:ARG:NE	1:B:199:MET:HE1	2.33	0.43
1:C:84:LEU:HG	1:C:121:PHE:CE1	2.49	0.43
1:C:187:ALA:HB1	1:C:199:MET:O	2.19	0.43
1:C:314:ARG:HE	1:C:339:VAL:CB	2.30	0.43
2:E:11:HIS:HA	2:E:14:ALA:HB3	2.00	0.43
2:E:66:LEU:HD22	2:E:67:HIS:H	1.84	0.43
2:F:1176:TYR:CZ	2:F:1180:LYS:HD2	2.52	0.43
2:G:398:LYS:NZ	2:G:615:SER:O	2.50	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1562:LYS:O	2:G:1564:GLU:N	2.41	0.43
1:A:57:GLN:HE21	2:E:132:PHE:HE1	1.65	0.43
1:D:187:ALA:HB1	1:D:199:MET:O	2.19	0.43
1:D:314:ARG:HE	1:D:339:VAL:CB	2.30	0.43
2:E:356:TYR:OH	2:E:1269:SER:HB2	2.19	0.43
2:E:385:ILE:HG12	2:E:429:MET:CE	2.49	0.43
2:G:34:VAL:CB	2:G:35:PRO:CD	2.96	0.43
2:H:356:TYR:OH	2:H:1269:SER:HB2	2.19	0.43
1:A:101:ALA:H	1:A:102:PRO:HD3	1.83	0.43
1:B:84:LEU:HG	1:B:121:PHE:CE1	2.49	0.43
1:C:57:GLN:HE21	2:G:132:PHE:HE1	1.63	0.43
1:D:181:LEU:HD21	1:D:210:ILE:CD1	2.48	0.43
1:D:318:ILE:HD11	1:D:332:LYS:O	2.18	0.43
2:E:123:TYR:OH	2:E:135:LEU:O	2.29	0.43
2:G:140:LEU:HB3	2:G:186:GLU:HG3	1.99	0.43
2:G:441:MET:HG3	2:G:593:LEU:HD13	2.01	0.43
2:H:34:VAL:CB	2:H:35:PRO:CD	2.96	0.43
2:H:425:THR:HA	2:H:428:LEU:HD12	2.00	0.43
1:A:318:ILE:HD11	1:A:332:LYS:O	2.18	0.43
1:B:187:ALA:HB1	1:B:199:MET:O	2.19	0.43
2:E:441:MET:HG3	2:E:593:LEU:HD13	2.01	0.43
2:E:1187:ARG:HA	2:E:1307:ILE:HD11	2.01	0.43
2:F:438:LEU:HB3	2:F:439:TRP:CE3	2.53	0.43
1:A:130:THR:HG22	1:B:129:VAL:HG12	1.99	0.43
1:B:144:LEU:O	1:B:148:ILE:HG13	2.19	0.43
1:B:181:LEU:HD21	1:B:210:ILE:CD1	2.48	0.43
1:C:229:GLU:CD	1:D:314:ARG:HD2	2.39	0.43
1:D:57:GLN:HG2	2:H:132:PHE:CE1	2.52	0.43
2:E:1435:THR:O	2:E:1439:ASN:N	2.34	0.43
2:F:1187:ARG:HA	2:F:1307:ILE:HD11	2.01	0.43
2:G:141:ILE:HA	2:G:144:THR:HG22	2.01	0.43
2:H:140:LEU:HB3	2:H:186:GLU:HG3	1.99	0.43
1:A:187:ALA:HB1	1:A:199:MET:O	2.19	0.43
1:C:95:PHE:CE2	2:G:12:SER:O	2.72	0.43
1:D:144:LEU:O	1:D:148:ILE:HG13	2.18	0.43
2:E:438:LEU:HB3	2:E:439:TRP:CE3	2.53	0.43
1:A:181:LEU:HD21	1:A:210:ILE:CD1	2.48	0.43
1:D:57:GLN:HE21	2:H:132:PHE:HE1	1.65	0.43
2:E:218:LEU:HD12	2:E:218:LEU:O	2.19	0.43
2:F:11:HIS:HA	2:F:14:ALA:HB3	2.00	0.43
2:F:66:LEU:HD22	2:F:67:HIS:H	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:1376:GLY:O	2:F:1550:MET:N	2.40	0.43
1:B:188:VAL:HG12	1:B:310:LEU:HB2	2.01	0.43
1:B:318:ILE:HD11	1:B:332:LYS:O	2.18	0.43
2:E:425:THR:HA	2:E:428:LEU:HD12	2.00	0.43
2:G:218:LEU:HD12	2:G:218:LEU:O	2.19	0.43
2:H:141:ILE:HA	2:H:144:THR:HG22	2.01	0.43
2:H:385:ILE:HG12	2:H:429:MET:CE	2.49	0.43
2:H:441:MET:HG3	2:H:593:LEU:HD13	2.01	0.43
1:A:57:GLN:HG2	2:E:132:PHE:CE1	2.53	0.43
1:A:181:LEU:HD21	1:A:210:ILE:HD11	2.00	0.43
1:B:314:ARG:HE	1:B:339:VAL:CB	2.30	0.43
1:D:95:PHE:CE2	2:H:12:SER:O	2.72	0.43
2:E:577:PHE:HE2	2:E:1279:GLY:HA2	1.84	0.43
2:F:425:THR:HA	2:F:428:LEU:HD12	2.00	0.43
4:F:2001:GBM:H19	4:F:2001:GBM:H21	1.85	0.43
2:G:253:LEU:HA	2:G:254:PRO:HD3	1.76	0.43
2:G:425:THR:HA	2:G:428:LEU:HD12	2.00	0.43
2:G:438:LEU:HB3	2:G:439:TRP:CE3	2.53	0.43
2:H:438:LEU:HB3	2:H:439:TRP:CE3	2.53	0.43
1:A:130:THR:CG2	1:B:129:VAL:HG12	2.48	0.42
1:B:68:TRP:O	1:B:72:LEU:HG	2.19	0.42
2:F:385:ILE:HG12	2:F:429:MET:CE	2.49	0.42
2:G:66:LEU:HD22	2:G:67:HIS:H	1.84	0.42
2:G:356:TYR:OH	2:G:1269:SER:HB2	2.19	0.42
2:H:66:LEU:HD22	2:H:67:HIS:H	1.83	0.42
2:H:253:LEU:HA	2:H:254:PRO:HD3	1.76	0.42
1:A:314:ARG:HD2	1:D:229:GLU:CD	2.39	0.42
1:B:95:PHE:CE2	2:F:12:SER:O	2.72	0.42
1:C:101:ALA:H	1:C:102:PRO:HD3	1.82	0.42
1:C:144:LEU:O	1:C:148:ILE:HG13	2.18	0.42
2:E:1246:ARG:HA	2:E:1246:ARG:HE	1.79	0.42
2:F:218:LEU:HD12	2:F:218:LEU:O	2.19	0.42
2:H:107:TYR:C	2:H:109:PRO:HD2	2.40	0.42
1:B:229:GLU:CD	1:C:314:ARG:HD2	2.40	0.42
1:C:50:ARG:HH21	1:C:52:GLN:HE22	1.66	0.42
1:C:217:MET:HB3	1:C:238:ILE:HB	2.01	0.42
1:D:181:LEU:HD21	1:D:210:ILE:HD11	2.00	0.42
1:D:188:VAL:HG12	1:D:310:LEU:HB2	2.01	0.42
2:F:245:ILE:CG2	2:F:250:ILE:HD11	2.50	0.42
2:F:441:MET:HG3	2:F:593:LEU:HD13	2.01	0.42
2:G:245:ILE:CG2	2:G:250:ILE:HD11	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1187:ARG:HA	2:G:1307:ILE:HD11	2.01	0.42
2:G:1376:GLY:O	2:G:1550:MET:N	2.40	0.42
2:H:577:PHE:HE2	2:H:1279:GLY:HA2	1.84	0.42
1:A:129:VAL:HG12	1:D:130:THR:CG2	2.48	0.42
1:C:223:THR:CG2	1:C:224:THR:N	2.82	0.42
2:E:233:MET:HE2	2:E:233:MET:HB2	1.94	0.42
2:G:385:ILE:HG12	2:G:429:MET:CE	2.49	0.42
2:H:370:ARG:HG3	2:H:1253:GLU:CB	2.49	0.42
2:H:1192:LEU:O	2:H:1196:THR:OG1	2.23	0.42
1:A:101:ALA:HB3	2:E:13:ALA:HB2	2.01	0.42
1:B:101:ALA:HB3	2:F:13:ALA:HB2	2.01	0.42
1:B:223:THR:CG2	1:B:224:THR:N	2.82	0.42
1:C:68:TRP:O	1:C:72:LEU:HG	2.19	0.42
1:D:217:MET:HB3	1:D:238:ILE:HB	2.02	0.42
2:F:1246:ARG:HA	2:F:1246:ARG:HE	1.79	0.42
2:G:11:HIS:HA	2:G:14:ALA:HB3	2.00	0.42
2:H:217:PHE:CZ	2:H:1239:LEU:HD22	2.55	0.42
2:H:218:LEU:HD12	2:H:218:LEU:O	2.19	0.42
2:H:243:LYS:NZ	2:H:244:PRO:O	2.45	0.42
2:H:1187:ARG:HA	2:H:1307:ILE:HD11	2.01	0.42
1:A:188:VAL:HG12	1:A:310:LEU:HB2	2.01	0.42
1:A:240:MET:HE2	1:A:240:MET:HA	2.00	0.42
2:H:123:TYR:OH	2:H:135:LEU:O	2.29	0.42
1:D:223:THR:CG2	1:D:224:THR:N	2.82	0.42
2:E:107:TYR:C	2:E:109:PRO:HD2	2.40	0.42
2:F:217:PHE:O	2:F:217:PHE:HD2	2.03	0.42
2:G:36:HIS:HB3	2:G:116:ALA:HB2	2.02	0.42
2:H:245:ILE:CG2	2:H:250:ILE:HD11	2.50	0.42
2:H:370:ARG:HD2	2:H:370:ARG:HA	1.73	0.42
1:A:223:THR:CG2	1:A:224:THR:N	2.82	0.42
2:F:107:TYR:C	2:F:109:PRO:HD2	2.40	0.42
2:G:107:TYR:C	2:G:109:PRO:HD2	2.40	0.42
2:H:215:VAL:CB	2:H:249:ALA:O	2.68	0.42
1:C:318:ILE:HD11	1:C:332:LYS:O	2.18	0.42
1:D:50:ARG:HE	1:D:50:ARG:HB3	1.69	0.42
