Full wwPDB EM Validation Report ⓘ

Jul 9, 2024 – 09:34 pm BST

PDB ID	:	7YXX
EMDB ID	:	EMD-14368
Title	:	Cryo-EM structure of USP9X
Authors	:	Deme, J.C.; Halabelian, L.; Arrowsmith, C.H.; Lea, S.M.; Structural Genomics Consortium (SGC)
Deposited on	:	2022-02-16
Resolution	:	3.30 Å(reported)

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

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

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

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

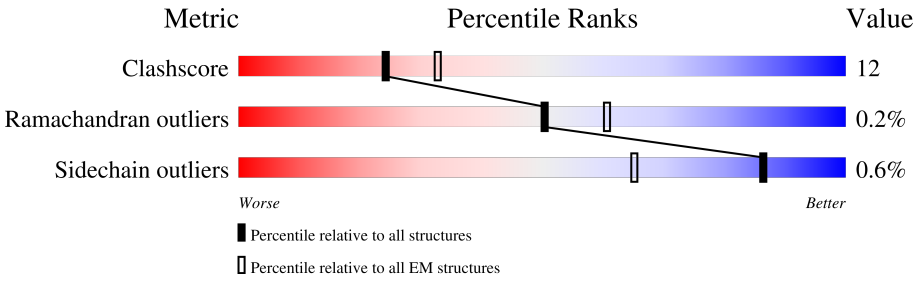
EMDB validation analysis	:	0.0.1.dev92
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.37.1

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.30 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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	2579	22% 49% 18% 32%
1	B	2579	33% 50% 18% 32%
1	C	2579	34% 48% 19% 32%

2 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 42357 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 Probable ubiquitin carboxyl-terminal hydrolase FAF-X.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	1754	Total	C	N	O	S	1	0
			14155	9062	2426	2571	96		
1	B	1754	Total	C	N	O	S	1	0
			14155	9062	2426	2571	96		
1	C	1741	Total	C	N	O	S	1	0
			14047	8997	2407	2547	96		

There are 75 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-17	MET	-	initiating methionine	UNP Q93008
A	-16	HIS	-	expression tag	UNP Q93008
A	-15	HIS	-	expression tag	UNP Q93008
A	-14	HIS	-	expression tag	UNP Q93008
A	-13	HIS	-	expression tag	UNP Q93008
A	-12	HIS	-	expression tag	UNP Q93008
A	-11	HIS	-	expression tag	UNP Q93008
A	-10	SER	-	expression tag	UNP Q93008
A	-9	SER	-	expression tag	UNP Q93008
A	-8	GLY	-	expression tag	UNP Q93008
A	-7	ARG	-	expression tag	UNP Q93008
A	-6	GLU	-	expression tag	UNP Q93008
A	-5	ASN	-	expression tag	UNP Q93008
A	-4	LEU	-	expression tag	UNP Q93008
A	-3	TYR	-	expression tag	UNP Q93008
A	-2	PHE	-	expression tag	UNP Q93008
A	-1	GLN	-	expression tag	UNP Q93008
A	0	GLY	-	expression tag	UNP Q93008
A	2555	ASP	-	expression tag	UNP Q93008
A	2556	TYR	-	expression tag	UNP Q93008
A	2557	LYS	-	expression tag	UNP Q93008
A	2558	ASP	-	expression tag	UNP Q93008
A	2559	ASP	-	expression tag	UNP Q93008
A	2560	ASP	-	expression tag	UNP Q93008

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Chain	Residue	Modelled	Actual	Comment	Reference
A	2561	LYS	-	expression tag	UNP Q93008
B	-17	MET	-	initiating methionine	UNP Q93008
B	-16	HIS	-	expression tag	UNP Q93008
B	-15	HIS	-	expression tag	UNP Q93008
B	-14	HIS	-	expression tag	UNP Q93008
B	-13	HIS	-	expression tag	UNP Q93008
B	-12	HIS	-	expression tag	UNP Q93008
B	-11	HIS	-	expression tag	UNP Q93008
B	-10	SER	-	expression tag	UNP Q93008
B	-9	SER	-	expression tag	UNP Q93008
B	-8	GLY	-	expression tag	UNP Q93008
B	-7	ARG	-	expression tag	UNP Q93008
B	-6	GLU	-	expression tag	UNP Q93008
B	-5	ASN	-	expression tag	UNP Q93008
B	-4	LEU	-	expression tag	UNP Q93008
B	-3	TYR	-	expression tag	UNP Q93008
B	-2	PHE	-	expression tag	UNP Q93008
B	-1	GLN	-	expression tag	UNP Q93008
B	0	GLY	-	expression tag	UNP Q93008
B	2555	ASP	-	expression tag	UNP Q93008
B	2556	TYR	-	expression tag	UNP Q93008
B	2557	LYS	-	expression tag	UNP Q93008
B	2558	ASP	-	expression tag	UNP Q93008
B	2559	ASP	-	expression tag	UNP Q93008
B	2560	ASP	-	expression tag	UNP Q93008
B	2561	LYS	-	expression tag	UNP Q93008
C	-17	MET	-	initiating methionine	UNP Q93008
C	-16	HIS	-	expression tag	UNP Q93008
C	-15	HIS	-	expression tag	UNP Q93008
C	-14	HIS	-	expression tag	UNP Q93008
C	-13	HIS	-	expression tag	UNP Q93008
C	-12	HIS	-	expression tag	UNP Q93008
C	-11	HIS	-	expression tag	UNP Q93008
C	-10	SER	-	expression tag	UNP Q93008
C	-9	SER	-	expression tag	UNP Q93008
C	-8	GLY	-	expression tag	UNP Q93008
C	-7	ARG	-	expression tag	UNP Q93008
C	-6	GLU	-	expression tag	UNP Q93008
C	-5	ASN	-	expression tag	UNP Q93008
C	-4	LEU	-	expression tag	UNP Q93008
C	-3	TYR	-	expression tag	UNP Q93008
C	-2	PHE	-	expression tag	UNP Q93008

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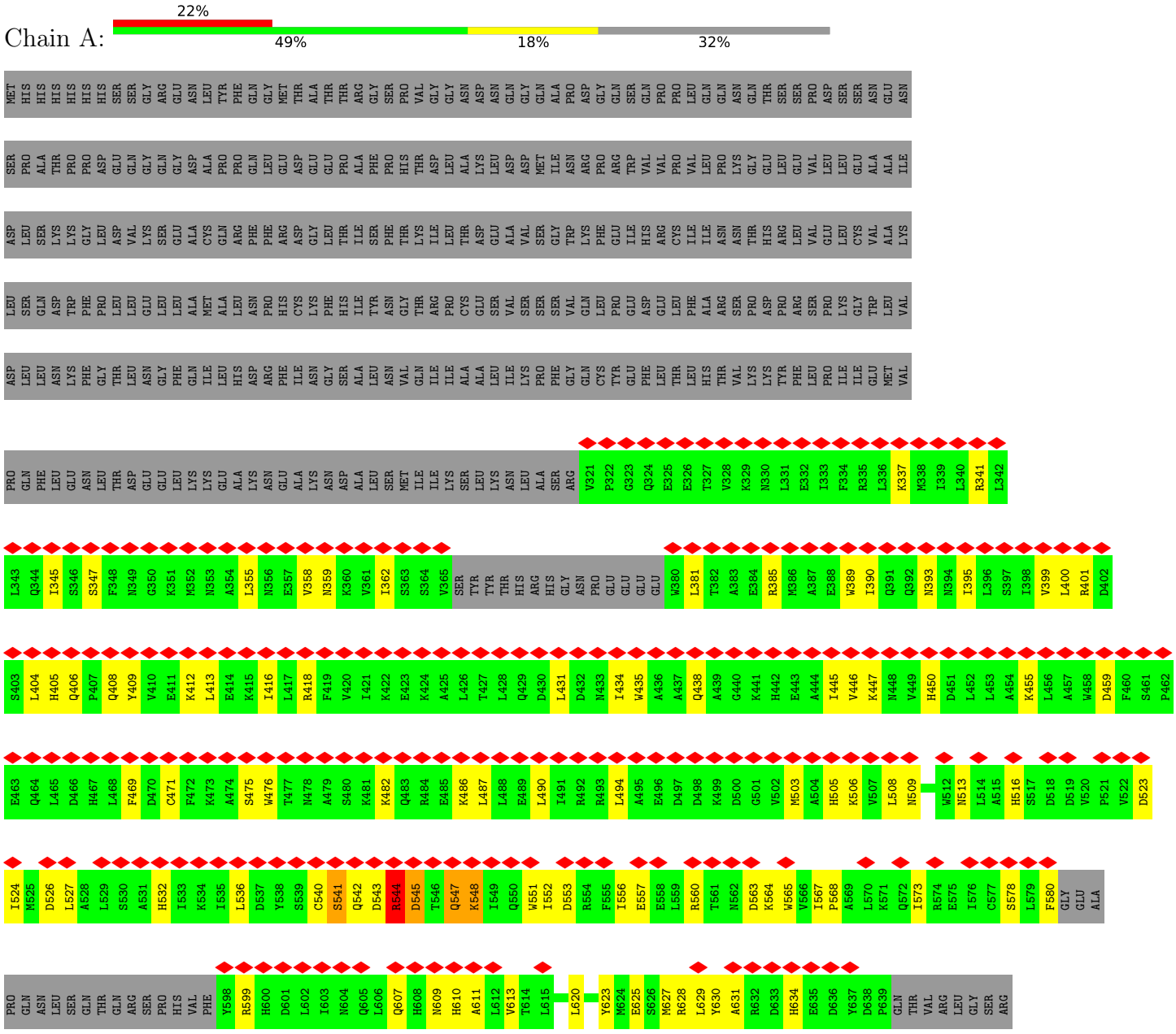
Chain	Residue	Modelled	Actual	Comment	Reference
C	-1	GLN	-	expression tag	UNP Q93008
C	0	GLY	-	expression tag	UNP Q93008
C	2555	ASP	-	expression tag	UNP Q93008
C	2556	TYR	-	expression tag	UNP Q93008
C	2557	LYS	-	expression tag	UNP Q93008
C	2558	ASP	-	expression tag	UNP Q93008
C	2559	ASP	-	expression tag	UNP Q93008
C	2560	ASP	-	expression tag	UNP Q93008
C	2561	LYS	-	expression tag	UNP Q93008

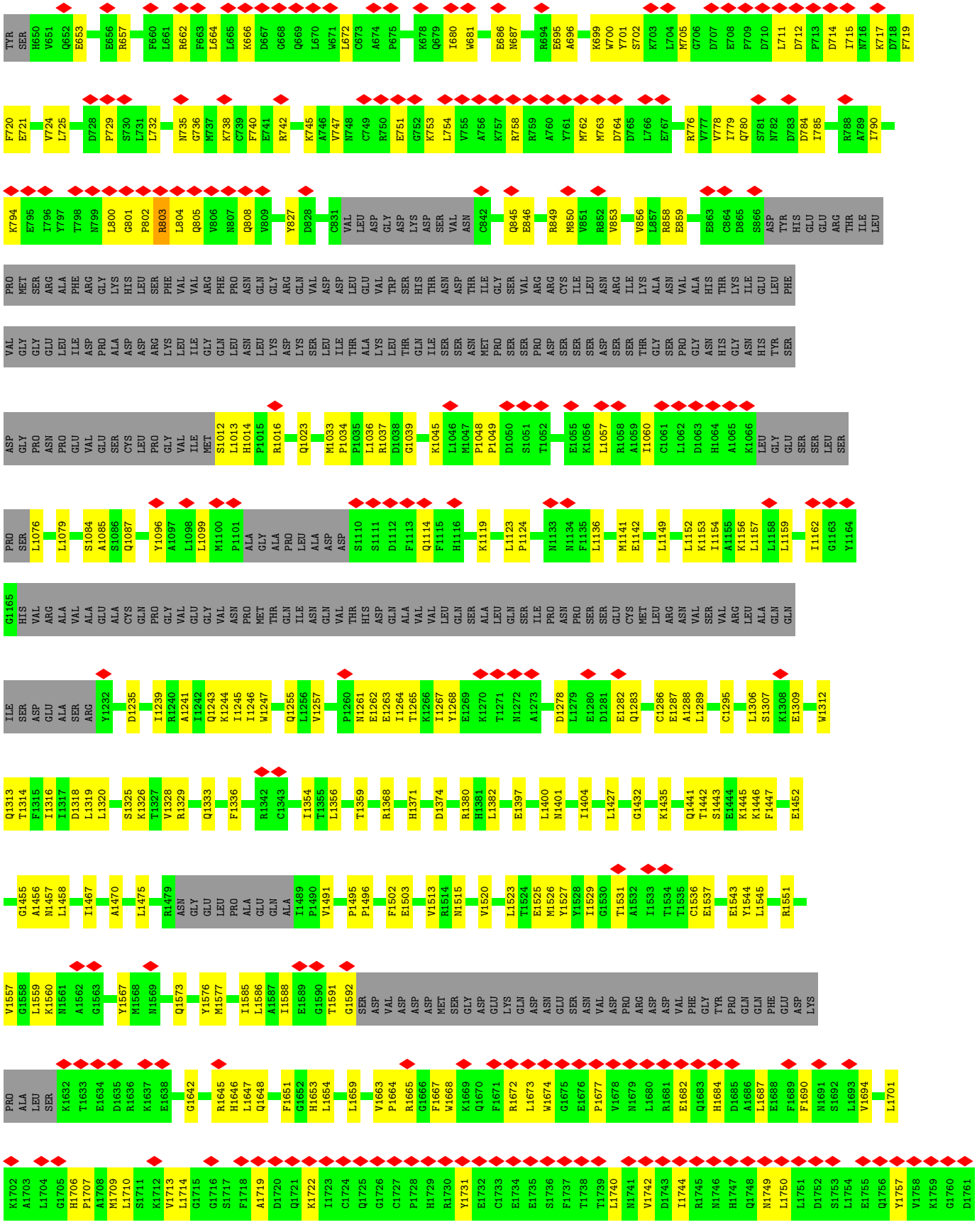
3 Residue-property plots (i)

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: Probable ubiquitin carboxyl-terminal hydrolase FAF-X

Chain A:

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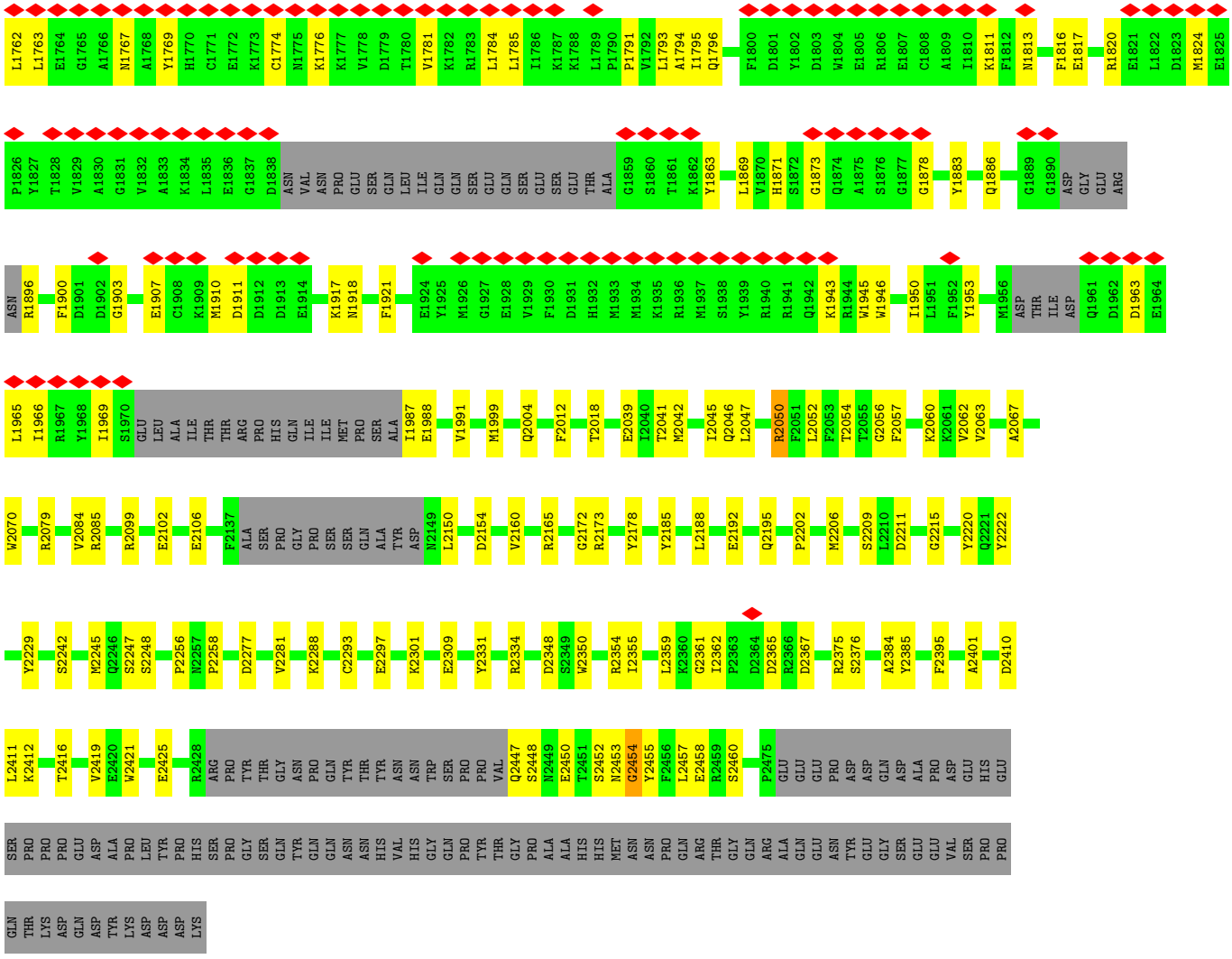
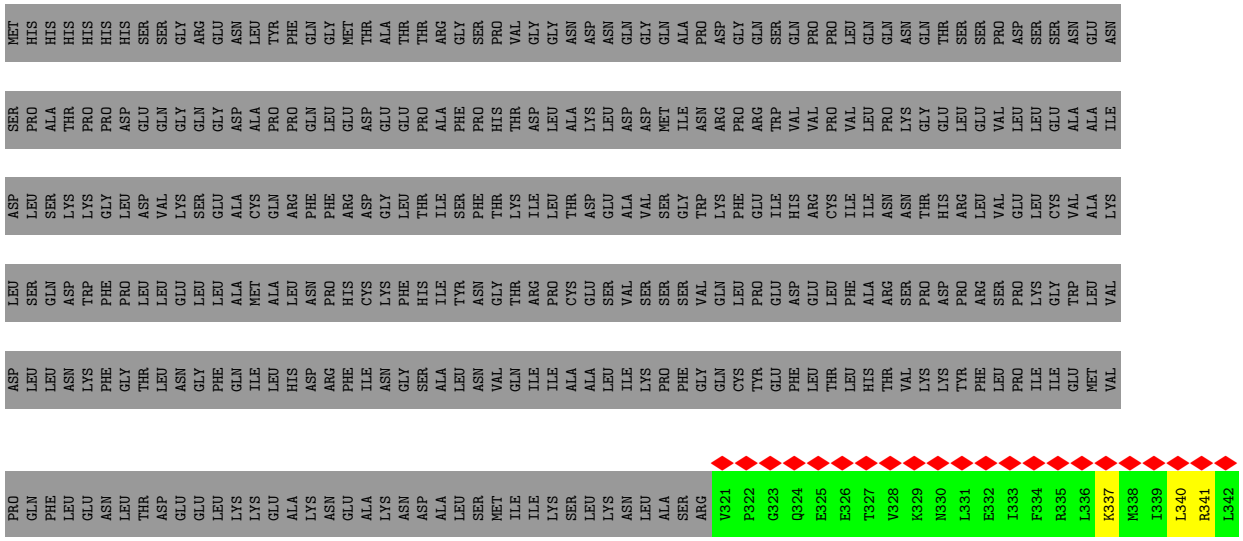
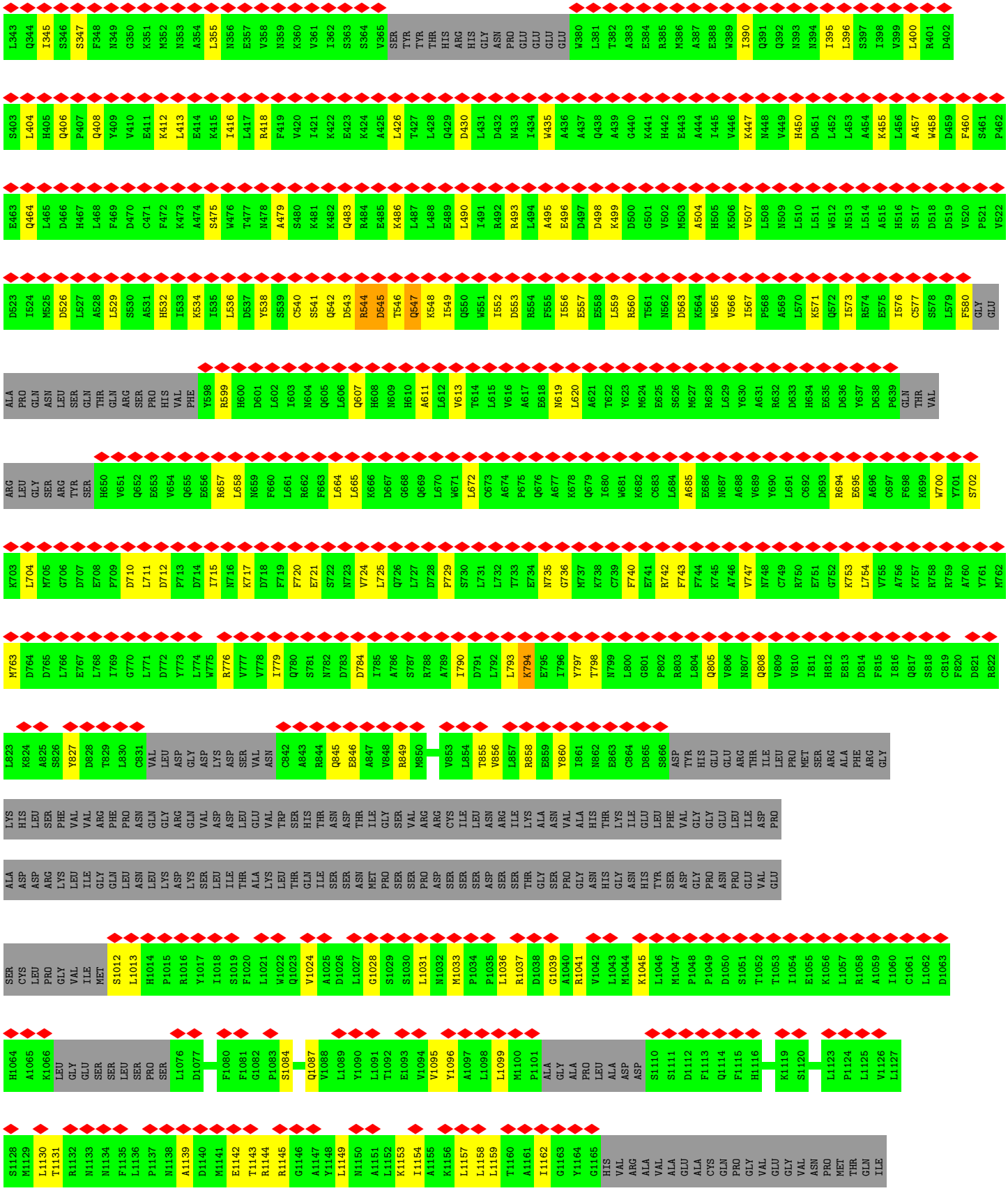
F720 E721 V724 L725 D728 P729 S730 L731 L732 N735 G736 M737 K738 C739 F740 E741 R742 K745 A746 V747 N748 C749 R750 E751 G752 K753 L754 V755 A756 K757 R758 R759 A760 Y761 M762 M763 D764 D765 L766 E767 R776 V777 V778 I779 Q780 S781 N782 D783 D784 I785 R788 A789 I790
K794 E795 I796 Y797 T798 N799 L800 G801 P802 R803 L804 Q805 V806 N807 Q808 V809 Y827 D828 C831 VAL LEU ASP GLY ASP LYS ASP SER VAL ASN C842 Q845 E846 R849 M850 V851 R852 V853 V856 L857 R858 E859 E863 C864 D865 S866 ASP TYR HIS GLU GLU ARG THR ILE LEU
PRO MET SER ARG ALA PHE ARG GLY LYS HIS LEU SER PHE VAL VAL ARG PHE PRO ASN GLN GLY ARG GLN VAL ASP ASP LEU GLU VAL TRP SER HIS THR ASN ASP THR ILE GLY SER VAL ARG ARG CYS ILE LEU ASN ARG ILE LYS ALA ASN VAL ALA HIS THR LYS ILE GLU LEU PHE
VAL GLY GLY GLU LEU ILE ASP PRO ALA ASP ASP ARG LYS LEU ILE GLY GLN LEU ASN LEU LYS ASP LYS SER LEU ILE THR ALA LYS LEU THR GLN ILE SER SER ASN MET PRO SER SER PRO ASP SER SER SER ASP SER SER THR GLY SER PRO GLY GLY ASN HIS GLY ASN HIS TYR SER
ASP GLY PRO ASN PRO GLU VAL GLU SER CYS LEU PRO GLY VAL ILE MET S1012 L1013 H1014 P1015 R1016 Q1023 M1033 P1034 P1035 L1036 R1037 D1038 G1039 K1045 L1046 M1047 P1048 P1049 D1050 S1051 T1052 E1055 K1056 L1057 R1058 A1059 I1060 C1061 L1062 D1063 H1064 A1065 K1066 LEU GLY GLU SER SER LEU SER
PRO SER L1076 L1079 S1084 A1085 S1086 Q1087 Y1096 A1097 L1098 L1099 M1100 P1101 ALA GLY ALA PRO LEU ALA ASP ASP S1110 S1111 D1112 F1113 Q1114 F1115 H1116 K1119 L1123 P1124 N1133 N1134 F1135 L1136 N1141 E1142 L1149 L1152 K1153 I1154 A1155 K1156 L1157 L1158 L1159 I1162 G1163 Y1164
G1165 HIS VAL ARG ALA VAL ALA GLU CYS GLN PRO GLY VAL GLU GLY VAL ASN PRO MET THR GLN ILE ASN GLN VAL THR HIS ASP GLN ALA VAL VAL LEU GLN SER ALA LEU GLN SER ILE PRO ASN PRO SER SER GLU CYS MET LEU ARG ASN VAL SER VAL ARG LEU ALA GLN GLN
ILE SER ASP GLU ALA SER ARG Y1232 D1235 I1239 R1240 A1241 I1242 Q1243 K1244 I1245 I1246 W1247 Q1255 L1256 V1257 P1260 N1261 E1262 E1263 I1264 T1265 K1266 I1267 Y1268 E1269 K1270 T1271 N1272 A1273 D1278 L1279 E1280 D1281 E1282 Q1283 C1286 E1287 A1288 L1289 C1295 L1306 S1307 K1308 E1309 W1312
Q1313 T1314 F1315 I1316 I1317 D1318 L1319 L1320 S1325 K1326 T1327 V1328 R1329 Q1333 F1336 R1342 C1343 I1354 T1355 L1356 T1359 R1368 H1371 D1374 R1380 H1381 L1382 E1397 L1400 N1401 I1404 L1427 G1432 K1435 Q1441 T1442 S1443 E1444 K1445 K1446 F1447 E1452
G1455 A1456 N1457 L1458 I1467 A1470 L1475 R1479 ASN GLY GLU LEU PRO ALA GLU GLN ALA I1489 P1490 V1491 P1495 P1496 F1502 E1503 V1513 R1514 N1515 V1520 L1523 T1524 E1525 M1526 Y1527 Y1528 I1529 G1530 T1531 A1532 I1533 T1534 T1535 C1536 E1537 E1543 Y1544 L1545 R1551
V1557 G1558 L1559 K1560 N1561 A1562 G1563 Y1567 M1568 N1569 Q1573 Y1576 M1577 I1585 L1586 A1587 I1588 E1589 G1590 T1591 G1592 SER ASP VAL ASP ASP ASP MET SER GLY ASP GLU LYS GLN ASP ASN GLU SER ASN VAL ASP PRO ARG ASP ASP VAL PHE GLY TYR PRO GLN GLN PHE GLU ASP LYS
PRO ALA LEU SER K1632 T1633 E1634 D1635 R1636 K1637 E1638 G1642 R1645 H1646 L1647 Q1648 F1651 G1652 H1653 L1654 L1659 V1663 P1664 R1665 G1666 F1667 W1668 K1669 Q1670 F1671 R1672 L1673 W1674 G1675 E1676 P1677 V1678 N1679 L1680 R1681 E1682 Q1683 H1684 D1685 A1686 L1687 E1688 F1689 F1690 N1691 S1692 L1693 V1694 L1701
K1702 A1703 L1704 G1705 H1706 P1707 A1708 M1709 L1710 S1711 K1712 V1713 L1714 G1715 G1716 S1717 F1718 A1719 D1720 Q1721 K1722 I1723 C1724 Q1725 Q1726 C1727 P1728 H1729 R1730 Y1731 E1732 C1733 E1734 E1735 S1736 F1737 T1738 T1739 L1740 N1741 V1742 D1743 I1744 R1745 N1746 H1747 Q1748 N1749 L1750 L1751 D1752 S1753 L1754 E1755 Q1756 Y1757 V1758 K1759 G1760 D1761

