



wwPDB EM Validation Summary Report ⓘ

Nov 8, 2022 – 12:57 AM EST

PDB ID : 6DRA
EMDB ID : EMD-7991
Title : Low IP3 Ca²⁺ human type 3 1,4,5-inositol trisphosphate receptor
Authors : Hite, R.K.; Paknejad, N.
Deposited on : 2018-06-11
Resolution : 3.96 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 ⓘ 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.dev43
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.31.2

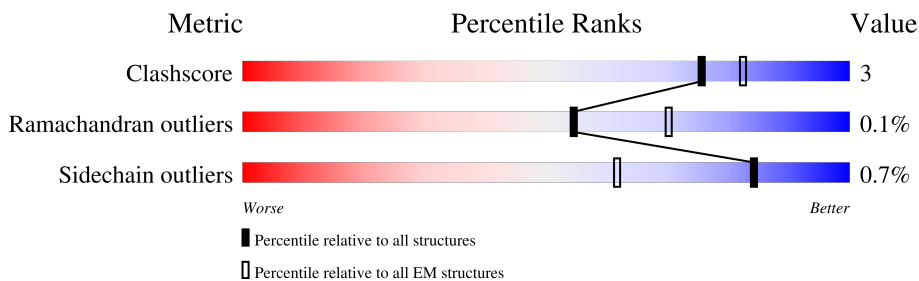
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.96 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 $\leq 5\%$. 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	2671	
1	B	2671	
1	C	2671	
1	D	2671	

2 Entry composition [i](#)

There are 3 unique types of molecules in this entry. The entry contains 139084 atoms, of which 69544 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 Inositol 1,4,5-trisphosphate receptor type 3.

Mol	Chain	Residues	Atoms					AltConf	Trace	
			Total	C	H	N	O			S
1	A	2191	34768	11084	17386	2990	3202	106	0	0
1	B	2191	34768	11084	17386	2990	3202	106	0	0
1	C	2191	34768	11084	17386	2990	3202	106	0	0
1	D	2191	34768	11084	17386	2990	3202	106	0	0

- Molecule 2 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
			Total	Zn	
2	A	1	1	1	0
2	B	1	1	1	0
2	C	1	1	1	0
2	D	1	1	1	0

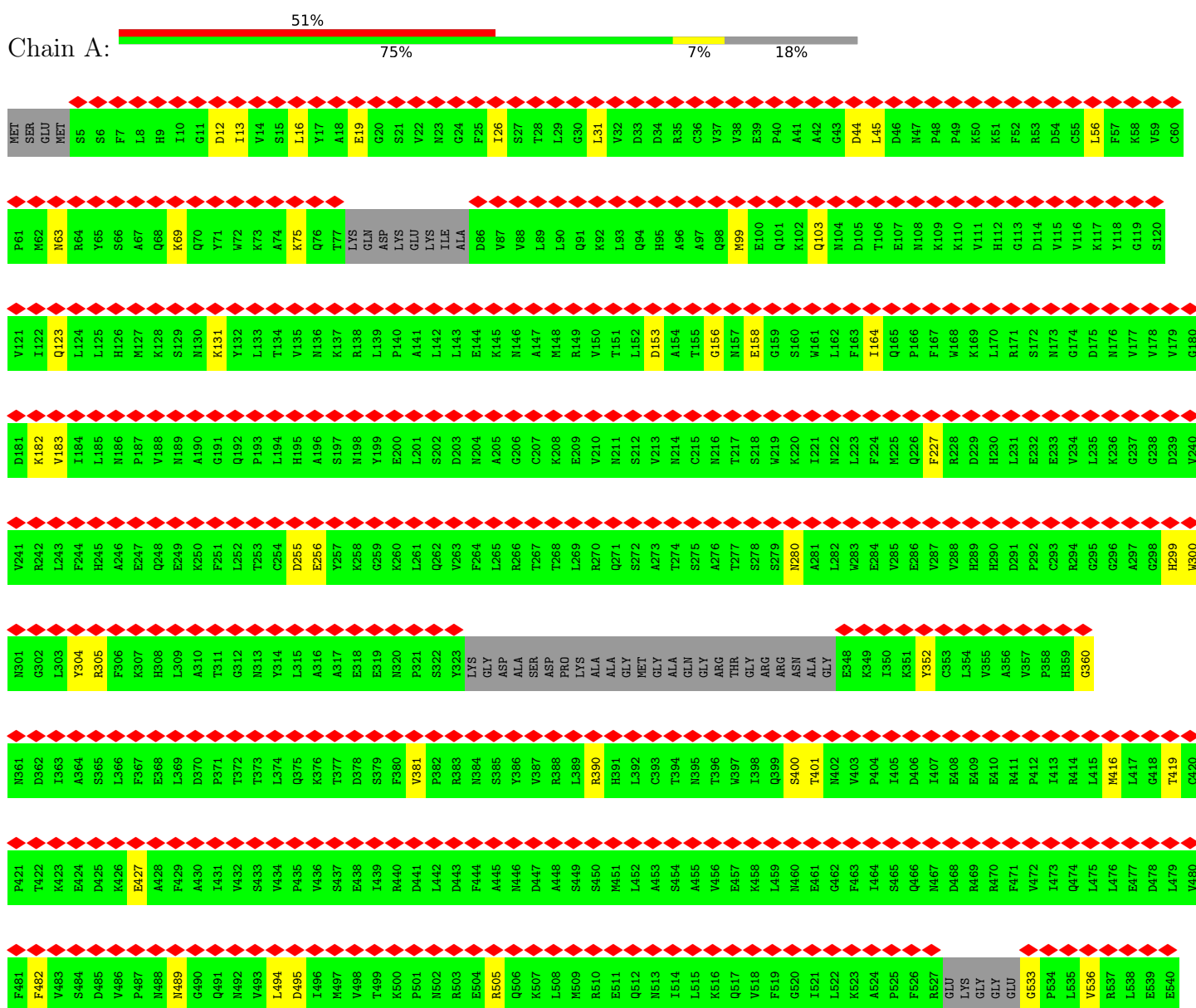
- Molecule 3 is CALCIUM ION (three-letter code: CA) (formula: Ca).

Mol	Chain	Residues	Atoms		AltConf
			Total	Ca	
3	A	2	2	2	0
3	B	2	2	2	0
3	C	2	2	2	0
3	D	2	2	2	0

3 Residue-property plots

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: Inositol 1,4,5-trisphosphate receptor type 3