2:E:75:TRP:O	2:E:78:THR:OG1	2.28	0.42
2:E:217:PHE:O	2:E:217:PHE:HD2	2.03	0.42
2:E:217:PHE:CZ	2:E:1239:LEU:HD22	2.55	0.42
2:F:356:TYR:OH	2:F:1269:SER:HB2	2.19	0.42
2:F:1143:LEU:HD13	2:F:1301:ASN:HB2	2.02	0.42
1:A:319:VAL:HG22	1:A:328:VAL:HG22	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:242:ASN:CB	1:B:246:GLY:O	2.68	0.42
1:C:93:ILE:HD12	1:C:148:ILE:HD12	2.02	0.42
1:C:188:VAL:HG12	1:C:310:LEU:HB2	2.01	0.42
2:F:577:PHE:HE2	2:F:1279:GLY:HA2	1.84	0.42
1:A:68:TRP:O	1:A:72:LEU:HG	2.19	0.41
1:A:242:ASN:CB	1:A:246:GLY:O	2.68	0.41
1:C:53:GLY:O	1:C:57:GLN:HG3	2.20	0.41
2:E:141:ILE:HA	2:E:144:THR:HG22	2.01	0.41
2:G:232:TRP:CH2	2:G:233:MET:HE2	2.55	0.41
2:G:577:PHE:HE2	2:G:1279:GLY:HA2	1.84	0.41
2:H:1239:LEU:HD23	2:H:1239:LEU:HA	1.90	0.41
1:B:217:MET:HB3	1:B:238:ILE:HB	2.01	0.41
2:G:215:VAL:CB	2:G:249:ALA:O	2.68	0.41
2:H:30:ALA:HA	2:H:33:VAL:HG23	2.03	0.41
2:H:680:GLN:O	2:H:738:PHE:N	2.42	0.41
2:H:1143:LEU:HD13	2:H:1301:ASN:HB2	2.02	0.41
1:A:53:GLY:O	1:A:57:GLN:HG3	2.20	0.41
1:D:285:VAL:HB	1:D:302:THR:HG22	2.02	0.41
2:E:1143:LEU:HD13	2:E:1301:ASN:HB2	2.02	0.41
2:G:217:PHE:O	2:G:217:PHE:HD2	2.03	0.41
2:G:1143:LEU:HD13	2:G:1301:ASN:HB2	2.02	0.41
1:A:95:PHE:CE2	2:E:12:SER:O	2.73	0.41
1:C:187:ALA:O	1:C:309:ILE:HA	2.20	0.41
1:D:68:TRP:O	1:D:72:LEU:HG	2.20	0.41
1:D:84:LEU:HG	1:D:121:PHE:CE1	2.49	0.41
1:D:93:ILE:HD12	1:D:148:ILE:HD12	2.02	0.41
2:E:245:ILE:CG2	2:E:250:ILE:HD11	2.50	0.41
2:F:36:HIS:HB3	2:F:116:ALA:HB2	2.02	0.41
2:G:217:PHE:CZ	2:G:1239:LEU:HD22	2.55	0.41
2:G:243:LYS:NZ	2:G:244:PRO:O	2.45	0.41
2:H:36:HIS:HB3	2:H:116:ALA:HB2	2.02	0.41
1:B:187:ALA:O	1:B:309:ILE:HA	2.20	0.41
1:C:319:VAL:HG22	1:C:328:VAL:HG22	2.02	0.41
2:F:370:ARG:HG3	2:F:1253:GLU:CG	2.51	0.41
2:G:402:MET:HB2	2:G:1211:LEU:HD21	2.03	0.41
1:A:187:ALA:O	1:A:309:ILE:HA	2.20	0.41
1:B:319:VAL:HG22	1:B:328:VAL:HG22	2.02	0.41
1:C:242:ASN:CB	1:C:246:GLY:O	2.68	0.41
1:C:276:HIS:HA	1:C:306:ALA:HB1	2.03	0.41
1:D:242:ASN:CB	1:D:246:GLY:O	2.68	0.41
2:E:431:PHE:CE1	2:E:600:THR:HG22	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:141:ILE:HA	2:F:144:THR:HG22	2.01	0.41
2:F:186:GLU:O	2:F:190:ILE:HG12	2.20	0.41
2:F:215:VAL:CB	2:F:249:ALA:O	2.68	0.41
2:G:67:HIS:HB3	2:G:71:HIS:CD2	2.56	0.41
2:G:186:GLU:O	2:G:190:ILE:HG12	2.20	0.41
2:G:370:ARG:HD2	2:G:370:ARG:HA	1.73	0.41
1:A:192:ARG:NE	1:A:199:MET:HE1	2.36	0.41
1:A:217:MET:HB3	1:A:238:ILE:HB	2.02	0.41
1:C:312:GLY:HA2	1:C:341:THR:CG2	2.50	0.41
1:D:201:ARG:HH21	1:D:315:PHE:HB3	1.86	0.41
1:D:319:VAL:HG22	1:D:328:VAL:HG22	2.02	0.41
2:E:370:ARG:HG3	2:E:1253:GLU:CG	2.51	0.41
2:F:30:ALA:HA	2:F:33:VAL:HG23	2.02	0.41
1:B:93:ILE:HD12	1:B:148:ILE:HD12	2.02	0.41
1:C:50:ARG:HE	1:C:50:ARG:HB3	1.69	0.41
1:D:53:GLY:O	1:D:57:GLN:HG3	2.20	0.41
2:E:30:ALA:HA	2:E:33:VAL:HG23	2.02	0.41
2:E:215:VAL:CB	2:E:249:ALA:O	2.68	0.41
2:G:370:ARG:HG3	2:G:1253:GLU:CB	2.49	0.41
2:G:550:ILE:HD13	2:G:550:ILE:HA	1.96	0.41
2:H:370:ARG:HG3	2:H:1253:GLU:CG	2.51	0.41
1:A:201:ARG:HH21	1:A:315:PHE:HB3	1.86	0.41
1:A:229:GLU:CD	1:B:314:ARG:HD2	2.41	0.41
1:A:285:VAL:HB	1:A:302:THR:HG22	2.02	0.41
1:A:305:LEU:N	1:A:305:LEU:HD22	2.36	0.41
1:C:101:ALA:HB3	2:G:13:ALA:HB2	2.03	0.41
1:C:305:LEU:N	1:C:305:LEU:HD22	2.36	0.41
1:D:101:ALA:HB3	2:H:13:ALA:HB2	2.02	0.41
2:E:67:HIS:HB3	2:E:71:HIS:CD2	2.56	0.41
2:F:67:HIS:HB3	2:F:71:HIS:CD2	2.56	0.41
2:F:217:PHE:CZ	2:F:1239:LEU:HD22	2.55	0.41
2:F:237:ILE:H	2:F:237:ILE:HG13	1.72	0.41
2:F:253:LEU:HA	2:F:254:PRO:HD3	1.76	0.41
2:G:370:ARG:HG3	2:G:1253:GLU:CG	2.51	0.41
2:G:431:PHE:CE1	2:G:600:THR:HG22	2.50	0.41
4:G:2001:GBM:H19	4:G:2001:GBM:H21	1.85	0.41
2:H:550:ILE:HD13	2:H:550:ILE:HA	1.96	0.41
2:H:1352:VAL:O	2:H:1361:VAL:N	2.44	0.41
1:B:53:GLY:O	1:B:57:GLN:HG3	2.21	0.41
1:B:276:HIS:HA	1:B:306:ALA:HB1	2.03	0.41
1:B:305:LEU:N	1:B:305:LEU:HD22	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:187:ALA:O	1:D:309:ILE:HA	2.20	0.41
2:E:36:HIS:HB3	2:E:116:ALA:HB2	2.02	0.41
2:F:402:MET:HB2	2:F:1211:LEU:HD21	2.03	0.41
1:B:312:GLY:HA2	1:B:341:THR:CG2	2.50	0.40
1:C:192:ARG:NE	1:C:199:MET:HE1	2.37	0.40
1:D:276:HIS:HA	1:D:306:ALA:HB1	2.03	0.40
2:E:1149:LEU:HB3	2:E:1294:TYR:CE2	2.56	0.40
2:G:30:ALA:HA	2:G:33:VAL:HG23	2.02	0.40
2:H:1149:LEU:HB3	2:H:1294:TYR:CE2	2.57	0.40
1:D:305:LEU:HD22	1:D:305:LEU:N	2.36	0.40
2:E:1352:VAL:O	2:E:1361:VAL:N	2.44	0.40
2:F:1460:LEU:O	2:F:1464:VAL:N	2.42	0.40
2:H:306:ARG:NH1	4:H:2001:GBM:CL1	2.91	0.40
2:H:402:MET:HB2	2:H:1211:LEU:HD21	2.03	0.40
1:A:93:ILE:HD12	1:A:148:ILE:HD12	2.02	0.40
1:C:285:VAL:HB	1:C:302:THR:HG22	2.02	0.40
2:E:186:GLU:O	2:E:190:ILE:HG12	2.20	0.40
2:E:306:ARG:NH1	4:E:2001:GBM:CL1	2.91	0.40
2:H:186:GLU:O	2:H:190:ILE:HG12	2.20	0.40
1:B:183:PHE:HE1	1:B:300:ALA:HB1	1.87	0.40
2:G:1149:LEU:HB3	2:G:1294:TYR:CE2	2.56	0.40
2:G:1192:LEU:O	2:G:1196:THR:OG1	2.24	0.40
2:H:67:HIS:HB3	2:H:71:HIS:CD2	2.56	0.40
2:G:367:LEU:HD23	2:G:367:LEU:HA	1.91	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	319/390 (82%)	309 (97%)	10 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	B	319/390 (82%)	309 (97%)	10 (3%)	0	100	100
1	C	319/390 (82%)	309 (97%)	10 (3%)	0	100	100
1	D	319/390 (82%)	309 (97%)	10 (3%)	0	100	100
2	E	1297/1582 (82%)	1241 (96%)	56 (4%)	0	100	100
2	F	1297/1582 (82%)	1241 (96%)	56 (4%)	0	100	100
2	G	1297/1582 (82%)	1241 (96%)	56 (4%)	0	100	100
2	H	1297/1582 (82%)	1241 (96%)	56 (4%)	0	100	100
All	All	6464/7888 (82%)	6200 (96%)	264 (4%)	0	100	100

