wwPDB EM Validation Summary Report (i)

Oct 13, 2024 – 06:41 am BST

PDB ID	:	7PQH
EMDB ID	:	EMD-13594
Title	:	Cryo-EM structure of Saccharomyces cerevisiae TOROID (TORC1 Organized in Inhibited Domains).
Authors	:	Felix, J.; Prouteau, M.; Bourgoint, C.; Bonadei, L.; Desfosses, A.; Gabus, C.; Sadian, Y.; Savvides, S.N.; Gutsche, I.; Loewith, R.
Deposited on	:	2021-09-17
Resolution	:	3.87 Å(reported)

This is a wwPDB EM Validation Summary 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 (i) 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 (i)) were used in the production of this report:

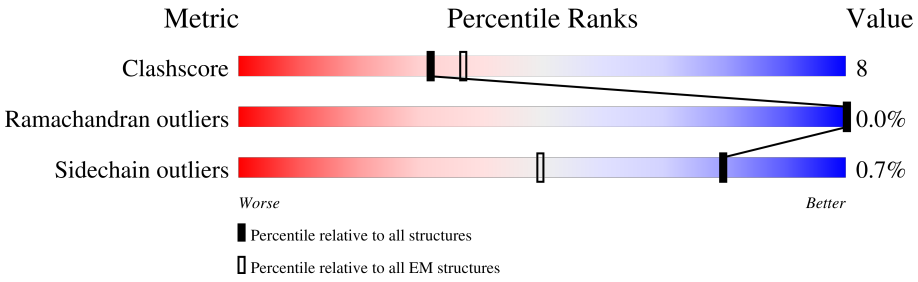
EMDB validation analysis	:	0.0.1.dev113
MolProbity	:	4.02b-467
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	: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

1 Overall quality at a glance

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

The reported resolution of this entry is 3.87 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	A	1608	10% 60% 15% 25%
1	B	1608	9% 62% 13% 25%
1	G	1608	12% 61% 14% 25%
1	J	1608	10% 61% 14% 25%
2	C	303	26% 72% 27%
2	D	303	28% 75% 24%
2	I	303	78% 77% 22%
2	L	303	72% 78% 21%

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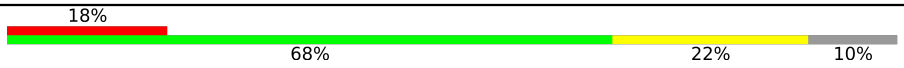
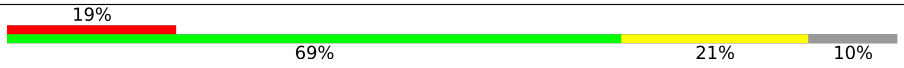
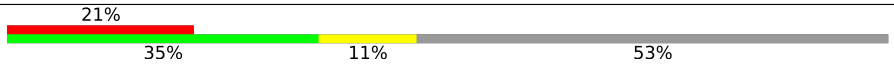
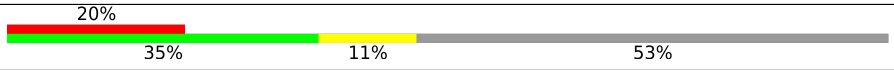
Mol	Chain	Length	Quality of chain
3	E	2474	
3	F	2474	
3	H	2474	
3	K	2474	

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 102671 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 Target of rapamycin complex 1 subunit KOG1,Target of rapamycin complex 1 subunit Kog1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	1209	Total	C	N	O	S	0	0
			9693	6225	1638	1784	46		
1	B	1208	Total	C	N	O	S	0	0
			9686	6223	1636	1781	46		
1	G	1212	Total	C	N	O	S	0	0
			9705	6239	1639	1781	46		
1	J	1213	Total	C	N	O	S	0	0
			9711	6242	1641	1782	46		

- Molecule 2 is a protein called Target of rapamycin complex subunit LST8.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	C	300	Total	C	N	O	S	0	0
			2366	1465	430	460	11		
2	D	300	Total	C	N	O	S	0	0
			2366	1465	430	460	11		
2	I	300	Total	C	N	O	S	0	0
			2366	1465	430	460	11		
2	L	300	Total	C	N	O	S	0	0
			2366	1465	430	460	11		

- Molecule 3 is a protein called Serine/threonine-protein kinase TOR2.

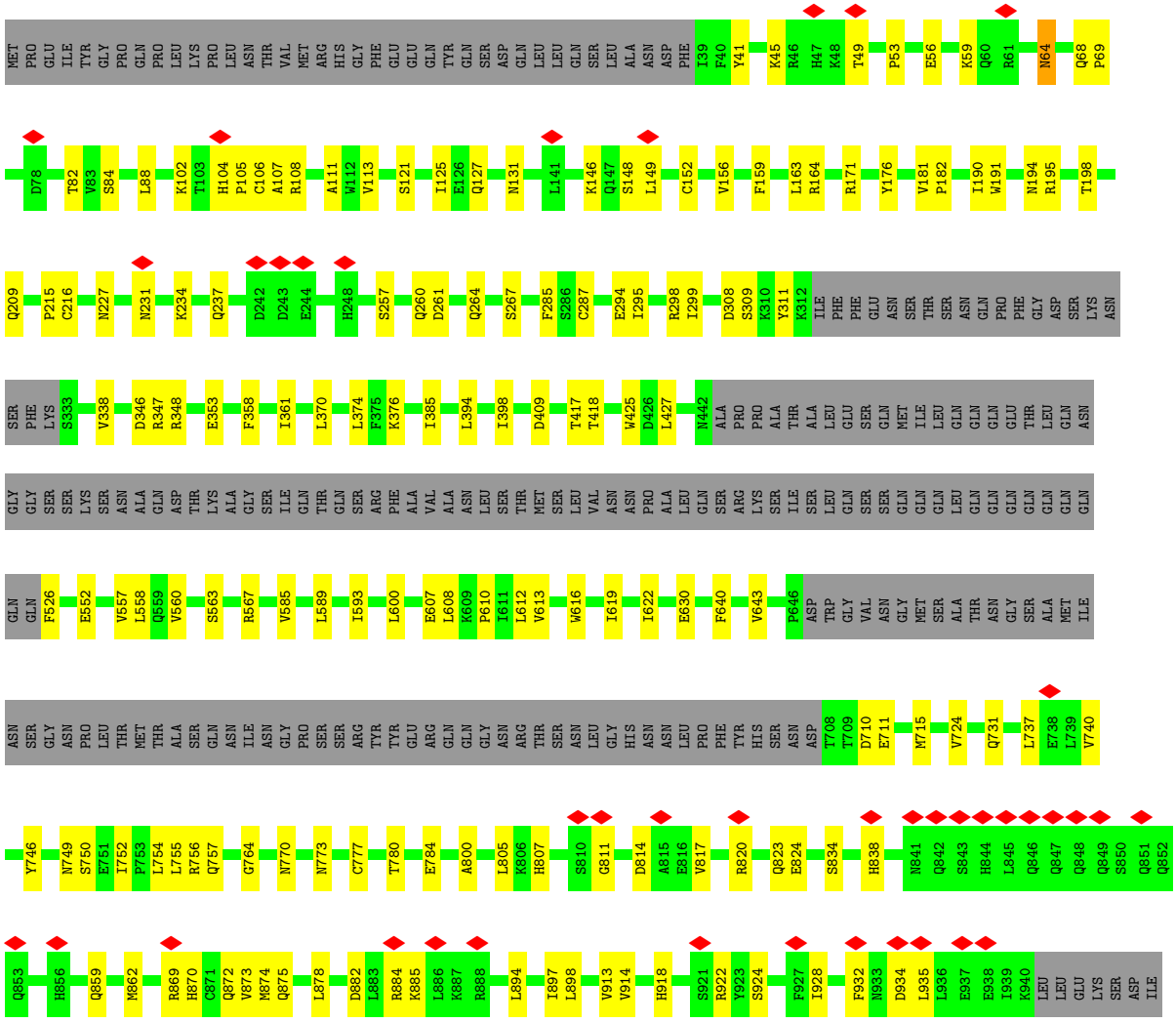
Mol	Chain	Residues	Atoms					AltConf	Trace
3	E	2238	Total	C	N	O	S	0	0
			17910	11494	3058	3275	83		
3	F	2238	Total	C	N	O	S	0	0
			17904	11491	3055	3275	83		
3	H	1157	Total	C	N	O	S	0	0
			9299	5981	1588	1684	46		
3	K	1157	Total	C	N	O	S	0	0
			9299	5981	1588	1684	46		

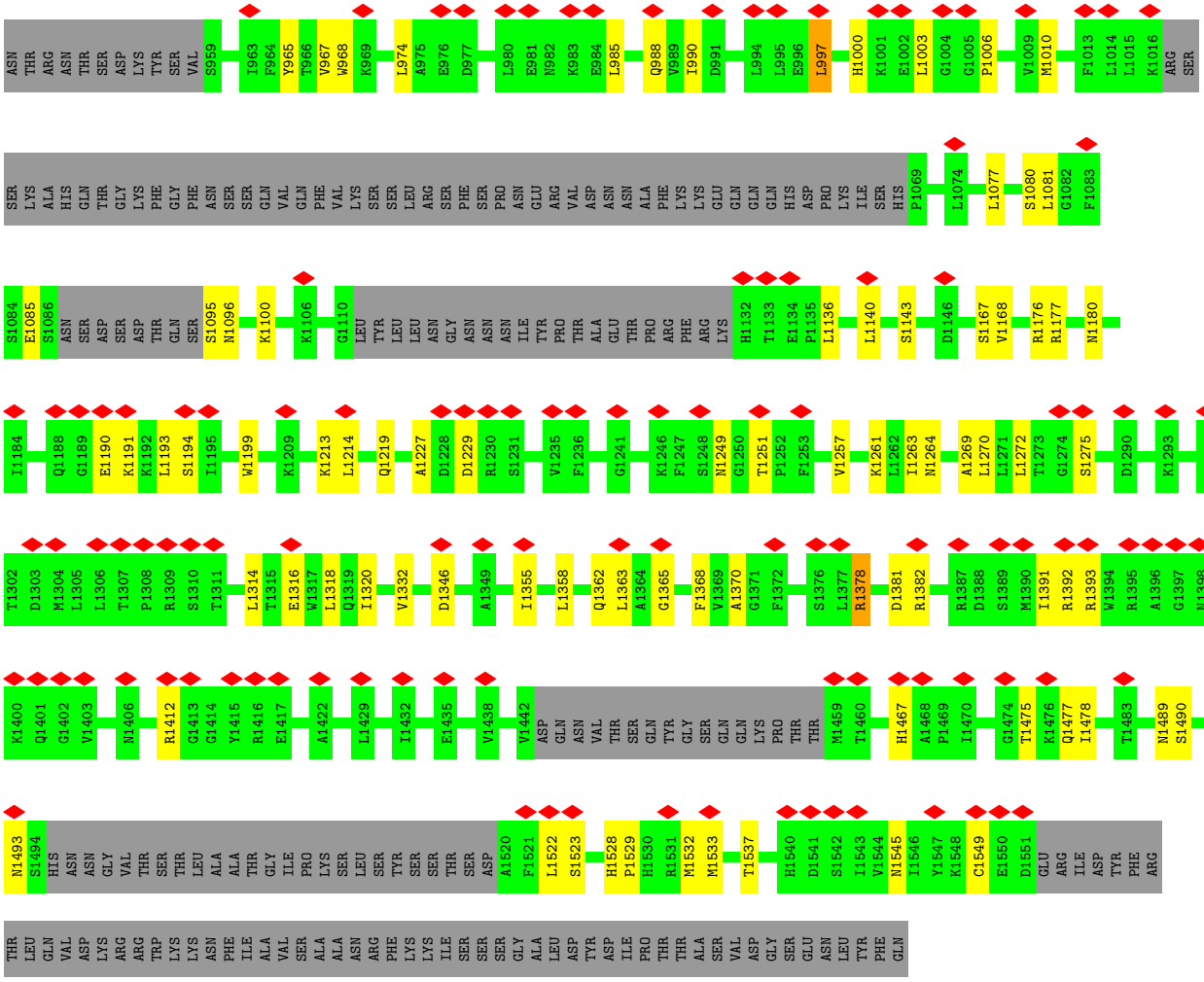
3 Residue-property plots (i)

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: Target of rapamycin complex 1 subunit KOG1,Target of rapamycin complex 1 subunit Kog1

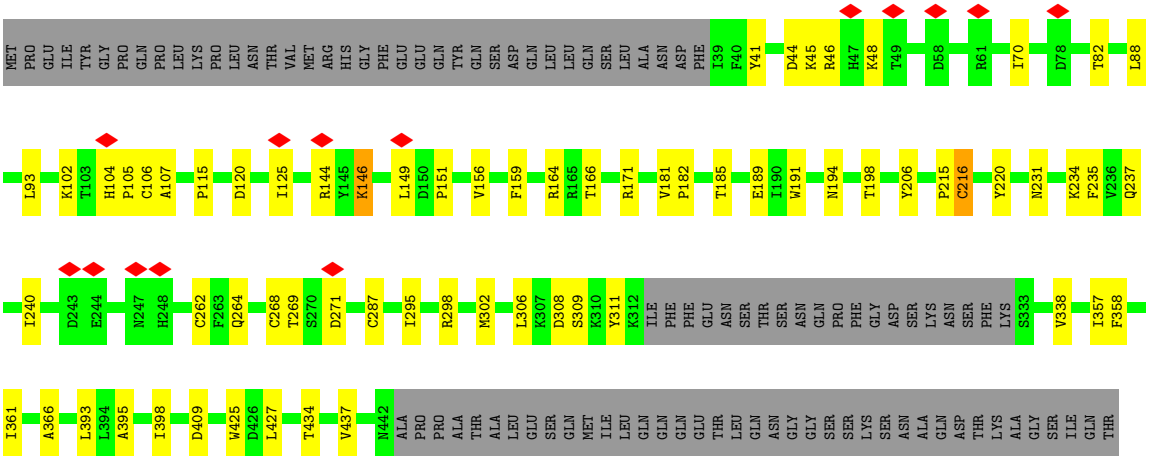
Chain A:

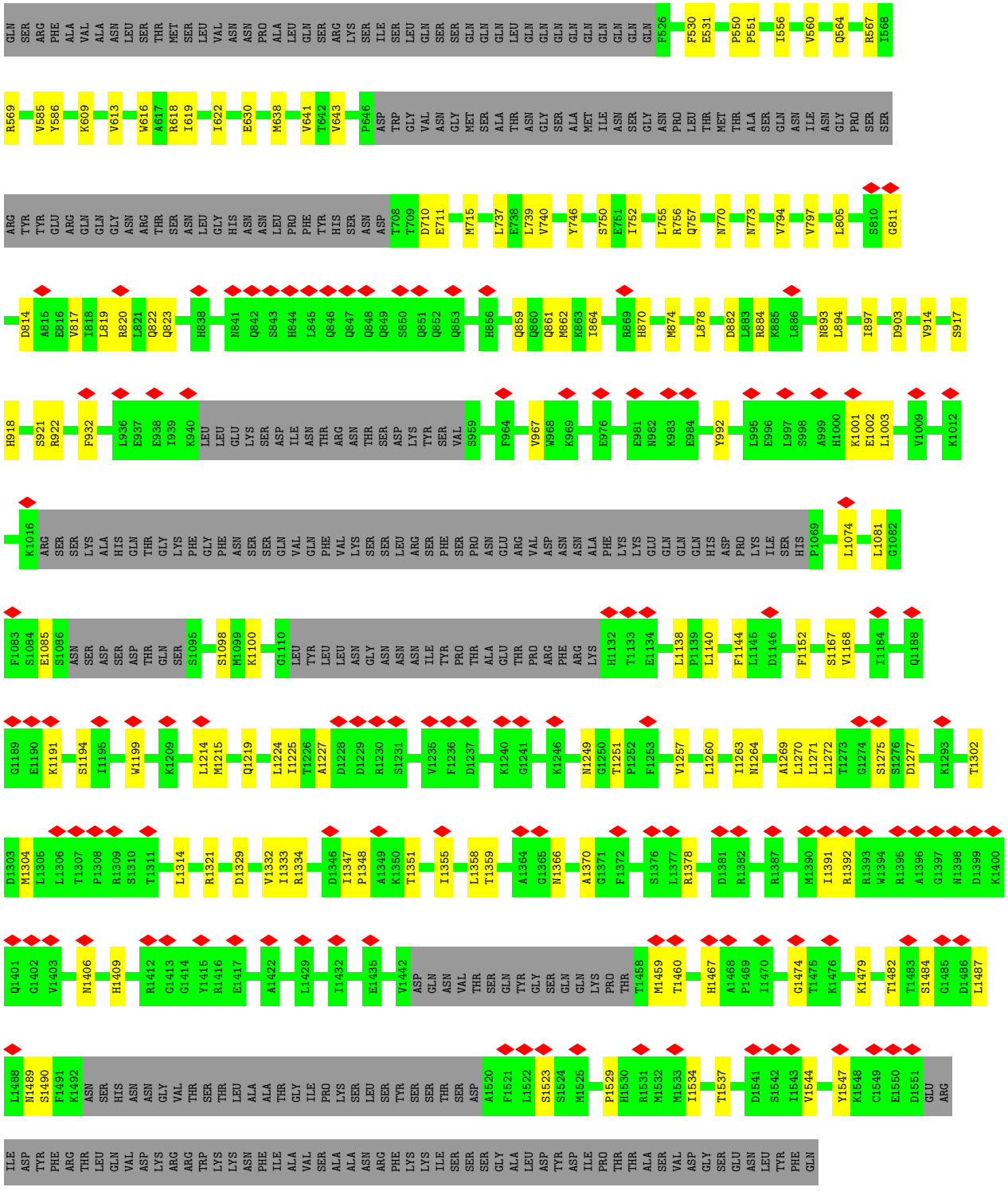




• Molecule 1: Target of rapamycin complex 1 subunit KOG1,Target of rapamycin complex 1 subunit Kog1

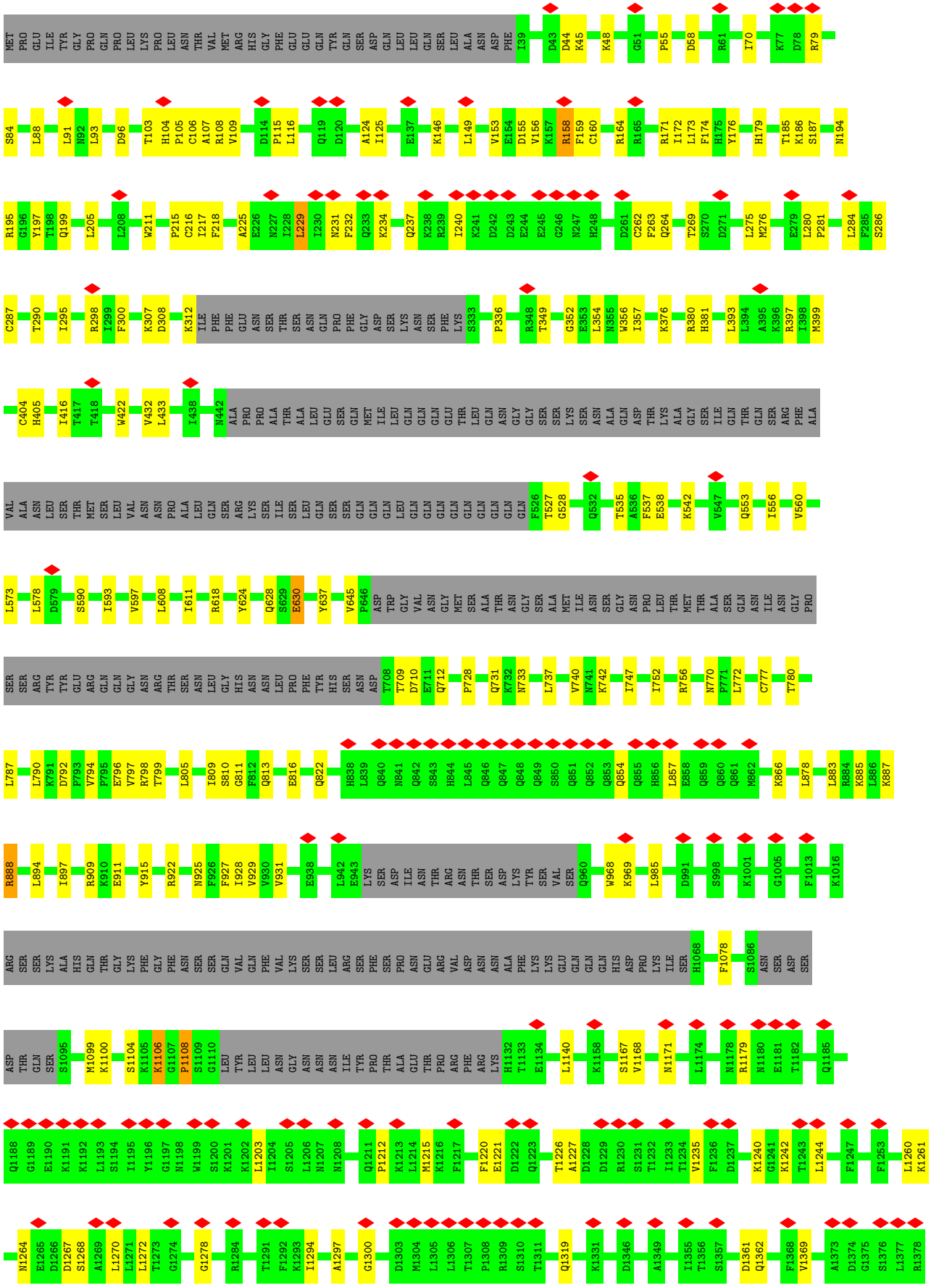
Chain B:

