



Full wwPDB EM Validation Report ⓘ

May 28, 2024 – 11:21 AM EDT

PDB ID : 8SR8
EMDB ID : EMD-40722
Title : Cryo-EM structure of TRPM2 chanzyme in the presence of EDTA (apo state)
Authors : Huang, Y.; Kumar, S.; Lu, W.; Du, J.
Deposited on : 2023-05-05
Resolution : 2.77 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

EMDB validation analysis : 0.0.1.dev92
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36.2

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 2.77 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	1494	
1	B	1494	
1	C	1494	
1	D	1494	

2 Entry composition i

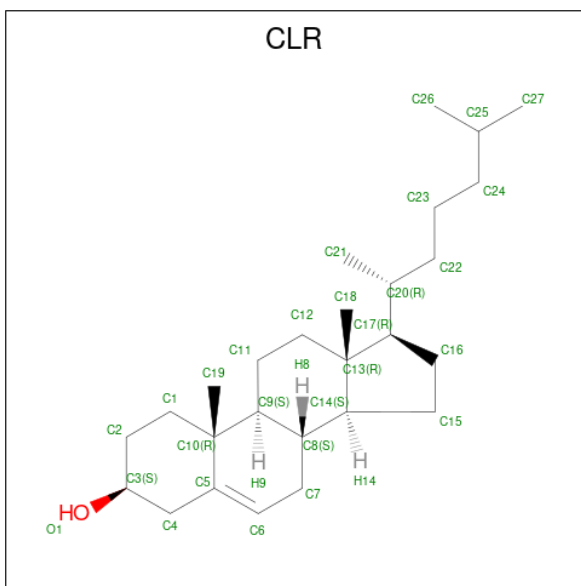
There are 2 unique types of molecules in this entry. The entry contains 39248 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 TRPM2 chanzyme.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	1353	Total 9728	C 6248	N 1692	O 1739	S 49	0	0
1	B	1353	Total 9728	C 6248	N 1692	O 1739	S 49	0	0
1	C	1353	Total 9728	C 6248	N 1692	O 1739	S 49	0	0
1	D	1353	Total 9728	C 6248	N 1692	O 1739	S 49	0	0

- Molecule 2 is CHOLESTEROL (three-letter code: CLR) (formula: C₂₇H₄₆O) (labeled as "Ligand of Interest" by depositor).

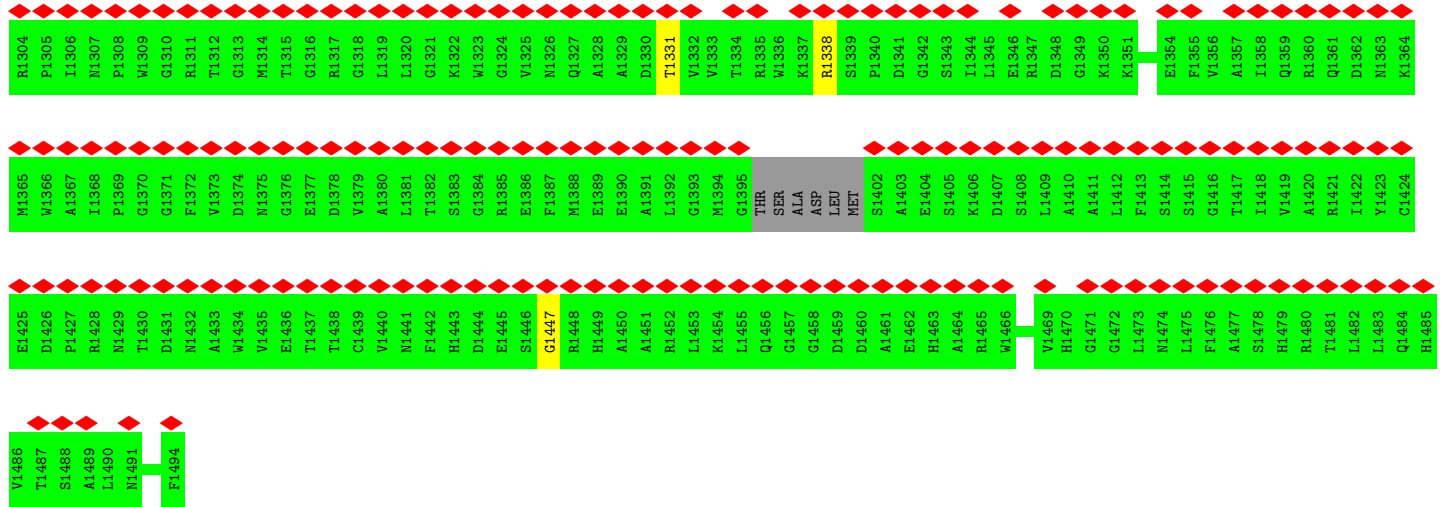


Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
2	A	1	Total 28	C 27	O 1	0
2	A	1	Total 28	C 27	O 1	0

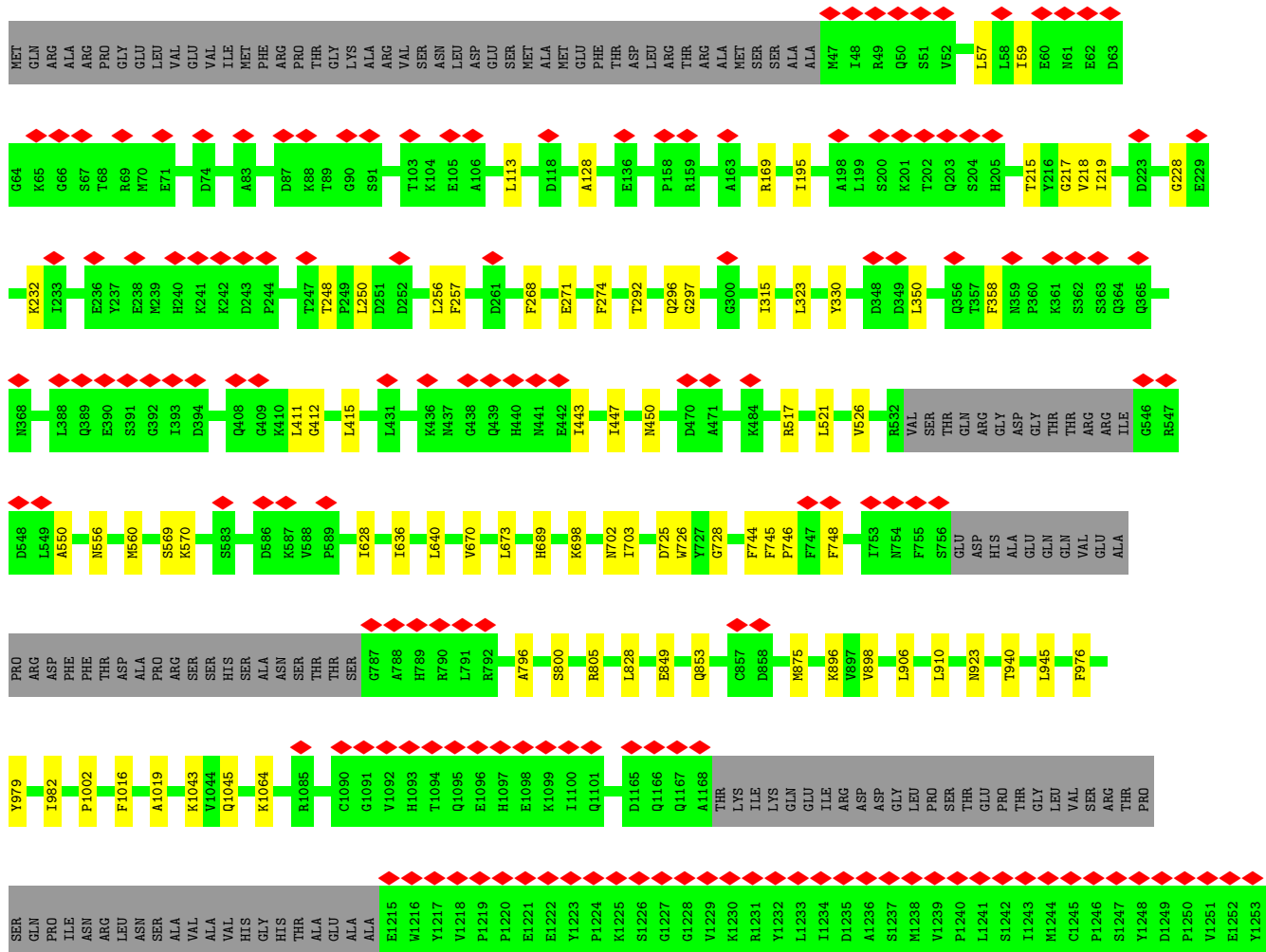
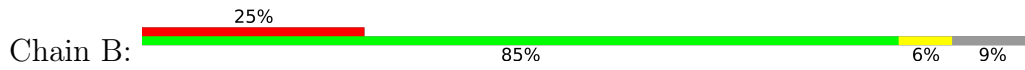
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Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
2	A	1	28	27	1	0
2	B	1	28	27	1	0
2	B	1	28	27	1	0
2	B	1	28	27	1	0
2	C	1	28	27	1	0
2	C	1	28	27	1	0
2	C	1	28	27	1	0
2	D	1	28	27	1	0
2	D	1	28	27	1	0
2	D	1	28	27	1	0

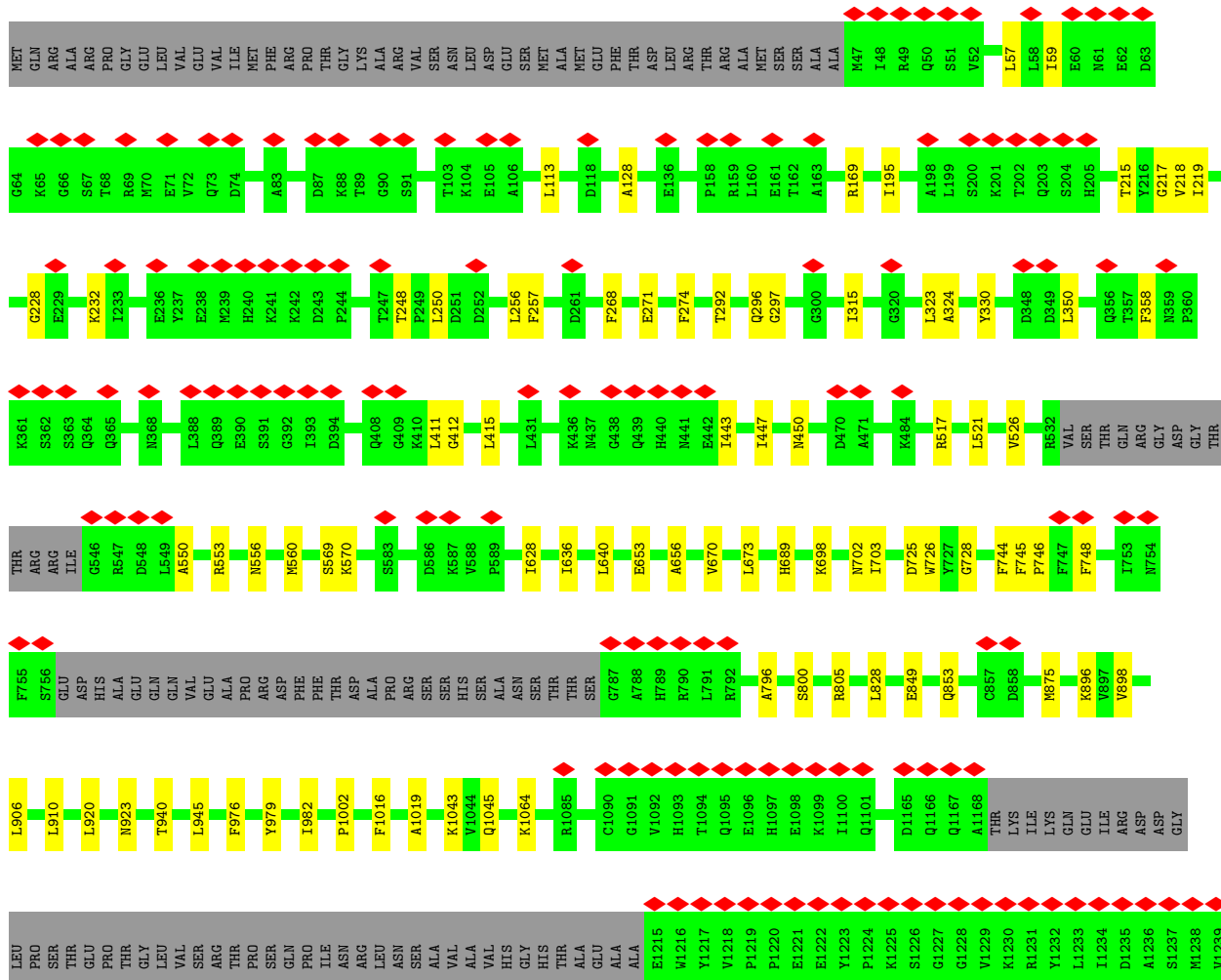
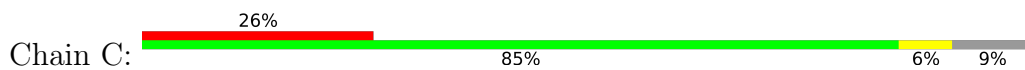