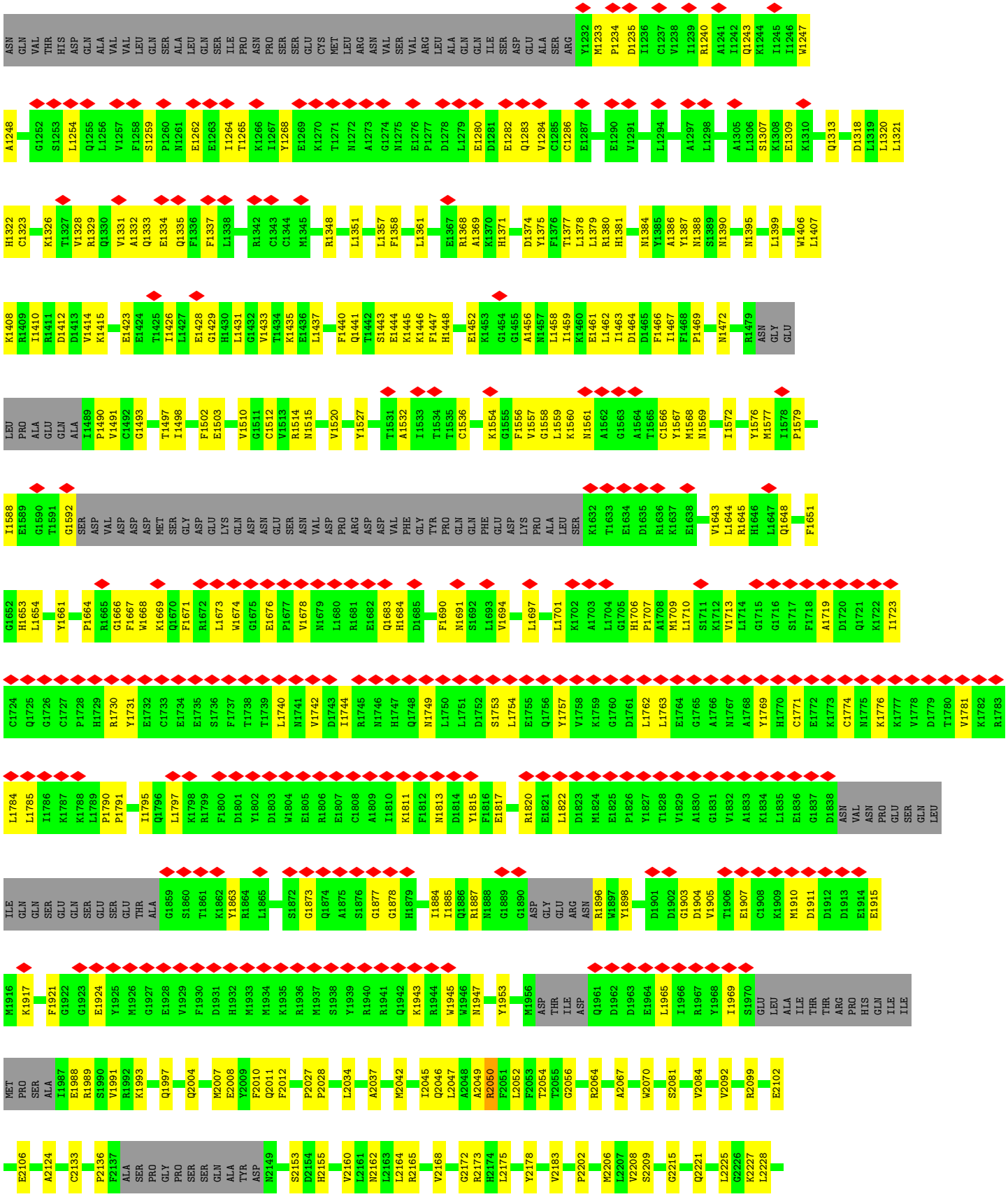


• Molecule 1: Probable ubiquitin carboxyl-terminal hydrolase FAF-X

Chain B:




L343 Q344 I345 S346 S347 F348 N349 G350 K351 M352 N353 A354 L355 N356 E357 V358 N359 K360 V361 I362 S363 S364 V365 SER TYR TYR THR HIS ARG HIS GLY ASN PRO GLU GLU GLU W380 L381 T382 A383 E384 R385 M386 A387 E388 W389 I390 Q391 Q392 N393 N394 I395 L396 S397 I398 V399 L400 R401 D402
S403 L404 H405 Q406 P407 Q408 Y409 V410 E411 K412 L413 E414 K415 T416 L417 R418 F419 V420 I421 K422 E423 K424 A425 L426 T427 L428 Q429 D430 L431 D432 N433 I434 W435 A436 A437 Q438 A439 G440 K441 H442 E443 A444 I445 V446 K447 N448 V449 H450 D451 L452 L453 A454 K455 L456 A457 W458 D459 F460 S461 P462
E463 Q464 L465 D466 H467 L468 F469 D470 C471 F472 K473 A474 S475 W476 T477 N478 A479 S480 K481 K482 Q483 R484 E485 K486 L487 L488 E489 L490 I491 R492 R493 L494 A495 E496 D497 D498 K499 D500 G501 V502 M503 A504 H505 K506 V507 L508 N509 L510 L511 W512 N513 L514 A515 H516 S517 D518 D519 V520 P521 V522
D523 I524 M525 D526 L527 A528 L529 S530 A531 H532 I533 K534 I535 L536 D537 Y538 S539 C540 S541 Q542 D543 R544 D545 T546 Q547 K548 I549 Q550 W551 I552 D553 R554 F555 I556 E557 E558 L559 R560 T561 N562 D563 K564 W565 V566 I567 P568 A569 L570 K571 Q572 I573 R574 E575 I576 C577 S578 L579 F580 GLY GLU
ALA PRO GLN ASN LEU SER GLN THR GLN ARG SER PRO HIS VAL PHE Y598 R599 H600 D601 L602 I603 N604 Q605 L606 Q607 H608 N609 H610 A611 L612 V613 T614 L615 V616 A617 E618 N619 L620 A621 T622 Y623 M624 E625 S626 M627 R628 L629 Y630 A631 R632 D633 H634 E635 D636 Y637 D638 P639 GLN THR VAL
ARG LEU GLY SER ARG TYR SER H650 V651 Q652 E653 V654 Q655 E656 R657 L658 N659 F660 L661 R662 F663 L664 L665 K666 D667 G668 Q669 L670 W671 L672 C673 A674 P675 Q676 A677 K678 Q679 I680 W681 K682 C683 L684 A685 E686 N687 A688 V689 Y690 L691 C692 D693 R694 E695 A696 C697 F698 K699 W700 Y701 S702
K703 L704 M705 G706 D707 E708 P709 D710 L711 D712 P713 D714 I715 N716 K717 D718 F719 F720 E721 S722 N723 V724 L725 Q726 L727 D728 P729 S730 L731 L732 T733 E734 N735 G736 M737 K738 C739 F740 E741 R742 F743 F744 K745 A746 V747 N748 C749 R750 E751 G752 K753 L754 V755 A756 K757 R758 R759 A760 Y761 M762
M763 D764 D765 L766 E767 L768 I769 G770 L771 D772 Y773 L774 W775 R776 V777 V778 I779 Q780 S781 N782 D783 D784 I785 A786 S787 R788 A789 I790 D791 L792 L793 K794 E795 I796 Y797 T798 N799 L800 G801 P802 R803 L804 Q805 V806 N807 Q808 V809 V810 I811 H812 E813 D814 F815 I816 Q817 S818 C819 F820 D821 R822
L823 K824 A825 S826 Y827 D828 T829 L830 C831 VAL LEU ASP GLY ASP LYS ASP SER VAL ASN C842 A843 R844 Q845 E846 A847 V848 R849 M850 V853 L854 T855 V856 L857 R858 E859 Y860 I861 N862 E863 C864 D865 S866 ASP TYR HIS GLU GLU ARG THR ILE LEU PRO MET SER ARG ALA PHE ARG GLY
LYS HIS LEU SER PHE VAL VAL ARG PHE PRO ASN ASN GLN GLY ARG GLN VAL ASP ASP LEU GLU VAL TRP SER HIS THR ASN ASP THR ILE GLY SER VAL ARG ARG CYS ILE LEU ASN ARG ILE LYS ALA ASN VAL ALA HIS THR LYS ILE GLU LEU PHE VAL GLY GLY GLU LEU ILE ASP PRO
ALA ASP ASP ARG LYS LEU ILE GLY GLN LEU ASN LEU LYS ASP LYS SER LEU ILE THR ALA LYS LEU THR GLN ILE SER SER ASN MET PRO SER SER SER PRO ASP SER SER SER ASP SER SER THR GLY SER PRO GLY ASN HIS GLY ASN HIS TYR SER ASP GLY PRO ASN PRO GLU VAL GLU
SER CYS LEU PRO GLY VAL ILE MET S1012 L1013 H1014 P1015 R1016 Y1017 I1018 S1019 F1020 L1021 W1022 Q1023 V1024 A1025 D1026 L1027 G1028 S1029 S1030 L1031 N1032 M1033 P1034 P1035 L1036 R1037 D1038 G1039 A1040 R1041 V1042 L1043 M1044 K1045 L1046 M1047 P1048 P1049 D1050 S1051 T1052 T1053 I1054 E1055 K1056 L1057 R1058 A1059 I1060 C1061 L1062 D1063
H1064 A1065 K1066 LEU GLY GLU SER SER LEU SER PRO SER L1076 D1077 F1080 F1081 G1082 P1083 S1084 Q1087 V1088 L1089 Y1090 L1091 T1092 E1093 V1094 V1095 Y1096 A1097 L1098 L1099 M1100 P1101 ALA GLY ALA PRO LEU ALA ASP S1110 S1111 D1112 F1113 Q1114 F1115 H1116 K1119 S1120 L1123 P1124 L1125 V1126 L1127
S1128 M1129 L1130 T1131 R1132 N1133 N1134 F1135 L1136 P1137 N1138 A1139 D1140 M1141 E1142 T1143 R1144 R1145 G1146 A1147 Y1148 L1149 N1150 A1151 L1152 K1153 I1154 A1155 K1156 L1157 L1158 L1159 T1160 A1161 I1162 G1163 Y1164 G1165 HIS VAL ARG ALA VAL ALA GLU ALA CYS GLN PRO GLY VAL GLU GLY VAL ASN PRO MET THR GLN ILE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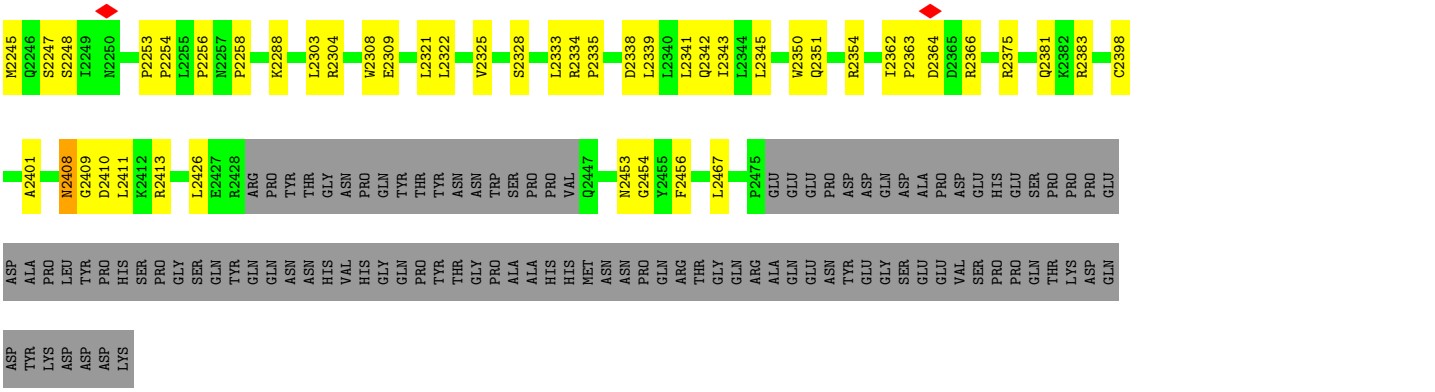
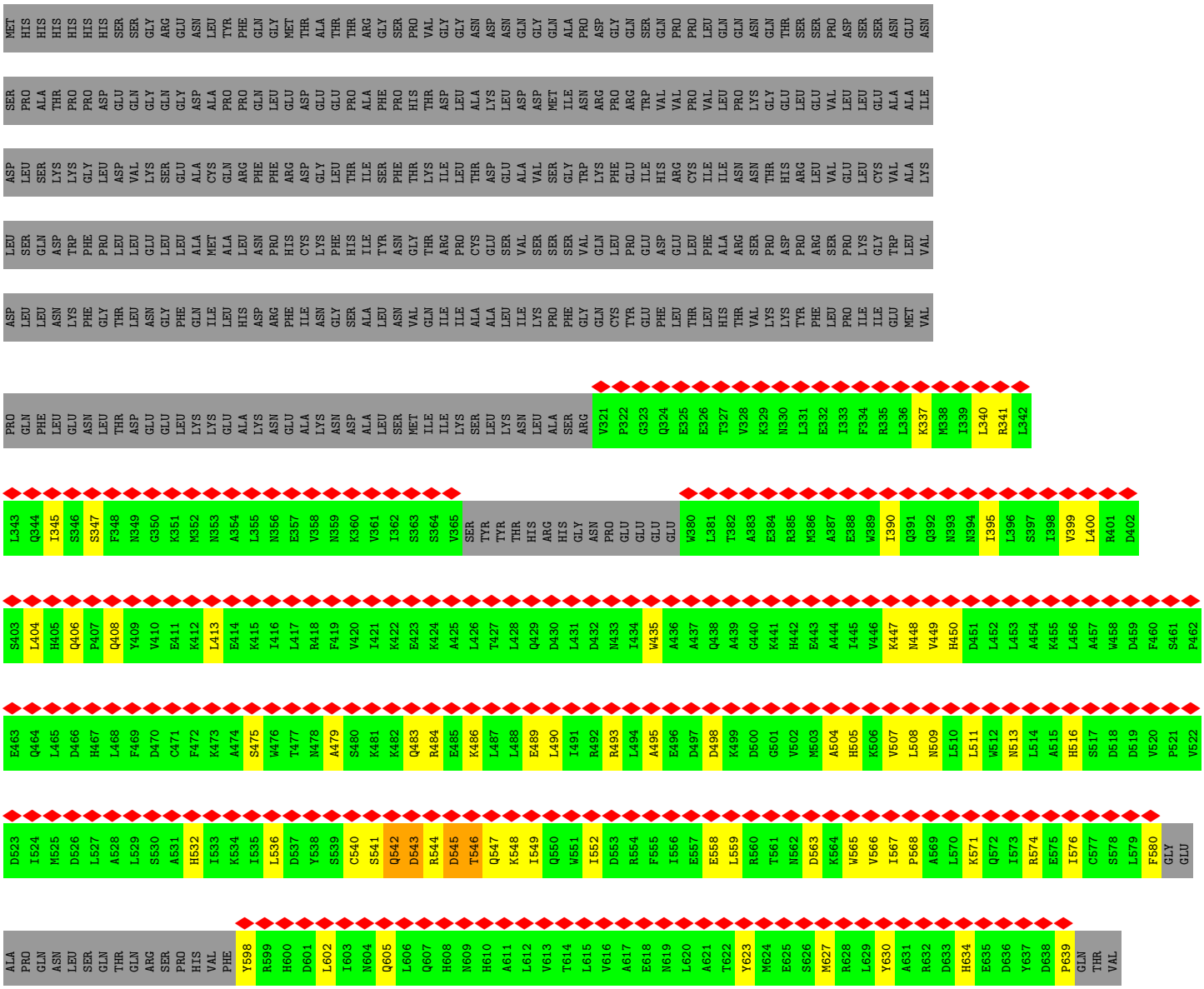
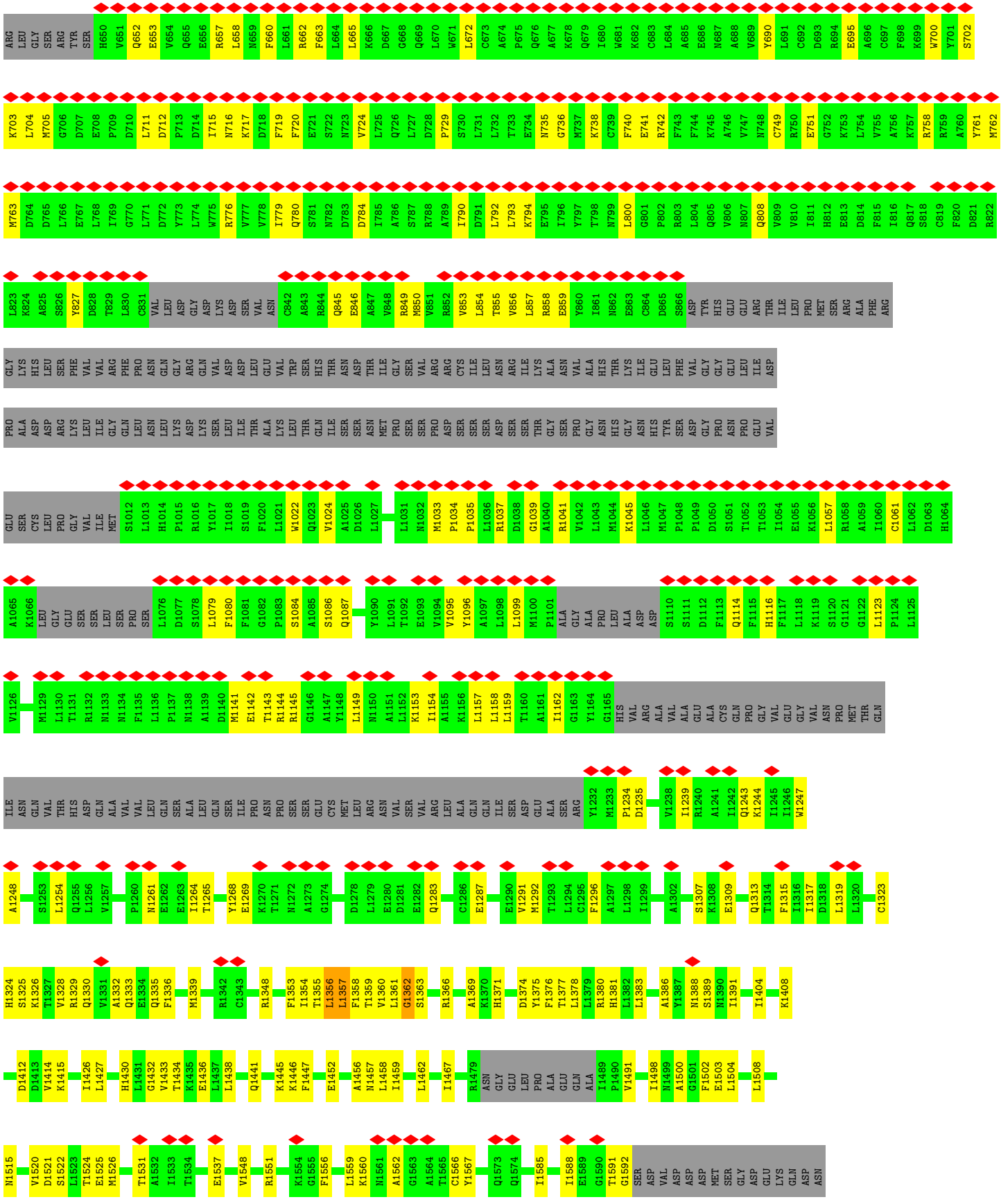
Y1232 M1233 P1234 D1235 I1236 C1237 V1238 I1239 R1240 A1241 I1242 Q1243 K1244 I1245 I1246 W1247
A1248 G1252 S1253 L1254 Q1255 L1256 V1257 F1258 S1259 P1260 N1261 E1262 E1263 I1264 T1265 K1266 I1267 Y1268 E1269 K1270 T1271 N1272 A1273 G1274 N1275 E1276 P1277 D1278 L1279 E1280 D1281 E1282 Q1283 V1284 C1285 C1286 E1287 E1290 V1291 L1294 A1297 L1298 A1305 L1306 S1307 K1308 E1309 K1310 Q1313 D1318 L1319 L1320 L1321
H1322 C1323 K1326 T1327 V1328 R1329 Q1330 V1331 A1332 Q1333 E1334 Q1335 F1336 F1337 L1338 R1342 C1343 C1344 M1345 R1348 L1351 L1357 F1358 L1361 E1367 R1368 A1369 K1370 H1371 D1374 Y1375 F1376 T1377 L1378 L1379 R1380 H1381 N1384 Y1385 A1386 Y1387 N1388 S1389 N1390 N1395 L1399 W1406 L1407
K1408 R1409 I1410 R1411 D1412 D1413 V1414 K1415 E1423 E1424 T1425 I1426 L1427 E1428 G1429 H1430 L1431 G1432 V1433 T1434 K1435 E1436 L1437 F1440 Q1441 T1442 S1443 E1444 K1445 K1446 F1447 H1448 E1452 K1453 G1454 G1455 A1456 N1457 L1458 I1459 K1460 E1461 L1462 I1463 D1464 D1465 F1466 I1467 F1468 P1469 N1472 R1479 ASN GLY GLU
LEU PRO ALA GLU GLN ALA I1489 P1490 V1491 C1492 G1493 T1497 I1498 F1502 E1503 V1510 G1511 C1512 V1513 R1514 N1515 V1520 Y1527 T1531 A1532 I1533 T1534 T1535 C1536 K1554 G1555 F1556 V1557 G1558 L1559 K1560 N1561 A1562 G1563 A1564 T1565 C1566 Y1567 M1568 N1569 I1572 Y1576 M1577 I1578 P1579
I1588 E1589 G1590 T1591 G1592 SER ASP VAL ASP ASP MET SER GLY ASP GLU LYS GLN ASP ASN GLU SER ASN VAL ASP PRO ARG ASP ASP VAL PHE GLY TYR PRO GLN GLN PHE GLU ASP LYS PRO ALA LEU SER K1632 T1633 E1634 D1635 R1636 K1637 E1638 V1643 L1644 R1645 H1646 L1647 Q1648 F1651
G1662 H1653 L1654 Y1661 P1664 R1665 G1666 F1667 W1668 K1669 Q1670 F1671 R1672 L1673 W1674 G1675 E1676 P1677 V1678 N1679 L1680 R1681 E1682 Q1683 H1684 D1685 F1690 N1691 S1692 L1693 V1694 L1697 L1701 K1702 A1703 L1704 G1705 H1706 P1707 A1708 M1709 L1710 S1711 K1712 V1713 L1714 G1715 G1716 S1717 F1718 A1719 D1720 Q1721 K1722 I1723
C1724 Q1725 G1726 C1727 P1728 H1729 R1730 Y1731 E1732 C1733 E1734 E1735 S1736 F1737 T1738 T1739 L1740 N1741 V1742 D1743 I1744 R1745 N1746 H1747 Q1748 N1749 L1750 L1751 D1752 S1753 L1754 E1755 Q1756 Y1757 V1758 K1759 G1760 D1761 L1762 L1763 E1764 G1765 A1766 N1767 A1768 Y1769 H1770 C1771 E1772 K1773 C1774 N1775 K1776 K1777 V1778 D1779 T1780 V1781 K1782 R1783
L1784 L1785 I1786 K1787 K1788 L1789 P1790 P1791 I1795 Q1796 L1797 K1798 R1799 F1800 D1801 Y1802 D1803 W1804 E1805 R1806 E1807 C1808 A1809 I1810 K1811 F1812 N1813 D1814 Y1815 F1816 E1817 R1820 E1821 L1822 D1823 M1824 E1825 P1826 Y1827 T1828 V1829 A1830 G1831 V1832 A1833 K1834 L1835 E1836 G1837 D1838 ASN VAL ASN PRO GLU SER GLN LEU
ILE GLN GLN SER GLU GLN SER GLU SER GLU THR ALA G1859 S1860 T1861 K1862 Y1863 R1864 L1865 S1872 G1873 Q1874 A1875 S1876 G1877 G1878 H1879 I1884 I1885 Q1886 R1887 N1888 G1889 G1890 ASP GLY GLU ARG ASN R1896 W1897 Y1898 D1901 D1902 G1903 D1904 V1905 T1906 E1907 C1908 K1909 M1910 D1911 D1912 D1913 E1914 E1915
M1916 K1917 F1921 G1922 G1923 E1924 Y1925 M1926 G1927 E1928 V1929 F1930 D1931 H1932 M1933 M1934 K1935 R1936 M1937 S1938 Y1939 R1940 R1941 Q1942 K1943 R1944 W1945 W1946 N1947 Y1953 M1956 ASP THR ILE ASP Q1961 D1962 D1963 E1964 L1965 I1966 R1967 Y1968 I1969 S1970 GLU LEU ALA ILE THR THR ARG PRO HIS GLN ILE ILE
MET PRO SER ALA I1987 E1988 R1989 S1990 V1991 R1992 K1993 Q1997 Q2004 M2007 E2008 Y2009 F2010 Q2011 F2012 P2027 P2028 L2034 A2037 M2042 I2045 Q2046 L2047 A2048 A2049 R2050 F2051 L2052 F2053 T2054 T2055 G2056 R2064 A2067 W2070 S2081 V2084 V2092 R2099 E2102
E2106 A2124 C2133 P2136 F2137 ALA SER PRO GLY PRO SER SER GLN ALA TYR ASP N2149 S2153 D2154 H2155 V2160 L2161 N2162 L2163 L2164 R2165 V2168 G2172 R2173 H2174 L2175 Y2178 V2183 P2202 M2206 L2207 V2208 S2209 G2215 Q2221 L2225 G2226 K2227 L2228