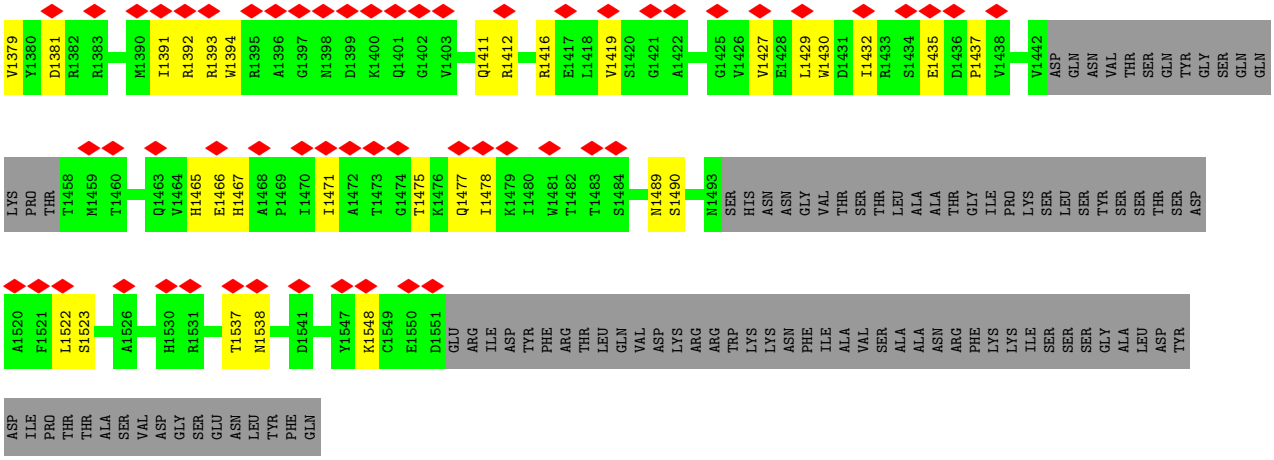




• Molecule 1: Target of rapamycin complex 1 subunit KOG1,Target of rapamycin complex 1 subunit Kog1

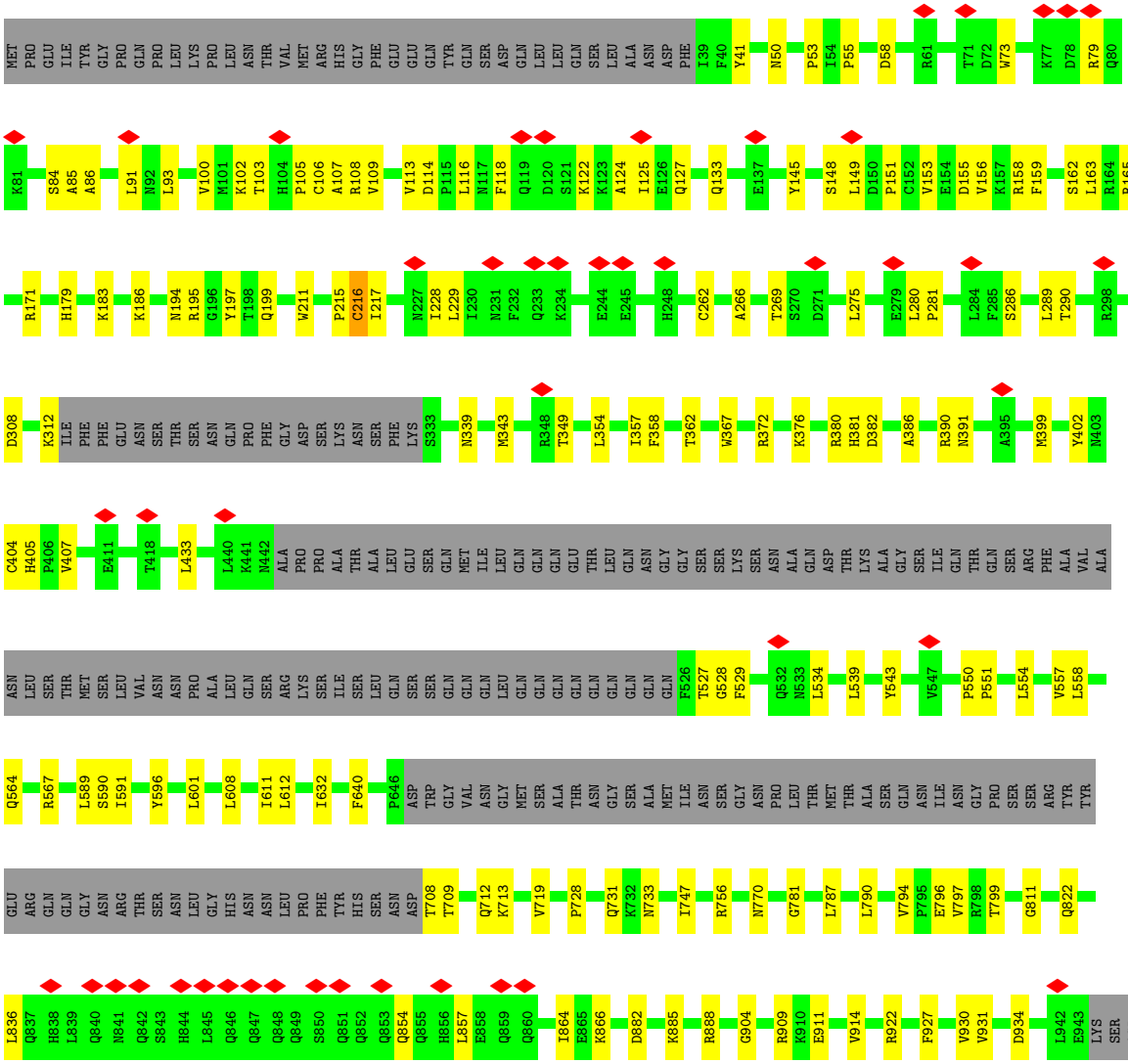
Chain G:

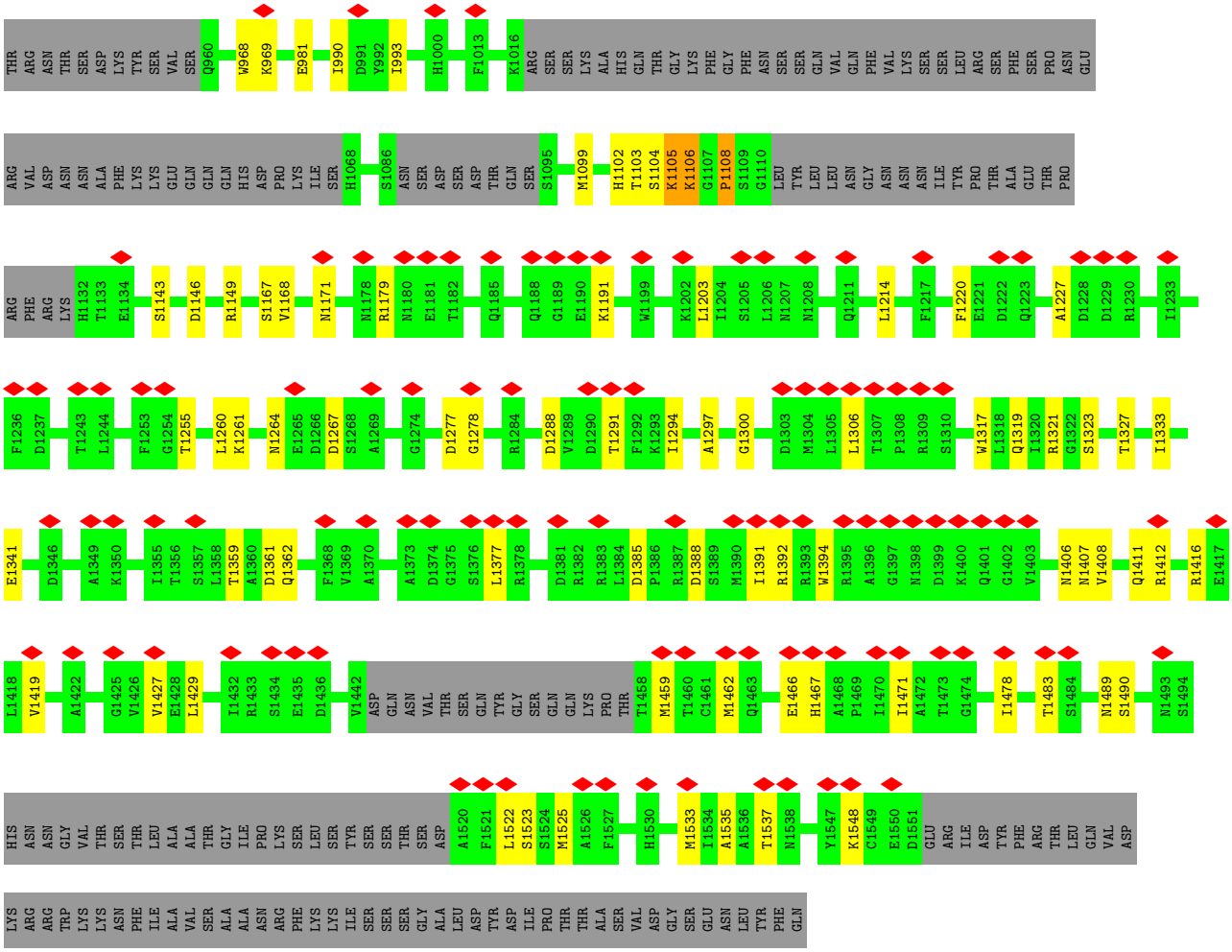

MET PRO GLU ILE TYR GLY PRO GLN PRO LEU LYS PRO LEU ASN THR VAL MET ARG HIS GLY PHE GLU GLU GLN TYR GLN SER ASP GLN LEU LEU GLN SER LEU ALA ASN ASP PHE I39 D43 D44 K45 K48 G51 P55 D58 R61 I70 K77 D78 R79
S84 L88 L91 N92 L93 D96 T103 H104 P105 C106 A107 R108 V109 D114 P115 L116 Q119 D120 A124 I125 E137 K146 L149 V153 E154 D155 V156 K157 R158 F159 C160 R164 R165 R171 I172 L173 F174 H175 Y176 H179 T185 K186 S187 N194
R195 G196 Y197 T198 Q199 L205 L208 W211 P215 C216 I217 F218 A225 E226 N227 I228 L229 I230 N231 F232 Q233 K234 Q237 K238 R239 I240 K241 D242 D243 E244 E245 G246 N247 H248 D261 C262 F263 Q264 T269 S270 D271 L275 M276 E279 L280 P281 L284 F285 S286
C287 T290 I295 R298 I299 F300 K307 D308 K312 ILE PHE PHE GLU ASN SER THR SER ASN GLN PRO PHE GLY ASP SER LYS ASN SER PHE LYS S333 P336 R348 T349 G352 E353 L354 N355 W356 I357 K376 R380 H381 L393 L394 A395 K396 R397 I398 M399
C404 H405 I416 T417 T418 W422 V432 L433 I438 N442 ALA PRO PRO ALA THR ALA LEU GLU SER GLN MET ILE LEU GLN GLN GLU GLU THR LEU GLN ASN GLY GLY SER SER LYS SER ASN ALA GLN ASP THR LYS ALA GLY SER ILE GLN THR GLN SER ARG PHE ALA
VAL ALA ASN LEU SER THR MET SER LEU VAL ASN ASN PRO ALA LEU GLN SER ARG LYS SER ILE SER LEU GLN SER SER GLN GLN GLN LEU GLN GLN GLN GLN GLN GLN GLN GLN GLN GLN F526 T527 G528 Q532 T535 A536 F537 E538 K542 V547 Q553 I556 V560
L573 L578 D579 S590 I593 V597 L608 I611 R618 Y624 Q628 S629 E630 Y637 V645 P646 ASP TRP GLY VAL ASN GLY MET SER ALA THR ASN GLY SER ALA MET ILE ASN SER GLY ASN PRO LEU THR MET THR ALA SER GLN ASN ILE ASN GLY PRO
SER SER ARG TYR TYR GLU ARG GLN GLN GLY ASN ARG THR SER ASN LEU GLY HIS ASN ASN LEU PRO PHE TYR HIS SER ASN ASP T708 T709 D710 E711 Q712 F728 Q731 K732 N733 L737 V740 N741 K742 I747 I752 R756 N770 P771 L772 C777 T780
L787 L790 K791 D792 F793 V794 P795 E796 V797 R798 T799 L805 I809 S810 G811 P812 Q813 E816 Q822 H838 L839 Q840 N841 Q842 S843 H844 L845 Q846 Q847 Q848 Q849 S850 Q851 Q852 Q853 Q854 Q855 H856 L857 E858 Q859 Q860 Q861 M862 K866 L878 L883 R884 K885 L886 K887
R888 L894 I897 R909 K910 E911 Y915 R922 N925 F926 F927 I928 V929 V930 V931 E938 L942 E943 LYS SER ASP ILE ASN THR ARG ASN THR SER ASP LYS TYR SER VAL SER Q960 W968 K969 L985 D991 S998 K1001 G1005 F1013 K1016
ARG SER SER LYS ALA HIS GLN THR GLY LYS PHE GLY PHE ASN SER SER GLN VAL GLN PHE VAL LYS SER SER LEU ARG SER PHE SER PRO ASN GLU ARG VAL ASP ASN ASN ALA PHE LYS LYS GLU GLN GLN GLN HIS ASP PRO LYS ILE SER H1068 F1078 S1086 ASN SER ASP SER
ASP THR GLN SER S1095 M1099 K1100 S1104 K1105 K1106 G1107 P1108 S1109 G1110 LEU TYR LEU LEU ASN GLY ASN ASN ASN ILE TYR PRO THR ALA GLU THR PRO ARG PHE ARG LYS H1132 T1133 E1134 L1140 K1158 S1167 V1168 N1171 L1174 N1178 R1179 N1180 E1181 T1182 Q1185
Q1188 G1189 E1190 K1191 K1192 L1193 S1194 I1195 Y1196 G1197 N1198 W1199 S1200 K1201 K1202 L1203 T1204 S1205 L1206 N1207 N1208 Q1211 P1212 K1213 L1214 M1215 K1216 F1217 F1220 E1221 D1222 Q1223 T1226 A1227 D1228 D1229 R1230 S1231 T1232 I1233 T1234 V1235 F1236 D1237 K1240 G1241 K1242 T1243 L1244 F1247 F1263 L1260 K1261
N1264 E1265 D1266 D1267 S1268 A1269 L1270 L1271 L1272 T1273 G1274 G1278 R1284 T1291 F1292 K1293 I1294 A1297 G1300 D1303 M1304 L1305 L1306 T1307 P1308 R1309 S1310 T1311 Q1319 K1331 D1346 A1349 I1355 T1356 S1357 D1361 Q1362 F1368 V1369 A1373 D1374 G1375 S1376 L1377 R1378



• Molecule 1: Target of rapamycin complex 1 subunit KOG1,Target of rapamycin complex 1 subunit Kog1

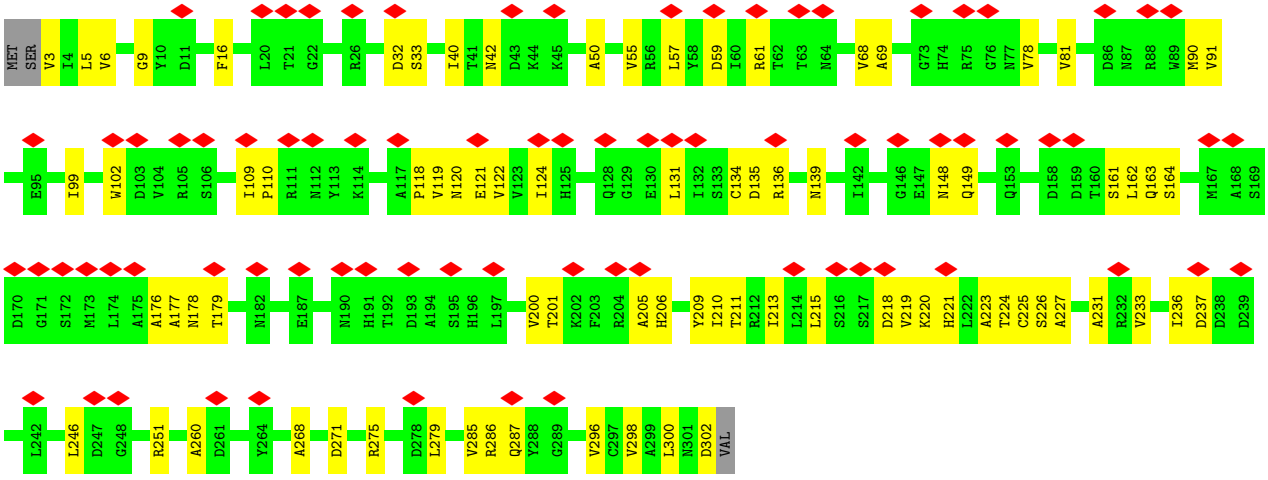
Chain J:





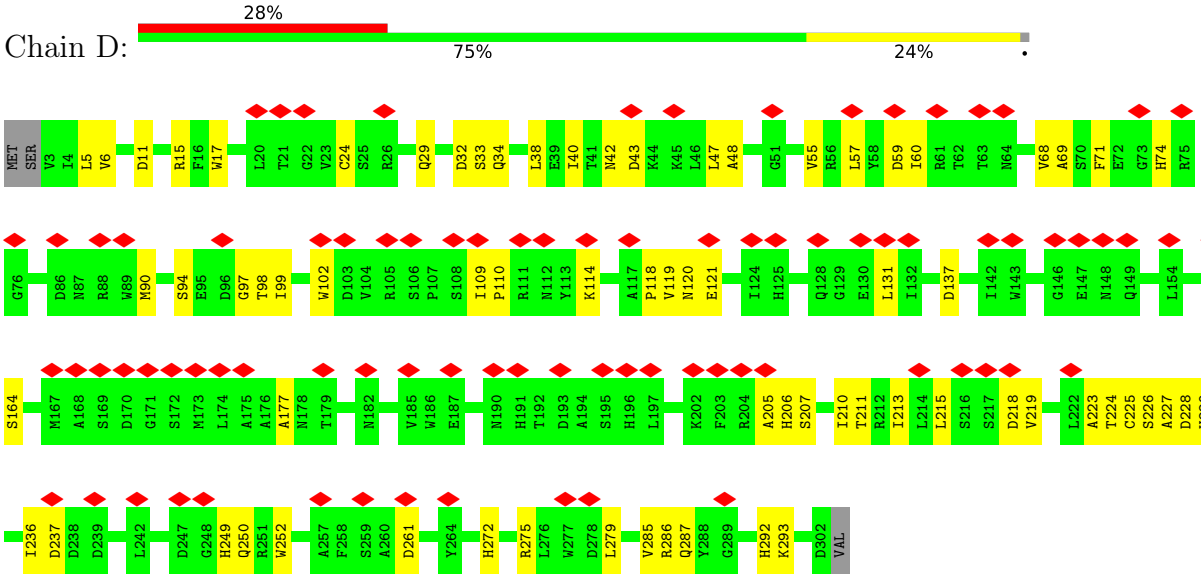
• Molecule 2: Target of rapamycin complex subunit LST8

