



Full wwPDB EM Validation Report ⓘ

Dec 20, 2022 – 02:20 PM JST

PDB ID : 7XMG
EMDB ID : EMD-33296
Title : Cryo-EM structure of human NaV1.7/beta1/beta2-TCN-1752
Authors : Jiang, D.H.; Zhang, J.T.
Deposited on : 2022-04-25
Resolution : 3.09 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.dev43
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 : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.31.3

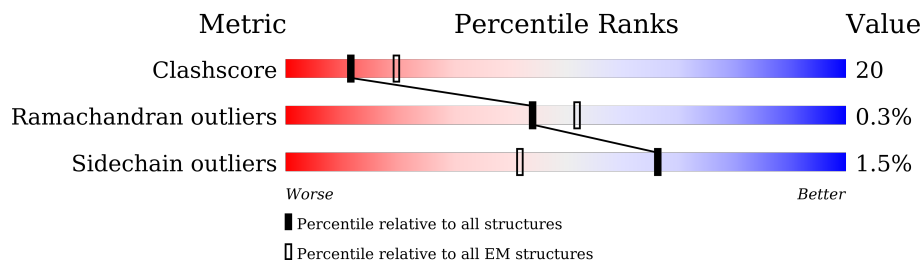
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.09 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	2250	 32% 18% 49%
2	B	481	 22% 13% 64%
3	F	215	 38% 17% 44%
4	D	2	 50% 50%
4	E	2	 50% 50%

2 Entry composition [i](#)

There are 6 unique types of molecules in this entry. The entry contains 11692 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 Isoform 3 of Sodium channel protein type 9 subunit alpha, Green fluorescent protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	1138	9175	6098	1434	1567	76	0	0

There are 13 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1161	ARG	TRP	engineered mutation	UNP Q15858
A	1989	ALA	-	linker	UNP Q15858
A	1990	ALA	-	linker	UNP Q15858
A	1991	ALA	-	linker	UNP Q15858
A	1992	LEU	-	linker	UNP Q15858
A	1993	GLU	-	linker	UNP Q15858
A	1994	VAL	-	linker	UNP Q15858
A	1995	LEU	-	linker	UNP Q15858
A	1996	PHE	-	linker	UNP Q15858
A	1997	GLN	-	linker	UNP Q15858
A	1998	GLY	-	linker	UNP Q15858
A	1999	PRO	-	linker	UNP Q15858
A	2000	SER	-	linker	UNP Q15858

- Molecule 2 is a protein called Sodium channel subunit beta-1, Green fluorescent protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	173	1416	902	232	272	10	0	0

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	219	ALA	-	linker	UNP Q07699
B	220	ALA	-	linker	UNP Q07699
B	221	ALA	-	linker	UNP Q07699

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Chain	Residue	Modelled	Actual	Comment	Reference
B	222	LEU	-	linker	UNP Q07699
B	223	GLU	-	linker	UNP Q07699
B	224	VAL	-	linker	UNP Q07699
B	225	LEU	-	linker	UNP Q07699
B	226	PHE	-	linker	UNP Q07699
B	227	GLN	-	linker	UNP Q07699
B	228	GLY	-	linker	UNP Q07699
B	229	PRO	-	linker	UNP Q07699
B	230	SER	-	linker	UNP Q07699

- Molecule 3 is a protein called Sodium channel subunit beta-2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	F	120	938	582	166	180	10	0	0

- Molecule 4 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



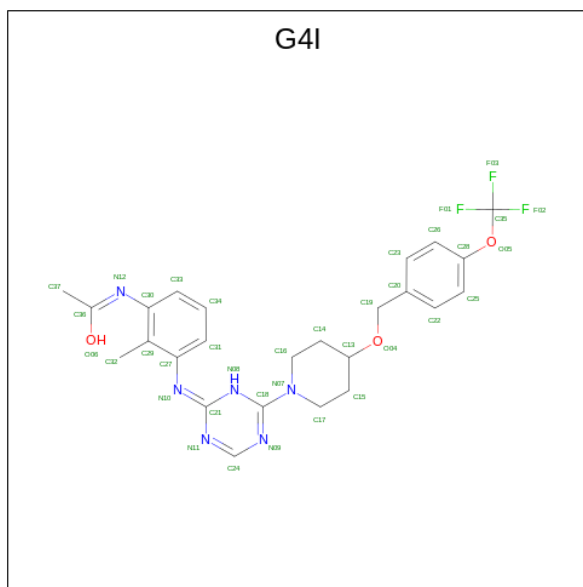
Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
4	D	2	28	16	2	10	0	0
4	E	2	28	16	2	10	0	0

- Molecule 5 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: C₈H₁₅NO₆).



Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
5	A	1	Total	C	N	O	0
			14	8	1	5	
5	B	1	Total	C	N	O	0
			56	32	4	20	
5	B	1	Total	C	N	O	0
			56	32	4	20	
5	B	1	Total	C	N	O	0
			56	32	4	20	
5	B	1	Total	C	N	O	0
			56	32	4	20	

- Molecule 6 is (1 {Z})- {N}-[2-methyl-3-[({E})-[6-[4-[[4-(trifluoromethoxy)phenyl]methoxy]piperidin-1-yl]-1 {H}-1,3,5-triazin-2-ylidene]amino]phenyl]ethanimidic acid (three-letter code: G4I) (formula: C₂₅H₂₇F₃N₆O₃) (labeled as "Ligand of Interest" by depositor).

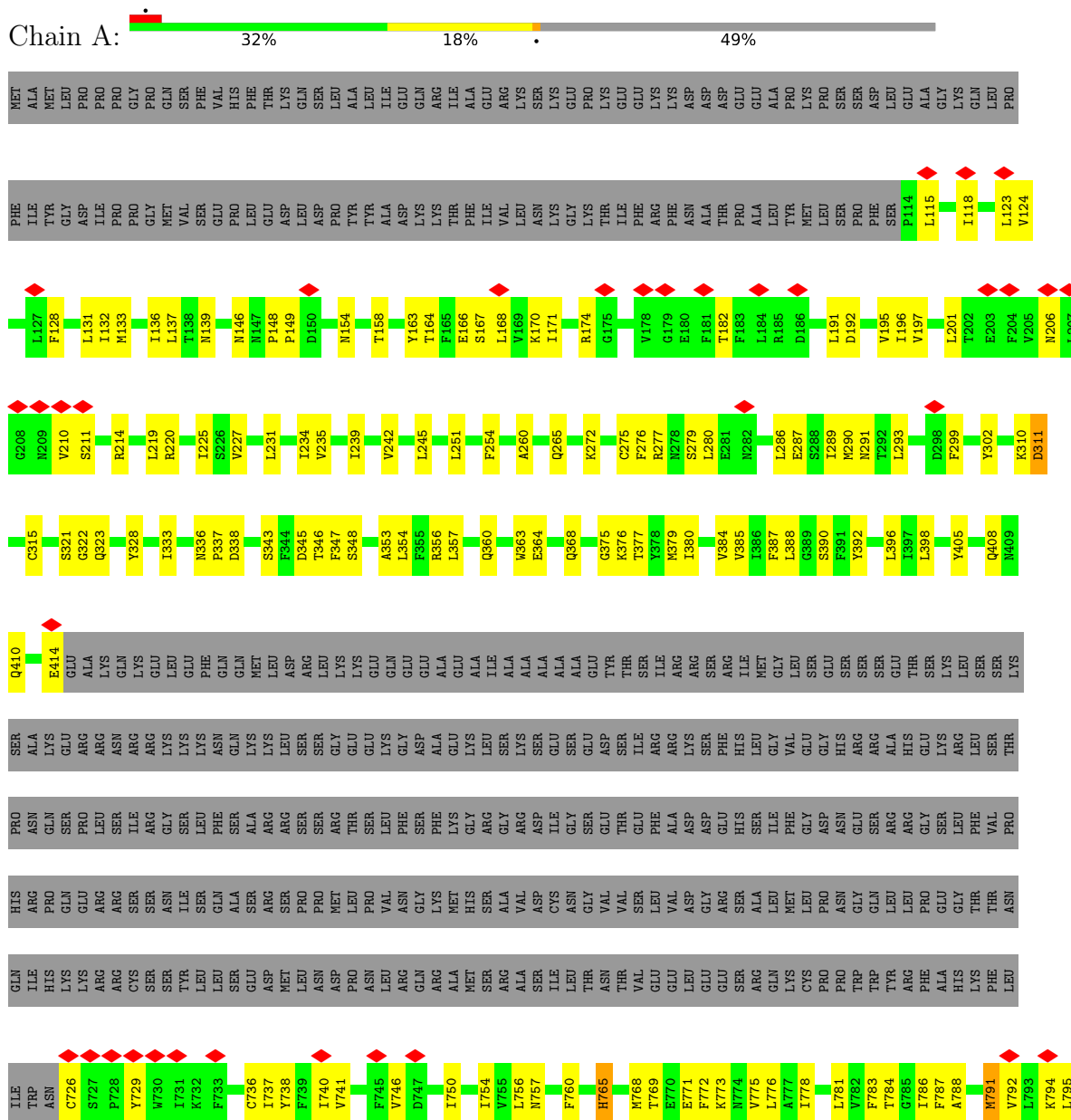


Mol	Chain	Residues	Atoms					AltConf
			Total	C	F	N	O	
6	A	1	37	25	3	6	3	0

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: Isoform 3 of Sodium channel protein type 9 subunit alpha, Green fluorescent protein



		I796	I797	I798	I799	P800	Y801	E802	Y803	F804	Q805	G806	Y807	Y808	N809	I810	F811	D812	S813	L814	L815	V816	V817	L818	V821	E822	L823	F824	L825	ALA	ASP	VAL	GLU	GLY	L831	S832	V833	L834	R835	S836	F837	R838	L839	R841	V842	W849	P850	T851	L852	N853	R854	L855	K856	K857	I858	N861			
		A866	L866	G867	T870	F878	V882	F888	Y892	R893	E894	C895	V896	I899	D902	L905	R909	M910	N911	D912	H915	S916	I919	V920	V923	W928	D934	C935	M936	E937	V938	Q941	V947	Y948	M949	H950	V951	M952	V953	I954	L966	S973	ASP																
		ASN	LEU	THR	ALA	LEU	ILE	GLU	ASN	GLU	ASP	PRO	ALA	ASP	ASN	ASN	LEU	GLN	ILE	ILE	ALA	VAL	THR	THR	ILE	ARG	LEU	GLU	GLU	GLU	GLU	PHE	THR	THR	GLY	LEU	LEU	VAL	LEU	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY								
		GLU	ASN	TYR	ILE	ASN	HIS	THR	THR	LEU	PRO	ALA	GLU	ALA	MET	SER	LEU	GLY	GLN	HIS	ILE	ALA	PHE	LEU	LEU	ASP	THR	THR	VAL	CYS	THR	THR	HIS	HIS	LEU	LEU	LEU	MET	ASN	ASN	GLU	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY							
		GLU	SER	ASP	GLY	GLU	MET	ASN	ASN	ALA	LEU	GLU	GLU	SER	SER	ASP	GLY	VAL	ASN	ILE	GLU	GLU	SER	THR	GLY	ARG	SER	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR					
		PHE	THR	ASP	GLY	CYS	VAL	ARG	ARG	PHE	SER	CYS	GLN	VAL	ASN	ILE	GLU	GLU	GLY	SER	THR	THR	THR	THR	G1176	N1180	T1184	G1186	Y1186	S1205	F1211	E1212	D1213	I1216	E1217	R1218	K1219	I1222	T1232	F1233	T1234	A1247	T1252	N1256	L1273	Y1280	L1283	I1286	L1295										
		R1296	F1297	L1298	L1301	E1305	G1306	M1307	R1308	V1311	S1320	I1321	M1322	N1323	V1324	L1325	L1329	F1330	F1331	W1332	L1333	I1334	F1335	S1336	K1346	F1347	T1353	R1358	F1359	V1364	E1369	L1373	V1376	M1379	V1380	R1381	L1385	K1386	V1387	D1390	Y1396	L1400	Q1401	V1402															
		A1403	T1404	F1406	K1406	G1407	W1408	T1409	I1410	I1411	M1412	V1416	D1417	S1418	V1419	M1420	N1421	V1422	K1426	Y1429	S1430	M1433	Y1434	G1444	F1447	T1448	L1449	I1453	I1457	D1458	N1459	F1460	Q1462	D1471	E1476	K1479	Y1482	K1486	K1491	K1492	Q1494	K1495	P1496	I1497	P1498														
		R1499	P1500	G1501	N1502	K1503	I1504	Q1505	G1506	C1507	I1508	F1509	D1510	L1511	V1512	T1513	A1516	L1524	I1525	E1526	L1527	N1528	M1529	V1530	T1531	M1532	E1537	G1538	M1543	V1546	L1547	Y1548	V1549	I1550	V1551	V1552	F1554	I1555	T1559	G1560	E1561	L1564	I1567	R1570	H1571	Y1572	T1575	V1576	G1577	W1578									
		N1579	I1580	F1581	D1582	V1585	V1586	I1587	I1588	S1589	V1590	V1591	G1592	M1593	F1594	L1595	A1596	D1597	L1598	I1599	E1600	T1601	I1602	F1603	P1606	L1608	F1609	R1610	V1611	I1612	R1613	L1614	A1615	R1616	I1617	G1618	R1619	I1620	L1621	R1622	L1623	V1624	K1625	I1630	R1631	T1632	L1633	F1634	L1635	A1636	M1639	P1642	F1656	I1657					
		Y1658	A1659	F1661	M1665	K1671	E1672	L1673	G1674	I1675	N1676	D1677	M1678	F1679	L1680	F1681	E1682	M1686	I1689	T1694	T1695	I1696	S1697	A1698	G1699	G1702	L1703	P1706	I1707	L1708	M1709	P1712	F1713	D1714	C1715	D1716	F1717	K1718	K1719	P1722	G1728	D1729	C1730	G1731	M1732	V1735	I1736	L1737	F1738										
		LYS	LEU	ASP	ALA	ALA	ALA	LEU	ASP	PRO	PRO	LEU	LEU	ILE	ALA	LYS	THR	VAL	GLN	THR	THR	LEU	ALA	MET	ASP	LEU	LEU	GLN	GLU	GLY	ASP	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR				
		SER	GLN	MET	GLU	ARG	PHE	MET	SER	LYS	VAL	VAL	ASP	ASP	THR	THR	VAL	GLN	GLU	GLY	LEU	LYS	ARG	THR	LYS	GLN	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR		
		ASP	ARG	ASP	ASP	GLU	LEU	ASN	LYS	ASP	PHE	ASP	ASP	ASP	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR
		LYS	ASP	SER	GLY	SER	LEU	GLU	ALA	GLU	VAL	PHE	THR	PHE	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR

LYS
CYS
VAL
ARG
ARG
LYS
LYS
GLU
GLN
LYS
LEU
SER
THR
ASP
ASP
LEU
LYS
THR
GLU
GLU
GLY
LYS
THR
ASP
GLY
GLU
GLY
ASN
PRO
ASP
ASP
GLY
ALA
LYS

- Molecule 4: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain D:  50% 50%

MAG1
MAG2

- Molecule 4: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain E:  50% 50%

MAG1
MAG2

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	158142	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 ($e^-/\text{\AA}^2$)	60.0	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	4.571	Depositor
Minimum map value	-3.007	Depositor
Average map value	0.005	Depositor
Map value standard deviation	0.094	Depositor
Recommended contour level	0.376	Depositor
Map size (Å)	266.24, 266.24, 266.24	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.04, 1.04, 1.04	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: G4I, NAG

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.30	0/9400	0.49	3/12740 (0.0%)
2	B	0.28	0/1442	0.46	0/1949
3	F	0.51	1/957 (0.1%)	0.71	2/1298 (0.2%)
All	All	0.32	1/11799 (0.0%)	0.51	5/15987 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	F	127	CYS	CB-SG	11.06	2.01	1.82

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	F	127	CYS	CA-CB-SG	7.90	128.22	114.00
3	F	85	MET	CB-CA-C	-6.32	97.76	110.40
1	A	866	LEU	CA-CB-CG	-5.71	102.16	115.30
1	A	895	CYS	CA-CB-SG	5.49	123.88	114.00
1	A	1677	ASP	CB-CG-OD2	5.18	122.96	118.30

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	9175	0	9398	339	0
2	B	1416	0	1382	62	0
3	F	938	0	874	64	0
4	D	28	0	25	1	0
4	E	28	0	25	1	0
5	A	14	0	13	0	0
5	B	56	0	52	0	0
6	A	37	0	0	0	0
All	All	11692	0	11769	463	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 20.