• Molecule 1: Probable ubiquitin carboxyl-terminal hydrolase FAF-X

Chain C:

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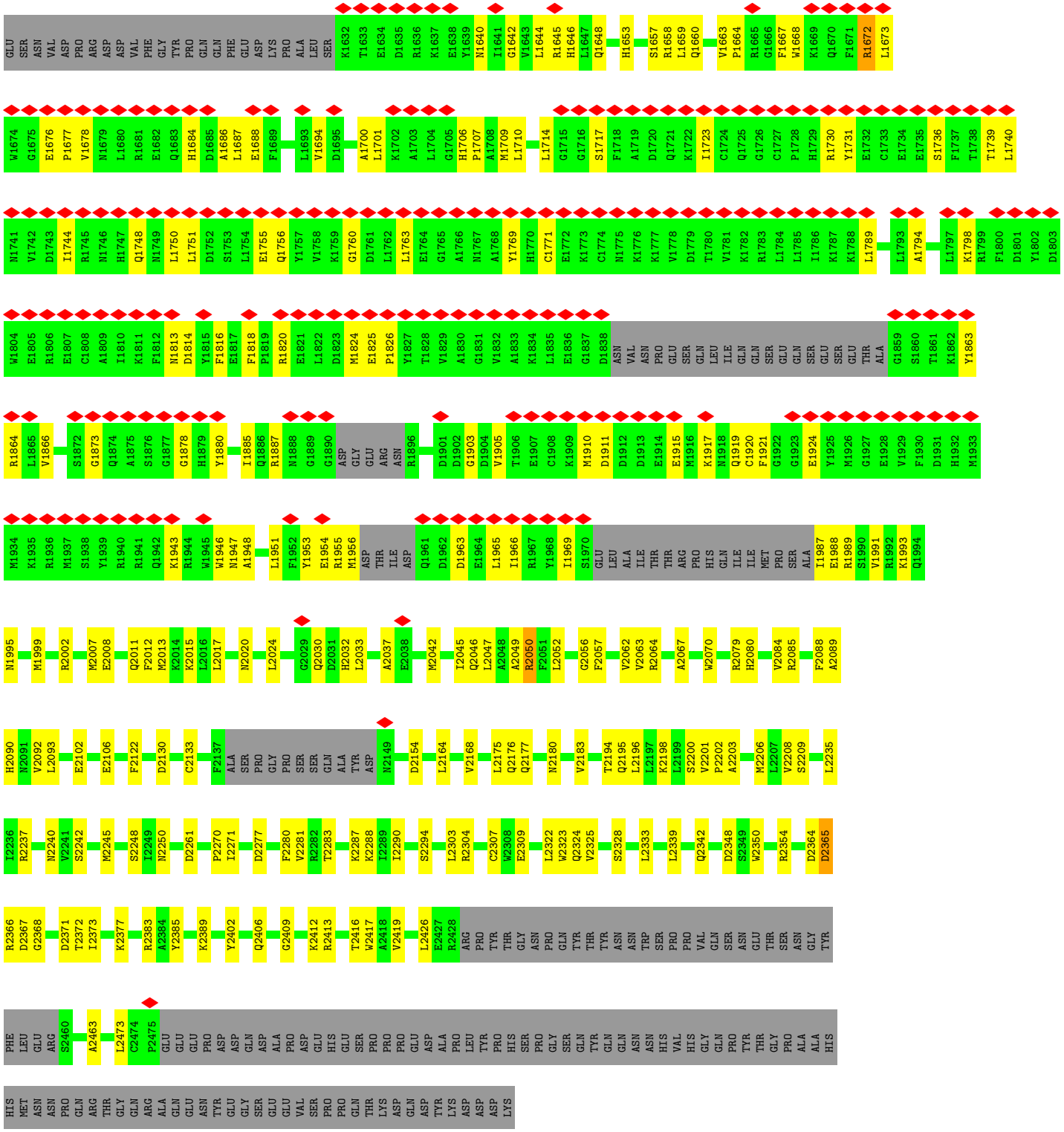
K703 L704 M705 G706 D707 E708 P709 D710 L711 D712 P713 D714 I715 N716 K717 D718 F719 F720 E721 S722 N723 V724 L725 Q726 L727 D728 P729 S730 L731 L732 T733 E734 N735 G736 M737 K738 C739 F740 E741 R742 F743 F744 K745 A746 V747 N748 C749 R750 E751 G752 K753 L754 V755 A756 K757 R758 R759 A760 Y761 M762
M763 D764 D765 L766 E767 L768 I769 G770 L771 D772 Y773 L774 W775 R776 V777 V778 I779 Q780 S781 N782 D783 D784 I785 A786 S787 R788 A789 I790 D791 L792 L793 K794 E795 I796 Y797 T798 N799 L800 G801 P802 R803 L804 Q805 V806 N807 Q808 C749 V809 V810 I811 H812 E813 D814 F815 I816 Q817 S818 C819 F820 D821 R822
L823 K824 A825 S826 Y827 D828 T829 L830 C831 VAL LEU ASP GLY ASP LYS ASP SER VAL ASN C842 A843 R844 Q845 E846 A847 V848 R849 M850 V851 R852 V853 L854 T855 V856 L857 R858 E859 Y860 I861 N862 E863 C864 D865 S866 ASP TYR HIS GLU GLU ARG THR ILE LEU PRO MET SER ARG ALA PHE ARG
GLY LYS HIS LEU SER PHE VAL VAL ARG PHE PRO ASN GLN GLY ARG GLN VAL ASP ASP LEU GLU VAL TRP SER HIS THR ASN ASP THR ILE GLY SER VAL ARG ARG CYS ILE LEU ASN ARG ILE LYS ALA ASN VAL ALA HIS THR LYS ILE GLU LEU PHE VAL GLY GLY GLU LEU ILE ASP
PRO ALA ASP ASP ARG LYS LEU ILE GLY GLN LEU ASN LEU LYS ASP LYS SER LEU ILE THR ALA LYS LEU THR GLN ILE SER SER ASN MET PRO SER SER PRO ASP SER SER SER ASP SER SER THR GLY SER PRO GLY ASN HIS GLY ASN HIS TYR SER ASP GLY PRO ASN PRO GLU VAL
GLU SER CYS LEU PRO GLY VAL ILE MET S1012 L1013 H1014 P1015 R1016 Y1017 I1018 S1019 F1020 L1021 W1022 Q1023 V1024 A1025 D1026 L1027 L1031 N1032 M1033 P1034 P1035 L1036 R1037 D1038 G1039 A1040 R1041 V1042 L1043 M1044 K1045 L1046 M1047 P1048 P1049 D1050 S1051 T1052 T1053 I1054 E1055 K1056 L1057 R1058 A1059 I1060 C1061 L1062 D1063 H1064
A1065 K1066 LEU GLY GLU SER SER LEU SER PRO SER L1076 D1077 S1078 L1079 F1080 F1081 G1082 P1083 S1084 A1085 S1086 Q1087 Y1090 L1091 T1092 E1093 V1094 V1095 Y1096 A1097 L1098 L1099 M1100 P1101 ALA GLY ALA PRO LEU ALA ASP S1110 S1111 D1112 F1113 Q1114 F1115 H1116 F1117 L1118 K1119 S1120 G1121 G1122 L1123 P1124 L1125
V1126 M1129 L1130 T1131 R1132 N1133 N1134 F1135 L1136 P1137 N1138 A1139 D1140 M1141 E1142 T1143 R1144 R1145 G1146 A1147 Y1148 L1149 N1150 A1151 L1152 K1153 I1154 A1155 K1156 L1157 L1158 L1159 T1160 A1161 I1162 G1163 Y1164 G1165 HIS VAL ARG ALA VAL ALA GLU ALA CYS GLN PRO GLY VAL GLU GLY VAL ASN PRO MET THR GLN
ILE ASN GLN VAL THR HIS ASP GLN ALA VAL VAL LEU GLN SER ALA LEU GLN SER ILE PRO ASN PRO SER SER GLU CYS MET LEU ARG ASN VAL SER VAL ARG LEU ALA GLN GLN ILE SER ASP GLU ALA SER ARG Y1232 M1233 P1234 D1235 V1238 I1239 R1240 A1241 I1242 Q1243 K1244 I1245 I1246 W1247
A1248 S1253 L1254 Q1255 L1256 V1257 P1260 N1261 E1262 E1263 I1264 T1265 Y1268 E1269 K1270 T1271 N1272 A1273 G1274 D1278 L1279 E1280 D1281 E1282 Q1283 C1286 E1287 E1290 V1291 M1292 T1293 L1294 C1295 F1296 A1297 L1298 I1299 A1302 S1307 K1308 E1309 Q1313 T1314 F1315 I1316 I1317 D1318 L1319 L1320 C1323
H1324 S1325 K1326 T1327 V1328 R1329 Q1330 V1331 A1332 Q1333 E1334 Q1335 F1336 M1339 R1342 C1343 R1348 F1353 I1354 T1355 L1356 L1357 F1358 T1359 V1360 L1361 G1362 S1363 R1366 A1369 K1370 H1371 D1374 Y1375 F1376 T1377 L1378 L1379 R1380 H1381 L1382 L1383 A1386 Y1387 N1388 S1389 N1390 I1391 I1404 K1408
D1412 D1413 V1414 K1415 I1426 L1427 H1430 L1431 G1432 V1433 T1434 K1435 E1436 L1437 L1438 Q1441 K1445 K1446 F1447 E1452 A1456 N1457 L1458 I1459 L1462 I1467 R1479 ASN GLY GLU LEU PRO ALA GLU GLN ALA I1489 P1490 V1491 I1498 N1499 A1500 G1501 F1502 E1503 L1504 L1508
N1515 V1520 D1521 S1522 L1523 T1524 E1525 M1526 T1531 A1532 T1533 T1534 E1537 V1548 R1551 K1554 G1555 F1556 L1559 K1560 N1561 A1562 G1563 A1564 T1565 C1566 Y1567 Q1573 Q1574 I1585 T1588 E1589 G1590 T1591 G1592 SER ASP VAL ASP ASP ASP MET SER GLY ASP GLU LYS GLN ASP ASN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W1674 G1675 E1676 P1677 V1678 N1679 L1680 R1681 E1682 Q1683 H1684 D1685 A1686 L1687 E1688 F1689 L1693 V1694 D1695 A1700 L1701 K1702 A1703 L1704 G1705 H1706 P1707 A1708 M1709 L1710 L1714 G1715 G1716 S1717 F1718 A1719 D1720 Q1721 K1722 I1723 C1724 Q1725 G1726 C1727 P1728 H1729 R1730 Y1731 E1732 C1733 E1734 E1735 S1736 F1737 T1738 T1739 L1740
N1741 V1742 D1743 I1744 R1745 N1746 H1747 Q1748 N1749 L1750 L1751 D1752 S1753 L1754 E1755 Q1756 Y1757 V1758 K1759 G1760 D1761 L1762 L1763 E1764 G1765 A1766 N1767 A1768 Y1769 H1770 C1771 E1772 K1773 C1774 N1775 K1776 K1777 V1778 D1779 T1780 V1781 K1782 R1783 L1784 L1785 I1786 K1787 K1788 L1789 L1793 A1794 L1797 K1798 R1799 F1800 D1801 Y1802 D1803
W1804 E1805 R1806 E1807 C1808 A1809 I1810 K1811 F1812 N1813 D1814 Y1815 F1816 E1817 F1818 P1819 R1820 E1821 L1822 D1823 M1824 E1825 P1826 Y1827 T1828 V1829 A1830 G1831 V1832 A1833 K1834 L1835 E1836 G1837 D1838 ASN VAL ASN PRO GLU SER GLN LEU ILE GLN GLN SER GLU GLN SER GLU SER GLU THR ALA G1859 S1860 T1861 K1862 Y1863
R1864 L1865 V1866 S1872 G1873 Q1874 A1875 S1876 G1877 G1878 H1879 Y1880 I1885 Q1886 R1887 N1888 G1889 G1890 ASP GLY GLU ARG ASN R1896 D1901 D1902 G1903 D1904 V1905 T1906 E1907 C1908 K1909 M1910 D1911 D1912 D1913 E1914 E1915 M1916 K1917 N1918 Q1919 C1920 F1921 G1922 G1923 E1924 Y1925 M1926 G1927 E1928 V1929 F1930 D1931 H1932 M1933
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N1995 M1999 R2002 M2007 E2008 Q2011 F2012 M2013 K2014 K2015 L2016 L2017 N2020 L2024 G2029 Q2030 D2031 H2032 L2033 A2037 E2038 M2042 I2045 Q2046 L2047 A2048 A2049 R2050 F2051 L2052 G2056 F2057 V2062 V2063 R2064 A2067 W2070 R2079 H2080 V2084 R2085 F2088 A2089
H2090 N2091 V2092 L2093 E2102 E2106 F2122 D2130 C2133 F2137 ALA SER PRO GLY PRO SER SER GLN ALA TYR ASP N2149 D2154 L2164 V2168 L2175 Q2176 Q2177 N2180 V2183 T2194 Q2195 L2196 L2197 K2198 L2199 S2200 V2201 P2202 A2203 M2206 L2207 V2208 S2209 L2235
I2236 R2237 N2240 V2241 S2242 M2245 S2248 I2249 N2250 D2261 P2270 I2271 D2277 F2280 V2281 R2282 T2283 K2287 K2288 I2289 I2290 S2294 L2303 R2304 C2307 W2308 E2309 L2322 W2323 Q2324 V2325 S2328 L2333 L2339 Q2342 D2348 S2349 W2350 R2354 D2364 D2365
R2366 D2367 G2368 D2371 T2372 I2373 K2377 R2383 A2384 Y2385 K2389 Y2402 Q2406 G2409 K2412 R2413 T2416 W2417 A2418 V2419 L2426 E2427 R2428 ARG PRO TYR THR GLY ASN PRO GLN TYR THR TYR ASN ASN TRP SER PRO PRO VAL GLN SER ASN GLU THR SER ASN GLY TYR
PHE LEU GLU ARG S2460 A2463 L2473 C2474 P2475 GLU GLU GLU PRO ASP ASP GLN ASP ALA PRO ASP GLU HIS GLU SER PRO PRO PRO GLU ASP ALA PRO LEU TYR PRO HIS SER PRO GLY SER GLN TYR GLN GLN ASN ASN HIS VAL HIS GLY GLN PRO TYR THR GLY PRO ALA ALA HIS
HIS MET ASN ASN PRO GLN ARG THR GLY GLN ARG ALA GLN GLU ASN TYR GLU GLY SER GLU GLU VAL SER PRO PRO GLN THR LYS ASP GLN ASP TYR LYS ASP ASP ASP LYS

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	330000	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	56.7	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	1.330	Depositor
Minimum map value	-0.608	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.034	Depositor
Recommended contour level	0.221	Depositor
Map size (Å)	372.73602, 372.73602, 372.73602	wwPDB
Map dimensions	448, 448, 448	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.8320001, 0.8320001, 0.8320001	Depositor

5 Model quality

5.1 Standard geometry

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	0.26	0/14461	0.47	0/19559
1	B	0.26	0/14461	0.47	0/19559
1	C	0.26	0/14351	0.47	0/19411
All	All	0.26	0/43273	0.47	0/58529

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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	14155	0	14051	332	0
1	B	14155	0	14051	327	0
1	C	14047	0	13957	348	0
All	All	42357	0	42059	1000	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 (1000) 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:2413:ARG:O	1:C:2416:THR:HG22	1.31	1.24

