Full wwPDB EM Validation Report ⓘ

Feb 11, 2025 – 06:36 PM EST

PDB ID	:	9CTO
EMDB ID	:	EMD-45913
Title	:	Full length EcPKS2 - acylated dataset with three ACP positions
Authors	:	Schubert, H.L.; Hill, C.P.
Deposited on	:	2024-07-25
Resolution	:	3.10 Å(reported)
Based on initial model	:	.

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:

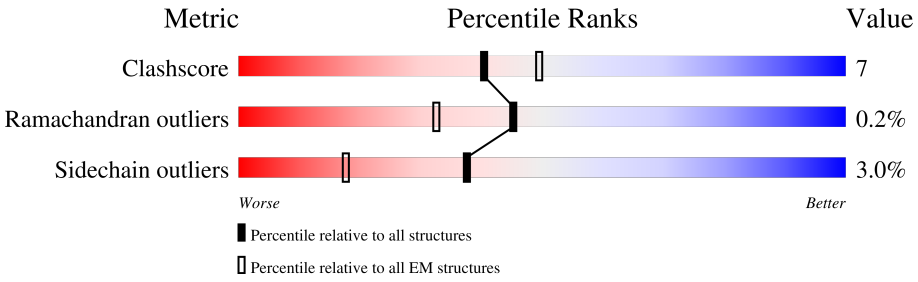
EMDB validation analysis	:	0.0.1.dev113
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.40

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 3.10 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	A	2287	18% 83% 15%
1	B	2287	14% 83% 15%

2 Entry composition

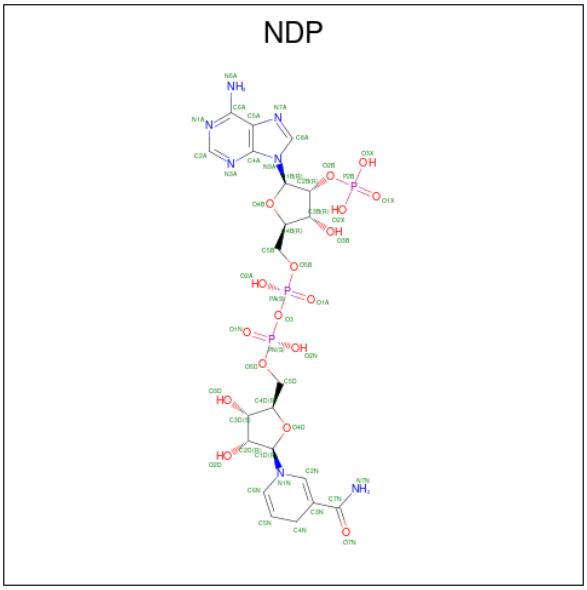
There are 3 unique types of molecules in this entry. The entry contains 69760 atoms, of which 34121 are hydrogens and 0 are deuteriums.

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 Polyketide synthase 2.

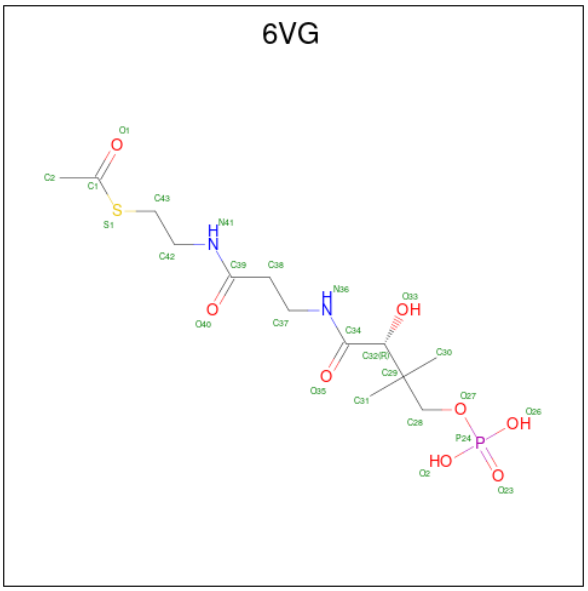
Mol	Chain	Residues	Atoms						AltConf	Trace
1	A	2245	Total	C	H	N	O	S	84	0
			34773	11448	16717	3068	3426	114		
1	B	2244	Total	C	H	N	O	S	2	0
			34745	11066	17306	2967	3298	108		

- Molecule 2 is NADPH DIHYDRO-NICOTINAMIDE-ADENINE-DINUCLEOTIDE PHOSPHATE (three-letter code: NDP) (formula: $C_{21}H_{30}N_7O_{17}P_3$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms						AltConf
2	A	1	Total	C	H	N	O	P	0
			74	21	26	7	17	3	
2	B	1	Total	C	H	N	O	P	0
			74	21	26	7	17	3	

- Molecule 3 is {S}-[2-[3-[[(2 {R})-3,3-dimethyl-2-oxidanyl-4-phosphonooxy-butanoyl]amino] propanoylamino]ethyl] ethanethioate (three-letter code: 6VG) (formula: $C_{13}H_{25}N_2O_8PS$).