Chain C:



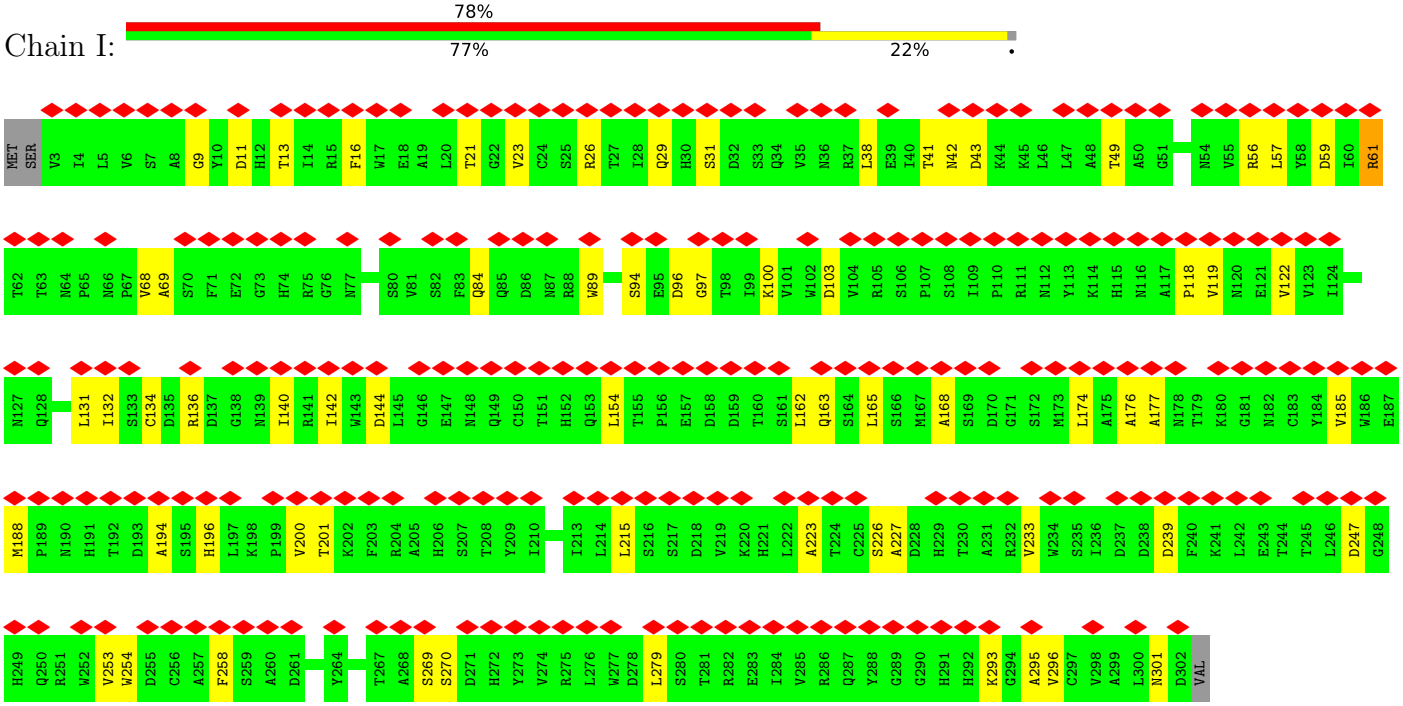
• Molecule 2: Target of rapamycin complex subunit LST8

Chain D:



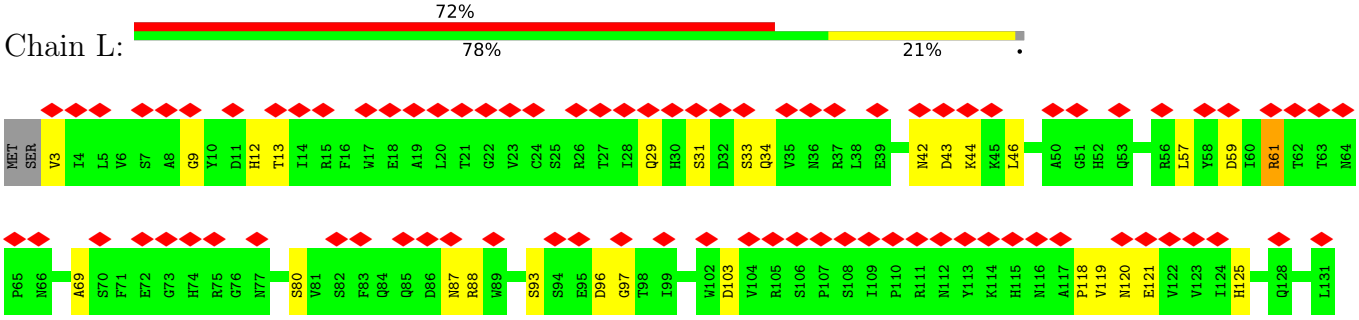
• Molecule 2: Target of rapamycin complex subunit LST8

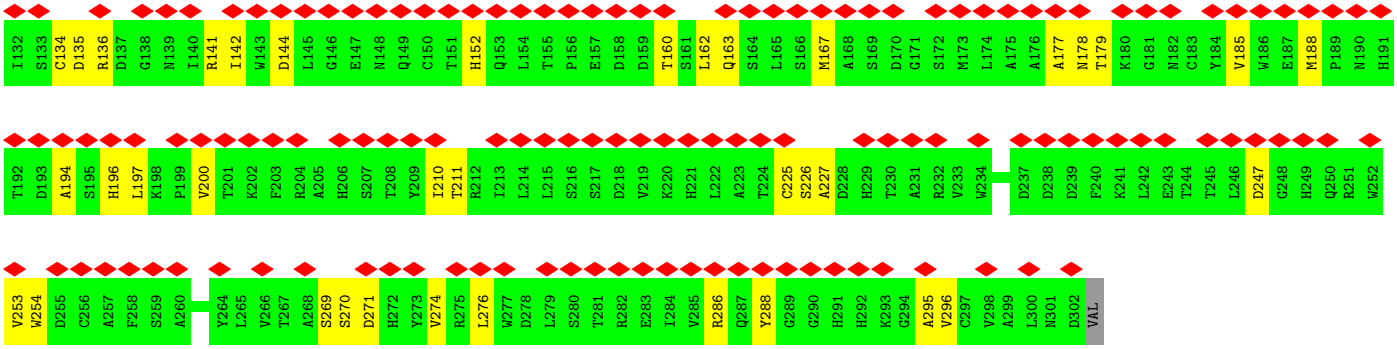
Chain I:



• Molecule 2: Target of rapamycin complex subunit LST8

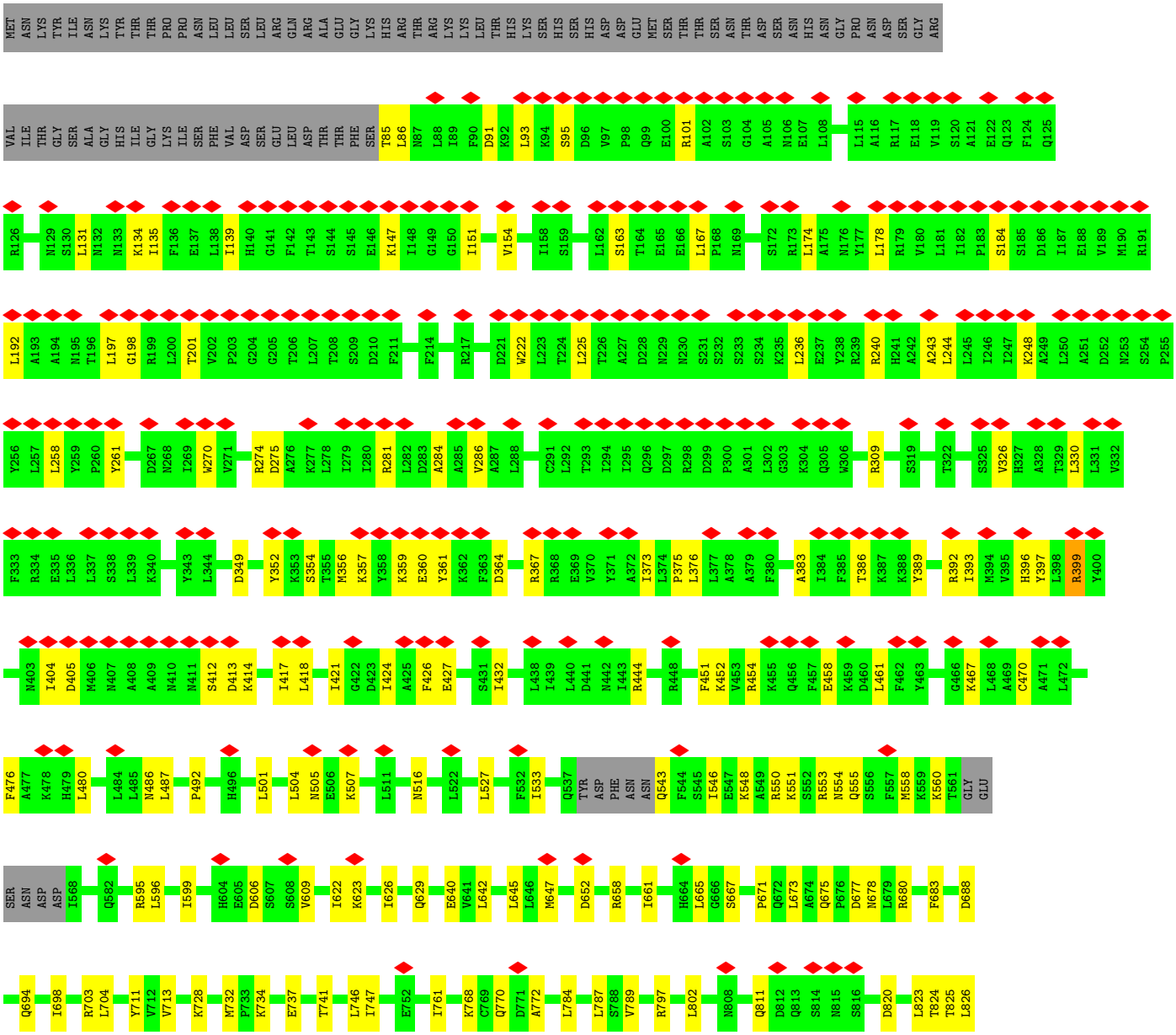
Chain L:

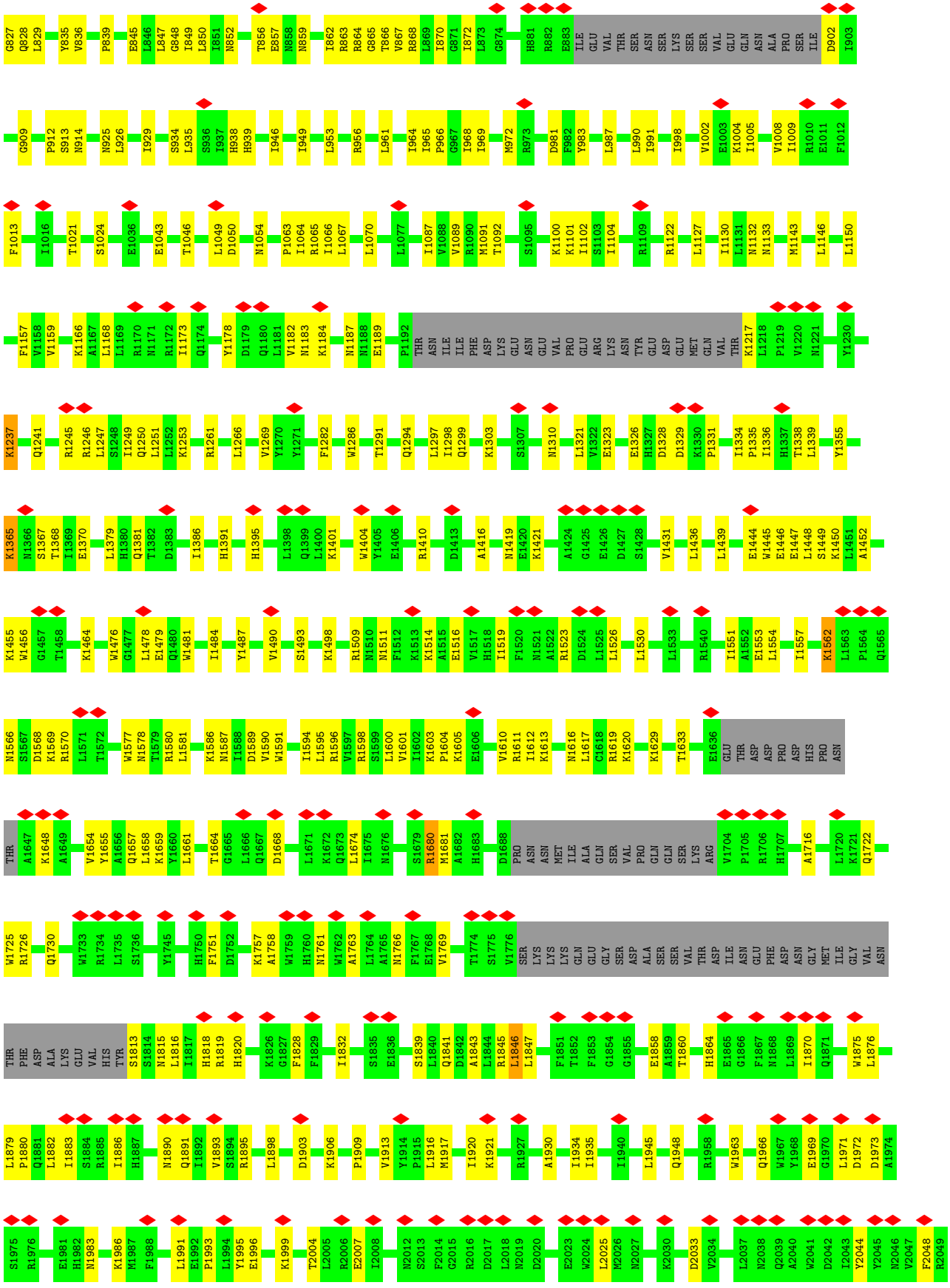


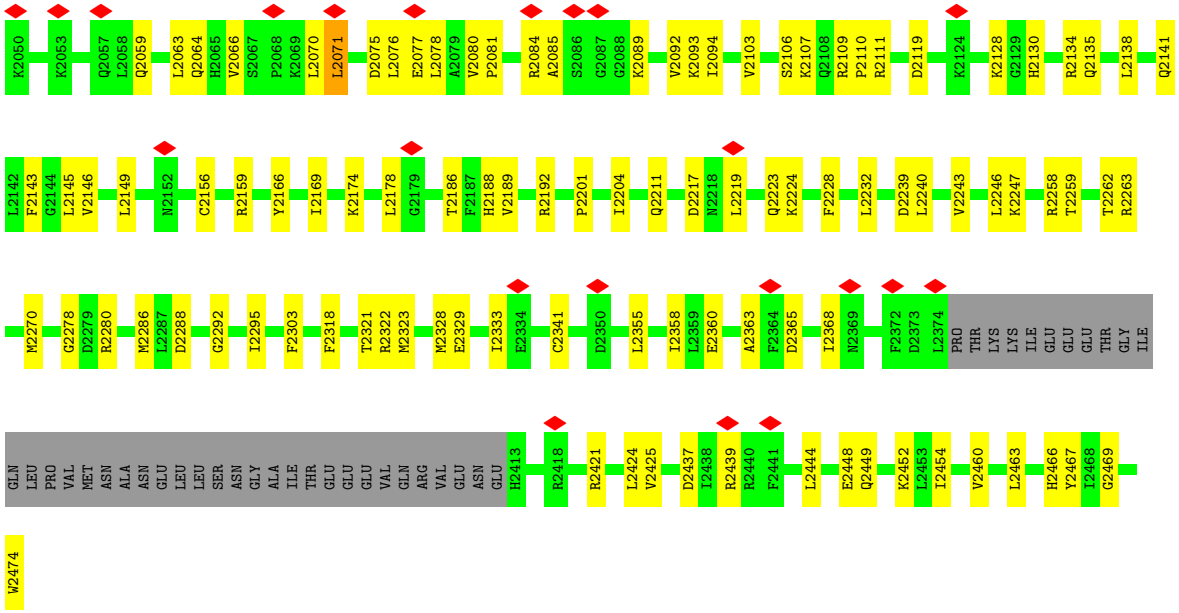


• Molecule 3: Serine/threonine-protein kinase TOR2

Chain E:

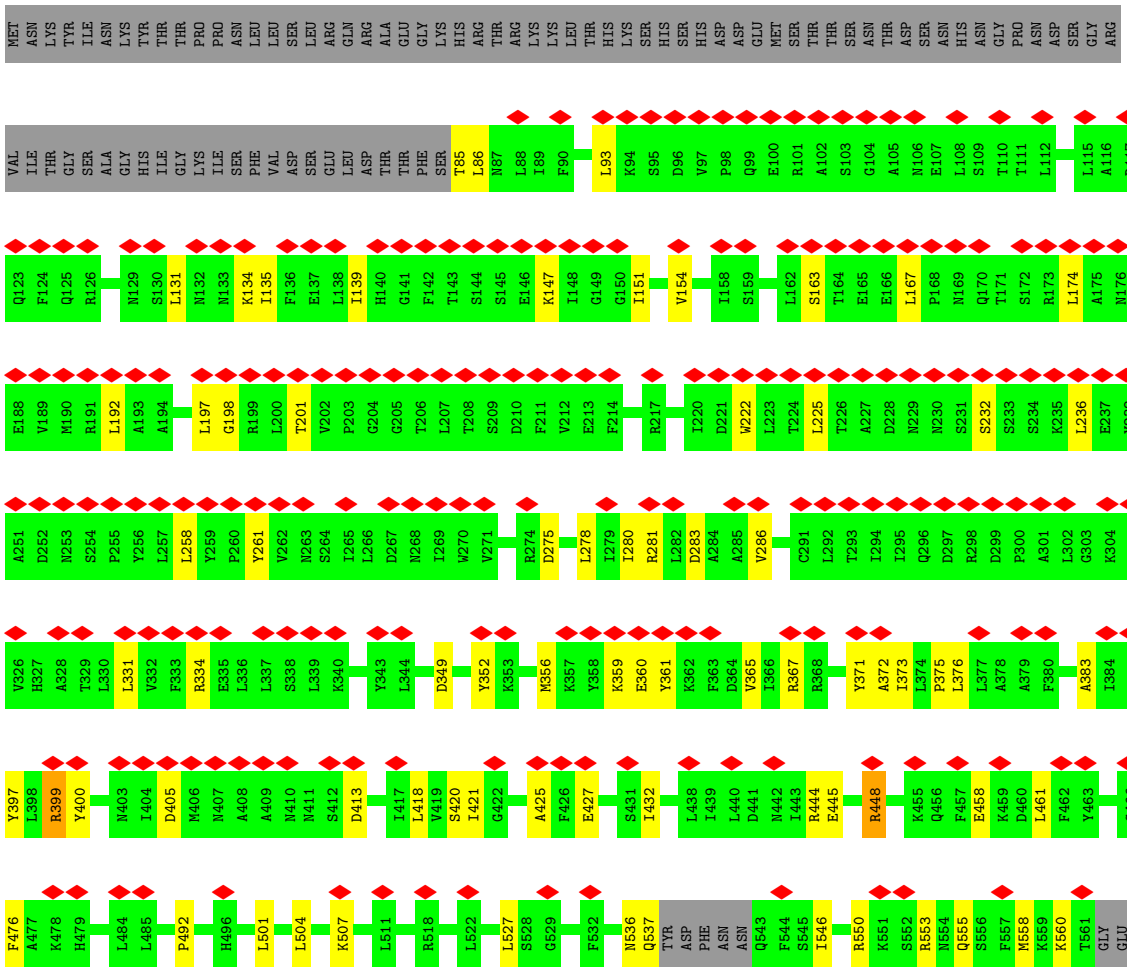


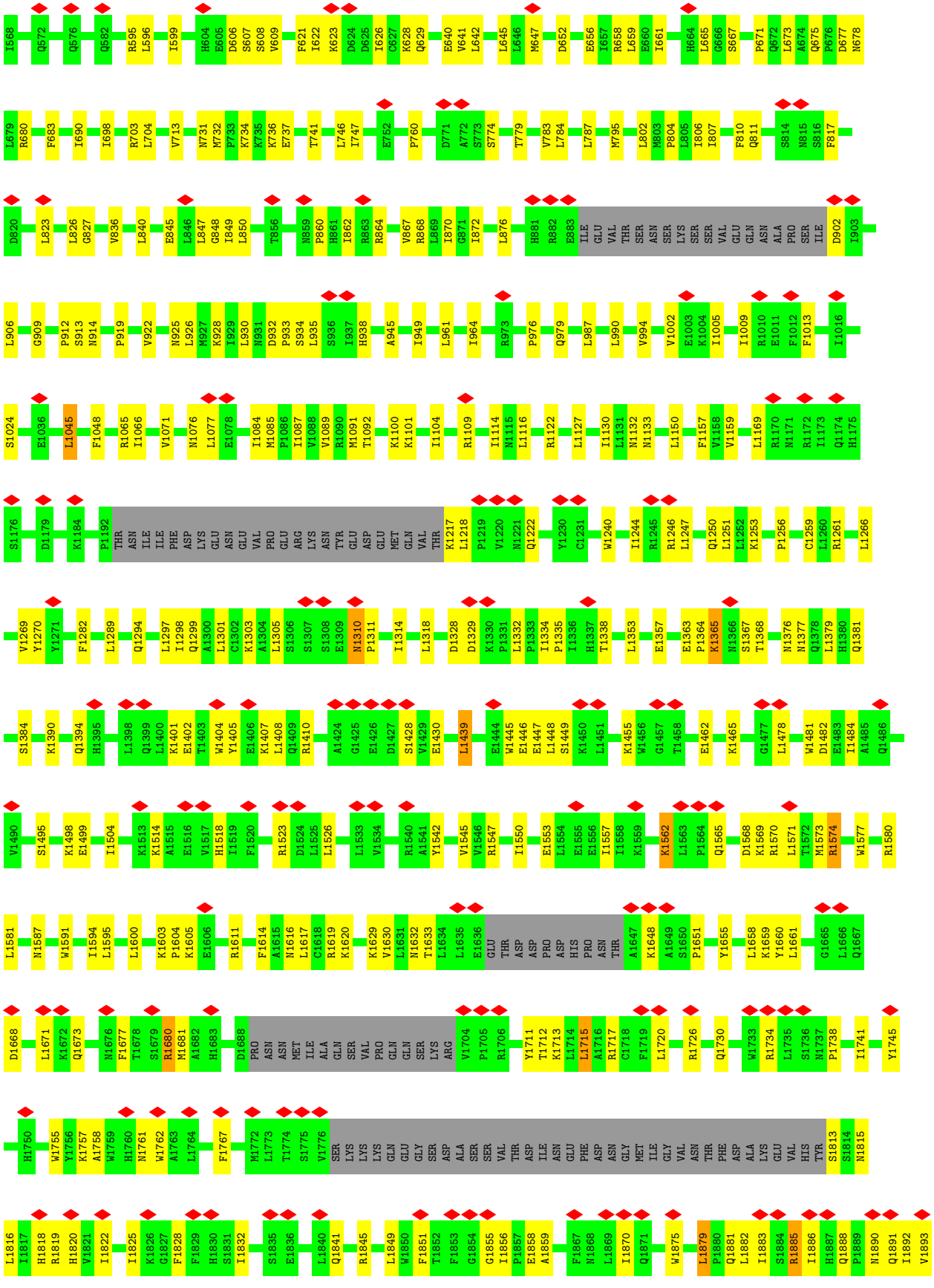

G827 Q828 L829 Y835 V836 P839 E845 L846 L847 G848 I849 L850 I851 N852 T856 E857 N858 N859 I862 R863 R864 G865 T866 V867 R868 L869 I870 G871 I872 L873 G874 H881 R882 E883 ILE GLU VAL THR SER ASN SER LYS SER SER VAL GLU GLN ASN ALA PRO SER ILE D902 I903
G909 P912 S913 N914 N925 L926 I929 S934 L935 S936 I937 H938 H939 I946 I949 L953 R956 L961 I964 I965 P966 G967 I968 I969 M972 R973 D981 F982 Y983 L987 L990 I991 I998 V1002 E1003 K1004 I1005 V1008 I1009 R1010 E1011 F1012
F1013 I1016 T1021 S1024 E1036 E1043 T1046 L1049 D1050 N1054 P1063 I1064 R1065 I1066 L1067 L1070 L1077 I1087 V1088 V1089 R1090 M1091 T1092 S1095 K1100 K1101 I1102 S1103 I1104 R1109 R1122 L1127 I1130 L1131 N1132 N1133 M1143 L1146 L1150
F1157 Y1158 V1159 K1166 A1167 L1168 E1169 R1170 N1171 R1172 I1173 Q1174 Y1178 D1179 Q1180 L1181 V1182 N1183 K1184 N1187 N1188 E1189 P1192 THR ASN ILE ILE PHE ASP LYS GLU ASN GLU VAL PRO GLU ARG LYS ASN TYR GLU ASP GLU MET GLN VAL THR K1217 L1218 P1219 V1220 N1221 Y1230
K1237 Q1241 R1245 R1246 L1247 S1248 I1249 Q1250 L1251 L1252 K1253 R1261 L1266 V1269 Y1270 Y1271 F1282 W1286 T1291 Q1294 L1297 I1298 Q1299 K1303 S1307 N1310 L1321 V1322 E1323 E1326 H1327 D1328 D1329 K1330 P1331 I1334 P1335 I1336 H1337 T1338 L1339 Y1355
K1365 N1366 S1367 T1368 I1369 E1370 L1379 H1380 Q1381 T1382 D1383 I1386 H1391 H1395 L1398 Q1399 L1400 K1401 W1404 Y1405 E1406 R1410 D1413 A1416 N1419 E1420 K1421 A1424 G1425 E1426 D1427 S1428 V1431 L1436 L1439 E1444 W1445 E1446 E1447 L1448 S1449 K1450 L1451 A1452
K1455 W1456 G1457 T1458 K1464 W1476 G1477 L1478 E1479 Q1480 W1481 I1484 Y1487 V1490 S1493 K1498 R1509 N1510 N1511 F1512 K1513 K1514 A1515 E1516 V1517 H1518 I1519 F1520 N1521 A1522 R1523 D1524 L1525 L1526 L1530 L1533 R1540 I1551 A1552 E1553 L1554 I1557 K1562 L1563 P1564 Q1565
N1566 S1567 D1568 K1569 R1570 L1571 T1572 W1577 N1578 T1579 R1580 L1581 K1586 N1587 I1588 D1589 V1590 W1591 I1594 L1595 R1596 V1597 R1598 S1599 L1600 V1601 I1602 K1603 P1604 K1605 E1606 V1610 R1611 I1612 K1613 N1616 L1617 C1618 R1619 K1620 K1629 T1633 E1636 GLU THR ASP ASP PRO ASP HIS PRO ASN
THR A1647 K1648 A1649 V1654 Y1655 A1656 Q1657 L1658 K1659 Y1660 L1661 T1664 G1665 L1666 Q1667 D1668 L1671 K1672 Q1673 L1674 I1675 N1676 S1679 R1680 M1681 A1682 H1683 D1688 PRO ASN ASN MET ILE ALA GLN SER VAL PRO GLN GLN SER LYS ARG V1704 P1705 R1706 H1707 A1716 L1720 K1721 Q1722
W1725 R1726 Q1730 W1733 R1734 L1735 S1736 Y1745 H1750 F1751 D1752 K1757 A1758 W1759 H1760 N1761 W1762 A1763 L1764 A1765 N1766 F1767 E1768 V1769 T1774 S1775 V1776 SER LYS LYS LYS GLN GLU GLY SER ASP ALA SER SER VAL THR ASP ILE ASN GLU PHE ASP ASN GLY MET ILE GLY VAL ASN
THR PHE ASP ALA LYS GLU VAL HIS TYR S1813 S1814 N1815 L1816 I1817 H1818 R1819 H1820 K1826 G1827 F1828 F1829 I1832 S1835 E1836 S1839 L1840 Q1841 D1842 A1843 L1844 R1845 L1846 L1847 F1851 T1852 F1853 G1854 G1855 E1858 A1859 T1860 H1864 E1865 G1866 F1867 N1868 L1869 I1870 Q1871 W1875 L1876
L1879 P1880 Q1881 L1882 I1883 S1884 R1885 I1886 H1887 N1890 Q1891 I1892 V1893 S1894 R1895 L1898 D1903 K1906 P1909 V1913 Y1914 P1915 L1916 M1917 I1920 K1921 R1927 A1930 I1934 I1935 I1940 L1945 Q1948 R1958 W1963 Q1966 W1967 Y1968 E1969 G1970 L1971 D1972 D1973 A1974
S1975 R1976 E1981 H1982 N1983 K1986 M1987 F1988 L1991 E1992 P1993 L1994 Y1995 E1996 K1999 T2004 L2005 R2006 E2007 I2008 N2012 S2013 F2014 G2015 R2016 D2017 L2018 N2019 D2020 E2023 W2024 L2025 M2026 N2027 K2030 D2033 V2034 L2037 N2038 Q2039 A2040 W2041 D2042 I2043 Y2044 Y2045 N2046 V2047 F2048 R2049



• Molecule 3: Serine/threonine-protein kinase TOR2

Chain F:

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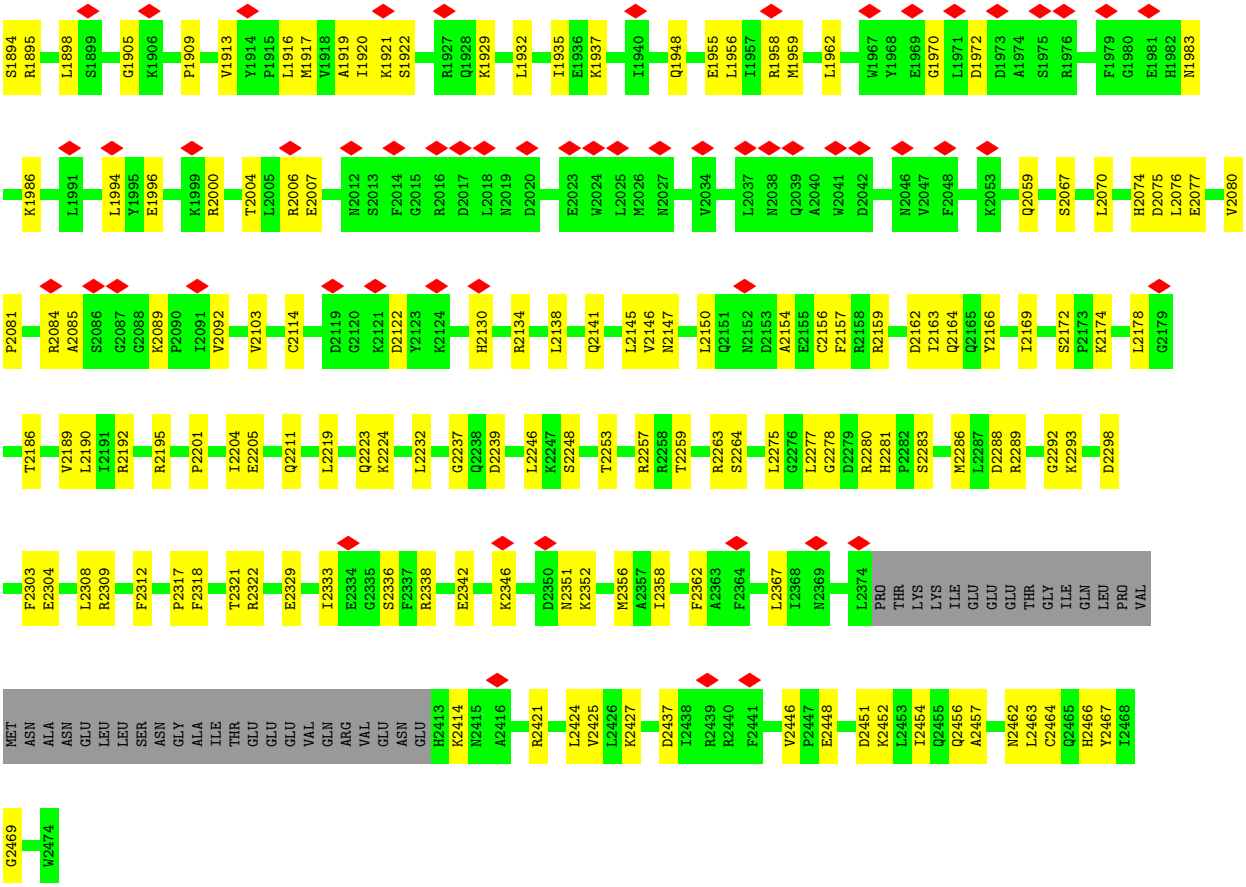
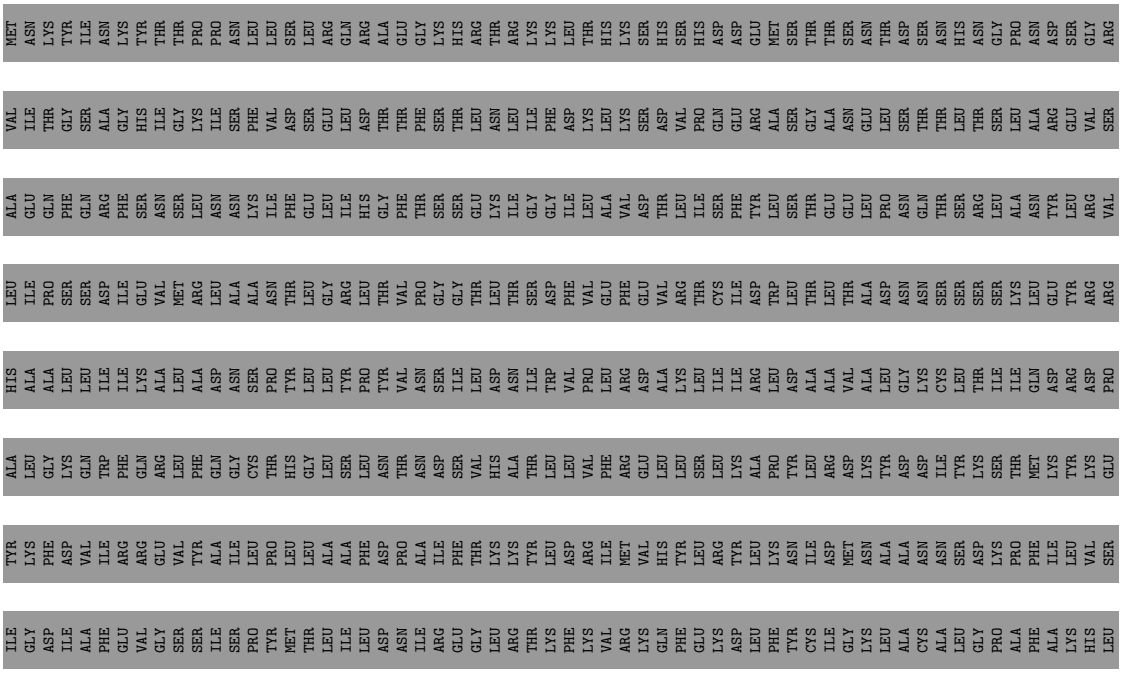
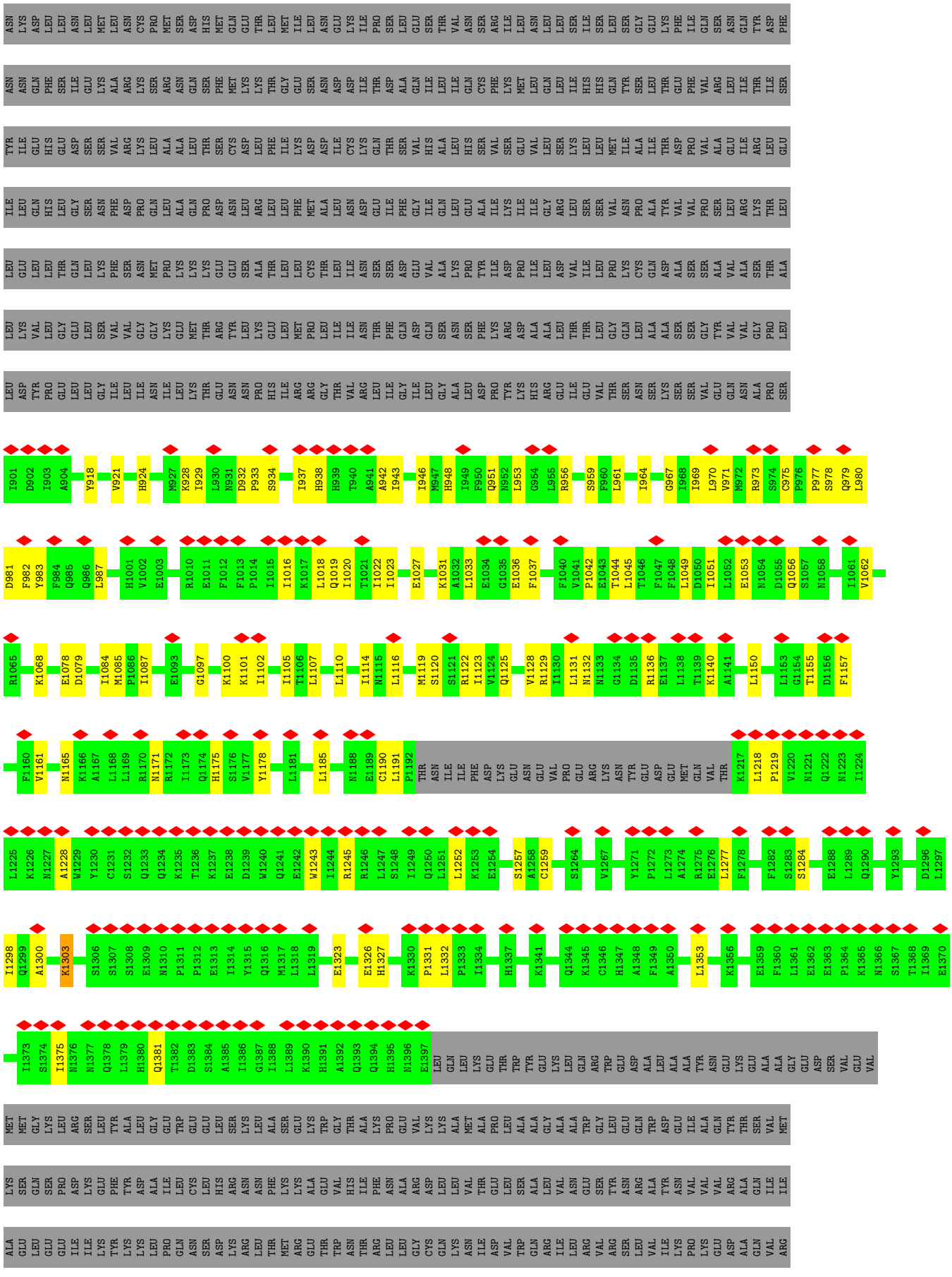
L679 R680 F683 I690 I698 R703 L704 V713 N731 M732 P733 K734 K735 K736 E737 T741 L746 I747 E752 P760 D771 A772 S773 S774 T779 V783 L784 L787 M795 L802 M803 P804 L805 I806 I807 F810 Q811 S814 N815 S816 F817
D820 L823 L826 G827 V836 L840 E845 L846 L847 G848 I849 L850 T856 N859 P860 H861 I862 R863 R864 V867 R868 L869 I870 G871 I872 L876 H881 R882 E883 ILE GLU VAL THR SER ASN SER LYS SER SER VAL GLU GLN ASN ALA PRO SER ILE D902 I903
L906 G909 P912 S913 N914 P919 V922 N925 L926 K927 K928 I929 L930 N931 D932 P933 S934 L935 S936 I937 H938 A945 I949 L961 I964 R973 P976 Q979 L987 L990 V994 V1002 E1003 K1004 I1005 I1009 R1010 E1011 F1012 F1013 T1016
S1024 E1036 L1045 F1048 R1065 I1066 V1071 N1076 L1077 E1078 I1084 M1085 P1086 I1087 V1088 V1089 R1090 M1091 T1092 K1100 K1101 I1104 R1109 I1114 N1115 L1116 R1122 L1127 I1130 L1131 N1132 N1133 L1150 F1157 V1158 V1159 L1169 R1170 N1171 R1172 I1173 Q1174 H1175
S1176 D1179 K1184 P1192 THR ASN ILE ILE PHE ASP LYS GLU ASN GLU VAL PRO GLU ARG LYS ASN TYR GLU ASP GLU MET GLN VAL THR K1217 L1218 P1219 V1220 N1221 Q1222 Y1230 C1231 W1240 I1244 R1245 R1246 L1247 Q1250 L1251 L1252 K1253 P1256 C1259 L1260 R1261 L1266
V1269 Y1270 Y1271 F1282 L1289 Q1294 L1297 I1298 Q1299 A1300 L1301 C1302 K1303 A1304 L1305 S1306 S1307 S1308 E1309 N1310 P1311 I1314 L1318 D1328 D1329 K1330 P1331 L1332 P1333 I1334 P1335 I1336 H1337 T1338 L1353 E1357 E1363 P1364 K1365 N1366 S1367 T1368 N1376 N1377 Q1378 L1379 H1380 Q1381
S1384 K1390 Q1394 H1395 L1398 Q1399 L1400 K1401 E1402 T1403 W1404 Y1405 E1406 K1407 L1408 Q1409 R1410 A1424 G1425 E1426 D1427 S1428 V1429 E1430 L1439 E1444 W1445 E1446 E1447 L1448 S1449 K1450 L1451 K1455 W1456 G1457 T1458 E1462 K1465 G1477 L1478 W1481 D1482 E1483 I1484 A1485 Q1486
V1490 S1495 K1498 E1499 I1504 K1513 K1514 A1515 E1516 Y1517 H1518 I1519 F1520 R1523 D1524 L1525 L1526 L1533 V1534 R1540 A1541 Y1542 V1545 V1546 R1547 I1550 E1553 L1554 E1555 E1556 I1557 T1558 K1559 K1562 L1563 P1564 Q1565 D1568 K1569 R1570 L1571 T1572 M1573 R1574 W1577 R1580
L1581 N1587 W1591 I1594 L1595 L1600 K1603 P1604 K1605 E1606 R1611 F1614 A1615 N1616 L1617 C1618 R1619 K1620 K1629 V1630 L1631 N1632 T1633 L1634 L1635 E1636 GLU THR ASP ASP PRO ASP HIS PRO ASN THR A1647 K1648 A1649 S1650 P1651 Y1655 L1658 K1659 Y1660 L1661 G1665 L1666 Q1667
D1668 L1671 K1672 Q1673 N1676 F1677 T1678 S1679 R1680 M1681 A1682 H1683 D1688 PRO ASN ASN MET ILE ALA GLN SER VAL PRO GLN GLN SER LYS ARG V1704 P1705 R1706 Y1711 T1712 K1713 L1714 L1715 A1716 R1717 C1718 F1719 L1720 R1726 Q1730 W1733 R1734 L1735 S1736 N1737 P1738 I1741 Y1745
H1750 W1755 Y1756 K1757 A1758 W1759 H1760 N1761 W1762 A1763 L1764 F1767 M1772 L1773 T1774 S1775 V1776 SER LYS LYS LYS GLN GLU GLY SER ASP ALA SER SER VAL THR ASP ILE ASN GLU PHE ASP ASN GLY MET ILE GLY VAL ASN THR PHE ASP ALA LYS GLU VAL HIS TYR S1813 S1814 N1815
L1816 I1817 H1818 R1819 H1820 V1821 I1822 I1825 K1826 G1827 F1828 F1829 H1830 S1831 I1832 S1835 E1836 L1840 Q1841 R1845 L1849 W1850 F1851 T1852 F1853 G1854 G1855 I1856 P1857 E1858 A1859 F1867 N1868 L1869 I1870 Q1871 W1875 L1879 P1880 Q1881 L1882 I1883 S1884 R1885 I1886 H1887 Q1888 P1889 N1890 Q1891 I1892 V1893