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1521:ASP:O	1:C:1524:THR:HG22	1.38	1.20
1:B:540:CYS:HB2	1:B:544:ARG:HA	1.29	1.07
1:C:1789:LEU:HB3	1:C:1863:TYR:OH	1.58	1.02
1:A:1265:THR:HA	1:A:1268:TYR:CD2	2.02	0.95
1:A:1264:ILE:HG22	1:A:1268:TYR:CZ	2.04	0.92
1:A:1265:THR:HA	1:A:1268:TYR:HD2	1.34	0.88
1:A:1264:ILE:HG22	1:A:1268:TYR:OH	1.73	0.87
1:C:2416:THR:HG23	1:C:2417:TRP:N	1.93	0.84
1:A:545:ASP:HB2	1:A:580:PHE:HE1	1.41	0.83
1:C:1248:ALA:HB1	1:C:1254:LEU:HA	1.62	0.81
1:A:1320:LEU:HD11	1:A:1333:GLN:HB3	1.62	0.80
1:A:406:GLN:HE21	1:A:408:GLN:HE22	1.31	0.79
1:A:1577:MET:HE2	1:A:1886:GLN:HA	1.63	0.79
1:A:846:GLU:HA	1:A:849:ARG:HD3	1.65	0.78
1:C:2049:ALA:HB1	1:C:2092:VAL:HG11	1.64	0.78
1:B:1653:HIS:HD2	1:B:1991:VAL:HG22	1.49	0.77
1:B:435:TRP:HE1	1:B:475:SER:HG	1.30	0.77
1:C:1376:PHE:HB3	1:C:1380:ARG:HH12	1.46	0.77
1:A:721:GLU:HA	1:A:725:LEU:HD12	1.66	0.77
1:C:2413:ARG:O	1:C:2416:THR:CG2	2.25	0.76
1:C:543:ASP:HB3	1:C:547:GLN:NE2	2.00	0.76
1:B:1368:ARG:HB3	1:B:1371:HIS:HB3	1.66	0.76
1:A:1333:GLN:HG2	1:A:1374:ASP:HB3	1.67	0.75
1:B:1917:LYS:HA	1:B:1921:PHE:HB2	1.66	0.75
1:B:557:GLU:HA	1:B:560:ARG:HD3	1.69	0.75
1:A:1811:LYS:NZ	1:A:1945:TRP:O	2.20	0.75
1:A:607:GLN:HA	1:A:611:ALA:HA	1.69	0.74
1:B:540:CYS:HB2	1:B:544:ARG:CA	2.12	0.74
1:C:406:GLN:HE21	1:C:408:GLN:HE22	1.33	0.74
1:A:1446:LYS:O	1:A:1515:ASN:ND2	2.20	0.74
1:C:2416:THR:HG23	1:C:2417:TRP:H	1.50	0.73
1:C:1033:MET:HG3	1:C:1035:PRO:HD2	1.69	0.73
1:B:2304:ARG:NH2	1:B:2342:GLN:OE1	2.21	0.73
1:C:858:ARG:HH22	1:C:1039:GLY:HA2	1.52	0.73
1:B:1444:GLU:O	1:B:1448:HIS:N	2.20	0.73
1:B:858:ARG:HH22	1:B:1039:GLY:HA2	1.54	0.72
1:A:545:ASP:HB2	1:A:580:PHE:CE1	2.23	0.72
1:A:1475:LEU:HD11	1:A:1526:MET:HA	1.70	0.72
1:B:1820:ARG:NH2	1:B:1911:ASP:O	2.22	0.72
1:B:1379:LEU:HD22	1:B:1433:VAL:HG22	1.71	0.71
1:B:1577:MET:HG3	1:B:1884:ILE:HG21	1.71	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2007:MET:SD	1:B:2011:GLN:NE2	2.64	0.71
1:B:406:GLN:HE21	1:B:408:GLN:HE22	1.37	0.70
1:B:546:THR:HG23	1:B:547:GLN:OE1	1.91	0.70
1:C:729:PRO:HG3	1:C:776:ARG:HG3	1.72	0.70
1:C:1556:PHE:HB3	1:C:1905:VAL:HG11	1.73	0.70
1:A:547:GLN:HB2	1:A:551:TRP:CD1	2.25	0.70
1:B:1286:CYS:HB2	1:B:1331:VAL:HG11	1.74	0.70
1:B:1380:ARG:HH22	1:B:1428:GLU:HG3	1.57	0.70
1:C:630:TYR:HD2	1:C:634:HIS:HB2	1.57	0.70
1:C:1863:TYR:HB3	1:C:1953:TYR:HB3	1.74	0.70
1:B:1333:GLN:HE22	1:B:1377:THR:HB	1.57	0.70
1:A:1326:LYS:HG3	1:A:1329:ARG:HH12	1.57	0.69
1:B:2334:ARG:NH1	1:B:2338:ASP:OD1	2.25	0.69
1:A:2453:ASN:ND2	1:A:2458:GLU:OE2	2.26	0.69
1:B:2209:SER:O	1:B:2288:LYS:NZ	2.23	0.69
1:A:1863:TYR:HB3	1:A:1953:TYR:HB3	1.74	0.69
1:B:543:ASP:O	1:B:546:THR:N	2.23	0.69
1:C:2030:GLN:NE2	1:C:2032:HIS:O	2.25	0.68
1:B:1707:PRO:HB3	1:B:1969:ILE:HD12	1.74	0.68
1:A:2211:ASP:OD2	1:C:2250:ASN:ND2	2.27	0.68
1:A:1264:ILE:CG2	1:A:1268:TYR:OH	2.40	0.68
1:B:536:LEU:HD23	1:B:546:THR:HG21	1.74	0.68
1:A:779:ILE:O	1:A:849:ARG:NH1	2.27	0.67
1:C:1244:LYS:HG3	1:C:1261:ASN:HD21	1.59	0.67
1:B:845:GLN:OE1	1:B:849:ARG:NH1	2.28	0.67
1:B:1811:LYS:NZ	1:B:1945:TRP:O	2.28	0.67
1:C:1446:LYS:O	1:C:1515:ASN:ND2	2.28	0.67
1:B:1333:GLN:HG3	1:B:1378:LEU:HG	1.77	0.67
1:B:540:CYS:CB	1:B:544:ARG:O	2.43	0.67
1:C:1377:THR:HG22	1:C:1381:HIS:NE2	2.09	0.67
1:C:1326:LYS:HG3	1:C:1329:ARG:HH22	1.60	0.66
1:C:489:GLU:OE2	1:C:493:ARG:NH1	2.28	0.66
1:C:1524:THR:CG2	1:C:1525:GLU:OE1	2.43	0.66
1:B:1863:TYR:HB3	1:B:1953:TYR:HB3	1.78	0.66
1:C:1459:ILE:HG22	1:C:1508:LEU:HD13	1.76	0.66
1:A:2102:GLU:HA	1:A:2106:GLU:HB2	1.78	0.66
1:B:2007:MET:O	1:B:2011:GLN:NE2	2.28	0.66
1:C:2090:HIS:NE2	1:C:2133:CYS:SG	2.66	0.66
1:A:1037:ARG:NH1	1:A:1142:GLU:OE2	2.28	0.66
1:A:2067:ALA:HA	1:A:2070:TRP:HD1	1.61	0.66
1:A:2447:GLN:N	1:A:2458:GLU:OE1	2.28	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1520:VAL:HG22	1:A:2047:LEU:HD13	1.78	0.66
1:C:1917:LYS:HA	1:C:1921:PHE:HB2	1.77	0.66
1:C:2202:PRO:O	1:C:2206:MET:HG3	1.95	0.66
1:C:2416:THR:CG2	1:C:2417:TRP:N	2.59	0.66
1:B:1321:LEU:HB3	1:B:1368:ARG:HG3	1.77	0.66
1:C:2089:ALA:HA	1:C:2093:LEU:HD12	1.78	0.66
1:C:1144:ARG:HG2	1:C:1145:ARG:HH22	1.61	0.66
1:A:1099:LEU:HD13	1:A:1157:LEU:HD11	1.78	0.66
1:B:1464:ASP:O	1:B:1472:ASN:ND2	2.29	0.66
1:B:1145:ARG:HG2	1:B:1254:LEU:HD13	1.78	0.65
1:B:540:CYS:HB3	1:B:544:ARG:O	1.96	0.65
1:A:1099:LEU:HD22	1:A:1114:GLN:HG3	1.77	0.65
1:C:2416:THR:CG2	1:C:2417:TRP:H	2.08	0.65
1:A:543:ASP:HB2	1:A:547:GLN:HE22	1.62	0.65
1:A:545:ASP:O	1:A:548:LYS:HB2	1.96	0.65
1:C:390:ILE:HG23	1:C:395:ILE:HB	1.78	0.64
1:C:1357:LEU:HB3	1:C:1375:TYR:OH	1.97	0.64
1:B:547:GLN:CD	1:B:547:GLN:H	2.01	0.64
1:C:1037:ARG:NH1	1:C:1142:GLU:OE2	2.30	0.64
1:C:2304:ARG:HD3	1:C:2342:GLN:HB3	1.79	0.64
1:A:762:MET:SD	1:A:763:MET:N	2.71	0.64
1:A:1452:GLU:O	1:A:1457:ASN:ND2	2.29	0.64
1:A:1918:ASN:O	1:A:1946:TRP:NE1	2.30	0.64
1:B:532:HIS:NE2	1:B:536:LEU:HD11	2.13	0.64
1:A:858:ARG:HH22	1:A:1039:GLY:HA2	1.63	0.64
1:C:435:TRP:HE1	1:C:475:SER:HG	1.44	0.64
1:B:2343:ILE:HG22	1:B:2354:ARG:HD3	1.79	0.63
1:A:1264:ILE:O	1:A:1268:TYR:CD2	2.51	0.63
1:C:1588:ILE:HG21	1:C:1644:LEU:HD21	1.79	0.63
1:C:1057:LEU:HD13	1:C:1079:LEU:HD13	1.80	0.63
1:C:2102:GLU:HA	1:C:2106:GLU:HB2	1.80	0.63
1:B:702:SER:O	1:B:742:ARG:NH1	2.31	0.63
1:C:567:ILE:HG13	1:C:653:GLU:HG2	1.79	0.63
1:C:780:GLN:OE1	1:C:849:ARG:NH2	2.27	0.63
1:A:1283:GLN:O	1:A:1286:CYS:N	2.31	0.63
1:C:1687:LEU:HD11	1:C:1739:THR:HG21	1.81	0.63
1:A:1917:LYS:HA	1:A:1921:PHE:HB2	1.81	0.63
1:C:1099:LEU:HD22	1:C:1114:GLN:HG3	1.82	0.62
1:C:1099:LEU:HD13	1:C:1157:LEU:HD11	1.81	0.62
1:C:1873:GLY:HA3	1:C:1878:GLY:HA2	1.81	0.62
1:A:662:ARG:HB2	1:A:700:TRP:HE1	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:536:LEU:HD13	1:B:548:LYS:HE3	1.80	0.62
1:A:1245:ILE:HD13	1:A:1257:VAL:HG21	1.82	0.62
1:B:2045:ILE:HG21	1:B:2084:VAL:HG13	1.82	0.62
1:A:1543:GLU:HB3	1:A:2060:LYS:HG2	1.82	0.62
1:C:1863:TYR:HE1	1:C:1955:ARG:HD3	1.64	0.62
1:A:1557:VAL:HB	1:A:1654:LEU:HG	1.81	0.61
1:A:609:ASN:OD1	1:A:610:HIS:ND1	2.32	0.61
1:A:764:ASP:HB2	1:A:803:ARG:HH21	1.65	0.61
1:B:805:GLN:O	1:B:808:GLN:NE2	2.33	0.61
1:A:2041:THR:HG22	1:A:2084:VAL:HG21	1.83	0.61
1:C:800:LEU:HD11	1:C:808:GLN:HG3	1.82	0.61
1:C:2209:SER:O	1:C:2288:LYS:NZ	2.30	0.61
1:A:780:GLN:OE1	1:A:849:ARG:NH2	2.29	0.61
1:B:1560:LYS:O	1:B:1569:ASN:ND2	2.32	0.61
1:A:1824:MET:HG3	1:A:1863:TYR:CE2	2.35	0.61
1:C:1363:SER:O	1:C:1366:ARG:N	2.30	0.61
1:C:1441:GLN:HB3	1:C:1445:LYS:HB2	1.82	0.61
1:B:1414:VAL:HG21	1:B:1491:VAL:HG22	1.83	0.61
1:A:418:ARG:NH1	1:A:459:ASP:OD2	2.33	0.61
1:B:1443:SER:O	1:B:1514:ARG:NH2	2.34	0.61
1:A:540:CYS:HA	1:A:544:ARG:HG3	1.83	0.61
1:A:1156:LYS:HE3	1:A:1287:GLU:HB2	1.83	0.61
1:A:1467:ILE:HG21	1:A:1502:PHE:CE1	2.36	0.60
1:B:545:ASP:HB2	1:B:580:PHE:CD1	2.36	0.60
1:A:802:PRO:O	1:A:803:ARG:HD3	2.02	0.60
1:B:2168:VAL:HG13	1:B:2175:LEU:HD11	1.82	0.60
1:A:548:LYS:HG3	1:A:580:PHE:CG	2.36	0.60
1:C:662:ARG:NH2	1:C:665:LEU:O	2.32	0.60
1:A:1824:MET:HG3	1:A:1863:TYR:HE2	1.66	0.60
1:C:1356:LEU:O	1:C:1359:THR:HB	2.01	0.60
1:A:523:ASP:OD1	1:A:524:ILE:HD12	2.01	0.60
1:A:2297:GLU:HG3	1:A:2301:LYS:HE3	1.84	0.60
1:A:2375:ARG:NH1	1:C:2364:ASP:OD2	2.35	0.60
1:B:545:ASP:HB2	1:B:580:PHE:HD1	1.67	0.60
1:B:1159:LEU:HA	1:B:1162:ILE:HG22	1.84	0.60
1:C:2406:GLN:OE1	1:C:2412:LYS:NZ	2.34	0.60
1:C:695:GLU:OE1	1:C:735:ASN:ND2	2.33	0.59
1:A:1264:ILE:O	1:A:1268:TYR:CE2	2.55	0.59
1:B:1333:GLN:NE2	1:B:1377:THR:HB	2.16	0.59
1:C:1701:LEU:O	1:C:1706:HIS:N	2.34	0.59
1:C:1999:MET:SD	1:C:2002:ARG:NH1	2.62	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2355:ILE:HD13	1:A:2401:ALA:HB2	1.84	0.59
1:B:390:ILE:HG23	1:B:395:ILE:HB	1.83	0.59
1:A:547:GLN:HB2	1:A:551:TRP:NE1	2.16	0.59
1:B:1885:ILE:O	1:B:1887:ARG:NH1	2.35	0.59
1:C:1707:PRO:HB3	1:C:1969:ILE:HD12	1.83	0.59
1:C:1694:VAL:HA	1:C:1710:LEU:HD22	1.82	0.59
1:B:493:ARG:NH2	1:B:496:GLU:OE1	2.36	0.59
1:C:1333:GLN:HG3	1:C:1378:LEU:HD12	1.84	0.59
1:B:543:ASP:OD2	1:B:547:GLN:CD	2.41	0.59
1:B:577:CYS:O	1:B:599:ARG:NE	2.35	0.59
1:C:741:GLU:HG2	1:C:792:LEU:HD11	1.84	0.58
1:C:1123:LEU:HD21	1:C:1234:PRO:HD3	1.83	0.58
1:B:2245:MET:HE1	1:B:2308:TRP:HD1	1.67	0.58
1:B:548:LYS:HZ3	1:B:580:PHE:HB2	1.67	0.58
1:B:2183:VAL:HG21	1:B:2227:LYS:HD2	1.85	0.58
1:B:2325:VAL:HA	1:B:2333:LEU:HD11	1.84	0.58
1:A:2209:SER:O	1:A:2288:LYS:NZ	2.33	0.58
1:A:509:ASN:O	1:A:513:ASN:ND2	2.36	0.58
1:A:1123:LEU:HD23	1:A:1124:PRO:HD3	1.84	0.58
1:A:1592:GLY:HA2	1:A:1645:ARG:HD3	1.84	0.58
1:A:544:ARG:O	1:A:547:GLN:HG2	2.03	0.58
1:A:672:LEU:HB3	1:A:711:LEU:HG	1.86	0.58
1:A:390:ILE:HG23	1:A:395:ILE:HB	1.84	0.58
1:B:543:ASP:OD2	1:B:547:GLN:N	2.37	0.58
1:B:1326:LYS:HG3	1:B:1329:ARG:HH22	1.68	0.58
1:B:541:SER:CA	1:B:544:ARG:HH21	2.16	0.58
1:B:1318:ASP:HA	1:B:1322:HIS:HB2	1.85	0.58
1:B:2351:GLN:NE2	1:B:2398:CYS:SG	2.77	0.58
1:B:1334:GLU:HA	1:B:1337:PHE:HD2	1.68	0.57
1:B:1437:LEU:HD12	1:B:1440:PHE:HD2	1.69	0.57
1:B:567:ILE:HG22	1:B:571:LYS:NZ	2.19	0.57
1:B:1323:CYS:O	1:B:1371:HIS:NE2	2.25	0.57
1:C:1653:HIS:CD2	1:C:1991:VAL:HG22	2.39	0.57
1:A:1824:MET:CG	1:A:1863:TYR:CE2	2.88	0.57
1:B:543:ASP:CG	1:B:546:THR:HA	2.23	0.57
1:A:413:LEU:HD12	1:A:416:ILE:HD11	1.86	0.57
1:A:1034:PRO:HA	1:A:1037:ARG:HH12	1.68	0.57
1:A:1441:GLN:HB3	1:A:1445:LYS:HB2	1.86	0.57
1:A:1714:LEU:HD11	1:A:1794:ALA:HB2	1.86	0.57
1:B:345:ILE:HG22	1:B:347:SER:H	1.69	0.57
1:B:1664:PRO:HB2	1:B:1667:PHE:HB3	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:495:ALA:HB2	1:C:507:VAL:HG11	1.86	0.57
1:A:405:HIS:HA	1:A:445:ILE:HG22	1.87	0.57
1:B:2225:LEU:HD23	1:B:2228:LEU:HD13	1.87	0.57
1:C:1653:HIS:HD2	1:C:1991:VAL:HG22	1.68	0.57
1:C:1924:GLU:HG2	1:C:1943:LYS:HG2	1.87	0.57
1:A:1713:VAL:HA	1:A:1791:PRO:HD2	1.87	0.57
1:B:1369:ALA:HA	1:B:1426:ILE:HD11	1.87	0.57
1:B:1554:LYS:NZ	1:B:1898:TYR:OH	2.29	0.57
1:C:1585:ILE:O	1:C:1648:GLN:NE2	2.32	0.56
1:C:1813:ASN:HB2	1:C:1943:LYS:HE3	1.86	0.56
1:A:729:PRO:HG3	1:A:776:ARG:HG3	1.86	0.56
1:A:2447:GLN:HG3	1:A:2460:SER:HA	1.86	0.56
1:B:1446:LYS:HE3	1:B:1512:CYS:HB2	1.87	0.56
1:B:2052:LEU:HA	1:B:2056:GLY:HA3	1.88	0.56
1:B:2381:GLN:HB2	1:B:2456:PHE:O	2.05	0.56
1:B:2410:ASP:OD1	1:B:2411:LEU:N	2.38	0.56
1:C:623:TYR:OH	1:C:653:GLU:OE1	2.24	0.56
1:A:1591:THR:O	1:A:1645:ARG:NH1	2.39	0.56
1:B:721:GLU:HA	1:B:725:LEU:HD12	1.87	0.56
1:B:1380:ARG:HH21	1:B:1429:GLY:HA2	1.71	0.56
1:A:345:ILE:HG22	1:A:347:SER:H	1.70	0.56
1:B:1520:VAL:HG22	1:B:2047:LEU:HD22	1.87	0.56
1:C:345:ILE:HG22	1:C:347:SER:H	1.71	0.56
1:C:2237:ARG:O	1:C:2261:ASP:HB2	2.05	0.56
1:C:845:GLN:OE1	1:C:849:ARG:NH1	2.38	0.56
1:C:1731:TYR:HH	1:C:1771:CYS:HG	1.47	0.56
1:B:1406:TRP:HE3	1:B:1407:LEU:HD22	1.70	0.56
1:B:1664:PRO:HG2	1:B:1668:TRP:CE2	2.41	0.56
1:C:1462:LEU:HD21	1:C:1504:LEU:HD23	1.86	0.56
1:B:552:ILE:HD11	1:B:573:ILE:HG23	1.88	0.56
1:B:1037:ARG:NH1	1:B:1142:GLU:OE2	2.39	0.56
1:B:790:ILE:HA	1:B:793:LEU:HD12	1.87	0.55
1:C:2045:ILE:HG21	1:C:2084:VAL:HG13	1.87	0.55
1:B:1408:LYS:NZ	1:B:1461:GLU:OE2	2.40	0.55
1:C:1591:THR:O	1:C:1645:ARG:NH1	2.38	0.55
1:A:1824:MET:CG	1:A:1863:TYR:HE2	2.19	0.55
1:A:2348:ASP:OD2	1:A:2354:ARG:NH2	2.24	0.55
1:A:717:LYS:HZ3	1:A:751:GLU:HB2	1.71	0.55
1:A:1470:ALA:HB1	1:A:1999:MET:HG3	1.89	0.55
1:C:505:HIS:O	1:C:509:ASN:ND2	2.38	0.55
1:A:754:LEU:HD22	1:A:763:MET:HA	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1431:LEU:O	1:B:1435:LYS:HG3	2.07	0.55
1:B:1666:GLY:HA2	1:B:1669:LYS:HE3	1.88	0.55
1:A:1653:HIS:HD2	1:A:1991:VAL:HG22	1.72	0.55
1:B:542:GLN:H	1:B:542:GLN:CD	2.09	0.55
1:B:1448:HIS:HA	1:B:1452:GLU:HG3	1.89	0.55
1:B:2366:ARG:HG3	1:C:2366:ARG:HH22	1.71	0.55
1:A:359:ASN:HD21	1:A:412:LYS:HB3	1.72	0.55
1:A:1813:ASN:HD22	1:A:1943:LYS:HE3	1.72	0.55
1:A:1871:HIS:HE2	1:A:1878:GLY:HA3	1.72	0.55
1:B:355:LEU:HD23	1:B:412:LYS:HE2	1.88	0.55
1:C:1361:LEU:C	1:C:1363:SER:H	2.09	0.55
1:A:1400:LEU:O	1:A:1404:ILE:HG12	2.06	0.55
1:C:1502:PHE:CD2	1:C:2012:PHE:HB2	2.42	0.55
1:B:695:GLU:OE1	1:B:735:ASN:ND2	2.33	0.54
1:C:1369:ALA:HA	1:C:1426:ILE:HD11	1.87	0.54
1:C:1524:THR:HG23	1:C:1525:GLU:OE1	2.06	0.54
1:A:1427:LEU:HD21	1:A:1491:VAL:HG12	1.89	0.54
1:B:1653:HIS:CD2	1:B:1991:VAL:HG22	2.37	0.54
1:B:2409:GLY:O	1:B:2413:ARG:N	2.38	0.54
1:A:536:LEU:HD12	1:A:548:LYS:NZ	2.21	0.54
1:C:559:LEU:HB2	1:C:566:VAL:HG22	1.87	0.54
1:C:749:CYS:HG	1:C:761:TYR:HD2	1.53	0.54
1:C:1333:GLN:HG3	1:C:1378:LEU:HB2	1.89	0.54
1:C:1524:THR:HG23	1:C:1525:GLU:N	2.23	0.54
1:C:2409:GLY:O	1:C:2413:ARG:HG3	2.07	0.54
1:A:702:SER:HA	1:A:742:ARG:HH12	1.73	0.54
1:A:802:PRO:C	1:A:803:ARG:HD3	2.28	0.54
1:A:1820:ARG:NH2	1:A:1911:ASP:O	2.41	0.54
1:A:736:GLY:O	1:A:740:PHE:HB2	2.08	0.54
1:C:1813:ASN:OD1	1:C:1947:ASN:ND2	2.41	0.54
1:C:2365:ASP:OD1	1:C:2366:ARG:N	2.36	0.54
1:B:2247:SER:HA	1:B:2309:GLU:OE1	2.08	0.54
1:C:1041:ARG:HH12	1:C:1143:THR:HG22	1.72	0.54
1:B:536:LEU:CD2	1:B:546:THR:HG21	2.37	0.54
1:A:735:ASN:HA	1:A:738:LYS:HZ3	1.72	0.54
1:A:438:GLN:HA	1:A:446:VAL:HG12	1.90	0.54
1:B:1247:TRP:O	1:B:1268:TYR:OH	2.24	0.54
1:C:2328:SER:O	1:C:2383:ARG:NH2	2.35	0.54
1:B:1357:LEU:HD22	1:B:1375:TYR:HE1	1.73	0.53
1:C:1309:GLU:O	1:C:1313:GLN:NE2	2.40	0.53
1:C:790:ILE:HA	1:C:793:LEU:HD12	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2453:ASN:O	1:A:2455:TYR:N	2.41	0.53
1:B:1910:MET:HA	1:B:1915:GLU:HG2	1.90	0.53
1:C:1664:PRO:HG2	1:C:1668:TRP:CE2	2.43	0.53
1:C:2194:THR:HG22	1:C:2198:LYS:HZ2	1.72	0.53
1:C:2368:GLY:H	1:C:2371:ASP:HB2	1.73	0.53
1:C:1034:PRO:HA	1:C:1037:ARG:HH12	1.73	0.53
1:A:567:ILE:HB	1:A:568:PRO:HD3	1.90	0.53
1:A:1307:SER:O	1:A:1313:GLN:NE2	2.36	0.53
1:B:607:GLN:HA	1:B:611:ALA:HA	1.90	0.53
1:B:1441:GLN:OE1	1:B:1445:LYS:HB3	2.09	0.53
1:B:1924:GLU:HG2	1:B:1943:LYS:HG2	1.90	0.53
1:B:2160:VAL:O	1:B:2178:TYR:OH	2.20	0.53
1:C:1521:ASP:O	1:C:1524:THR:CG2	2.33	0.53
1:C:1987:ILE:O	1:C:1988:GLU:HG3	2.07	0.53
1:A:1642:GLY:O	1:A:1646:HIS:ND1	2.30	0.53
1:B:1709:MET:SD	1:B:1965:LEU:HB3	2.49	0.53
1:B:1740:LEU:HD23	1:B:1795:ILE:HG12	1.90	0.53
1:C:1159:LEU:HA	1:C:1162:ILE:HG22	1.90	0.53
1:C:1376:PHE:HB3	1:C:1380:ARG:NH1	2.20	0.53
1:A:1883:TYR:CD2	1:A:1910:MET:HG2	2.44	0.53
1:B:545:ASP:CB	1:B:580:PHE:HD1	2.21	0.53
1:B:1320:LEU:HD21	1:B:1378:LEU:HD12	1.91	0.53
1:B:2050:ARG:O	1:B:2054:THR:OG1	2.23	0.53
1:A:1435:LYS:HD2	1:A:1503:GLU:HG3	1.90	0.53
1:B:1561:ASN:ND2	1:B:1566:CYS:HB3	2.23	0.53
1:B:1873:GLY:HA3	1:B:1878:GLY:HA2	1.91	0.53
1:C:1709:MET:SD	1:C:1965:LEU:HB3	2.49	0.53
1:A:630:TYR:HD2	1:A:634:HIS:HB2	1.74	0.53
1:A:805:GLN:O	1:A:808:GLN:NE2	2.42	0.53
1:A:1235:ASP:OD1	1:A:1235:ASP:N	2.42	0.53
1:B:613:VAL:HG23	1:B:664:LEU:HD22	1.91	0.53
1:B:1447:PHE:CG	1:B:1514:ARG:HD2	2.44	0.53
1:C:1353:PHE:HA	1:C:1356:LEU:HB3	1.91	0.53
1:C:2013:MET:SD	1:C:2047:LEU:HD21	2.49	0.53
1:A:557:GLU:HA	1:A:560:ARG:HD2	1.90	0.52
1:A:1523:LEU:HD11	1:A:2012:PHE:HE2	1.74	0.52
1:B:1988:GLU:OE2	1:B:1989:ARG:NH2	2.40	0.52
1:C:1452:GLU:O	1:C:1457:ASN:ND2	2.38	0.52
1:A:1084:SER:HB3	1:A:1087:GLN:HG2	1.90	0.52
1:A:1987:ILE:O	1:A:1988:GLU:HG3	2.08	0.52
1:C:627:MET:HA	1:C:630:TYR:CE1	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1948:ALA:HB1	1:C:1951:LEU:HD21	1.92	0.52
1:A:505:HIS:O	1:A:509:ASN:ND2	2.41	0.52
1:A:800:LEU:HD11	1:A:808:GLN:HG3	1.90	0.52
1:A:1326:LYS:H	1:A:1326:LYS:HD2	1.73	0.52
1:B:2328:SER:O	1:B:2383:ARG:NH2	2.36	0.52