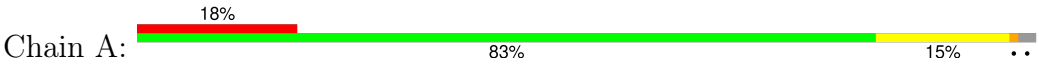
Mol	Chain	Residues	Atoms							AltConf
3	A	1	Total	C	H	N	O	P	S	1
			47	13	23	2	7	1	1	
3	B	1	Total	C	H	N	O	P	S	0
			47	13	23	2	7	1	1	

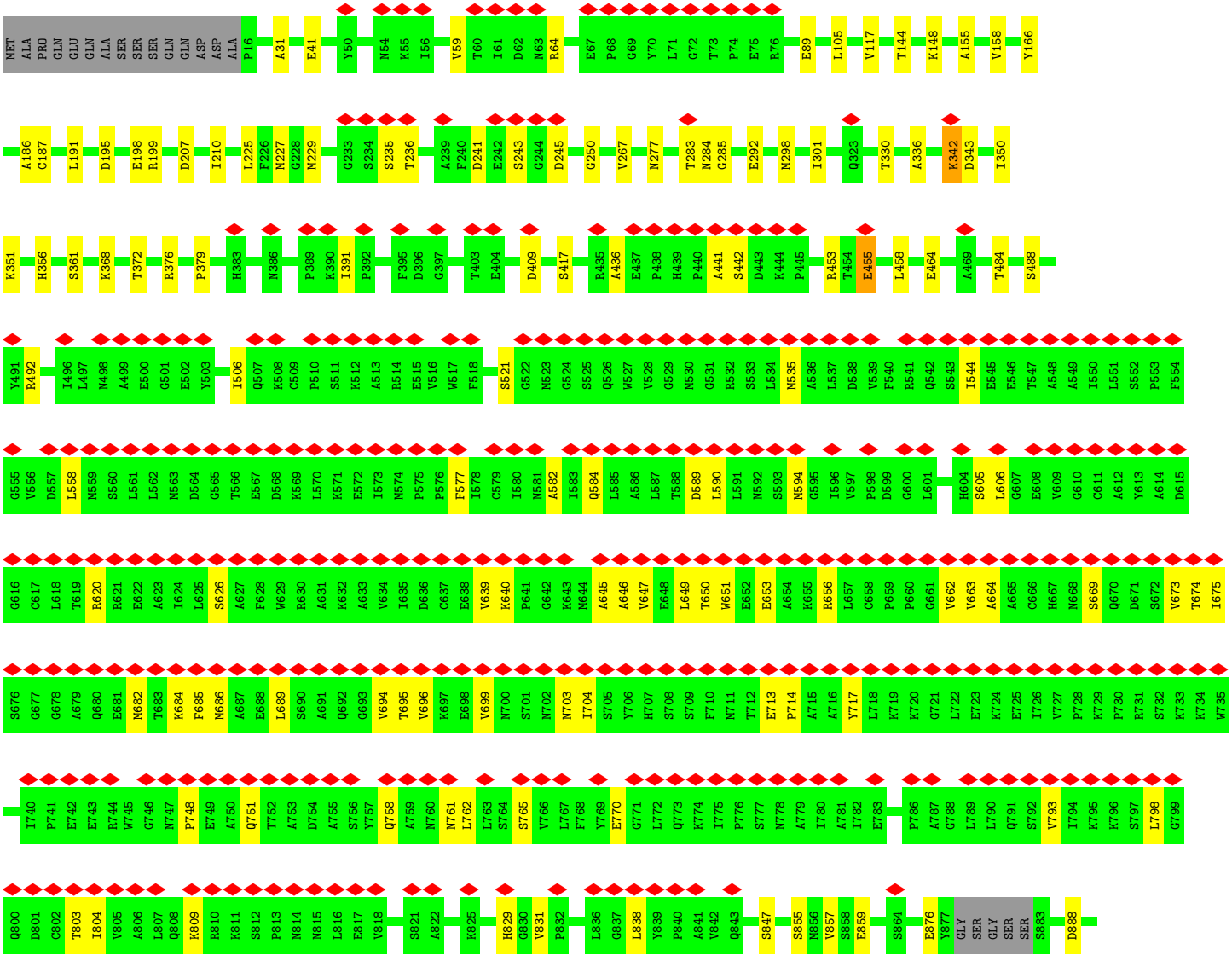
3 Residue-property plots (i)