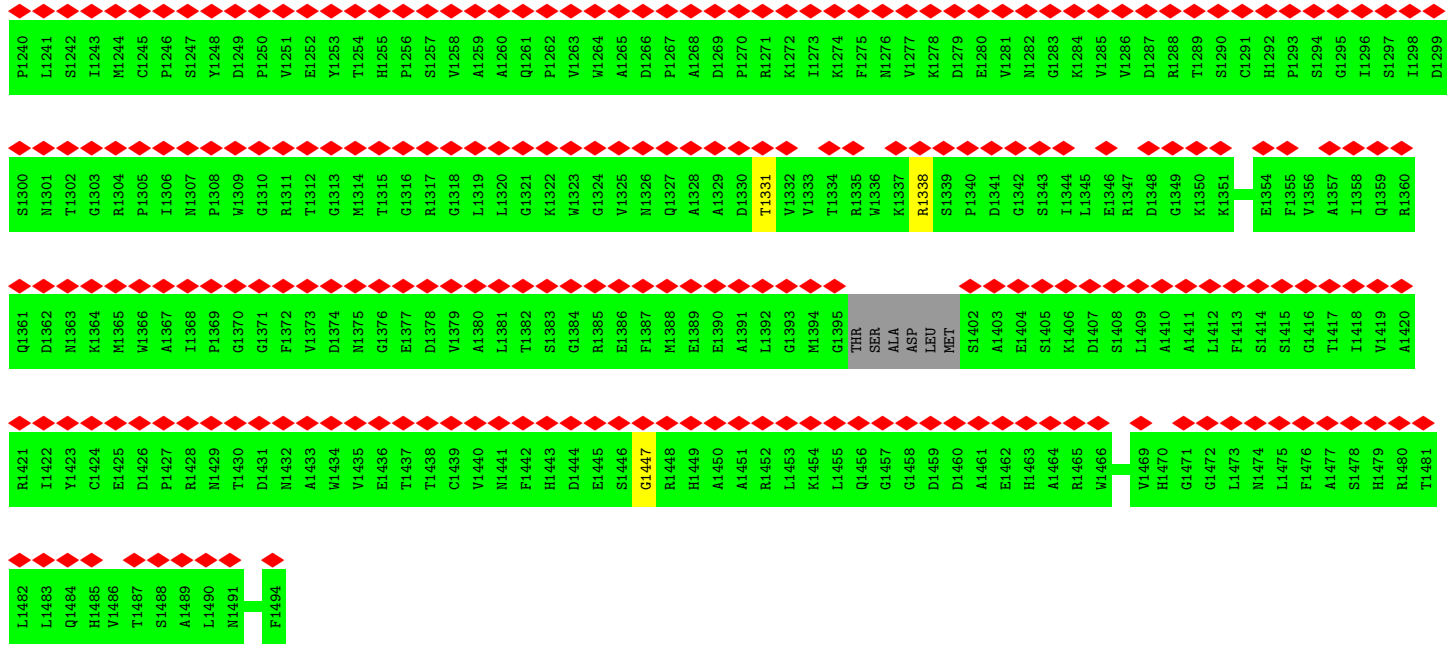
• Molecule 1: TRPM2 chanzyme



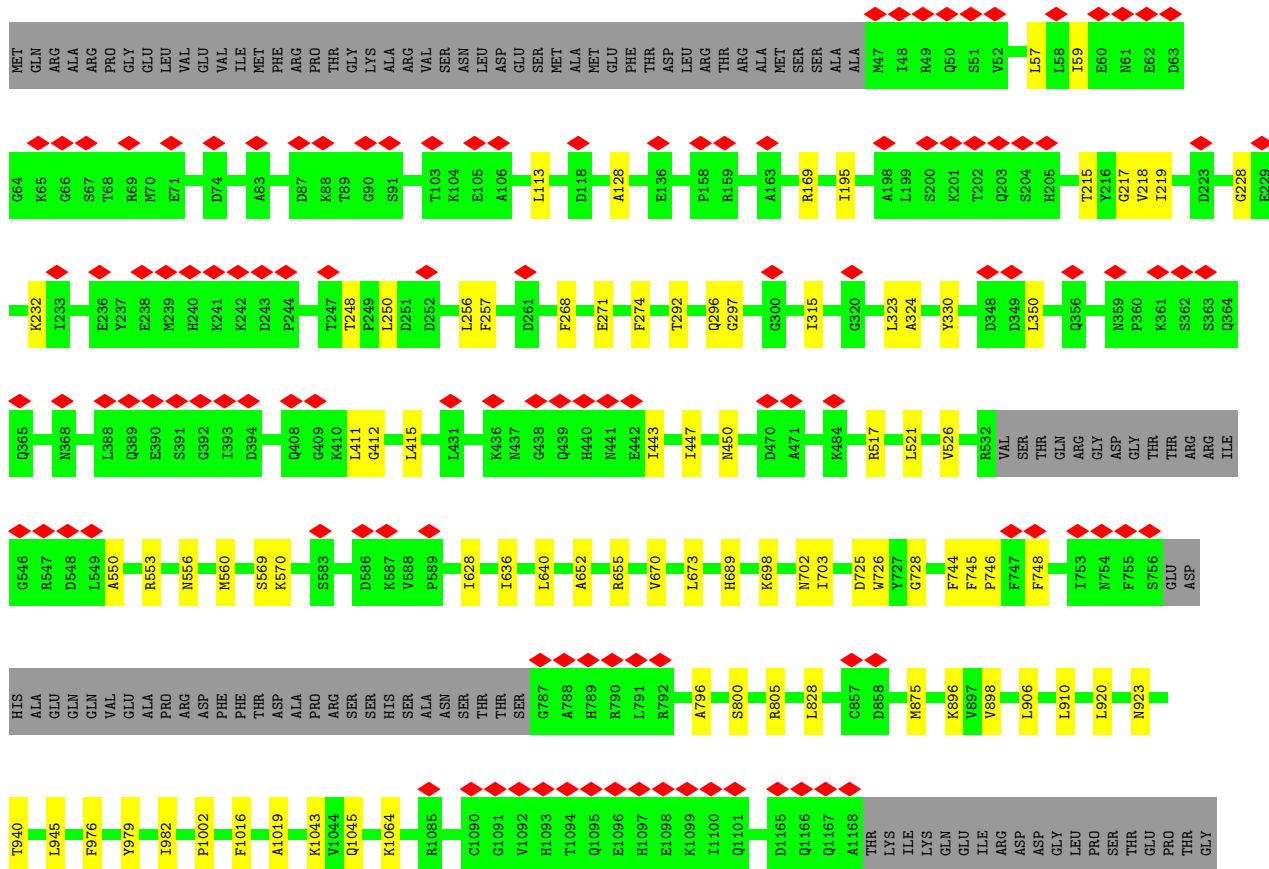
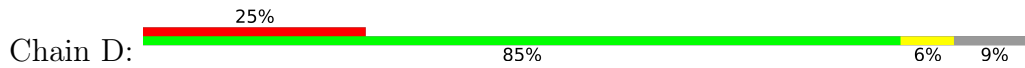


● Molecule 1: TRPM2 chanzyme





● Molecule 1: TRPM2 chanzyme



LEU	LEU	E1215	Y1248	P1308	P1369	N1429	M1491	LEU	E1216	Y1249	G1370	N1430	LEU	E1217	Y1250	G1371	T1430	LEU	E1218	D1249	G1372	G1370	T1431	LEU	E1219	P1250	G1373	F1372	D1431	D1431	F1494	LEU	E1220	V1251	G1374	G1371	N1432	N1432	LEU	E1221	V1252	P1251	G1375	F1373	A1433	A1433	LEU	E1222	E1252	T1312	G1376	D1374	A1434	A1434	LEU	E1223	Y1253	T1312	G1377	N1375	V1435	V1435	LEU	E1224	K1274	Y1254	G1378	M1375	W1436	W1436	LEU	E1225	F1275	T1254	G1379	G1376	E1436	E1436	LEU	E1226	N1276	H1265	G1380	G1377	T1437	T1437	LEU	E1227	K1276	H1266	G1381	E1377	G1437	G1437	LEU	E1228	N1277	I1265	G1382	D1378	G1438	G1438	LEU	E1229	K1277	D1266	G1383	D1379	G1439	G1439	LEU	E1230	K1278	D1267	G1384	V1379	C1439	C1439	LEU	E1231	D1268	A1268	G1385	V1380	G1440	G1440	LEU	E1232	D1269	A1269	G1386	A1380	V1440	V1440	LEU	E1233	P1270	A1270	G1387	L1381	V1441	V1441	LEU	E1234	P1271	A1271	G1388	T1382	N1441	N1441	LEU	E1235	K1272	A1272	G1389	S1383	F1442	F1442	LEU	E1236	K1273	I1273	G1390	S1384	H1443	H1443	LEU	E1237	K1274	I1274	G1391	G1384	D1444	D1444	LEU	E1238	F1275	F1275	G1392	G1385	E1445	E1445	LEU	E1239	N1276	N1276	G1393	R1385	E1446	E1446	LEU	E1240	N1277	N1277	G1394	F1387	G1447	G1447	LEU	E1241	K1278	K1278	G1395	M1388	R1448	R1448	LEU	E1242	D1279	D1279	G1396	E1389	H1449	H1449	LEU	E1243	E1280	E1280	G1397	E1390	A1450	A1450	LEU	E1244	E1281	E1281	G1398	E1391	A1451	A1451	LEU	E1245	G1282	G1282	G1399	A1328	A1452	A1452	LEU	E1246	N1282	N1282	G1400	A1329	R1453	R1453	LEU	E1247	N1283	N1283	G1401	A1329	R1454	R1454	LEU	E1248	G1283	G1283	G1402	A1329	R1455	R1455	LEU	E1249	K1284	K1284	G1403	A1329	R1456	R1456	LEU	E1250	K1285	K1285	G1404	A1329	R1457	R1457	LEU	E1251	V1285	V1285	G1405	A1329	R1458	R1458	LEU	E1252	V1286	V1286	G1406	A1329	R1459	R1459	LEU	E1253	V1287	V1287	G1407	A1329	R1460	R1460	LEU	E1254	D1287	D1287	G1408	A1329	R1461	R1461	LEU	E1255	R1288	R1288	G1409	A1329	R1462	R1462	LEU	E1256	T1289	T1289	G1410	A1329	R1463	R1463	LEU	E1257	S1290	S1290	G1411	A1329	R1464	R1464	LEU	E1258	C1291	C1291	G1412	A1329	R1465	R1465	LEU	E1259	H1292	H1292	G1413	A1329	R1466	R1466	LEU	E1260	P1293	P1293	G1414	A1329	R1467	R1467	LEU	E1261	G1294	G1294	G1415	A1329	R1468	R1468	LEU	E1262	I1295	I1295	G1416	A1329	R1469	R1469	LEU	E1263	I1296	I1296	G1417	A1329	R1470	R1470	LEU	E1264	S1297	S1297	G1418	A1329	R1471	R1471	LEU	E1265	I1298	I1298	G1419	A1329	R1472	R1472	LEU	E1266	I1299	I1299	G1420	A1329	R1473	R1473	LEU	E1267	S1300	S1300	G1421	A1329	R1474	R1474	LEU	E1268	N1301	N1301	G1422	A1329	R1475	R1475	LEU	E1269	T1302	T1302	G1423	A1329	R1476	R1476	LEU	E1270	G1303	G1303	G1424	A1329	R1477	R1477	LEU	E1271	R1304	R1304	G1425	A1329	R1478	R1478	LEU	E1272	P1305	P1305	G1426	A1329	R1479	R1479	LEU	E1273	I1306	I1306	G1427	A1329	R1480	R1480	LEU	E1274			G1428	A1329	R1481	R1481	LEU	E1275			G1429	A1329	R1482	R1482	LEU	E1276			G1430	A1329	R1483	R1483	LEU	E1277			G1431	A1329	R1484	R1484	LEU	E1278			G1432	A1329	R1485	R1485	LEU	E1279			G1433	A1329	R1486	R1486	LEU	E1280			G1434	A1329	R1487	R1487	LEU	E1281			G1435	A1329	R1488	R1488	LEU	E1282			G1436	A1329	R1489	R1489	LEU	E1283			G1437	A1329	R1490	R1490	LEU	E1284			G1438	A1329	R1491	R1491	LEU	E1285			G1439	A1329	R1492	R1492	LEU	E1286			G1440	A1329	R1493	R1493	LEU	E1287			G1441	A1329	R1494	R1494	LEU	E1288			G1442	A1329	R1495	R1495	LEU	E1289			G1443	A1329	R1496	R1496	LEU	E1290			G1444	A1329	R1497	R1497	LEU	E1291			G1445	A1329	R1498	R1498	LEU	E1292			G1446	A1329	R1499	R1499	LEU	E1293			G1447	A1329	R1500	R1500	LEU	E1294			G1448	A1329	R1501	R1501	LEU	E1295			G1449	A1329	R1502	R1502	LEU	E1296			G1450	A1329	R1503	R1503	LEU	E1297			G1451	A1329	R1504	R1504	LEU	E1298			G1452	A1329	R1505	R1505	LEU	E1299			G1453	A1329	R1506	R1506	LEU	E1300			G1454	A1329	R1507	R1507	LEU	E1301			G1455	A1329	R1508	R1508	LEU	E1302			G1456	A1329	R1509	R1509	LEU	E1303			G1457	A1329	R1510	R1510	LEU	E1304			G1458	A1329	R1511	R1511	LEU	E1305			G1459	A1329	R1512	R1512	LEU	E1306			G1460	A1329	R1513	R1513	LEU	E1307			G1461	A1329	R1514	R1514	LEU	E1308			G1462	A1329	R1515	R1515	LEU	E1309			G1463	A1329	R1516	R1516	LEU	E1310			G1464	A1329	R1517	R1517	LEU	E1311			G1465	A1329	R1518	R1518	LEU	E1312			G1466	A1329	R1519	R1519	LEU	E1313			G1467	A1329	R1520	R1520	LEU	E1314			G1468	A1329	R1521	R1521	LEU	E1315			G1469	A1329	R1522	R1522	LEU	E1316			G1470	A1329	R1523	R1523	LEU	E1317			G1471	A1329	R1524	R1524	LEU	E1318			G1472	A1329	R1525	R1525	LEU	E1319			G1473	A1329	R1526	R1526	LEU	E1320			G1474	A1329	R1527	R1527	LEU	E1321			G1475	A1329	R1528	R1528	LEU	E1322			G1476	A1329	R1529	R1529	LEU	E1323			G1477	A1329	R1530	R1530	LEU	E1324			G1478	A1329	R1531	R1531	LEU	E1325			G1479	A1329	R1532	R1532	LEU	E1326			G1480	A1329	R1533	R1533	LEU	E1327			G1481	A1329	R1534	R1534	LEU	E1328			G1482	A1329	R1535	R1535	LEU	E1329			G1483	A1329	R1536	R1536	LEU	E1330			G1484	A1329	R1537	R1537	LEU	E1331			G1485	A1329	R1538	R1538	LEU	E1332			G1486	A1329	R1539	R1539	LEU	E1333			G1487	A1329	R1540	R1540	LEU	E1334			G1488	A1329	R1541	R1541	LEU	E1335			G1489	A1329	R1542	R1542	LEU	E1336			G1490	A1329	R1543	R1543	LEU	E1337			G1491	A1329	R1544	R1544	LEU	E1338			G1492	A1329	R1545	R1545	LEU	E1339			G1493	A1329	R1546	R1546	LEU	E1340			G1494	A1329	R1547	R1547	LEU	E1341			G1495	A1329	R1548	R1548	LEU	E1342			G1496	A1329	R1549	R1549	LEU	E1343			G1497	A1329	R1550	R1550	LEU	E1344			G1498	A1329	R1551	R1551	LEU	E1345			G1499	A1329	R1552	R1552	LEU	E1346			G1500	A1329	R1553	R1553	LEU	E1347			G1501	A1329	R1554	R1554	LEU	E1348			G1502	A1329	R1555	R1555	LEU	E1349			G1503	A1329	R1556	R1556	LEU	E1350			G1504	A1329	R1557	R1557	LEU	E1351			G1505	A1329	R1558	R1558	LEU	E1352			G1506	A1329	R1559	R1559	LEU	E1353			G1507	A1329	R1560	R1560	LEU	E1354			G1508	A1329	R1561	R1561	LEU	E1355			G1509	A1329	R1562	R1562	LEU	E1356			G1510	A1329	R1563	R1563	LEU	E1357			G1511	A1329	R1564	R1564	LEU	E1358			G1512	A1329	R1565	R1565	LEU	E1359			G1513	A1329	R1566	R1566	LEU	E1360			G1514	A1329	R1567	R1567	LEU	E1361			G1515	A1329	R1568	R1568	LEU	E1362			G1516	A1329	R1569	R1569	LEU	E1363			G1517	A1329	R1570	R1570	LEU	E1364			G1518	A1329	R1571	R1571	LEU	E1365			G1519	A1329	R1572	R1572	LEU	E1366			G1520	A1329	R1573	R1573	LEU	E1367			G1521	A1329	R1574	R1574	LEU	E1368			G1522	A1329	R1575	R1575	LEU	E1369			G1523	A1329	R1576	R1576	LEU	E1370			G1524	A1329	R1577	R1577	LEU	E1371			G1525	A1329	R1578	R1578	LEU	E1372			G1526	A1329	R1579	R1579	LEU	E1373			G1527	A1329	R1580	R1580	LEU	E1374			G1528	A1329	R1581	R1581	LEU	E1375			G1529	A1329	R1582	R1582	LEU	E1376			G1530	A1329	R1583	R1583	LEU	E1377			G1531	A1329	R1584	R1584	LEU	E1378			G1532	A1329	R1585	R1585	LEU	E1379			G1533	A1329	R1586	R1586	LEU	E1380			G1534	A1329	R1587	R1587	LEU	E1381			G1535	A1329	R1588	R1588	LEU	E1382			G1536	A1329	R1589	R1589	LEU	E1383			G1537	A1329	R1590	R1590	LEU	E1384			G1538	A1329	R1591	R1591	LEU	E1385			G1539	A1329	R1592	R1592	LEU	E1386			G1540	A1329	R1593	R1593	LEU	E1387			G1541	A1329	R1594	R1594	LEU	E1388			G1542	A1329	R1595	R1595	LEU	E1389			G1543	A1329	R1596	R1596	LEU	E1390			G1544	A1329	R1597	R1597	LEU	E1391			G1545	A1329	R1598	R1598	LEU	E1392			G1546	A1329	R1599	R1599	LEU	E1393			G1547	A1329	R1600	R1600	LEU	E1394			G1548	A1329	R1601	R1601	LEU	E1395			G1549	A1329	R1602	R1602	LEU	E1396			G1550	A1329	R1603	R1603	LEU	E1397			G1551	A1329	R1604	R1604	LEU	E1398			G1552	A1329	R1605	R1605	LEU	E1399			G1553	A1329	R1606	R1606	LEU	E1400			G1554	A1329	R1607	R1607	LEU	E1401			G1555	A1329	R1608	R1608	LEU	E1402			G1556	A1329	R1609	R1609	LEU	E1403			G1557	A1329	R1610	R1610	LEU	E1404			G1558	A1329	R1611	R1611	LEU	E1405			G1559	A1329	R1612	R1612	LEU	E1406			G1560	A1329	R1613	R1613	LEU	E1407			G1561	A1329	R1614	R1614	LEU	E1408			G1562	A1329	R1615	R1615	LEU	E1409			G1563	A1329	R1616	R1616	LEU
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4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C4	Depositor
Number of particles used	168854	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	54	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	65.751	Depositor
Minimum map value	-26.704	Depositor
Average map value	0.181	Depositor
Map value standard deviation	1.441	Depositor
Recommended contour level	9.0	Depositor
Map size (\AA)	356.32, 356.32, 356.32	wwPDB
Map dimensions	340, 340, 340	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.048, 1.048, 1.048	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: CLR