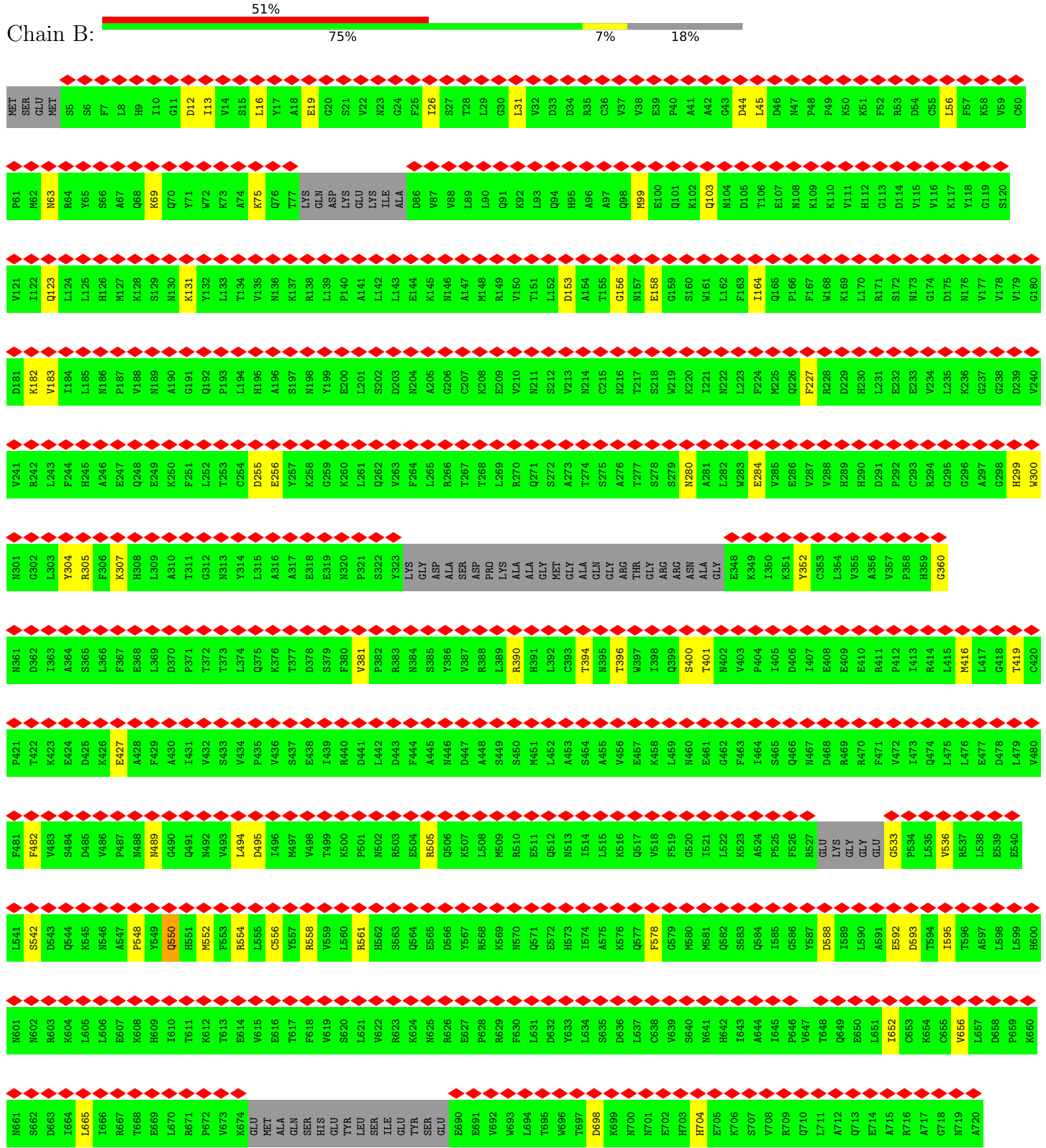


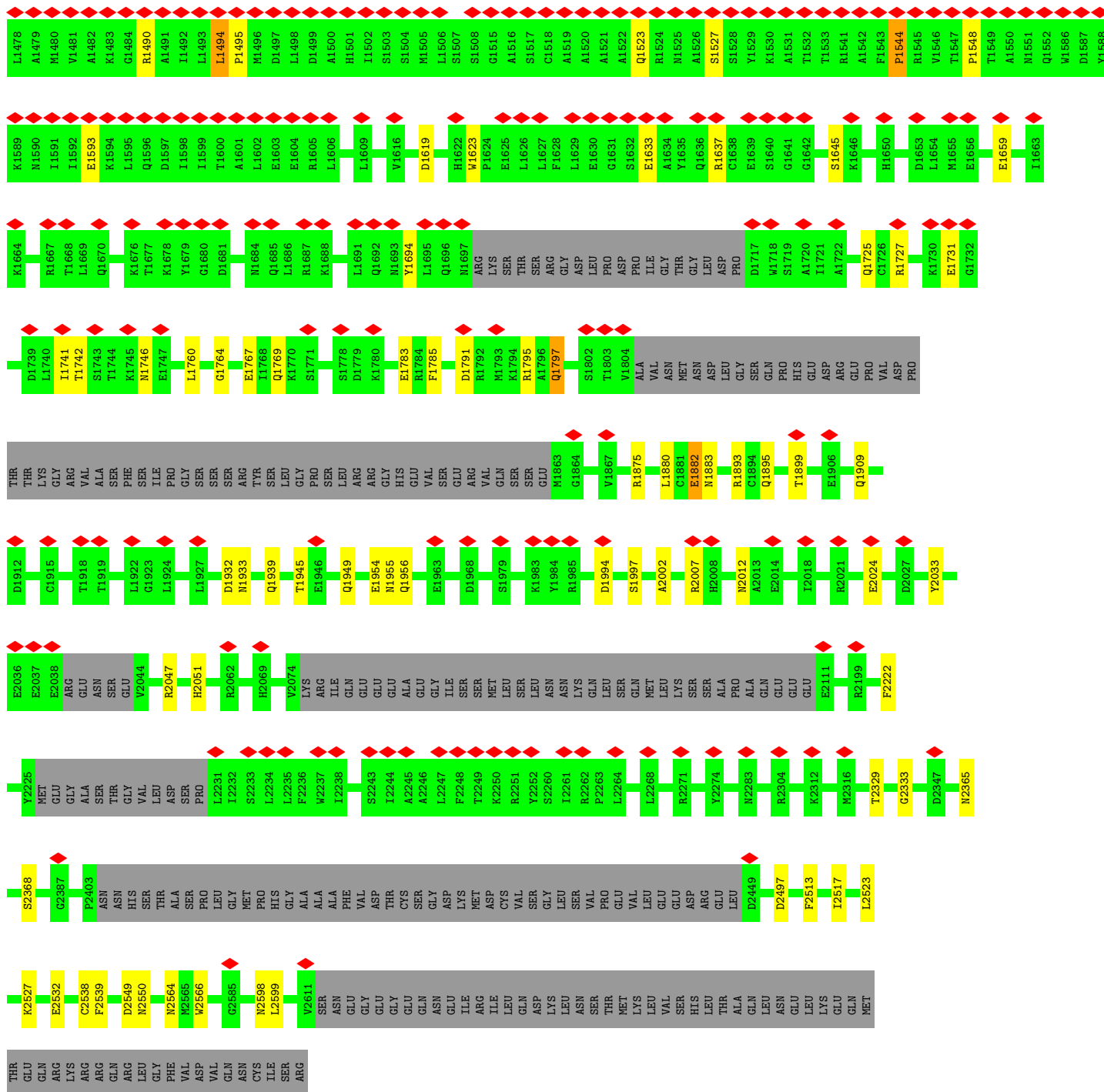
H1293	H1294	R1295	H1296	V1297	Q1298	Y1299	L1300	D1301	F1302	L1303	H1304	I1307	K1308	A1309	E1310	G1311	K1312	Y1313	V1314	V1315	K1316	C1317	Q1318	D1319	M1320	I1321	M1322	T1323	E1324	V1325	L1326	M1327	A1328	G1329	D1330	D1331	V1332	V1333	V1334	F1335	Y1336	D1338	K1339	A1340	L1342	A1343	H1344	L1345	L1346	D1347	M1348	M1349	K1350	A1352	R1353																																												
Q1230	F1231	L1232	Q1233	K1234	F1235	C1236	A1237	G1238	M1239	P1240	G1241	G1242	Q1243	A1244	K1248	H1249	L1250	H1251	L1252	F1253	L1254	L1255	P1256	G1257	L1258	L1259	E1260	A1261	E1262	T1263	M1264	Q1265	H1266	I1267	M1270	M1271	Y1272	Q1273	L1274	C1275	S1276	E1277	I1278	S1279	E1280	P1281	V1282	L1283	Q1284	H1285	F1286	V1287	H1288	L1289	L1290	A1291	T1292																																										
Y1169	Q1170	I1171	V1172	K1173	G1174	I1175	L1176	E1177	R1178	L1179	M1180	K1181	M1182	C1183	G1184	V1185	G1186	E1187	Q1188	M1189	R1190	K1191	K1192	Q1193	Q1194	R1195	L1196	L1197	K1198	M1199	M1200	D1201	A1202	H1203	K1204	V1205	M1206	L1207	D1208	L1209	Q1211	I1212	P1213	Y1214	D1215	K1216	G1217	A1219	K1220	M1221	M1222	E1223	R1226	Y1227	T1228	H1229																																											
M1106	I1110	K1111	S1112	E1113	L1114	D1115	R1116	T1119	M1120	V1121	K1122	K1123	S1124	L1125	E1126	M1127	D1128	V1129	K1130	LYS	GLY	SER	GLY	LYS	LYS	GLY	VAL	GLU	ALA	ALA	ALA	LYS	ASP	LYS	LYS	GLU	ARG	PHE	HIS	LEU	PRO	PRO	GLY	GLY	SER	S1166	E1167	N1168																																																			
F1036	G1037	Y1038	G1039	LYS	S1043	M1044	L1045	E1046	V1047	D1048	D1049	E1050	G1051	R1052	G1053	M1054	F1055	H1061	M1064	H1065	D1066	Y1067	P1068	VAL	GLU	VAL	GLU	ALA	ALA	ASP	GLY	ALA	ALA	ASP	GLY	ALA	GLY	THR	ALA	PRO	ALA	M1022	M1023	N1024	L1025	D1026	R1027	I1028	G1029	E1030	Q1031	A1032	E1033	A1034	M1035																																												
E973	I974	L975	Q976	L979	L983	D984	Y985	R986	I987	S988	Y989	L990	L991	S992	V993	F994	K995	K996	E997	F998	Y999	E1000	V1001	F1002	P1003	M1004	GLN	ASP	SER	ALA	ALA	ASP	GLY	ALA	ALA	THR	ALA	THR	ALA	N1022	M1023	N1024	L1025	D1026	R1027	I1028	G1029	E1030	Q1031	A1032	E1033	A1034	M1035																																														
LYS	ASN	VAL	ARG	ARG	SER	ILE	GLN	VAL	GLY	VAL	HIS	MET	THR	MET	VAL	LEU	SER	ARG	ARG	LYS	LYS	SER	VAL	PHE	SER	ALA	ALA	PRO	SER	PRO	LEU	LEU	PRO	ASP	GLY	ALA	ALA	THR	THR	ALA	VAL	GLN	GLY	PRO	GLY	GLY	ASP	GLY																																																			
V846	S846	E847	A848	V849	P850	A852	N853	E854	E855	K856	N857	K858	L859	T860	F861	V864	H868	N869	L870	I871	T808	Y872	F873	G874	F875	Y876	S877	F878	S879	E880	R883	R886	T887	L888	L889	G890	D893	C894	VAL	GLN	GLY	PRO	PRO	ALA	MET	LEU	GLN	ALA	TYR	GLU	ASP	PRO	GLY																																														
V811	L812	S813	K814	T815	I816	R817	L818	V819	S820	L821	S822	R823	I824	T825	V826	L827	M828	N829	K830	G831	H832	L833	S834	T835	V836	L837	I838	R839	L840	K841	S842	T843	L844	V845	E846	D847	H848	L849	S850	K851	G852	P853	L854	V855	T856	I857	M858	L859	K860																																																		
M61	S62	D63	I64	L65	T66	R67	K68	H69	E70	L71	S72	K73	T74	V75	S76	L77	M78	N79	K80	G81	H82	L83	S84	T85	V86	S87	L88	M89	K90	G91	H92	L93	V94	S95	T96	K97	H98	L99	M000	N001	K002	G003	H004	L005	V006	S007	T008	K009	H010	E011	L012	S013	K014	T015	V016	S017	L018	M019	K020	G021	H022	L023	V024	S025	T026	K027	H028	L029	M030	N031	K032	G033	H034	L035	V036	S037	T038	K039	H040	E041	L042	S043	K044	T045	V046	S047	L048	M049	K050	G051	H052	L053	V054	S055	T056	K057	H058	L059	M060
L541	S542	D543	Q544	K545	N546	A547	P548	Y549	Q550	H551	M552	F553	R554	L555	C556	Y557	R558	V559	L560	R561	H562	S563	Q564	E565	D566	Y567	R568	K569	M570	Q571	E572	H573	I574	A575	K576	Q577	F578	G579	M580	M581	Q582	S583	Q584	I585	G586	Y587	D588	L589	L590	A591	E592	D593	T594	I595	V596	A597	L598	L599	H600																																								

D1354	G1355	V1356	E1357	D1358	H1359	S1360	P1361	L1362	M1363	Y1364	H1365	I1366	L1367	L1368	V1369	D1370	L1371	L1372	A1373	C1374	A1375	A1376	E1377	G1378	K1379	M1380	V1381	Y1382	T1383	E1384	I1385	K1386	C1387	T1388	L1389	L1390	L1391	P1392	L1393	E1394	D1395	V1396	V1397	S1398	V1399	V1400	L1401	H1402	E1403	D1404	C1405	L1406	T1407	E1408	V1409	K1410	M1411	A1412	Y1413
V1414	N1415	F1416	V1417	N1418	H1419	C1420	Y1421	V1422	D1423	THR	GLU	VAL	GLU	ASN	MET	LYS	GLU	I1E	TVR	THR	ASN	ASN	HIS	THR	PHE	GLU	ASN	M1380	THR	LEU	ASP	MET	T1383	ALA	ARG	VAL	CYS	SER	LYS	ARG	GLU	LYS	ARG	VAL	A1434	D1435	P1436	T1437	L1438	E1439	C1474	K1440	Y1441	V1442	L1443	S1444	V1445	D1446	L1447
D1448	T1449	I1450	N1451	I1452	F1453	F1454	SER	SER	PRO	PHE	GLU	GLU	ASN	SER	THR	LYS	LEU	GLN	THR	HIS	GLN	THR	ILE	VAL	VAL	GLN	LEU	LEU	GLN	THR	THR	LEU	LEU	ALA	CYS	GLY	PRO	W1462	L1463	Q1464	Q1465	Q1466	H1467	K1468	G1469	S1470	V1471	E1472	A1473	C1474	T1475	T1476	R1477	L1478	A1479	M1480	V1481	A1482	
K1483	G1484	R1490	A1491	I1492	L1493	L1494	P1495	M1496	D1497	L1498	D1499	A1500	H1501	I1502	S1503	S1504	M1505	L1506	S1507	S1508	G1515	A1516	S1517	L1518	A1519	A1520	A1521	A1522	Q1523	R1524	M1525	A1526	S1527	S1528	Y1529	K1530	A1531	T1532	T1533	R1541	A1542	F1543	P1544	R1545	V1546	T1547	P1548	T1549	A1550	M1551	Q1552	W1586	D1587	Y1588	K1589	M1590	I1591	E1592	E1593
K1594	L1595	Q1596	D1597	I1598	I1599	T1600	A1601	L1602	E1603	E1604	R1605	L1606	L1609	V1616	D1619	H1622	W1623	P1624	L1625	L1626	L1627	F1628	L1629	E1630	G1631	S1632	E1633	A1634	Y1635	Q1636	R1637	E1638	E1639	S1640	G1641	G1642	S1645	K1646	D1653	L1654	M1655	E1656	S1657	E1658	E1659	I1663	K1664	R1667	T1668	L1669	T1670								
K1676	T1677	K1678	Y1679	G1680	D1681	M1684	Q1685	L1686	R1687	K1688	M1689	L1691	Q1692	Y1694	L1695	Q1696	ARG	LYS	SER	THR	SER	ARG	GLY	ASP	LEU	PRO	PRO	PRO	ILE	GLY	THR	GLY	ASP	PRO	D1717	H1718	S1719	I1721	A1722	Q1725	G1726	R1727	M1655	E1656	K1730	E1731	G1732	D1739	L1740	I1741	T1742								
S1743	T1744	K1745	M1746	G1756	L1760	E1767	I1768	K1770	S1771	S1778	D1779	K1780	E1783	R1784	F1785	D1791	R1792	M1793	K1794	R1795	A1796	Q1797	S1802	T1803	V1804	ALA	VAL	ASN	MET	ASN	ASP	LEU	GLY	SER	PRO	HIS	GLU	ASP	ARG	GLU	PRO	VAL	VAL	ASP	PRO	THR	THR	LYS	GLY	ARG									
VAL	ALA	SER	PHE	ILE	PRO	GLY	SER	SER	ARG	TVR	SER	LEU	PRO	SER	LEU	ARG	GLY	HIS	GLU	VAL	SER	ARG	VAL	GLN	SER	SER	M1863	G1864	V1867	R1875	L1880	C1881	E1882	M1883	R1893	G1894	Q1895	T1899	E1906	Q1909	D1912	C1915	T1918																
T1919	L1922	G1923	L1924	L1927	D1932	M1933	Y1937	I1938	Q1939	T1940	T1945	E1946	Q1949	E1954	M1955	Q1956	E1963	D1968	S1979	K1983	Y1984	R1985	D1994	S1997	A2002	R2007	H2008	M2012	A2013	E2014	I2018	S2019	L2020	R2021	E2024	D2027	K2031	Y2033																					
E2036	E2037	E2038	ARG	GLU	ASN	SER	GLU	V2044	R2047	H2051	R2062	H2069	V2074	LYS	ARG	ILE	GLN	GLU	GLU	ALA	ALA	GLY	ILE	SER	SER	MET	LEU	LEU	LEU	ASN	ASN	LYS	GLN	LEU	SER	SER	ALA	PRO	ALA	GLN	GLU	GLU	E2111	D2112	E2199														
F2222	Y2225	MET	GLU	GLY	ALA	SER	THR	GLY	VAL	LEU	ASP	PRO	L2231	L2232	S2233	L2234	F2236	W2237	I2238	S2243	L2244	A2245	A2246	L2247	F2248	T2249	K2250	R2251	Y2252	S2260	I2261	R2262	P2263	L2264	I2265	L2268	R2271	Y2274	M2283	K2312	W2316	T2329	C2333	D2347															
M2365	S2368	G2387	P2403	ASN	ASN	HIS	THR	THR	VAL	ALA	SER	PRO	LEU	MET	PRO	HIS	GLY	ALA	ALA	PHE	VAL	ASP	THR	THR	CYS	GLY	ASP	MET	ASP	CYS	VAL	VAL	GLY	LEU	LEU	GLU	GLU	ASP	ARG	GLU	GLU	D2449	R2471	F2513	I2517														
L2523	K2527	E2532	C2538	F2539	D2549	N2550	N2564	H2565	W2566	G2585	N2598	L2599	V2611	ASN	ASN	GLY	GLU	GLU	GLY	GLN	GLN	ASN	GLU	ILE	ARG	ILE	LEU	GLN	VAL	LYS	LEU	ASN	THR	MET	LYS	LEU	VAL	SER	HIS	LEU	THR	ALA	GLN	LEU	ASN	GLU	LEU	LYS	GLU	GLN									