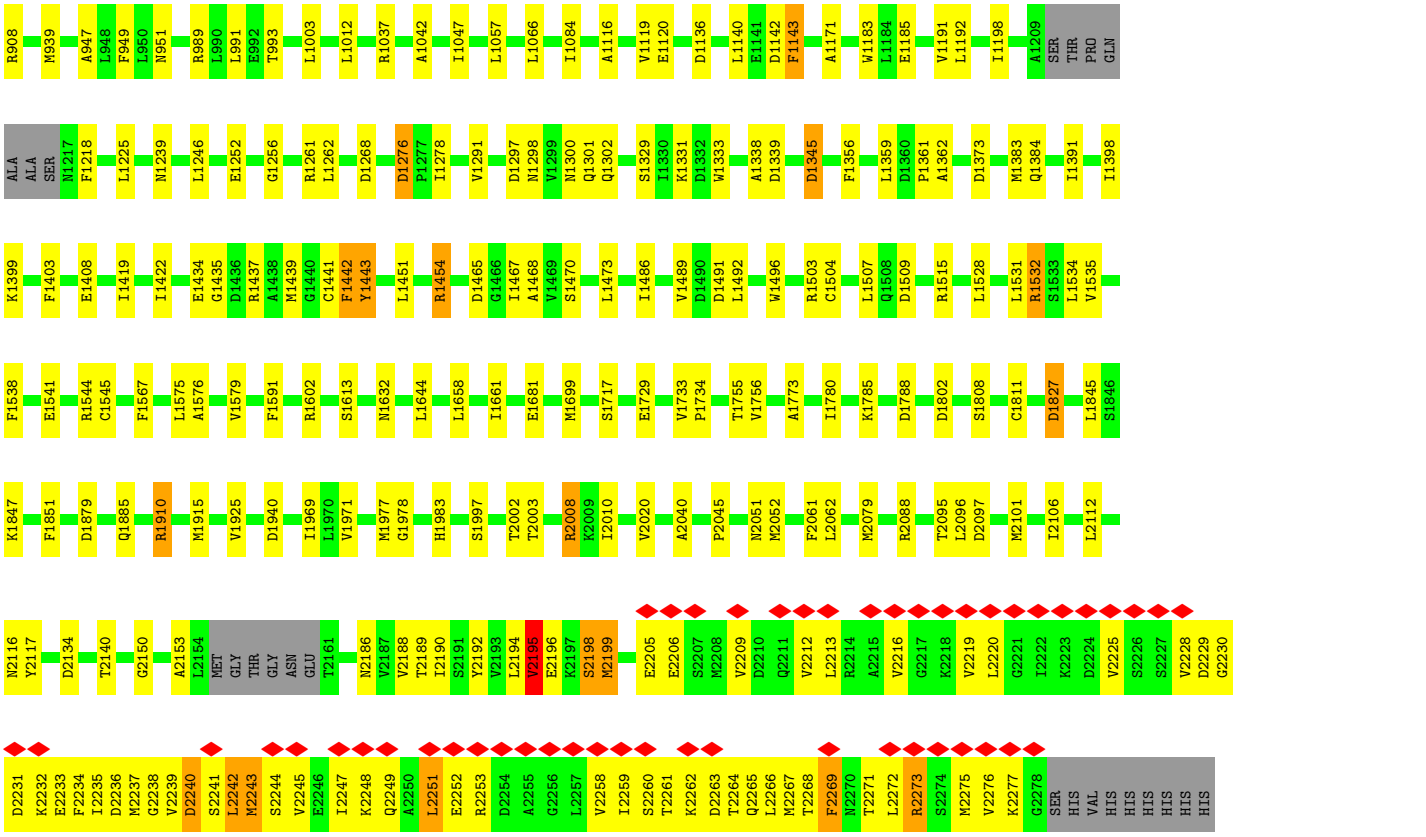
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: Polyketide synthase 2

Chain A:

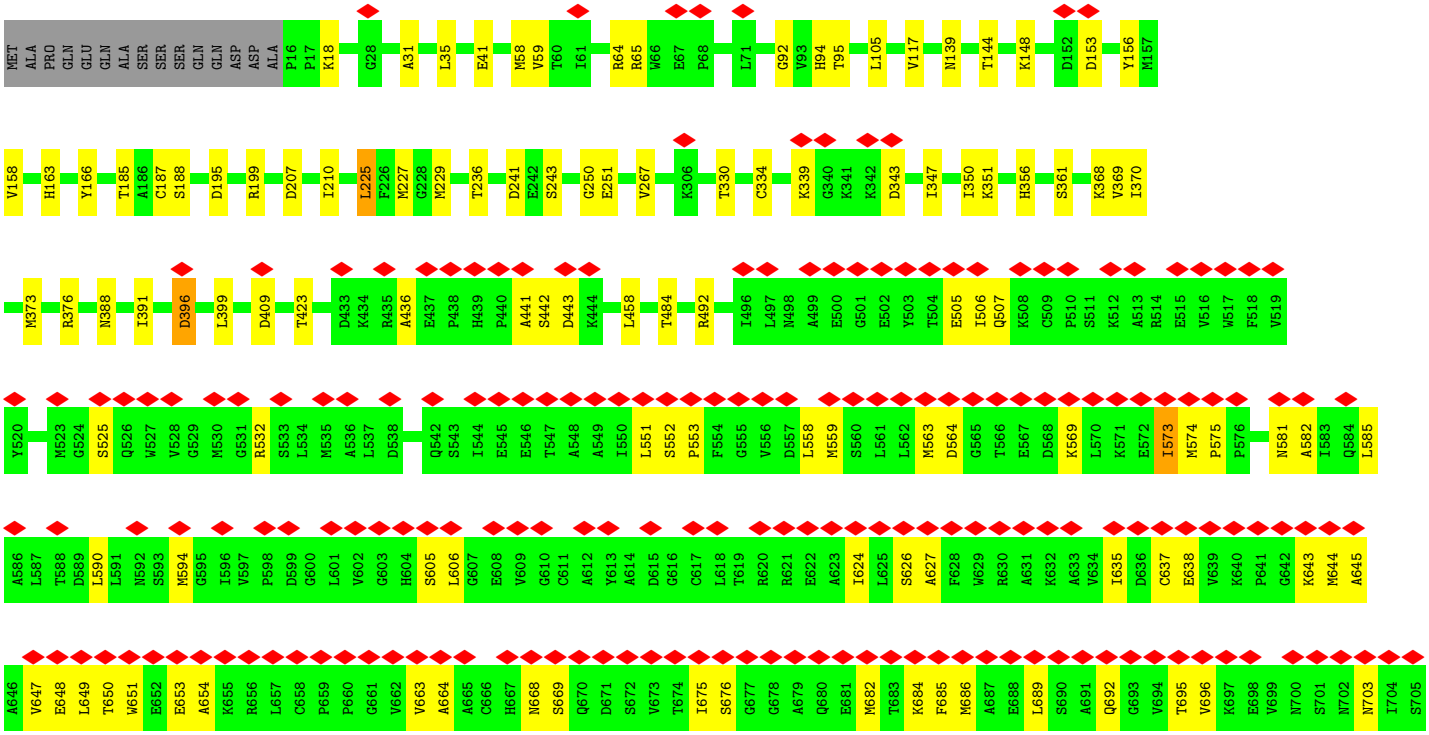


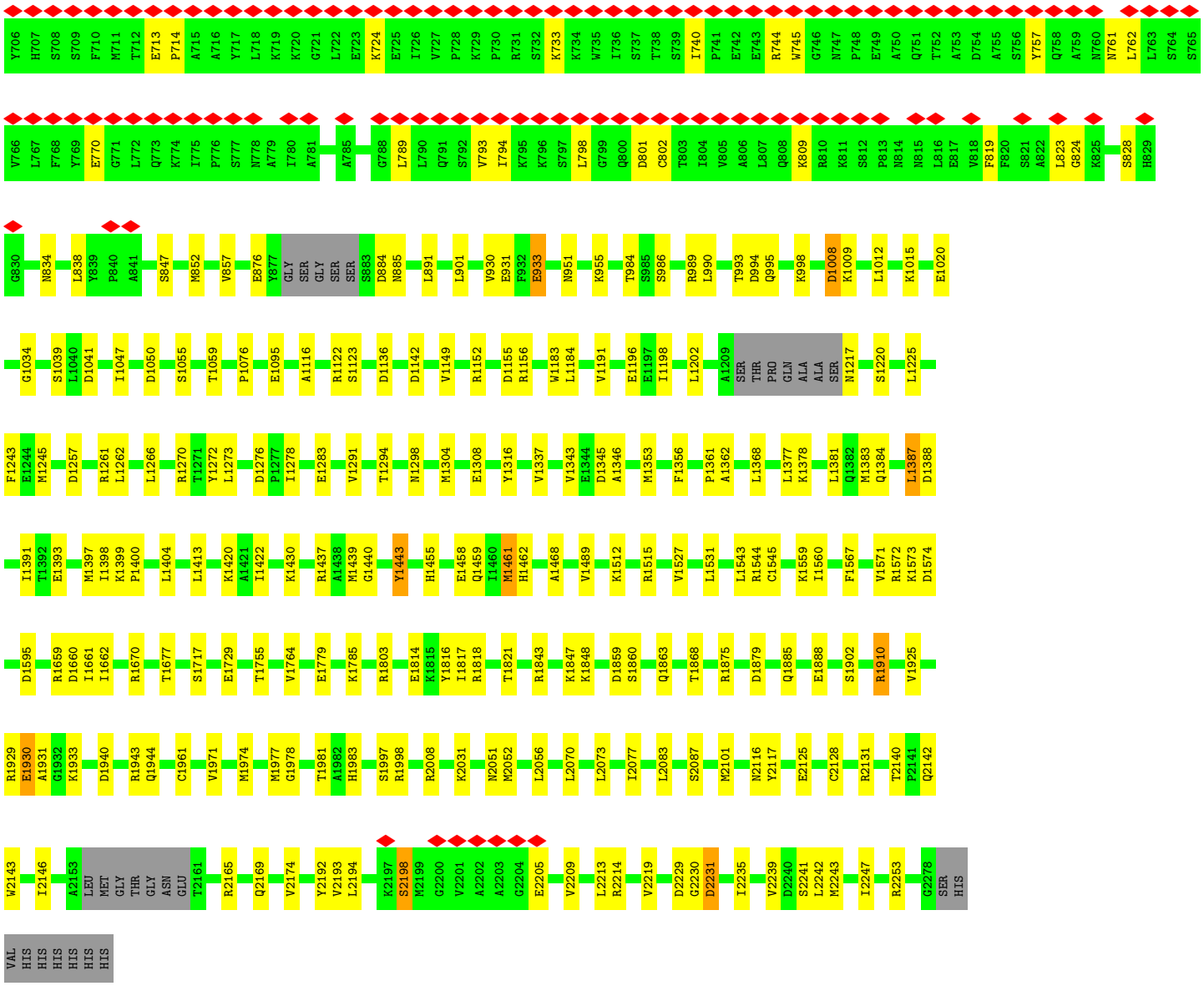




• Molecule 1: Polyketide synthase 2

Chain B:




Y706 H707 S708 S709 F710 M711 T712 E713 P714 A715 A716 Y717 L718 K719 K720 G721 L722 E723 K724 E725 I726 V727 P728 K729 P730 R731 S732 K733 K734 W735 I736 S737 T738 S739 I740 P741 E742 E743 R744 W745 G746 N747 P748 E749 A750 Q751 T752 A753 D754 A755 S756 Y757 Q758 A759 N760 N761 L762 L763 S764 S765
V766 L767 F768 Y769 E770 G771 L772 Q773 K774 I775 P776 S777 N778 A779 I780 A781 A785 G788 L789 L790 Q791 S792 V793 I794 K795 K796 S797 L798 G799 Q800 D801 C802 T803 I804 V805 A806 L807 Q808 K809 R810 K811 S812 P813 N814 N815 L816 E817 V818 F819 F820 S821 A822 L823 G824 K825 S828 H829
G830 N834 L838 Y839 P840 A841 S847 M852 V857 E876 Y877 GLY SER GLY SER SER S883 D884 N885 L891 L901 V930 E931 F932 E933 N951 K955 T984 S985 S986 R989 L990 T993 D994 Q995 K998 D1008 K1009 L1012 K1015 E1020
G1034 S1039 L1040 D1041 I1047 D1050 S1055 T1059 P1076 E1095 A1116 R1122 S1123 D1136 D1142 V1149 R1152 D1155 R1156 W1183 L1184 V1191 E1196 E1197 I1198 L1202 A1209 SER THR PRO GLN ALA ALA SER N1217 S1220 L1225
F1243 E1244 M1245 D1257 R1261 L1262 L1266 R1270 T1271 Y1272 L1273 D1276 P1277 I1278 E1283 V1291 T1294 N1298 M1304 E1308 Y1316 V1337 V1343 E1344 D1345 A1346 M1353 F1356 P1361 A1362 L1368 L1377 K1378 L1381 Q1382 M1383 Q1384 L1387 D1388
I1391 T1392 E1393 M1397 I1398 K1399 P1400 L1404 L1413 K1420 A1421 I1422 K1430 R1437 A1438 M1439 G1440 Y1443 H1455 E1458 Q1459 I1460 M1461 H1462 A1468 V1489 K1512 R1515 V1527 L1531 L1543 R1544 C1545 K1559 I1560 F1567 V1571 R1572 K1573 D1574
D1595 R1659 D1660 I1661 I1662 R1670 T1677 S1717 E1729 T1755 V1764 E1779 K1785 R1803 E1814 K1815 Y1816 I1817 R1818 T1821 R1843 K1847 K1848 D1859 S1860 Q1863 T1868 R1875 D1879 Q1885 E1888 S1902 R1910 V1925
R1929 E1930 A1931 G1932 K1933 D1940 R1943 Q1944 C1961 V1971 M1974 M1977 G1978 T1981 A1982 H1983 S1997 R1998 R2008 K2031 N2051 M2052 L2056 L2070 L2073 I2077 L2083 S2087 M2101 N2116 Y2117 E2125 C2128 R2131 T2140 P2141 Q2142
W2143 I2146 A2153 LEU MET GLY THR GLY ASN GLU T2161 R2165 Q2169 V2174 Y2192 V2193 L2194 K2197 S2198 M2199 G2200 V2201 A2202 A2203 G2204 E2205 V2209 L2213 R2214 V2219 D2229 G2230 D2231 I2235 V2239 D2240 S2241 L2242 M2243 I2247 R2253 G2278 SER HIS
VAL HIS HIS HIS HIS HIS

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	168733	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	40	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2200	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.779	Depositor
Minimum map value	-0.281	Depositor
Average map value	0.003	Depositor
Map value standard deviation	0.026	Depositor
Recommended contour level	0.0704	Depositor
Map size (Å)	317.99997, 317.99997, 317.99997	wwPDB
Map dimensions	300, 300, 300	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.06, 1.06, 1.06	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: 6VG, SCY, NDP

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	0.28	1/18441 (0.0%)	0.49	2/24958 (0.0%)
1	B	0.26	0/17812	0.49	3/24120 (0.0%)
All	All	0.27	1/36253 (0.0%)	0.49	5/49078 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	4

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	2195	VAL	C-N	-7.94	1.15	1.34

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	2198	SER	N-CA-CB	6.64	120.47	110.50
1	B	573	ILE	CG1-CB-CG2	6.26	125.17	111.40
1	B	2198	SER	CB-CA-C	5.47	120.50	110.10
1	A	2195	VAL	CA-C-N	-5.25	105.65	117.20
1	A	2195	VAL	C-N-CA	-5.00	109.19	121.70

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	2195	VAL	Mainchain
1	A	2205[B]	GLU	Mainchain
1	A	2273[A]	ARG	Sidechain

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	18056	16717	17948	278	0
1	B	17439	17306	17307	216	0
2	A	48	26	26	1	0
2	B	48	26	26	3	0
3	A	24	23	0	0	0
3	B	24	23	0	1	0
All	All	35639	34121	35307	485	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 7.