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	0.54	0/9943	0.79	0/13558
1	B	0.54	0/9943	0.79	0/13558
1	C	0.54	0/9943	0.79	0/13558
1	D	0.54	0/9943	0.79	0/13558
All	All	0.54	0/39772	0.79	0/54232

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [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	9728	0	8895	67	0
1	B	9728	0	8895	67	0
1	C	9728	0	8895	68	0
1	D	9728	0	8895	69	0
2	A	84	0	138	5	0
2	B	84	0	138	4	0
2	C	84	0	138	3	0
2	D	84	0	138	5	0
All	All	39248	0	36132	272	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 4.

All (272) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:875:MET:HE1	1:B:910:LEU:CD2	2.01	0.91
1:D:875:MET:CE	1:D:910:LEU:CD2	2.49	0.91
1:A:875:MET:CE	1:A:910:LEU:CD2	2.49	0.91
1:B:875:MET:CE	1:B:910:LEU:CD2	2.49	0.90
1:C:875:MET:CE	1:C:910:LEU:CD2	2.49	0.90
1:A:875:MET:HE3	1:A:910:LEU:HD21	1.54	0.88
1:D:875:MET:HE1	1:D:910:LEU:CD2	2.02	0.87
1:C:875:MET:HE3	1:C:910:LEU:HD21	1.56	0.87
1:D:875:MET:HE3	1:D:910:LEU:HD21	1.58	0.86
1:C:875:MET:HE1	1:C:910:LEU:CD2	2.05	0.86
1:C:296:GLN:HG3	1:C:297:GLY:H	1.42	0.84
1:D:296:GLN:HG3	1:D:297:GLY:H	1.42	0.84
1:B:875:MET:HE3	1:B:910:LEU:HD21	1.59	0.84
1:A:875:MET:HE1	1:A:910:LEU:CD2	2.08	0.83
1:A:296:GLN:HG3	1:A:297:GLY:H	1.42	0.82
1:B:296:GLN:HG3	1:B:297:GLY:H	1.42	0.82
1:A:875:MET:HE3	1:A:910:LEU:CD2	2.10	0.79
1:A:1338:ARG:HH22	1:A:1447:GLY:HA3	1.48	0.79
1:C:1338:ARG:HH22	1:C:1447:GLY:HA3	1.48	0.77
1:D:1338:ARG:HH22	1:D:1447:GLY:HA3	1.48	0.77
1:C:875:MET:HE3	1:C:910:LEU:CD2	2.13	0.77
1:B:1338:ARG:HH22	1:B:1447:GLY:HA3	1.48	0.76
1:B:296:GLN:NE2	1:B:323:LEU:HB2	2.02	0.75
1:C:296:GLN:NE2	1:C:323:LEU:HB2	2.02	0.74
1:A:296:GLN:NE2	1:A:323:LEU:HB2	2.02	0.74
1:D:296:GLN:NE2	1:D:323:LEU:HB2	2.02	0.74
1:C:875:MET:CE	1:C:910:LEU:HD21	2.18	0.73
1:A:296:GLN:HE21	1:A:323:LEU:HB2	1.54	0.73
1:D:296:GLN:HE21	1:D:323:LEU:HB2	1.54	0.73
1:C:296:GLN:HE21	1:C:323:LEU:HB2	1.54	0.73
1:D:875:MET:CE	1:D:910:LEU:HD21	2.18	0.72
1:B:296:GLN:HE21	1:B:323:LEU:HB2	1.54	0.72
1:D:875:MET:HE3	1:D:910:LEU:CD2	2.16	0.72
1:B:526:VAL:CG1	1:B:550:ALA:HA	2.20	0.72
1:C:526:VAL:CG1	1:C:550:ALA:HA	2.20	0.72
1:B:875:MET:CE	1:B:910:LEU:HD21	2.18	0.71
1:A:296:GLN:HG3	1:A:297:GLY:N	2.06	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:526:VAL:CG1	1:D:550:ALA:HA	2.20	0.71
1:D:296:GLN:HG3	1:D:297:GLY:N	2.06	0.71
1:A:526:VAL:CG1	1:A:550:ALA:HA	2.20	0.70
1:A:875:MET:CE	1:A:910:LEU:HD21	2.18	0.70
1:B:296:GLN:HG3	1:B:297:GLY:N	2.06	0.70
1:B:875:MET:CE	1:B:910:LEU:HD23	2.21	0.70
1:C:296:GLN:HG3	1:C:297:GLY:N	2.06	0.70
1:D:875:MET:CE	1:D:910:LEU:HD23	2.21	0.70
1:A:875:MET:CE	1:A:910:LEU:HD23	2.21	0.70
1:C:875:MET:CE	1:C:910:LEU:HD23	2.21	0.69
1:B:875:MET:HE3	1:B:910:LEU:CD2	2.17	0.67
1:B:875:MET:HE1	1:B:910:LEU:HD23	1.78	0.66
1:C:219:ILE:HD11	1:C:250:LEU:HG	1.80	0.64
1:D:219:ILE:HD11	1:D:250:LEU:HG	1.80	0.64
1:A:219:ILE:HD11	1:A:250:LEU:HG	1.80	0.64
1:B:219:ILE:HD11	1:B:250:LEU:HG	1.80	0.63
1:A:215:THR:HG22	1:A:217:GLY:H	1.64	0.63
1:D:215:THR:HG22	1:D:217:GLY:H	1.64	0.62
1:D:979:TYR:O	1:D:982:ILE:HG12	1.99	0.62
1:C:215:THR:HG22	1:C:217:GLY:H	1.64	0.62
1:C:979:TYR:O	1:C:982:ILE:HG12	1.99	0.62
1:A:979:TYR:O	1:A:982:ILE:HG12	1.99	0.62
1:B:215:THR:HG22	1:B:217:GLY:H	1.64	0.62
1:B:979:TYR:O	1:B:982:ILE:HG12	1.99	0.62
1:D:296:GLN:CG	1:D:297:GLY:H	2.11	0.60
1:D:906:LEU:O	1:D:910:LEU:HG	2.02	0.60
1:A:906:LEU:O	1:A:910:LEU:HG	2.02	0.60
1:C:906:LEU:O	1:C:910:LEU:HG	2.02	0.60
1:B:228:GLY:HA3	1:B:232:LYS:HE3	1.85	0.59
1:D:228:GLY:HA3	1:D:232:LYS:HE3	1.85	0.59
1:C:228:GLY:HA3	1:C:232:LYS:HE3	1.85	0.59
1:A:228:GLY:HA3	1:A:232:LYS:HE3	1.85	0.58
1:A:1331:THR:O	1:A:1331:THR:HG23	2.04	0.58
1:B:906:LEU:O	1:B:910:LEU:HG	2.02	0.58
1:D:875:MET:HE1	1:D:910:LEU:HD23	1.79	0.58
1:B:636:ILE:O	1:B:640:LEU:HB2	2.04	0.58
1:C:636:ILE:O	1:C:640:LEU:HB2	2.04	0.58
1:B:1331:THR:HG23	1:B:1331:THR:O	2.04	0.58
1:A:113:LEU:HD11	1:A:274:PHE:CZ	2.39	0.58
1:D:1331:THR:HG23	1:D:1331:THR:O	2.04	0.58
1:C:1331:THR:HG23	1:C:1331:THR:O	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:113:LEU:HD11	1:D:274:PHE:CZ	2.39	0.57
1:D:636:ILE:O	1:D:640:LEU:HB2	2.04	0.57
1:A:636:ILE:O	1:A:640:LEU:HB2	2.04	0.57
1:B:113:LEU:HD11	1:B:274:PHE:CZ	2.39	0.57
1:A:976:PHE:CE2	1:D:1002:PRO:HG2	2.39	0.57
1:B:1002:PRO:HG2	1:C:976:PHE:CE2	2.39	0.57
1:A:1002:PRO:HG2	1:B:976:PHE:CE2	2.40	0.57
1:C:113:LEU:HD11	1:C:274:PHE:CZ	2.39	0.56
1:C:1002:PRO:HG2	1:D:976:PHE:CE2	2.40	0.56
1:C:875:MET:HE1	1:C:910:LEU:HD23	1.82	0.56
1:B:526:VAL:HG12	1:B:550:ALA:HA	1.88	0.55
1:C:526:VAL:HG12	1:C:550:ALA:HA	1.89	0.55
1:D:526:VAL:HG12	1:D:550:ALA:HA	1.89	0.54
1:A:443:ILE:O	1:A:447:ILE:HB	2.07	0.54
1:B:443:ILE:O	1:B:447:ILE:HB	2.07	0.54
1:A:526:VAL:HG12	1:A:550:ALA:HA	1.89	0.54
1:C:443:ILE:O	1:C:447:ILE:HB	2.07	0.53
1:D:443:ILE:O	1:D:447:ILE:HB	2.07	0.53
1:B:256:LEU:HD23	1:B:257:PHE:N	2.24	0.53
1:C:670:VAL:O	1:C:673:LEU:HB3	2.10	0.52
1:D:670:VAL:O	1:D:673:LEU:HB3	2.10	0.52
1:C:256:LEU:HD23	1:C:257:PHE:N	2.24	0.52
1:B:330:TYR:CD1	1:B:350:LEU:HD12	2.45	0.52
1:B:57:LEU:HD22	1:B:128:ALA:HB1	1.92	0.52
1:C:330:TYR:CD1	1:C:350:LEU:HD12	2.45	0.52
1:A:670:VAL:O	1:A:673:LEU:HB3	2.10	0.52
1:D:330:TYR:CD1	1:D:350:LEU:HD12	2.45	0.52
1:A:256:LEU:HD23	1:A:257:PHE:N	2.24	0.52
1:B:556:ASN:O	1:B:560:MET:HG2	2.10	0.52
1:A:330:TYR:CD1	1:A:350:LEU:HD12	2.45	0.52
1:A:556:ASN:O	1:A:560:MET:HG2	2.10	0.52
1:D:256:LEU:HD23	1:D:257:PHE:N	2.24	0.52
1:C:57:LEU:HD22	1:C:128:ALA:HB1	1.92	0.51
1:D:57:LEU:HD22	1:D:128:ALA:HB1	1.92	0.51
1:B:670:VAL:O	1:B:673:LEU:HB3	2.10	0.51
1:A:57:LEU:HD22	1:A:128:ALA:HB1	1.92	0.50
1:C:556:ASN:O	1:C:560:MET:HG2	2.10	0.50
1:D:556:ASN:O	1:D:560:MET:HG2	2.10	0.50
1:B:296:GLN:CG	1:B:297:GLY:N	2.72	0.50
1:D:945:LEU:HD21	1:D:982:ILE:HD13	1.94	0.49
1:A:875:MET:HE1	1:A:910:LEU:HD23	1.86	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:945:LEU:HD21	1:B:982:ILE:HD13	1.94	0.49
1:A:923:ASN:ND2	1:D:940:THR:OG1	2.46	0.49
1:A:945:LEU:HD21	1:A:982:ILE:HD13	1.94	0.49
1:C:945:LEU:HD21	1:C:982:ILE:HD13	1.94	0.49
1:B:940:THR:OG1	1:C:923:ASN:ND2	2.46	0.48
2:A:1501:CLR:H162	2:A:1501:CLR:H222	1.60	0.48
1:D:898:VAL:HG22	2:D:6003:CLR:H21	1.96	0.48
1:A:296:GLN:HE22	1:A:323:LEU:HD13	1.79	0.48
1:C:218:VAL:O	1:C:248:THR:OG1	2.32	0.48
1:C:898:VAL:HG22	2:C:1501:CLR:H21	1.96	0.48
1:D:296:GLN:HE22	1:D:323:LEU:HD13	1.79	0.48
2:D:6003:CLR:H162	2:D:6003:CLR:H222	1.60	0.48
1:B:296:GLN:HE22	1:B:323:LEU:HD13	1.79	0.47
1:A:296:GLN:CG	1:A:297:GLY:H	2.11	0.47
1:D:330:TYR:HD1	1:D:350:LEU:HD12	1.80	0.47
1:B:218:VAL:O	1:B:248:THR:OG1	2.32	0.47
1:C:296:GLN:HE22	1:C:323:LEU:HD13	1.79	0.47