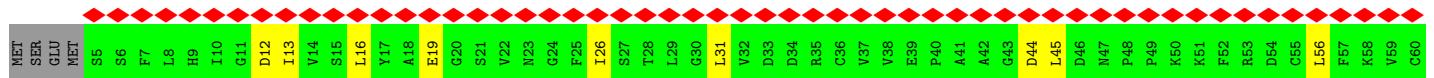
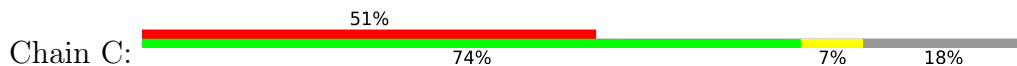
MET	THR	GLU	GLN	ARG	LYS	ARG	ARG	GLN	ARG	LEU	GLY	PHE	VAL	ASP	GLN	ASN	CYS	ILE	SER	ARG
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Molecule 1: Inositol 1,4,5-trisphosphate receptor type 3



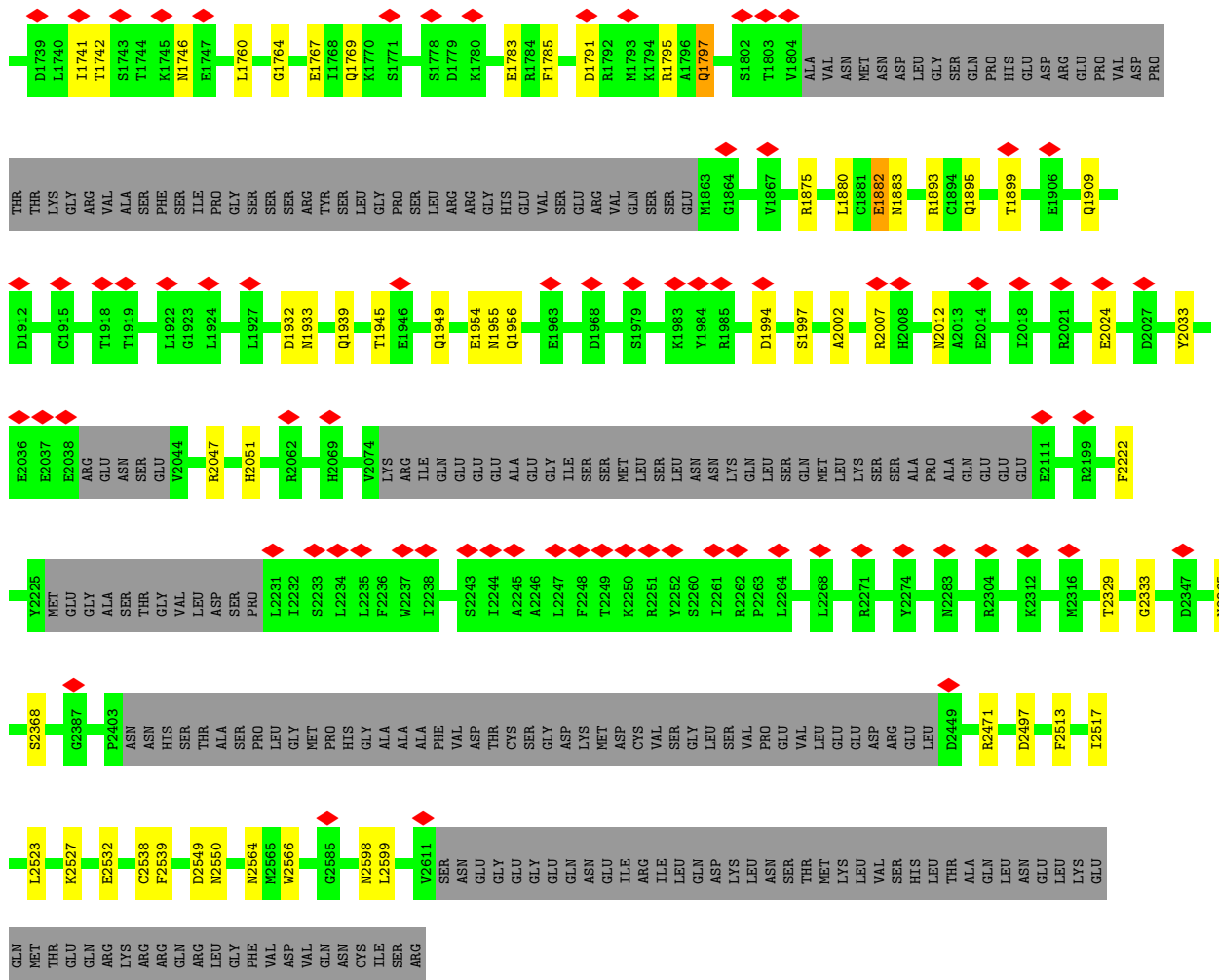


● Molecule 1: Inositol 1,4,5-trisphosphate receptor type 3

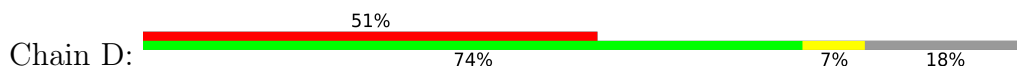


V845	V846	E847	A848	V849	P850	F851	A852	N853	E854	E855	K856	N857	K858	L859	T860	F861	V864	H868	N869	L870	I871	Y872	F873	I874	F875	Y876	Y877	S878	Y879	E880	E883	R886	T887	L888	L889	G890	I891	I892	D893	C894	VAL	GLN	GLY	PRO	PRO	PRO	ALA	MET	LEU	GLN	ALA	TYR	GLU	ASP	PRO	PRO	GLY	H844			
M781	L782	H783	V784	H785	V786	D787	R788	D789	F790	E791	E792	L793	F799	A800	R801	L802	H803	T804	E805	I806	P807	T808	T809	Y872	F873	I874	F875	Y876	Y877	S878	Y879	E880	E883	R886	T887	L888	L889	G890	I891	I892	D893	C894	VAL	GLN	GLY	PRO	PRO	ALA	MET	LEU	GLN	ALA	TYR	GLU	ASP	PRO	PRO	GLY	H844		
H721	D722	E723	N724	V725	L726	S727	V728	Y729	R730	Y731	Q732	L733	K734	L735	F736	A737	R738	M739	C740	L741	D742	R743	Q744	Y745	L746	A747	I748	D749	E750	I751	S752	Q753	Q754	L755	G756	V757	D758	L759	I760	K826	K827	C763	M764	V708	R709	Q710	L711	A712	Q713	E714	A715	A716	D772	L773	R774	A775	S776	F777	C778	H779	L780
M661	S662	D663	I664	L665	L666	R667	T668	E669	L670	R671	P672	V673	E674	M675	C556	T677	F618	V619	S620	L621	V622	R623	K624	M625	E626	Y627	R628	K629	F630	L631	D632	H633	L634	S635	D636	L637	C638	V639	S640	M641	H642	L643	A644	L645	P646	V647	T648	Q649	E650	L651	L652	C653	K654	G718	N719	A720					
N601	S542	D543	Q544	K545	N546	A547	P548	Y549	Q550	H551	M552	F553	R554	L555	C556	T557	R558	V559	L560	R561	H562	S563	Q564	E565	D566	Y567	R568	K569	F630	L631	D632	H633	L634	S635	D636	L637	C638	V639	S640	M641	H642	L643	A644	L645	P646	V647	T648	Q649	E650	L651	L652	C653	K654	G718	N719	A720					
F481	F482	V483	S484	D485	V486	P487	N488	N489	G490	Q491	N492	V493	L494	D495	I496	M497	V498	T499	K500	P501	H502	R603	E504	R505	Q506	K507	L508	M509	R510	E511	Q512	N513	L514	L515	K516	Q517	F518	F519	G520	L521	K523	A524	P525	F526	R527	GLU	GLY	GLY	GLU	C533	P534	L535	V536	R537	L538	E539	E540				
F421	T422	K423	E424	D425	K426	E427	A428	F429	A430	I431	V432	S433	V434	P435	V436	S437	E438	I439	R440	D441	L442	D443	F444	A445	N446	D447	A448	S449	S450	M451	L452	A453	S454	A455	V456	E457	K458	L459	N460	G461	G462	F463	T464	S465	Q466	N467	D468	R469	E470	R471	A472	I473	R474	L475	L476	D477	E478	L479	V480		
M361	D362	I363	A364	S365	L366	F367	E368	L369	D370	P371	T372	T373	L374	Q375	K376	T377	D378	S379	F380	V381	P382	R383	N384	S385	V386	V387	R388	L389	R390	H391	L392	C393	G394	N395	T396	M397	I398	Q399	S400	T401	N402	V403	P404	I405	I406	S405	Q406	I407	E408	A409	E410	A356	V357	P358	H559	C360					
N301	G302	L303	Y304	R305	F306	K307	H308	L309	A310	T311	G312	N313	Y314	L315	A316	A317	E318	E319	N320	P321	S322	Y323	L324	GLY	ASP	ALA	SER	PRO	L325	ALA	ALA	GLY	MET	GLY	GLN	GLY	ARG	THR	GLY	ARG	ARG	ASN	ALA	GLY	E348	K349	I350	K351	Y352	C353	L354	V355	A356	V357	P358	H559	C360				
V241	R242	L243	F244	H245	A246	Q248	E249	K250	Q251	F251	L252	T253	C254	D255	E256	Y257	K258	G259	K260	L261	Q262	V263	F264	L265	R266	T267	T268	L269	R270	Q271	S272	A273	A274	S275	A276	T277	S278	S279	N280	A281	N222	L223	F224	M225	V226	E226	V227	V228	H229	H230	L231	P232	C233	V234	L235	K236	G237	H239	W300		
D181	K182	V183	I184	L185	N186	P187	V188	N189	A190	Q191	Q192	P193	L194	H195	A196	S197	N198	Y199	E200	L201	S202	D203	N204	A205	G206	C207	K208	E209	V210	N211	S212	V213	N214	C215	N216	T217	S218	W219	K220	L221	L223	F224	M225	Q226	F227	R228	D229	H230	L231	E232	E233	V234	L235	K236	G237	H239	W300				
V121	I122	Q123	L124	L125	H126	M127	K128	S129	M130	K131	Y132	L133	T134	V135	M136	K137	R138	L139	P140	A141	L142	L143	E144	K145	M146	A147	M148	R149	V150	T151	S152	D153	A154	T155	G156	M157	E158	G159	S160	W161	F162	F163	I164	Q165	P166	F167	V168	K169	L170	H171	R172	S173	M174	G175	D176	N177	V178	V179	G180		
P61	M62	M63	R64	Y65	S66	A67	Q68	K69	Q70	Y71	W72	K73	A74	K75	Q76	T77	L78	GLN	ASP	L79	L80	L81	L82	L83	L84	L85	L86	L87	L88	L89	L90	L91	L92	L93	L94	L95	L96	L97	L98	L99	E100	Q101	K102	Q103	H104	D105	T106	E107	H108	K109	K110	V111	H112	G113	D114	V115	V116	K117	Y118	G119	S120