There are no Ramachandran outliers to report.

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	277/341 (81%)	274 (99%)	3 (1%)	70	81
1	B	277/341 (81%)	274 (99%)	3 (1%)	70	81
1	C	277/341 (81%)	274 (99%)	3 (1%)	70	81
1	D	277/341 (81%)	274 (99%)	3 (1%)	70	81
2	E	614/1373 (45%)	610 (99%)	4 (1%)	81	89
2	F	614/1373 (45%)	610 (99%)	4 (1%)	81	89
2	G	614/1373 (45%)	610 (99%)	4 (1%)	81	89
2	H	614/1373 (45%)	610 (99%)	4 (1%)	81	89
All	All	3564/6856 (52%)	3536 (99%)	28 (1%)	77	87

All (28) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	84	LEU
1	A	95	PHE

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Mol	Chain	Res	Type
1	A	333	PHE
1	B	84	LEU
1	B	95	PHE
1	B	333	PHE
1	C	84	LEU
1	C	95	PHE
1	C	333	PHE
1	D	84	LEU
1	D	95	PHE
1	D	333	PHE
2	E	44	PHE
2	E	222	VAL
2	E	432	PHE
2	E	1249	GLU
2	F	44	PHE
2	F	222	VAL
2	F	432	PHE
2	F	1249	GLU
2	G	44	PHE
2	G	222	VAL
2	G	432	PHE
2	G	1249	GLU
2	H	44	PHE
2	H	222	VAL
2	H	432	PHE
2	H	1249	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (6) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	48	ASN
1	A	186	HIS
1	B	186	HIS
1	C	48	ASN
1	C	186	HIS
1	D	186	HIS

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

8 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	$\#\|Z\| > 2$
4	GBM	F	2001	-	35,35,35	4.80	8 (22%)	48,48,48	1.73	10 (20%)
3	ATP	A	401	-	28,33,33	1.57	4 (14%)	34,52,52	1.82	4 (11%)
3	ATP	D	401	-	28,33,33	1.57	4 (14%)	34,52,52	1.81	4 (11%)
4	GBM	H	2001	-	35,35,35	4.80	8 (22%)	48,48,48	1.73	10 (20%)
4	GBM	G	2001	-	35,35,35	4.80	8 (22%)	48,48,48	1.73	10 (20%)
3	ATP	C	401	-	28,33,33	1.57	4 (14%)	34,52,52	1.81	4 (11%)
3	ATP	B	401	-	28,33,33	1.57	4 (14%)	34,52,52	1.81	4 (11%)
4	GBM	E	2001	-	35,35,35	4.80	8 (22%)	48,48,48	1.73	10 (20%)

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
4	GBM	F	2001	-	-	7/27/35/35	0/3/3/3
3	ATP	A	401	-	-	1/18/38/38	0/3/3/3
3	ATP	D	401	-	-	1/18/38/38	0/3/3/3
4	GBM	H	2001	-	-	7/27/35/35	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	GBM	G	2001	-	-	7/27/35/35	0/3/3/3
3	ATP	C	401	-	-	1/18/38/38	0/3/3/3
3	ATP	B	401	-	-	1/18/38/38	0/3/3/3
4	GBM	E	2001	-	-	7/27/35/35	0/3/3/3

All (48) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	E	2001	GBM	O5-S2	18.96	1.65	1.43
4	F	2001	GBM	O5-S2	18.96	1.65	1.43
4	G	2001	GBM	O5-S2	18.96	1.65	1.43
4	E	2001	GBM	O4-S2	18.94	1.65	1.43
4	F	2001	GBM	O4-S2	18.94	1.65	1.43
4	G	2001	GBM	O4-S2	18.94	1.65	1.43
4	H	2001	GBM	O4-S2	18.94	1.65	1.43
4	H	2001	GBM	O5-S2	18.89	1.65	1.43
3	C	401	ATP	C2-N3	5.41	1.40	1.32
3	B	401	ATP	C2-N3	5.39	1.40	1.32
3	D	401	ATP	C2-N3	5.39	1.40	1.32
3	A	401	ATP	C2-N3	5.37	1.40	1.32
4	E	2001	GBM	C26-N10	5.29	1.45	1.33
4	F	2001	GBM	C26-N10	5.29	1.45	1.33
4	G	2001	GBM	C26-N10	5.29	1.45	1.33
4	H	2001	GBM	C26-N10	5.27	1.45	1.33
4	E	2001	GBM	C18-S2	3.67	1.82	1.76
4	F	2001	GBM	C18-S2	3.67	1.82	1.76
4	G	2001	GBM	C18-S2	3.67	1.82	1.76
4	H	2001	GBM	C18-S2	3.67	1.82	1.76
4	E	2001	GBM	C17-N8	3.57	1.45	1.35
4	F	2001	GBM	C17-N8	3.57	1.45	1.35
4	G	2001	GBM	C17-N8	3.57	1.45	1.35
4	H	2001	GBM	C17-N8	3.57	1.45	1.35
3	D	401	ATP	PA-O3A	-2.69	1.56	1.59
3	A	401	ATP	PA-O3A	-2.68	1.56	1.59
3	B	401	ATP	PA-O3A	-2.68	1.56	1.59
3	C	401	ATP	PA-O3A	-2.68	1.56	1.59
4	H	2001	GBM	S2-N9	2.63	1.70	1.64
4	E	2001	GBM	S2-N9	2.62	1.70	1.64
4	F	2001	GBM	S2-N9	2.62	1.70	1.64
4	G	2001	GBM	S2-N9	2.59	1.70	1.64
4	E	2001	GBM	C17-N9	2.58	1.45	1.39
4	F	2001	GBM	C17-N9	2.58	1.45	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	G	2001	GBM	C17-N9	2.58	1.45	1.39
4	H	2001	GBM	C17-N9	2.58	1.45	1.39
3	A	401	ATP	C4-N3	2.37	1.38	1.35
3	B	401	ATP	C4-N3	2.37	1.38	1.35
3	C	401	ATP	C4-N3	2.32	1.38	1.35
3	D	401	ATP	C4-N3	2.32	1.38	1.35
3	C	401	ATP	C1'-N9	-2.30	1.44	1.49
3	A	401	ATP	C1'-N9	-2.29	1.44	1.49
3	B	401	ATP	C1'-N9	-2.29	1.44	1.49
3	D	401	ATP	C1'-N9	-2.29	1.44	1.49
4	E	2001	GBM	O3-C17	-2.14	1.18	1.23
4	F	2001	GBM	O3-C17	-2.14	1.18	1.23
4	G	2001	GBM	O3-C17	-2.14	1.18	1.23
4	H	2001	GBM	O3-C17	-2.14	1.18	1.23

All (56) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	E	2001	GBM	O5-S2-O4	-7.37	110.57	119.52
4	F	2001	GBM	O5-S2-O4	-7.37	110.57	119.52
4	G	2001	GBM	O5-S2-O4	-7.37	110.57	119.52
4	H	2001	GBM	O5-S2-O4	-7.37	110.57	119.52
3	A	401	ATP	C4-C5-N7	5.59	115.25	109.34
3	C	401	ATP	C4-C5-N7	5.56	115.21	109.34
3	B	401	ATP	C4-C5-N7	5.53	115.18	109.34
3	D	401	ATP	C4-C5-N7	5.51	115.16	109.34
3	A	401	ATP	C1'-N9-C4	-4.92	118.00	126.64
3	B	401	ATP	C1'-N9-C4	-4.92	118.00	126.64
3	D	401	ATP	C1'-N9-C4	-4.92	118.00	126.64
3	C	401	ATP	C1'-N9-C4	-4.90	118.03	126.64
3	A	401	ATP	O4'-C1'-N9	-3.78	103.74	108.75
3	D	401	ATP	O4'-C1'-N9	-3.76	103.75	108.75
3	B	401	ATP	O4'-C1'-N9	-3.75	103.77	108.75
3	C	401	ATP	O4'-C1'-N9	-3.73	103.81	108.75
4	E	2001	GBM	C17-N9-S2	-3.16	114.79	123.55
4	F	2001	GBM	C17-N9-S2	-3.16	114.79	123.55
4	G	2001	GBM	C17-N9-S2	-3.15	114.82	123.55
4	H	2001	GBM	C17-N9-S2	-3.15	114.83	123.55
4	E	2001	GBM	C28-C27-C26	-3.10	120.65	126.24
4	F	2001	GBM	C28-C27-C26	-3.10	120.65	126.24
4	G	2001	GBM	C28-C27-C26	-3.10	120.65	126.24
4	H	2001	GBM	C28-C27-C26	-3.10	120.65	126.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	E	2001	GBM	C33-O7-C28	-2.86	113.31	117.51
4	F	2001	GBM	C33-O7-C28	-2.86	113.31	117.51
4	G	2001	GBM	C33-O7-C28	-2.86	113.31	117.51
4	H	2001	GBM	C33-O7-C28	-2.86	113.31	117.51
3	A	401	ATP	O2A-PA-O1A	2.70	125.00	112.44
3	B	401	ATP	O2A-PA-O1A	2.69	124.97	112.44
3	C	401	ATP	O2A-PA-O1A	2.69	124.97	112.44
3	D	401	ATP	O2A-PA-O1A	2.69	124.97	112.44
4	F	2001	GBM	O7-C28-C30	-2.56	119.98	124.30
4	G	2001	GBM	O7-C28-C30	-2.56	119.98	124.30
4	H	2001	GBM	O7-C28-C30	-2.56	119.98	124.30
4	E	2001	GBM	O7-C28-C30	-2.55	120.01	124.30
4	F	2001	GBM	O7-C28-C27	2.40	120.04	116.55
4	G	2001	GBM	O7-C28-C27	2.40	120.04	116.55
4	H	2001	GBM	O7-C28-C27	2.40	120.04	116.55
4	E	2001	GBM	O7-C28-C27	2.37	120.00	116.55
4	E	2001	GBM	C11-N8-C17	-2.28	118.00	122.92
4	F	2001	GBM	C11-N8-C17	-2.28	118.00	122.92
4	G	2001	GBM	C11-N8-C17	-2.28	118.00	122.92
4	H	2001	GBM	C11-N8-C17	-2.28	118.00	122.92
4	E	2001	GBM	O4-S2-C18	2.27	110.84	107.98
4	F	2001	GBM	O4-S2-C18	2.27	110.84	107.98
4	G	2001	GBM	O4-S2-C18	2.27	110.84	107.98
4	H	2001	GBM	O4-S2-C18	2.27	110.84	107.98
4	H	2001	GBM	C25-N10-C26	-2.23	117.06	122.11
4	E	2001	GBM	C25-N10-C26	-2.23	117.06	122.11
4	F	2001	GBM	C25-N10-C26	-2.23	117.06	122.11
4	G	2001	GBM	C25-N10-C26	-2.23	117.06	122.11
4	H	2001	GBM	O3-C17-N9	-2.05	117.91	121.83
4	E	2001	GBM	O3-C17-N9	-2.03	117.95	121.83
4	F	2001	GBM	O3-C17-N9	-2.03	117.95	121.83
4	G	2001	GBM	O3-C17-N9	-2.03	117.95	121.83

There are no chirality outliers.

All (32) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	401	ATP	C5'-O5'-PA-O2A
3	B	401	ATP	C5'-O5'-PA-O2A
3	C	401	ATP	C5'-O5'-PA-O2A
3	D	401	ATP	C5'-O5'-PA-O2A
4	E	2001	GBM	C19-C20-C25-N10

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
4	F	2001	GBM	C19-C20-C25-N10
4	G	2001	GBM	C19-C20-C25-N10
4	H	2001	GBM	C19-C20-C25-N10
4	E	2001	GBM	C27-C28-O7-C33
4	F	2001	GBM	C27-C28-O7-C33
4	G	2001	GBM	C27-C28-O7-C33
4	H	2001	GBM	C27-C28-O7-C33
4	E	2001	GBM	C30-C28-O7-C33
4	F	2001	GBM	C30-C28-O7-C33
4	G	2001	GBM	C30-C28-O7-C33
4	H	2001	GBM	C30-C28-O7-C33
4	E	2001	GBM	C23-C19-C20-C25
4	E	2001	GBM	C24-C19-C20-C25
4	F	2001	GBM	C23-C19-C20-C25
4	F	2001	GBM	C24-C19-C20-C25
4	G	2001	GBM	C23-C19-C20-C25
4	H	2001	GBM	C23-C19-C20-C25
4	H	2001	GBM	C24-C19-C20-C25
4	G	2001	GBM	C24-C19-C20-C25
4	E	2001	GBM	C12-C11-N8-C17
4	F	2001	GBM	C12-C11-N8-C17
4	G	2001	GBM	C12-C11-N8-C17
4	H	2001	GBM	C12-C11-N8-C17
4	E	2001	GBM	C13-C11-N8-C17
4	F	2001	GBM	C13-C11-N8-C17
4	G	2001	GBM	C13-C11-N8-C17
4	H	2001	GBM	C13-C11-N8-C17

There are no ring outliers.