All (463) 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:866:LEU:CD1	1:A:966:LEU:HD11	1.56	1.34
1:A:1496:PRO:O	1:A:1497:ILE:HG13	1.29	1.32
3:F:34:VAL:HG13	3:F:50:CYS:SG	1.86	1.16
1:A:139:ASN:HD21	1:A:220:ARG:HD3	1.01	1.10
3:F:34:VAL:CG1	3:F:50:CYS:SG	2.39	1.10
1:A:1593:MET:CE	1:A:1594:PHE:CE1	2.35	1.10
3:F:59:ASN:HB2	3:F:62:GLN:HB2	1.15	1.09
2:B:71:LEU:HD21	2:B:106:ILE:CD1	1.85	1.07
1:A:1486:LYS:HB2	1:A:1639:MET:HE2	1.33	1.06
1:A:866:LEU:HD13	1:A:966:LEU:HD11	1.16	1.06
1:A:1593:MET:CE	1:A:1594:PHE:HE1	1.68	1.06
3:F:63:PHE:HE2	3:F:105:PRO:HB3	1.21	1.05
1:A:1593:MET:HE1	1:A:1594:PHE:HE1	1.05	1.05
3:F:101:PHE:CE2	3:F:103:GLY:O	2.11	1.03
1:A:1471:ASP:OD1	1:A:1479:LYS:HE3	1.58	1.02
2:B:71:LEU:HD21	2:B:106:ILE:HD11	1.39	1.00
1:A:866:LEU:HD13	1:A:966:LEU:CD1	1.91	0.99
2:B:71:LEU:HD11	2:B:106:ILE:HD12	1.43	0.98
1:A:1593:MET:HE1	1:A:1594:PHE:CE1	1.94	0.98
3:F:62:GLN:O	3:F:132:PRO:CD	2.11	0.98
1:A:354:LEU:HD23	1:A:357:LEU:HD12	1.46	0.97
1:A:260:ALA:HA	1:A:354:LEU:HD12	1.47	0.94
1:A:1671:LYS:NZ	1:A:1680:ASN:HD22	1.64	0.94
2:B:21:CYS:SG	2:B:43:CYS:CB	2.58	0.92
3:F:34:VAL:CG1	3:F:50:CYS:CB	2.48	0.92
2:B:21:CYS:SG	2:B:43:CYS:HB2	2.09	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:139:ASN:ND2	1:A:220:ARG:HD3	1.83	0.91
3:F:63:PHE:HE1	3:F:129:ILE:HG23	1.33	0.91
3:F:62:GLN:O	3:F:132:PRO:HD3	1.71	0.90
1:A:866:LEU:HD12	1:A:966:LEU:HD11	1.52	0.89
3:F:59:ASN:CB	3:F:62:GLN:HB2	2.03	0.89
1:A:398:LEU:HD23	1:A:1755:TYR:HE1	1.35	0.88
1:A:1715:CYS:HG	1:A:1730:CYS:HG	0.90	0.87
1:A:1593:MET:HE3	1:A:1594:PHE:CE1	2.07	0.86
3:F:66:ASN:HD21	3:F:79:MET:HE1	1.38	0.86
3:F:66:ASN:ND2	3:F:79:MET:CE	2.40	0.85
3:F:63:PHE:CE2	3:F:105:PRO:HB3	2.10	0.85
3:F:69:TYR:HE2	3:F:94:ARG:NH1	1.75	0.85
1:A:1671:LYS:HZ2	1:A:1680:ASN:HD22	1.24	0.85
1:A:1496:PRO:O	1:A:1497:ILE:CG1	2.22	0.84
3:F:59:ASN:HB2	3:F:62:GLN:CB	2.03	0.84
1:A:254:PHE:CE1	1:A:1623:LEU:HD23	2.12	0.84
1:A:398:LEU:HD23	1:A:1755:TYR:CE1	2.13	0.84
2:B:112:THR:HG22	2:B:113:TYR:H	1.43	0.83
1:A:275:CYS:SG	1:A:315:CYS:HB3	2.18	0.83
2:B:71:LEU:CD2	2:B:106:ILE:HD11	2.09	0.82
1:A:1617:ILE:HG23	1:A:1620:ILE:HD11	1.61	0.82
3:F:34:VAL:HG12	3:F:50:CYS:CB	2.09	0.82
1:A:866:LEU:CD1	1:A:966:LEU:CD1	2.50	0.82
1:A:251:LEU:HD13	1:A:1630:ILE:HB	1.63	0.81
1:A:1486:LYS:CB	1:A:1639:MET:HE2	2.10	0.81
1:A:388:LEU:O	1:A:392:TYR:HB3	1.79	0.80
3:F:34:VAL:HG12	3:F:50:CYS:HA	1.62	0.80
1:A:1457:ILE:HD11	1:A:1755:TYR:HE2	1.47	0.80
3:F:34:VAL:HG12	3:F:50:CYS:CA	2.11	0.80
2:B:71:LEU:HB3	2:B:80:LEU:CD2	2.12	0.80
1:A:289:ILE:HG13	1:A:293:LEU:HD23	1.64	0.80
3:F:47:ARG:O	3:F:49:PRO:HD3	1.81	0.79
3:F:66:ASN:HD21	3:F:79:MET:CE	1.95	0.79
1:A:364:GLU:OE1	1:A:1699:GLY:CA	2.31	0.79
2:B:112:THR:HG22	2:B:113:TYR:N	1.97	0.79
1:A:765:HIS:O	1:A:768:MET:SD	2.41	0.78
1:A:1444:GLY:O	1:A:1448:THR:OG1	2.02	0.78
1:A:1486:LYS:HD3	1:A:1639:MET:CE	2.14	0.78
3:F:110:VAL:HG21	3:F:129:ILE:HD11	1.65	0.77
1:A:260:ALA:HA	1:A:354:LEU:CD1	2.14	0.77
2:B:71:LEU:HB3	2:B:80:LEU:HD22	1.66	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:377:THR:HG22	1:A:377:THR:O	1.84	0.76
3:F:62:GLN:O	3:F:132:PRO:HD2	1.85	0.76
1:A:1675:ILE:HD12	1:A:1706:PRO:HG2	1.68	0.76
1:A:1709:ASN:HB2	1:A:1714:ASP:HB3	1.67	0.76
1:A:354:LEU:CD2	1:A:357:LEU:HD12	2.15	0.76
1:A:1482:TYR:HE1	1:A:1639:MET:HG2	1.51	0.75
3:F:69:TYR:CE2	3:F:94:ARG:NH1	2.53	0.75
1:A:364:GLU:OE1	1:A:1699:GLY:HA3	1.85	0.75
1:A:260:ALA:CA	1:A:354:LEU:HD12	2.16	0.75
2:B:121:CYS:HB3	2:B:140:LYS:HB2	1.69	0.75
3:F:58:VAL:HG13	3:F:63:PHE:HB2	1.69	0.74
3:F:101:PHE:HE2	3:F:103:GLY:O	1.70	0.74
3:F:103:GLY:O	3:F:105:PRO:HD3	1.87	0.74
1:A:1426:LYS:HB2	1:A:1429:TYR:HB2	1.68	0.74
1:A:398:LEU:CD2	1:A:1755:TYR:HE1	2.01	0.74
1:A:321:SER:HB3	1:A:375:GLY:HA2	1.69	0.73
1:A:1680:ASN:O	1:A:1686:ASN:HB3	1.89	0.72
3:F:71:GLU:HG3	3:F:94:ARG:HH12	1.53	0.72
1:A:1486:LYS:HB2	1:A:1639:MET:CE	2.16	0.72
1:A:1675:ILE:HD12	1:A:1706:PRO:CG	2.19	0.72
1:A:765:HIS:ND1	1:A:768:MET:HG2	2.04	0.72
1:A:210:VAL:O	1:A:214:ARG:HG3	1.89	0.72
3:F:59:ASN:HD22	3:F:62:GLN:HG3	1.55	0.72
3:F:66:ASN:ND2	3:F:79:MET:HE1	2.04	0.72
1:A:892:TYR:O	1:A:896:VAL:HG13	1.91	0.71
2:B:44:LYS:NZ	2:B:100:ASP:OD2	2.21	0.71
1:A:1561:GLU:HA	1:A:1564:LEU:HD23	1.73	0.71
2:B:71:LEU:CB	2:B:80:LEU:CD2	2.68	0.71
1:A:765:HIS:O	1:A:768:MET:HG3	1.91	0.70
1:A:1482:TYR:CE1	1:A:1639:MET:CG	2.73	0.70
1:A:1636:ALA:HB2	1:A:1765:VAL:HG11	1.72	0.70
1:A:1715:CYS:SG	1:A:1730:CYS:HB3	2.31	0.70
1:A:1486:LYS:HD3	1:A:1639:MET:HE2	1.74	0.70
1:A:1732:ASN:HB3	1:A:1735:VAL:HG12	1.73	0.70
1:A:1232:ILE:HD11	2:B:163:MET:HA	1.75	0.69
3:F:66:ASN:ND2	3:F:79:MET:HE2	2.07	0.69
2:B:71:LEU:CD2	2:B:106:ILE:CD1	2.68	0.69
3:F:71:GLU:CG	3:F:94:ARG:HH12	2.06	0.69
1:A:1706:PRO:HA	1:A:1709:ASN:HD21	1.57	0.69
3:F:34:VAL:CG1	3:F:50:CYS:HB2	2.21	0.68
2:B:71:LEU:CB	2:B:80:LEU:HD23	2.24	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1453:ILE:O	1:A:1457:ILE:HG13	1.96	0.66
1:A:1492:LYS:HZ1	1:A:1494:GLN:HG2	1.60	0.66
1:A:168:LEU:HA	1:A:171:ILE:HG22	1.76	0.66
1:A:738:TYR:HE2	1:A:798:MET:HB3	1.59	0.66
1:A:1715:CYS:SG	1:A:1730:CYS:CB	2.84	0.65
1:A:360:GLN:NE2	1:A:390:SER:OG	2.23	0.65
1:A:842:VAL:HB	1:A:1334:ILE:HD11	1.77	0.65
1:A:1673:ASP:OD1	1:A:1702:GLY:CA	2.45	0.65
1:A:853:ASN:O	1:A:856:ILE:HG22	1.97	0.64
1:A:1482:TYR:CE1	1:A:1639:MET:HG2	2.31	0.64
1:A:769:THR:HG22	1:A:771:GLU:H	1.62	0.64
1:A:1767:THR:HG23	1:A:1768:GLU:HG2	1.80	0.64
3:F:34:VAL:HG11	3:F:50:CYS:SG	2.33	0.64
1:A:225:ILE:HD13	1:A:231:LEU:HD23	1.79	0.64
1:A:1738:PHE:O	1:A:1742:SER:OG	2.10	0.64
2:B:71:LEU:HB2	2:B:80:LEU:HD23	1.80	0.63
1:A:1460:PHE:HD2	1:A:1756:ILE:HG13	1.64	0.63
2:B:35:THR:HG22	2:B:109:THR:HA	1.80	0.63
1:A:1402:VAL:HA	1:A:1408:TRP:HB3	1.81	0.63
2:B:78:LEU:HD22	2:B:92:TRP:HB2	1.79	0.63
2:B:46:ARG:NE	2:B:48:GLU:OE2	2.25	0.63
1:A:376:LYS:HG3	1:A:1678:MET:HE2	1.81	0.62
1:A:765:HIS:O	1:A:768:MET:CG	2.47	0.62
1:A:286:LEU:HD11	1:A:333:ILE:HG21	1.81	0.62
1:A:1719:LYS:H	1:A:1728:GLY:H	1.48	0.62
2:B:113:TYR:HA	2:B:146:VAL:HG21	1.81	0.62
1:A:1502:ASN:HD21	1:A:1504:ILE:HG12	1.64	0.62
1:A:894:GLU:O	1:A:895:CYS:SG	2.58	0.62
1:A:1283:LEU:H	1:A:1286:ILE:HD11	1.65	0.62
1:A:1671:LYS:NZ	1:A:1680:ASN:ND2	2.44	0.62
1:A:293:LEU:CD1	1:A:299:PHE:CD1	2.83	0.62
3:F:103:GLY:HA3	3:F:109:ASP:OD1	1.99	0.62
1:A:1528:ASN:ND2	1:A:1619:ARG:HE	1.98	0.61
2:B:71:LEU:CD1	2:B:106:ILE:HD12	2.23	0.61
1:A:1661:PHE:O	1:A:1665:ASN:ND2	2.33	0.61
2:B:112:THR:CG2	2:B:113:TYR:H	2.11	0.61
1:A:1576:VAL:HB	1:A:1579:ASN:HD22	1.63	0.61
2:B:89:ARG:NH1	2:B:112:THR:OG1	2.33	0.61
1:A:757:ASN:HD22	1:A:783:PHE:HD2	1.48	0.61
1:A:1754:MET:O	1:A:1758:VAL:HG23	2.00	0.61
3:F:105:PRO:HA	3:F:109:ASP:O	2.01	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:379:MET:HG3	1:A:1689:ILE:HG22	1.82	0.61
1:A:287:GLU:O	1:A:291:ASN:ND2	2.34	0.60
1:A:1673:ASP:OD1	1:A:1702:GLY:HA3	2.02	0.60
1:A:1471:ASP:OD1	1:A:1479:LYS:CE	2.42	0.60
1:A:174:ARG:HB3	1:A:182:THR:HG23	1.84	0.60
1:A:794:LYS:O	1:A:798:MET:HG3	2.02	0.60
3:F:62:GLN:C	3:F:132:PRO:HD2	2.21	0.60
1:A:853:ASN:HA	1:A:856:ILE:HG22	1.84	0.60
1:A:1449:LEU:O	1:A:1453:ILE:HG12	2.01	0.60
1:A:272:LYS:NZ	1:A:1537:GLU:OE1	2.28	0.60
1:A:750:ILE:O	1:A:754:ILE:HG13	2.02	0.60
1:A:1364:VAL:HA	1:A:1369:GLU:HB3	1.84	0.60
1:A:1763:PHE:O	1:A:1767:THR:HG22	2.02	0.59
1:A:736:CYS:O	1:A:740:ILE:HG13	2.02	0.59
2:B:188:ALA:O	2:B:191:THR:OG1	2.20	0.59
3:F:59:ASN:O	3:F:63:PHE:N	2.30	0.59
1:A:357:LEU:HD23	1:A:363:TRP:HB2	1.85	0.59
1:A:1547:LEU:O	1:A:1551:ASN:ND2	2.36	0.58
1:A:1588:ILE:HG12	1:A:1615:ALA:HB1	1.85	0.58
1:A:1496:PRO:C	1:A:1497:ILE:HG13	2.16	0.58
2:B:154:MET:HA	2:B:157:ILE:HG22	1.84	0.58
1:A:396:LEU:HD21	1:A:1633:LEU:HD13	1.85	0.58
1:A:1421:VAL:HG23	1:A:1422:ASP:H	1.68	0.58
3:F:101:PHE:CZ	3:F:103:GLY:O	2.56	0.58
1:A:1421:VAL:HG23	1:A:1422:ASP:N	2.19	0.58
1:A:765:HIS:CE1	1:A:768:MET:HG2	2.39	0.57
1:A:1673:ASP:OD1	1:A:1702:GLY:HA2	2.05	0.57
1:A:1332:TRP:O	1:A:1336:SER:OG	2.14	0.57
1:A:1205:SER:O	1:A:1296:ARG:NH2	2.33	0.57
1:A:377:THR:O	1:A:377:THR:CG2	2.53	0.57
1:A:1387:VAL:HG21	1:A:1401:GLN:HE22	1.68	0.57
1:A:1457:ILE:HD11	1:A:1755:TYR:CE2	2.32	0.57
1:A:1346:LYS:HB3	1:A:1418:SER:HB2	1.86	0.56
1:A:1625:LYS:O	1:A:1631:ARG:NH1	2.38	0.56
1:A:1752:VAL:O	1:A:1756:ILE:HG12	2.06	0.56
2:B:112:THR:CG2	2:B:113:TYR:N	2.66	0.56
1:A:290:MET:HG3	1:A:333:ILE:HG12	1.87	0.56
1:A:1321:ILE:O	1:A:1325:LEU:HB2	2.05	0.56
4:E:1:NAG:H3	4:E:1:NAG:H83	1.87	0.56
1:A:757:ASN:OD1	1:A:841:ARG:NH1	2.38	0.56
1:A:923:VAL:HG13	1:A:928:TRP:HB3	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1671:LYS:HZ1	1:A:1680:ASN:HD22	1.49	0.56
1:A:1486:LYS:CD	1:A:1639:MET:CE	2.84	0.56
2:B:84:GLU:HA	2:B:87:GLU:HB2	1.87	0.56
1:A:791:MET:HG2	1:A:816:VAL:HG21	1.88	0.56
1:A:231:LEU:HA	1:A:234:ILE:HG22	1.87	0.56
1:A:1577:GLY:O	1:A:1580:ILE:HG13	2.06	0.56
1:A:1715:CYS:HG	1:A:1730:CYS:CB	2.16	0.56
1:A:916:SER:O	1:A:920:VAL:HG23	2.06	0.55
1:A:154:ASN:O	1:A:158:THR:HG23	2.06	0.55
1:A:737:ILE:O	1:A:741:VAL:HG13	2.07	0.55
3:F:63:PHE:CE1	3:F:129:ILE:HG23	2.25	0.55
1:A:949:MET:O	1:A:953:VAL:HG12	2.06	0.55
1:A:235:VAL:O	1:A:239:ILE:HG12	2.07	0.54
3:F:44:SER:O	3:F:117:VAL:HG22	2.07	0.54
1:A:1385:LEU:HD11	1:A:1410:ILE:CG2	2.37	0.54
2:B:42:SER:O	2:B:125:ARG:NH2	2.41	0.54
2:B:38:ILE:HD12	2:B:106:ILE:CG2	2.38	0.54
3:F:61:LYS:HG2	3:F:85:MET:CE	2.38	0.54
1:A:1486:LYS:CG	1:A:1639:MET:CE	2.85	0.54
2:B:31:VAL:HG23	2:B:34:MET:HG3	1.90	0.54
1:A:878:PHE:O	1:A:882:VAL:HG12	2.08	0.54
1:A:1585:VAL:HA	1:A:1588:ILE:HG22	1.90	0.53
2:B:30:ALA:HB3	2:B:146:VAL:HG12	1.89	0.53
1:A:818:LEU:O	1:A:821:VAL:HG12	2.07	0.53
1:A:1581:PHE:O	1:A:1585:VAL:HG22	2.09	0.53
3:F:62:GLN:HB3	3:F:132:PRO:HD2	1.90	0.53
1:A:1561:GLU:HA	1:A:1564:LEU:CD2	2.39	0.53
1:A:1548:TYR:O	1:A:1552:VAL:HG13	2.09	0.53
1:A:867:GLY:HA2	1:A:870:THR:HG22	1.89	0.53
2:B:21:CYS:SG	2:B:43:CYS:HB3	2.47	0.53
1:A:311:ASP:OD2	1:A:338:ASP:N	2.31	0.53
1:A:1524:LEU:HD12	1:A:1554:PHE:HE1	1.73	0.53
1:A:746:VAL:O	1:A:750:ILE:HG13	2.09	0.52
1:A:1320:SER:OG	1:A:1459:ASN:ND2	2.42	0.52
1:A:1381:ARG:NH2	1:A:1714:ASP:OD1	2.41	0.52
1:A:1712:PRO:HG2	1:A:1717:PRO:HD3	1.89	0.52
3:F:131:ASN:O	3:F:134:ASP:HB3	2.09	0.52
1:A:853:ASN:O	1:A:856:ILE:CG2	2.57	0.52
1:A:1430:SER:OG	1:A:1433:MET:HG2	2.09	0.52
1:A:1588:ILE:HA	1:A:1591:VAL:HG12	1.91	0.52
2:B:54:PHE:HB2	2:B:74:GLU:HA	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:71:LEU:HB2	2:B:80:LEU:CD2	2.38	0.52
1:A:192:ASP:O	1:A:196:ILE:HG12	2.09	0.52