All (485) 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:2241[B]:SER:C	1:A:2242[B]:LEU:N	1.87	1.27
1:A:949:PHE:HE2	1:A:2245[B]:VAL:HG23	1.15	1.05
1:A:285:GLY:HA3	1:A:2240[A]:ASP:CB	1.93	0.98
1:A:285:GLY:HA3	1:A:2240[A]:ASP:OD2	1.65	0.95
1:A:1329:SER:OG	1:A:2194:LEU:HD11	1.69	0.91
1:B:1560:ILE:O	1:B:1560:ILE:HD12	1.70	0.90
1:B:1888:GLU:OE1	1:B:1888:GLU:N	2.06	0.88
1:A:2209[B]:VAL:O	1:A:2213[B]:LEU:HD23	1.75	0.85
1:A:285:GLY:CA	1:A:2240[A]:ASP:HB2	2.06	0.85
1:A:949:PHE:CE2	1:A:2245[B]:VAL:HG23	2.08	0.83
1:B:573:ILE:HB	1:B:635:ILE:HD11	1.61	0.82
1:A:2261[A]:THR:OG1	1:A:2262[A]:LYS:NZ	2.13	0.82
1:A:285:GLY:HA3	1:A:2240[A]:ASP:HB2	1.60	0.81
1:A:908:ARG:NH1	1:A:2242[B]:LEU:HD23	1.96	0.81
1:A:2219[A]:VAL:HG11	1:A:2247[A]:ILE:HG13	1.60	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:589:ASP:OD2	1:A:620:ARG:NH2	2.15	0.79
1:A:285:GLY:HA3	1:A:2240[A]:ASP:CG	2.04	0.78
1:B:1859:ASP:OD1	1:B:1860:SER:N	2.18	0.77
1:B:2125:GLU:OE2	1:B:2142:GLN:NE2	2.18	0.76
1:A:2213[B]:LEU:CD2	1:A:2272[B]:LEU:HD21	2.15	0.76
1:B:330:THR:HG21	1:B:391:ILE:HG23	1.69	0.75
1:A:2267[B]:MET:HE1	1:A:2272[B]:LEU:HD12	1.68	0.75
1:B:195:ASP:OD1	1:B:199:ARG:NH1	2.19	0.74
1:A:195:ASP:OD1	1:A:199:ARG:NH1	2.20	0.74
1:B:1814:GLU:OE2	1:B:1843:ARG:NH2	2.21	0.73
1:A:292:GLU:OE1	1:B:18:LYS:NZ	2.23	0.72
1:A:330:THR:HG21	1:A:391:ILE:HG23	1.73	0.71
1:A:2088:ARG:NH2	1:A:2134:ASP:OD2	2.23	0.71
1:A:2247[A]:ILE:O	1:A:2251[A]:LEU:HD12	1.91	0.70
1:A:144:THR:OG1	1:B:144:THR:OG1	2.08	0.70
1:A:2220[B]:LEU:HA	1:A:2243[B]:MET:SD	2.30	0.70
1:A:1489:VAL:HG12	1:A:1489:VAL:O	1.91	0.70
1:A:949:PHE:HE2	1:A:2245[B]:VAL:CG2	2.00	0.69
1:A:285:GLY:CA	1:A:2240[A]:ASP:CB	2.66	0.68
1:B:1439:MET:SD	1:B:1439:MET:N	2.67	0.68
1:B:1997:SER:OG	2:B:2301:NDP:O3X	2.11	0.68
1:B:1387:LEU:HD21	1:B:1443:TYR:CE1	2.29	0.68
1:A:2220[A]:LEU:HD23	1:A:2243[A]:MET:HG2	1.76	0.67
1:A:1997:SER:OG	2:A:2301:NDP:O3X	2.12	0.67
1:A:947:ALA:O	1:A:2249[B]:GLN:NE2	2.26	0.67
1:A:2243[A]:MET:HE1	1:B:94:HIS:CE1	2.29	0.67
1:A:2253[B]:ARG:O	1:A:2253[B]:ARG:NE	2.28	0.66
1:A:2229[A]:ASP:OD1	1:A:2231[A]:ASP:N	2.23	0.66
1:B:2253:ARG:NE	1:B:2253:ARG:O	2.27	0.66
1:B:2205:GLU:CB	1:B:2214:ARG:NH2	2.60	0.65
1:A:685:PHE:CE2	1:A:689:LEU:HD11	2.31	0.65
1:A:484:THR:O	1:A:492:ARG:NH1	2.30	0.65
1:A:1384:GLN:O	1:A:1437:ARG:NH1	2.31	0.64
1:B:1387:LEU:HD21	1:B:1443:TYR:HE1	1.62	0.64
1:A:285:GLY:HA2	1:A:2240[A]:ASP:HB2	1.80	0.64
1:B:484:THR:O	1:B:492:ARG:NH1	2.31	0.64
1:A:283:THR:O	1:A:2265[A]:GLN:OE1	2.16	0.63
1:A:649:LEU:CD2	1:A:694:VAL:HG11	2.29	0.63
1:A:770:GLU:N	1:A:770:GLU:OE1	2.31	0.63
1:B:441:ALA:O	1:B:442:SER:OG	2.11	0.63
1:A:2213[B]:LEU:HD21	1:A:2272[B]:LEU:HD21	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:649:LEU:HD22	1:A:694:VAL:HG11	1.80	0.62
1:A:951:ASN:ND2	1:A:2253[B]:ARG:HD3	2.14	0.62
1:B:2229:ASP:OD1	1:B:2231:ASP:N	2.33	0.62
1:A:2213[A]:LEU:HD12	1:A:2272[A]:LEU:HD11	1.82	0.62
1:B:2209:VAL:O	1:B:2213:LEU:HD23	2.00	0.62
1:A:368:LYS:O	1:A:372:THR:HG23	2.00	0.61
1:B:1391:ILE:HD11	1:B:1455:HIS:ND1	2.14	0.61
1:A:2253[A]:ARG:O	1:A:2253[A]:ARG:NE	2.31	0.61