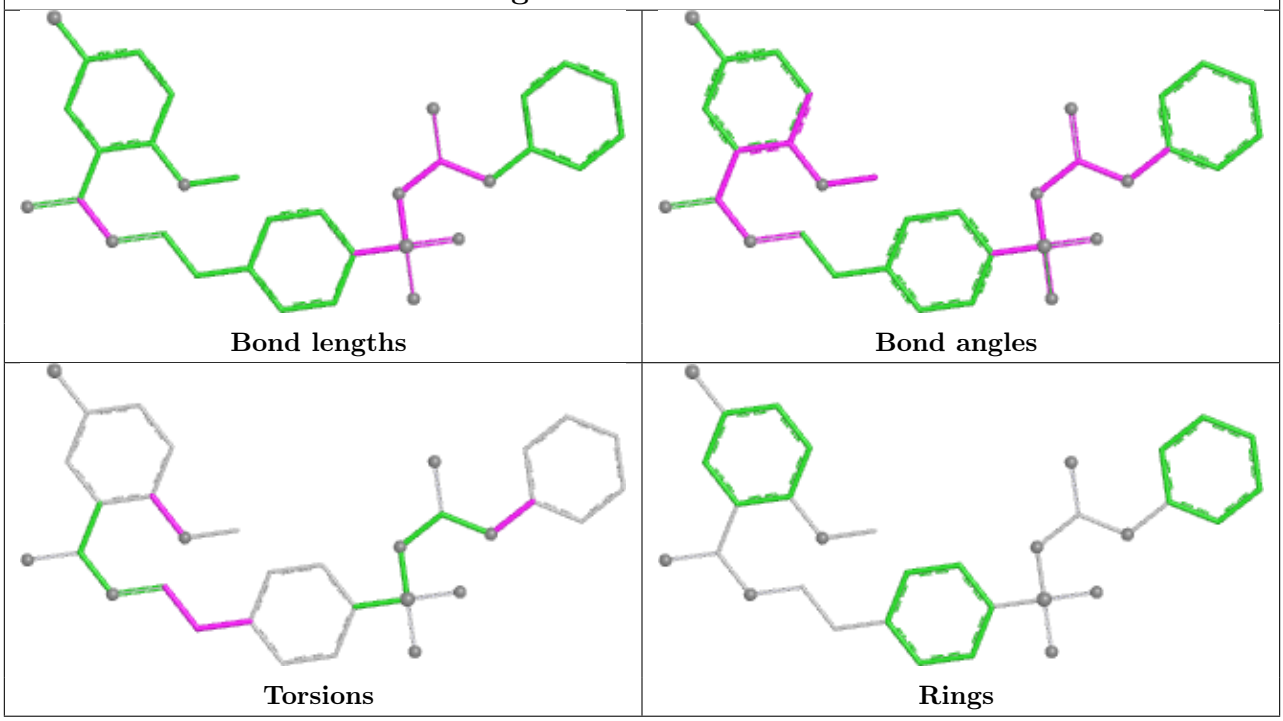
8 monomers are involved in 61 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	F	2001	GBM	11	0
3	A	401	ATP	4	0
3	D	401	ATP	4	0
4	H	2001	GBM	11	0
4	G	2001	GBM	11	0
3	C	401	ATP	4	0
3	B	401	ATP	4	0
4	E	2001	GBM	12	0

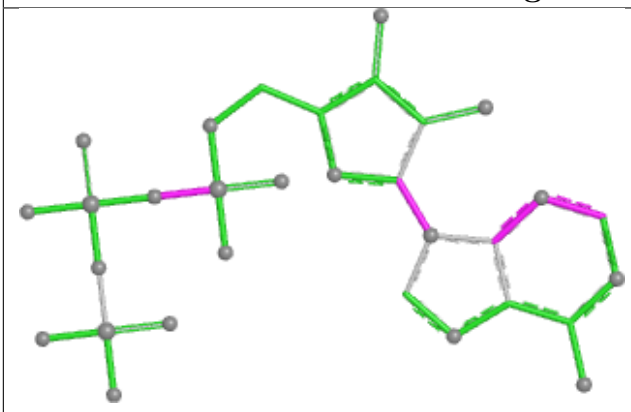
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths,

bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

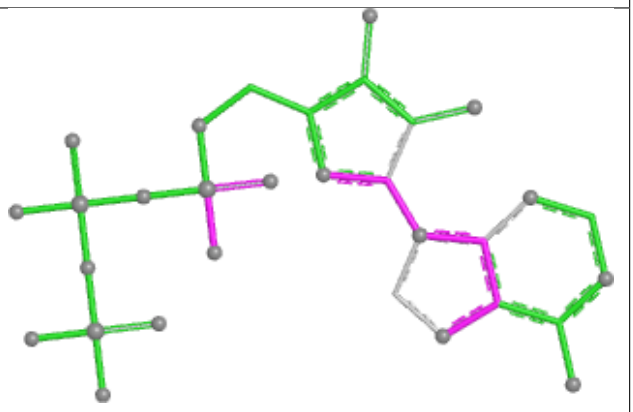
Ligand GBM F 2001



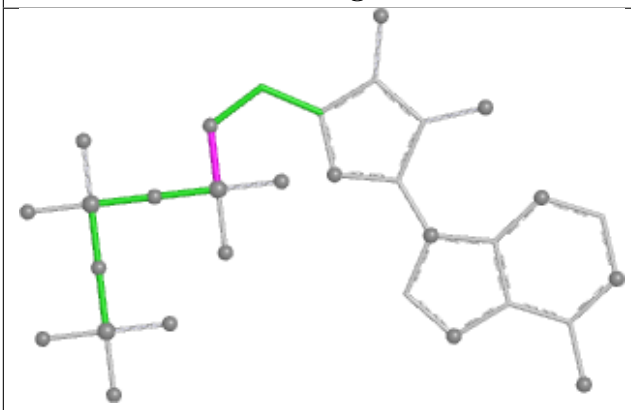
Ligand ATP A 401



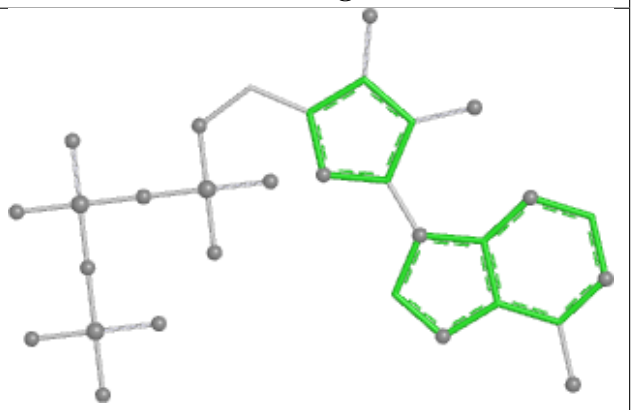
Bond lengths



Bond angles

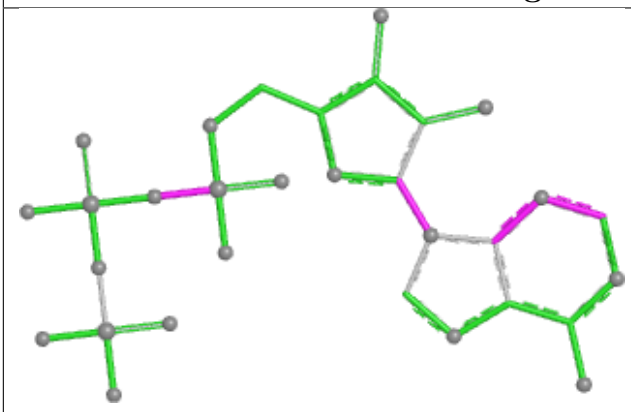


Torsions

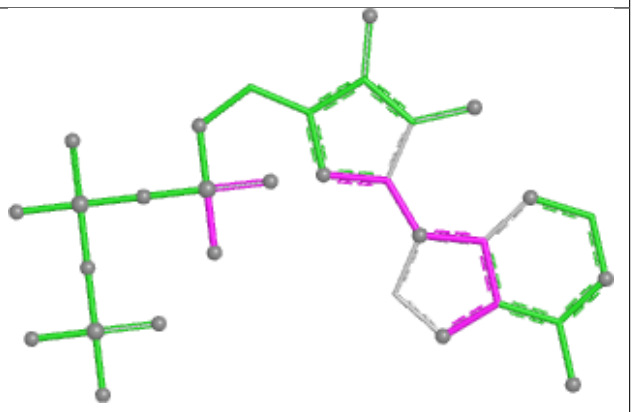


Rings

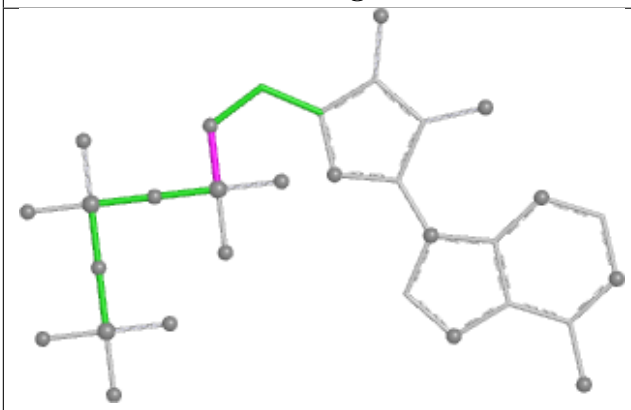
Ligand ATP D 401



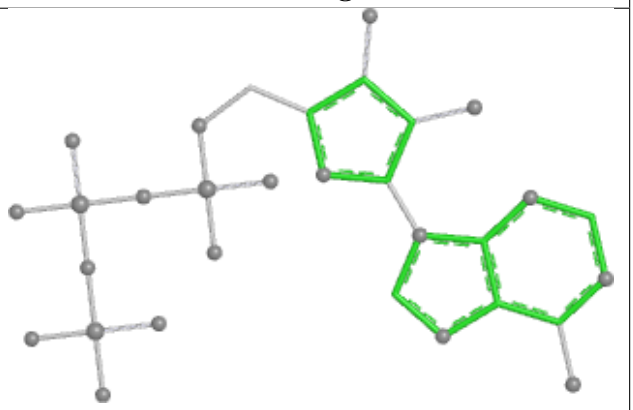
Bond lengths



Bond angles

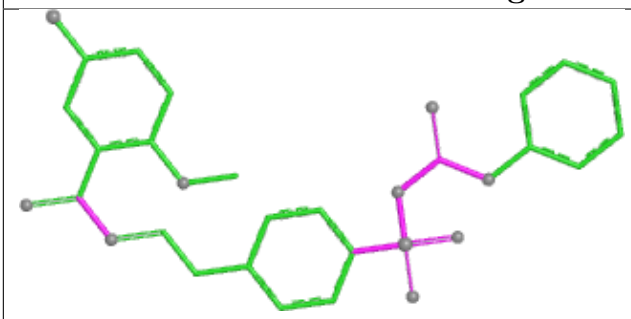


Torsions

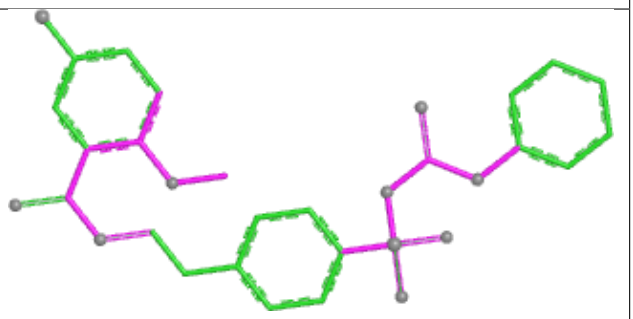


Rings

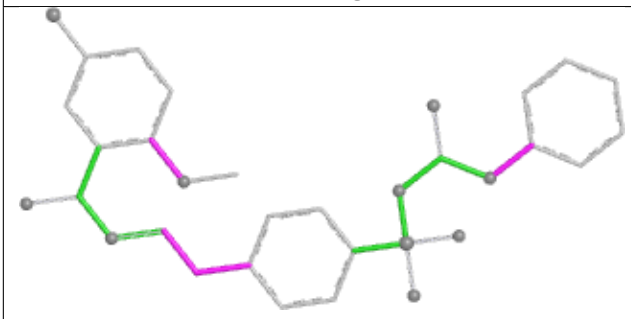
Ligand GBM H 2001



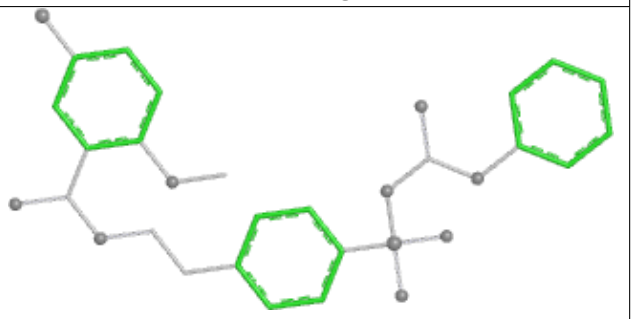
Bond lengths



Bond angles

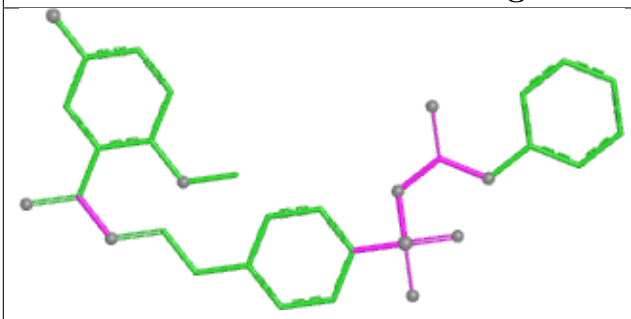


Torsions

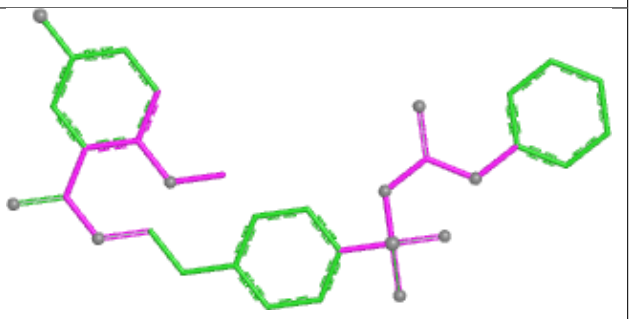


Rings

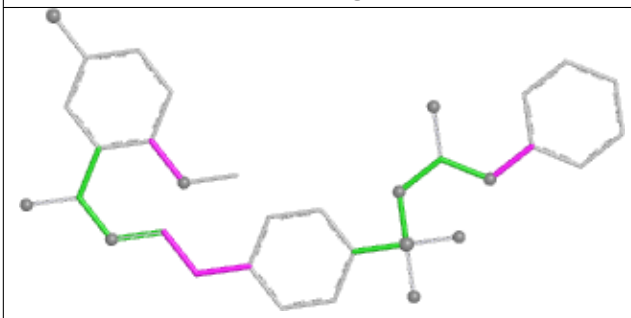
Ligand GBM G 2001



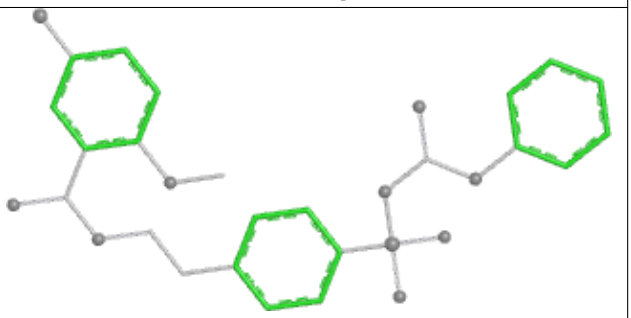
Bond lengths



Bond angles

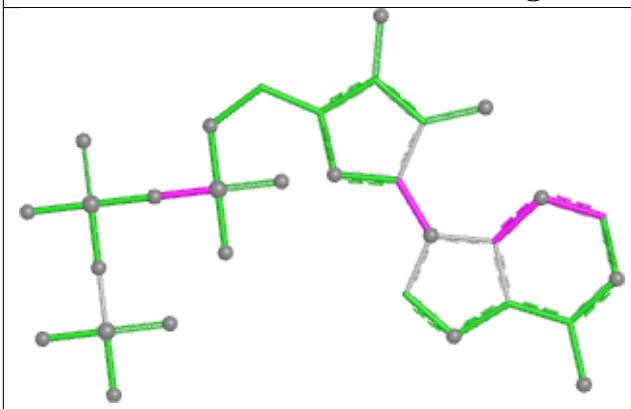


Torsions

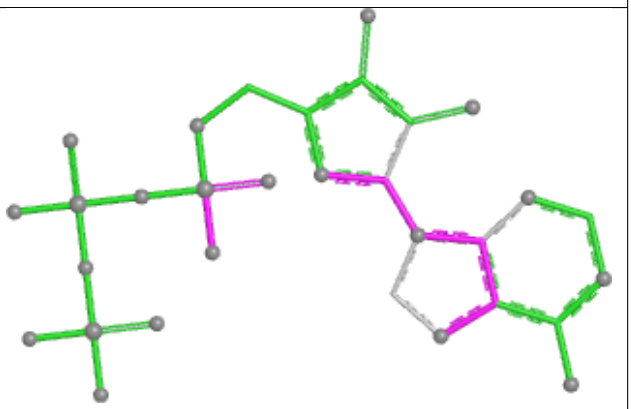


Rings

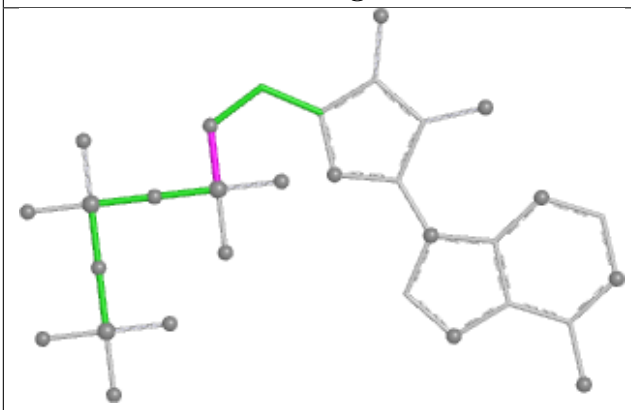
Ligand ATP C 401



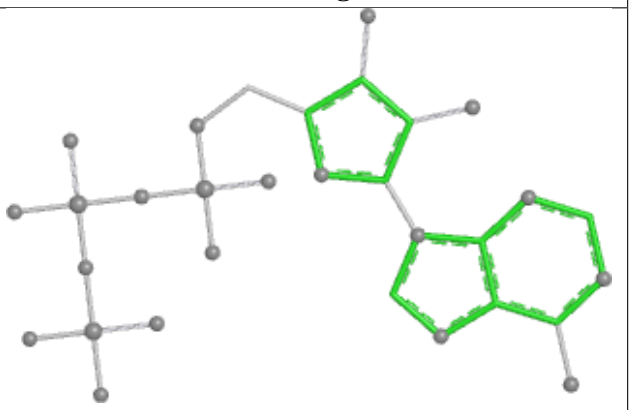
Bond lengths



Bond angles

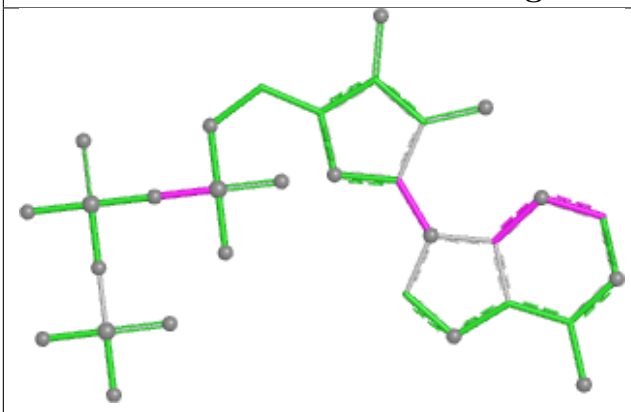


Torsions

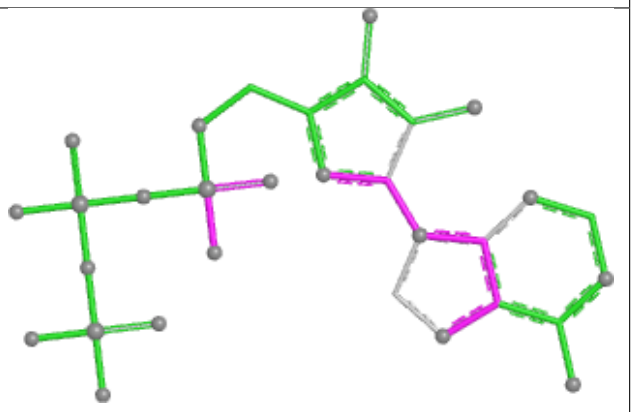


Rings

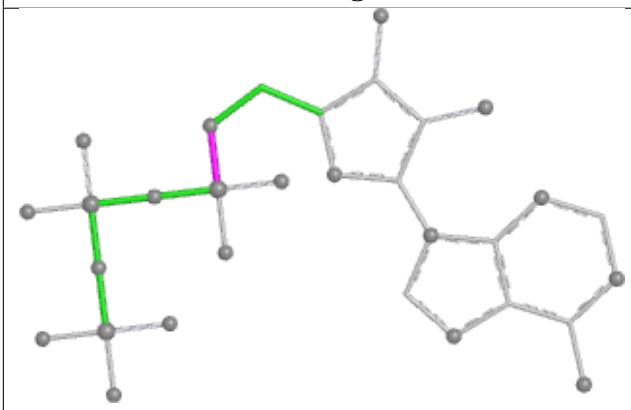
Ligand ATP B 401



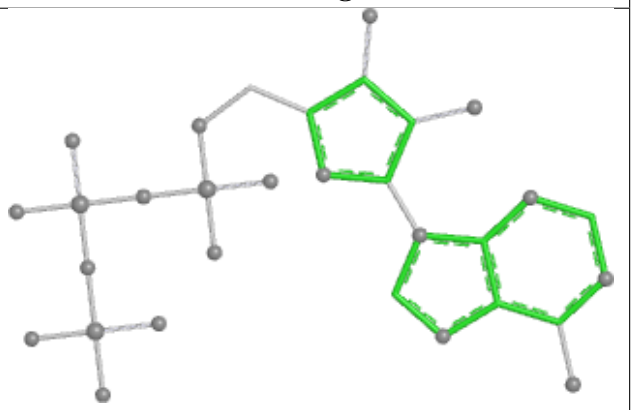
Bond lengths