1:A:218:VAL:O	1:A:248:THR:OG1	2.32	0.47
1:A:898:VAL:HG22	2:A:1501:CLR:H21	1.96	0.47
1:A:940:THR:OG1	1:B:923:ASN:ND2	2.46	0.47
2:A:1502:CLR:H272	2:A:1502:CLR:H231	1.71	0.47
1:D:218:VAL:O	1:D:248:THR:OG1	2.32	0.47
1:D:796:ALA:O	1:D:800:SER:HB3	2.15	0.47
1:A:796:ALA:O	1:A:800:SER:HB3	2.15	0.47
1:B:796:ALA:O	1:B:800:SER:HB3	2.15	0.47
1:A:330:TYR:HD1	1:A:350:LEU:HD12	1.80	0.47
1:B:296:GLN:CG	1:B:297:GLY:H	2.12	0.47
1:B:898:VAL:HG22	2:B:1501:CLR:H21	1.96	0.46
1:C:330:TYR:HD1	1:C:350:LEU:HD12	1.80	0.46
1:B:330:TYR:HD1	1:B:350:LEU:HD12	1.80	0.46
1:B:805:ARG:NH2	1:B:1064:LYS:O	2.49	0.46
1:C:796:ALA:O	1:C:800:SER:HB3	2.14	0.46
1:D:411:LEU:O	1:D:415:LEU:HG	2.16	0.46
1:A:805:ARG:NH2	1:A:1064:LYS:O	2.49	0.46
1:C:323:LEU:HB3	1:C:324:ALA:H	1.62	0.46
1:C:411:LEU:O	1:C:415:LEU:HG	2.16	0.46
1:D:805:ARG:NH2	1:D:1064:LYS:O	2.49	0.46
1:B:411:LEU:O	1:B:415:LEU:HG	2.16	0.45
2:B:1503:CLR:H263	2:B:1503:CLR:H231	1.75	0.45
1:A:411:LEU:O	1:A:415:LEU:HG	2.16	0.45
1:C:296:GLN:CG	1:C:297:GLY:H	2.11	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:940:THR:OG1	1:D:923:ASN:ND2	2.47	0.45
1:D:59:ILE:HD13	1:D:128:ALA:HB2	1.99	0.45
1:C:59:ILE:HD13	1:C:128:ALA:HB2	1.99	0.45
1:A:219:ILE:CD1	1:A:250:LEU:HG	2.47	0.45
1:B:59:ILE:HD13	1:B:128:ALA:HB2	1.99	0.45
1:C:805:ARG:NH2	1:C:1064:LYS:O	2.49	0.45
1:D:169:ARG:HH21	1:D:195:ILE:HA	1.82	0.44
1:A:59:ILE:HD13	1:A:128:ALA:HB2	1.99	0.44
1:A:169:ARG:HH21	1:A:195:ILE:HA	1.82	0.44
1:B:219:ILE:CD1	1:B:250:LEU:HG	2.47	0.44
2:B:1501:CLR:H162	2:B:1501:CLR:H222	1.60	0.44
1:C:215:THR:HG22	1:C:217:GLY:N	2.31	0.44
1:C:292:THR:HB	1:C:315:ILE:HG22	2.00	0.44
2:C:1502:CLR:H272	2:C:1502:CLR:H231	1.71	0.44
1:D:215:THR:HG22	1:D:217:GLY:N	2.31	0.44
1:D:215:THR:OG1	1:D:271:GLU:OE1	2.36	0.44
1:B:169:ARG:HH21	1:B:195:ILE:HA	1.82	0.44
1:B:517:ARG:O	1:B:521:LEU:HG	2.17	0.44
1:C:517:ARG:O	1:C:521:LEU:HG	2.17	0.44
1:B:628:ILE:HG23	1:B:703:ILE:HG21	2.00	0.44
1:D:517:ARG:O	1:D:521:LEU:HG	2.18	0.44
1:D:292:THR:HB	1:D:315:ILE:HG22	2.00	0.44
1:A:517:ARG:O	1:A:521:LEU:HG	2.17	0.43
1:B:292:THR:HB	1:B:315:ILE:HG22	2.00	0.43
1:C:169:ARG:HH21	1:C:195:ILE:HA	1.82	0.43
2:A:1503:CLR:H263	2:A:1503:CLR:H231	1.75	0.43
1:B:698:LYS:HB3	1:B:702:ASN:HD22	1.83	0.43
1:B:849:GLU:OE2	1:B:853:GLN:NE2	2.47	0.43
1:A:215:THR:HG22	1:A:217:GLY:N	2.31	0.43
1:A:215:THR:OG1	1:A:271:GLU:OE1	2.36	0.43
2:D:6002:CLR:H231	2:D:6002:CLR:H211	1.82	0.43
1:B:215:THR:HG22	1:B:217:GLY:N	2.31	0.43
1:B:215:THR:OG1	1:B:271:GLU:OE1	2.36	0.43
1:C:698:LYS:HB3	1:C:702:ASN:HD22	1.83	0.43
1:C:215:THR:OG1	1:C:271:GLU:OE1	2.36	0.43
1:C:628:ILE:HG23	1:C:703:ILE:HG21	2.00	0.43
1:A:292:THR:HB	1:A:315:ILE:HG22	2.00	0.43
1:A:628:ILE:HG23	1:A:703:ILE:HG21	2.00	0.43
1:A:698:LYS:HB3	1:A:702:ASN:HD22	1.83	0.43
1:D:726:TRP:C	1:D:728:GLY:H	2.22	0.43
1:B:875:MET:HE1	1:B:910:LEU:HD22	1.94	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:745:PHE:HB3	1:B:748:PHE:HD2	1.83	0.43
1:C:726:TRP:C	1:C:728:GLY:H	2.22	0.43
1:D:323:LEU:HB3	1:D:324:ALA:H	1.61	0.43
1:A:1043:LYS:HE2	1:B:1045:GLN:HE22	1.84	0.43
1:D:745:PHE:HB3	1:D:748:PHE:HD2	1.83	0.43
2:B:1503:CLR:H231	2:B:1503:CLR:H211	1.82	0.42
1:C:219:ILE:CD1	1:C:250:LEU:HG	2.47	0.42
1:D:698:LYS:HB3	1:D:702:ASN:HD22	1.83	0.42
2:D:6002:CLR:H231	2:D:6002:CLR:H263	1.75	0.42
1:D:628:ILE:HG23	1:D:703:ILE:HG21	2.00	0.42
1:A:412:GLY:HA2	1:A:450:ASN:HD21	1.84	0.42
1:A:745:PHE:HB3	1:A:748:PHE:HD2	1.83	0.42
2:A:1503:CLR:H231	2:A:1503:CLR:H211	1.82	0.42
1:B:412:GLY:HA2	1:B:450:ASN:HD21	1.84	0.42
1:C:744:PHE:O	1:C:746:PRO:HD3	2.20	0.42
1:A:849:GLU:OE2	1:A:853:GLN:NE2	2.47	0.42
1:B:1016:PHE:O	1:B:1019:ALA:HB3	2.20	0.42
1:D:553:ARG:HE	1:D:553:ARG:HB3	1.63	0.42
1:C:228:GLY:HA3	1:C:232:LYS:CE	2.50	0.42
1:C:849:GLU:OE2	1:C:853:GLN:NE2	2.47	0.42
1:A:828:LEU:HB2	1:A:896:LYS:HE3	2.01	0.42
1:C:745:PHE:HB3	1:C:748:PHE:HD2	1.83	0.42
1:C:1016:PHE:O	1:C:1019:ALA:HB3	2.20	0.42
1:A:726:TRP:C	1:A:728:GLY:H	2.22	0.42
1:C:412:GLY:HA2	1:C:450:ASN:HD21	1.84	0.42
1:D:744:PHE:O	1:D:746:PRO:HD3	2.20	0.42
1:A:744:PHE:O	1:A:746:PRO:HD3	2.20	0.41
1:B:228:GLY:HA3	1:B:232:LYS:CE	2.50	0.41
1:B:744:PHE:O	1:B:746:PRO:HD3	2.20	0.41
1:B:1043:LYS:HE2	1:C:1045:GLN:HE22	1.85	0.41
1:C:1043:LYS:HE2	1:D:1045:GLN:HE22	1.84	0.41
1:D:1016:PHE:O	1:D:1019:ALA:HB3	2.20	0.41
2:D:6001:CLR:H272	2:D:6001:CLR:H231	1.71	0.41
1:A:569:SER:OG	1:A:570:LYS:N	2.53	0.41
1:A:1016:PHE:O	1:A:1019:ALA:HB3	2.20	0.41
1:A:1045:GLN:HE22	1:D:1043:LYS:HE2	1.84	0.41
1:B:726:TRP:C	1:B:728:GLY:H	2.22	0.41
1:C:828:LEU:HB2	1:C:896:LYS:HE3	2.01	0.41
1:D:526:VAL:HG11	1:D:550:ALA:HA	2.02	0.41
1:B:569:SER:OG	1:B:570:LYS:N	2.53	0.41
1:D:569:SER:OG	1:D:570:LYS:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:828:LEU:HB2	1:D:896:LYS:HE3	2.01	0.41
1:A:323:LEU:HG	1:A:358:PHE:HE1	1.85	0.41
1:B:323:LEU:HG	1:B:358:PHE:HE1	1.85	0.41
1:B:828:LEU:HB2	1:B:896:LYS:HE3	2.01	0.41
1:D:412:GLY:HA2	1:D:450:ASN:HD21	1.84	0.41
1:C:653:GLU:O	1:C:656:ALA:HB3	2.21	0.41
1:C:689:HIS:NE2	1:C:725:ASP:OD1	2.54	0.41
2:C:1503:CLR:H231	2:C:1503:CLR:H211	1.82	0.41
1:A:208:PRO:HA	1:A:209:PRO:HD3	1.98	0.41
1:A:652:ALA:O	1:A:655:ARG:HB2	2.21	0.41
1:B:248:THR:HG21	1:B:268:PHE:HE2	1.86	0.41
1:C:248:THR:HG21	1:C:268:PHE:HE2	1.86	0.41
1:C:920:LEU:O	1:C:920:LEU:HD23	2.21	0.41
1:D:219:ILE:CD1	1:D:250:LEU:HG	2.47	0.41
1:D:296:GLN:CG	1:D:297:GLY:N	2.72	0.41
1:D:652:ALA:O	1:D:655:ARG:HB2	2.21	0.41
1:A:248:THR:HG21	1:A:268:PHE:HE2	1.86	0.41
1:C:569:SER:OG	1:C:570:LYS:N	2.53	0.41
1:D:228:GLY:HA3	1:D:232:LYS:CE	2.50	0.41
1:A:896:LYS:HB3	1:A:896:LYS:HE2	1.89	0.40
1:C:553:ARG:HE	1:C:553:ARG:HB3	1.63	0.40
1:D:248:THR:HG21	1:D:268:PHE:HE2	1.86	0.40
1:D:689:HIS:NE2	1:D:725:ASP:OD1	2.54	0.40
1:D:920:LEU:O	1:D:920:LEU:HD23	2.21	0.40
1:C:323:LEU:HG	1:C:358:PHE:HE1	1.85	0.40
1:A:323:LEU:HB3	1:A:324:ALA:H	1.61	0.40
1:B:689:HIS:NE2	1:B:725:ASP:OD1	2.54	0.40
1:B:1331:THR:O	1:B:1331:THR:CG2	2.69	0.40
1:A:653:GLU:O	1:A:656:ALA:HB3	2.21	0.40
1:D:1421:ARG:HA	1:D:1437:THR:O	2.22	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	1343/1494 (90%)	1305 (97%)	38 (3%)	0	100	100
1	B	1343/1494 (90%)	1305 (97%)	38 (3%)	0	100	100
1	C	1343/1494 (90%)	1305 (97%)	38 (3%)	0	100	100
1	D	1343/1494 (90%)	1305 (97%)	38 (3%)	0	100	100
All	All	5372/5976 (90%)	5220 (97%)	152 (3%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	868/1276 (68%)	868 (100%)	0	100	100
1	B	868/1276 (68%)	868 (100%)	0	100	100
1	C	868/1276 (68%)	868 (100%)	0	100	100
1	D	868/1276 (68%)	868 (100%)	0	100	100
All	All	3472/5104 (68%)	3472 (100%)	0	100	100

There are no protein residues with a non-rotameric sidechain to report.