1:B:770:GLU:N	1:B:770:GLU:OE1	2.33	0.61
1:A:2112:LEU:HD23	1:A:2112:LEU:H	1.66	0.60
1:B:1459:GLN:O	1:B:1573:LYS:NZ	2.33	0.60
1:A:225:LEU:HD21	1:B:158:VAL:HG13	1.83	0.60
1:B:648:GLU:HB2	1:B:695:THR:HG22	1.83	0.60
1:A:284:ASN:O	1:A:2240[A]:ASP:O	2.20	0.60
1:A:2232[A]:LYS:C	1:A:2268[A]:THR:HG22	2.22	0.60
1:A:685:PHE:CZ	1:A:689:LEU:HD11	2.36	0.60
1:B:1384:GLN:O	1:B:1437:ARG:NH2	2.35	0.60
1:B:635:ILE:O	1:B:635:ILE:HG22	2.01	0.60
1:A:283:THR:O	1:A:2265[A]:GLN:CD	2.40	0.60
1:B:1262:LEU:CD2	1:B:1422:ILE:HD13	2.32	0.60
1:B:376:ARG:NH2	1:B:409:ASP:O	2.34	0.59
1:A:2238[A]:GLY:HA3	1:B:94:HIS:HD2	1.67	0.59
1:A:2248[B]:LYS:HE2	1:A:2261[B]:THR:HG23	1.84	0.59
1:B:1294:THR:O	1:B:1298:ASN:ND2	2.35	0.59
1:B:675:ILE:HD12	1:B:675:ILE:O	2.02	0.59
1:B:1381:LEU:HD21	1:B:1391:ILE:HG22	1.83	0.59
1:B:1971:VAL:HG21	1:B:2083:LEU:HD11	1.84	0.59
1:A:1298:ASN:OD1	1:A:1575:LEU:HA	2.03	0.59
1:B:1276:ASP:OD2	1:B:1278:ILE:HG22	2.03	0.59
1:A:674:THR:HG22	1:A:674:THR:O	2.03	0.59
1:A:1329:SER:HG	1:A:2194:LEU:HD11	1.68	0.58
1:B:581:ASN:HD21	1:B:606:LEU:HD11	1.68	0.58
1:A:1084:ILE:HG22	1:A:1084:ILE:O	2.03	0.58
1:B:1422:ILE:C	1:B:1422:ILE:HD12	2.24	0.58
1:A:1276:ASP:OD1	1:A:1278:ILE:N	2.35	0.58
1:B:558:LEU:HD11	1:B:582:ALA:HB2	1.84	0.58
1:A:376:ARG:NH2	1:A:409:ASP:O	2.35	0.58
1:A:2213[A]:LEU:HG	1:A:2225[A]:VAL:HG21	1.85	0.58
1:A:1339:ASP:N	1:A:1339:ASP:OD1	2.37	0.58
1:B:819:PHE:CZ	1:B:823:LEU:HD11	2.39	0.58
1:A:2239[B]:VAL:HG11	1:A:2265[B]:GLN:HA	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1531:LEU:HD21	1:B:1543:LEU:HB3	1.86	0.57
1:B:1729:GLU:OE2	1:B:1910:ARG:NH2	2.36	0.57
1:A:2216[A]:VAL:HG11	1:A:2272[A]:LEU:HD22	1.85	0.57
1:B:1337:VAL:HG21	1:B:1343:VAL:HG21	1.84	0.57
1:A:31:ALA:HB1	1:A:267:VAL:HG13	1.86	0.57
1:B:1047:ILE:HD12	1:B:1116:ALA:CB	2.34	0.57
1:A:639:VAL:CG1	1:A:704:ILE:HD12	2.34	0.57
1:B:185:THR:HG22	1:B:423:THR:HG21	1.85	0.57
1:A:235:SER:OG	1:A:236:THR:N	2.36	0.56
1:A:2242[A]:LEU:HD13	1:B:156:TYR:OH	2.05	0.56
1:B:1266:LEU:HD12	1:B:1422:ILE:HD11	1.87	0.56
1:A:210:ILE:HG22	1:A:210:ILE:O	2.06	0.56
1:B:2205:GLU:CB	1:B:2214:ARG:HH22	2.18	0.56
1:B:2051:ASN:HB3	1:B:2101:MET:SD	2.45	0.56
1:B:31:ALA:HB1	1:B:267:VAL:HG13	1.87	0.56
1:A:2212[B]:VAL:HG21	1:A:2251[B]:LEU:HD22	1.88	0.56
1:B:59:VAL:HG21	1:B:236:THR:HG22	1.88	0.56
1:B:330:THR:HG23	1:B:399:LEU:CD1	2.36	0.56
1:B:1512:LYS:O	1:B:1515:ARG:NH1	2.36	0.56
1:A:2241[A]:SER:HG	1:A:2242[A]:LEU:N	2.04	0.55
1:A:2267[A]:MET:HG2	1:A:2271[A]:THR:HB	1.88	0.55
1:A:1717:SER:OG	1:A:1885:GLN:NE2	2.37	0.55
1:B:210:ILE:O	1:B:210:ILE:HG22	2.06	0.55
1:A:89:GLU:OE2	1:A:89:GLU:N	2.36	0.55
1:A:2272[B]:LEU:HD23	1:A:2273[B]:ARG:N	2.21	0.55
1:B:1217:ASN:N	1:B:1220:SER:HG	2.04	0.55
1:B:1270:ARG:NH1	1:B:1345:ASP:OD1	2.38	0.55
1:A:1042:ALA:HB1	1:A:1066:LEU:CD1	2.37	0.55
1:A:2234[A]:PHE:HB3	1:A:2239[A]:VAL:HG21	1.88	0.55
1:B:645:ALA:HB3	1:B:675:ILE:HD11	1.88	0.55
1:A:453:ARG:NH1	1:A:488:SER:O	2.37	0.55
1:A:2116:ASN:OD1	1:A:2117:TYR:N	2.40	0.55
1:B:65:ARG:NH2	1:B:251:GLU:OE1	2.40	0.55
1:A:2232[B]:LYS:HD3	1:A:2237[B]:MET:HG3	1.88	0.55