1:A:849:TRP:HB3	1:A:852:LEU:HB3	1.90	0.52
1:A:1186:TYR:HA	1:A:1247:ALA:HB1	1.91	0.52
1:A:1502:ASN:ND2	1:A:1504:ILE:HG12	2.23	0.52
1:A:1325:LEU:HD13	1:A:1329:LEU:HG	1.92	0.52
1:A:1486:LYS:CG	1:A:1639:MET:HE2	2.39	0.52
1:A:1587:ILE:O	1:A:1590:ILE:HG13	2.10	0.52
2:B:40:CYS:HB3	2:B:104:LEU:O	2.08	0.52
3:F:41:LEU:HD23	3:F:147:LEU:HB2	1.90	0.52
1:A:1358:ARG:NH2	1:A:1417:ASP:OD2	2.43	0.52
1:A:1757:ALA:O	1:A:1761:GLU:HG2	2.10	0.52
1:A:807:GLY:O	1:A:810:ILE:HG13	2.08	0.52
1:A:855:LEU:HD12	1:A:858:ILE:HD11	1.92	0.52
1:A:166:GLU:O	1:A:170:LYS:HG2	2.10	0.52
1:A:293:LEU:CD1	1:A:299:PHE:CE1	2.93	0.51
1:A:1482:TYR:CE1	1:A:1639:MET:HG3	2.44	0.51
3:F:52:PHE:O	3:F:108:TYR:CB	2.58	0.51
1:A:791:MET:HG3	1:A:792:VAL:N	2.26	0.51
1:A:1748:PHE:O	1:A:1752:VAL:HG23	2.10	0.51
3:F:61:LYS:HG2	3:F:85:MET:HE1	1.92	0.51
1:A:364:GLU:OE1	1:A:1699:GLY:N	2.42	0.51
1:A:1385:LEU:HD11	1:A:1410:ILE:HG21	1.93	0.51
1:A:133:MET:O	1:A:137:LEU:HG	2.10	0.51
1:A:1412:MET:O	1:A:1416:VAL:HG13	2.11	0.51
3:F:34:VAL:HG12	3:F:50:CYS:HB2	1.83	0.51
1:A:902:ASP:OD2	1:A:902:ASP:N	2.35	0.51
1:A:1675:ILE:HD12	1:A:1706:PRO:HG3	1.91	0.51
1:A:1675:ILE:HA	1:A:1679:PHE:O	2.11	0.51
2:B:93:ASN:HB2	2:B:107:PHE:HB2	1.93	0.51
1:A:376:LYS:HG3	1:A:1678:MET:CE	2.40	0.50
1:A:765:HIS:ND1	1:A:768:MET:CG	2.74	0.50
1:A:1532:MET:HE2	1:A:1616:ARG:HG3	1.93	0.50
1:A:1594:PHE:O	1:A:1598:LEU:HG	2.10	0.50
3:F:34:VAL:HG11	3:F:50:CYS:HB2	1.92	0.50
1:A:206:ASN:OD1	1:A:206:ASN:N	2.44	0.50
1:A:289:ILE:CG1	1:A:293:LEU:HD23	2.39	0.50
1:A:133:MET:HB2	1:A:227:VAL:HG11	1.94	0.50
1:A:1528:ASN:HD21	1:A:1619:ARG:HE	1.59	0.50
1:A:1671:LYS:HZ1	1:A:1680:ASN:ND2	2.08	0.50
1:A:1486:LYS:HA	1:A:1635:PHE:HZ	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:90:VAL:HG21	2:B:106:ILE:HD11	1.93	0.50
1:A:754:ILE:HG12	1:A:787:PHE:CZ	2.47	0.50
1:A:781:LEU:HA	1:A:784:THR:HG22	1.94	0.50
1:A:1486:LYS:CB	1:A:1639:MET:CE	2.85	0.50
1:A:123:LEU:HD23	1:A:124:VAL:HG23	1.92	0.49
1:A:1457:ILE:HG12	1:A:1756:ILE:CD1	2.41	0.49
1:A:254:PHE:CD1	1:A:1623:LEU:HD23	2.44	0.49
1:A:311:ASP:OD1	1:A:311:ASP:N	2.44	0.49
1:A:1707:ILE:HD13	1:A:1740:PHE:CE2	2.47	0.49
1:A:1708:LEU:HD21	1:A:1737:ILE:HD11	1.95	0.49
1:A:1486:LYS:CD	1:A:1639:MET:HE2	2.40	0.49
2:B:21:CYS:SG	2:B:43:CYS:SG	3.04	0.49
2:B:37:LYS:HE2	2:B:105:SER:HB3	1.95	0.49
2:B:108:ILE:HG21	2:B:115:HIS:CD2	2.48	0.49
1:A:1180:ASN:O	1:A:1184:THR:HG22	2.13	0.49
1:A:1504:ILE:HA	1:A:1507:CYS:SG	2.53	0.49
1:A:357:LEU:HD13	1:A:385:VAL:HG11	1.94	0.48
1:A:919:ILE:O	1:A:923:VAL:HG23	2.13	0.48
1:A:1295:LEU:HB3	1:A:1298:LEU:HD12	1.95	0.48
2:B:171:THR:O	2:B:175:VAL:HG23	2.12	0.48
1:A:360:GLN:HE21	1:A:390:SER:HG	1.53	0.48
2:B:24:VAL:HG13	2:B:39:LEU:HD13	1.96	0.48
1:A:1707:ILE:HG21	1:A:1736:GLY:HA3	1.96	0.48
1:A:346:THR:HG22	1:A:347:PHE:N	2.29	0.48
1:A:115:LEU:O	1:A:118:ILE:HG22	2.13	0.48
1:A:346:THR:HG22	1:A:348:SER:H	1.79	0.48
1:A:132:ILE:O	1:A:136:ILE:HG23	2.13	0.48
1:A:293:LEU:HD13	1:A:299:PHE:CD1	2.49	0.47
1:A:1656:PHE:O	1:A:1660:ILE:HG12	2.14	0.47
3:F:61:LYS:HA	3:F:85:MET:SD	2.54	0.47
1:A:1373:LEU:HA	1:A:1376:VAL:HG22	1.96	0.47
1:A:1400:LEU:O	1:A:1404:THR:HG23	2.14	0.47
1:A:1457:ILE:HG12	1:A:1756:ILE:HD11	1.96	0.47
1:A:276:PHE:CZ	1:A:280:LEU:HD21	2.49	0.47
1:A:831:LEU:HD12	1:A:834:LEU:HG	1.97	0.47
1:A:1329:LEU:O	1:A:1396:TYR:OH	2.31	0.47
1:A:1751:VAL:O	1:A:1754:MET:HG3	2.15	0.47
2:B:32:TYR:N	2:B:147:VAL:O	2.39	0.47
1:A:909:HIS:O	1:A:915:HIS:HB3	2.14	0.47
1:A:321:SER:OG	1:A:322:GLY:N	2.48	0.47
1:A:910:MET:HG3	1:A:919:ILE:HD12	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1408:TRP:O	1:A:1412:MET:HG3	2.15	0.47
1:A:1572:TYR:O	1:A:1575:THR:OG1	2.33	0.47
1:A:191:LEU:HD11	1:A:219:LEU:HB3	1.97	0.46
1:A:799:ASP:O	1:A:802:GLU:N	2.48	0.46
1:A:814:LEU:O	1:A:818:LEU:HD12	2.14	0.46
1:A:164:THR:O	1:A:168:LEU:HG	2.16	0.46
2:B:55:THR:HG22	2:B:73:TYR:HB3	1.97	0.46
1:A:853:ASN:CA	1:A:856:ILE:HG22	2.44	0.46
2:B:38:ILE:HB	2:B:106:ILE:HG22	1.98	0.46
1:A:855:LEU:O	1:A:858:ILE:HG13	2.14	0.46
1:A:1482:TYR:HE1	1:A:1639:MET:CG	2.14	0.46
1:A:167:SER:HA	1:A:170:LYS:HE2	1.98	0.46
1:A:788:ALA:O	1:A:792:VAL:HG23	2.15	0.46
1:A:1305:GLU:HG3	1:A:1308:ARG:NH1	2.31	0.46
1:A:353:ALA:O	1:A:356:ARG:HB3	2.16	0.46
2:B:58:THR:OG1	2:B:120:GLU:HB2	2.15	0.46
1:A:405:TYR:O	1:A:408:GLN:HG3	2.16	0.46
3:F:34:VAL:HG11	3:F:50:CYS:CB	2.42	0.45
1:A:242:VAL:HA	1:A:245:LEU:HB2	1.98	0.45
1:A:387:PHE:HZ	1:A:1695:THR:HG21	1.82	0.45
2:B:43:CYS:HA	2:B:102:GLN:HG3	1.97	0.45
2:B:116:SER:HB2	2:B:146:VAL:HG22	1.98	0.45
1:A:853:ASN:C	1:A:856:ILE:HG22	2.37	0.45
2:B:51:ALA:HA	2:B:127:LEU:HA	1.99	0.45
3:F:32:VAL:HG11	3:F:140:GLY:N	2.31	0.45
3:F:41:LEU:HA	3:F:147:LEU:HB2	1.97	0.45
1:A:888:PHE:O	1:A:892:TYR:HD1	2.00	0.45
1:A:1595:LEU:HD22	1:A:1612:ILE:HG21	1.97	0.45
1:A:1671:LYS:HA	1:A:1675:ILE:HG22	1.99	0.45
1:A:861:ASN:OD1	1:A:865:ALA:HB3	2.17	0.45
1:A:1476:GLU:OE2	1:A:1476:GLU:N	2.47	0.45
1:A:1607:THR:O	1:A:1611:VAL:HG23	2.17	0.45
1:A:1709:ASN:O	1:A:1730:CYS:HB2	2.16	0.45
3:F:52:PHE:CB	3:F:129:ILE:CD1	2.94	0.45
1:A:775:VAL:O	1:A:778:ILE:HG13	2.17	0.45
1:A:1353:THR:OG1	1:A:1379:ASN:OD1	2.24	0.45
1:A:1419:VAL:HG21	1:A:1426:LYS:HG3	1.99	0.45
1:A:1537:GLU:OE2	1:A:1538:GLY:N	2.49	0.45
1:A:1543:MET:HA	1:A:1546:VAL:HG12	1.98	0.45
3:F:131:ASN:O	3:F:134:ASP:N	2.51	0.44
1:A:1416:VAL:HG11	1:A:1434:TYR:CE2	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:34:VAL:CG1	3:F:50:CYS:HA	2.38	0.44
3:F:63:PHE:HE1	3:F:129:ILE:CG2	2.16	0.44
1:A:293:LEU:HD12	1:A:299:PHE:CE1	2.52	0.44
3:F:52:PHE:CB	3:F:129:ILE:HD12	2.48	0.44
1:A:756:LEU:O	1:A:760:PHE:HB2	2.17	0.44
2:B:166:LEU:HA	2:B:169:VAL:HG12	1.98	0.44
1:A:336:ASN:ND2	1:A:343:SER:HB2	2.32	0.44
1:A:1526:CYS:O	1:A:1530:VAL:HG23	2.18	0.44
2:B:92:TRP:CH2	2:B:104:LEU:HA	2.53	0.44
1:A:853:ASN:HA	1:A:856:ILE:CG2	2.45	0.44
1:A:1359:PHE:CZ	1:A:1373:LEU:HD21	2.53	0.44
1:A:275:CYS:HB3	1:A:328:TYR:HB3	1.99	0.44
1:A:773:LYS:HE2	1:A:773:LYS:HB2	1.71	0.44
1:A:1213:ASP:HB2	1:A:1682:GLU:O	2.18	0.44
1:A:265:GLN:HE22	1:A:1616:ARG:HH21	1.65	0.43
1:A:1359:PHE:HZ	4:D:1:NAG:H82	1.83	0.43
1:A:1585:VAL:HG21	1:A:1622:ARG:HD2	2.00	0.43
1:A:1694:ILE:O	1:A:1697:SER:N	2.42	0.43
1:A:1347:PHE:HE2	1:A:1411:ILE:HG23	1.83	0.43
1:A:1722:PRO:HB3	2:B:103:ASP:HB2	1.99	0.43
3:F:101:PHE:CZ	3:F:105:PRO:HD3	2.54	0.43
1:A:279:SER:O	1:A:279:SER:OG	2.33	0.43
1:A:364:GLU:O	1:A:368:GLN:HG3	2.19	0.43
1:A:1549:TRP:HA	1:A:1552:VAL:HG22	2.01	0.43
1:A:1486:LYS:CD	1:A:1639:MET:HE1	2.48	0.43
2:B:71:LEU:HB3	2:B:80:LEU:HD23	1.90	0.43
1:A:726:CYS:HB3	1:A:729:TYR:HB3	2.00	0.43
1:A:1639:MET:O	1:A:1642:PRO:HD2	2.19	0.43
2:B:38:ILE:HD12	2:B:106:ILE:HG23	2.00	0.43
2:B:167:ILE:O	2:B:171:THR:HG22	2.19	0.43
1:A:197:VAL:O	1:A:201:LEU:HG	2.18	0.43
1:A:1609:PHE:CZ	1:A:1613:ARG:HD2	2.53	0.43
1:A:345:ASP:HB3	1:A:1537:GLU:HB2	2.01	0.42
1:A:768:MET:HE1	1:A:776:LEU:CD1	2.48	0.42
1:A:792:VAL:O	1:A:796:ILE:HG13	2.18	0.42
1:A:842:VAL:HG11	1:A:1330:ILE:HG12	2.00	0.42
1:A:1712:PRO:HA	1:A:1714:ASP:N	2.34	0.42
1:A:1712:PRO:CG	1:A:1717:PRO:HD3	2.49	0.42
2:B:53:THR:OG1	2:B:125:ARG:HG3	2.18	0.42
2:B:121:CYS:N	2:B:140:LYS:O	2.33	0.42
3:F:40:VAL:HG22	3:F:44:SER:OG	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:148:PRO:HA	1:A:149:PRO:HD3	1.93	0.42
1:A:322:GLY:HA3	1:A:323:GLN:HG2	2.00	0.42
1:A:851:THR:HG21	1:A:1323:ASN:HB3	2.01	0.42
1:A:1499:ARG:HH12	1:A:1506:GLY:HA3	1.83	0.42
1:A:896:VAL:HG11	1:A:905:LEU:HA	2.01	0.42
3:F:103:GLY:C	3:F:105:PRO:HD3	2.40	0.42
1:A:912:ASP:O	1:A:916:SER:OG	2.29	0.42
2:B:112:THR:H	2:B:115:HIS:CD2	2.38	0.42
3:F:58:VAL:HG13	3:F:63:PHE:CB	2.46	0.42
1:A:128:PHE:O	1:A:131:LEU:HG	2.20	0.42
1:A:136:ILE:HG22	1:A:163:TYR:HE1	1.83	0.42
1:A:293:LEU:HD12	1:A:293:LEU:O	2.20	0.42
1:A:1606:PRO:O	1:A:1610:ARG:HG3	2.19	0.42
1:A:1747:SER:HA	1:A:1750:VAL:HG22	2.00	0.42
1:A:1252:THR:O	1:A:1256:ASN:ND2	2.52	0.42
1:A:1458:ASP:O	1:A:1462:GLN:HG2	2.19	0.42
1:A:1582:ASP:O	1:A:1586:VAL:HG13	2.20	0.42
1:A:1658:TYR:HD2	1:A:1739:TYR:CE1	2.37	0.42
1:A:210:VAL:HG23	1:A:211:SER:N	2.34	0.42
1:A:839:LEU:O	1:A:842:VAL:HG23	2.20	0.42
1:A:321:SER:HB3	1:A:375:GLY:CA	2.46	0.42
1:A:866:LEU:HD23	1:A:866:LEU:HA	1.73	0.42
1:A:754:ILE:HG12	1:A:787:PHE:HZ	1.85	0.41
1:A:398:LEU:CD2	1:A:1755:TYR:CE1	2.88	0.41
1:A:934:ASP:O	1:A:938:VAL:HG22	2.20	0.41
1:A:1410:ILE:HD12	1:A:1410:ILE:H	1.85	0.41
1:A:1528:ASN:HD21	1:A:1619:ARG:NE	2.17	0.41
1:A:191:LEU:O	1:A:195:VAL:HG23	2.20	0.41
1:A:410:GLN:O	1:A:414:GLU:HG2	2.19	0.41
2:B:24:VAL:HG12	2:B:41:ILE:HD12	2.01	0.41
1:A:289:ILE:HG12	1:A:302:TYR:CE2	2.56	0.41
1:A:1486:LYS:CG	1:A:1639:MET:HE1	2.50	0.41
1:A:1555:ILE:O	1:A:1559:THR:HG23	2.21	0.41
1:A:354:LEU:HD23	1:A:354:LEU:HA	1.78	0.41
1:A:1218:ARG:HG2	2:B:24:VAL:HG23	2.02	0.41
1:A:1234:THR:HG21	1:A:1273:LEU:HG	2.03	0.41
1:A:839:LEU:HB3	1:A:1334:ILE:HG23	2.03	0.41
1:A:899:ILE:HD12	1:A:934:ASP:HB3	2.02	0.41
1:A:936:MET:HG2	1:A:941:GLN:HA	2.02	0.41
1:A:1307:MET:O	1:A:1311:VAL:HG23	2.21	0.41
1:A:380:ILE:O	1:A:384:VAL:HG23	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:786:ILE:HD13	1:A:786:ILE:HA	1.96	0.41
1:A:795:LEU:HD12	1:A:803:TYR:CD1	2.55	0.41
1:A:1305:GLU:HG3	1:A:1308:ARG:CZ	2.50	0.41
1:A:1406:LYS:HG2	1:A:1698:ALA:HA	2.03	0.41
1:A:812:ASP:O	1:A:816:VAL:HG23	2.20	0.41
1:A:947:VAL:O	1:A:951:VAL:HG23	2.21	0.41
1:A:1219:LYS:HB2	1:A:1222:ILE:HG22	2.03	0.41
1:A:1400:LEU:HD21	1:A:1744:ILE:HD11	2.03	0.41
1:A:1416:VAL:HG11	1:A:1434:TYR:CZ	2.56	0.41
2:B:61:GLN:HB2	2:B:85:ARG:NH1	2.36	0.41
3:F:103:GLY:O	3:F:105:PRO:CD	2.64	0.41
1:A:778:ILE:HA	1:A:781:LEU:HG	2.03	0.41
1:A:803:TYR:CE1	1:A:809:ASN:HB3	2.56	0.41
1:A:825:LEU:HD12	1:A:834:LEU:HD13	2.03	0.41
1:A:1301:LEU:HD22	1:A:1311:VAL:HG21	2.03	0.40
3:F:38:LEU:HD23	3:F:48:LEU:HD22	2.03	0.40
1:A:260:ALA:CA	1:A:354:LEU:CD1	2.90	0.40
1:A:803:TYR:CD1	1:A:809:ASN:HB3	2.56	0.40
1:A:1211:PHE:O	1:A:1216:ILE:HD13	2.21	0.40
1:A:1703:LEU:HD23	1:A:1703:LEU:HA	1.94	0.40
1:A:310:LYS:HE3	1:A:310:LYS:HB2	1.82	0.40
1:A:1756:ILE:HD13	1:A:1756:ILE:N	2.36	0.40
1:A:277:ARG:HD3	1:A:302:TYR:HA	2.03	0.40
1:A:336:ASN:HB3	1:A:337:PRO:HD2	2.03	0.40
1:A:833:VAL:HA	1:A:836:SER:OG	2.22	0.40
1:A:953:VAL:HG13	1:A:954:ILE:N	2.36	0.40
3:F:32:VAL:HG13	3:F:50:CYS:SG	2.62	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	1130/2250 (50%)	1046 (93%)	83 (7%)	1 (0%)	51	83
2	B	171/481 (36%)	157 (92%)	14 (8%)	0	100	100
3	F	118/215 (55%)	108 (92%)	7 (6%)	3 (2%)	5	27
All	All	1419/2946 (48%)	1311 (92%)	104 (7%)	4 (0%)	44	73