K1664	K1589	L1478	L1443	V1409	M1349	L1289	R1226	SER	D1103	M1035	L972	GLY
R1667	M1590	A1479	S1444	K1410	K1350	L1290	Y1227	S1166	V1104	F1036	E973	LYS
T1668	I1591	M1480	V1445	M1411	A1351	A1291	T1228	E1167	E1105	G1037	I974	VAL
L1669	I1592	V1481	V1446	A1412	A1352	T1292	H1229	V1168	M1106	V1038	L975	ARG
Q1670	E1593	A1482	L1447	Y1413	H1293	H1293	F1231	Y1169	Y1107	G1039	Q976	ARG
K1676	K1594	K1483	D1448	V1414	G1294	G1294	F1231	Q1170	LYS	LYS		SER
T1677	L1595	K1484	T1449	M1415	R1295	R1295	K1234	I1171	THR	THR	L979	ILE
K1678	Q1596	F1416	M1450	F1416	H1296	H1296	F1235	V1172	S1043	S1043	L983	GLN
Y1679	D1597	V1417	M1451	V1417	E1357	E1357	C1236	K1173	M1044	M1044	D984	VAL
G1680	I1598	A1482	A1452	M1418	D1358	Q1298	A1237	G1174	E1046	E1046	Y985	GLY
D1681	L1599	H1419	F1453	H1419	H1359	Y1299	G1238	I1175	V1047	V1047	Y986	HIS
N1684	T1600	C1420	F1454	C1420	S1360	L1300	M1239	E1177	D1048	D1048	S988	MET
Q1685	A1601	V1422	SER	Y1421	P1361	D1301	P1240	R1178	D1049	D1049	Y989	THR
E1603	L1602	D1423	PRO	V1422	F1302	F1302	G1241	L1179	E1050	E1050	L990	VAL
E1604	E1603	THR	PHE	THR	L1303	L1303	M1242	M1180	M1120	M1120	L991	VAL
R1605	E1604	GLU	GLU	GLU	H1304	H1304	Q1243	K1181	V1121	V1121	L991	LEU
K1606	R1605	VAL	ASN	VAL	T1305	T1305	A1244	M1182	G1051	G1051	S992	SER
L1609	L1606	GLU	SER	GLU	V1306	V1306	L1245	C1183	K1123	K1123	Y993	LYS
Q1692	L1609	THR	THR	MET	I1307	I1307	K1248	G1184	S1124	S1124	F994	GLN
M1693	L1609	SER	SER	LYS	K1308	K1308	H1249	V1185	E1125	E1125	K995	SER
Y1694	V1616	ILE	LEU	ILE	L1368	L1368	H1249	G1186	L1126	L1126	K996	VAL
L1695	D1619	S1503	GLN	TRP	V1369	D1370	L1250	E1187	M1127	M1127	E997	PHE
Q1696	L1619	S1504	HIS	THR	L1371	L1371	H1251	Q1188	V1128	V1128	F998	SER
M1697	H1622	M1505	THR	SER	L1372	L1372	L1252	Q1188	D1129	D1129	Y999	ALA
P1624	M1623	L1506	ILE	HIS	A1373	Y1313	F1253	M1189	K1130	K1130	E1000	PRO
E1625	P1624	I1507	VAL	ILE	A1374	V1314	L1254	R1190	M1064	M1064	E1001	SER
L1626	E1625	S1508	VAL	TRP	C1375	K1315	T1255	K1191	H1065	H1065	V1001	LEU
F1627	A1516	G1515	GLN	THR	C1375	K1315	P1256	K1192	D1066	D1066	F1002	ALA
F1628	A1517	A1516	LEU	LEU	A1376	A1376	G1257	Q1193	Y1067	Y1067	P1003	GLY
E1630	S1507	C1518	LEU	PHE	E1377	Q1318	L1258	Q1194	A1068	A1068	M1004	ALA
A1631	H1622	A1519	GLN	ASN	E1377	Q1318	E1260	R1195	P1069	P1069	GLN	ALA
S1632	M1623	A1520	THR	THR	K1379	M1320	E1260	L1196	L1070	L1070	ASP	ALA
A1634	P1624	A1521	ARG	LEU	Y1381	I1321	A1261	L1197	V1071	V1071	ASP	ALA
Y1635	E1634	A1522	LEU	ASP	Y1382	M1322	E1262	K1198	S1072	S1072	GLY	ALA
Q1636	R1637	Q1523	GLU	ALA	T1383	L1323	T1263	M1199	Q1076	Q1076	THR	ALA
R1637	E1633	M1525	CYS	ARG	E1324	E1324	M1264	A1201	F1079	F1079	ALA	ALA
C1638	A1634	R1525	PRO	VAL	L1325	L1325	H1266	A1202	K1080	K1080	ALA	ALA
E1639	Y1635	M1526	PRO	VAL	T1326	T1326	H1266	H1203	F1082	F1082	ALA	ALA
S1640	Y1635	M1526	PRO	CYS	L1326	L1326	H1266	K1204	H1081	H1081	ALA	ALA
G1641	Q1636	A1526	GLU	LYS	M1327	M1327	I1267	K1204	F1082	F1082	ALA	ALA
G1642	E1633	S1527	CYS	SER	L1327	L1327	I1267	V1205	S1083	S1083	ALA	ALA
S1645	A1634	M1527	VAL	ARG	G1329	G1329	N1270	W1205	S1083	S1083	ALA	ALA
K1646	R1637	Y1528	VAL	ARG	T1388	T1388	N1271	V1206	R1084	R1084	ALA	ALA
H1650	E1639	Y1529	VAL	ARG	S1389	D1330	Y1272	L1207	R1085	R1085	ALA	ALA
D1653	S1640	K1530	CYS	LYS	S1389	D1330	Y1272	L1207	Q1086	Q1086	ALA	ALA
L1654	G1641	A1531	VAL	LYS	L1390	L1390	Q1273	D1208	H1090	H1090	ALA	ALA
M1655	G1642	T1532	VAL	VAL	L1391	L1391	Q1273	L1209	T1091	T1091	ALA	ALA
E1656	S1645	T1533	VAL	VAL	L1391	L1391	C1275	L1210	F1092	F1092	ALA	ALA
E1659	K1646	T1533	VAL	VAL	L1391	L1391	S1276	L1211	K1093	K1093	ALA	ALA
I1663	K1646	R1541	VAL	VAL	L1391	L1391	I1277	L1212	Q1094	Q1094	ALA	ALA
		A1542	VAL	VAL	L1391	L1391	I1277	P1213	Q1094	Q1094	ALA	ALA
		F1543	VAL	VAL	L1391	L1391	I1277	Y1214	Q1094	Q1094	ALA	ALA
		P1544	VAL	VAL	L1391	L1391	I1277	D1215	Q1096	Q1096	ALA	ALA
		R1545	VAL	VAL	L1391	L1391	I1277	D1215	L1097	L1097	ALA	ALA
		V1546	VAL	VAL	L1391	L1391	I1277	G1217	L1097	L1097	ALA	ALA
		T1547	VAL	VAL	L1391	L1391	I1277	D1218	L1098	L1098	ALA	ALA
		P1548	VAL	VAL	L1391	L1391	I1277	K1284	L1098	L1098	ALA	ALA
		T1549	VAL	VAL	L1391	L1391	I1277	Q1284	L1099	L1099	ALA	ALA
		A1550	VAL	VAL	L1391	L1391	I1277	H1285	L1101	L1101	ALA	ALA
		M1551	VAL	VAL	L1391	L1391	I1277	H1285	S1100	S1100	ALA	ALA
		Q1552	VAL	VAL	L1391	L1391	I1277	H1285	A1101	A1101	ALA	ALA
		W1586	VAL	VAL	L1391	L1391	I1277	M1221	L1102	L1102	ALA	ALA
		D1587	VAL	VAL	L1391	L1391	I1277	M1221			ALA	ALA
		Y1588	VAL	VAL	L1391	L1391	I1277	E1223			ALA	ALA