1:C:542:GLN:O	1:C:544:ARG:HG3	2.09	0.52
1:C:1673:LEU:N	1:C:1676:GLU:O	2.43	0.52
1:C:2067:ALA:HA	1:C:2070:TRP:HD1	1.73	0.52
1:A:620:LEU:HD22	1:A:657:ARG:HD2	1.92	0.52
1:A:1707:PRO:HB3	1:A:1969:ILE:HD12	1.92	0.52
1:A:2079:ARG:HA	1:A:2085:ARG:HH21	1.73	0.52
1:B:754:LEU:HD22	1:B:763:MET:HA	1.91	0.52
1:B:1568:MET:HG3	1:B:1667:PHE:HE2	1.73	0.52
1:B:1643:VAL:HG13	1:B:1671:PHE:CZ	2.45	0.52
1:B:1697:LEU:HD23	1:B:1710:LEU:HD11	1.91	0.52
1:B:2408:ASN:O	1:B:2408:ASN:ND2	2.43	0.52
1:C:1329:ARG:NH2	1:C:1371:HIS:HD2	2.07	0.52
1:A:1445:LYS:C	1:A:1447:PHE:H	2.12	0.52
1:A:1653:HIS:CD2	1:A:1991:VAL:HG22	2.45	0.52
1:A:1871:HIS:NE2	1:A:1878:GLY:HA3	2.25	0.52
1:B:846:GLU:HA	1:B:849:ARG:HD3	1.90	0.52
1:C:508:LEU:HD23	1:C:511:LEU:HD12	1.92	0.52
1:C:1684:HIS:HE1	1:C:1688:GLU:HB2	1.73	0.52
1:A:1380:ARG:HE	1:A:1432:GLY:HA3	1.75	0.52
1:A:1757:TYR:HD1	1:A:1784:LEU:HB2	1.74	0.52
1:B:1283:GLN:HA	1:B:1286:CYS:SG	2.49	0.52
1:A:544:ARG:HB3	1:A:544:ARG:HH11	1.75	0.52
1:B:1337:PHE:HE1	1:B:1381:HIS:HB2	1.75	0.52
1:C:1531:THR:HG21	1:C:1537:GLU:HG2	1.92	0.52
1:A:1246:ILE:HG21	1:A:1319:LEU:HD21	1.92	0.52
1:B:1713:VAL:HA	1:B:1791:PRO:HD2	1.92	0.52
1:C:2303:LEU:HD12	1:C:2339:LEU:HD21	1.91	0.52
1:A:418:ARG:NH2	1:A:455:LYS:O	2.42	0.51
1:A:735:ASN:OD1	1:A:738:LYS:NZ	2.43	0.51
1:B:1248:ALA:HB1	1:B:1254:LEU:HA	1.91	0.51
1:B:1567:TYR:CZ	1:B:1684:HIS:HB2	2.45	0.51
1:B:1673:LEU:HB2	1:B:1678:VAL:HG22	1.92	0.51
1:A:1326:LYS:HG3	1:A:1329:ARG:NH1	2.24	0.51
1:C:2426:LEU:HD21	1:C:2463:ALA:HB3	1.92	0.51
1:A:1244:LYS:HG3	1:A:1261:ASN:HD21	1.74	0.51
1:A:1664:PRO:HB2	1:A:1667:PHE:HB3	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2376:SER:HB2	1:A:2384:ALA:HB2	1.91	0.51
1:A:526:ASP:OD1	1:A:527:LEU:N	2.44	0.51
1:C:563:ASP:HB3	1:C:565:TRP:NE1	2.26	0.51
1:C:1144:ARG:HB3	1:C:1145:ARG:HH12	1.75	0.51
1:C:1330:GLN:NE2	1:C:1374:ASP:OD2	2.44	0.51
1:B:413:LEU:HA	1:B:416:ILE:HD12	1.92	0.51
1:B:1444:GLU:OE2	1:B:1514:ARG:NH1	2.42	0.51
1:B:1694:VAL:HG12	1:B:1710:LEU:HD22	1.92	0.51
1:C:509:ASN:O	1:C:513:ASN:ND2	2.43	0.51
1:C:720:PHE:HA	1:C:724:VAL:HB	1.93	0.51
1:C:1283:GLN:O	1:C:1287:GLU:HG2	2.11	0.51
1:A:2045:ILE:HG21	1:A:2084:VAL:HG13	1.93	0.51
1:B:2162:ASN:OD1	1:B:2165:ARG:NH1	2.43	0.51
1:C:516:HIS:NE2	1:C:568:PRO:HB2	2.26	0.51
1:C:2307:CYS:O	1:C:2354:ARG:NH2	2.43	0.51
1:C:2416:THR:O	1:C:2419:VAL:HG22	2.10	0.51
1:B:1235:ASP:N	1:B:1235:ASP:OD1	2.42	0.51
1:A:337:LYS:O	1:A:341:ARG:HG2	2.12	0.51
1:A:695:GLU:OE1	1:A:735:ASN:ND2	2.39	0.51
1:A:696:ALA:HA	1:A:699:LYS:HE3	1.93	0.51
1:B:495:ALA:HB2	1:B:507:VAL:HG11	1.94	0.50
1:C:1560:LYS:HE3	1:C:1663:VAL:HG13	1.93	0.50
1:A:1750:LEU:N	1:A:1817:GLU:O	2.41	0.50
1:A:494:LEU:HB3	1:A:503:MET:HE2	1.92	0.50
1:A:1886:GLN:N	1:A:1896:ARG:O	2.39	0.50
1:B:776:ARG:HA	1:B:779:ILE:HG22	1.94	0.50
1:B:1307:SER:O	1:B:1313:GLN:NE2	2.39	0.50
1:B:1536:CYS:HB2	1:B:2099:ARG:HH22	1.77	0.50
1:B:2133:CYS:HB3	1:B:2155:HIS:CE1	2.47	0.50
1:A:503:MET:HA	1:A:506:LYS:HE2	1.93	0.50
1:A:2052:LEU:HA	1:A:2056:GLY:HA3	1.93	0.50
1:A:2448:SER:O	1:A:2450:GLU:N	2.37	0.50
1:A:1763:LEU:HD12	1:A:1769:TYR:HB2	1.92	0.50
1:B:1268:TYR:HB3	1:B:1322:HIS:HB3	1.94	0.50
1:B:2102:GLU:HA	1:B:2106:GLU:HG3	1.94	0.50
1:C:1467:ILE:HG21	1:C:1502:PHE:CE1	2.46	0.50
1:C:2007:MET:HA	1:C:2063:VAL:HG13	1.92	0.50
1:A:544:ARG:CZ	1:A:548:LYS:HZ3	2.25	0.50
1:A:2018:THR:HG22	1:A:2018:THR:O	2.12	0.50
1:A:776:ARG:HA	1:A:779:ILE:HG22	1.92	0.50
1:A:2062:VAL:HG23	1:A:2063:VAL:HG23	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:716:ASN:HA	1:C:719:PHE:CE1	2.47	0.50
1:C:1354:ILE:HG22	1:C:1355:THR:N	2.26	0.50
1:A:1239:ILE:HD11	1:A:1295:CYS:SG	2.52	0.50
1:B:546:THR:O	1:B:548:LYS:HG2	2.12	0.50
1:A:790:ILE:HG12	1:A:856:VAL:HG22	1.94	0.49
1:A:1719:ALA:N	1:A:1785:LEU:O	2.33	0.49
1:C:1456:ALA:O	1:C:1458:LEU:N	2.45	0.49
1:C:1658:ARG:N	1:C:1995:ASN:OD1	2.29	0.49
1:C:1919:GLN:HA	1:C:1946:TRP:CD1	2.47	0.49
1:C:2052:LEU:HA	1:C:2056:GLY:HA3	1.94	0.49
1:A:1722:LYS:HB2	1:A:1731:TYR:HB2	1.94	0.49
1:A:435:TRP:CD1	1:A:471:CYS:HB3	2.47	0.49
1:A:540:CYS:HA	1:A:544:ARG:CG	2.42	0.49
1:A:563:ASP:HB3	1:A:565:TRP:NE1	2.26	0.49
1:B:553:ASP:HA	1:B:556:ILE:HD12	1.94	0.49
1:B:1423:GLU:H	1:B:1426:ILE:HD12	1.75	0.49
1:C:1247:TRP:O	1:C:1268:TYR:OH	2.21	0.49
1:C:1357:LEU:O	1:C:1360:VAL:N	2.45	0.49
1:C:1445:LYS:C	1:C:1447:PHE:H	2.14	0.49
1:A:2185:TYR:OH	1:A:2195:GLN:OE1	2.27	0.49
1:A:784:ASP:OD1	1:A:785:ILE:N	2.46	0.49
1:C:658:LEU:HD11	1:C:700:TRP:HB2	1.93	0.49
1:A:1573:GLN:HB3	1:A:1900:PHE:HD2	1.77	0.49
1:A:2416:THR:O	1:A:2419:VAL:HG22	2.12	0.49
1:B:784:ASP:N	1:B:784:ASP:OD1	2.45	0.49
1:A:1740:LEU:O	1:A:1796:GLN:N	2.34	0.49
1:A:2154:ASP:OD1	1:A:2195:GLN:NE2	2.40	0.49
1:C:2196:LEU:HD22	1:C:2201:VAL:HG21	1.94	0.49
1:A:1502:PHE:CD2	1:A:2012:PHE:HB2	2.48	0.49
1:A:2362:ILE:HG23	1:A:2365:ASP:HB2	1.95	0.49
1:B:563:ASP:HB3	1:B:565:TRP:CZ3	2.48	0.49
1:B:1701:LEU:O	1:B:1706:HIS:N	2.44	0.49
1:C:2208:VAL:O	1:C:2209:SER:OG	2.22	0.49
1:A:547:GLN:HB2	1:A:551:TRP:HE1	1.76	0.49
1:B:1588:ILE:HG21	1:B:1644:LEU:HD21	1.94	0.49
1:C:598:TYR:O	1:C:602:LEU:HG	2.13	0.49
1:C:1247:TRP:HE3	1:C:1264:ILE:HB	1.78	0.49
1:A:1710:LEU:HD21	1:A:1714:LEU:HD23	1.94	0.49
1:B:1041:ARG:HH12	1:B:1143:THR:HG22	1.77	0.49
1:C:2324:GLN:O	1:C:2328:SER:OG	2.21	0.49
1:B:1033:MET:HG3	1:B:1036:LEU:HD13	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1348:ARG:HE	1:B:1351:LEU:HD22	1.78	0.48
1:B:1395:ASN:ND2	1:B:1399:LEU:HD21	2.28	0.48
1:C:498:ASP:OD2	1:C:504:ALA:N	2.46	0.48
1:C:1673:LEU:HD21	1:C:1684:HIS:CE1	2.48	0.48
1:C:1751:LEU:O	1:C:1755:GLU:HG2	2.12	0.48
1:B:1309:GLU:O	1:B:1313:GLN:NE2	2.46	0.48
1:C:2309:GLU:HA	1:C:2350:TRP:CD1	2.47	0.48
1:A:627:MET:HA	1:A:630:TYR:CE1	2.49	0.48
1:A:1709:MET:SD	1:A:1965:LEU:HB3	2.53	0.48
1:B:1558:GLY:HA3	1:B:1903:GLY:HA2	1.95	0.48
1:B:1559:LEU:H	1:B:1903:GLY:HA2	1.78	0.48
1:C:1520:VAL:HG13	1:C:2047:LEU:HD12	1.96	0.48
1:C:1642:GLY:O	1:C:1646:HIS:ND1	2.33	0.48
1:C:2309:GLU:HG3	1:C:2348:ASP:HB2	1.95	0.48
1:A:2248:SER:HB3	1:A:2350:TRP:CE2	2.48	0.48
1:B:1384:ASN:O	1:B:1388:ASN:N	2.38	0.48
1:B:1731:TYR:HH	1:B:1771:CYS:HG	1.46	0.48
1:C:1323:CYS:SG	1:C:1324:HIS:N	2.87	0.48
1:A:1262:GLU:O	1:A:1265:THR:OG1	2.24	0.48
1:B:620:LEU:HD21	1:B:657:ARG:HB3	1.95	0.48
1:C:1022:TRP:O	1:C:1086:SER:OG	2.24	0.48
1:C:1910:MET:HA	1:C:1915:GLU:HB3	1.95	0.48
1:C:2085:ARG:NH1	1:C:2130:ASP:OD2	2.46	0.48
1:B:543:ASP:OD2	1:B:547:GLN:NE2	2.46	0.48
1:B:720:PHE:HA	1:B:724:VAL:HB	1.95	0.48
1:B:1326:LYS:HG3	1:B:1329:ARG:HH12	1.78	0.48
1:C:662:ARG:NH1	1:C:704:LEU:HA	2.29	0.48
1:A:469:PHE:HE2	1:A:506:LYS:HE3	1.78	0.48
1:A:1742:VAL:HG23	1:A:1744:ILE:HD11	1.95	0.48
1:B:541:SER:HA	1:B:544:ARG:NH2	2.29	0.48
1:B:855:THR:HA	1:B:858:ARG:HG2	1.95	0.48
1:B:2248:SER:HB3	1:B:2350:TRP:CE2	2.48	0.48
1:B:2362:ILE:HG22	1:B:2363:PRO:HD2	1.95	0.48
1:C:1235:ASP:OD1	1:C:1235:ASP:N	2.44	0.48
1:B:540:CYS:O	1:B:543:ASP:N	2.47	0.48
1:B:1527:TYR:CE2	1:B:2004:GLN:HB2	2.49	0.48
1:C:1717:SER:HA	1:C:1736:SER:HA	1.95	0.48
1:C:1723:ILE:HG12	1:C:1730:ARG:HD2	1.96	0.48
1:C:2164:LEU:HD23	1:C:2168:VAL:HG21	1.95	0.48
1:B:498:ASP:OD2	1:B:504:ALA:N	2.45	0.48
1:B:729:PRO:HG3	1:B:776:ARG:HG3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2321:LEU:O	1:B:2325:VAL:HG23	2.14	0.48
1:C:1386:ALA:HA	1:C:1391:ILE:HB	1.94	0.48
1:C:1592:GLY:HA2	1:C:1645:ARG:HD3	1.95	0.48
1:A:1246:ILE:HD13	1:A:1289:LEU:HG	1.96	0.48
1:A:1442:THR:OG1	1:A:1443:SER:N	2.46	0.48
1:B:1412:ASP:HA	1:B:1415:LYS:HE3	1.96	0.48
1:C:790:ILE:HG12	1:C:856:VAL:HG22	1.96	0.48
1:A:1096:TYR:CZ	1:A:1153:LYS:HB3	2.50	0.47
1:A:1456:ALA:O	1:A:1458:LEU:N	2.47	0.47
1:A:1531:THR:HG21	1:A:1537:GLU:HG2	1.96	0.47
1:B:418:ARG:NH2	1:B:455:LYS:O	2.47	0.47
1:C:855:THR:HA	1:C:858:ARG:HG2	1.96	0.47
1:C:1657:SER:HA	1:C:1995:ASN:HD21	1.78	0.47
1:C:1756:GLN:NE2	1:C:1760:GLY:O	2.46	0.47
1:A:625:GLU:O	1:A:629:LEU:HG	2.14	0.47
1:A:1545:LEU:HD23	1:A:2060:LYS:HD3	1.95	0.47
1:B:450:HIS:ND1	1:B:490:LEU:HD22	2.29	0.47
1:B:1896:ARG:HH21	1:B:1907:GLU:HG2	1.79	0.47
1:A:536:LEU:HB3	1:A:548:LYS:HE3	1.96	0.47
1:B:1502:PHE:CD2	1:B:2012:PHE:HB2	2.50	0.47
1:C:1254:LEU:HD23	1:C:1254:LEU:O	2.14	0.47
1:C:1520:VAL:HG22	1:C:2047:LEU:HD13	1.96	0.47
1:A:714:ASP:OD1	1:A:715:ILE:HG13	2.15	0.47
1:B:2245:MET:HE1	1:B:2308:TRP:CD1	2.49	0.47
1:C:1362:GLY:HA2	1:C:1366:ARG:HB2	1.97	0.47
1:C:1380:ARG:HG3	1:C:1436:GLU:HG3	1.96	0.47
1:C:1566:CYS:HB2	1:C:1880:TYR:H	1.79	0.47
1:C:2176:GLN:HB2	1:C:2177:GLN:OE1	2.14	0.47
1:A:476:TRP:CD1	1:A:487:LEU:HD13	2.49	0.47
1:A:620:LEU:HD21	1:A:657:ARG:HB3	1.96	0.47
1:A:850:MET:HA	1:A:853:VAL:HG12	1.96	0.47
1:A:1397:GLU:OE2	1:A:1401:ASN:ND2	2.46	0.47
1:A:1576:TYR:HA	1:A:1651:PHE:HE1	1.79	0.47
1:B:658:LEU:HD21	1:B:700:TRP:HB2	1.96	0.47
1:C:1149:LEU:HA	1:C:1287:GLU:OE2	2.14	0.47
1:A:556:ILE:O	1:A:560:ARG:HG3	2.14	0.47
1:A:628:ARG:HH12	1:A:687:ASN:HB2	1.79	0.47
1:A:1356:LEU:O	1:A:1359:THR:HG22	2.15	0.47
1:A:2050:ARG:O	1:A:2054:THR:OG1	2.25	0.47
1:B:1130:LEU:HD12	1:B:1131:THR:HG23	1.97	0.47
1:B:1282:GLU:HG2	1:B:1328:VAL:HG23	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1333:GLN:NE2	1:B:1374:ASP:O	2.47	0.47
1:C:1084:SER:HB3	1:C:1087:GLN:HG2	1.96	0.47
1:A:2256:PRO:O	1:A:2258:PRO:HD3	2.15	0.47
1:B:1387:TYR:HB2	1:B:1440:PHE:CE1	2.49	0.47
1:B:1749:ASN:HA	1:B:1817:GLU:HB2	1.97	0.47
1:B:2202:PRO:O	1:B:2206:MET:HG3	2.14	0.47
1:C:404:LEU:HD13	1:C:449:VAL:HG22	1.97	0.47
1:C:1919:GLN:HG3	1:C:1920:CYS:SG	2.55	0.47
1:C:2194:THR:HG22	1:C:2198:LYS:NZ	2.29	0.47
1:A:662:ARG:HB2	1:A:700:TRP:NE1	2.29	0.47
1:A:1309:GLU:O	1:A:1313:GLN:NE2	2.48	0.47
1:A:2172:GLY:O	1:A:2173:ARG:HB2	2.14	0.47
1:B:1337:PHE:CE1	1:B:1381:HIS:HB2	2.49	0.47
1:B:1757:TYR:HD1	1:B:1784:LEU:HB2	1.80	0.47
1:B:1904:ASP:OD1	1:B:1905:VAL:N	2.48	0.47
1:C:672:LEU:HD23	1:C:711:LEU:HD11	1.96	0.47
1:C:1434:THR:O	1:C:1438:LEU:HB2	2.14	0.47
1:C:1920:CYS:HB3	1:C:1948:ALA:HB2	1.97	0.47
1:A:540:CYS:SG	1:A:541:SER:N	2.88	0.47
1:B:1559:LEU:N	1:B:1903:GLY:HA2	2.29	0.47
1:B:2172:GLY:O	1:B:2173:ARG:HB2	2.14	0.47
1:C:1412:ASP:HA	1:C:1415:LYS:HB3	1.96	0.47
1:A:827:TYR:OH	1:A:1023:GLN:HG2	2.14	0.46
1:A:1243:GLN:OE1	1:A:1247:TRP:NE1	2.48	0.46
1:A:2042:MET:O	1:A:2046:GLN:HG3	2.15	0.46
1:B:1380:ARG:NH2	1:B:1428:GLU:HG3	2.27	0.46
1:B:1512:CYS:SG	1:B:1515:ASN:ND2	2.86	0.46
1:B:1576:TYR:HD1	1:B:1651:PHE:CD1	2.33	0.46
1:C:1307:SER:O	1:C:1313:GLN:NE2	2.43	0.46
1:A:1325:SER:O	1:A:1328:VAL:HG12	2.14	0.46
1:A:2454:GLY:O	1:A:2455:TYR:HB2	2.15	0.46
1:C:1145:ARG:NH2	1:C:1254:LEU:HD22	2.30	0.46
1:C:1287:GLU:O	1:C:1291:VAL:HG23	2.14	0.46
1:C:1824:MET:SD	1:C:1824:MET:N	2.88	0.46
1:A:431:LEU:HD23	1:A:434:ILE:HD12	1.98	0.46
1:A:1159:LEU:HA	1:A:1162:ILE:HG22	1.97	0.46
1:A:1647:LEU:HG	1:A:1651:PHE:CE2	2.49	0.46
1:B:337:LYS:O	1:B:341:ARG:HG2	2.15	0.46
1:B:457:ALA:HA	1:B:460:PHE:HD2	1.81	0.46
1:B:1742:VAL:HB	1:B:1753:SER:HB2	1.97	0.46
1:C:1500:ALA:HA	1:C:1503:GLU:OE2	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2309:GLU:HA	1:C:2350:TRP:HD1	1.79	0.46
1:C:2385:TYR:CZ	1:C:2389:LYS:HD2	2.49	0.46
1:A:1963:ASP:HA	1:A:1966:ILE:HD12	1.96	0.46
1:B:1813:ASN:OD1	1:B:1947:ASN:ND2	2.48	0.46
1:C:536:LEU:HB3	1:C:548:LYS:NZ	2.31	0.46
1:C:776:ARG:HA	1:C:779:ILE:HG22	1.97	0.46
1:A:389:TRP:O	1:A:393:ASN:ND2	2.36	0.46
1:A:1319:LEU:O	1:A:1329:ARG:HG2	2.16	0.46
1:B:541:SER:N	1:B:544:ARG:HH21	2.12	0.46
1:B:1561:ASN:HD21	1:B:1566:CYS:HB3	1.81	0.46
1:B:1754:LEU:HD11	1:B:1822:LEU:HD21	1.96	0.46
1:C:858:ARG:HG3	1:C:859:GLU:OE1	2.15	0.46
1:C:1096:TYR:CZ	1:C:1153:LYS:HB3	2.51	0.46
1:C:1247:TRP:NE1	1:C:1315:PHE:HD1	2.14	0.46
1:C:1408:LYS:HZ1	1:C:1456:ALA:HB1	1.80	0.46
1:A:1740:LEU:HD12	1:A:1795:ILE:HG12	1.97	0.46
1:B:1572:ILE:HD11	1:B:1667:PHE:CZ	2.51	0.46
1:C:1080:PHE:HZ	1:C:1095:VAL:HG21	1.80	0.46
1:B:1262:GLU:O	1:B:1265:THR:OG1	2.27	0.46
1:C:540:CYS:SG	1:C:541:SER:N	2.88	0.46
1:C:1141:MET:O	1:C:1145:ARG:HG2	2.16	0.46
1:C:1522:SER:O	1:C:1526:MET:HG3	2.16	0.46
1:A:553:ASP:HA	1:A:556:ILE:HD12	1.97	0.46
1:A:1012:SER:OG	1:A:1013:LEU:N	2.48	0.46
1:A:1586:LEU:HD21	1:A:1651:PHE:HB2	1.98	0.46
1:C:749:CYS:SG	1:C:761:TYR:HD2	2.38	0.46
1:C:1144:ARG:HB3	1:C:1145:ARG:NH1	2.30	0.46
1:C:2322:LEU:HA	1:C:2325:VAL:HG12	1.98	0.46
1:A:1085:ALA:HB1	1:A:1136:LEU:HD21	1.97	0.46
1:A:1664:PRO:HG2	1:A:1668:TRP:CE2	2.51	0.46
1:A:2188:LEU:HB3	1:A:2192:GLU:OE1	2.16	0.46
1:B:1429:GLY:O	1:B:1433:VAL:N	2.37	0.46
1:B:1099:LEU:HD13	1:B:1157:LEU:HD11	1.97	0.46
1:B:2341:LEU:O	1:B:2345:LEU:HG	2.15	0.46
1:C:2079:ARG:HB3	1:C:2122:PHE:CZ	2.51	0.46
1:A:400:LEU:HG	1:A:404:LEU:HD11	1.97	0.45
1:A:578:SER:O	1:A:599:ARG:NH2	2.45	0.45
1:A:1896:ARG:HH21	1:A:1907:GLU:HG2	1.81	0.45
1:A:2160:VAL:O	1:A:2178:TYR:OH	2.26	0.45
1:B:542:GLN:HG2	1:B:543:ASP:N	2.31	0.45
1:B:665:LEU:HD23	1:B:704:LEU:HD11	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1387:TYR:HB2	1:B:1440:PHE:HE1	1.81	0.45
1:B:2049:ALA:HB1	1:B:2092:VAL:HG21	1.97	0.45
1:C:2033:LEU:HD12	1:C:2037:ALA:HB3	1.98	0.45
1:A:1014:HIS:HB3	1:A:1016:ARG:HG2	1.97	0.45
1:B:827:TYR:HE2	1:B:1024:VAL:HA	1.81	0.45
1:B:1815:TYR:HE1	1:B:1917:LYS:HG3	1.80	0.45
1:B:2034:LEU:HD12	1:B:2037:ALA:H	1.80	0.45
1:C:2333:LEU:HD21	1:C:2383:ARG:HG3	1.99	0.45
1:A:1536:CYS:HB2	1:A:2099:ARG:HH22	1.82	0.45
1:A:2247:SER:HA	1:A:2309:GLU:OE1	2.16	0.45
1:B:790:ILE:HG12	1:B:856:VAL:HG22	1.99	0.45
1:B:2133:CYS:HB3	1:B:2155:HIS:HE1	1.80	0.45
1:B:2426:LEU:HD12	1:B:2467:LEU:HD22	1.99	0.45
1:C:784:ASP:OD1	1:C:784:ASP:N	2.47	0.45
1:C:1353:PHE:O	1:C:1354:ILE:C	2.54	0.45
1:A:1241:ALA:O	1:A:1245:ILE:HG12	2.16	0.45
1:B:1139:ALA:HB1	1:B:1144:ARG:HB2	1.97	0.45
1:B:1536:CYS:HB2	1:B:2099:ARG:NH2	2.31	0.45
1:B:2303:LEU:HD12	1:B:2339:LEU:HD21	1.98	0.45
1:C:544:ARG:N	1:C:547:GLN:HE22	2.15	0.45
1:C:1325:SER:O	1:C:1328:VAL:HG12	2.15	0.45
1:C:1640:ASN:HB3	1:C:1700:ALA:HB2	1.97	0.45
1:B:797:TYR:HB3	1:B:860:TYR:HE1	1.81	0.45
1:B:1719:ALA:N	1:B:1785:LEU:O	2.40	0.45
1:B:1320:LEU:HD22	1:B:1375:TYR:HA	1.98	0.45
1:B:1357:LEU:HB3	1:B:1379:LEU:HD12	1.98	0.45
1:A:1380:ARG:NE	1:A:1432:GLY:HA3	2.32	0.45
1:A:2410:ASP:OD1	1:A:2411:LEU:N	2.49	0.45
1:C:705:MET:HB2	1:C:742:ARG:HH11	1.82	0.45
1:C:2271:ILE:HD13	1:C:2280:PHE:HE2	1.80	0.45
1:A:1762:LEU:HD13	1:A:1781:VAL:HG22	1.98	0.45
1:A:2220:TYR:CZ	1:A:2222:TYR:HB2	2.52	0.45
1:B:1557:VAL:HB	1:B:1654:LEU:HD13	1.99	0.45
1:B:2164:LEU:HD11	1:B:2208:VAL:HG21	1.99	0.45
1:A:341:ARG:O	1:A:345:ILE:HG12	2.17	0.45
1:A:1567:TYR:CE2	1:A:1684:HIS:HB2	2.52	0.45
1:B:1493:GLY:N	1:B:1497:THR:OG1	2.49	0.45
1:C:558:GLU:HG3	1:C:565:TRP:HB3	1.99	0.45
1:C:567:ILE:HG22	1:C:571:LYS:NZ	2.32	0.45
1:A:623:TYR:OH	1:A:653:GLU:OE1	2.22	0.45
1:A:1096:TYR:HB2	1:A:1154:ILE:HD11	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1278:ASP:O	1:A:1282:GLU:HG2	2.17	0.45
1:B:685:ALA:HB1	1:B:694:ARG:HG2	1.99	0.45
1:C:450:HIS:HB3	1:C:490:LEU:HD13	1.99	0.45
1:C:2088:PHE:O	1:C:2092:VAL:HG22	2.17	0.45
1:A:564:LYS:HE2	1:A:564:LYS:HB2	1.78	0.44
1:A:717:LYS:NZ	1:A:747:VAL:O	2.50	0.44
1:B:1318:ASP:O	1:B:1323:CYS:N	2.50	0.44
1:B:2375:ARG:HD2	1:C:2323:TRP:HH2	1.82	0.44
1:C:1430:HIS:HA	1:C:1433:VAL:HG12	1.99	0.44
1:C:1672:ARG:HB2	1:C:1677:PRO:HA	1.98	0.44
1:C:1673:LEU:HB2	1:C:1678:VAL:HG22	1.97	0.44
1:C:1820:ARG:NH2	1:C:1911:ASP:O	2.50	0.44