Bond angles

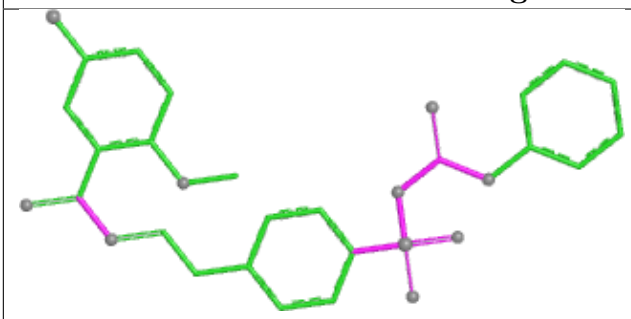


Torsions

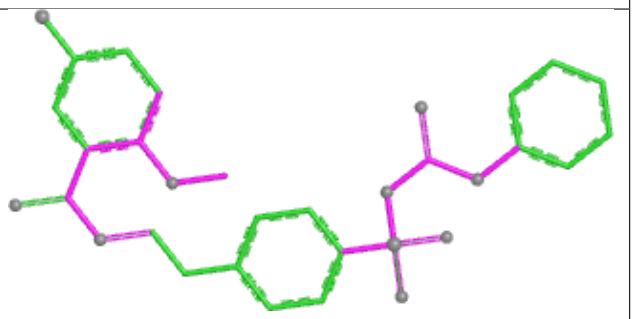


Rings

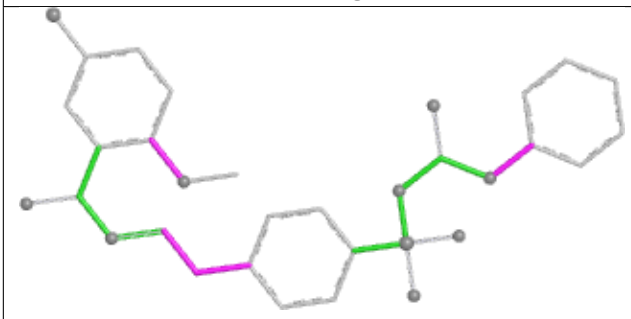
Ligand GBM E 2001



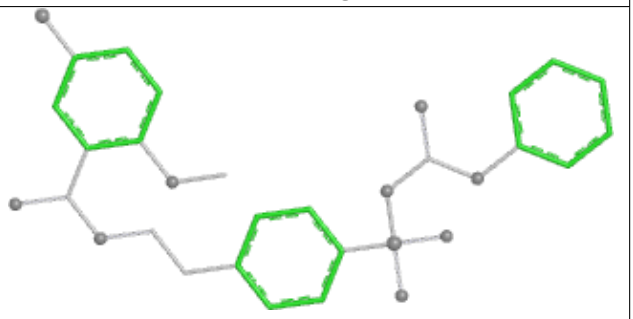
Bond lengths



Bond angles



Torsions



Rings

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.

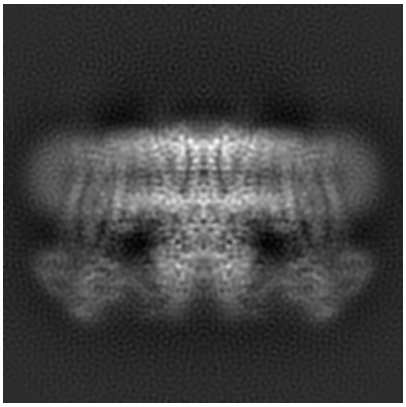
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-7073. These allow visual inspection of the internal detail of the map and identification of artifacts.

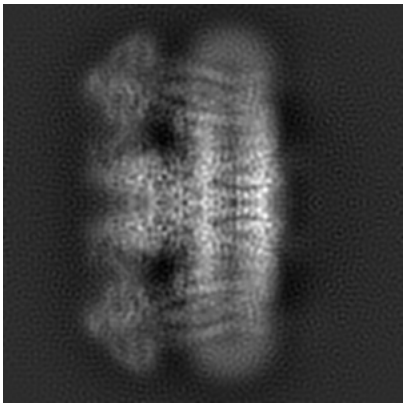
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

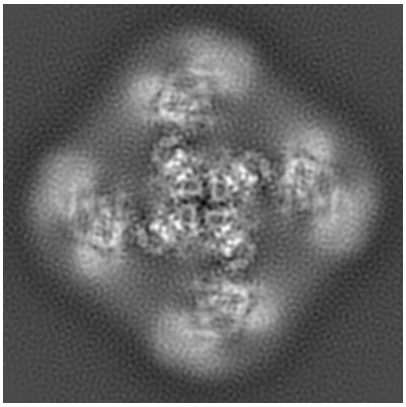
6.1.1 Primary map



X



Y

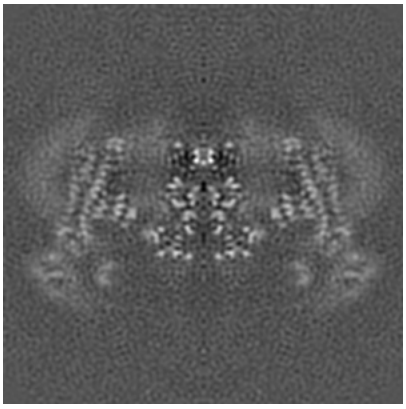


Z

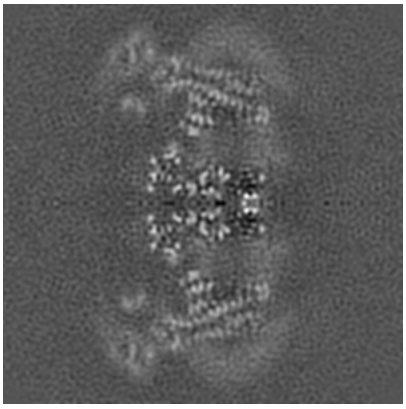
The images above show the map projected in three orthogonal directions.

6.2 Central slices

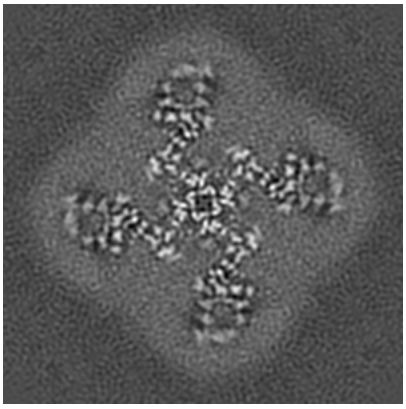
6.2.1 Primary map



X Index: 150



Y Index: 150

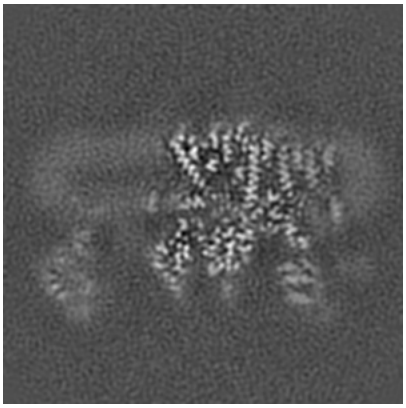


Z Index: 150

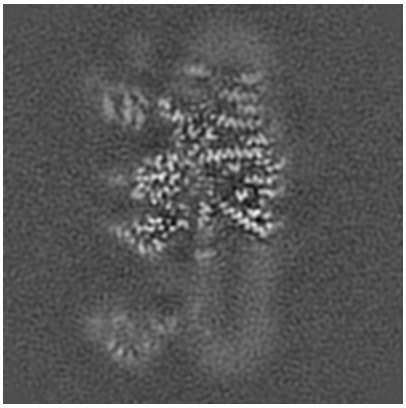
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

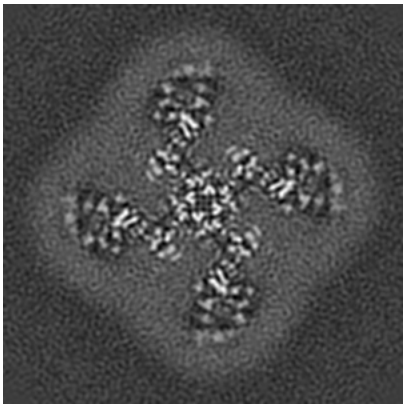
6.3.1 Primary map



X Index: 132



Y Index: 168

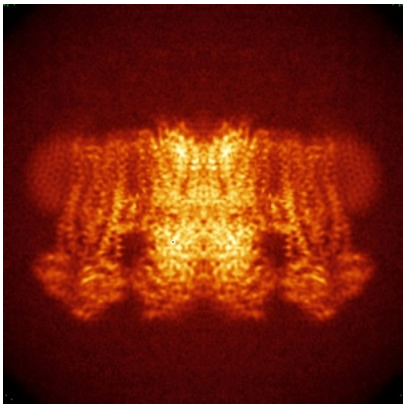


Z Index: 151

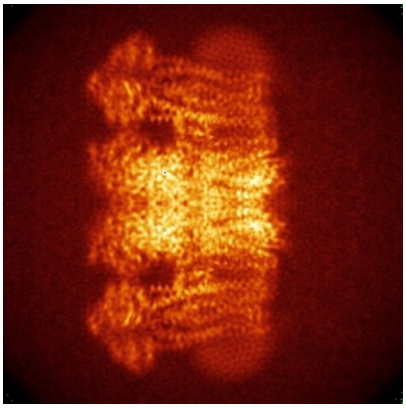
The images above show the largest variance slices of the map in three orthogonal directions.