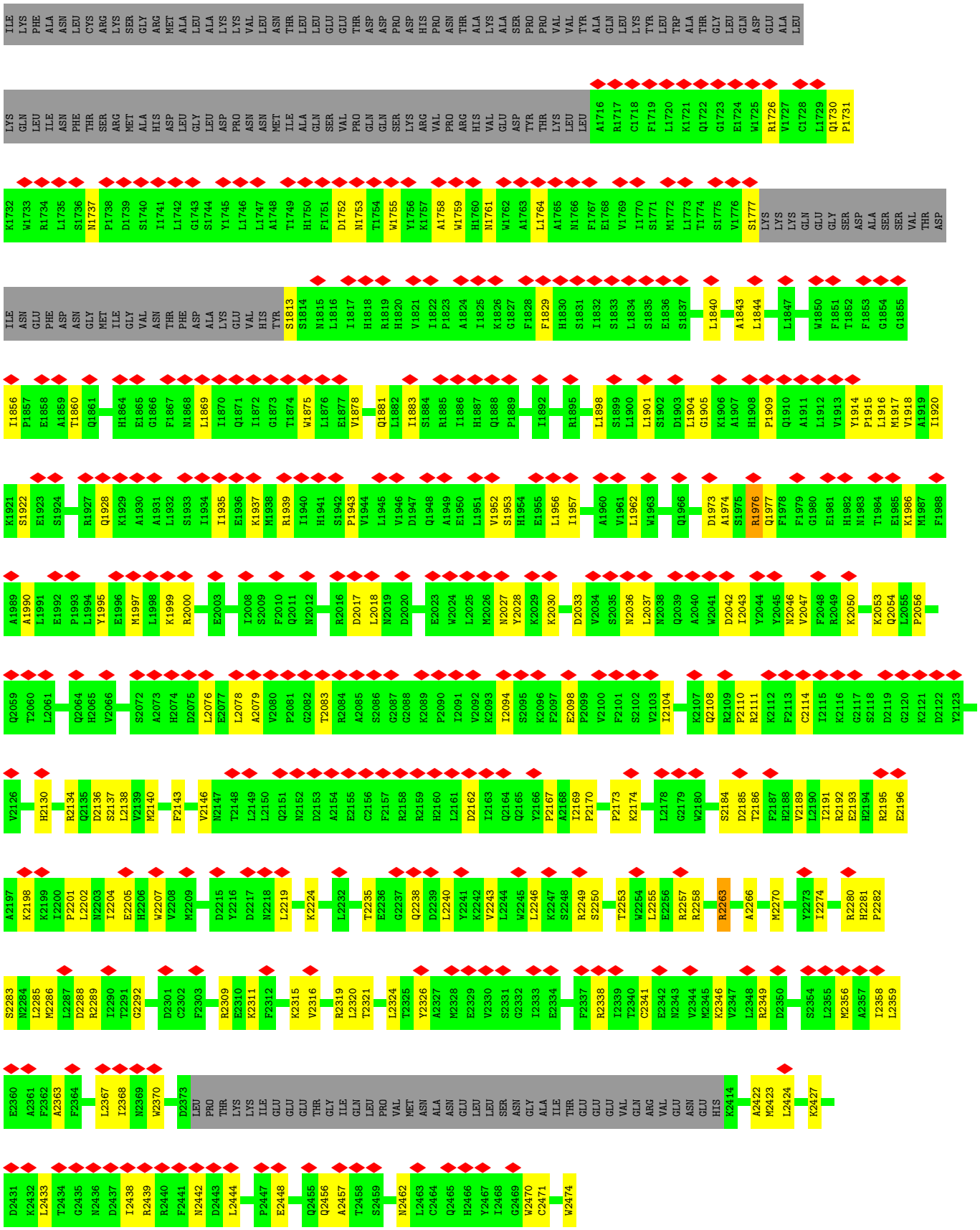


• Molecule 3: Serine/threonine-protein kinase TOR2

Chain H:



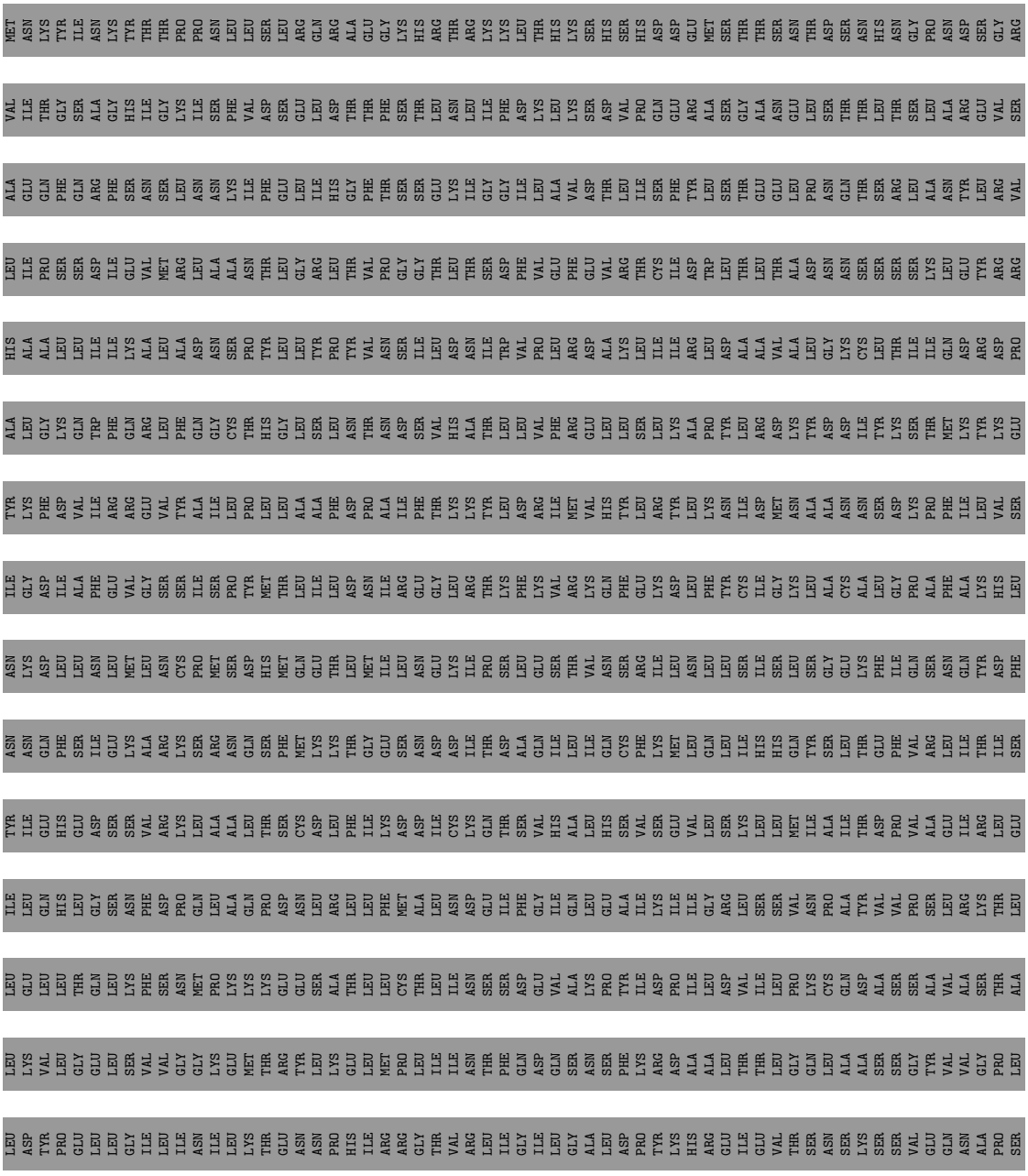




• Molecule 3: Serine/threonine-protein kinase TOR2

Chain K:


20%
35%
11%
53%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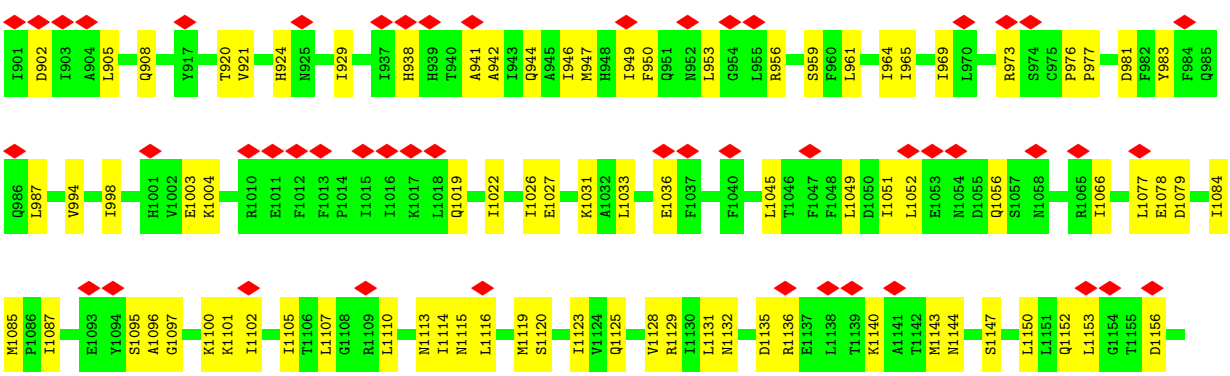
VAL ILE THR GLY SER ALA GLY HIS ILE GLY LYS ILE SER PHE VAL ASP SER GLU LEU ASP THR THR PHE SER THR LEU ASN LEU ILE PHE ASP LYS LEU LYS SER ASP VAL PRO GLN GLU ARG ALA SER GLY ALA ASN GLU LEU SER THR THR LEU THR SER LEU ALA ARG GLU VAL SER
ALA GLU GLN PHE GLN ARG PHE SER ASN SER LEU ASN ASN LYS ILE PHE GLU LEU ILE HIS GLY PHE THR SER SER GLU LYS ILE GLY GLY ILE LEU ALA VAL ASP THR LEU ILE SER PHE TYR LEU SER THR GLU GLU LEU PRO ASN GLN THR SER ARG LEU ALA ASN TYR LEU ARG VAL
LEU ILE PRO SER SER ASP ILE GLU VAL MET ARG LEU ALA ALA ASN THR LEU GLY ARG LEU TYR PRO TYR VAL PRO GLY GLY THR LEU THR SER ASP PHE VAL GLU PHE GLU VAL ARG THR CYS ILE ASP TRP LEU THR LEU THR ALA ASP ASN SER SER LYS LEU GLU TYR ARG ARG
HIS ALA ALA LEU LEU ILE ILE LYS ALA LEU ASP ASN SER ILE LEU ASP ASN ILE TRP VAL PRO LEU ARG ASP LEU ASP LEU ARG LEU ASP ALA LEU GLY LYS CYS LEU THR ILE GLN ASP ARG ASP PRO
ALA LEU GLY LYS GLN TRP PHE GLN ARG LEU PHE GLN GLY CYS THR HIS GLY LEU SER LEU ASN THR ASN ASP SER VAL HIS ALA THR LEU LEU VAL PHE ARG GLU LEU SER LEU LYS ALA PRO TYR LEU ARG ASP LYS TYR ASP ASP ILE TYR LYS SER THR MET LYS TYR LYS GLU
TYR LYS PHE ASP VAL ILE ARG ARG GLU VAL TYR ALA ILE LEU PRO LEU LEU ALA ALA PHE ASP PRO ALA ILE PHE PHE THR LYS LYS TYR LEU ASP ARG ILE MET VAL HIS TYR LEU ARG TYR LEU LYS ASN ILE ASP MET ASN ALA ALA ASP LYS PRO PHE ILE LEU LEU VAL SER
ILE GLY ASP ILE ALA PHE GLU VAL GLY SER SER ILE SER PRO TYR MET THR LEU ILE ILE LEU ASP ASN ILE ARG GLU GLY LEU ARG THR LYS PHE LYS VAL ARG LYS GLN PHE GLU LYS ASP LEU PHE TYR CYS ILE GLY LYS LEU ALA CYS ALA LEU GLY PRO ALA PHE ALA LYS HIS LEU
ASN LYS ASP LEU LEU ASN LEU MET LEU ASN CYS PRO MET SER ASP HIS MET GLN GLU THR LEU MET ILE LEU LEU ASN GLU LYS ILE GLU SER THR VAL VAL ASN SER ARG ILE LEU ASN LEU LEU SER ILE SER LEU LEU SER GLY GLU LYS PHE ILE GLN SER ASN GLN TYR ASP PHE
ASN ASN GLN PHE SER ILE GLU LYS ALA ARG LYS SER ARG ASN GLN SER PHE MET LYS LYS THR GLY GLU SER ASN ASP ASP ILE THR ASP ALA GLN ILE LEU ILE GLN CYS PHE LYS MET LEU GLN LEU LEU SER ILE HIS HIS GLN TYR SER LEU THR GLU PHE VAL ARG LEU ILE THR ILE SER
TYR ILE GLU HIS GLU ASP SER SER VAL ARG LYS LEU ALA ALA LEU THR SER CYS ASP LEU PHE ILE LYS ASP ASP ILE CYS LYS GLN THR SER VAL HIS ALA LEU VAL SER GLU VAL LEU SER LYS LEU LEU MET ILE ALA ILE THR ASP PRO VAL ALA GLU ILE ARG LEU GLU
ILE LEU GLN HIS LEU GLY SER ASN PHE ASP PRO GLN LEU ALA GLN PRO ASP ASN LEU ARG LEU LEU PHE MET ALA LEU LEU ASN ASP GLU ILE PHE GLY ILE GLN LEU GLU ILE LYS ILE GLY ARG LEU SER SER VAL ASN PRO ALA TYR VAL VAL PRO SER LEU ARG LYS THR LEU
LEU GLU LEU THR GLN LEU LYS PHE SER ASN MET PRO LYS LYS LYS GLU GLU SER ALA THR LEU LEU CYS THR LEU ILE ASN SER SER ASP GLU VAL ALA LYS PRO TYR ILE ASP PRO ILE LEU ASP VAL ILE LEU PRO LYS CYS GLN ASP ALA SER SER SER ALA VAL ALA SER THR ALA
LEU LYS VAL LEU GLY GLU LEU SER VAL GLY GLY LYS GLU MET THR ARG TYR LEU LYS GLU LEU MET PRO LEU ILE ILE ASN THR PHE GLN ASP GLN SER ASN SER PHE LYS ARG ASP ALA ALA LEU THR THR LEU GLY GLN LEU ALA ALA SER SER GLY TYR VAL VAL GLY PRO LEU
LEU ASP TYR PRO GLU LEU ILE ASN GLY ARG ARG GLY THR VAL ARG LEU ILE GLY ILE LEU GLY ALA LEU ASP PRO TYR LYS HIS ARG GLU ILE GLU VAL THR SER ASN SER LYS SER SER VAL GLU GLN ASN ALA PRO SER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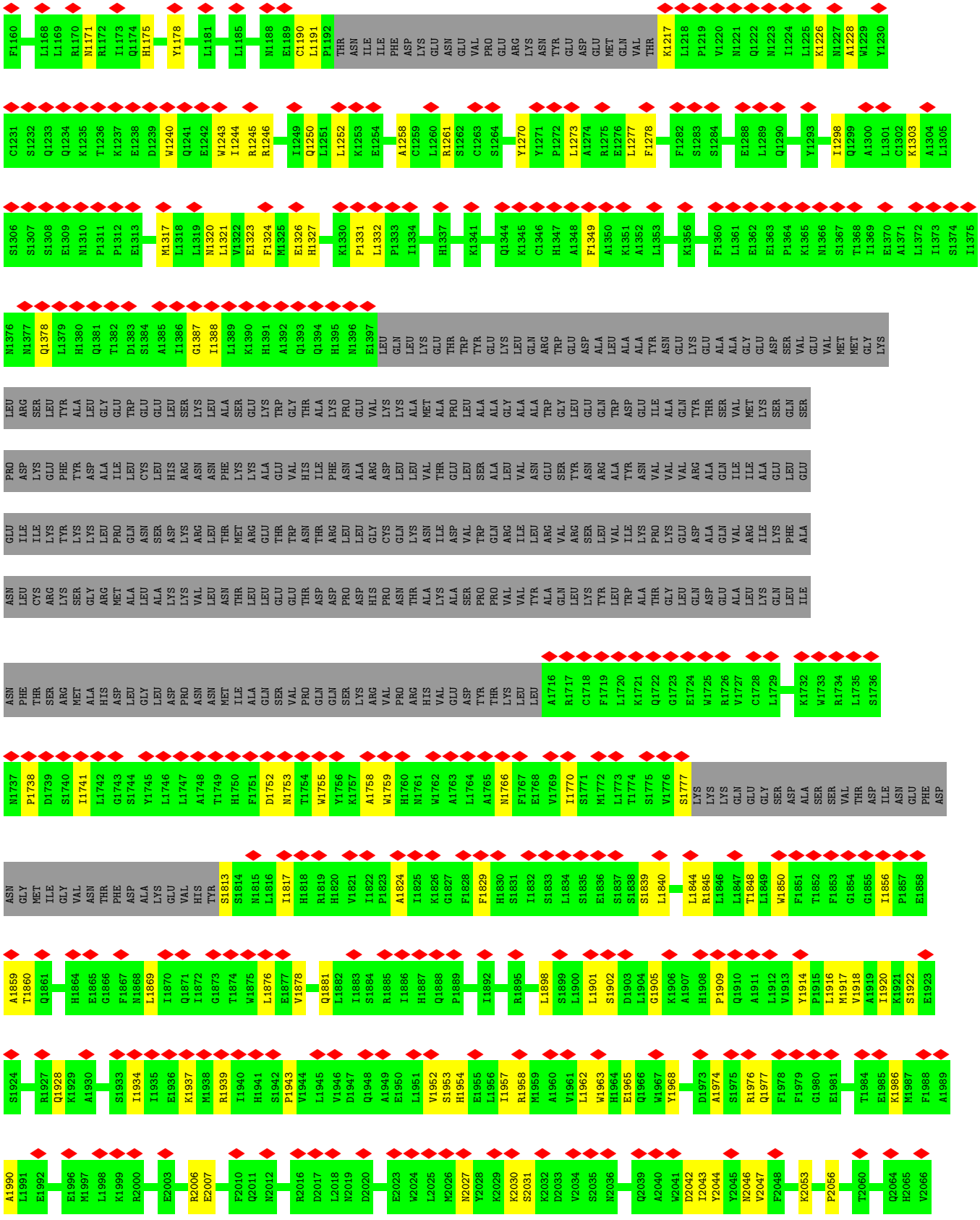
Q986 L987 V994 I998 H1001 V1002 E1003 K1004 R1010 E1011 F1012 F1013 P1014 I1015 I1016 K1017 L1018 Q1019 I1022 I1026 E1027 K1031 A1032 L1033 E1036 F1037 F1040 L1045 T1046 F1047 F1048 L1049 D1050 I1051 L1052 E1053 N1054 D1055 Q1056 S1057 N1058 R1065 I1066 L1077 E1078 D1079 I1084
M1085 P1086 I1087 E1093 Y1094 S1095 A1096 G1097 K1100 K1101 I1102 I1105 T1106 L1107 G1108 R1109 L1110 N1113 I1114 N1115 L1116 M1119 S1120 I1123 V1124 Q1125 V1128 R1129 I1130 L1131 N1132 D1135 R1136 E1137 L1138 T1139 K1140 A1141 T1142 M1143 N1144 S1147 L1150 L1151 Q1152 L1153 G1154 T1155 D1156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C1231 S1232 Q1233 Q1234 K1235 T1236 K1237 E1238 D1239 W1240 Q1241 E1242 W1243 I1244 R1245 R1246 I1249 Q1250 L1251 L1252 K1253 E1254 A1258 C1259 L1260 R1261 S1262 C1263 S1264 Y1270 Y1271 P1272 L1273 A1274 R1275 E1276 L1277 F1278 F1282 S1283 S1284 E1288 L1289 Q1290 Y1293 I1298 Q1299 A1300 L1301 C1302 K1303 A1304 L1305
S1306 S1307 S1308 E1309 N1310 P1311 P1312 E1313 M1317 L1318 L1319 N1320 L1321 V1322 E1323 F1324 M1325 E1326 H1327 K1330 P1331 L1332 P1333 I1334 H1337 K1341 Q1344 K1345 C1346 H1347 A1348 F1349 A1350 K1351 A1352 L1353 K1356 F1360 L1361 E1362 E1363 P1364 K1365 N1366 S1367 T1368 I1369 E1370 A1371 L1372 I1373 S1374 I1375
N1376 N1377 Q1378 L1379 H1380 Q1381 T1382 D1383 S1384 A1385 I1386 G1387 I1388 L1389 K1390 H1391 A1392 Q1393 Q1394 H1395 N1396 E1397 LEU GLN LEU LYS GLU THR TRP TYR GLU LYS LEU GLN ARG TRP GLU ASP ALA LEU ALA ALA TYR ASN GLU LYS GLU ALA ALA GLY GLU ASP SER VAL GLU VAL MET MET GLY LYS
LEU ARG SER LEU TYR ALA LEU GLY GLU TRP GLU GLU LEU SER LYS LEU ALA SER GLU LYS TRP GLY THR ALA LYS PRO GLU VAL LYS LYS ALA MET ALA PRO LEU ALA ALA GLY ALA ALA TRP GLY LEU GLU GLN TRP ASP GLU ILE ALA GLN TYR THR SER VAL MET LYS SER GLN SER
PRO ASP LYS GLU PHE TYR ASP ALA ILE LEU CYS LEU HIS ARG ASN ASN PHE LYS LYS ALA GLU VAL HIS ILE PHE ASN ALA ARG ASP LEU LEU VAL THR GLU LEU SER ALA LEU VAL ASN GLU SER TYR ASN ARG ALA TYR ASN VAL VAL VAL ARG ALA GLN ILE ILE ALA GLU LEU GLU
GLU ILE ILE LYS TYR LYS LYS LEU PRO GLN ASN SER ASP LYS ARG LEU THR MET ARG GLU THR TRP ASN THR ARG LEU LEU GLY CYS GLN LYS ASN ILE ASP VAL TRP GLN ARG ILE LEU ARG VAL ARG SER LEU VAL ILE LYS PRO LYS GLU ASP ALA GLN VAL ARG ILE LYS PHE ALA
ASN LEU CYS ARG LYS SER GLY ARG MET ALA LEU ALA LYS LYS VAL LEU ASN THR LEU LEU GLU GLU THR ASP ASP PRO ASP HIS PRO ASN THR ALA LYS ALA SER PRO PRO VAL VAL TYR ALA GLN LEU LYS TYR LEU TRP ALA THR GLY LEU GLN ASP GLU ALA LEU LYS GLN LEU ILE
ASN PHE THR SER ARG MET ALA HIS ASP LEU GLY LEU ASP PRO ASN ASN MET ILE ALA GLN SER VAL PRO GLN GLN SER LYS ARG VAL PRO ARG HIS VAL GLU ASP TYR THR LYS LEU LEU A1716 R1717 C1718 F1719 L1720 K1721 Q1722 G1723 E1724 W1725 R1726 V1727 C1728 L1729 K1732 W1733 R1734 L1735 S1736
N1737 P1738 D1739 S1740 I1741 L1742 G1743 S1744 Y1745 L1746 L1747 A1748 T1749 H1750 F1751 D1752 N1753 T1754 W1755 Y1756 K1757 A1758 W1759 H1760 N1761 W1762 A1763 L1764 A1765 N1766 F1767 E1768 V1769 I1770 S1771 M1772 L1773 T1774 S1775 V1776 S1777 LYS LYS LYS GLN GLU GLY SER ASP ALA SER SER VAL THR ASP ILE ASN GLU PHE ASP
ASN GLY MET ILE GLY VAL ASN THR PHE ASP ALA LYS GLU VAL HIS TYR S1813 S1814 N1815 L1816 I1817 H1818 R1819 H1820 V1821 I1822 P1823 A1824 I1825 K1826 G1827 F1828 F1829 H1830 S1831 I1832 S1833 L1834 S1835 E1836 S1837 S1838 S1839 L1840 L1844 R1845 L1846 L1847 T1848 L1849 W1850 F1851 T1852 F1853 G1854 G1855 I1856 P1857 E1858
A1859 T1860 Q1861 H1864 E1865 G1866 F1867 N1868 L1869 I1870 Q1871 I1872 G1873 T1874 W1875 L1876 E1877 V1878 Q1881 L1882 I1883 S1884 R1885 I1886 H1887 Q1888 P1889 I1892 R1895 L1898 S1899 L1900 L1901 S1902 D1903 L1904 G1905 K1906 A1907 H1908 P1909 Q1910 A1911 L1912 V1913 Y1914 P1915 L1916 M1917 V1918 A1919 I1920 K1921 S1922 E1923
S1924 R1927 Q1928 K1929 A1930 S1933 I1934 I1935 E1936 K1937 M1938 R1939 I1940 H1941 S1942 P1943 V1944 L1945 V1946 D1947 Q1948 A1949 E1950 L1951 V1952 S1953 H1954 E1955 L1956 I1957 R1958 M1959 A1960 V1961 L1962 W1963 H1964 E1965 Q1966 W1967 Y1968 D1973 A1974 S1975 R1976 Q1977 F1978 F1979 G1980 E1981 T1984 E1985 K1986 M1987 F1988 A1989
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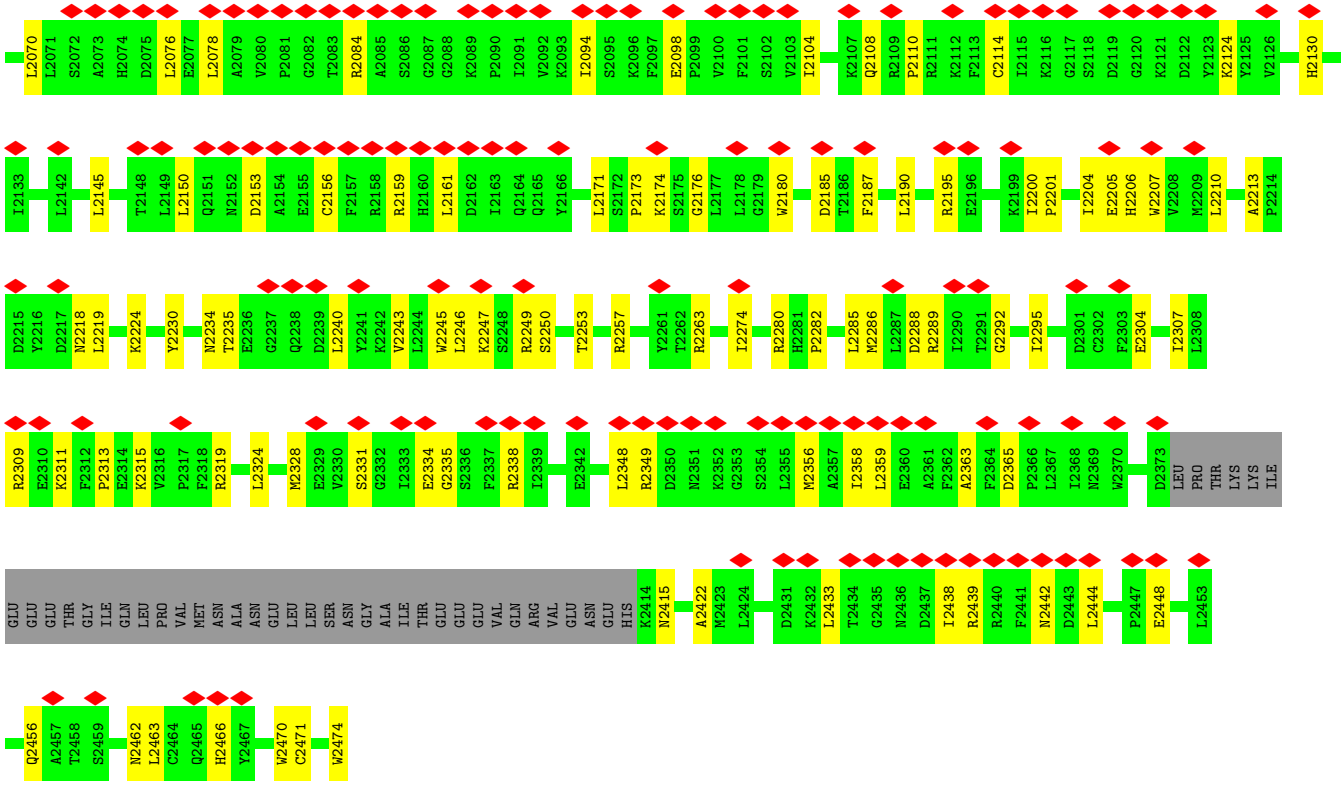
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I2133 L2142 L2145 T2148 L2149 L2150 Q2151 N2152 D2153 A2154 E2155 C2156 F2157 R2158 R2159 H2160 L2161 D2162 I2163 Q2164 Q2165 Y2166 L2171 S2172 P2173 K2174 S2175 G2176 L2177 L2178 G2179 W2180 D2185 T2186 F2187 L2190 R2195 E2196 K2199 I2200 P2201 I2204 E2205 H2206 W2207 V2208 M2209 L2210 A2213 P2214
D2215 Y2216 D2217 N2218 L2219 K2224 Y2230 N2234 T2235 E2236 G2237 Q2238 D2239 L2240 Y2241 K2242 V2243 L2244 W2245 L2246 K2247 S2248 R2249 S2250 T2253 R2257 Y2261 T2262 R2263 I2274 R2280 H2281 P2282 L2285 M2286 L2287 D2288 R2289 I2290 T2291 G2292 I2295 D2301 C2302 F2303 E2304 I2307 L2308
R2309 E2310 K2311 F2312 P2313 E2314 K2315 V2316 P2317 F2318 R2319 L2324 M2328 E2329 V2330 S2331 G2332 I2333 E2334 G2335 S2336 F2337 R2338 I2339 E2342 L2348 R2349 D2350 N2351 K2352 G2353 S2354 L2355 M2356 A2357 I2358 L2359 E2360 A2361 F2362 A2363 F2364 D2365 P2366 L2367 I2368 N2369 W2370 D2373 LEU PRO THR LYS LYS ILE
GLU GLU GLU THR GLY ILE GLN LEU PRO VAL MET ASN ALA ASN GLU LEU LEU SER ASN GLY ALA ILE THR GLU GLU GLU VAL GLN ARG VAL GLU ASN GLU HIS K2414 N2415 A2422 M2423 L2424 D2431 K2432 L2433 T2434 G2435 N2436 D2437 I2438 R2439 R2440 F2441 N2442 D2443 L2444 P2447 E2448 L2453
Q2456 A2457 T2458 S2459 N2462 L2463 C2464 Q2465 H2466 Y2467 W2470 C2471 W2474

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, D2	Depositor
Number of particles used	218872	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	20	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	37000	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	2.344	Depositor
Minimum map value	-0.057	Depositor
Average map value	0.004	Depositor
Map value standard deviation	0.043	Depositor
Recommended contour level	0.12	Depositor
Map size (Å)	405.0, 405.0, 405.0	wwPDB
Map dimensions	300, 300, 300	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.35, 1.35, 1.35	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	0.29	0/9911	0.58	2/13437 (0.0%)
1	B	0.29	0/9904	0.58	1/13427 (0.0%)
1	G	0.28	0/9923	0.56	2/13455 (0.0%)
1	J	0.28	0/9929	0.55	0/13463
2	C	0.26	0/2422	0.60	0/3302
2	D	0.26	0/2422	0.60	2/3302 (0.1%)
2	I	0.25	0/2422	0.59	2/3302 (0.1%)
2	L	0.25	0/2422	0.61	3/3302 (0.1%)
3	E	0.28	0/18271	0.59	2/24746 (0.0%)
3	F	0.27	0/18265	0.59	6/24739 (0.0%)
3	H	0.26	0/9509	0.58	0/12893
3	K	0.26	0/9509	0.56	0/12893
All	All	0.28	0/104909	0.58	20/142261 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
1	B	0	1
1	J	0	1
All	All	0	3

There are no bond length outliers.

The worst 5 of 20 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	120	ASP	CB-CG-OD1	9.13	126.51	118.30
3	F	1715	LEU	CA-CB-CG	8.74	135.41	115.30
3	E	2071	LEU	CA-CB-CG	6.60	130.48	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	D	137	ASP	CB-CG-OD1	6.47	124.13	118.30
2	I	239	ASP	CB-CG-OD1	6.34	124.01	118.30

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	216	CYS	Peptide
1	B	216	CYS	Peptide
1	J	216	CYS	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	9693	0	9655	137	0
1	B	9686	0	9656	128	0
1	G	9705	0	9676	153	0
1	J	9711	0	9683	149	0
2	C	2366	0	2251	46	0
2	D	2366	0	2251	42	0
2	I	2366	0	2251	37	0
2	L	2366	0	2251	37	0
3	E	17910	0	18236	351	0
3	F	17904	0	18225	331	0
3	H	9299	0	9374	177	0
3	K	9299	0	9374	168	0
All	All	102671	0	102883	1741	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 8.