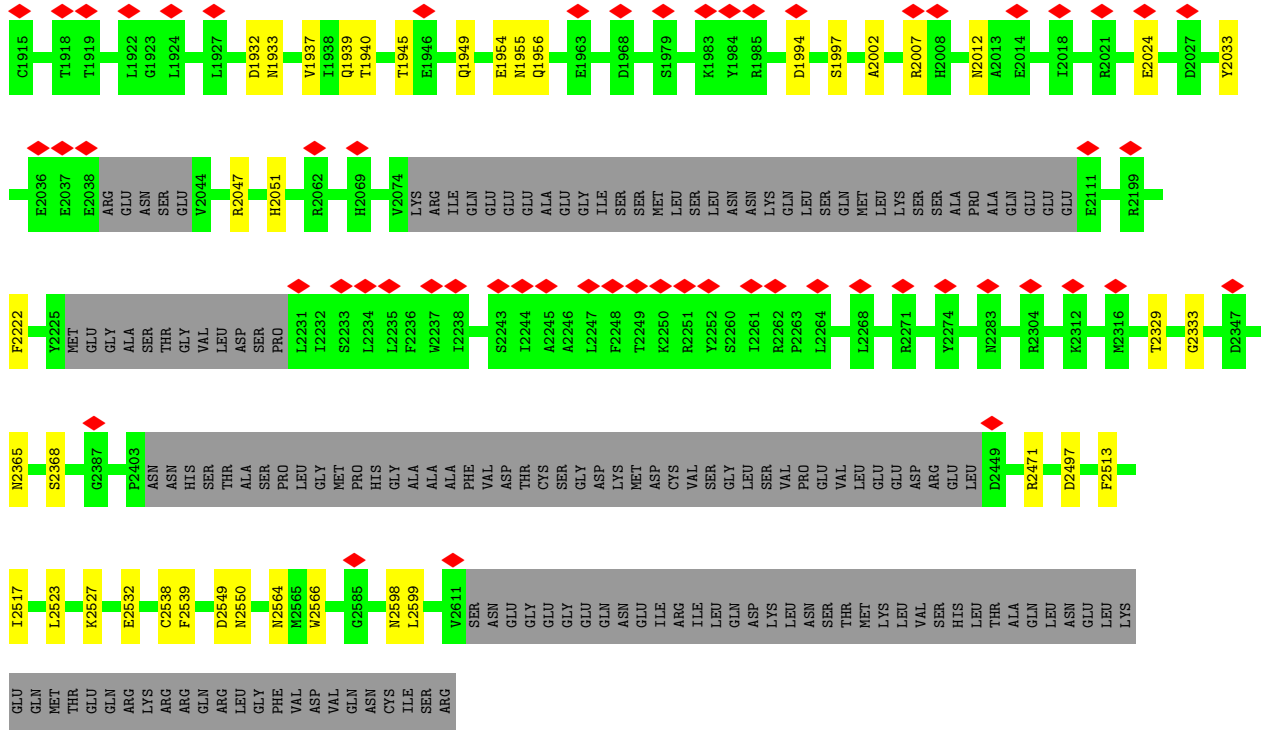


● Molecule 1: Inositol 1,4,5-trisphosphate receptor type 3



V241	R242	L243	F244	H245	A246	E247	Q248	E249	K250	F251	L252	T253	C254	D255	E256	Y257	K258	G259	K260	L261	V262	F264	L265	R266	T267	T268	L269	R270	Q271	S272	A273	T274	S275	A276	T277	S278	S279	N280	A281	W282	E283	E284	V285	E286	V287	V288	H289	H290	H291	P292	C293	R294	G295	G296	A297	G298	H299	W300				
N301	G302	L303	Y304	R305	F306	K307	H308	L309	A310	T311	G312	N313	Y314	L315	A316	A317	E318	E319	N320	P321	S322	Y323	LYS	GLY	ASP	ALA	SER	PRO	PRO	LYS	ALA	ALA	GLY	MET	GLY	ALA	GLN	GLY	ARG	THR	GLY	ARG	ARG	ASN	ALA	GLY	E348	K349	I350	K351	Y352	C353	L354	V355	A356	V357	P358	H359	C360			
N361	D362	I363	A364	S365	L366	F367	E368	L369	D370	P371	T372	L373	L374	Q375	K376	F377	D378	S379	F380	V381	R382	R383	N384	S385	M386	V387	R388	L389	R390	H391	L392	C393	T394	N395	T396	W397	I398	Q399	S400	T401	N402	V403	P404	I405	I406	I407	E408	E409	E410	R411	P412	I413	R414	L415	M416	L417	G418	T419	C420			
P421	T422	K423	E424	D425	K426	E427	A428	F429	A430	I431	V432	S433	V434	P435	V436	S437	E438	I439	R440	D441	L442	D443	F444	A445	M446	D447	A448	S449	S450	M451	L452	C453	A454	A455	V456	E457	K458	L459	M460	E461	G462	F463	I464	S465	I466	G467	M468	R469	R470	F471	V472	I473	Q474	R475	L476	L477	D478	L479	V480			
F481	F482	V483	S484	D485	V486	P487	M488	M489	G490	Q491	M492	V493	L494	D495	I496	M497	V498	T499	K500	P501	N502	R503	E504	R505	Q506	K507	L508	M509	R510	E511	Q512	N513	I514	L515	K516	Q517	V518	F519	G520	I521	K522	K523	A524	P525	F526	R527	GLU	GLY	GLY	GLU	G533	P534	I535	V536	R537	L538	E539	E540				
L541	S542	D543	Q544	K545	N546	A547	P548	Y549	Q550	H551	M552	F553	R554	L555	C556	Y557	R558	V559	L560	R561	H562	S563	Q564	E565	D566	Y567	R568	K569	N570	Q571	E572	H573	I574	A575	K576	Q577	F578	G579	M580	M581	Q582	S583	Q584	I585	I586	R587	D588	L589	L590	A591	E592	D593	T594	I595	T596	A597	L598	L599	H600			
N601	N602	R603	K604	L605	L606	E607	K608	H609	L610	T611	K612	T613	E614	V615	E616	T617	F618	V619	S620	L621	V622	R623	K624	N625	R626	E627	P628	R629	F630	L631	D632	Y633	L634	S635	D636	L637	C638	C639	S640	M641	H642	I643	A644	I645	P646	V647	T648	Q649	E650	L651	L652	C653	K654	C655	V656	L657	D658	P659	K660			
N661	S662	D663	L664	L665	L666	R667	T668	E669	L670	R671	P672	V673	K674	GLU	ALA	GLN	SER	HIS	GLY	TYR	LEU	SER	ILE	GLU	TYR	SER	E690	E691	V692	M693	L694	T695	M696	T697	D698	K699	N700	N701	E702	H703	H704	E705	S706	S707	V708	R709	Q710	L711	A712	Q713	E714	A715	R716	A717	G718	N719	A720					
H721	D722	E723	N724	V725	L726	S727	Y728	Y729	R730	Y731	Q732	L733	K734	L735	F736	A737	R738	M739	C740	L741	D742	R743	Q744	Y745	L746	A747	I748	D749	E750	I751	S752	Q753	Q754	L755	G756	V757	D758	L759	I760	F761	L762	C763	M764	A765	D766	E767	M768	L769	P770	F771	D772	L773	R774	A775	S776	F777	F778	H779	L780			
M781	L782	H783	V784	H785	V786	D787	K788	D789	F790	Q791	E792	L793	F799	A800	R801	L802	M803	T804	E805	I806	H868	M869	L870	I871	V872	F873	G874	S877	F878	S879	E880	R883	R886	T887	L888	L889	G890	I891	I892	D893	C894	VAL	GLN	GLY	PRO	PRO	PRO	ALA	ALA	LEU	LEU	ALA	ALA	TYR	E838	D839	Y840	L841	N842	N843	V844	
W845	S846	E847	A848	V849	P850	F851	A852	N853	E854	E855	I856	N857	K858	L859	T860	F861	V864	H868	M869	L870	I871	V872	F873	G874	S877	F878	S879	E880	R883	R886	T887	L888	L889	G890	I891	I892	D893	C894	VAL	GLN	GLY	PRO	PRO	PRO	ALA	ALA	LEU	LEU	ALA	ALA	TYR	E838	D839	Y840	L841	N842	N843	V844				
GLY	LYS	ASN	VAL	ARG	ARG	SER	ILE	GLN	VAL	GLY	HIS	MET	MET	THR	MET	VAL	LEU	SER	ARG	LYS	GLN	SER	VAL	PHE	SER	PRO	ALA	ALA	ALA	GLY	ALA	LEU	LEU	ASP	ARG	SER	ASN	GLU	D961	I962	V963	V964	N965	E966	T967	I971	N1022	M1023	N1024	L1025	D1026	R1027	I1028	G1029	E1030	Q1031	A1032	E1033	A1034			
L972	E973	I974	L975	Q976	L979	L983	D984	Y985	R986	I987	S988	Y989	L990	L991	S992	V993	F994	K995	K996	E997	F998	V999	E1000	V1001	F1002	P1003	M1004	GLN	ASP	GLY	ALA	ALA	ASP	THR	ALA	ALA	PRO	PHE	GLU	ASN	GLU	D961	I962	V963	V964	N965	E966	T967	I971	N1022	M1023	N1024	L1025	D1026	R1027	I1028	G1029	E1030	Q1031	A1032	E1033	A1034