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

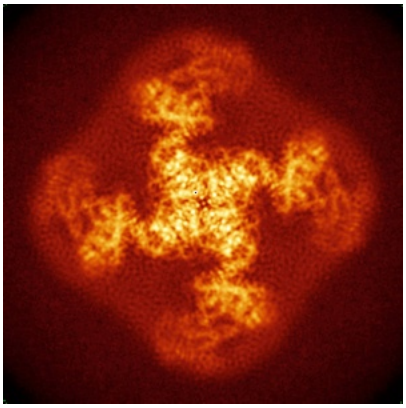
6.4.1 Primary map



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 5.0. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

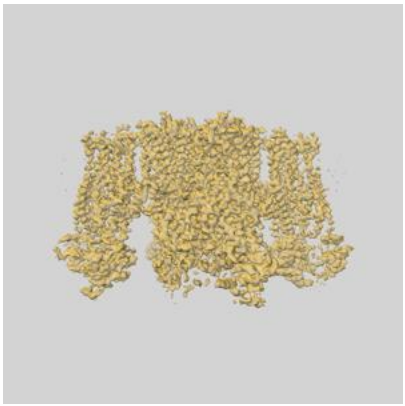
6.6 Mask visualisation (i)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

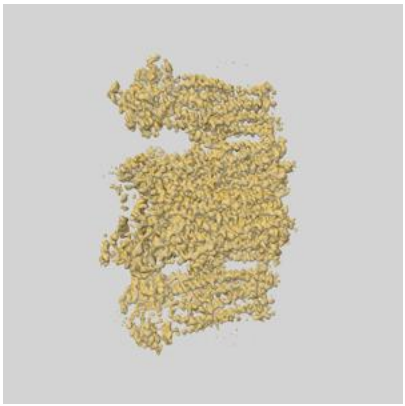
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

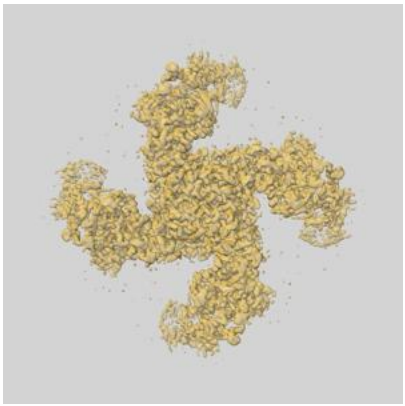
6.6.1 emd_7073_msk_1.map (i)



X



Y

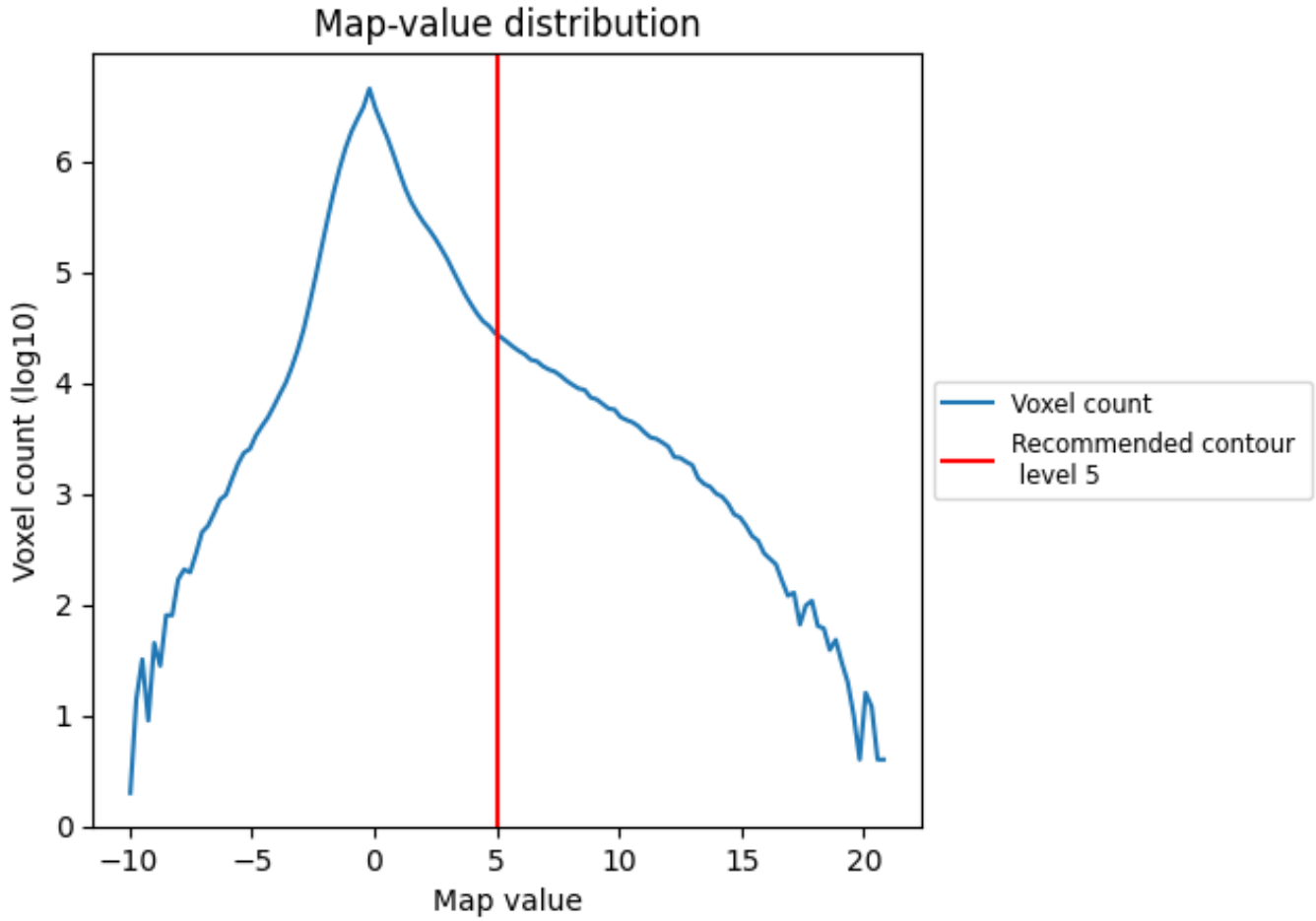


Z

7 Map analysis

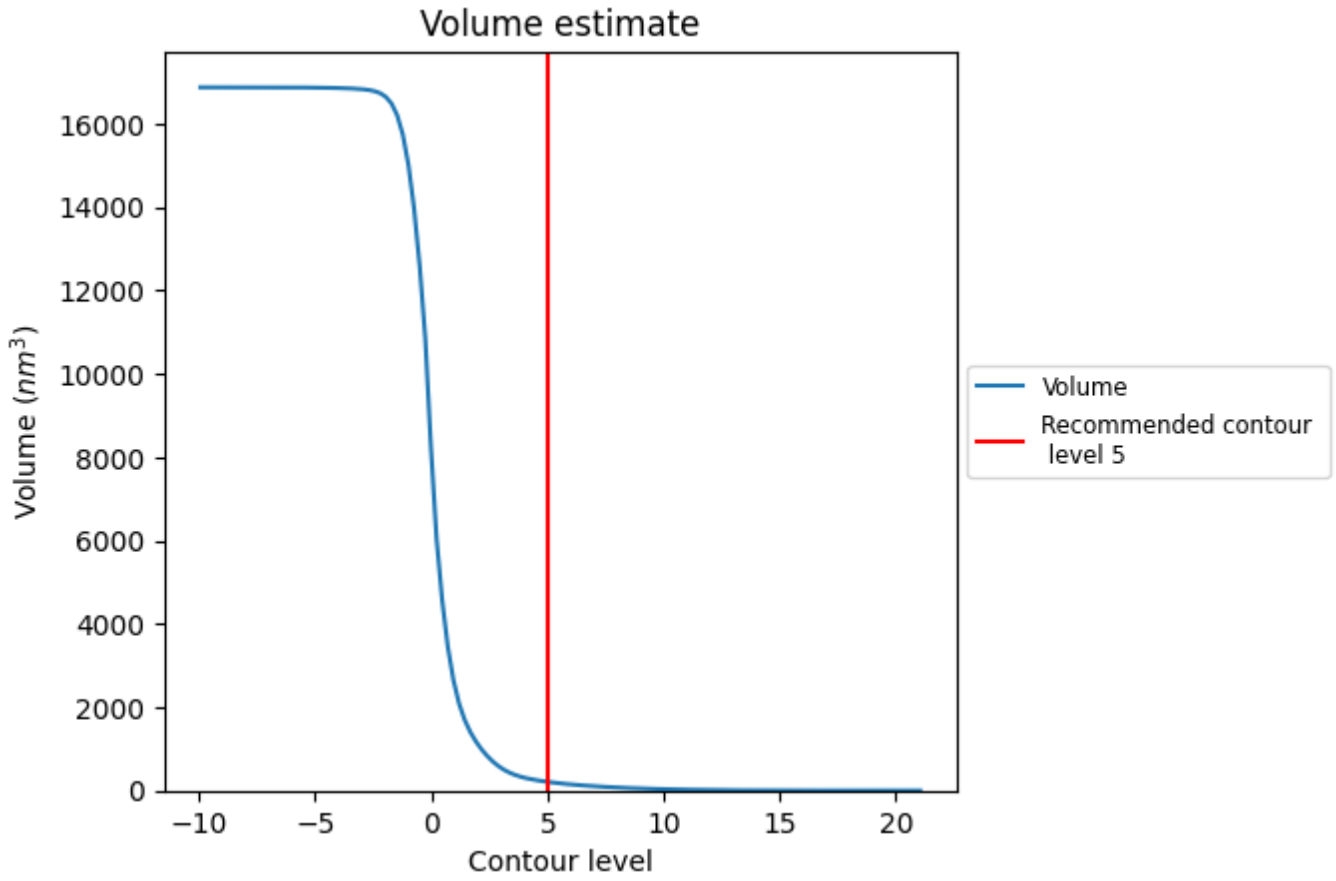
This section contains the results of statistical analysis of the map.

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.