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

Mol	Chain	Res	Type
1	A	296	GLN
1	A	1045	GLN
1	B	296	GLN
1	B	1045	GLN
1	C	296	GLN
1	D	296	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](#)

12 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
2	CLR	D	6001	-	31,31,31	0.31	0	48,48,48	0.43	0
2	CLR	B	1501	-	31,31,31	0.30	0	48,48,48	0.38	0
2	CLR	A	1503	-	31,31,31	0.29	0	48,48,48	0.54	0
2	CLR	C	1503	-	31,31,31	0.29	0	48,48,48	0.54	0
2	CLR	D	6002	-	31,31,31	0.29	0	48,48,48	0.54	0
2	CLR	C	1501	-	31,31,31	0.30	0	48,48,48	0.38	0
2	CLR	B	1502	-	31,31,31	0.31	0	48,48,48	0.43	0
2	CLR	A	1501	-	31,31,31	0.30	0	48,48,48	0.38	0
2	CLR	A	1502	-	31,31,31	0.31	0	48,48,48	0.43	0
2	CLR	D	6003	-	31,31,31	0.30	0	48,48,48	0.38	0
2	CLR	C	1502	-	31,31,31	0.31	0	48,48,48	0.43	0
2	CLR	B	1503	-	31,31,31	0.29	0	48,48,48	0.54	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	CLR	D	6001	-	-	5/10/68/68	0/4/4/4
2	CLR	B	1501	-	-	7/10/68/68	0/4/4/4
2	CLR	A	1503	-	-	5/10/68/68	0/4/4/4
2	CLR	C	1503	-	-	5/10/68/68	0/4/4/4
2	CLR	D	6002	-	-	5/10/68/68	0/4/4/4
2	CLR	C	1501	-	-	7/10/68/68	0/4/4/4
2	CLR	B	1502	-	-	4/10/68/68	0/4/4/4
2	CLR	A	1501	-	-	7/10/68/68	0/4/4/4
2	CLR	A	1502	-	-	5/10/68/68	0/4/4/4
2	CLR	D	6003	-	-	7/10/68/68	0/4/4/4
2	CLR	C	1502	-	-	4/10/68/68	0/4/4/4
2	CLR	B	1503	-	-	5/10/68/68	0/4/4/4

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (66) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	1501	CLR	C13-C17-C20-C22
2	B	1501	CLR	C13-C17-C20-C22
2	C	1501	CLR	C13-C17-C20-C22
2	D	6003	CLR	C13-C17-C20-C22
2	A	1501	CLR	C16-C17-C20-C21
2	B	1501	CLR	C16-C17-C20-C21
2	C	1501	CLR	C16-C17-C20-C21
2	D	6003	CLR	C16-C17-C20-C21
2	A	1501	CLR	C13-C17-C20-C21
2	B	1501	CLR	C13-C17-C20-C21
2	C	1501	CLR	C13-C17-C20-C21
2	D	6003	CLR	C13-C17-C20-C21
2	A	1503	CLR	C21-C20-C22-C23
2	B	1503	CLR	C21-C20-C22-C23
2	C	1503	CLR	C21-C20-C22-C23
2	D	6002	CLR	C21-C20-C22-C23
2	A	1502	CLR	C22-C23-C24-C25
2	B	1502	CLR	C22-C23-C24-C25
2	C	1502	CLR	C22-C23-C24-C25
2	D	6001	CLR	C22-C23-C24-C25

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Mol	Chain	Res	Type	Atoms
2	A	1501	CLR	C16-C17-C20-C22
2	B	1501	CLR	C16-C17-C20-C22
2	C	1501	CLR	C16-C17-C20-C22
2	D	6003	CLR	C16-C17-C20-C22
2	C	1501	CLR	C20-C22-C23-C24
2	A	1501	CLR	C20-C22-C23-C24
2	B	1501	CLR	C20-C22-C23-C24
2	D	6003	CLR	C20-C22-C23-C24
2	A	1501	CLR	C23-C24-C25-C26
2	A	1501	CLR	C23-C24-C25-C27
2	B	1501	CLR	C23-C24-C25-C26
2	B	1501	CLR	C23-C24-C25-C27
2	C	1501	CLR	C23-C24-C25-C26
2	C	1501	CLR	C23-C24-C25-C27
2	D	6003	CLR	C23-C24-C25-C26
2	D	6003	CLR	C23-C24-C25-C27
2	A	1503	CLR	C22-C23-C24-C25
2	B	1503	CLR	C22-C23-C24-C25
2	C	1503	CLR	C22-C23-C24-C25
2	D	6002	CLR	C22-C23-C24-C25
2	A	1502	CLR	C23-C24-C25-C26
2	B	1502	CLR	C23-C24-C25-C26
2	C	1502	CLR	C23-C24-C25-C26
2	D	6001	CLR	C23-C24-C25-C26
2	A	1502	CLR	C23-C24-C25-C27
2	B	1502	CLR	C23-C24-C25-C27
2	C	1502	CLR	C23-C24-C25-C27
2	D	6001	CLR	C23-C24-C25-C27
2	A	1503	CLR	C20-C22-C23-C24
2	B	1503	CLR	C20-C22-C23-C24
2	C	1503	CLR	C20-C22-C23-C24
2	D	6002	CLR	C20-C22-C23-C24
2	A	1503	CLR	C23-C24-C25-C26
2	B	1503	CLR	C23-C24-C25-C26
2	C	1503	CLR	C23-C24-C25-C26
2	D	6002	CLR	C23-C24-C25-C26
2	A	1503	CLR	C23-C24-C25-C27
2	B	1503	CLR	C23-C24-C25-C27
2	C	1503	CLR	C23-C24-C25-C27
2	D	6002	CLR	C23-C24-C25-C27
2	A	1502	CLR	C13-C17-C20-C21
2	B	1502	CLR	C13-C17-C20-C21

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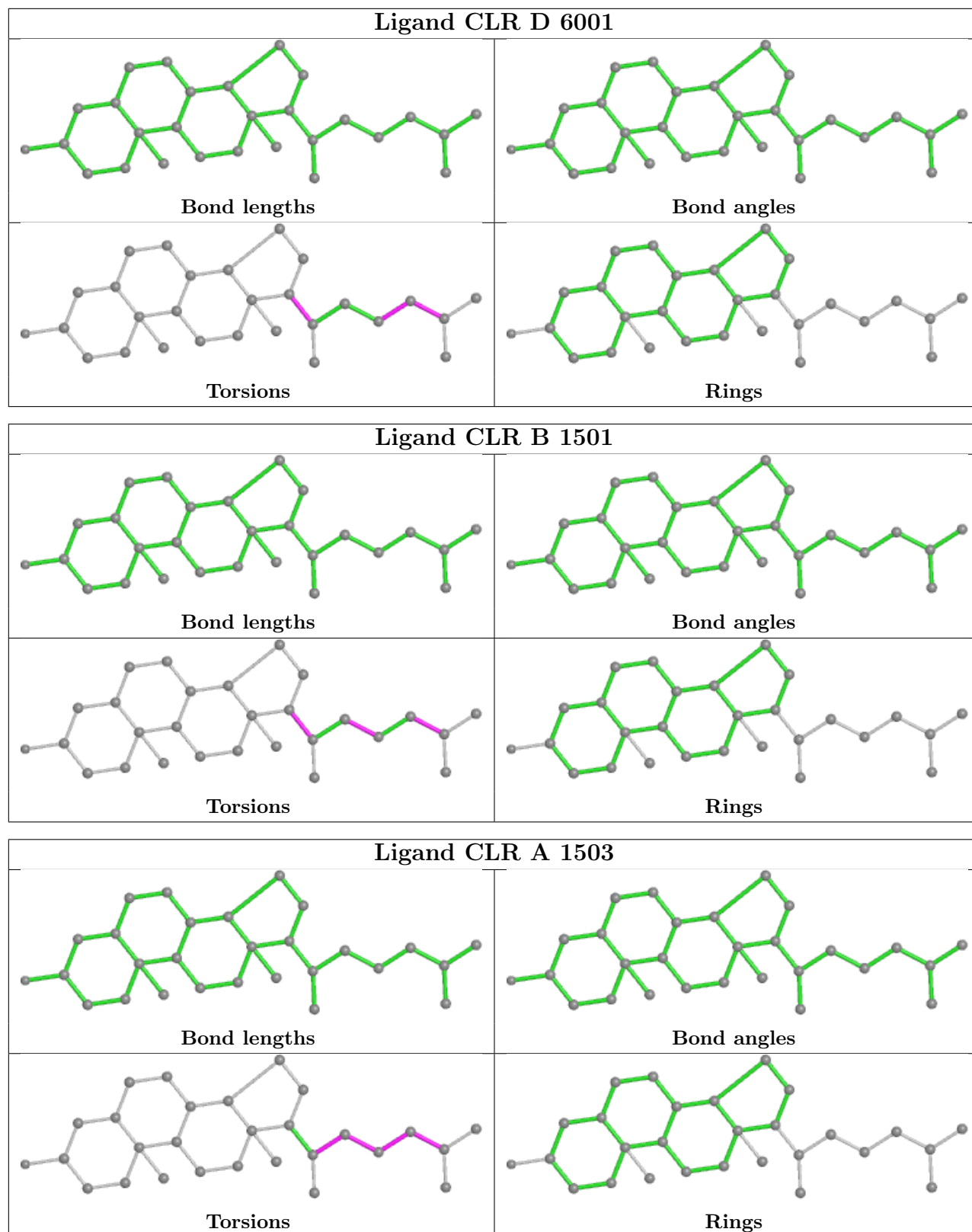
Mol	Chain	Res	Type	Atoms
2	C	1502	CLR	C13-C17-C20-C21
2	D	6001	CLR	C13-C17-C20-C21
2	A	1502	CLR	C13-C17-C20-C22
2	D	6001	CLR	C13-C17-C20-C22

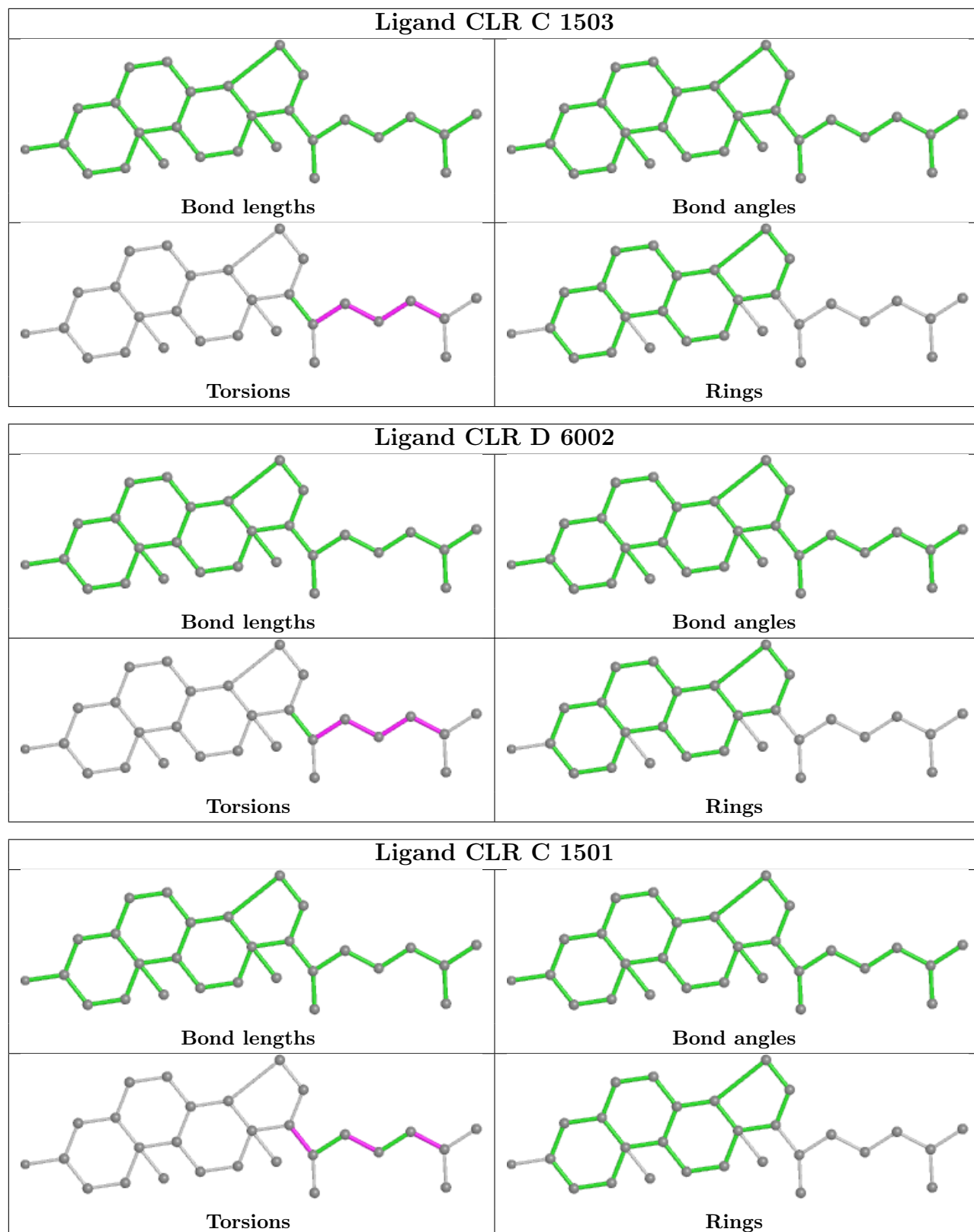
There are no ring outliers.