LYS	D1739	K1664	K1889	L1478	L1443	V1409	M1349	L1289	R1226	SER	H1035
GLY	L1740	R1667	M1590	A1479	S1444	K1410	K1350	L1290	Y1227	S1166	F1036
VAL	L1741	T1668	I1591	M1480	V1445	M1411	A1351	A1291	T1228	E1167	G1037
ALA	T1742	T1669	I1592	V1481	V1446	M1412	A1352	T1292	H1229	M1168	V1038
SER	S1743	Q1670	E1593	A1482	L1447	Y1413	R1353	H1293	Q1230	Y1169	G1039
THR	T1744	K1676	K1594	K1483	D1448	V1414	D1354	G1294	F1231	Q1170	LYS
ILE	K1745	T1677	L1595	G1484	T1449	M1415	G1355	R1295	K1234	I1171	THR
PRO	N1746	T1678	L1596	R1490	T1450	F1416	V1356	H1296	F1235	I1172	SER
GLY	E1747	K1679	D1597	A1491	M1451	V1417	E1357	Q1298	C1236	K1173	M1043
SER	L1760	Y1678	I1598	I1492	M1452	M1418	E1358	Q1299	A1237	L1114	M1044
SER	E1767	G1680	I1599	L1493	F1453	H1419	H1359	Y1299	G1238	D1115	L1045
ARG	T1768	D1681	T1600	L1494	F1454	C1420	S1360	L1300	L1176	R1116	E1046
TYR	E1768	M1684	A1601	P1495	SER	Y1421	S1361	D1301	E1177	D1048	V1047
SER	Q1769	N1684	L1602	M1496	SER	V1422	L1362	F1302	R1178	D1049	D1048
LEU	K1770	Q1685	L1603	D1497	PRO	D1423	M1363	F1303	L1179	E1050	E1050
GLY	S1771	L1686	E1604	L1498	PHE	THR	Y1364	L1303	M1180	G1051	G1051
PRO		R1687	L1605	D1499	SER	GLU	H1365	H1304	M1181	V1121	M1044
SER		K1688	L1606	A1500	ASN	VAL	I1366	T1305	M1182	E1122	M1044
ARG		L1691	L1609	H1501	SER	GLU	S1367	V1306	C1183	K1123	G1052
ARG		Q1692	L1609	I1502	THR	LYS	L1368	I1307	K1184	S1124	R1053
GLY		L1693	L1610	S1503	SER	GLU	L1368	K1308	G1184	E1125	M1054
VAL		Y1694	V1616	I1504	LEU	ILE	V1369	A1309	V1185	L1126	F1055
SER		L1695	D1619	M1505	GLN	THR	I1370	E1310	G1186	W1127	L1056
ARG		Q1696	H1622	H1506	HIS	THR	L1371	G1311	Q1188	D1128	H1057
GLY		N1697	W1623	S1507	THR	SER	L1372	K1312	Q1188	V1129	H1061
VAL		ARG	P1624	S1508	ILE	ASN	A1373	Y1313	M1189	K1130	
GLN		LYS	I1624	G1515	VAL	TRP	I1374	V1314	R1190	G1130	
SER		THR	E1625	G1516	VAL	THR	C1375	K1315	K1191	GLY	M1064
SER		SER	L1626	S1517	GLN	LEU	A1376	K1316	K1192	GLY	H1065
GLU		ARG	L1627	C1518	LEU	PHE	E1377	C1317	Q1193	LYS	D1066
ASP		LEU	F1628	L1629	GLN	GLU	G1378	Q1318	Q1194	GLY	Y1067
LEU		PRO	L1629	A1520	SER	ASN	K1379	D1319	R1195	GLU	A1068
PRO		ASP	E1630	A1521	THR	PHE	M1380	M1320	R1196	VAL	F1069
VAL		PRO	G1631	A1522	ARG	THR	L1381	I1321	L1197	GLU	L1070
ASN		PRO	S1632	Q1523	LEU	ASP	Y1382	M1322	K1198	GLU	V1071
ASN		THR	E1633	R1524	LEU	MET	T1383	T1323	M1199	ALA	S1072
ASP		THR	A1634	R1525	GLY	ALA	E1384	E1324	M200	ALA	Q1076
LEU		LEU	Y1635	M1526	CYS	VAL	I1385	L1325	M200	ALA	F1079
LEU		LEU	Q1636	A1526	PRO	CYS	I1386	T1326	Q1265	LYS	H1080
SER		PRO	R1637	S1527	PRO	SER	K1386	T1327	H1286	LYS	H1081
ASP		PRO	C1638	S1528	W1462	LYS	C1387	M1327	I1267	ASP	F1082
PRO		PRO	E1639	Y1529	L1463	ARG	C1388	A1328	M1270	GLU	S1083
GLY		GLY	S1640	K1530	Q1464	GLU	S1389	G1329	M1271	ARG	Q1084
GLY		THR	G1641	A1531	Q1466	LYS	L1390	D1330	M1206	PRO	R1085
LEU		LEU	G1642	H1467	H1468	VAL	L1391	D1331	L1207	THR	H1085
LEU		LEU	S1645	K1468	S1470	VAL	L1392	V1332	D1208	ASP	Q1086
ASP		PRO	K1646	L1469	P1436	VAL	L1393	V1333	L1209	GLU	H1090
PRO		PRO	H1650	S1471	T1437	LYS	L1394	V1334	L1210	GLY	T1091
PRO		PRO	H1650	E1472	T1438	THR	D1395	F1335	L1211	GLY	F1092
THR		THR	H1650	A1473	E1439	THR	V1396	V1336	I1212	GLY	K1093
THR		THR	H1650	C1474	K1440	THR	V1397	M1337	P1213	PRO	K1093
THR		THR	H1650	T1475	Y1441	THR	S1398	E1280	Y1214	PRO	F1094
THR		THR	H1650	R1476	V1442	THR	V1399	F1281	D1215	GLY	Q1096
THR		THR	H1650	A1476	V1442	THR	V1400	P1281	K1216	GLY	L1097
THR		THR	H1650	L1477	V1442	THR	T1401	F1281	G1217	GLY	L1098
THR		THR	H1650	L1477	V1442	THR	H1402	F1281	D1218	GLY	L1099
THR		THR	H1650	L1477	V1442	THR	E1403	F1281	A1219	GLY	S1100
THR		THR	H1650	L1477	V1442	THR	D1404	F1281	K1220	GLY	S1100
THR		THR	H1650	L1477	V1442	THR	C1405	F1281	M1221	GLY	A1101
THR		THR	H1650	L1477	V1442	THR	C1405	F1281	M1222	GLY	Q1102
THR		THR	H1650	L1477	V1442	THR	T1407	F1281	E1223	GLY	Q1102
THR		THR	H1650	L1477	V1442	THR	H1288	F1281	E1223	GLY	Q1102



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	49087	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 ($e^-/\text{\AA}^2$)	61	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	Not provided	
Magnification	22500	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	22.614	Depositor
Minimum map value	-17.513	Depositor
Average map value	-0.008	Depositor
Map value standard deviation	0.623	Depositor
Recommended contour level	2.8	Depositor
Map size (\AA)	417.79202, 417.79202, 417.79202	wwPDB
Map dimensions	384, 384, 384	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.088, 1.088, 1.088	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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

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	0.25	0/17689	0.45	4/23903 (0.0%)
1	B	0.25	0/17689	0.45	4/23903 (0.0%)
1	C	0.25	0/17689	0.45	4/23903 (0.0%)
1	D	0.25	0/17689	0.45	4/23903 (0.0%)
All	All	0.25	0/70756	0.45	16/95612 (0.0%)

There are no bond length outliers.

The worst 5 of 16 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1544	PRO	N-CA-CB	5.80	110.26	103.30
1	B	1544	PRO	N-CA-CB	5.80	110.26	103.30
1	D	1544	PRO	N-CA-CB	5.80	110.26	103.30
1	C	1544	PRO	N-CA-CB	5.77	110.22	103.30
1	B	1495	PRO	N-CA-CB	5.70	110.14	103.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	17382	17386	17215	105	0
1	B	17382	17386	17215	106	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	C	17382	17386	17215	109	0
1	D	17382	17386	17215	107	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0
2	C	1	0	0	0	0
2	D	1	0	0	0	0
3	A	2	0	0	0	0
3	B	2	0	0	0	0
3	C	2	0	0	0	0
3	D	2	0	0	0	0
All	All	69540	69544	68860	424	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 3.

The worst 5 of 424 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1214:TYR:OH	1:A:1222:MET:SD	2.46	0.74
1:D:1214:TYR:OH	1:D:1222:MET:SD	2.46	0.74
1:A:75:LYS:NZ	1:A:489:ASN:O	2.21	0.74
1:B:1893:ARG:NH1	1:B:1955:ASN:OD1	2.21	0.74
1:A:1893:ARG:NH1	1:A:1955:ASN:OD1	2.21	0.73

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	2147/2671 (80%)	2079 (97%)	66 (3%)	2 (0%)	51 83
1	B	2147/2671 (80%)	2078 (97%)	67 (3%)	2 (0%)	51 83

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	C	2147/2671 (80%)	2080 (97%)	65 (3%)	2 (0%)	51	83
1	D	2147/2671 (80%)	2080 (97%)	65 (3%)	2 (0%)	51	83
All	All	8588/10684 (80%)	8317 (97%)	263 (3%)	8 (0%)	54	83

5 of 8 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	1544	PRO
1	B	1544	PRO
1	C	1544	PRO
1	D	1544	PRO
1	A	1494	LEU

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	1883/2385 (79%)	1870 (99%)	13 (1%)	84	90
1	B	1883/2385 (79%)	1870 (99%)	13 (1%)	84	90
1	C	1883/2385 (79%)	1870 (99%)	13 (1%)	84	90
1	D	1883/2385 (79%)	1870 (99%)	13 (1%)	84	90
All	All	7532/9540 (79%)	7480 (99%)	52 (1%)	84	90

5 of 52 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	C	550	GLN
1	C	1882	GLU
1	D	2051	HIS
1	C	556	CYS
1	C	1418	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (2) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	94	GLN
1	B	94	GLN

5.3.3 RNA [i](#)

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](#)

Of 12 ligands modelled in this entry, 12 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	A	5
1	B	5

Continued on next page...

Continued from previous page...

Mol	Chain	Number of breaks
1	C	5
1	D	5

The worst 5 of 20 chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A	1552:GLN	C	1586:TRP	N	55.42
1	B	1552:GLN	C	1586:TRP	N	55.42
1	C	1552:GLN	C	1586:TRP	N	55.42
1	D	1552:GLN	C	1586:TRP	N	55.42
1	A	1533:THR	C	1541:ARG	N	16.01

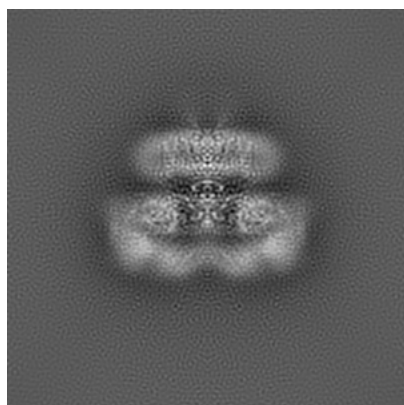
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-7991. These allow visual inspection of the internal detail of the map and identification of artifacts.

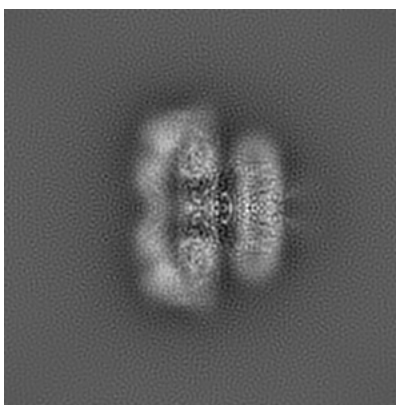
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

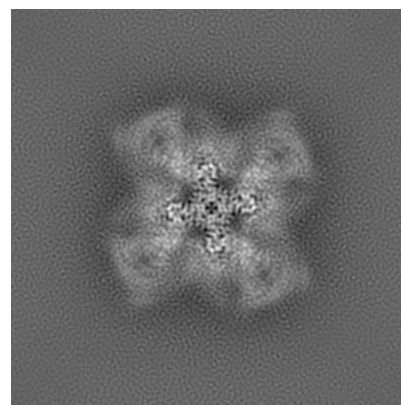
6.1.1 Primary map



X



Y

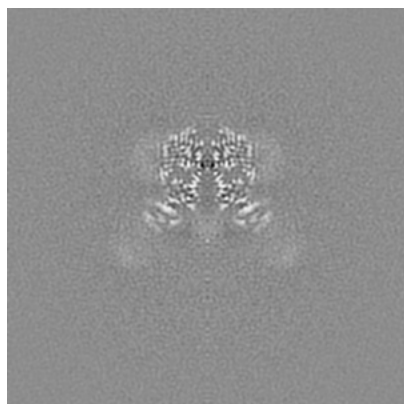


Z

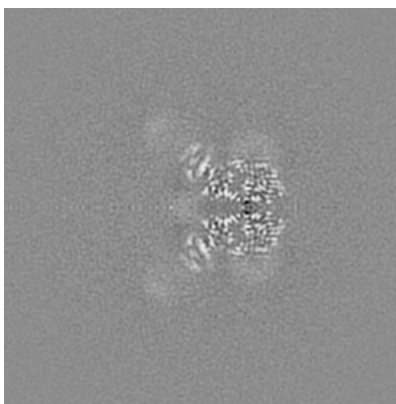
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

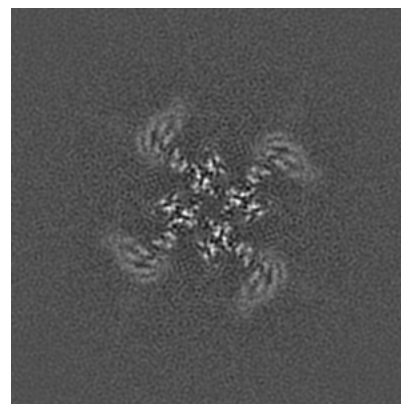
6.2.1 Primary map



X Index: 192



Y Index: 192

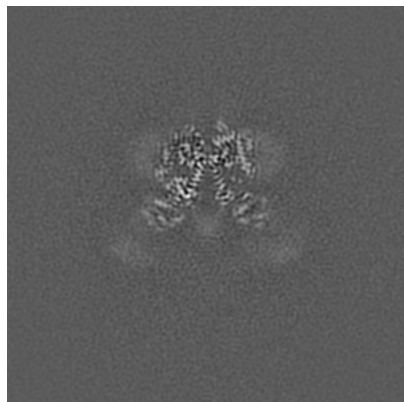


Z Index: 192

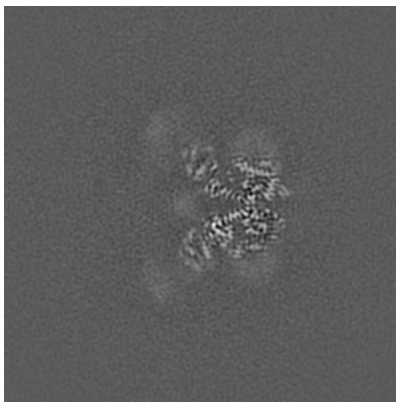
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