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	F	56	TYR
3	F	76	SER
3	F	147	LEU
1	A	800	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	1017/1998 (51%)	999 (98%)	18 (2%)	59	82
2	B	157/419 (38%)	156 (99%)	1 (1%)	86	94
3	F	105/193 (54%)	105 (100%)	0	100	100
All	All	1279/2610 (49%)	1260 (98%)	19 (2%)	66	85

All (19) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	146	ASN
1	A	311	ASP
1	A	765	HIS
1	A	772	PHE
1	A	791	MET
1	A	818	LEU
1	A	935	CYS
1	A	1331	PHE
1	A	1390	ASP

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Mol	Chain	Res	Type
1	A	1408	TRP
1	A	1447	PHE
1	A	1482	TYR
1	A	1537	GLU
1	A	1554	PHE
1	A	1564	LEU
1	A	1593	MET
1	A	1602	TYR
1	A	1603	PHE
2	B	93	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (21) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	139	ASN
1	A	240	GLN
1	A	265	GLN
1	A	291	ASN
1	A	323	GLN
1	A	365	ASN
1	A	410	GLN
1	A	911	ASN
1	A	941	GLN
1	A	1341	ASN
1	A	1502	ASN
1	A	1528	ASN
1	A	1579	ASN
1	A	1665	ASN
1	A	1680	ASN
1	A	1709	ASN
2	B	115	HIS
3	F	59	ASN
3	F	66	ASN
3	F	82	GLN
3	F	118	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](#)

4 monosaccharides are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
4	NAG	D	1	4,1	14,14,15	0.31	0	17,19,21	0.45	0
4	NAG	D	2	4	14,14,15	0.25	0	17,19,21	0.46	0
4	NAG	E	1	4,1	14,14,15	0.53	0	17,19,21	1.37	1 (5%)
4	NAG	E	2	4	14,14,15	0.79	1 (7%)	17,19,21	1.02	1 (5%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	NAG	D	1	4,1	-	2/6/23/26	0/1/1/1
4	NAG	D	2	4	-	0/6/23/26	0/1/1/1
4	NAG	E	1	4,1	-	5/6/23/26	0/1/1/1
4	NAG	E	2	4	-	2/6/23/26	0/1/1/1

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	E	2	NAG	O5-C1	2.59	1.47	1.43

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	E	1	NAG	C2-N2-C7	4.27	128.99	122.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	E	2	NAG	C1-O5-C5	3.95	117.54	112.19

There are no chirality outliers.

All (9) torsion outliers are listed below:

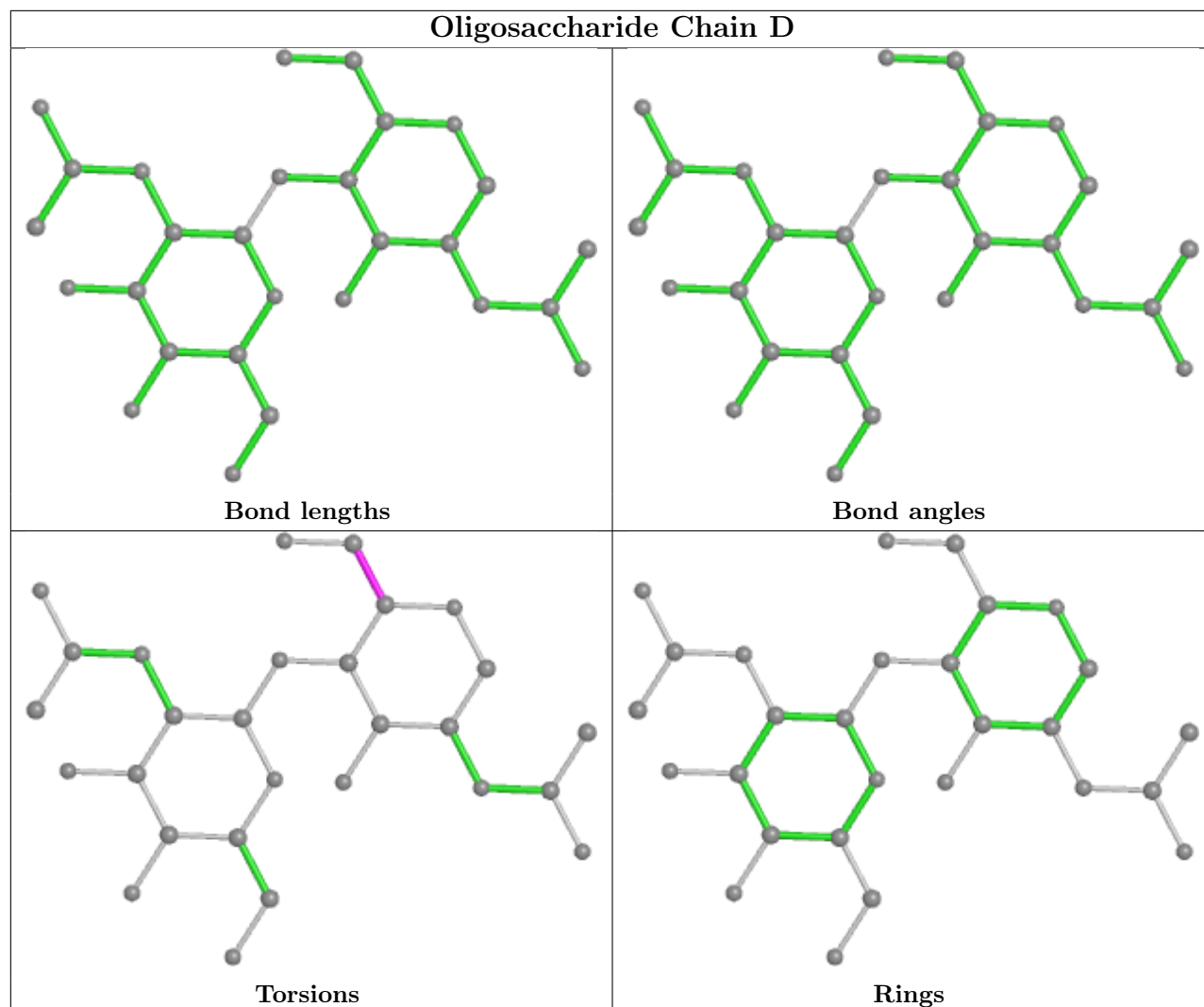
Mol	Chain	Res	Type	Atoms
4	E	1	NAG	C4-C5-C6-O6
4	E	2	NAG	O5-C5-C6-O6
4	E	1	NAG	C8-C7-N2-C2
4	E	1	NAG	O7-C7-N2-C2
4	E	2	NAG	C4-C5-C6-O6
4	D	1	NAG	O5-C5-C6-O6
4	E	1	NAG	O5-C5-C6-O6
4	D	1	NAG	C4-C5-C6-O6
4	E	1	NAG	C3-C2-N2-C7

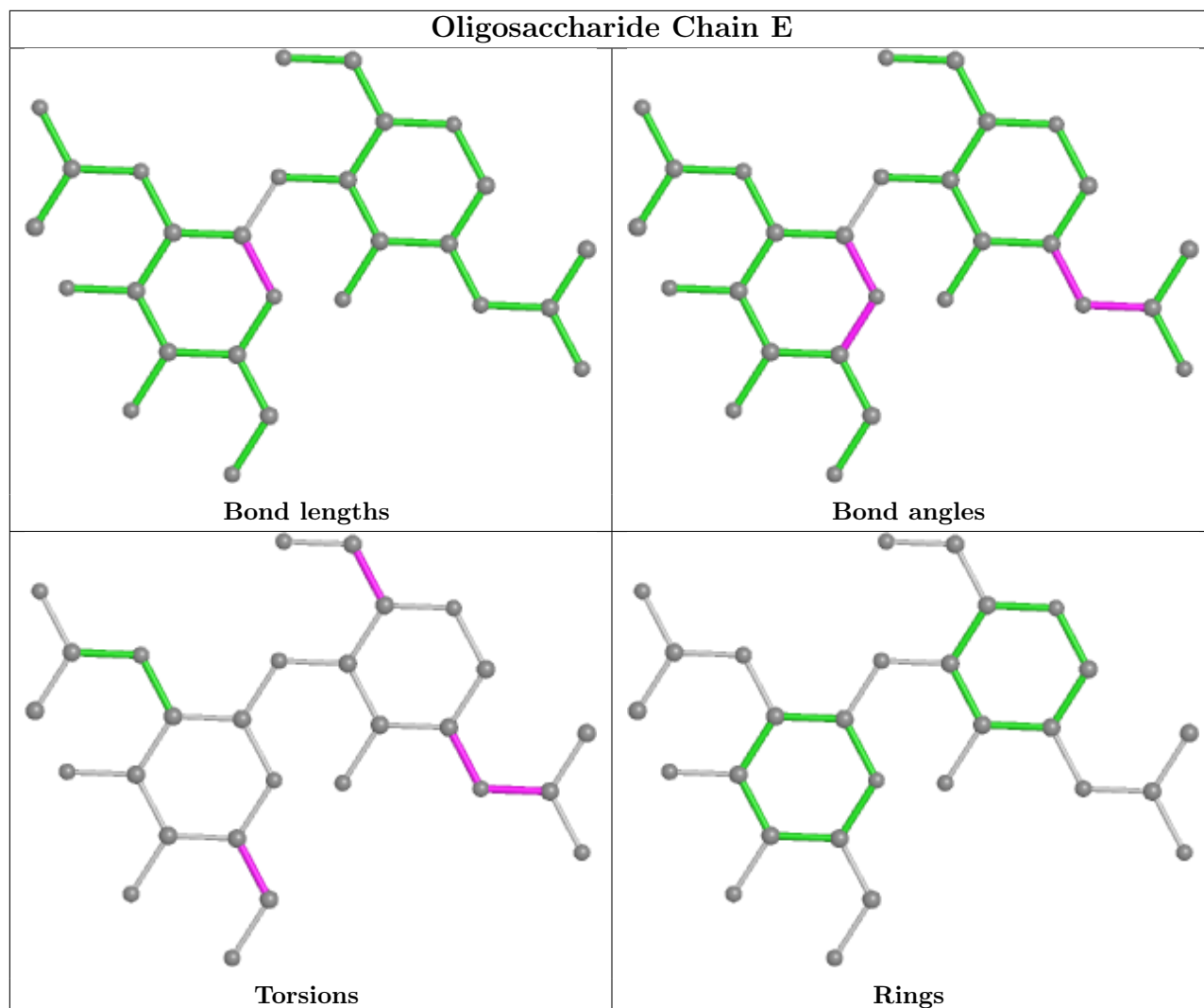
There are no ring outliers.

2 monomers are involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	D	1	NAG	1	0
4	E	1	NAG	1	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.





5.6 Ligand geometry [i](#)

6 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	$\# Z > 2$
5	NAG	B	504	2	14,14,15	0.22	0	17,19,21	0.36	0
5	NAG	A	2301	1	14,14,15	0.38	0	17,19,21	0.54	0
5	NAG	B	502	2	14,14,15	0.23	0	17,19,21	0.43	0
5	NAG	B	501	2	14,14,15	0.44	0	17,19,21	0.60	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
6	G4I	A	2302	-	40,40,40	2.18	7 (17%)	49,56,56	1.42	7 (14%)
5	NAG	B	503	2	14,14,15	0.19	0	17,19,21	0.38	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
5	NAG	B	504	2	-	2/6/23/26	0/1/1/1
5	NAG	A	2301	1	-	2/6/23/26	0/1/1/1
5	NAG	B	502	2	-	1/6/23/26	0/1/1/1
5	NAG	B	501	2	-	2/6/23/26	0/1/1/1
6	G4I	A	2302	-	-	3/19/32/32	0/4/4/4
5	NAG	B	503	2	-	1/6/23/26	0/1/1/1

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	A	2302	G4I	C21-N10	10.28	1.47	1.29
6	A	2302	G4I	C36-N12	3.78	1.44	1.29
6	A	2302	G4I	C18-N07	3.62	1.47	1.34
6	A	2302	G4I	C21-N08	-3.60	1.33	1.38
6	A	2302	G4I	O06-C36	-3.41	1.18	1.29
6	A	2302	G4I	C27-N10	2.35	1.46	1.41
6	A	2302	G4I	C37-C36	2.34	1.52	1.49

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	A	2302	G4I	N10-C21-N11	-4.79	120.41	126.47
6	A	2302	G4I	N09-C24-N11	-4.68	119.96	128.82
6	A	2302	G4I	C29-C30-N12	3.09	120.95	118.14
6	A	2302	G4I	C18-N08-C21	-2.63	119.93	123.75
6	A	2302	G4I	C16-N07-C17	2.57	117.57	112.62
6	A	2302	G4I	C24-N11-C21	2.50	120.06	113.06
6	A	2302	G4I	C29-C27-N10	2.31	120.25	118.14

There are no chirality outliers.