1:C:1864:ARG:HE	1:C:1956:MET:HE1	1.83	0.44
1:C:2033:LEU:HD21	1:C:2080:HIS:HB3	1.98	0.44
1:A:1774:CYS:HB3	1:A:1776:LYS:HG2	1.99	0.44
1:B:736:GLY:O	1:B:740:PHE:HB2	2.18	0.44
1:B:1446:LYS:NZ	1:B:1510:VAL:O	2.22	0.44
1:C:736:GLY:O	1:C:740:PHE:HB2	2.17	0.44
1:C:1326:LYS:H	1:C:1326:LYS:HD2	1.82	0.44
1:C:1332:ALA:O	1:C:1335:GLN:HG3	2.17	0.44
1:A:355:LEU:HD22	1:A:409:TYR:CE1	2.53	0.44
1:B:1358:PHE:HD2	1:B:1361:LEU:HD21	1.82	0.44
1:C:1748:GLN:O	1:C:1816:PHE:HA	2.18	0.44
1:A:381:LEU:HD12	1:A:385:ARG:HB3	1.99	0.44
1:A:399:VAL:HG11	1:A:413:LEU:HD13	1.99	0.44
1:C:741:GLU:HG2	1:C:792:LEU:HD21	1.98	0.44
1:C:2202:PRO:HD3	1:C:2235:LEU:HD13	1.99	0.44
1:A:753:LYS:O	1:A:754:LEU:HD23	2.17	0.44
1:A:1744:ILE:HG23	1:A:1816:PHE:CD1	2.53	0.44
1:B:1326:LYS:H	1:B:1326:LYS:HD2	1.82	0.44
1:B:1673:LEU:N	1:B:1676:GLU:O	2.51	0.44
1:C:400:LEU:HD23	1:C:404:LEU:HD21	1.98	0.44
1:C:567:ILE:HB	1:C:568:PRO:HD3	2.00	0.44
1:C:2406:GLN:HA	1:C:2412:LYS:NZ	2.33	0.44
1:A:494:LEU:HD22	1:A:503:MET:HE1	1.99	0.44
1:A:1314:THR:HG22	1:A:1318:ASP:OD2	2.17	0.44
1:A:1243:GLN:O	1:A:1247:TRP:HD1	2.01	0.44
1:B:559:LEU:O	1:B:619:ASN:ND2	2.51	0.44
1:C:2011:GLN:O	1:C:2015:LYS:HG2	2.18	0.44
1:A:1588:ILE:O	1:A:1648:GLN:NE2	2.37	0.44
1:A:1793:LEU:HB3	1:A:1953:TYR:HB2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2277:ASP:HA	1:A:2281:VAL:HB	2.00	0.44
1:B:1337:PHE:CZ	1:B:1378:LEU:HD23	2.52	0.44
1:B:2165:ARG:O	1:B:2215:GLY:HA3	2.17	0.44
1:C:717:LYS:HZ3	1:C:751:GLU:HB2	1.83	0.44
1:C:1562:ALA:HB2	1:C:1668:TRP:CH2	2.52	0.44
1:C:1866:VAL:HG12	1:C:1885:ILE:HD12	2.00	0.44
1:A:547:GLN:CB	1:A:551:TRP:CD1	2.97	0.44
1:A:552:ILE:HD11	1:A:573:ILE:HG23	2.00	0.44
1:A:672:LEU:HD23	1:A:711:LEU:HD11	2.00	0.44
1:B:396:LEU:HD11	1:B:430:ASP:HB3	2.00	0.44
1:B:2124:ALA:O	1:B:2153:SER:OG	2.33	0.44
1:C:337:LYS:O	1:C:341:ARG:HG2	2.18	0.44
1:C:630:TYR:CD2	1:C:634:HIS:HB2	2.44	0.44
1:C:827:TYR:CE2	1:C:1024:VAL:HA	2.52	0.44
1:C:2367:ASP:HB3	1:C:2371:ASP:HB2	2.00	0.44
1:A:1663:VAL:HG12	1:A:1665:ARG:HE	1.83	0.43
1:B:340:LEU:HD23	1:B:341:ARG:HH12	1.82	0.43
1:B:426:LEU:HB3	1:B:464:GLN:NE2	2.33	0.43
1:B:1813:ASN:HB2	1:B:1943:LYS:HE3	2.00	0.43
1:C:703:LYS:HA	1:C:703:LYS:HD2	1.86	0.43
1:C:2046:GLN:O	1:C:2050:ARG:HD3	2.18	0.43
1:C:2409:GLY:O	1:C:2413:ARG:N	2.46	0.43
1:B:1774:CYS:HB3	1:B:1776:LYS:HG2	1.99	0.43
1:C:1361:LEU:C	1:C:1363:SER:N	2.72	0.43
1:A:544:ARG:HB3	1:A:544:ARG:NH1	2.33	0.43
1:A:701:TYR:O	1:A:705:MET:HE2	2.18	0.43
1:A:720:PHE:HA	1:A:724:VAL:HB	2.01	0.43
1:A:858:ARG:HG3	1:A:859:GLU:OE1	2.18	0.43
1:A:1076:LEU:HA	1:A:1079:LEU:HD12	2.01	0.43
1:B:534:LYS:NZ	1:B:538:TYR:HB2	2.33	0.43
1:B:540:CYS:HA	1:B:543:ASP:O	2.18	0.43
1:B:540:CYS:SG	1:B:541:SER:N	2.90	0.43
1:B:720:PHE:CD2	1:B:747:VAL:HG21	2.53	0.43
1:B:1993:LYS:O	1:B:1997:GLN:HG3	2.17	0.43
1:B:2334:ARG:HB3	1:B:2335:PRO:HD3	2.00	0.43
1:B:2375:ARG:HE	1:C:2323:TRP:HZ3	1.66	0.43
1:C:479:ALA:O	1:C:484:ARG:NH1	2.52	0.43
1:C:758:ARG:H	1:C:758:ARG:HG2	1.61	0.43
1:A:2395:PHE:HD1	1:A:2401:ALA:O	2.02	0.43
1:A:2412:LYS:HB3	1:B:2221:GLN:HG2	1.99	0.43
1:B:1744:ILE:HD11	1:B:1797:LEU:HD22	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1763:LEU:HD12	1:B:1769:TYR:HB2	2.00	0.43
1:C:1361:LEU:O	1:C:1363:SER:N	2.51	0.43
1:C:1963:ASP:HA	1:C:1966:ILE:HD12	2.01	0.43
1:C:2373:ILE:O	1:C:2377:LYS:HG3	2.18	0.43
1:A:1261:ASN:HD22	1:A:1264:ILE:HD12	1.83	0.43
1:A:1525:GLU:HA	1:A:1529:ILE:HB	2.01	0.43
1:A:2385:TYR:HB2	1:A:2457:LEU:HD11	1.99	0.43
1:B:1012:SER:OG	1:B:1013:LEU:N	2.52	0.43
1:B:1332:ALA:O	1:B:1335:GLN:NE2	2.50	0.43
1:B:1592:GLY:HA2	1:B:1645:ARG:HD3	2.00	0.43
1:C:404:LEU:O	1:C:448:ASN:ND2	2.49	0.43
1:C:602:LEU:HA	1:C:605:GLN:HB2	2.00	0.43
1:C:1317:ILE:HD11	1:C:1356:LEU:HD11	2.00	0.43
1:A:2361:GLY:HA3	1:A:2367:ASP:O	2.18	0.43
1:B:665:LEU:HD21	1:B:710:ASP:HB3	1.99	0.43
1:B:1154:ILE:O	1:B:1158:LEU:HG	2.19	0.43
1:B:1240:ARG:O	1:B:1243:GLN:HG3	2.18	0.43
1:C:545:ASP:HA	1:C:580:PHE:CE1	2.53	0.43
1:C:1239:ILE:HD12	1:C:1292:MET:HG3	2.00	0.43
1:C:2057:PHE:HE1	1:C:2067:ALA:HB1	1.83	0.43
1:A:516:HIS:HB3	1:A:565:TRP:CZ3	2.54	0.43
1:A:1057:LEU:HD13	1:A:1079:LEU:HD13	1.99	0.43
1:A:1354:ILE:HD11	1:A:1382:LEU:HG	2.00	0.43
1:A:1559:LEU:N	1:A:1903:GLY:HA2	2.34	0.43
1:A:1763:LEU:HB3	1:A:1767:ASN:O	2.18	0.43
1:A:2334:ARG:HH21	1:A:2450:GLU:HB2	1.84	0.43
1:B:1466:PHE:HA	1:B:1491:VAL:HB	2.01	0.43
1:B:2042:MET:O	1:B:2046:GLN:HG3	2.18	0.43
1:B:2366:ARG:O	1:B:2375:ARG:NH2	2.52	0.43
1:C:574:ARG:HD2	1:C:660:PHE:CD1	2.53	0.43
1:C:738:LYS:HG3	1:C:742:ARG:HH21	1.83	0.43
1:C:2064:ARG:HD3	1:C:2067:ALA:HB2	2.00	0.43
1:A:1673:LEU:HG	1:A:1674:TRP:CD1	2.53	0.43
1:A:2150:LEU:HD23	1:A:2150:LEU:HA	1.90	0.43
1:B:2136:PRO:HD2	1:B:2155:HIS:CE1	2.53	0.43
1:C:340:LEU:HD23	1:C:341:ARG:HH12	1.83	0.43
1:C:1750:LEU:HD23	1:C:1818:PHE:HB3	2.00	0.43
1:A:548:LYS:HB3	1:A:580:PHE:CE2	2.54	0.43
1:A:1265:THR:CA	1:A:1268:TYR:CD2	2.90	0.43
1:B:479:ALA:HB1	1:B:483:GLN:HB3	2.00	0.43
1:B:1280:GLU:HA	1:B:1283:GLN:OE1	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1498:ILE:HD11	1:B:2008:GLU:OE2	2.17	0.43
1:B:2453:ASN:OD1	1:B:2454:GLY:N	2.43	0.43
1:C:1763:LEU:HD12	1:C:1769:TYR:HB2	2.00	0.43
1:C:2042:MET:O	1:C:2046:GLN:HG3	2.19	0.43
1:C:2473:LEU:HD23	1:C:2473:LEU:HA	1.89	0.43
1:A:1368:ARG:HD2	1:A:1371:HIS:ND1	2.33	0.43
1:A:1467:ILE:HD13	1:A:1502:PHE:CE1	2.54	0.43
1:A:1824:MET:HG2	1:A:1863:TYR:CE2	2.54	0.43
1:B:559:LEU:HB2	1:B:566:VAL:HG12	2.01	0.43
1:B:1233:MET:N	1:B:1234:PRO:HD2	2.34	0.43
1:C:850:MET:HA	1:C:853:VAL:HG12	2.01	0.43
1:C:1329:ARG:NH1	1:C:1374:ASP:OD2	2.52	0.43
1:C:1408:LYS:NZ	1:C:1456:ALA:HB1	2.34	0.43
1:C:1885:ILE:O	1:C:1887:ARG:NH1	2.52	0.43
1:C:2277:ASP:HA	1:C:2281:VAL:HB	2.00	0.43
1:A:450:HIS:ND1	1:A:490:LEU:HD22	2.34	0.42
1:B:1456:ALA:O	1:B:1458:LEU:N	2.52	0.42
1:B:1463:ILE:HG13	1:B:1464:ASP:N	2.33	0.42
1:B:2256:PRO:O	1:B:2258:PRO:HD3	2.18	0.42
1:C:567:ILE:HD11	1:C:657:ARG:NH1	2.34	0.42
1:C:1061:CYS:HB3	1:C:1116:HIS:HB3	2.01	0.42
1:C:1559:LEU:N	1:C:1903:GLY:HA2	2.34	0.42
1:C:1989:ARG:O	1:C:1993:LYS:HG2	2.19	0.42
1:C:2348:ASP:OD1	1:C:2354:ARG:NH1	2.52	0.42
1:A:681:TRP:NE1	1:A:686:GLU:OE2	2.52	0.42
1:A:1647:LEU:HG	1:A:1651:PHE:HE2	1.83	0.42
1:A:1873:GLY:HA3	1:A:1878:GLY:HA2	2.00	0.42
1:A:2202:PRO:O	1:A:2206:MET:HG3	2.19	0.42
1:B:1691:ASN:HA	1:B:1694:VAL:HG22	2.01	0.42
1:C:511:LEU:HD13	1:C:532:HIS:HA	2.00	0.42
1:C:542:GLN:HE22	1:C:544:ARG:CD	2.32	0.42
1:C:576:ILE:O	1:C:580:PHE:N	2.53	0.42
1:A:435:TRP:NE1	1:A:475:SER:OG	2.43	0.42
1:A:1544:TYR:O	1:A:1545:LEU:HD22	2.19	0.42
1:A:1672:ARG:HH21	1:A:1677:PRO:HD3	1.85	0.42
1:A:2165:ARG:O	1:A:2215:GLY:HA3	2.20	0.42
1:B:1096:TYR:CZ	1:B:1153:LYS:HB3	2.53	0.42
1:B:1149:LEU:HB3	1:B:1284:VAL:HG22	2.01	0.42
1:C:546:THR:O	1:C:549:ILE:N	2.52	0.42
1:C:702:SER:HA	1:C:742:ARG:HH12	1.84	0.42
1:B:672:LEU:HB3	1:B:711:LEU:HG	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1145:ARG:NH2	1:B:1254:LEU:H	2.17	0.42
1:B:1556:PHE:HD2	1:B:1905:VAL:HG11	1.84	0.42
1:B:2208:VAL:O	1:B:2209:SER:OG	2.21	0.42
1:C:540:CYS:O	1:C:543:ASP:HB2	2.19	0.42
1:C:1864:ARG:O	1:C:1954:GLU:N	2.38	0.42
1:C:1915:GLU:O	1:C:1919:GLN:HG2	2.19	0.42
1:C:2079:ARG:HB3	1:C:2122:PHE:HZ	1.84	0.42
1:A:358:VAL:O	1:A:362:ILE:HG12	2.19	0.42
1:A:1306:LEU:HB3	1:A:1312:TRP:CG	2.55	0.42
1:B:1762:LEU:HD13	1:B:1781:VAL:HG22	2.01	0.42
1:B:2010:PHE:CD2	1:B:2064:ARG:HA	2.53	0.42
1:C:1336:PHE:HD1	1:C:1339:MET:HE1	1.84	0.42
1:C:1386:ALA:O	1:C:1391:ILE:N	2.48	0.42
1:C:1551:ARG:HB2	1:C:1659:LEU:C	2.38	0.42
1:C:2062:VAL:HG23	1:C:2063:VAL:HG23	2.01	0.42
1:A:1149:LEU:O	1:A:1153:LYS:HG3	2.19	0.42
1:A:2309:GLU:OE2	1:A:2348:ASP:HB2	2.20	0.42
1:B:1084:SER:HB3	1:B:1087:GLN:HG2	2.01	0.42
1:B:1435:LYS:CE	1:B:1503:GLU:HB3	2.50	0.42
1:B:1579:PRO:HD3	1:B:1887:ARG:HE	1.85	0.42
1:B:1673:LEU:HG	1:B:1674:TRP:CD1	2.54	0.42
1:C:1243:GLN:O	1:C:1247:TRP:HD1	2.03	0.42
1:C:2017:LEU:HD21	1:C:2047:LEU:HD22	2.01	0.42
1:A:1033:MET:HB3	1:A:1036:LEU:HD13	2.01	0.42
1:A:1045:LYS:HA	1:A:1045:LYS:HD2	1.86	0.42
1:A:1060:ILE:HG13	1:A:1079:LEU:HD11	2.01	0.42
1:A:1447:PHE:O	1:A:1452:GLU:HB2	2.20	0.42
1:A:2421:TRP:CE2	1:A:2425:GLU:HG3	2.55	0.42
1:B:1395:ASN:HB3	1:B:1399:LEU:HD11	2.00	0.42
1:B:1532:ALA:HB1	1:B:2050:ARG:HG3	2.01	0.42
1:B:1690:PHE:O	1:B:1694:VAL:HG13	2.20	0.42
1:C:762:MET:SD	1:C:763:MET:N	2.92	0.42
1:B:1459:ILE:O	1:B:1463:ILE:HG12	2.20	0.42
1:C:1244:LYS:HE2	1:C:1261:ASN:OD1	2.19	0.42
1:C:1498:ILE:HG22	1:C:2008:GLU:HG3	2.02	0.42
1:A:548:LYS:HA	1:A:548:LYS:HD3	1.64	0.42
1:A:711:LEU:HD22	1:A:719:PHE:CE1	2.55	0.42
1:A:758:ARG:H	1:A:758:ARG:HG2	1.64	0.42
1:A:1099:LEU:O	1:A:1114:GLN:NE2	2.53	0.42
1:A:2057:PHE:HE1	1:A:2067:ALA:HB1	1.85	0.42
1:A:2355:ILE:O	1:A:2359:LEU:HG	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1358:PHE:HZ	1:C:1383:LEU:HD11	1.85	0.42
1:C:1388:ASN:OD1	1:C:1389:SER:N	2.53	0.42
1:C:2154:ASP:OD1	1:C:2195:GLN:NE2	2.53	0.42
1:A:2331:TYR:HB3	1:A:2452:SER:OG	2.19	0.42
1:B:711:LEU:O	1:B:715:ILE:HB	2.20	0.42
1:B:1095:VAL:O	1:B:1099:LEU:HG	2.20	0.42
1:B:1406:TRP:O	1:B:1410:ILE:HG12	2.20	0.42
1:B:1790:PRO:O	1:B:1863:TYR:OH	2.21	0.42
1:A:613:VAL:HG23	1:A:664:LEU:HD22	2.01	0.41
1:A:762:MET:SD	1:A:801:GLY:N	2.93	0.41
1:A:1527:TYR:HE1	1:A:2004:GLN:HB2	1.84	0.41
1:A:1551:ARG:HB2	1:A:1659:LEU:C	2.41	0.41
1:A:1749:ASN:HA	1:A:1817:GLU:HB2	2.02	0.41
1:B:543:ASP:OD2	1:B:547:GLN:OE1	2.37	0.41
1:B:1045:LYS:HA	1:B:1045:LYS:HD2	1.85	0.41
1:B:1333:GLN:HG2	1:B:1337:PHE:HE2	1.85	0.41
1:C:1740:LEU:N	1:C:1794:ALA:O	2.41	0.41
1:A:628:ARG:HA	1:A:631:ALA:HB3	2.02	0.41
1:A:802:PRO:C	1:A:804:LEU:H	2.23	0.41
1:A:1048:PRO:HA	1:A:1049:PRO:HD3	1.97	0.41
1:A:1141:MET:SD	1:A:1255:GLN:HB3	2.60	0.41
1:B:1259:SER:HB3	1:B:1264:ILE:HD11	2.01	0.41
1:B:2322:LEU:HD23	1:B:2322:LEU:HA	1.92	0.41
1:C:549:ILE:HA	1:C:552:ILE:HG22	2.02	0.41
1:C:1292:MET:HB3	1:C:1296:PHE:CD2	2.54	0.41
1:C:1664:PRO:HB2	1:C:1667:PHE:HB3	2.02	0.41
1:C:2368:GLY:O	1:C:2372:THR:HG23	2.21	0.41
1:C:2402:TYR:CZ	1:C:2406:GLN:HG3	2.55	0.41
1:A:1152:LEU:HD23	1:A:1288:ALA:HA	2.01	0.41
1:A:1263:GLU:O	1:A:1267:ILE:HD12	2.20	0.41
1:B:400:LEU:HD23	1:B:404:LEU:HD21	2.02	0.41
1:B:541:SER:O	1:B:544:ARG:NH2	2.51	0.41
1:B:672:LEU:HD23	1:B:711:LEU:HD11	2.02	0.41
1:B:1446:LYS:O	1:B:1515:ASN:ND2	2.46	0.41
1:B:1469:PRO:HG3	1:B:1490:PRO:CA	2.50	0.41
1:B:2398:CYS:HB3	1:B:2401:ALA:HB3	2.03	0.41
1:C:574:ARG:HD3	1:C:663:PHE:HD2	1.85	0.41
1:C:1588:ILE:O	1:C:1648:GLN:NE2	2.39	0.41
1:A:1560:LYS:HB2	1:A:1663:VAL:HG22	2.03	0.41
1:B:1247:TRP:HE3	1:B:1264:ILE:HB	1.85	0.41
1:B:2027:PRO:HA	1:B:2028:PRO:HD3	1.96	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:399:VAL:HG11	1:C:413:LEU:HD13	2.02	0.41
1:C:711:LEU:O	1:C:715:ILE:HB	2.20	0.41
1:C:1154:ILE:O	1:C:1158:LEU:HG	2.20	0.41
1:C:2168:VAL:HG13	1:C:2175:LEU:HD21	2.02	0.41
1:A:508:LEU:HD22	1:A:532:HIS:ND1	2.36	0.41
1:C:546:THR:O	1:C:549:ILE:HB	2.21	0.41
1:C:1447:PHE:O	1:C:1452:GLU:HB2	2.20	0.41
1:A:653:GLU:HB3	1:A:657:ARG:HH12	1.85	0.41
1:A:742:ARG:HA	1:A:745:LYS:HD2	2.02	0.41
1:B:458:TRP:CE2	1:B:499:LYS:HD2	2.56	0.41
1:B:1031:LEU:HB3	1:B:1033:MET:CE	2.51	0.41
1:B:2253:PRO:HA	1:B:2254:PRO:HD3	1.97	0.41
1:C:479:ALA:HB1	1:C:483:GLN:HB3	2.02	0.41
1:C:672:LEU:HB3	1:C:711:LEU:HG	2.02	0.41
1:C:1548:VAL:O	1:C:1660:GLN:HB3	2.21	0.41
1:A:450:HIS:HB3	1:A:490:LEU:HD13	2.03	0.41
1:A:1452:GLU:HG3	1:A:1455:GLY:H	1.85	0.41
1:B:720:PHE:CE1	1:B:743:PHE:HB3	2.55	0.41
1:B:1683:GLN:HG2	1:B:1877:GLY:HA2	2.01	0.41
1:C:1045:LYS:HA	1:C:1045:LYS:HD2	1.88	0.41
1:A:544:ARG:HH22	1:A:580:PHE:HD1	1.62	0.41
1:A:732:LEU:HD11	1:A:736:GLY:HA3	2.02	0.41
1:A:2242:SER:HA	1:A:2245:MET:CE	2.51	0.41
1:B:541:SER:HA	1:B:544:ARG:HH21	1.86	0.41
1:B:2008:GLU:H	1:B:2008:GLU:HG2	1.63	0.41
1:C:652:GLN:HG3	1:C:653:GLU:N	2.35	0.41
1:C:1524:THR:CG2	1:C:1525:GLU:N	2.83	0.41
1:C:2406:GLN:HA	1:C:2412:LYS:HZ3	1.86	0.41
1:A:1119:LYS:HA	1:A:1119:LYS:HD3	1.91	0.41
1:A:1316:ILE:HG13	1:A:1336:PHE:CZ	2.56	0.41
1:A:1536:CYS:HB2	1:A:2099:ARG:NH2	2.35	0.41
1:B:542:GLN:HG2	1:B:543:ASP:H	1.85	0.41
1:B:549:ILE:HA	1:B:552:ILE:HG22	2.02	0.41
1:B:672:LEU:N	1:B:710:ASP:O	2.39	0.41
1:B:717:LYS:HE3	1:B:747:VAL:HA	2.02	0.41
1:B:1386:ALA:O	1:B:1390:ASN:N	2.54	0.41
1:B:2067:ALA:HA	1:B:2070:TRP:HD1	1.85	0.41
1:C:639:PRO:HG3	1:C:690:TYR:CD2	2.56	0.41
1:C:854:LEU:HA	1:C:857:LEU:HD12	2.03	0.41
1:C:1427:LEU:HD21	1:C:1491:VAL:HG12	2.03	0.41
1:C:1739:THR:HA	1:C:1794:ALA:HB3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2024:LEU:O	1:C:2033:LEU:HD11	2.21	0.41
1:A:390:ILE:HG12	1:A:395:ILE:HD12	2.03	0.41
1:B:1588:ILE:HB	1:B:1648:GLN:NE2	2.36	0.41
1:C:536:LEU:HB3	1:C:548:LYS:HZ1	1.86	0.41
1:C:1414:VAL:HG11	1:C:1491:VAL:HG22	2.03	0.41
1:C:2020:ASN:O	1:C:2024:LEU:HG	2.21	0.41
1:A:662:ARG:O	1:A:666:LYS:HG2	2.21	0.40
1:A:845:GLN:OE1	1:A:849:ARG:NH1	2.54	0.40
1:A:1495:PRO:N	1:A:1496:PRO:HD2	2.35	0.40
1:A:1824:MET:HG2	1:A:1863:TYR:CD2	2.56	0.40
1:B:1723:ILE:HG12	1:B:1730:ARG:HD2	2.03	0.40
1:C:630:TYR:HB2	1:C:634:HIS:ND1	2.36	0.40
1:C:1825:GLU:HB3	1:C:1826:PRO:HD3	2.01	0.40
1:A:1701:LEU:O	1:A:1706:HIS:N	2.51	0.40
1:B:1887:ARG:H	1:B:1887:ARG:HG2	1.74	0.40
1:B:2081:SER:OG	1:B:2084:VAL:HB	2.21	0.40
1:C:1041:ARG:HH22	1:C:1143:THR:HG22	1.86	0.40
1:C:1265:THR:O	1:C:1269:GLU:HG3	2.22	0.40
1:C:1319:LEU:O	1:C:1329:ARG:HG2	2.21	0.40
1:C:1380:ARG:HD2	1:C:1432:GLY:C	2.42	0.40
1:C:1404:ILE:HD12	1:C:1404:ILE:H	1.85	0.40
1:C:1710:LEU:O	1:C:1714:LEU:HG	2.20	0.40
1:C:1744:ILE:HG13	1:C:1798:LYS:N	2.36	0.40
1:C:2242:SER:HA	1:C:2245:MET:CE	2.51	0.40
1:C:2283:THR:HG23	1:C:2287:LYS:NZ	2.37	0.40
1:C:536:LEU:O	1:C:548:LYS:NZ	2.54	0.40
1:C:846:GLU:HA	1:C:849:ARG:HD3	2.01	0.40
1:C:1357:LEU:O	1:C:1360:VAL:HG22	2.21	0.40
1:C:1814:ASP:HB2	1:C:1816:PHE:CZ	2.57	0.40
1:C:2200:SER:HB3	1:C:2203:ALA:HB3	2.03	0.40
1:C:2290:ILE:O	1:C:2294:SER:HB3	2.21	0.40
1:A:1513:VAL:HG21	1:A:2039:GLU:HB2	2.02	0.40
1:B:548:LYS:HE2	1:B:576:ILE:HG23	2.04	0.40
1:B:753:LYS:O	1:B:754:LEU:HD23	2.21	0.40
1:B:794:LYS:O	1:B:798:THR:OG1	2.24	0.40
1:B:1560:LYS:HD2	1:B:1661:TYR:CE2	2.56	0.40
1:B:2364:ASP:HB2	1:C:2283:THR:HG22	2.04	0.40
1:C:827:TYR:HE2	1:C:1024:VAL:HA	1.86	0.40
1:C:1095:VAL:O	1:C:1099:LEU:HG	2.21	0.40
1:C:1567:TYR:HB2	1:C:1686:ALA:HB2	2.02	0.40
1:C:1672:ARG:HA	1:C:1678:VAL:HG23	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2240:ASN:HB3	1:C:2270:PRO:HA	2.04	0.40
1:A:536:LEU:HD12	1:A:548:LYS:CE	2.50	0.40
1:A:680:ILE:HD12	1:A:700:TRP:CZ3	2.56	0.40
1:A:778:VAL:HG21	1:A:790:ILE:HG13	2.04	0.40
1:A:1585:ILE:HG22	1:A:1648:GLN:HG2	2.03	0.40
1:A:1682:GLU:HB3	1:A:1684:HIS:CE1	2.57	0.40
1:A:1687:LEU:HA	1:A:1690:PHE:HB3	2.04	0.40
1:A:1694:VAL:HG12	1:A:1710:LEU:HD13	2.02	0.40
1:A:1869:LEU:HD23	1:A:1950:ILE:HD12	2.02	0.40
1:A:2229:TYR:CD2	1:A:2293:CYS:HB2	2.56	0.40
1:B:526:ASP:HA	1:B:529:LEU:HD12	2.03	0.40
1:B:711:LEU:O	1:B:712:ASP:HB2	2.21	0.40
1:B:1028:GLY:O	1:B:1037:ARG:NH2	2.55	0.40
1:B:1462:LEU:O	1:B:1467:ILE:HD12	2.21	0.40
1:C:2180:ASN:HA	1:C:2183:VAL:HB	2.03	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	1721/2579 (67%)	1631 (95%)	86 (5%)	4 (0%)	47 77
1	B	1721/2579 (67%)	1631 (95%)	90 (5%)	0	100 100
1	C	1708/2579 (66%)	1614 (94%)	88 (5%)	6 (0%)	34 66
All	All	5150/7737 (67%)	4876 (95%)	264 (5%)	10 (0%)	50 77