The worst 5 of 1741 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:J:632:ILE:HD11	1:J:733:ASN:HD22	1.26	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:1105:LYS:HZ1	1:J:1306:LEU:HD11	1.36	0.90
1:G:630:GLU:N	1:G:630:GLU:OE1	2.08	0.85
3:H:971:VAL:O	3:H:975:CYS:HB3	1.80	0.82
3:E:2286:MET:HB2	3:E:2295:ILE:HB	1.62	0.82

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	1189/1608 (74%)	1121 (94%)	68 (6%)	0	100	100
1	B	1188/1608 (74%)	1128 (95%)	60 (5%)	0	100	100
1	G	1192/1608 (74%)	1131 (95%)	59 (5%)	2 (0%)	44	75
1	J	1193/1608 (74%)	1126 (94%)	65 (5%)	2 (0%)	44	75
2	C	298/303 (98%)	267 (90%)	31 (10%)	0	100	100
2	D	298/303 (98%)	267 (90%)	31 (10%)	0	100	100
2	I	298/303 (98%)	266 (89%)	32 (11%)	0	100	100
2	L	298/303 (98%)	268 (90%)	30 (10%)	0	100	100
3	E	2220/2474 (90%)	2072 (93%)	148 (7%)	0	100	100
3	F	2220/2474 (90%)	2069 (93%)	151 (7%)	0	100	100
3	H	1147/2474 (46%)	1097 (96%)	50 (4%)	0	100	100
3	K	1147/2474 (46%)	1091 (95%)	56 (5%)	0	100	100
All	All	12688/17540 (72%)	11903 (94%)	781 (6%)	4 (0%)	100	100

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	J	1099	MET
1	G	1099	MET
1	J	1108	PRO
1	G	1108	PRO

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	1080/1458 (74%)	1072 (99%)	8 (1%)	81	86
1	B	1079/1458 (74%)	1076 (100%)	3 (0%)	91	92
1	G	1079/1458 (74%)	1068 (99%)	11 (1%)	73	81
1	J	1080/1458 (74%)	1073 (99%)	7 (1%)	84	88
2	C	263/267 (98%)	262 (100%)	1 (0%)	89	92
2	D	263/267 (98%)	262 (100%)	1 (0%)	89	92
2	I	263/267 (98%)	260 (99%)	3 (1%)	70	79
2	L	263/267 (98%)	262 (100%)	1 (0%)	89	92
3	E	1991/2219 (90%)	1977 (99%)	14 (1%)	81	86
3	F	1990/2219 (90%)	1973 (99%)	17 (1%)	75	83
3	H	1037/2219 (47%)	1031 (99%)	6 (1%)	84	88
3	K	1037/2219 (47%)	1033 (100%)	4 (0%)	89	92
All	All	11425/15776 (72%)	11349 (99%)	76 (1%)	80	86

5 of 76 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	H	1937	LYS
3	K	1245	ARG
3	H	2263	ARG
1	J	822	GLN
2	L	61	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 38

such sidechains are listed below:

Mol	Chain	Res	Type
1	J	1102	HIS
3	K	1977	GLN
1	J	1171	ASN
3	K	1250	GLN
2	L	29	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

There are no ligands in this entry.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

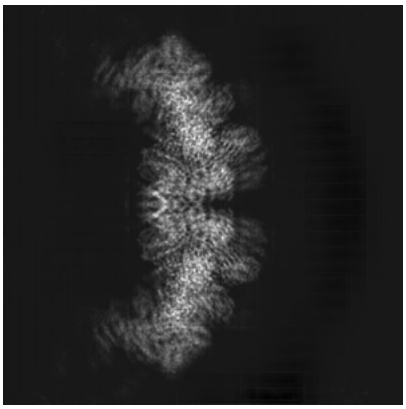
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-13594. These allow visual inspection of the internal detail of the map and identification of artifacts.

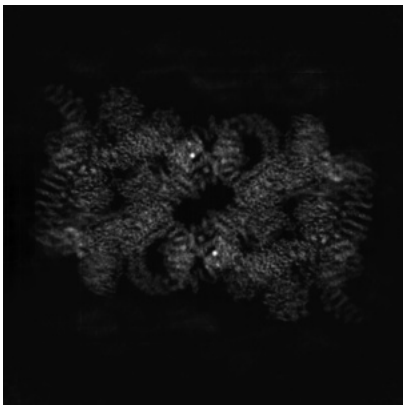
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

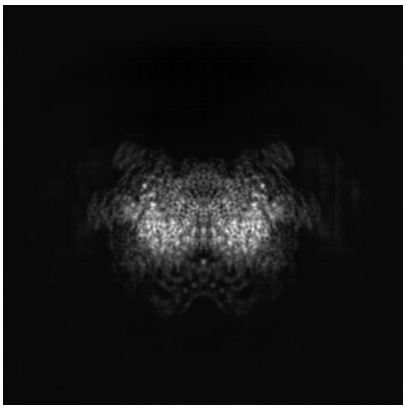
6.1.1 Primary map



X

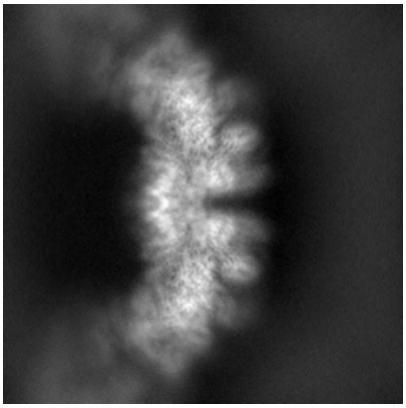


Y

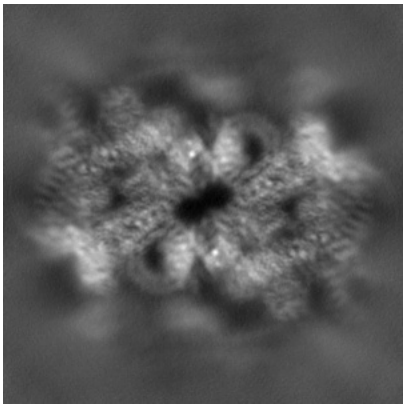


Z

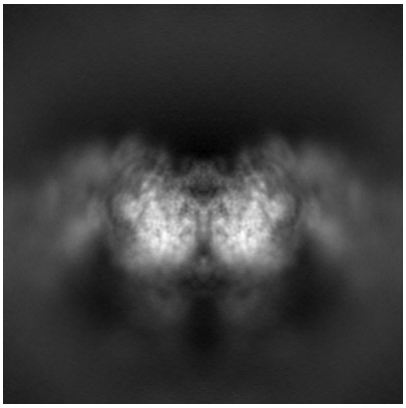
6.1.2 Raw map



X



Y



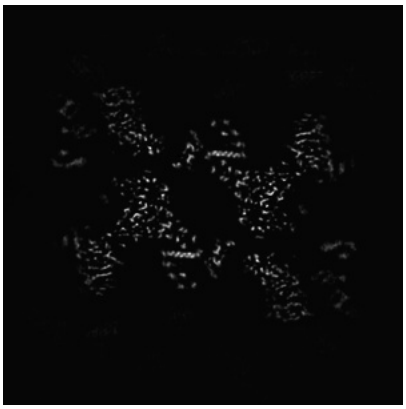
Z

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

6.2 Central slices (i)

6.2.1 Primary map

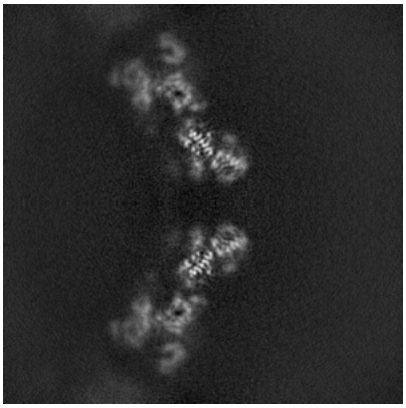
X Index: 150



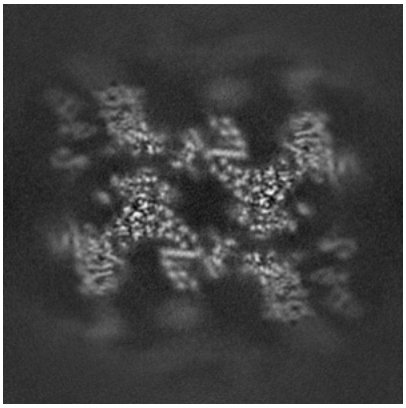
Y Index: 150

Z Index: 150

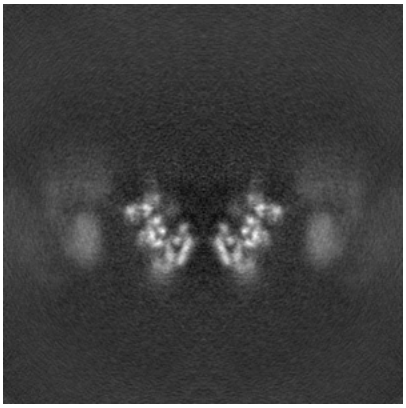
6.2.2 Raw map



X Index: 150



Y Index: 150



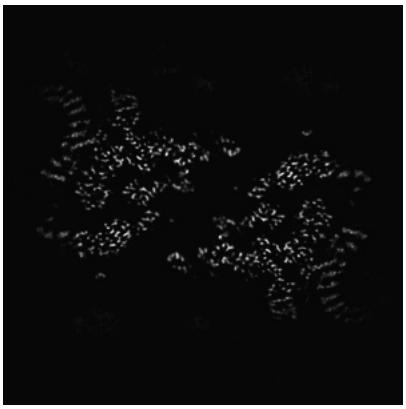
Z Index: 150

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

6.3 Largest variance slices (i)

6.3.1 Primary map

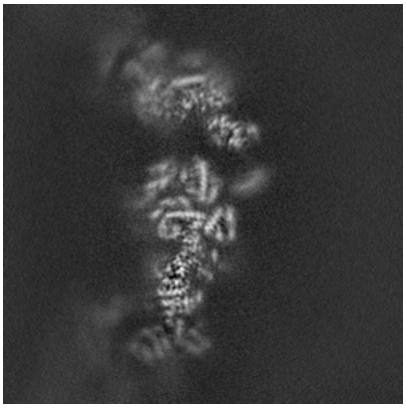
X Index: 187



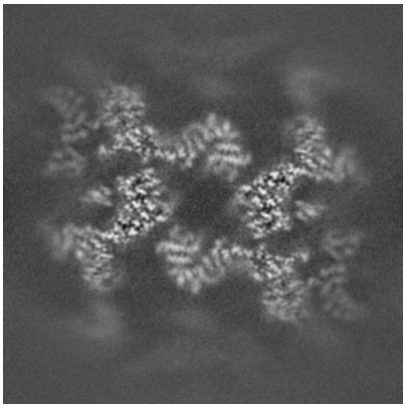
Y Index: 136

Z Index: 195

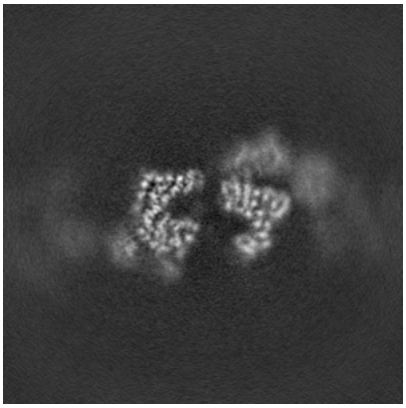
6.3.2 Raw map



X Index: 187



Y Index: 143

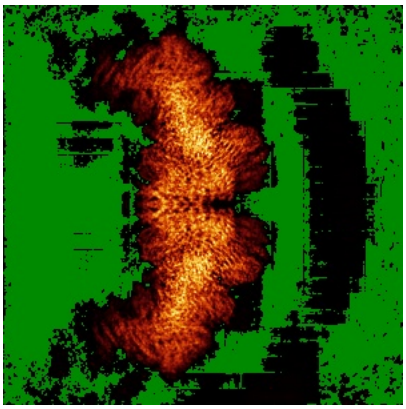


Z Index: 166

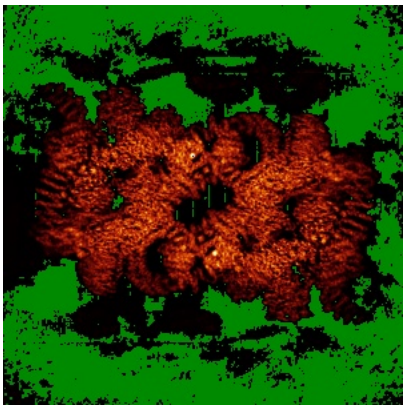
The images above show the largest variance slices of the map in three orthogonal directions.

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

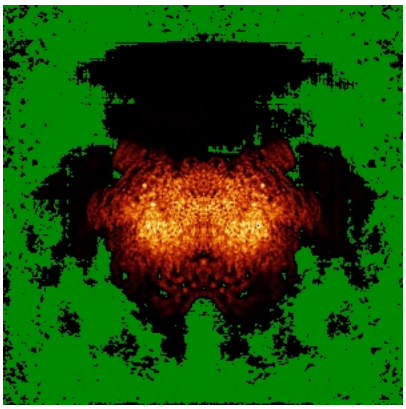
6.4.1 Primary map



X

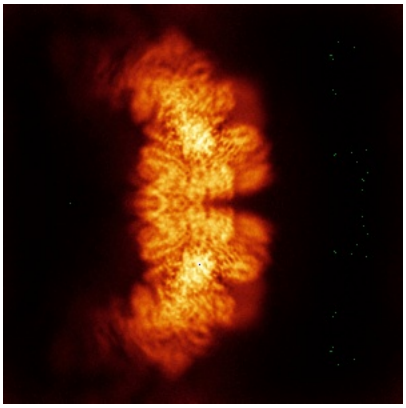


Y

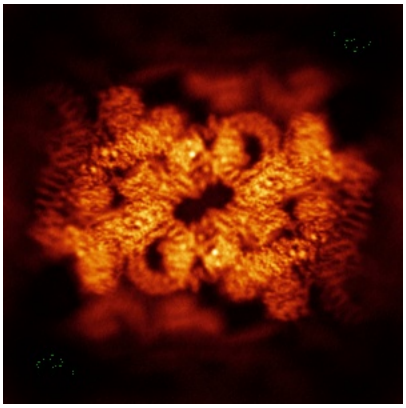


Z

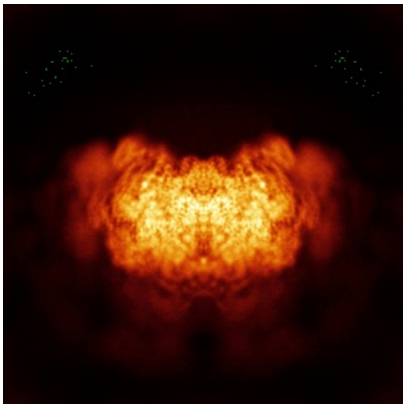
6.4.2 Raw map



X



Y

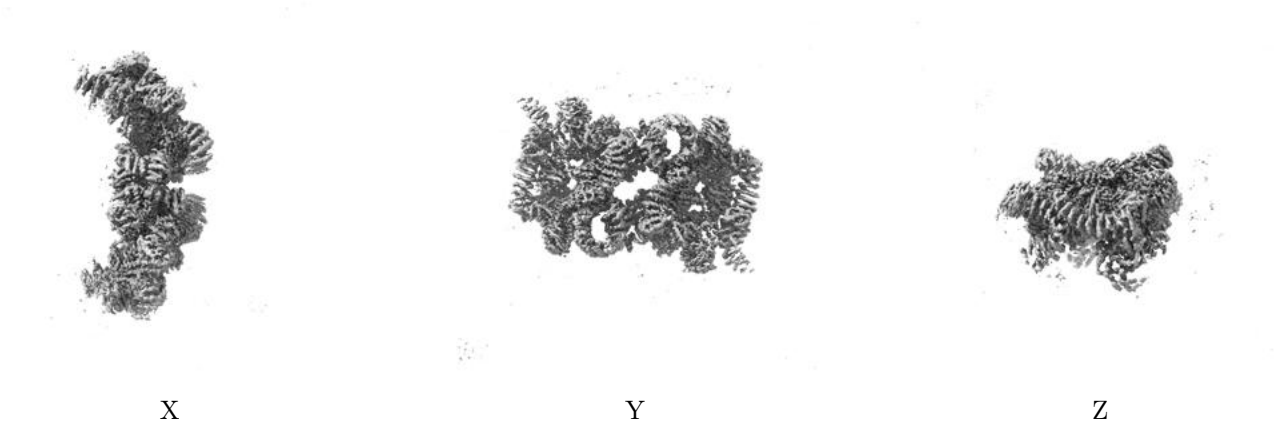


Z

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 0.12. 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.

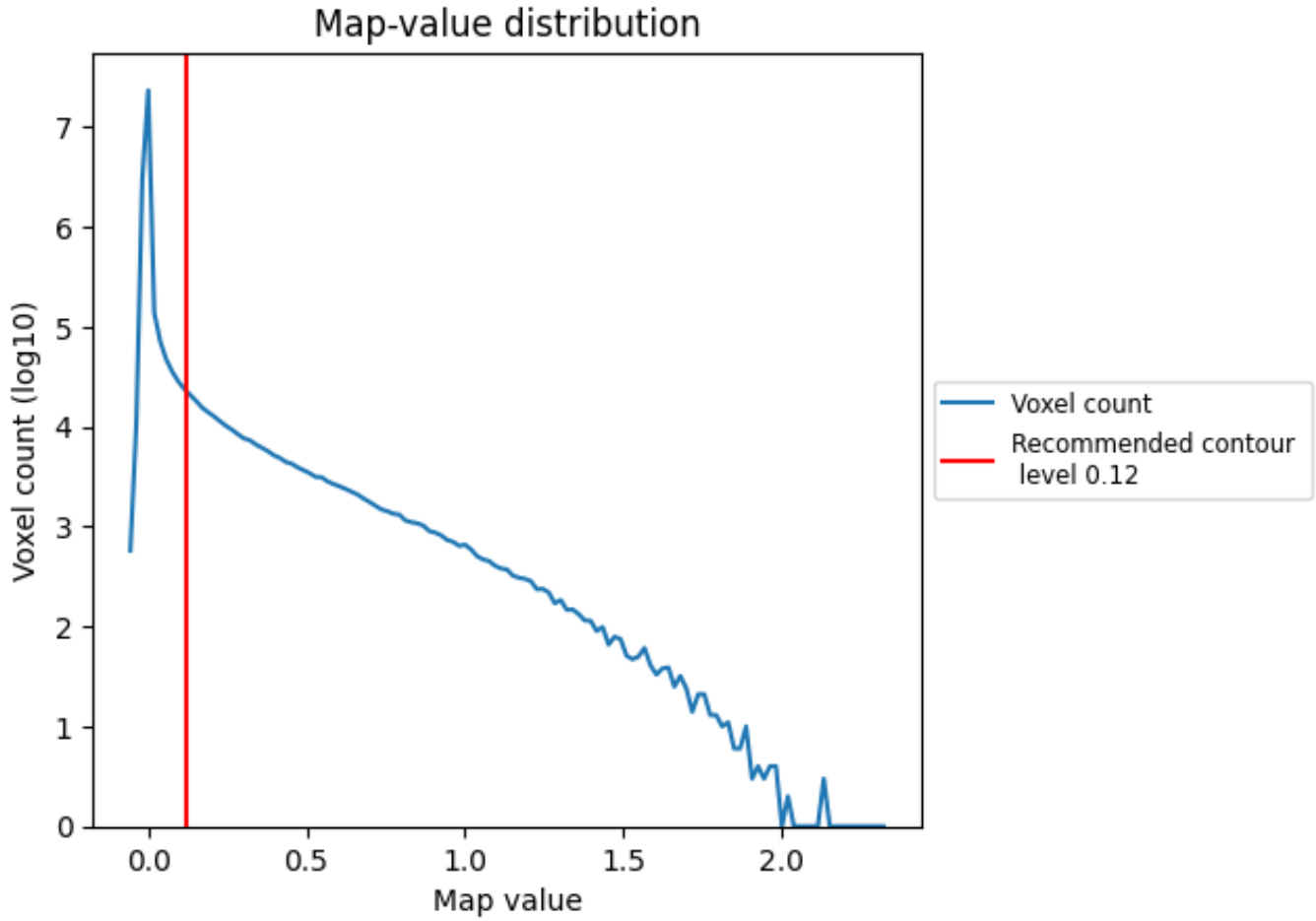
6.6 Mask visualisation (i)