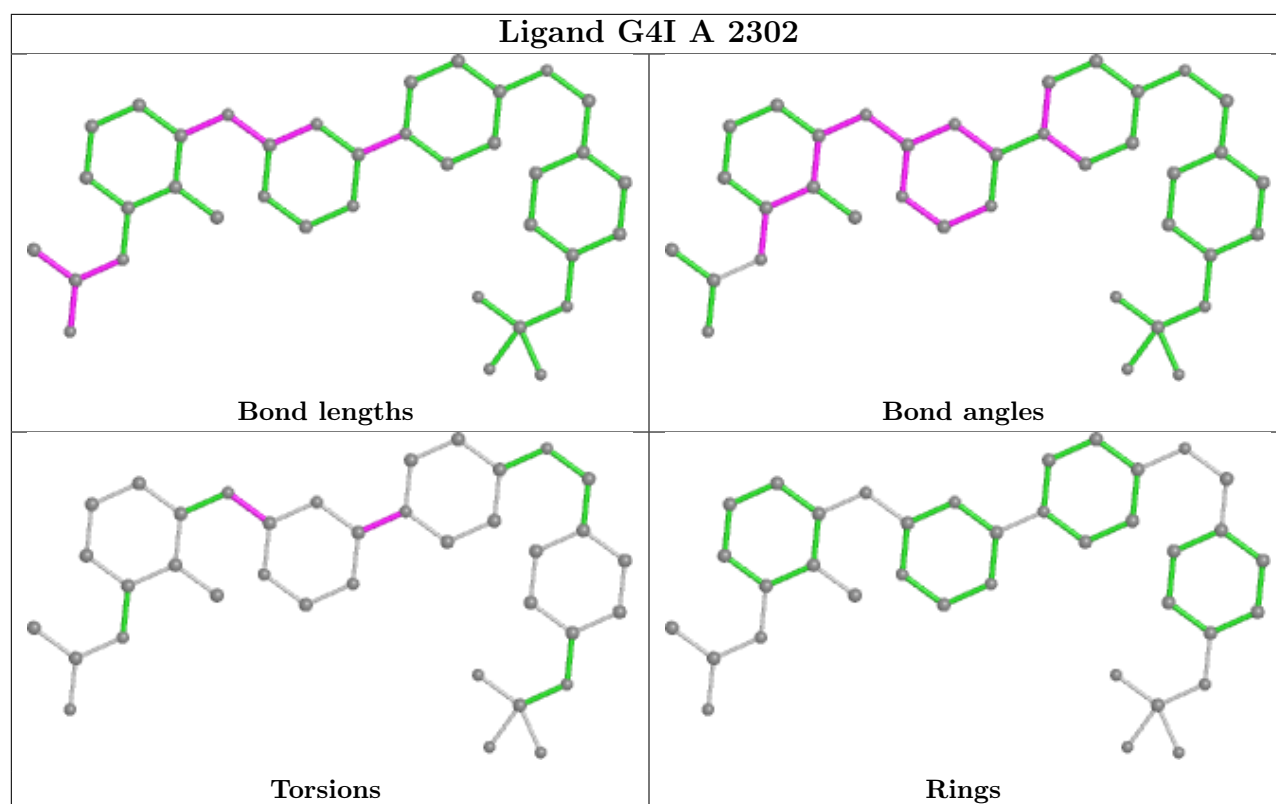
All (11) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	A	2302	G4I	N11-C21-N10-C27
5	A	2301	NAG	O5-C5-C6-O6
5	A	2301	NAG	C4-C5-C6-O6
5	B	504	NAG	O5-C5-C6-O6
5	B	501	NAG	O5-C5-C6-O6
6	A	2302	G4I	N09-C18-N07-C17
5	B	502	NAG	O5-C5-C6-O6
5	B	501	NAG	C4-C5-C6-O6
5	B	504	NAG	C4-C5-C6-O6
5	B	503	NAG	O5-C5-C6-O6
6	A	2302	G4I	N08-C18-N07-C17

There are no ring outliers.

No monomer is involved in short contacts.

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 [i](#)

There are no chain breaks in this entry.

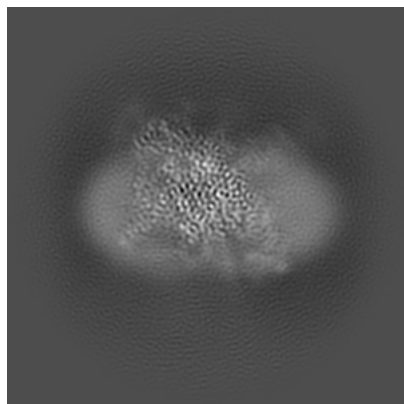
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-33296. These allow visual inspection of the internal detail of the map and identification of artifacts.

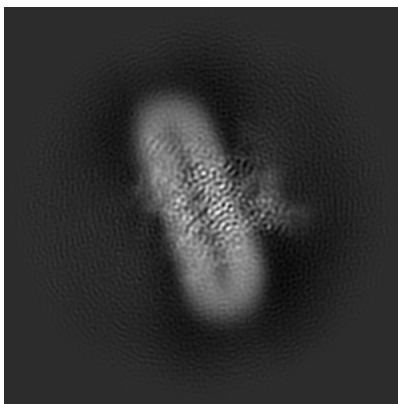
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

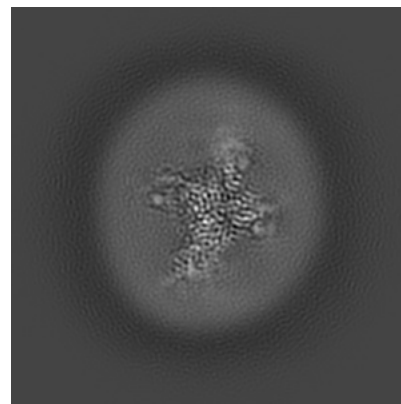
6.1.1 Primary map



X

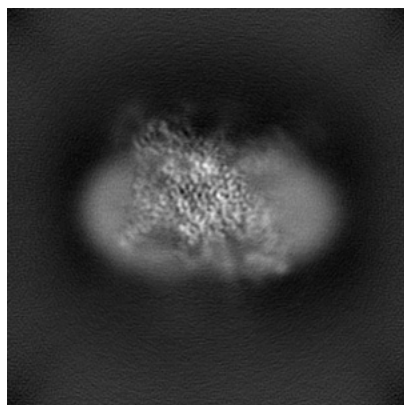


Y

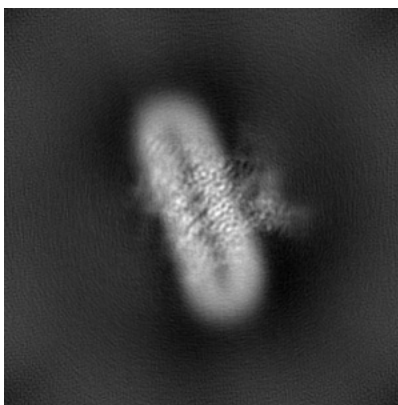


Z

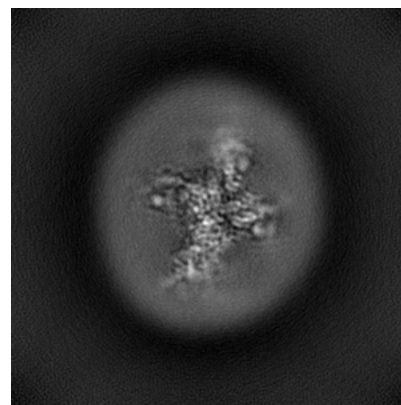
6.1.2 Raw map



X



Y

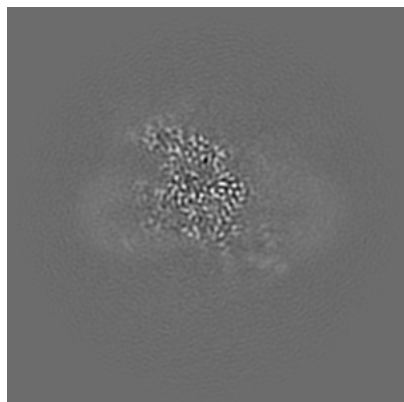


Z

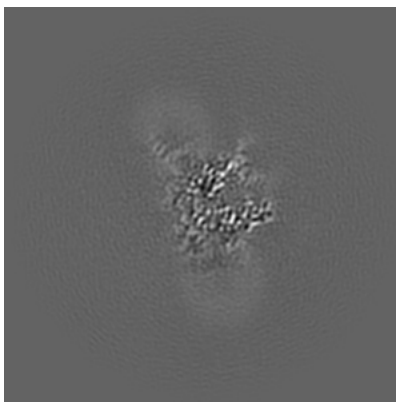
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

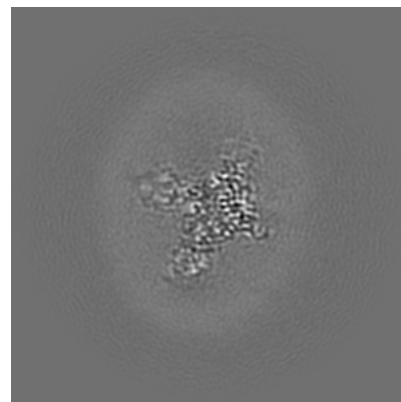
6.2.1 Primary map



X Index: 128

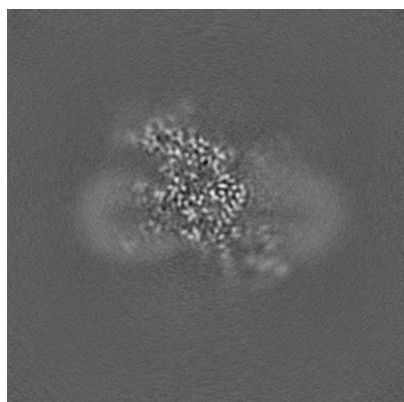


Y Index: 128

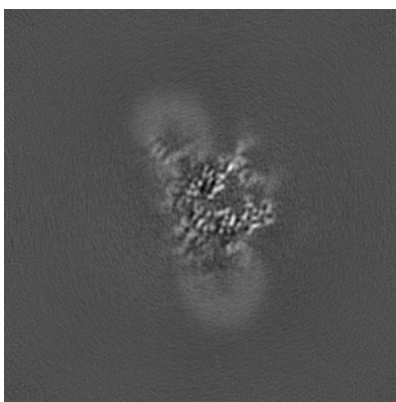


Z Index: 128

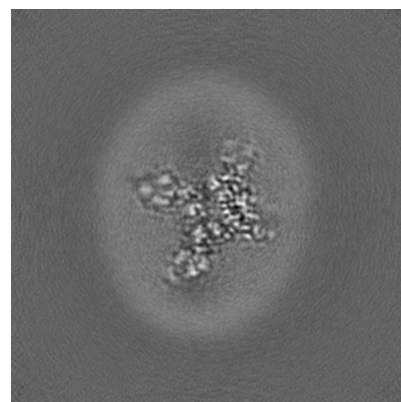
6.2.2 Raw map



X Index: 128



Y Index: 128

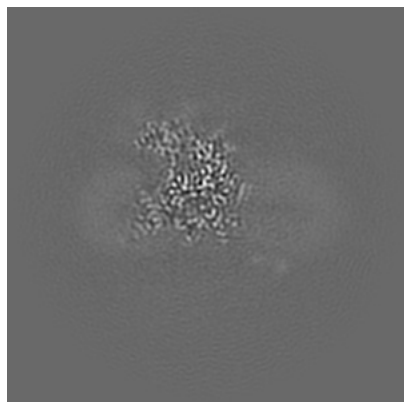


Z Index: 128

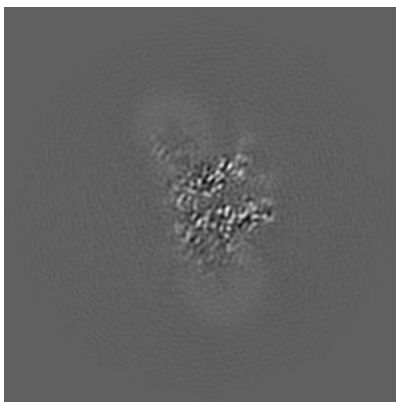
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