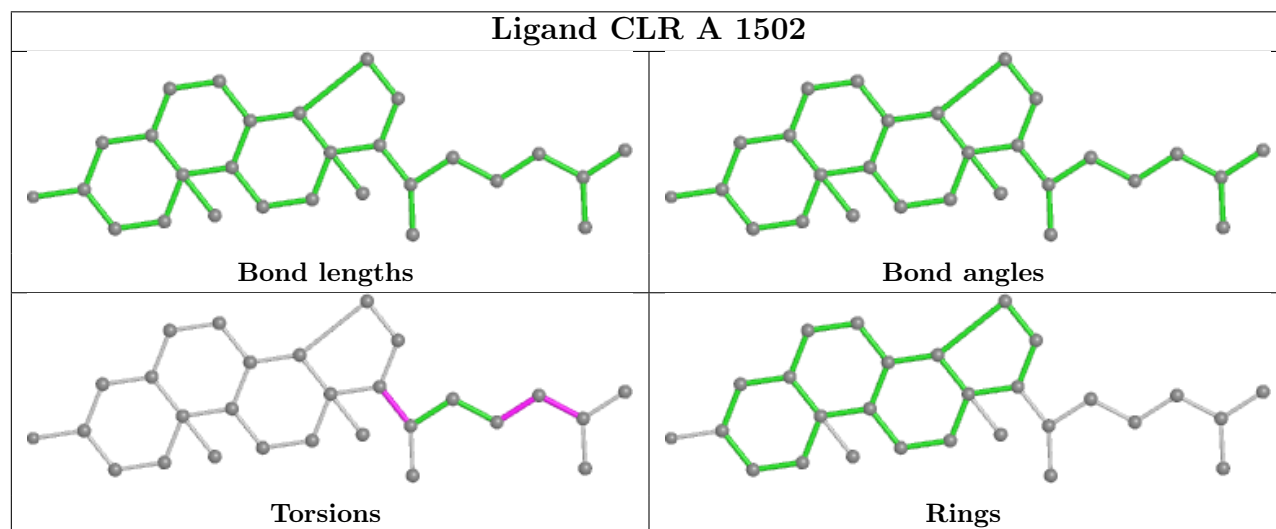
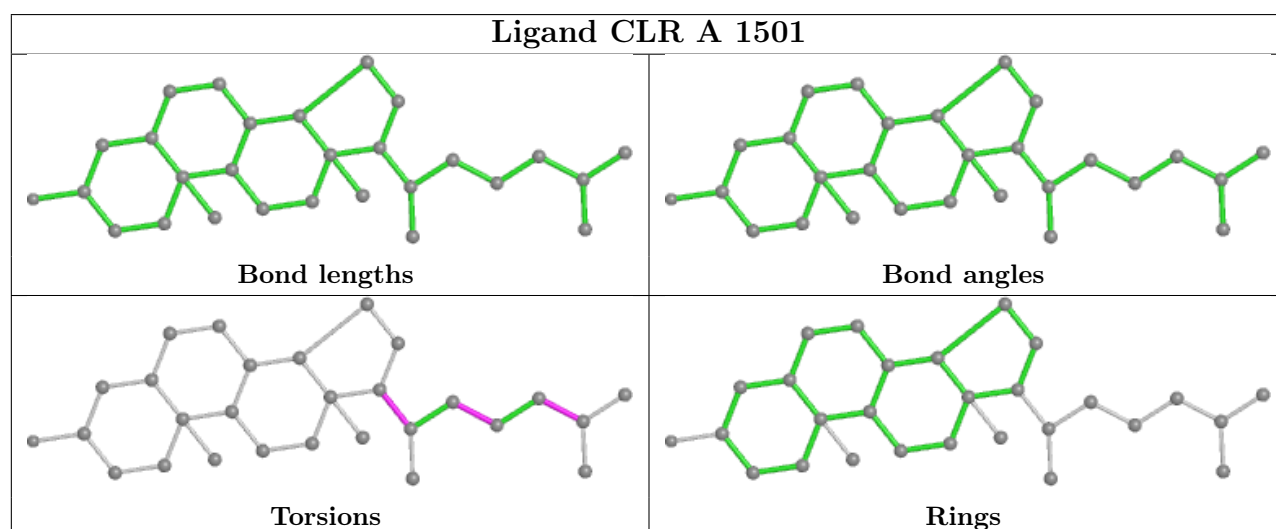
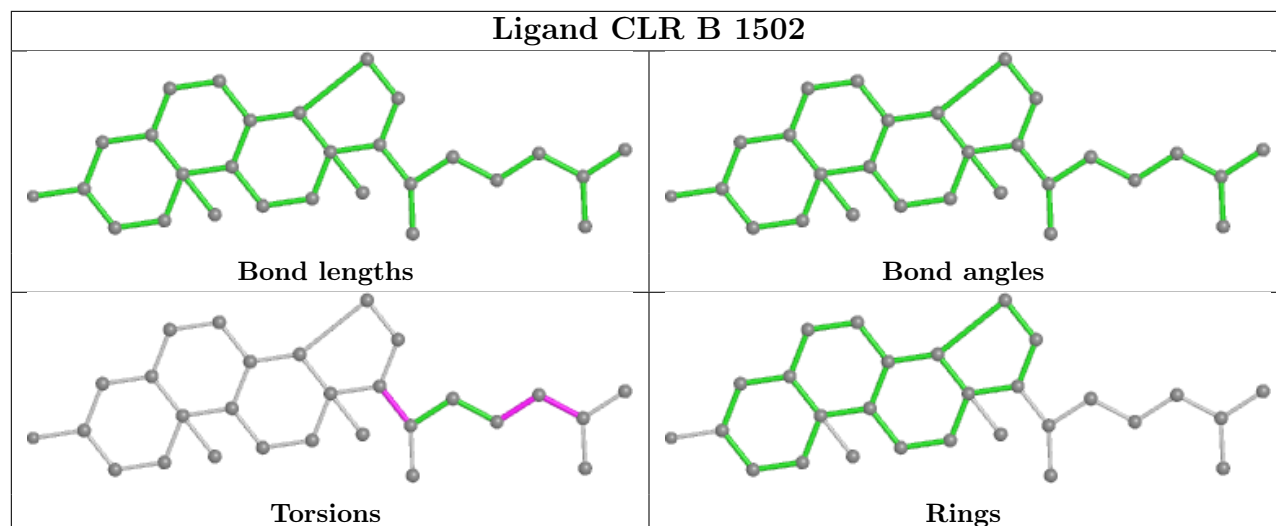
11 monomers are involved in 17 short contacts:

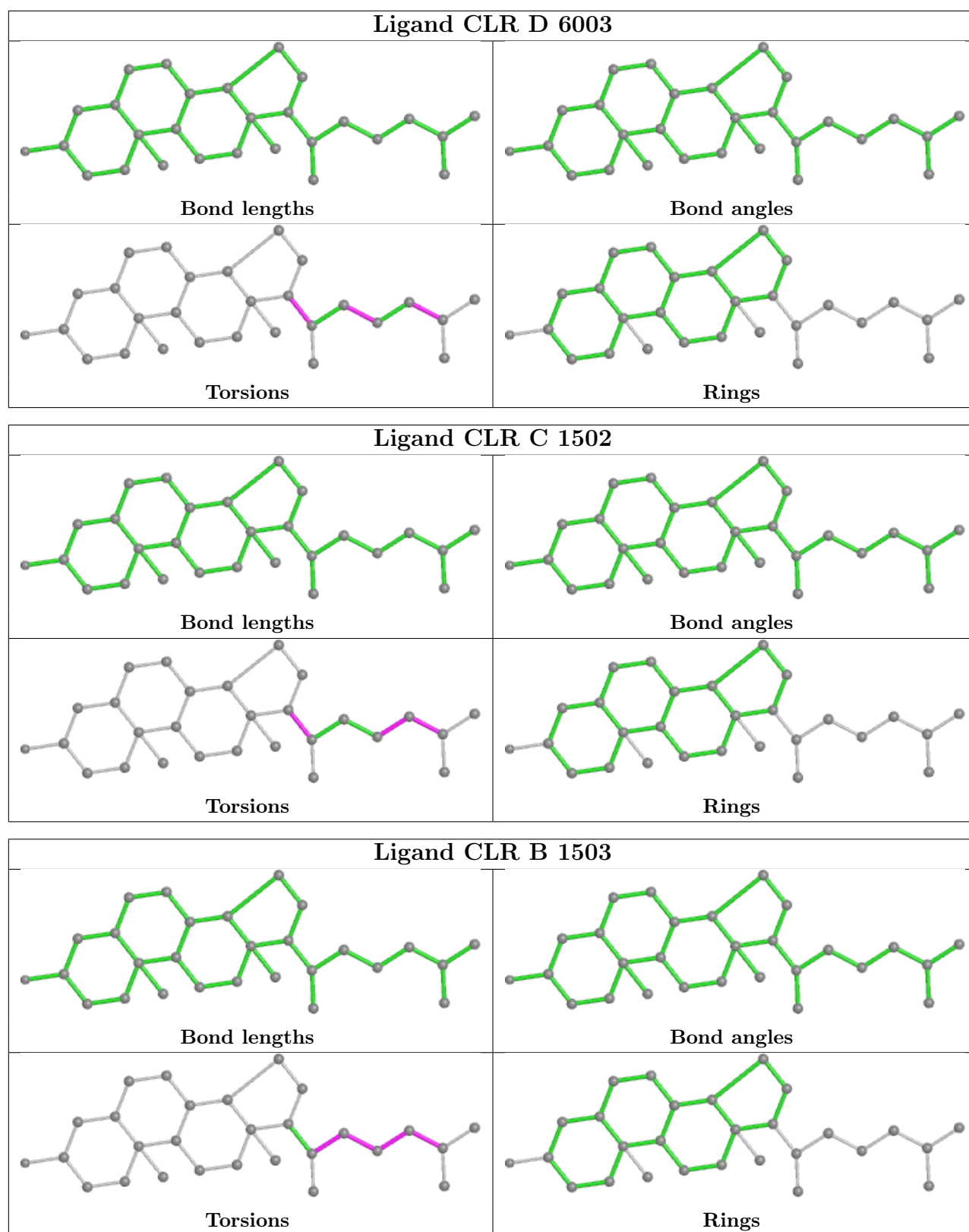
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	D	6001	CLR	1	0
2	B	1501	CLR	2	0
2	A	1503	CLR	2	0
2	C	1503	CLR	1	0
2	D	6002	CLR	2	0
2	C	1501	CLR	1	0
2	A	1501	CLR	2	0
2	A	1502	CLR	1	0
2	D	6003	CLR	2	0
2	C	1502	CLR	1	0
2	B	1503	CLR	2	0

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









5.7 Other polymers [\(i\)](#)

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-40722. These allow visual inspection of the internal detail of the map and identification of artifacts.