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

7 Map analysis

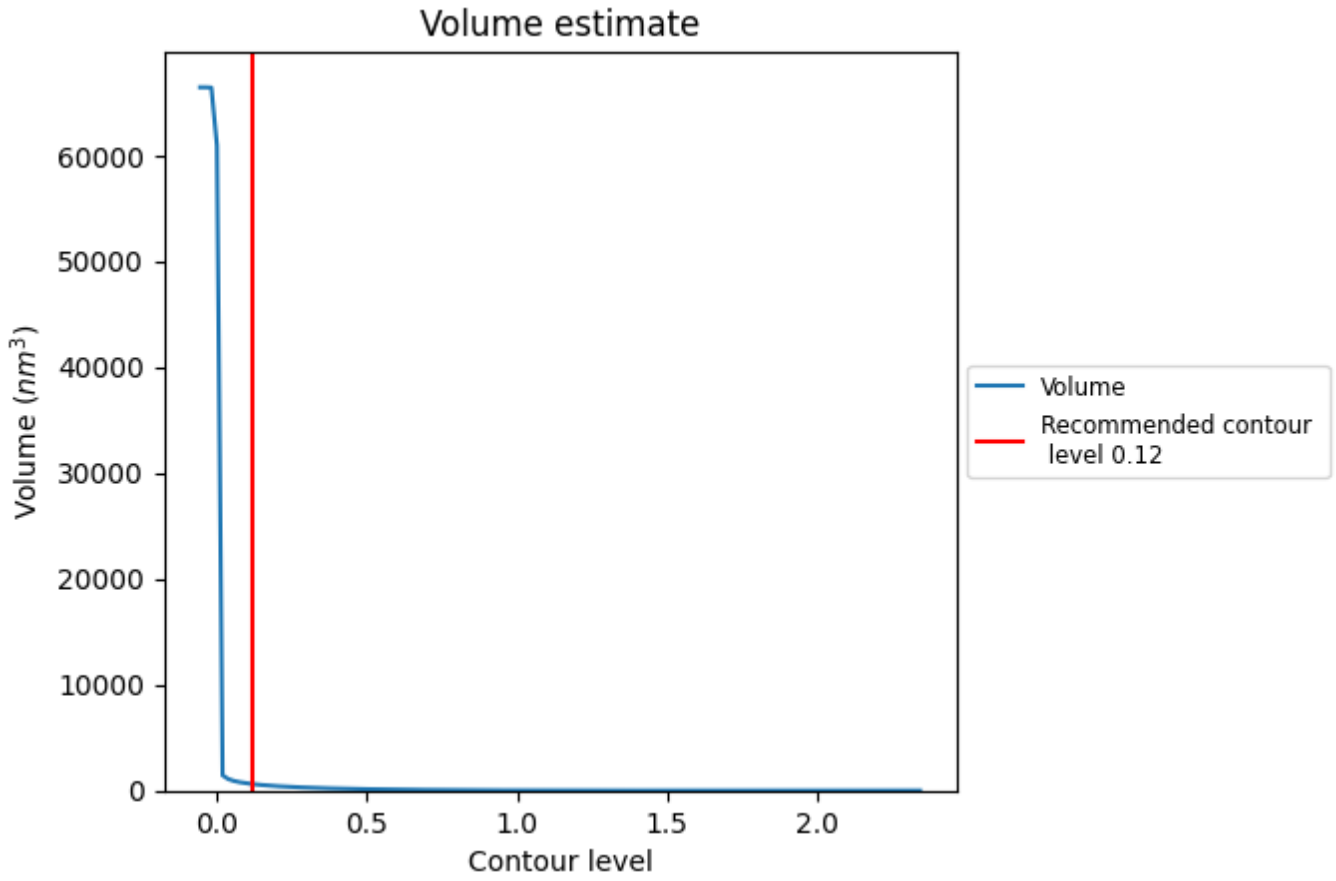
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

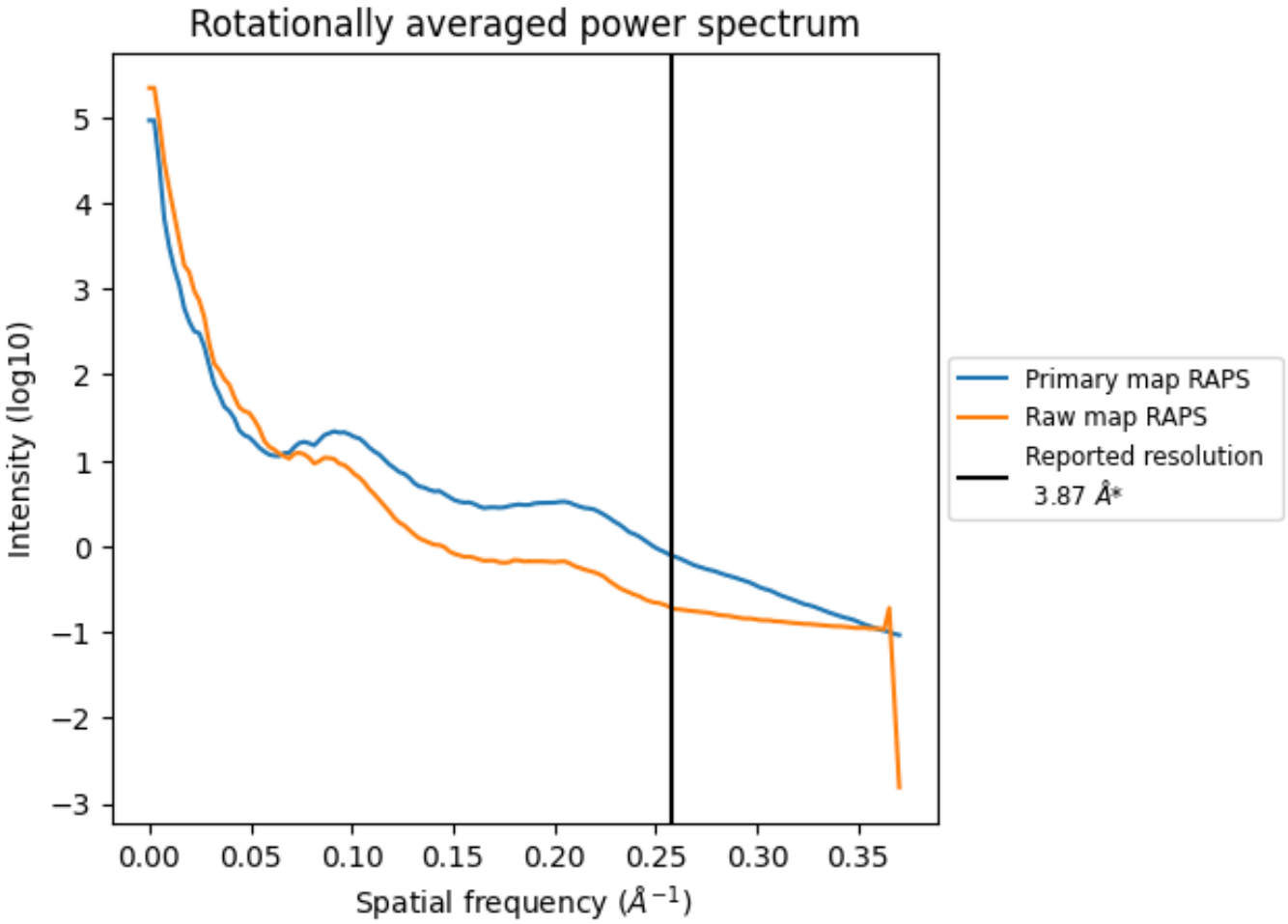
7.2 Volume estimate (i)



The volume at the recommended contour level is 609 nm^3; this corresponds to an approximate mass of 550 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)

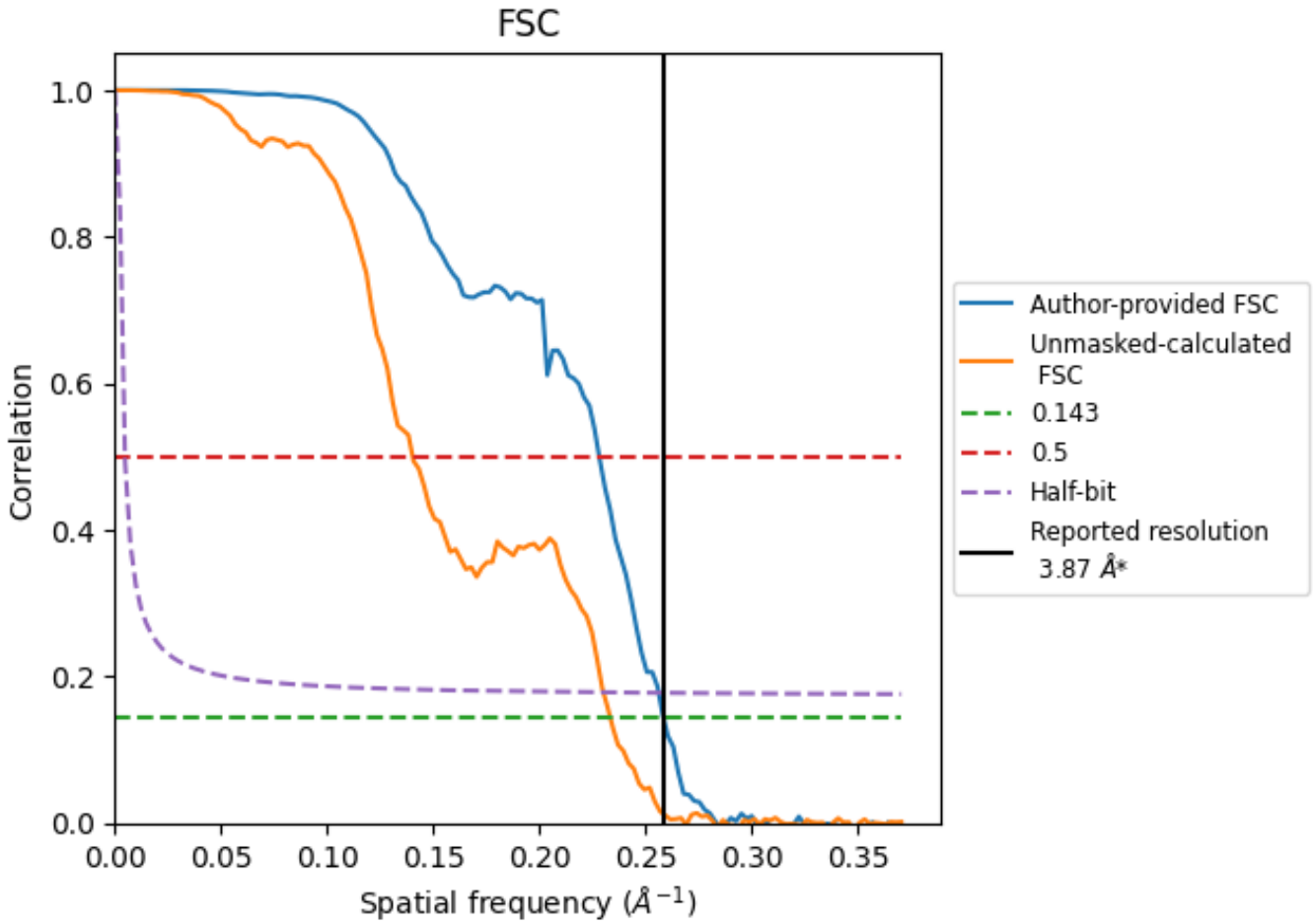


*Reported resolution corresponds to spatial frequency of 0.258 Å^{-1}

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 0.258 Å^{-1}

8.2 Resolution estimates (i)

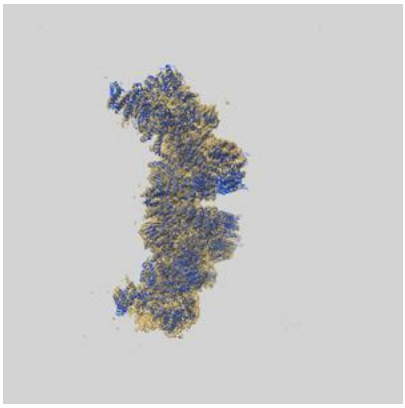
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.87	-	-
Author-provided FSC curve	3.87	4.38	3.90
Unmasked-calculated*	4.28	7.13	4.35

*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 4.28 differs from the reported value 3.87 by more than 10 %

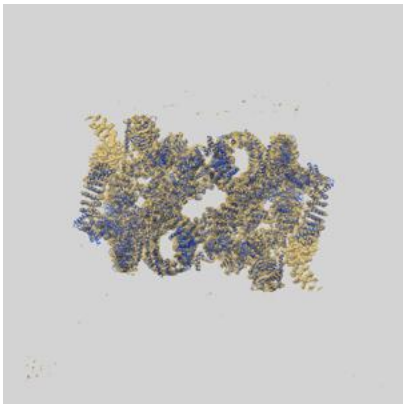
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-13594 and PDB model 7PQH. Per-residue inclusion information can be found in section 3 on page 5.

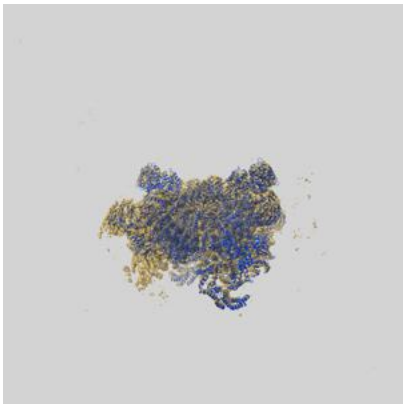
9.1 Map-model overlay



X



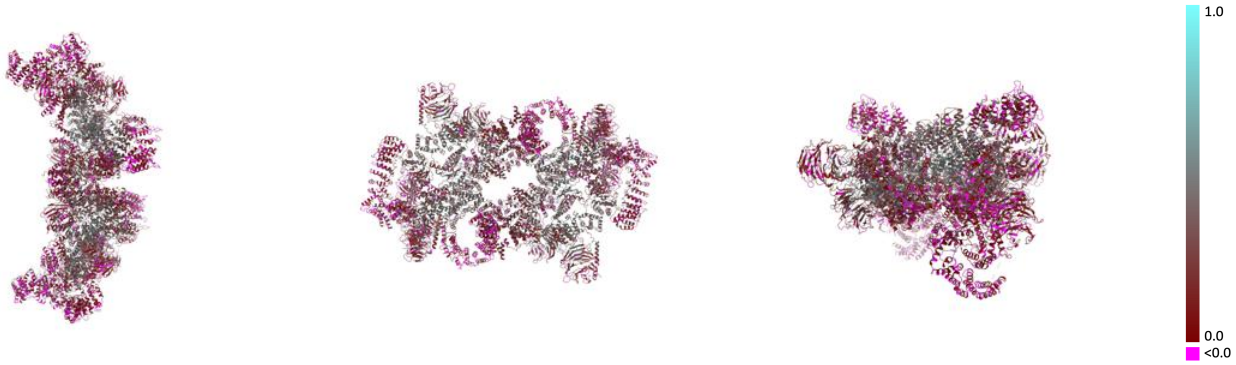
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.12 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

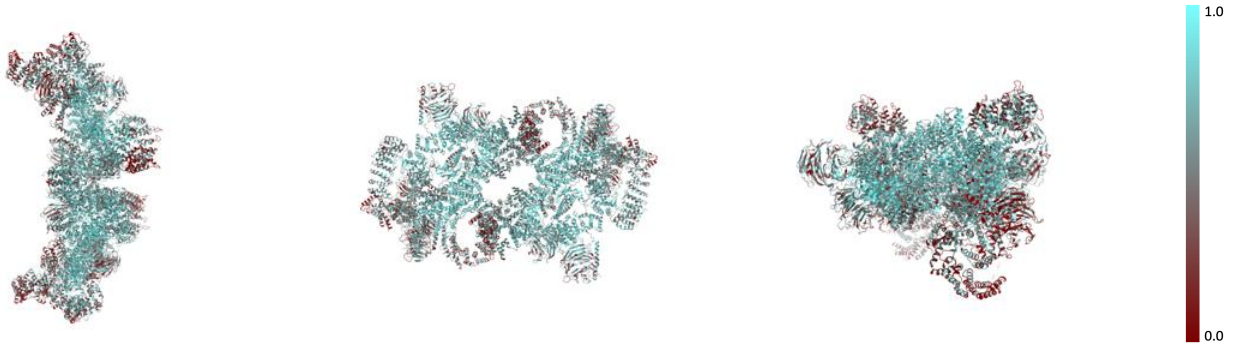
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

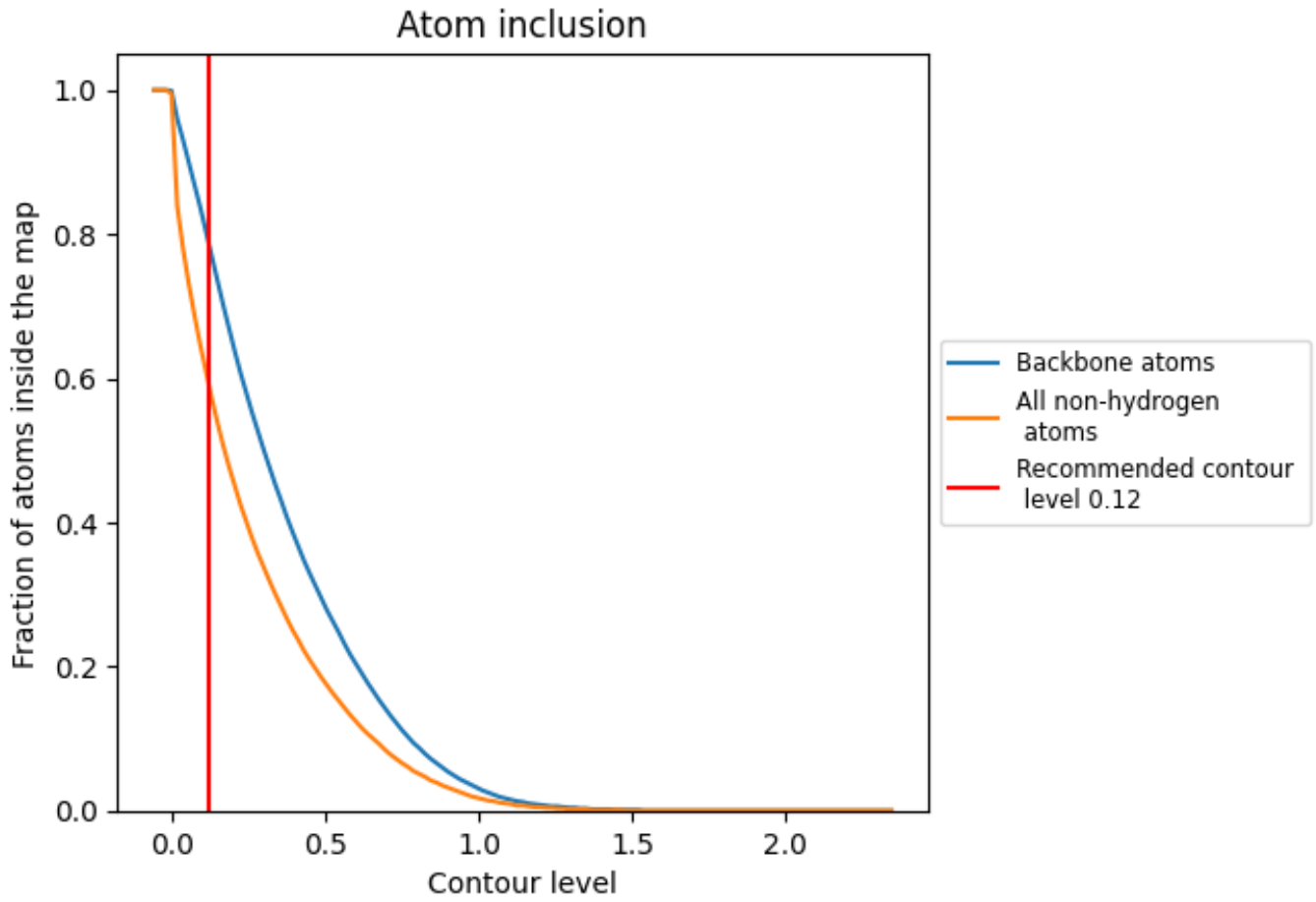
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.12).

9.4 Atom inclusion (i)



At the recommended contour level, 79% of all backbone atoms, 59% 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 (0.12) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.5920	0.2410
A	0.7000	0.3320
B	0.7190	0.3360
C	0.5660	0.2680
D	0.5480	0.2640
E	0.6180	0.2290
F	0.6110	0.2270
G	0.6840	0.3160
H	0.4170	0.1110
I	0.2020	0.1100
J	0.6970	0.3160
K	0.4350	0.1150
L	0.2450	0.1250