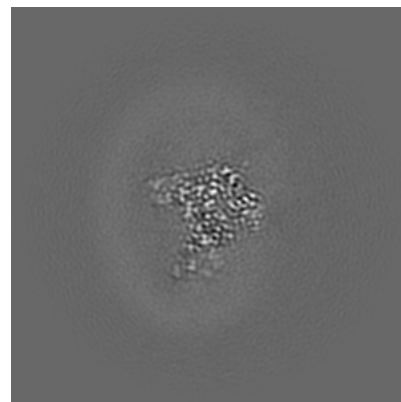
6.3.1 Primary map



X Index: 122

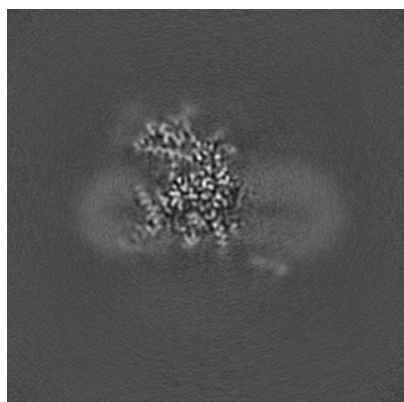


Y Index: 129

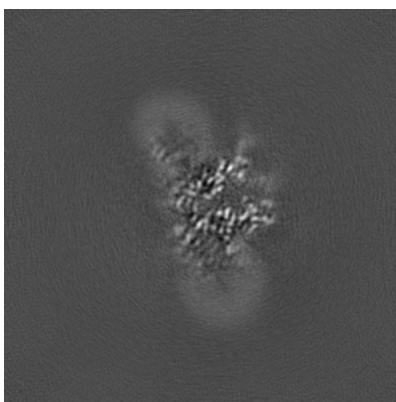


Z Index: 138

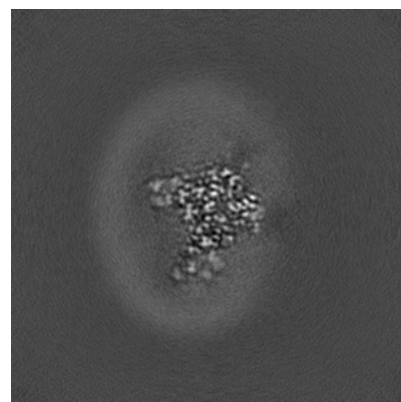
6.3.2 Raw map



X Index: 123



Y Index: 129

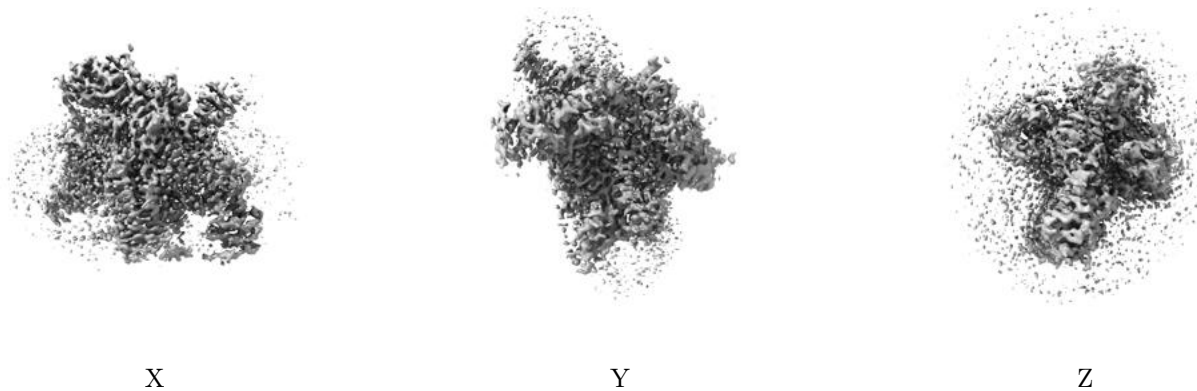


Z Index: 138

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

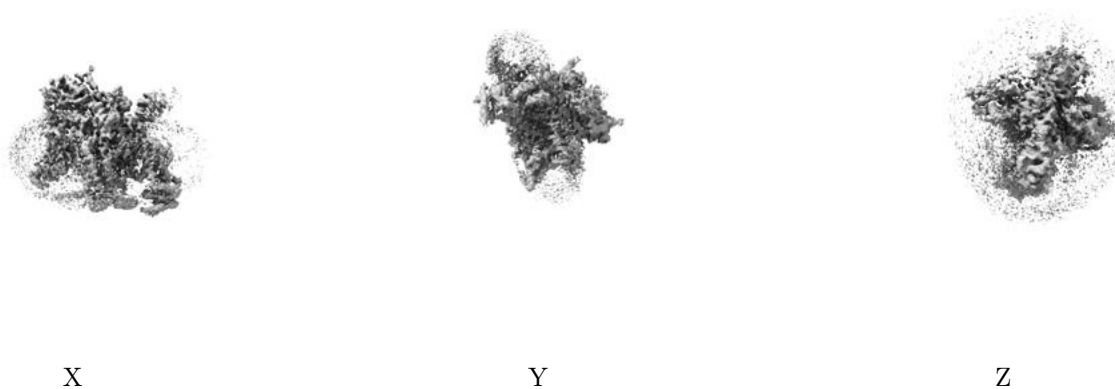
6.4 Orthogonal surface views [i](#)

6.4.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.376. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.4.2 Raw map



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.

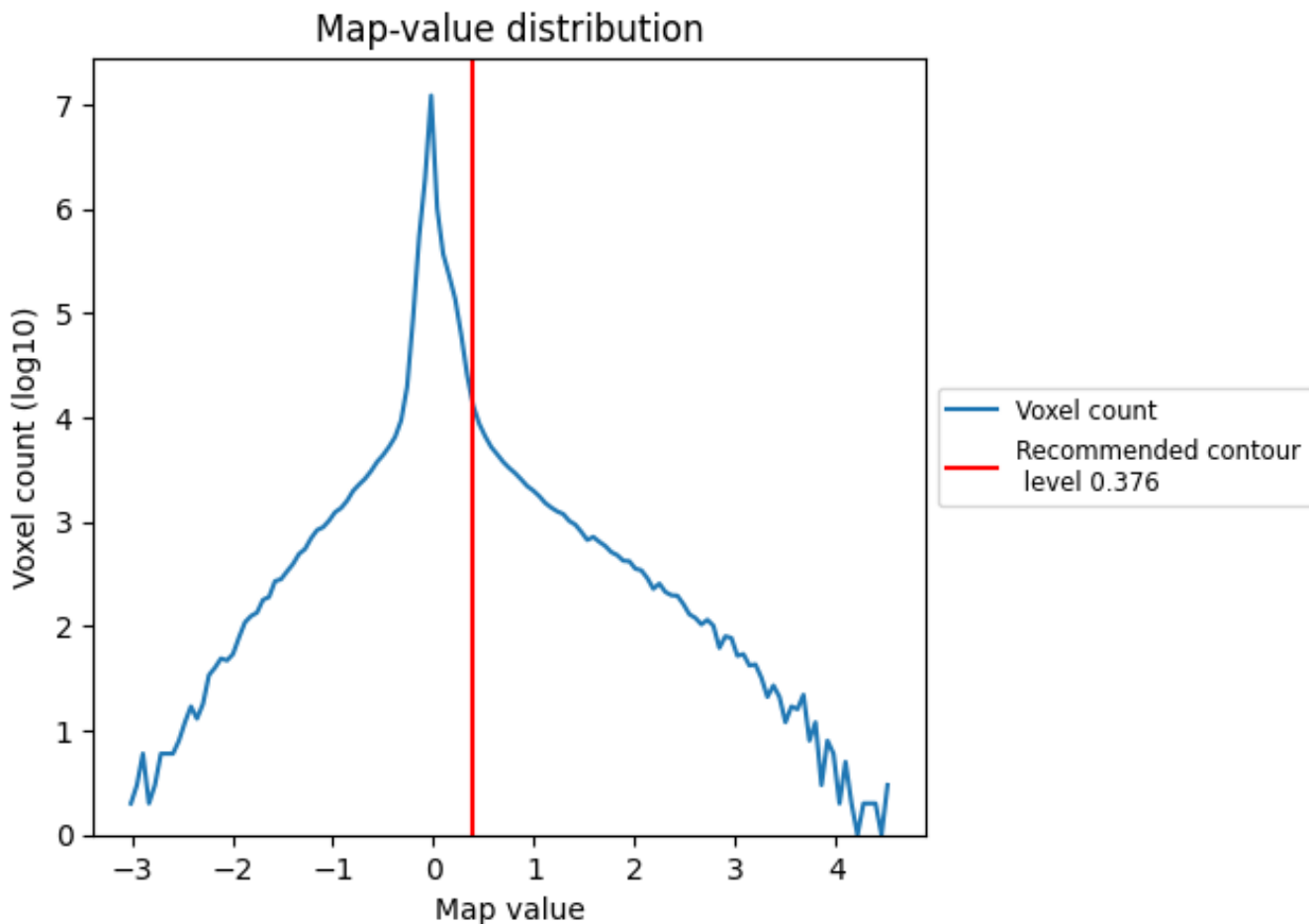
6.5 Mask visualisation [i](#)

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

7 Map analysis [i](#)

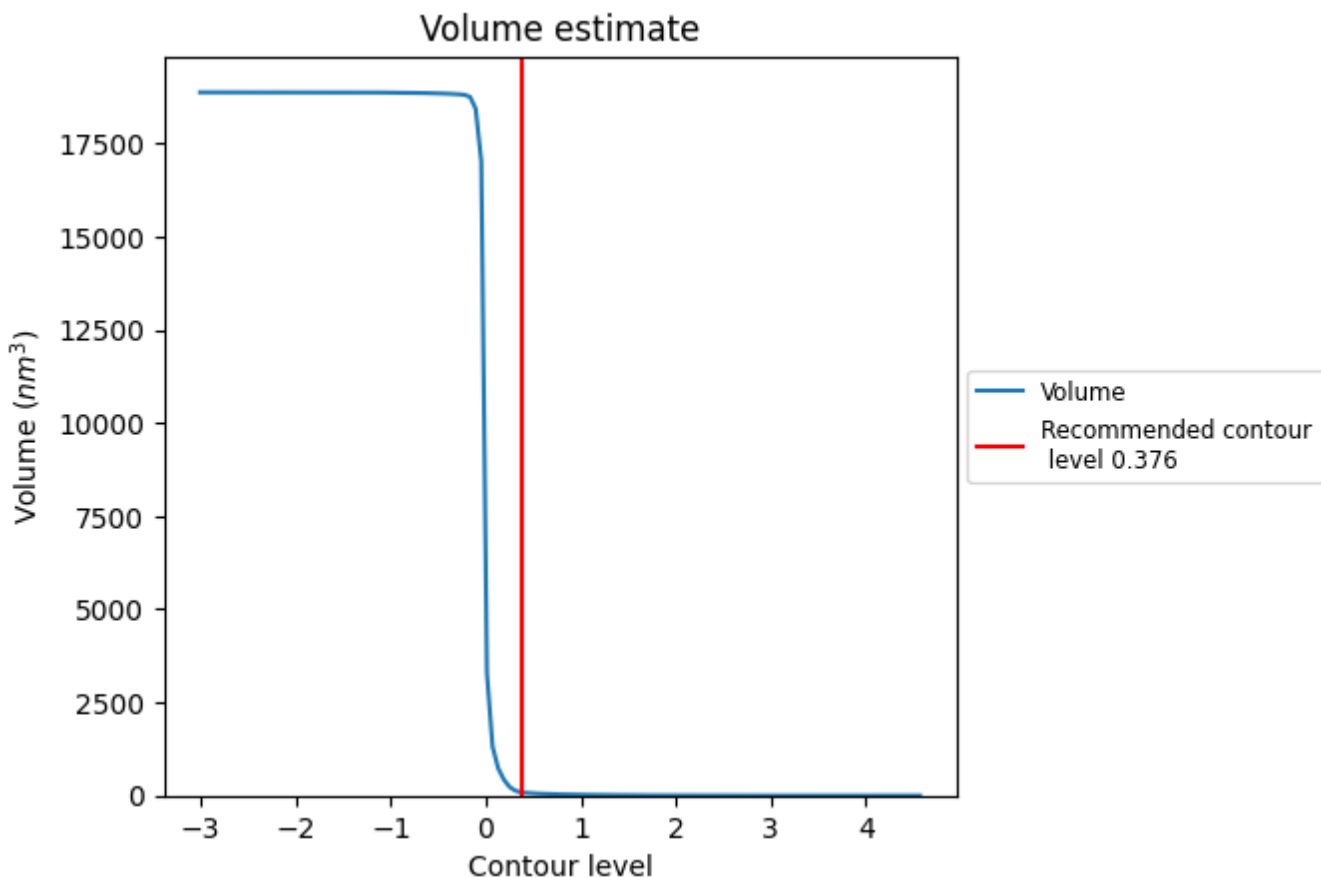
This section contains the results of statistical analysis of the map.

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.

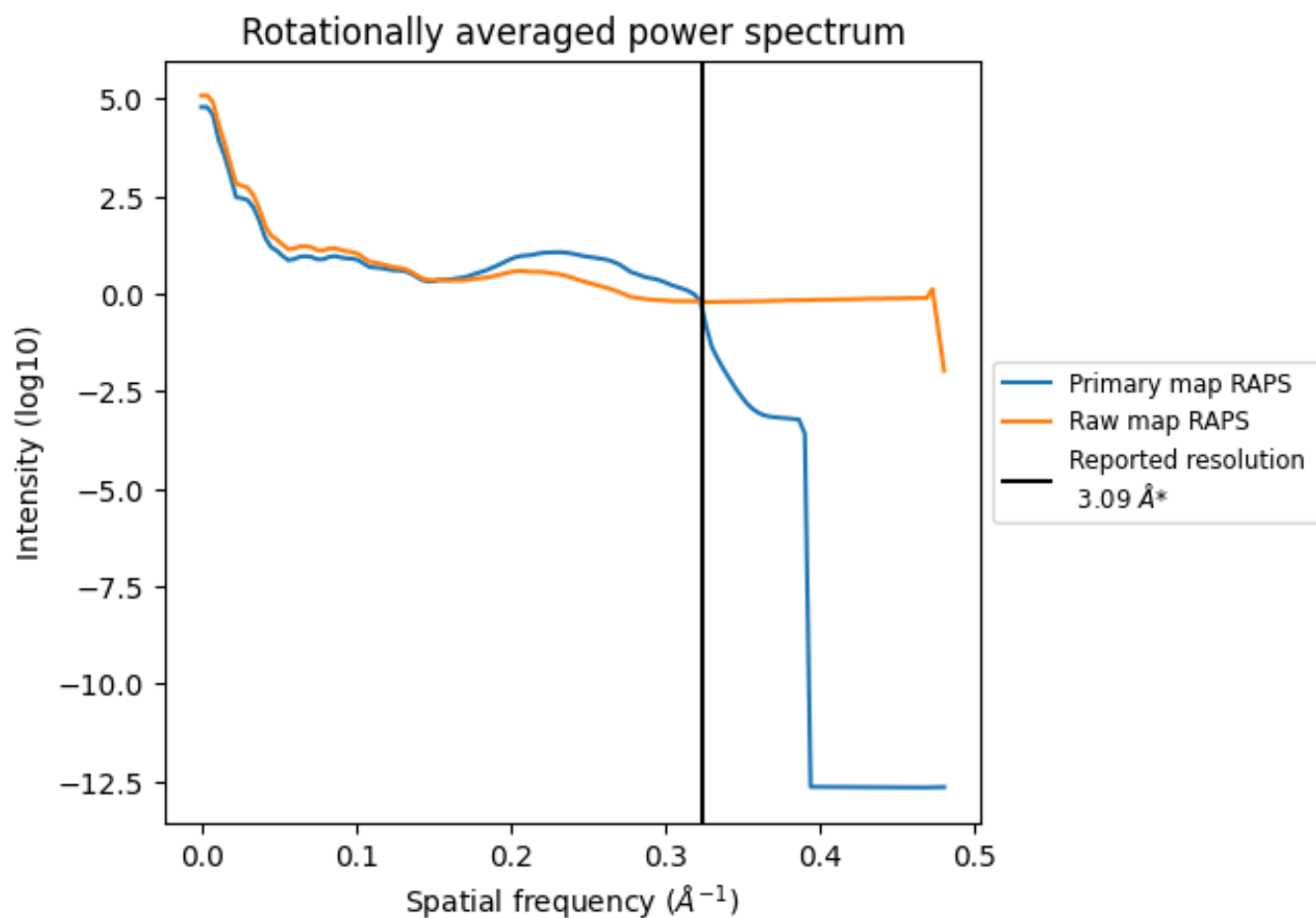
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 89 nm³; this corresponds to an approximate mass of 80 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](#)