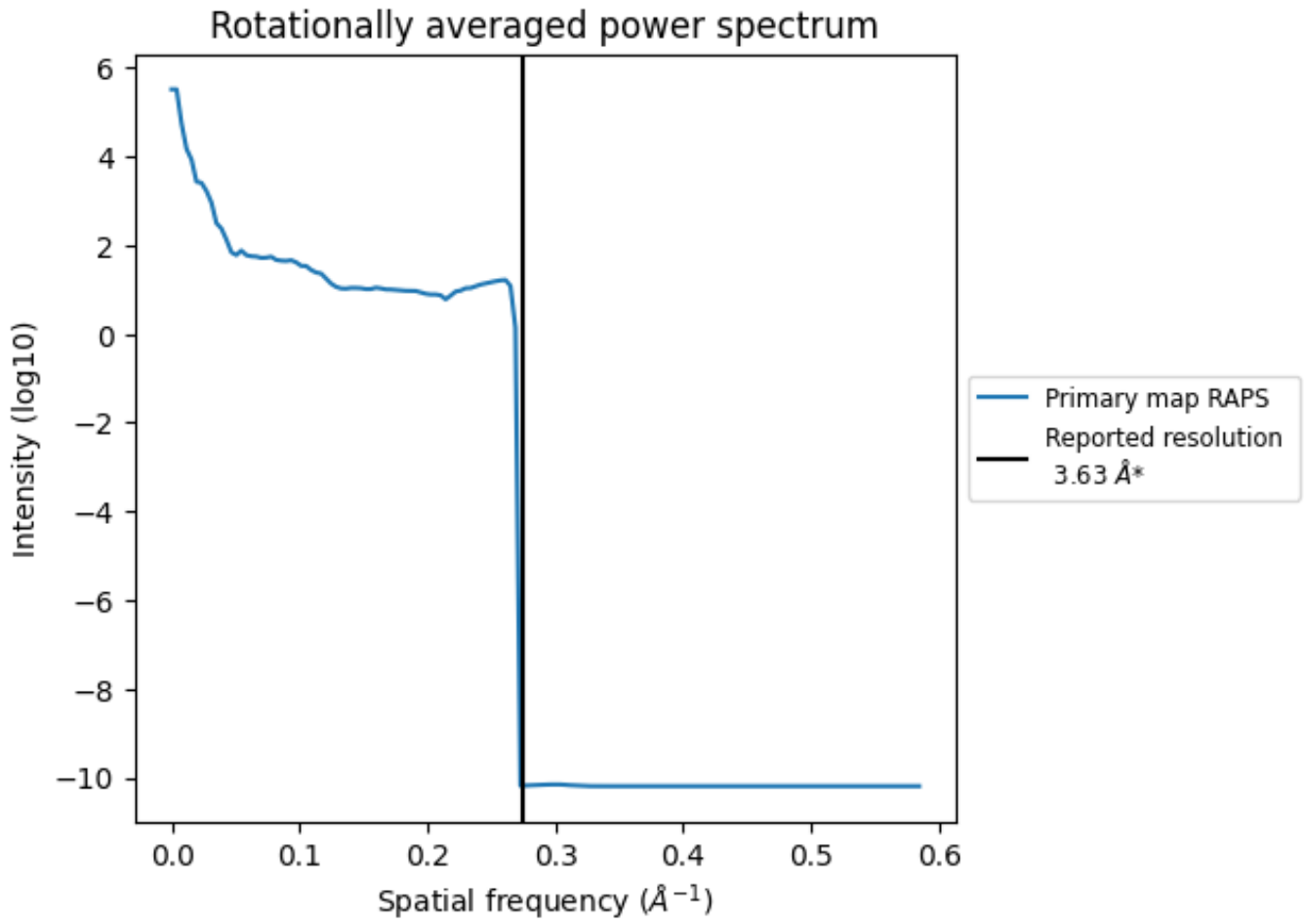
7.2 Volume estimate



The volume at the recommended contour level is 209 nm^3; this corresponds to an approximate mass of 189 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 0.275 Å^{-1}

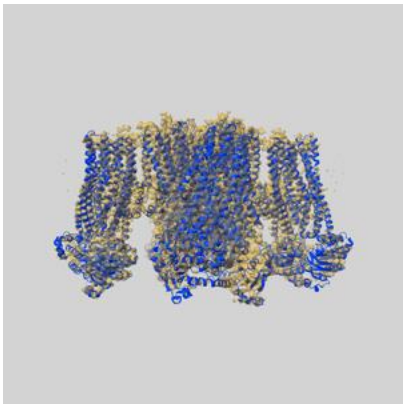
8 Fourier-Shell correlation (i)

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

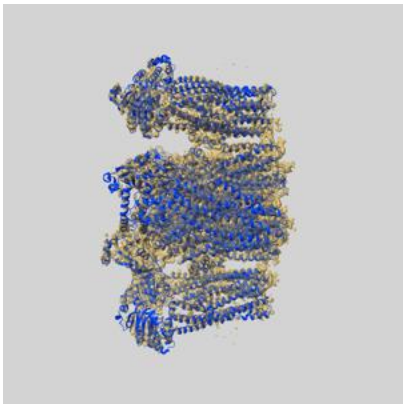
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-7073 and PDB model 6BAA. Per-residue inclusion information can be found in section 3 on page 6.

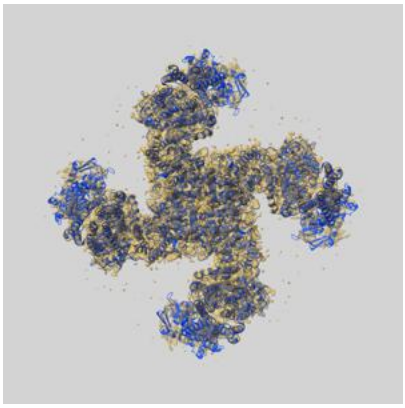
9.1 Map-model overlay



X



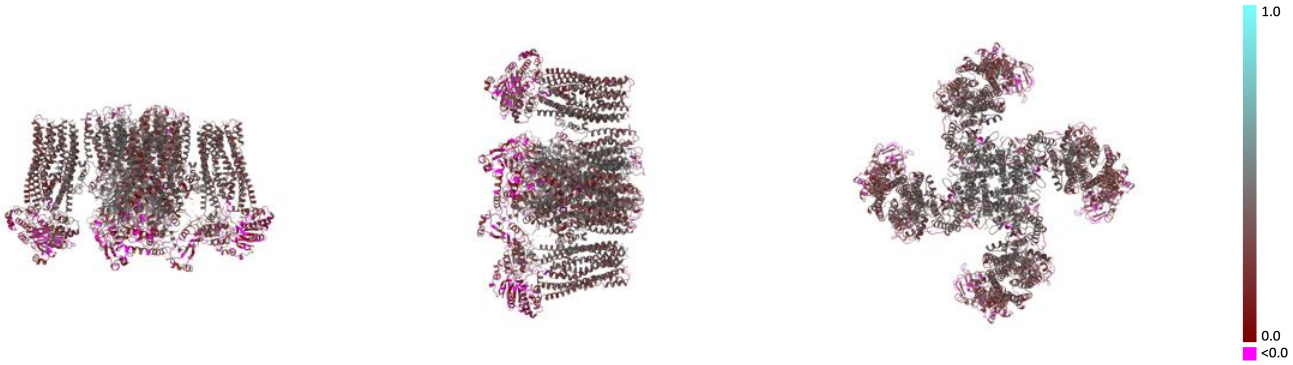
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 5.0 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.

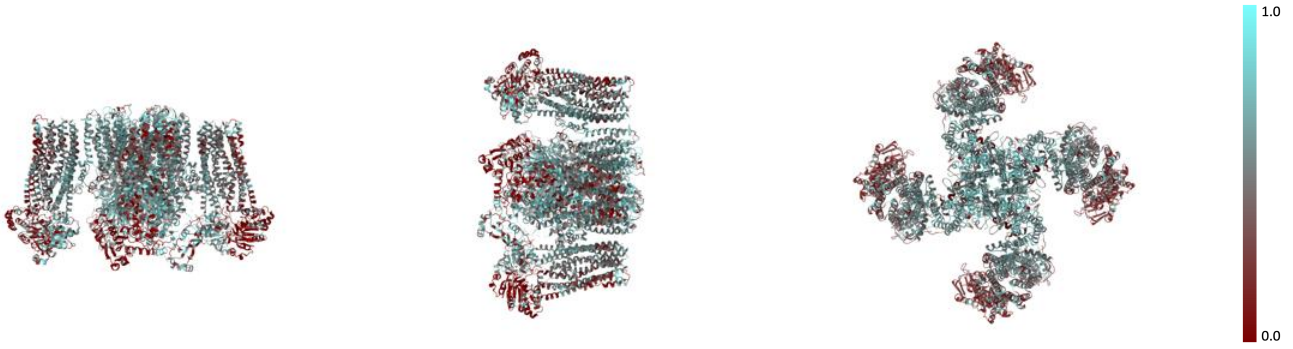
9.2 Q-score mapped to coordinate model (i)



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.

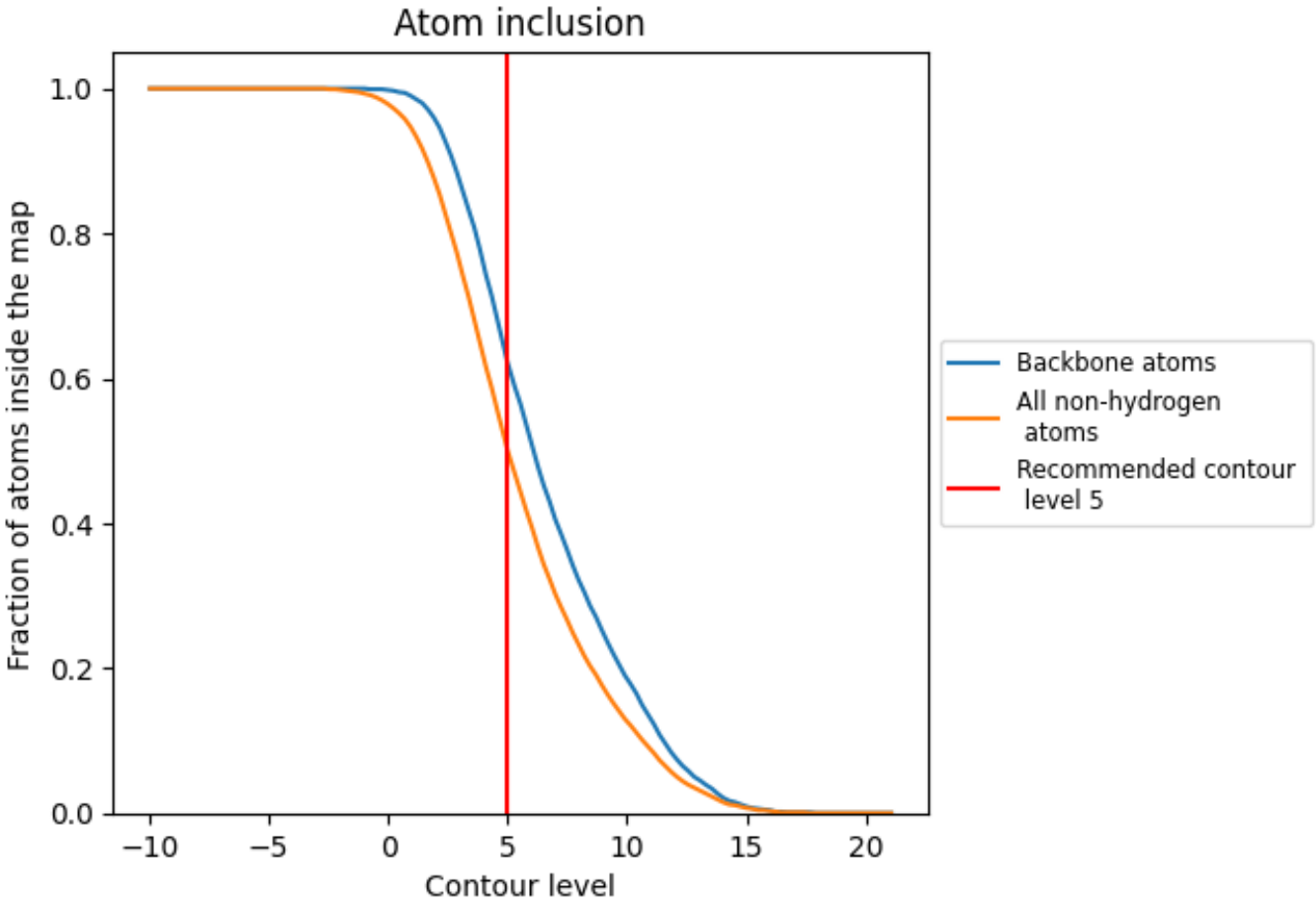
9.3 Atom inclusion mapped to coordinate model (i)



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 (5).

9.4 Atom inclusion (i)



At the recommended contour level, 62% of all backbone atoms, 50% 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 (5) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.5010	0.3250
A	0.6720	0.4340
B	0.6720	0.4340
C	0.6720	0.4340
D	0.6710	0.4340
E	0.4520	0.2930
F	0.4520	0.2940
G	0.4520	0.2940
H	0.4520	0.2930