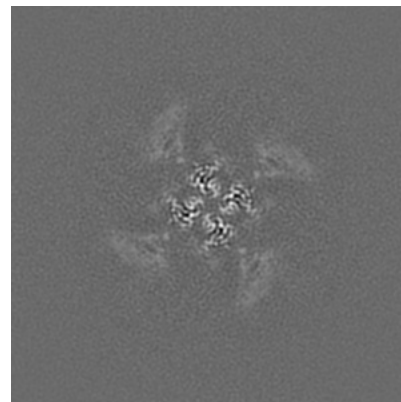
6.3.1 Primary map



X Index: 194



Y Index: 190



Z Index: 200

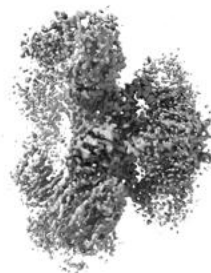
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal surface views [i](#)

6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 2.8. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

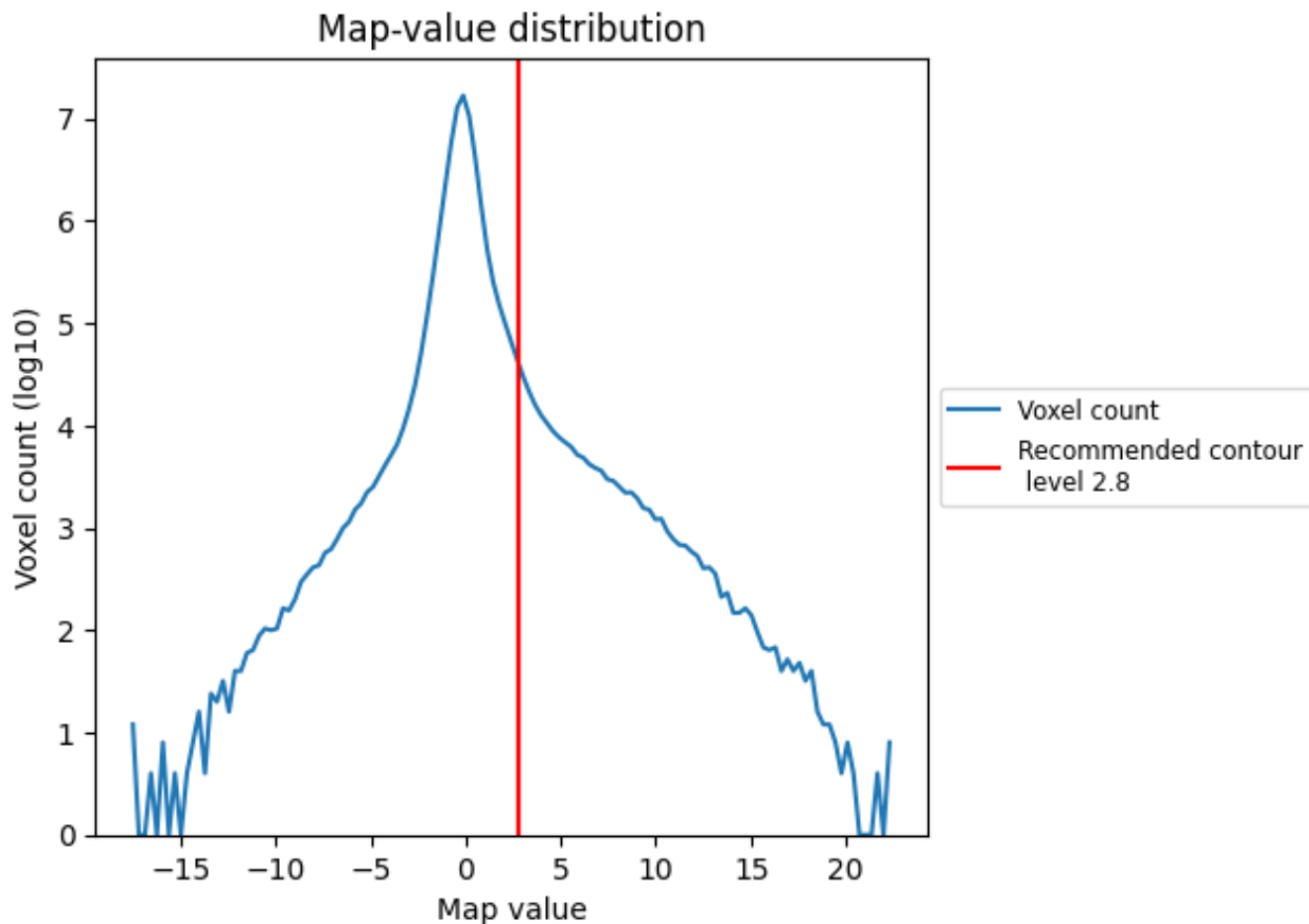
6.5 Mask visualisation

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

7 Map analysis [i](#)

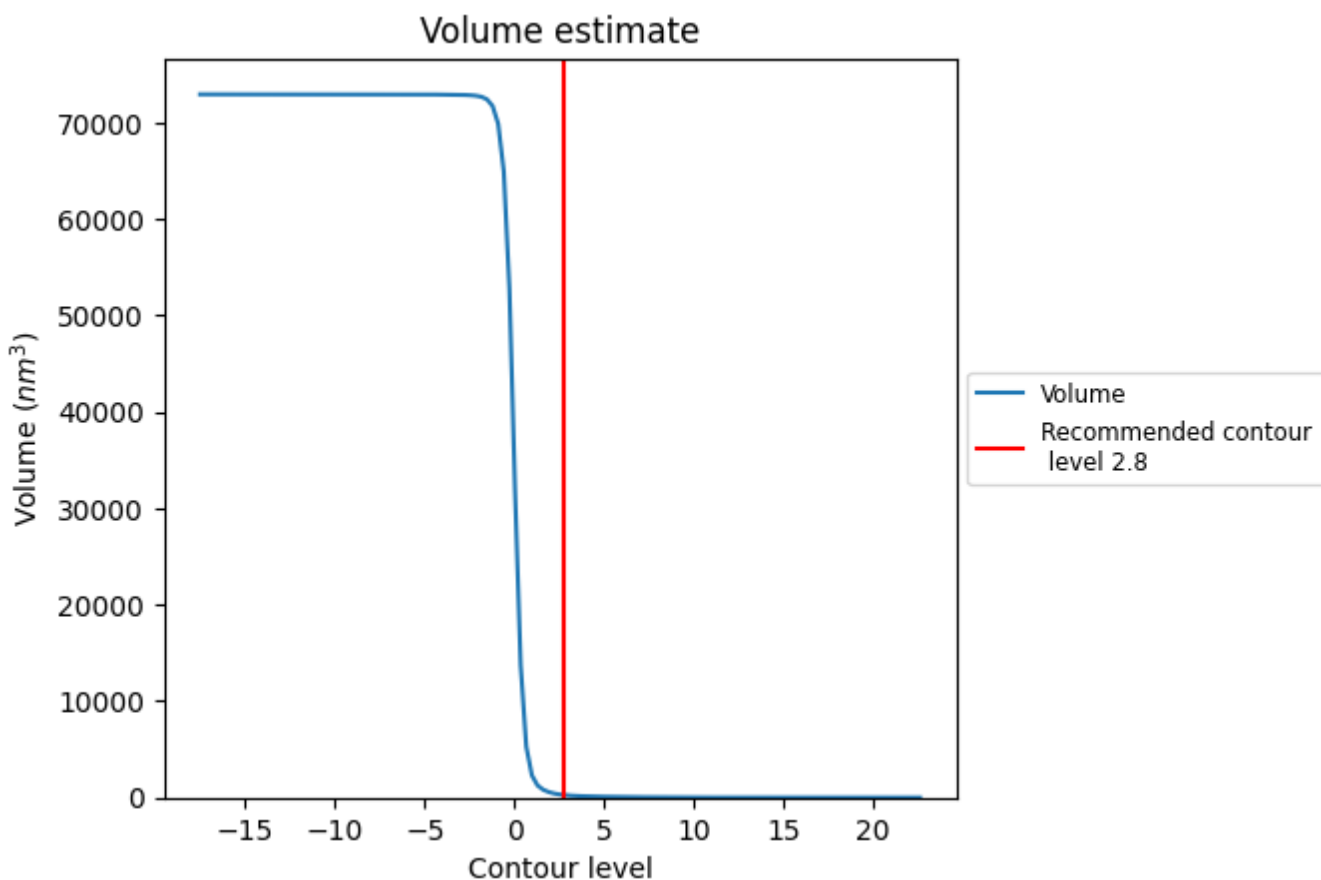
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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.

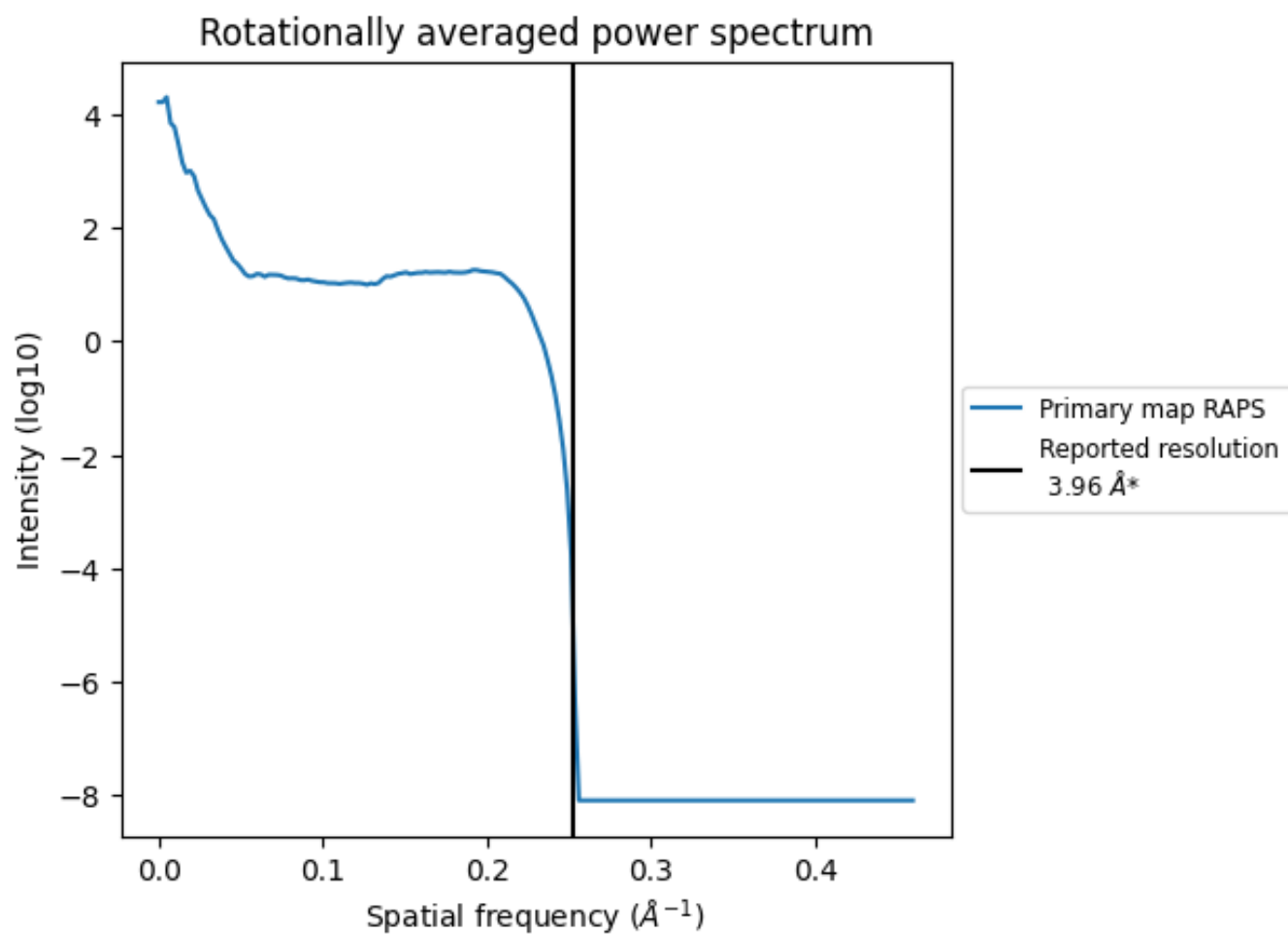
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 258 nm³; this corresponds to an approximate mass of 233 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 0.253 Å⁻¹