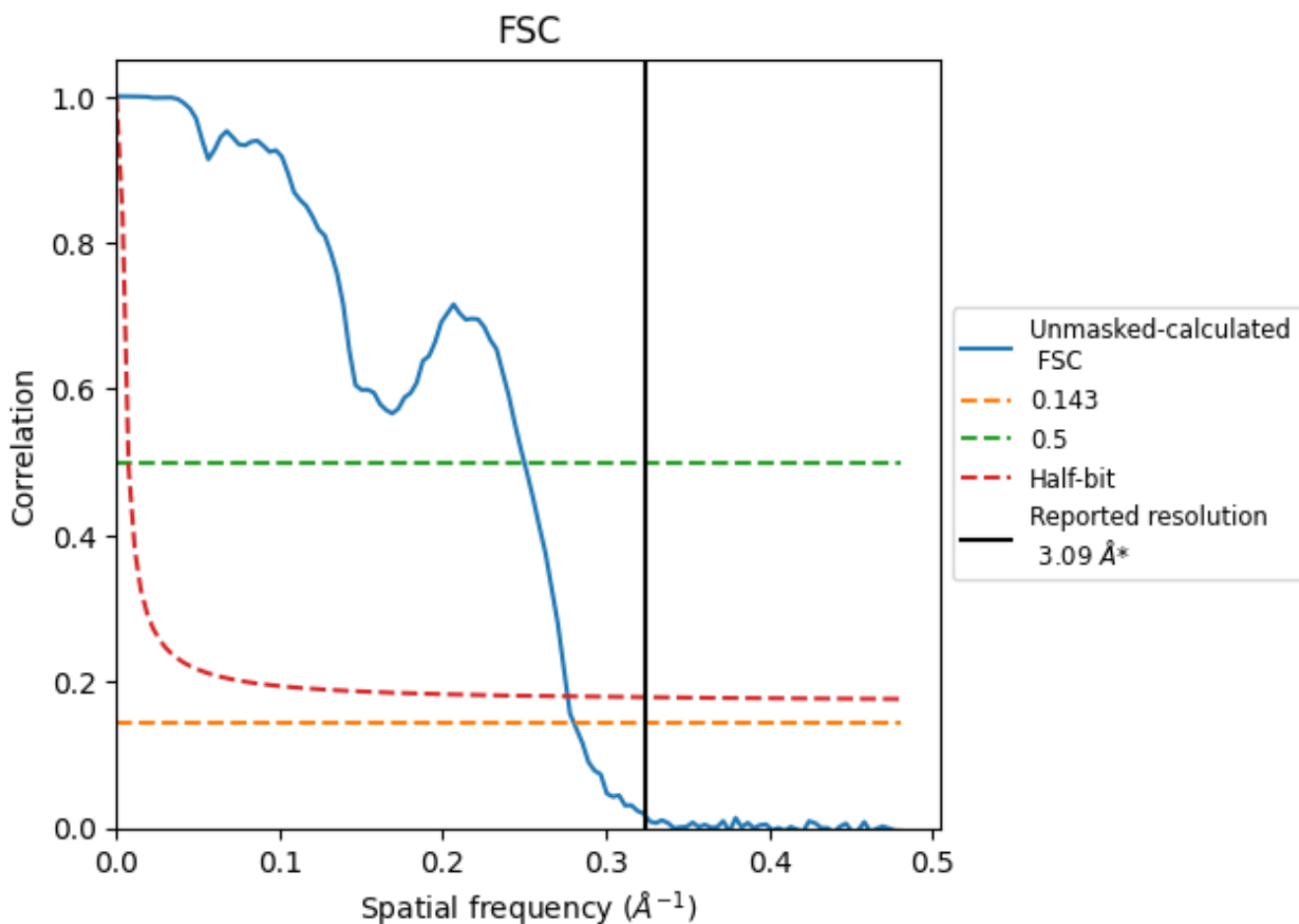


*Reported resolution corresponds to spatial frequency of 0.324 Å⁻¹

8 Fourier-Shell correlation [i](#)

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 [i](#)



*Reported resolution corresponds to spatial frequency of 0.324\AA^{-1}

8.2 Resolution estimates [i](#)

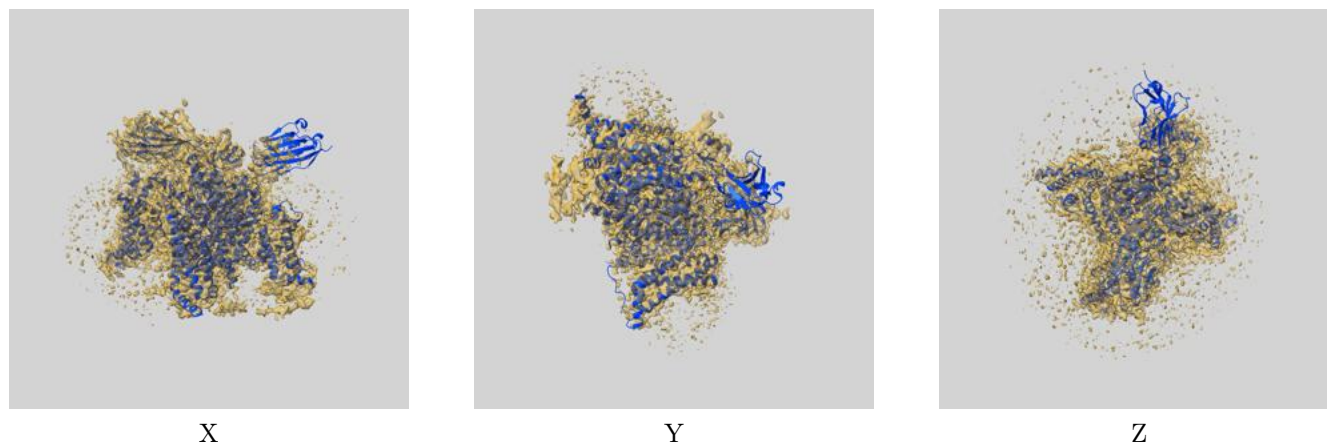
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.09	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.57	4.00	3.62

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.57 differs from the reported value 3.09 by more than 10 %

9 Map-model fit [i](#)

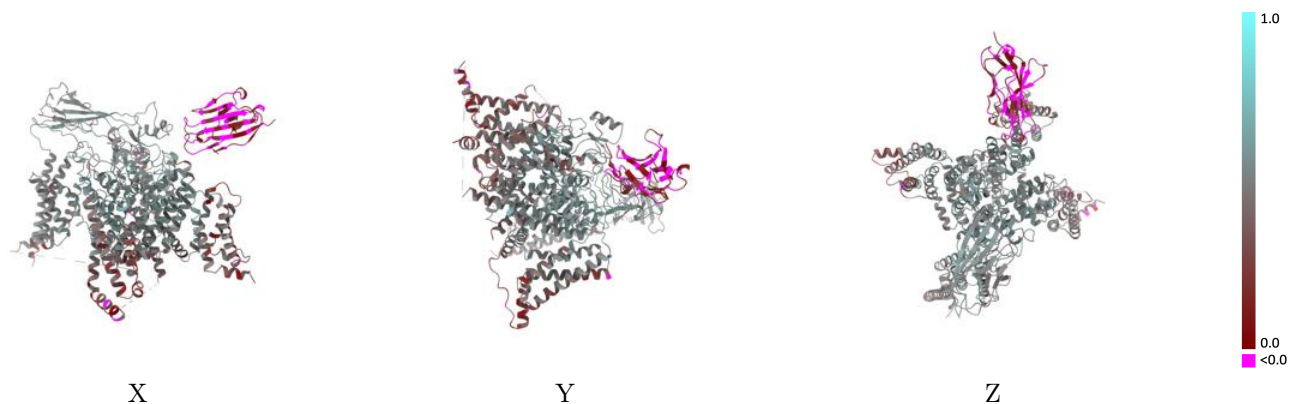
This section contains information regarding the fit between EMDB map EMD-33296 and PDB model 7XMG. Per-residue inclusion information can be found in section [3](#) on page [7](#).

9.1 Map-model overlay [i](#)



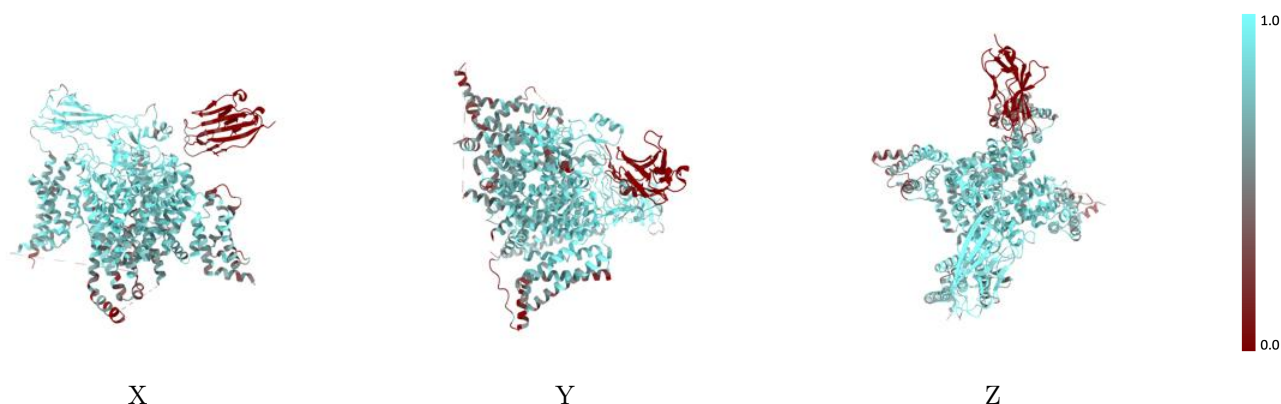
The images above show the 3D surface view of the map at the recommended contour level 0.376 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



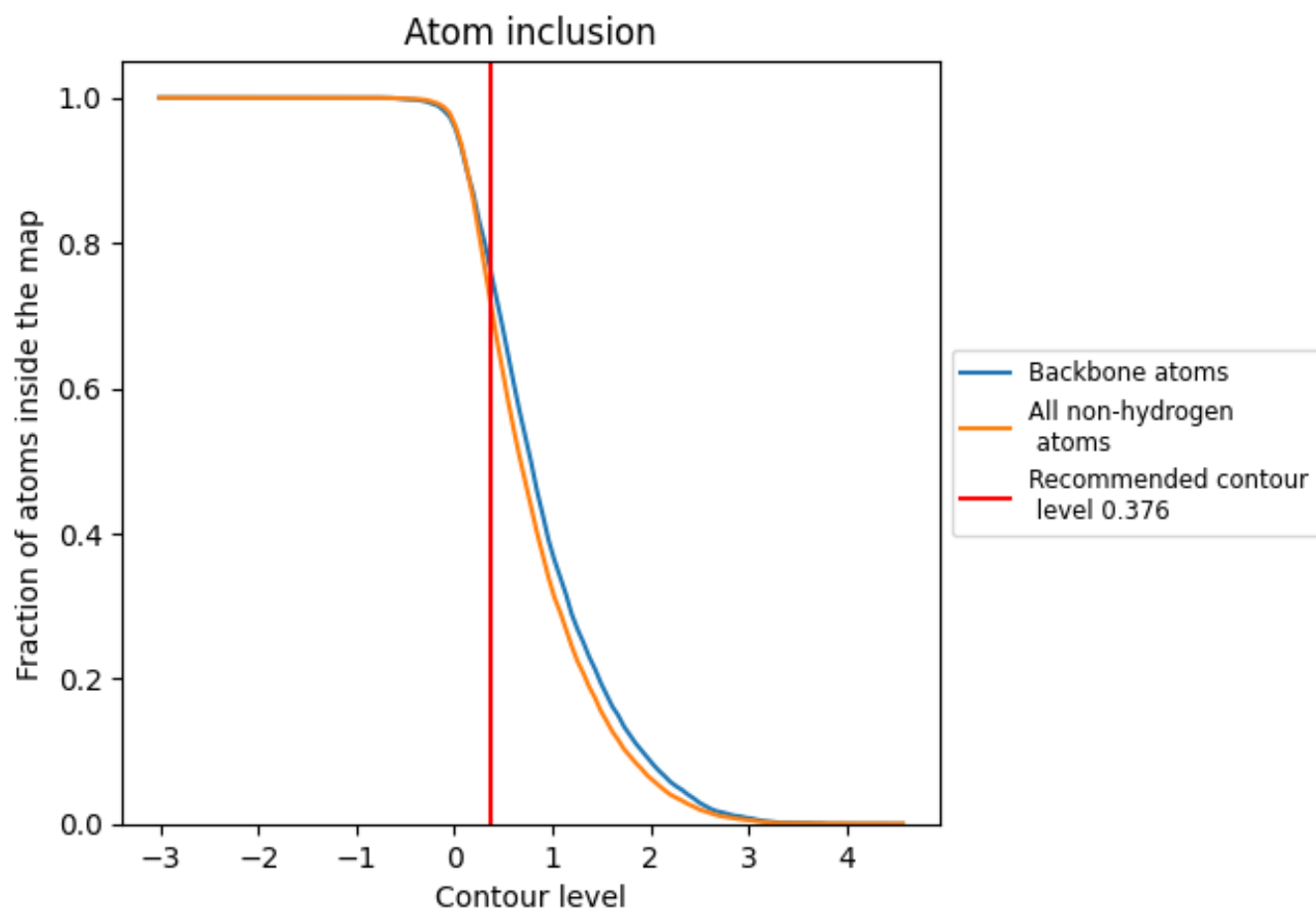
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.376).













9.4 Atom inclusion [i](#)



At the recommended contour level, 76% of all backbone atoms, 71% 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 (0.376) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7116	 0.4360
A	 0.7671	 0.4700
B	 0.7829	 0.4800
D	 0.7143	 0.4230
E	 0.6429	 0.3950
F	 0.0574	 0.0350