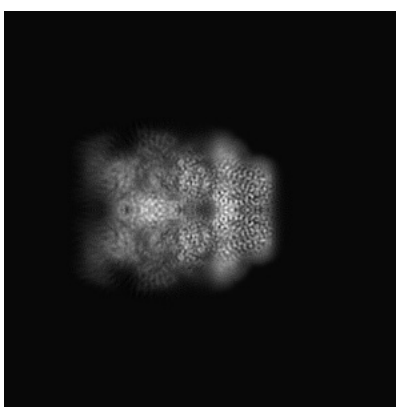
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

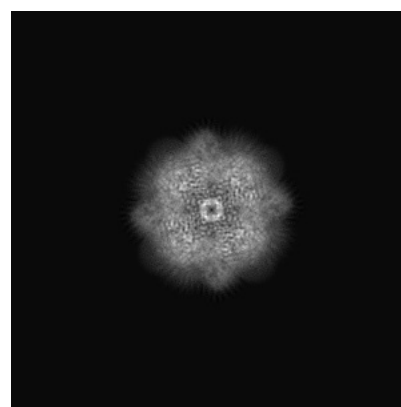
6.1.1 Primary map



X



Y

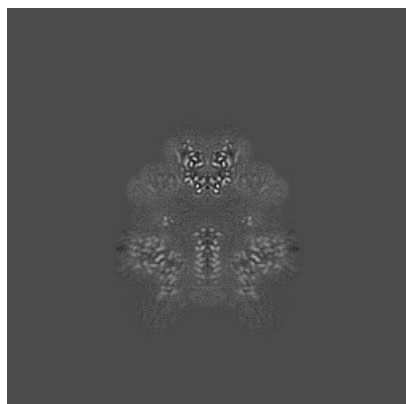


Z

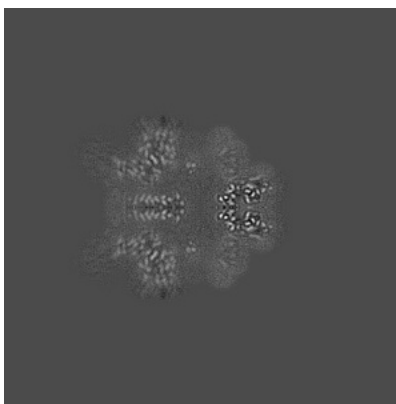
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

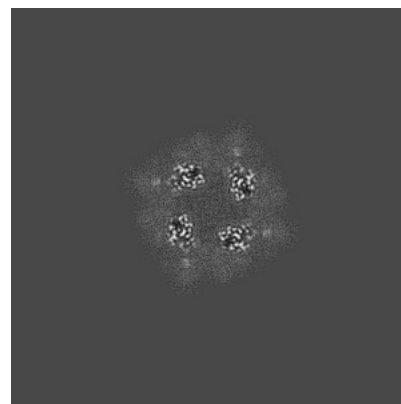
6.2.1 Primary map



X Index: 170



Y Index: 170

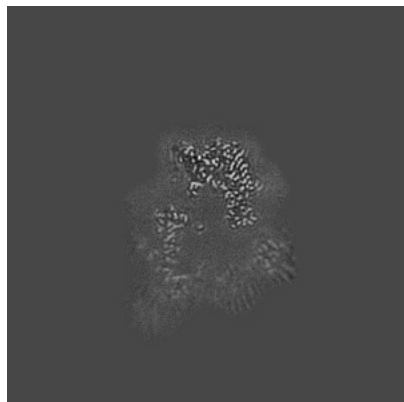


Z Index: 170

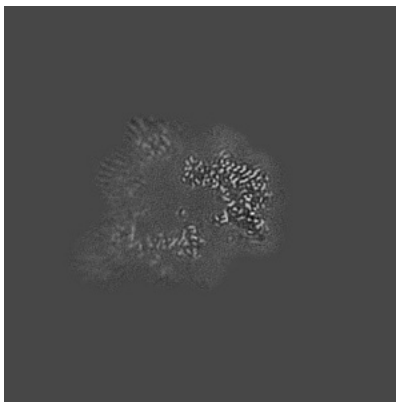
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [\(i\)](#)

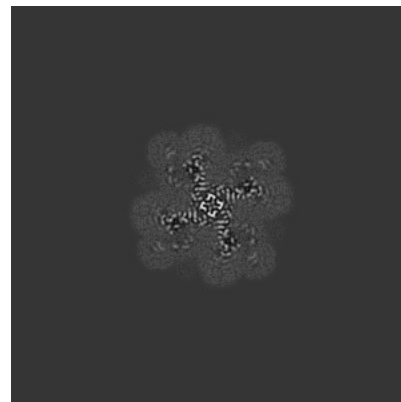
6.3.1 Primary map



X Index: 156



Y Index: 184

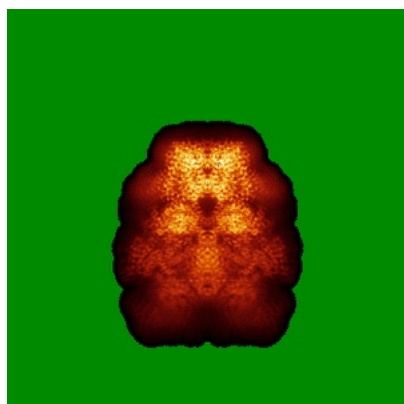


Z Index: 188

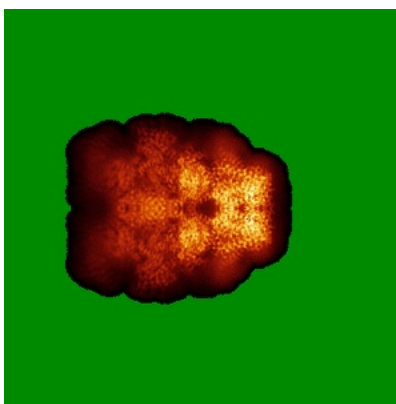
The images above show the largest variance slices of the map in three orthogonal directions.

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

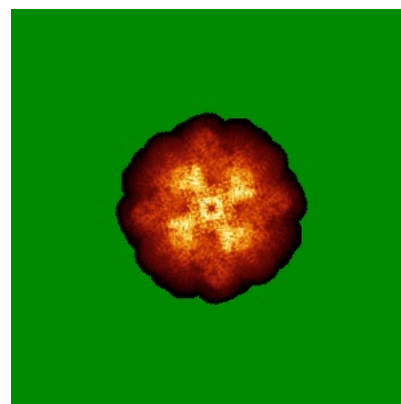
6.4.1 Primary map



X



Y

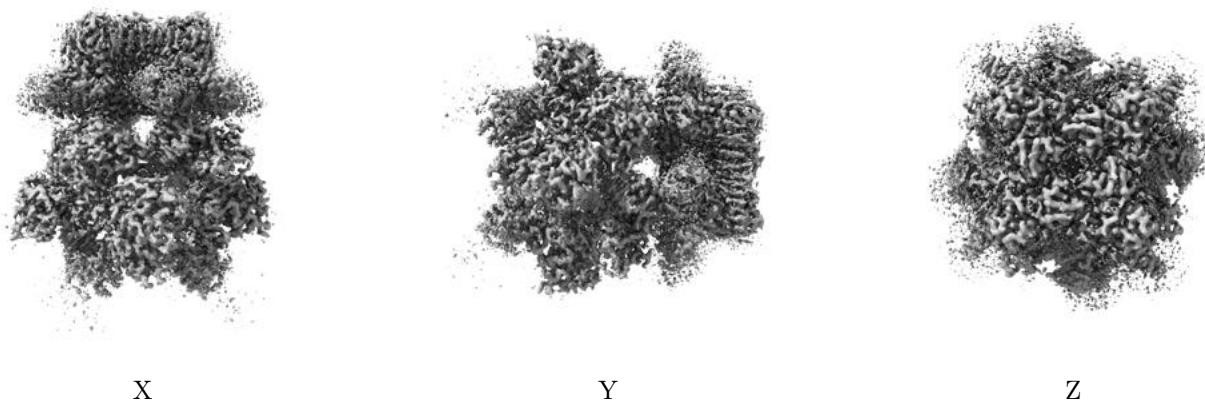


Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 9.0. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

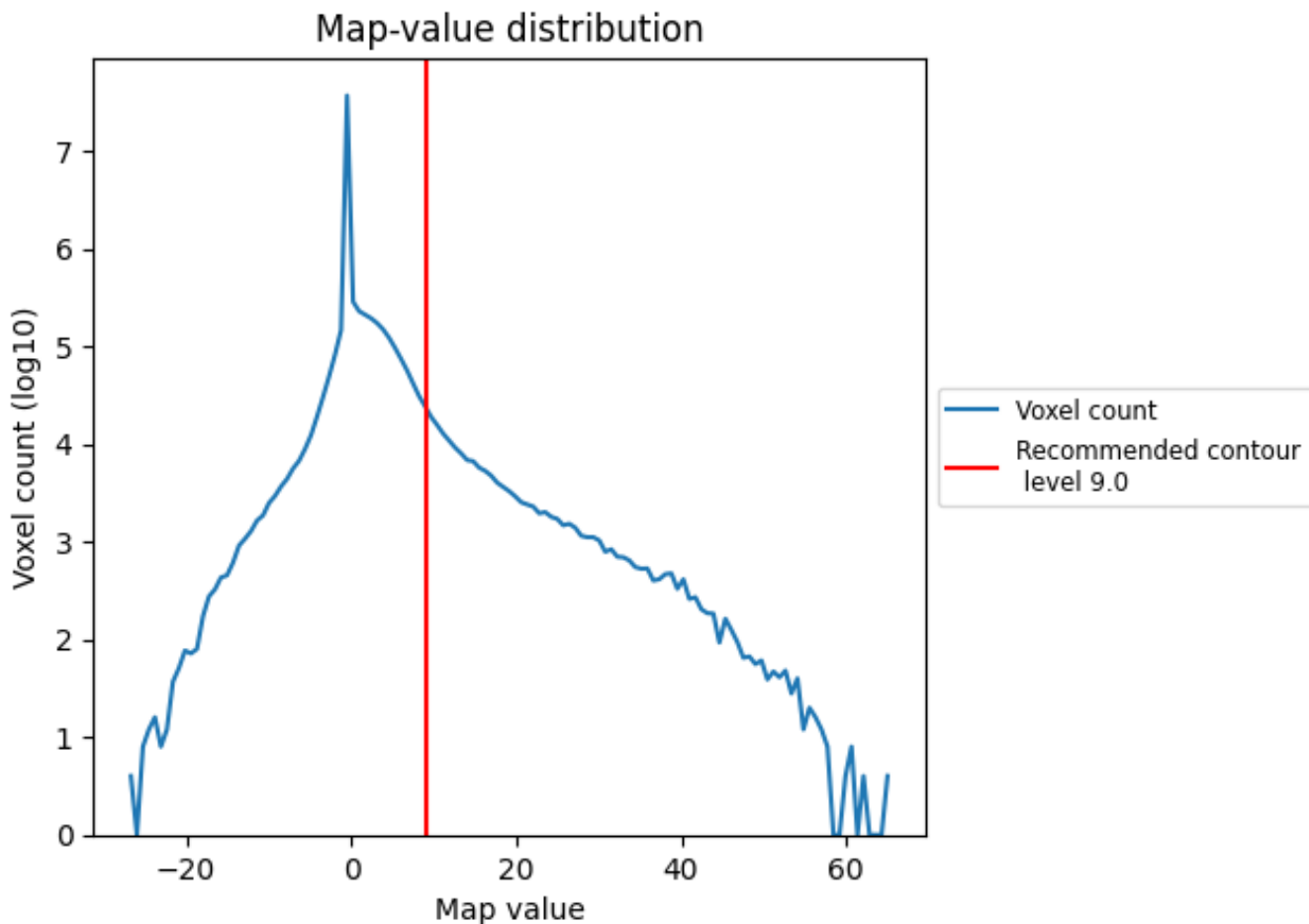
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

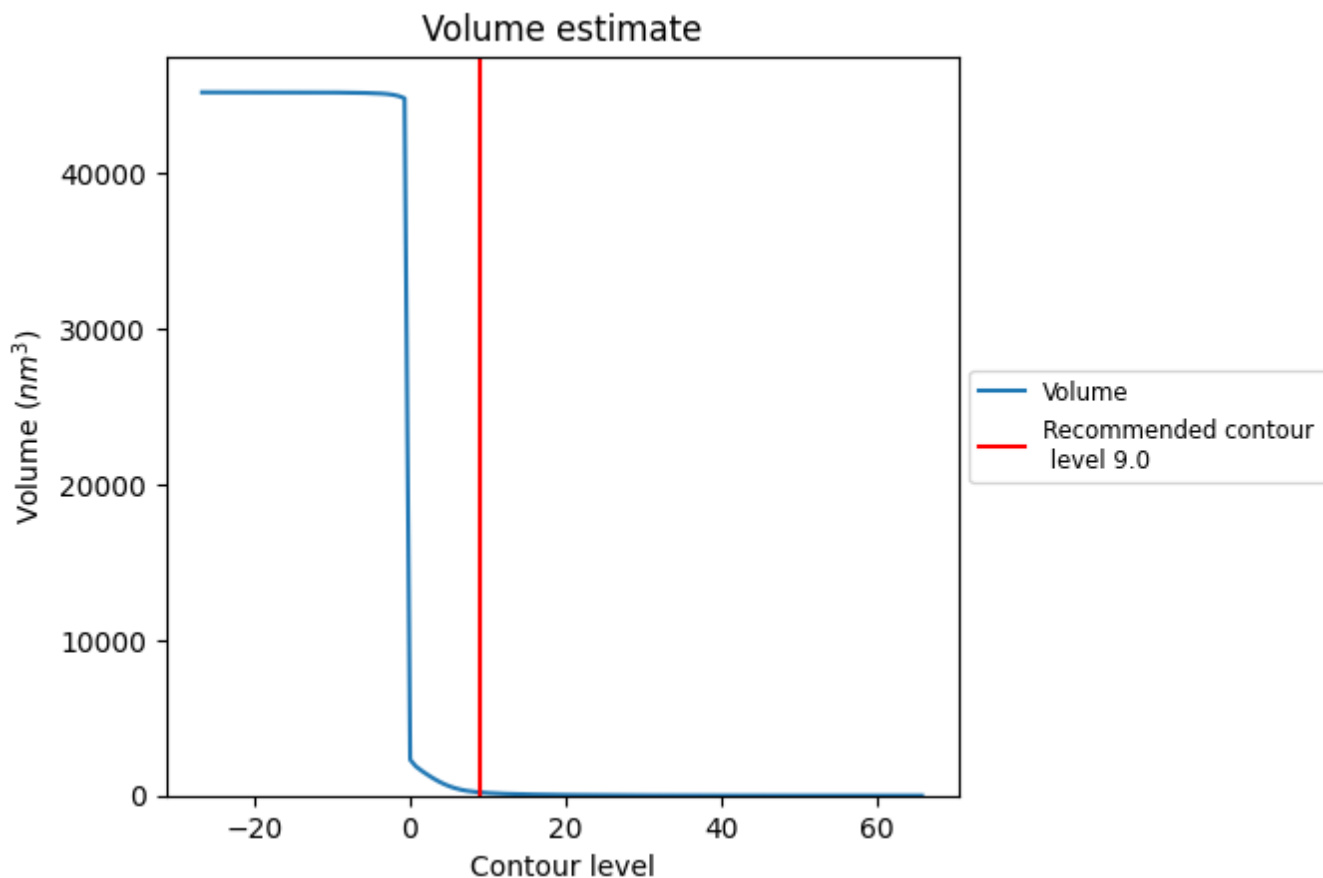
This section contains the results of statistical analysis of the map.