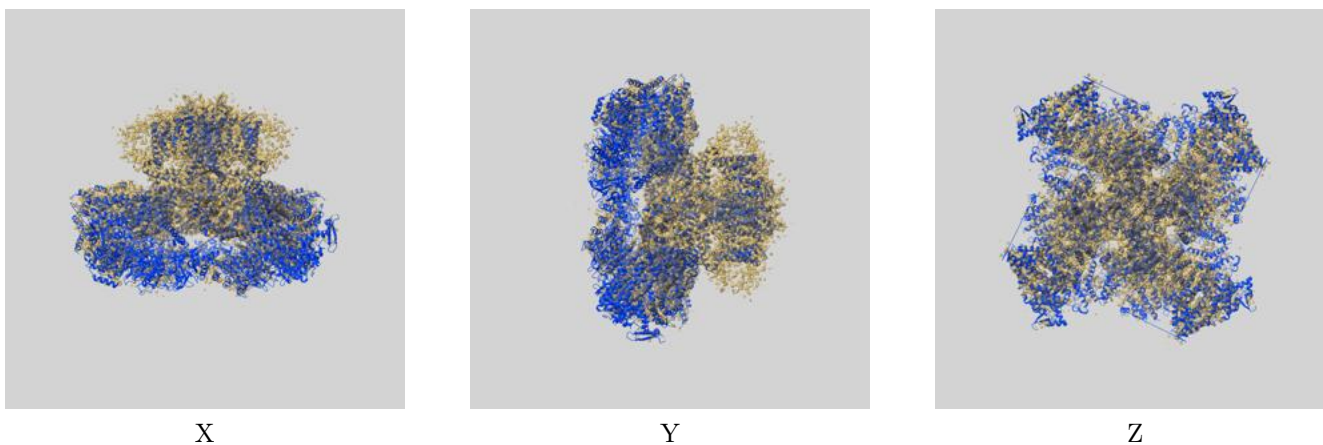
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

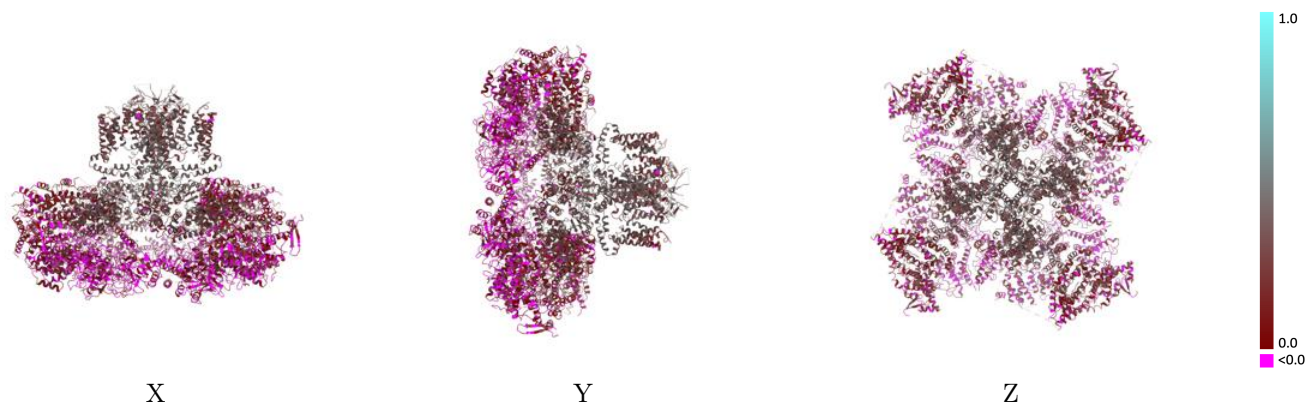
This section contains information regarding the fit between EMDB map EMD-7991 and PDB model 6DRA. Per-residue inclusion information can be found in section [3](#) on page [4](#).

9.1 Map-model overlay [i](#)



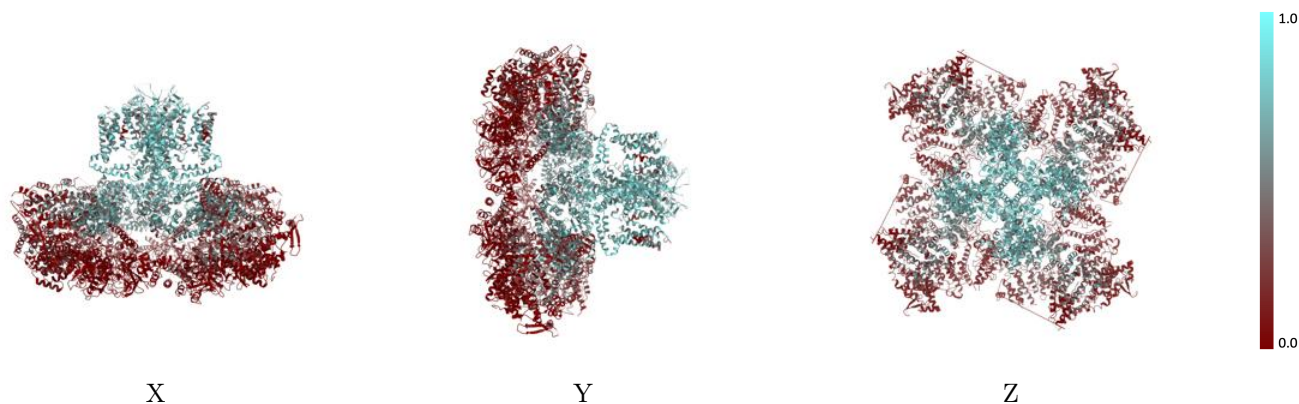
The images above show the 3D surface view of the map at the recommended contour level 2.8 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



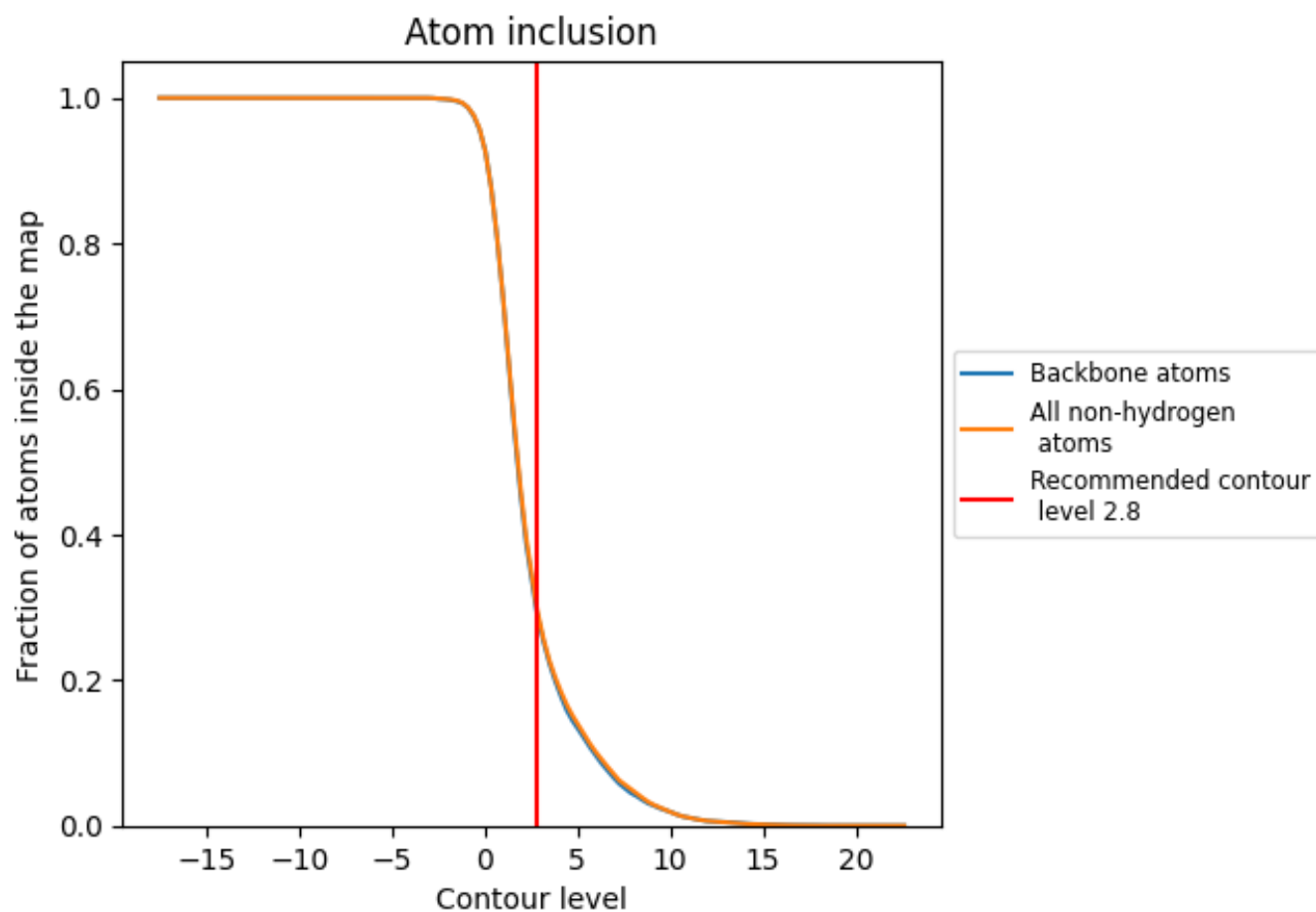
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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](#)



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 (2.8).











9.4 Atom inclusion [i](#)



At the recommended contour level, 29% of all backbone atoms, 30% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary [i](#)

The table lists the average atom inclusion at the recommended contour level (2.8) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.3011	 0.1690
A	 0.3099	 0.1680
B	 0.3101	 0.1690
C	 0.3101	 0.1690
D	 0.3100	 0.1680