All (10) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	544	ARG
1	A	2454	GLY

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Mol	Chain	Res	Type
1	C	2365	ASP
1	C	546	THR
1	C	1348	ARG
1	C	2248	SER
1	A	541	SER
1	C	1362	GLY
1	C	712	ASP
1	A	712	ASP

5.3.2 Protein sidechains

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	1544/2286 (68%)	1532 (99%)	12 (1%)	81	89
1	B	1544/2286 (68%)	1536 (100%)	8 (0%)	88	93
1	C	1532/2286 (67%)	1522 (99%)	10 (1%)	84	90
All	All	4620/6858 (67%)	4590 (99%)	30 (1%)	86	91

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

Mol	Chain	Res	Type
1	A	401	ARG
1	A	447	LYS
1	A	482	LYS
1	A	486	LYS
1	A	542	GLN
1	A	544	ARG
1	A	545	ASP
1	A	547	GLN
1	A	548	LYS
1	A	794	LYS
1	A	803	ARG
1	A	2050	ARG
1	B	447	LYS
1	B	486	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	B	544	ARG
1	B	545	ASP
1	B	547	GLN
1	B	794	LYS
1	B	2050	ARG
1	B	2408	ASN
1	C	447	LYS
1	C	486	LYS
1	C	542	GLN
1	C	543	ASP
1	C	545	ASP
1	C	794	LYS
1	C	1356	LEU
1	C	1357	LEU
1	C	1672	ARG
1	C	2050	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (15) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	359	ASN
1	A	405	HIS
1	A	406	GLN
1	A	547	GLN
1	B	406	GLN
1	B	516	HIS
1	B	1333	GLN
1	B	1813	ASN
1	B	1947	ASN
1	B	2011	GLN
1	B	2155	HIS
1	C	406	GLN
1	C	542	GLN
1	C	1653	HIS
1	C	2221	GLN

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 monosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

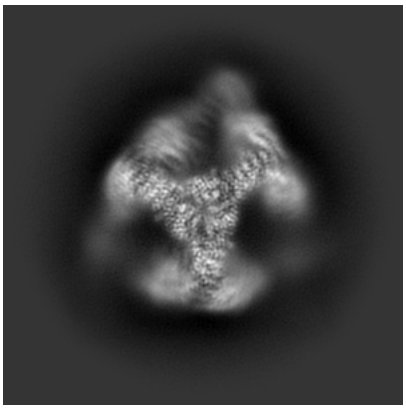
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-14368. These allow visual inspection of the internal detail of the map and identification of artifacts.

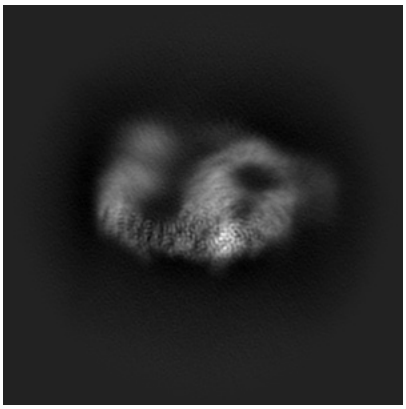
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

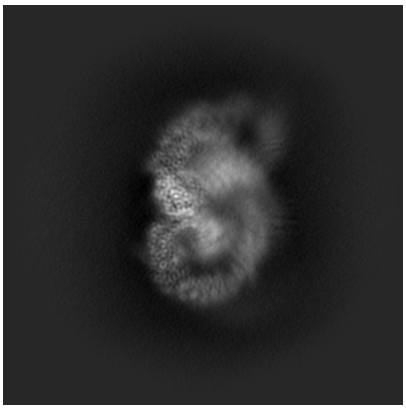
6.1.1 Primary map



X

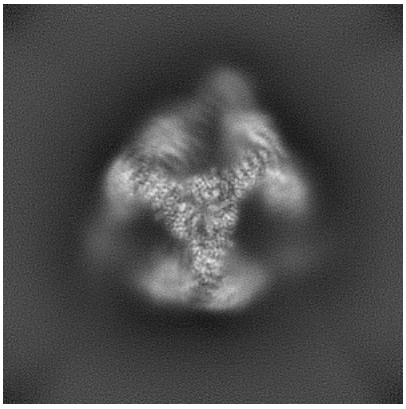


Y

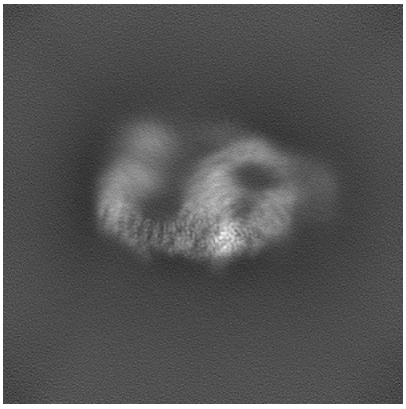


Z

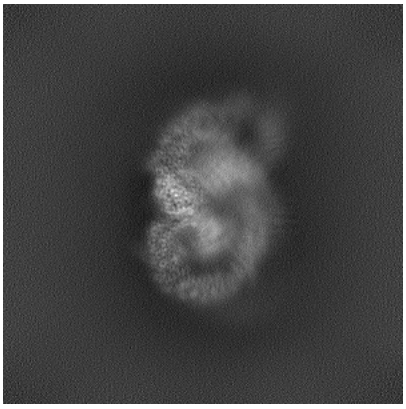
6.1.2 Raw map



X



Y

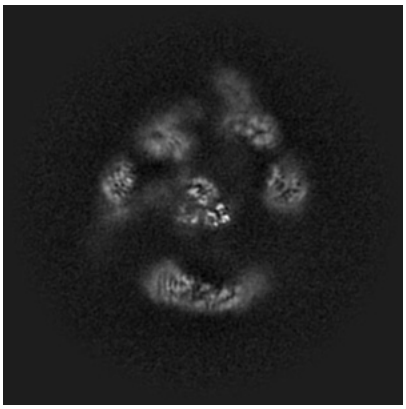


Z

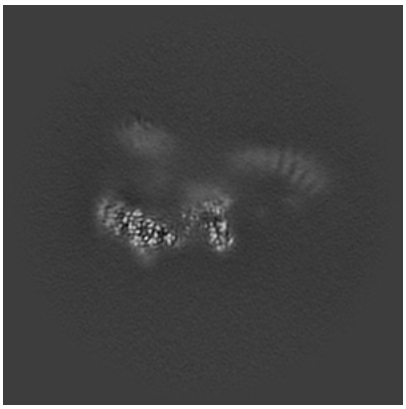
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

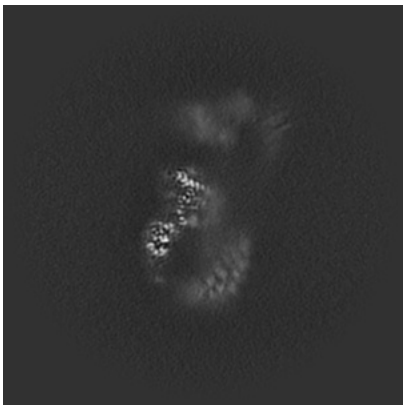
6.2.1 Primary map



X Index: 224

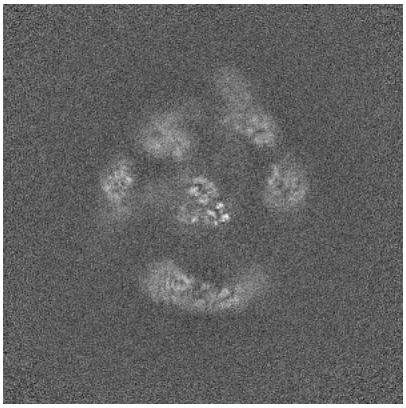


Y Index: 224

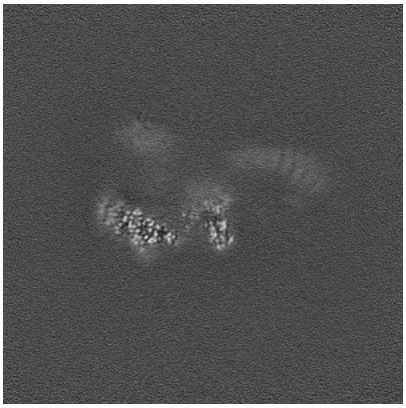


Z Index: 224

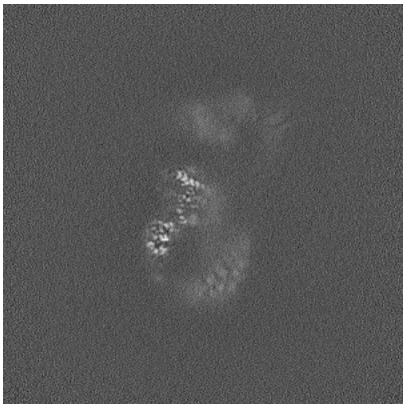
6.2.2 Raw map



X Index: 224



Y Index: 224

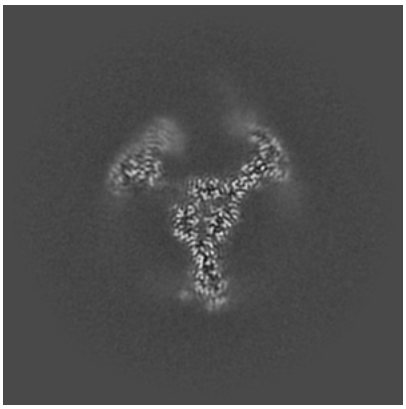


Z Index: 224

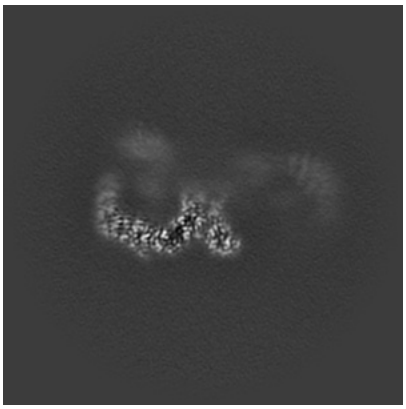
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

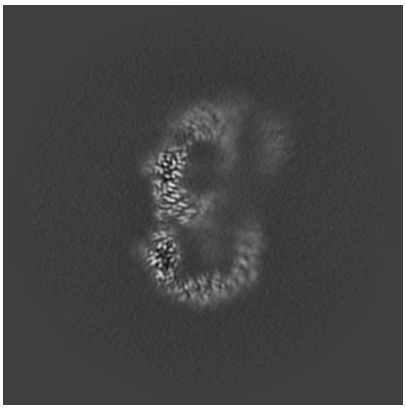
6.3.1 Primary map



X Index: 196

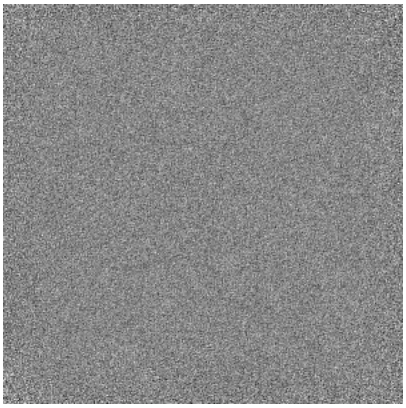


Y Index: 237

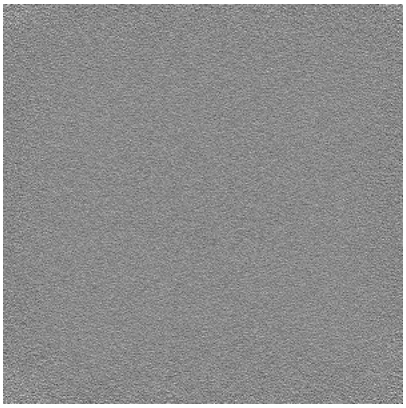


Z Index: 248

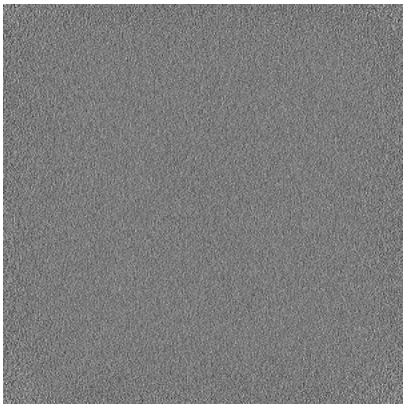
6.3.2 Raw map



X Index: 0



Y Index: 0



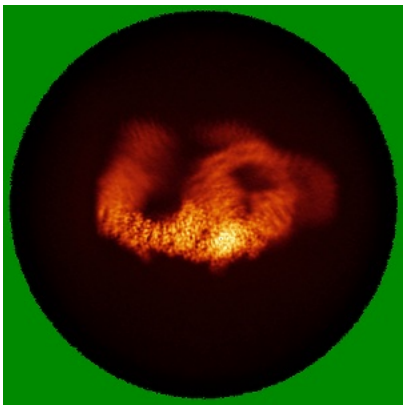
Z Index: 0

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

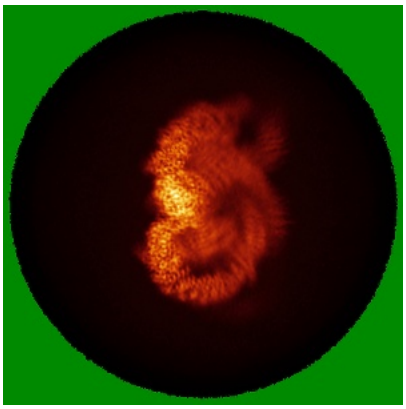
6.4 Orthogonal standard-deviation projections (False-color) (i)

6.4.1 Primary map

X

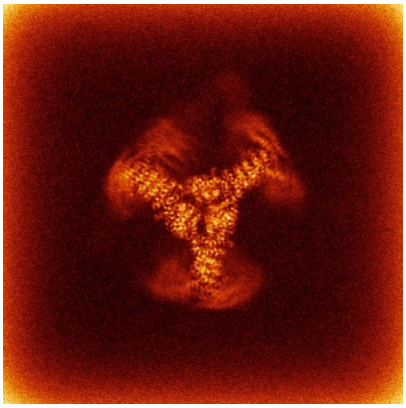


Y

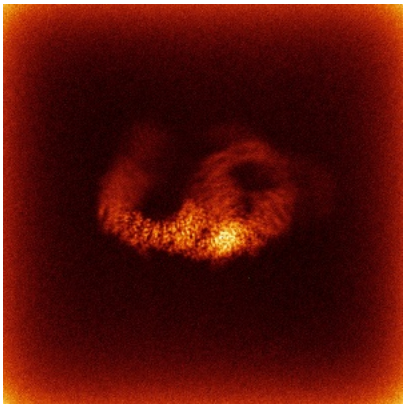


Z

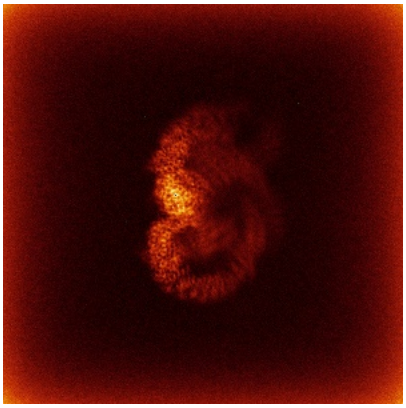
6.4.2 Raw map



X



Y



Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.221. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map

X Y Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

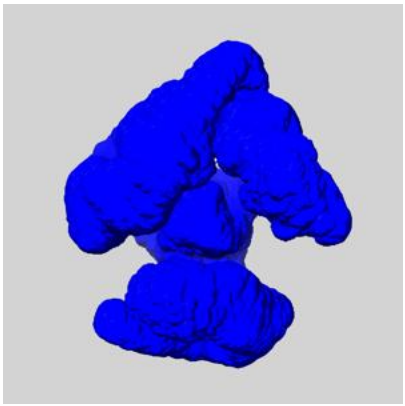
6.6 Mask visualisation

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

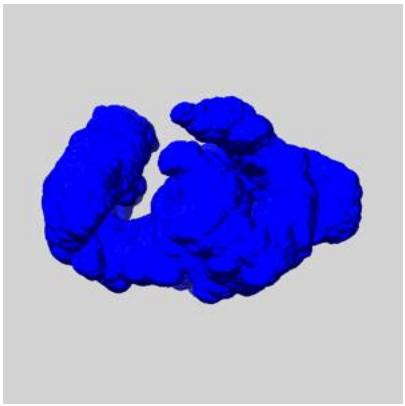
A mask typically either:

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

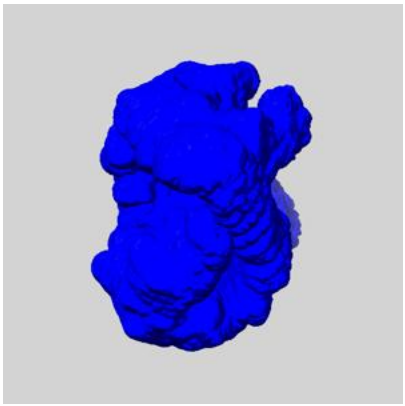
6.6.1 emd_14368_msk_1.map



X



Y

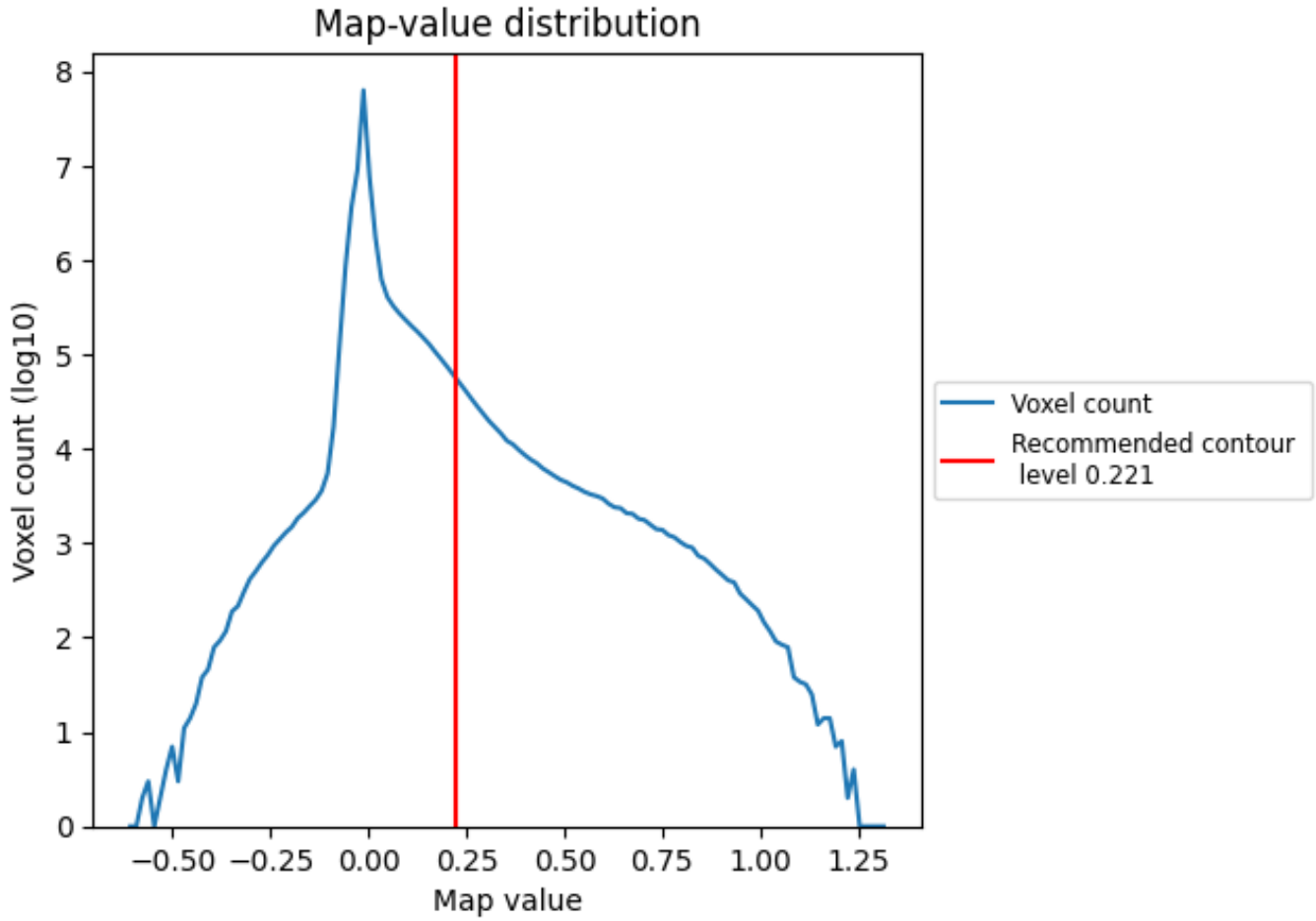


Z

7 Map analysis

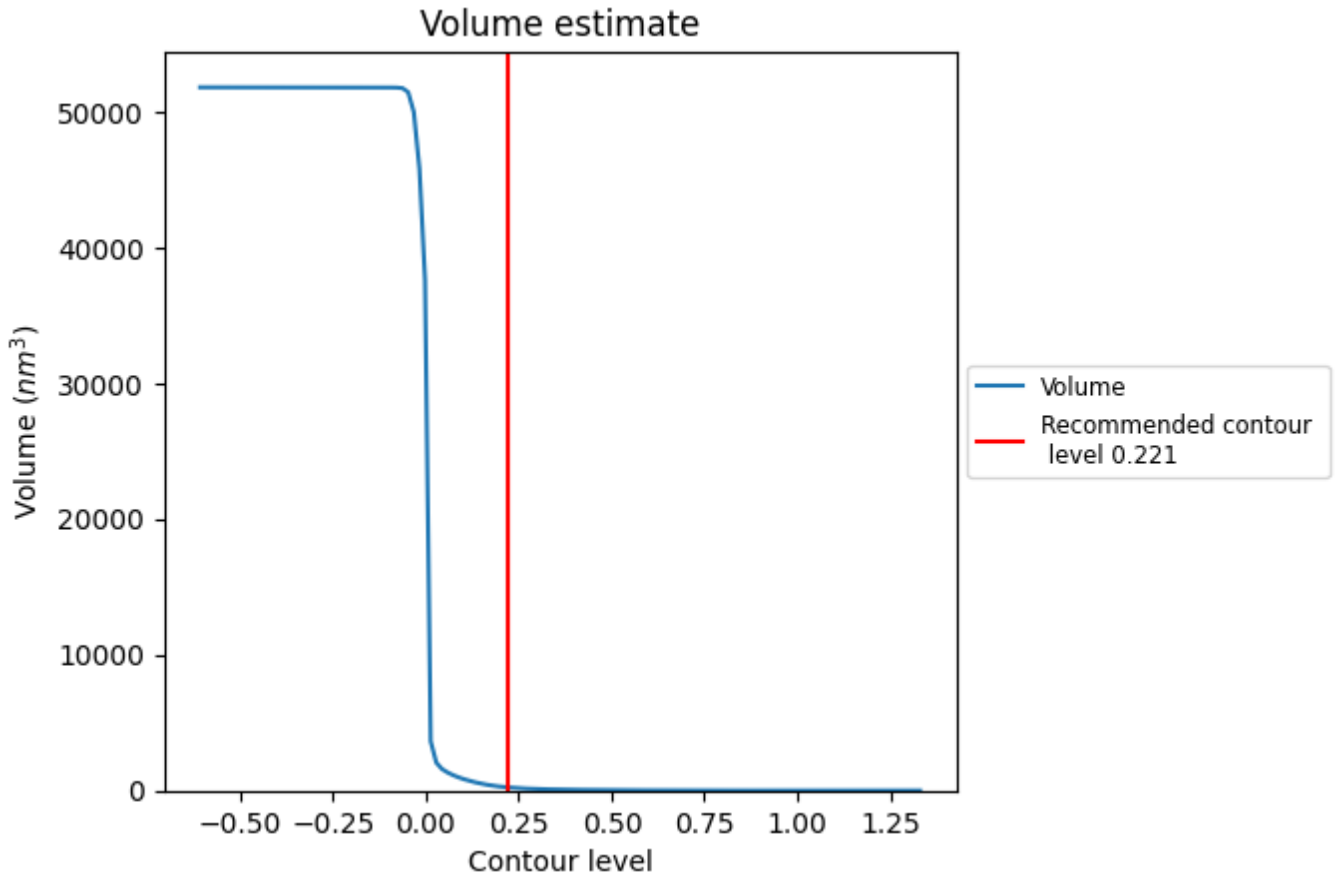
This section contains the results of statistical analysis of the map.

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.

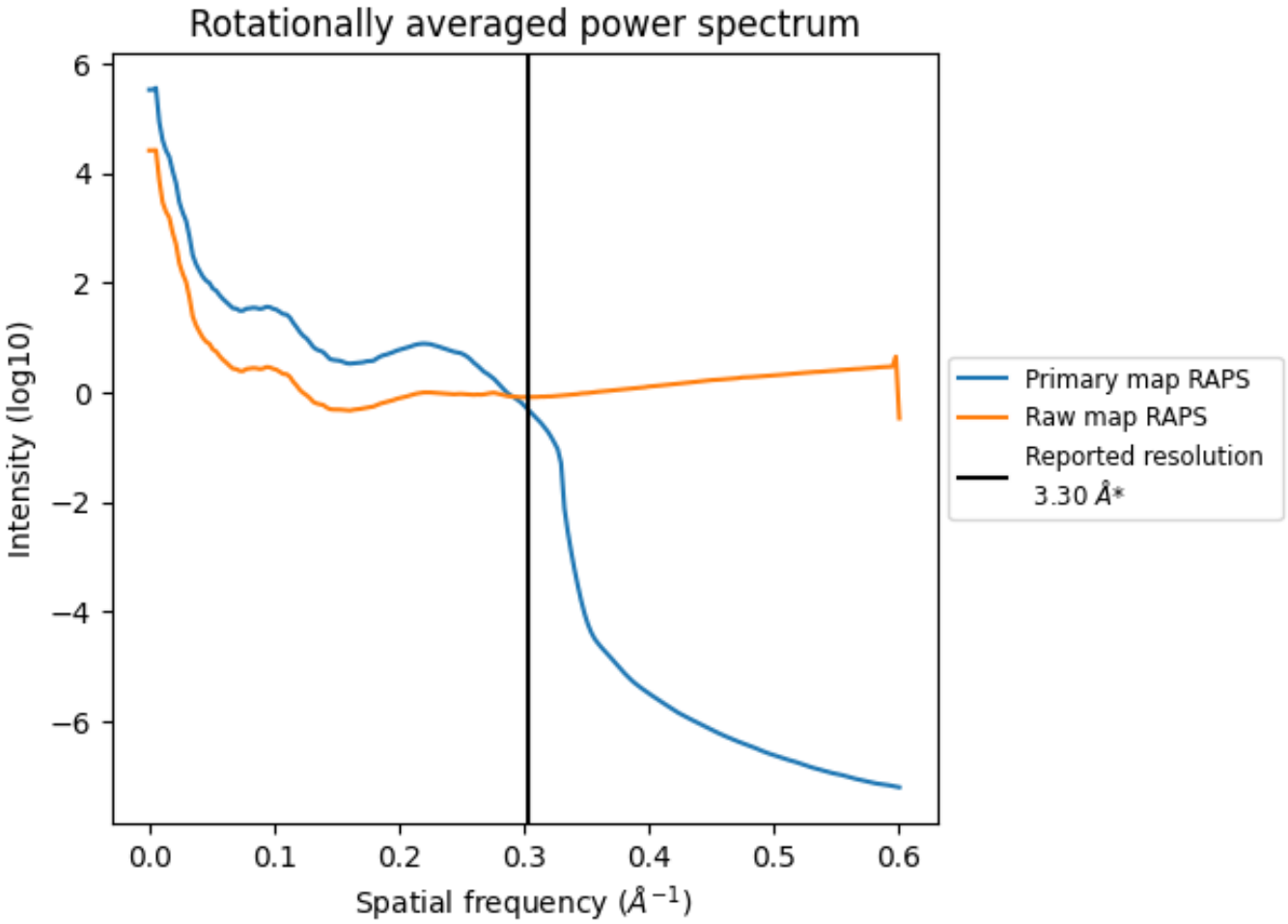
7.2 Volume estimate



The volume at the recommended contour level is 235 nm^3; this corresponds to an approximate mass of 212 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)

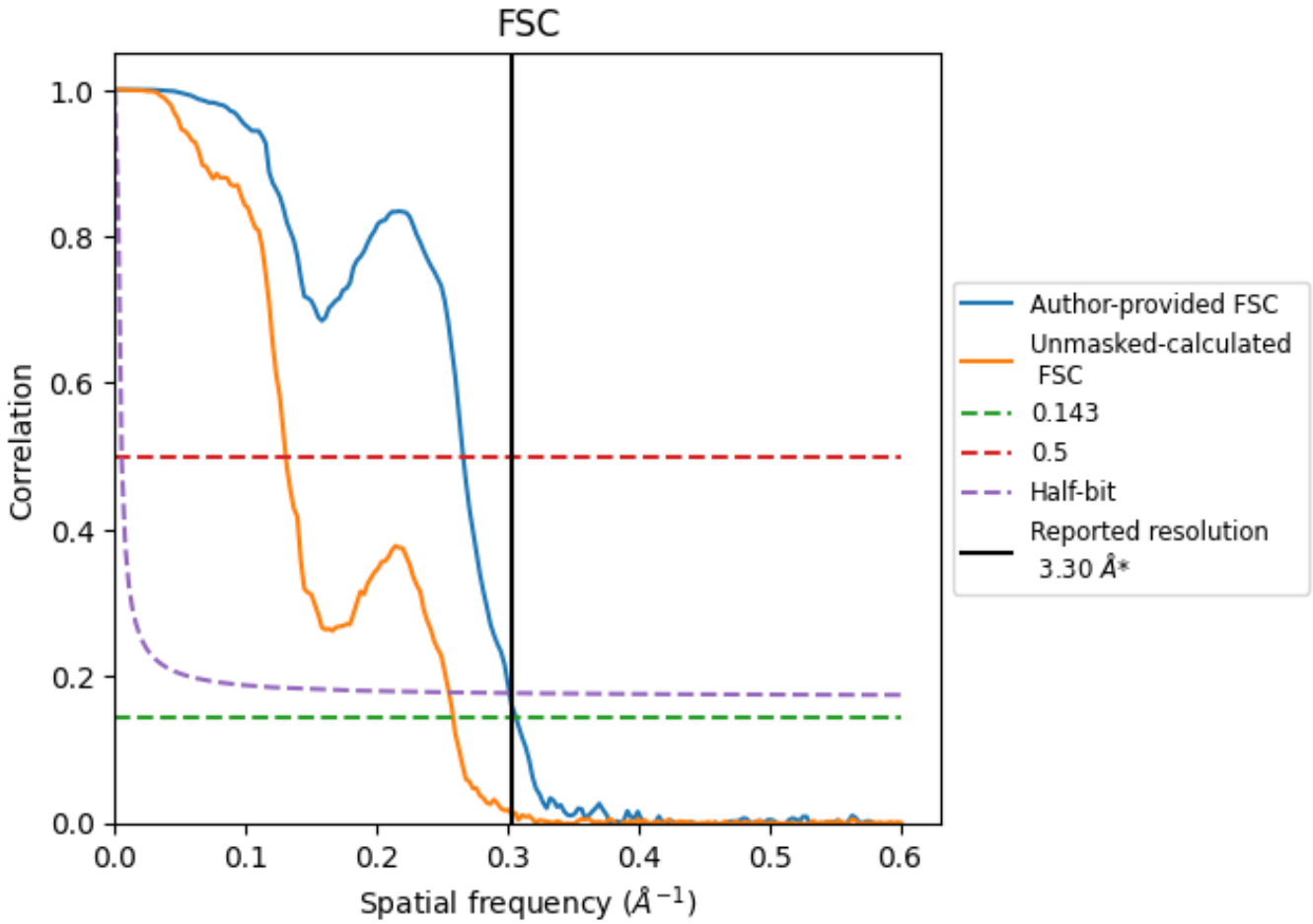


*Reported resolution corresponds to spatial frequency of 0.303 Å^{-1}

8 Fourier-Shell correlation

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.303 Å^{-1}

8.2 Resolution estimates (i)

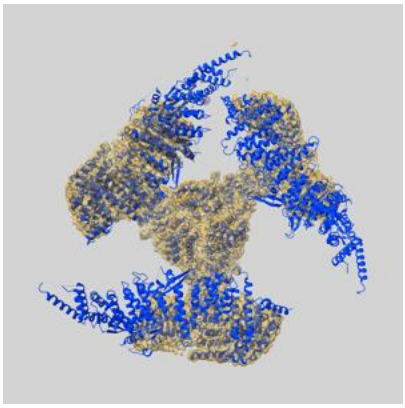
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.30	-	-
Author-provided FSC curve	3.26	3.76	3.32
Unmasked-calculated*	3.87	7.65	3.92

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.87 differs from the reported value 3.3 by more than 10 %

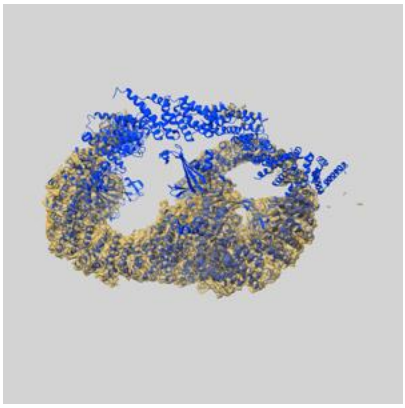
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-14368 and PDB model 7YXX. Per-residue inclusion information can be found in section 3 on page 6.

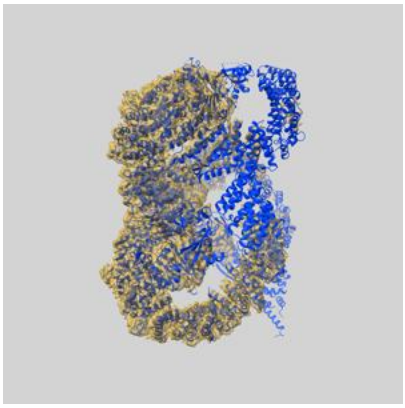
9.1 Map-model overlay



X



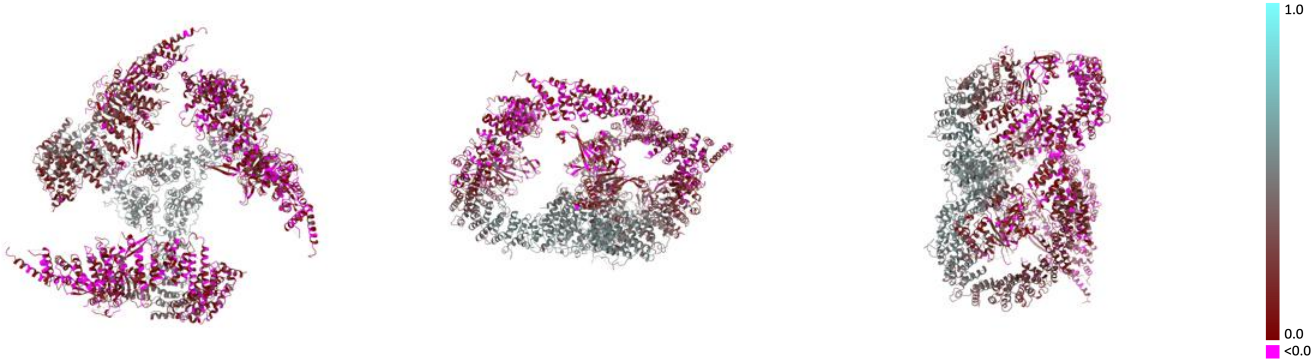
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.221 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.

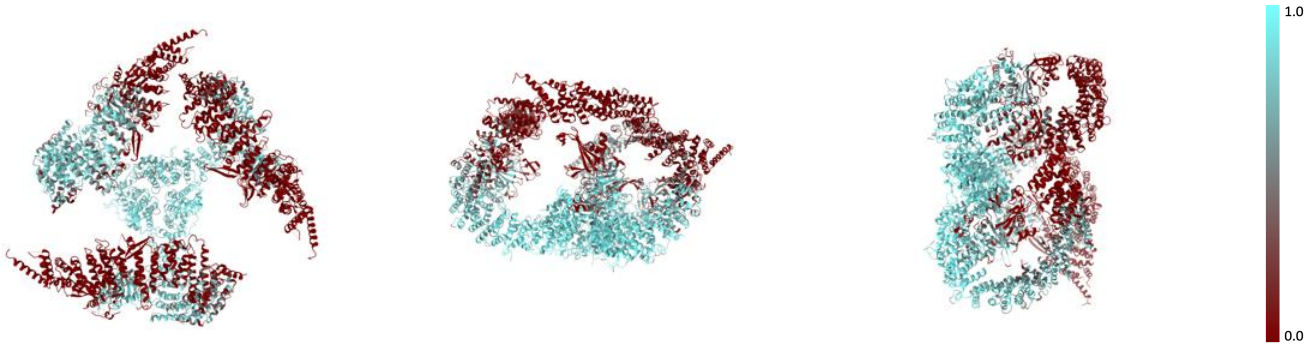
9.2 Q-score mapped to coordinate model



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.

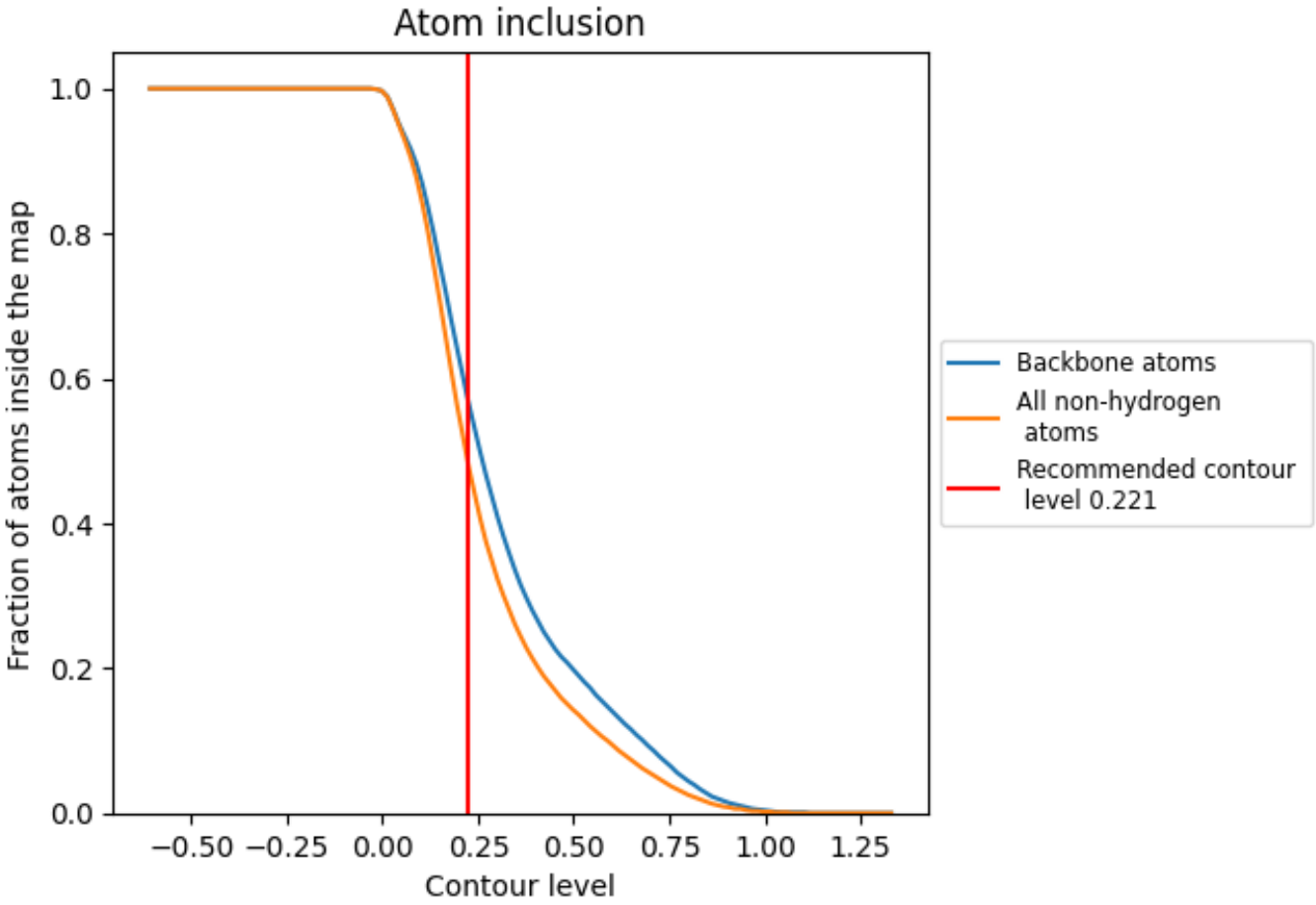
9.3 Atom inclusion mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.221).

9.4 Atom inclusion (i)



At the recommended contour level, 58% of all backbone atoms, 49% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.221) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.4900	0.2580
A	0.5790	0.3010
B	0.4570	0.2330
C	0.4330	0.2400