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.

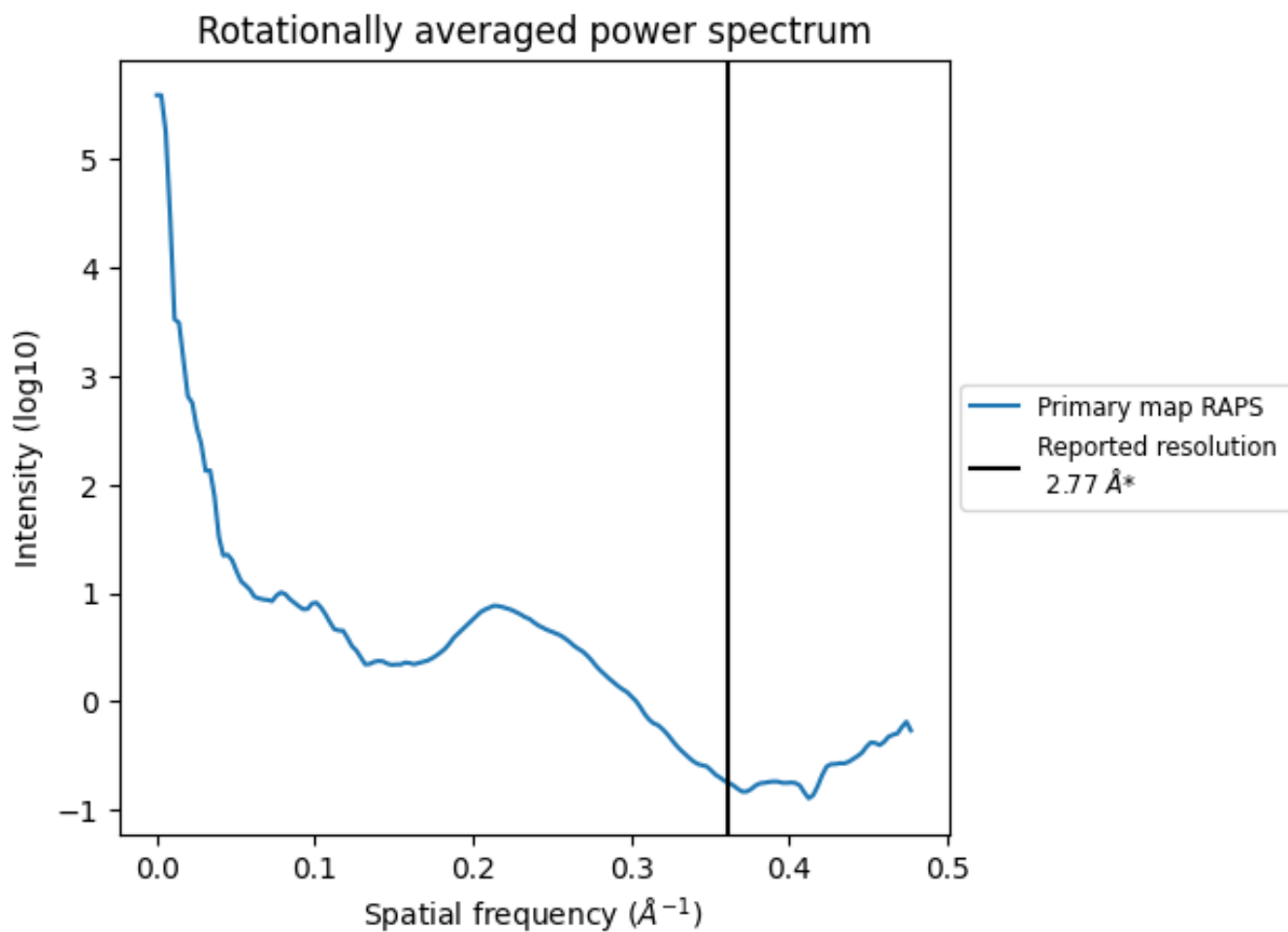
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 203 nm³; this corresponds to an approximate mass of 183 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 0.361 \AA^{-1}

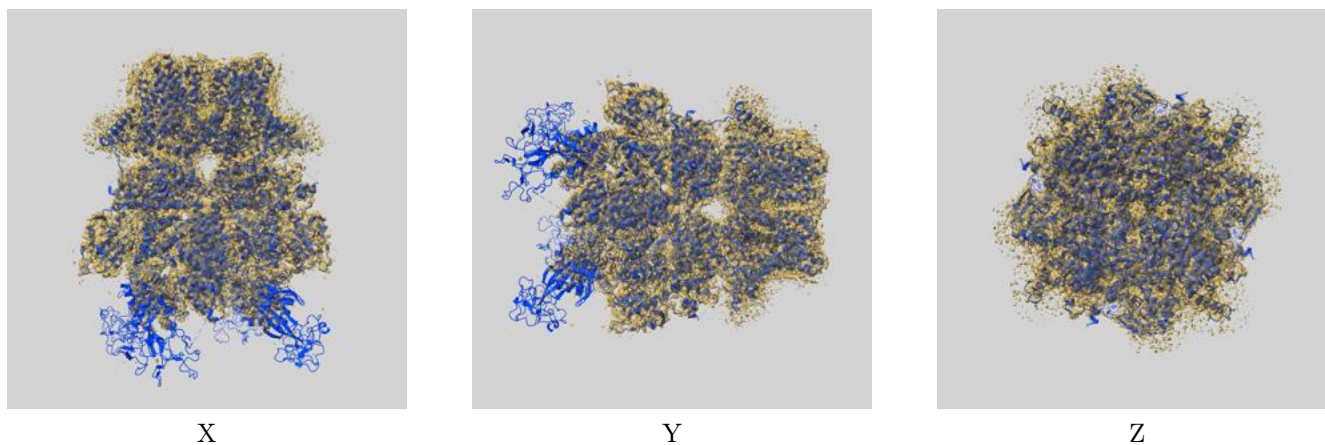
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

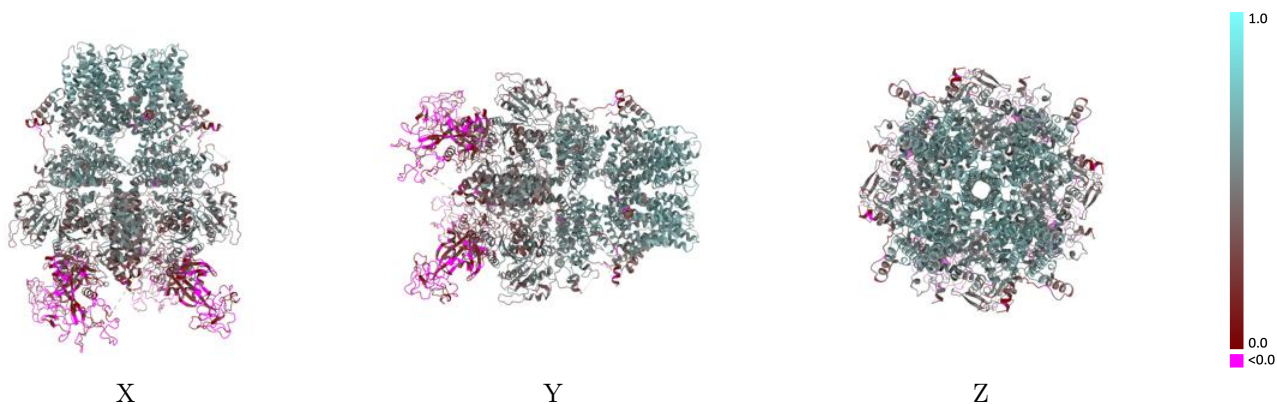
This section contains information regarding the fit between EMDB map EMD-40722 and PDB model 8SR8. Per-residue inclusion information can be found in section 3 on page 5.

9.1 Map-model overlay [i](#)



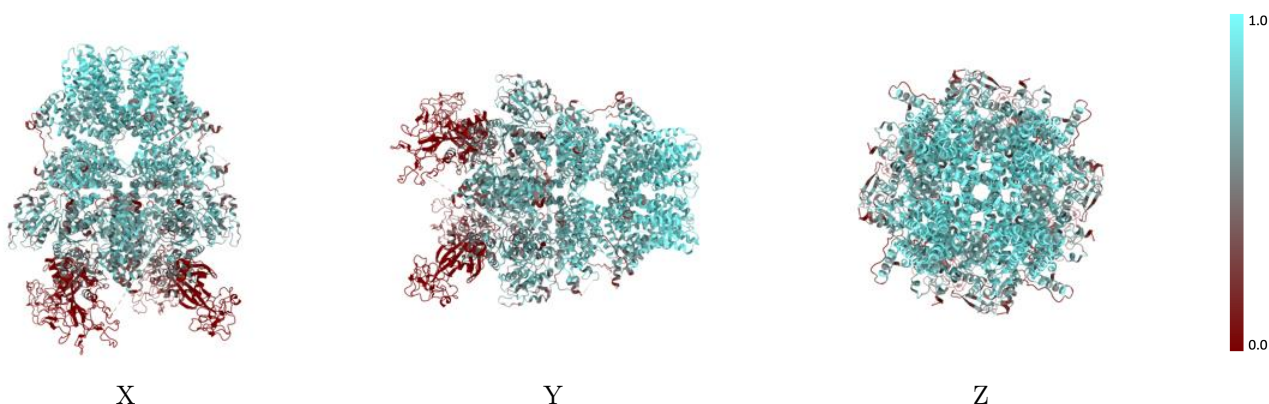
The images above show the 3D surface view of the map at the recommended contour level 9.0 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



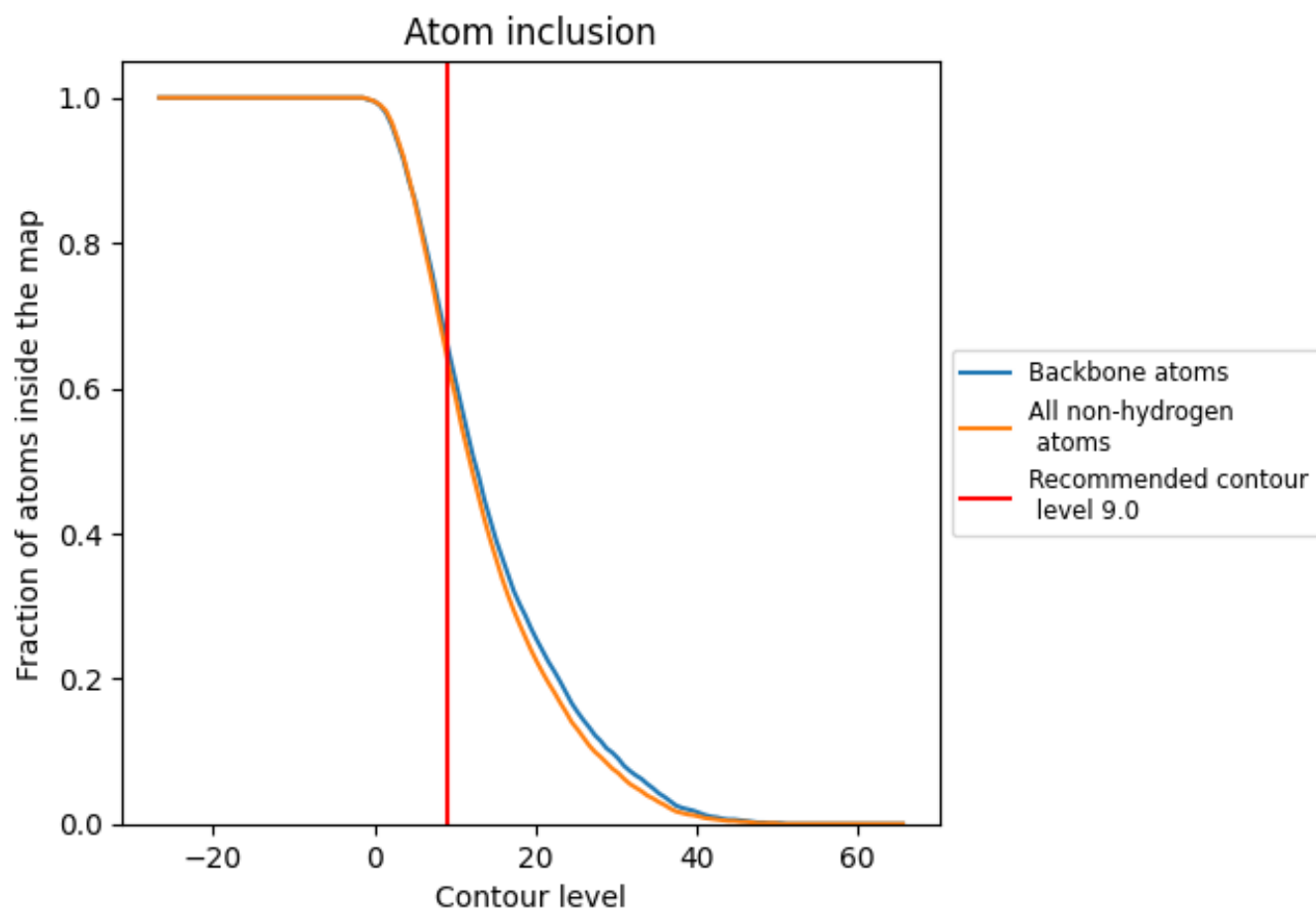
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (9.0).











9.4 Atom inclusion [i](#)



At the recommended contour level, 66% of all backbone atoms, 65% 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 (9.0) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.6460	 0.4490
A	 0.6460	 0.4480
B	 0.6470	 0.4480
C	 0.6440	 0.4490
D	 0.6460	 0.4490