1:B:703:ASN:O	1:B:703:ASN:OD1	2.24	0.55
1:A:1333:TRP:CZ2	1:A:2199[A]:MET:O	2.60	0.54
1:B:1012:LEU:HD11	1:B:2008:ARG:HD2	1.90	0.54
1:B:650:THR:OG1	1:B:653:GLU:OE1	2.25	0.54
1:A:1183:TRP:HE3	1:A:1192:LEU:HD22	1.72	0.54
1:A:2229[A]:ASP:OD1	1:A:2230[A]:GLY:N	2.41	0.54
1:A:372:THR:HG22	1:A:379:PRO:CD	2.38	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:695:THR:O	1:B:695:THR:HG23	2.07	0.54
1:B:1398:ILE:HD12	1:B:1399:LYS:O	2.08	0.54
1:A:761:ASN:OD1	1:A:762:LEU:N	2.41	0.54
1:B:933:GLU:O	1:B:933:GLU:HG3	2.08	0.54
1:B:986:SER:HB3	1:B:990:LEU:HD21	1.89	0.54
1:A:1198:ILE:HD12	1:A:1198:ILE:H	1.73	0.53
1:A:1658:LEU:HD23	1:A:1658:LEU:O	2.08	0.53
1:B:1308:GLU:OE2	1:B:1316:TYR:N	2.41	0.53
1:B:2031:LYS:HA	1:B:2031:LYS:HE2	1.90	0.53
1:A:1441:CYS:O	1:A:1442:PHE:HB2	2.08	0.53
1:A:1491:ASP:OD1	1:A:1492:LEU:N	2.41	0.53
1:A:1756:VAL:CG2	1:A:1780:ILE:HD13	2.39	0.53
1:B:1717:SER:OG	1:B:1885:GLN:NE2	2.39	0.53
1:A:2236[A]:ASP:O	1:B:92:GLY:HA2	2.07	0.53
1:A:2216[B]:VAL:HG21	1:A:2251[B]:LEU:HD21	1.89	0.53
1:B:1944:GLN:N	1:B:1944:GLN:OE1	2.41	0.53
1:A:285:GLY:CA	1:A:2240[A]:ASP:HA	2.38	0.53
1:A:372:THR:HG22	1:A:379:PRO:HD3	1.90	0.53
1:A:2233[A]:GLU:N	1:A:2268[A]:THR:HG22	2.24	0.53
1:A:2269[A]:PHE:CD1	1:A:2272[A]:LEU:HD21	2.44	0.53
1:B:1387:LEU:HD12	1:B:1388:ASP:N	2.23	0.53
1:A:1256:GLY:O	1:A:1261:ARG:NH2	2.41	0.53
1:A:2229[B]:ASP:OD1	1:A:2231[B]:ASP:N	2.41	0.53
1:B:2219:VAL:HG11	1:B:2247:ILE:HG13	1.91	0.53
1:A:250:GLY:N	1:A:356:HIS:O	2.42	0.52
1:A:1262:LEU:HD23	1:A:1422:ILE:HG21	1.91	0.52
1:B:2146:ILE:HD12	1:B:2174:VAL:HG21	1.90	0.52
1:A:669:SER:HB2	1:A:793:VAL:HG13	1.91	0.52
1:A:191:LEU:HD12	1:A:417:SER:HB2	1.92	0.52
1:A:59:VAL:HG21	1:A:236:THR:HG22	1.91	0.52
1:B:117:VAL:HG11	1:B:857:VAL:HG21	1.92	0.52
1:A:2213[B]:LEU:HD22	1:A:2272[B]:LEU:HD21	1.91	0.52
1:A:2261[B]:THR:HA	1:A:2264[B]:THR:OG1	2.10	0.52
1:B:594:MET:HE1	1:B:823:LEU:HD13	1.92	0.52
1:A:350:ILE:HD12	1:A:368:LYS:HB2	1.92	0.51
1:B:532:ARG:NH2	1:B:563:MET:O	2.43	0.51
1:A:148:LYS:NZ	1:A:876:GLU:O	2.43	0.51
1:A:2096:LEU:HD13	1:A:2097:ASP:N	2.26	0.51
1:B:1283:GLU:OE2	1:B:1378:LYS:NZ	2.43	0.51
1:A:2213[A]:LEU:HD13	1:A:2273[A]:ARG:HG2	1.92	0.51
1:B:581:ASN:ND2	1:B:627:ALA:HB1	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2165:ARG:CG	1:B:2165:ARG:O	2.58	0.51
1:A:855:SER:O	1:A:859:GLU:HG2	2.11	0.51
1:B:241:ASP:OD2	1:B:243:SER:OG	2.29	0.51
1:A:191:LEU:HD12	1:A:417:SER:CB	2.40	0.51
1:A:1773:ALA:HB3	1:A:1780:ILE:HD11	1.93	0.51
1:B:1020:GLU:OE1	1:B:2008:ARG:NH1	2.44	0.51
1:B:1368:LEU:HD13	1:B:1397:MET:CE	2.41	0.51
1:A:117:VAL:HG11	1:A:857:VAL:HG21	1.92	0.51
1:A:798:LEU:HD12	1:A:804:ILE:HD11	1.93	0.51
1:A:2235[B]:ILE:HA	1:A:2239[B]:VAL:HG12	1.92	0.51
1:B:819:PHE:CE2	1:B:823:LEU:HD11	2.46	0.51
1:A:441:ALA:O	1:A:442:SER:OG	2.14	0.51
1:A:594:MET:HG3	1:A:838:LEU:HD21	1.93	0.51
1:A:2234[A]:PHE:HB3	1:A:2239[A]:VAL:CG2	2.41	0.51
1:B:573:ILE:HD12	1:B:635:ILE:HG12	1.92	0.51
1:A:803:THR:HG21	1:A:829:HIS:CD2	2.45	0.51
1:A:2239[B]:VAL:HG22	1:A:2244[B]:SER:OG	2.12	0.51
1:A:241:ASP:OD2	1:A:243:SER:OG	2.29	0.50
1:A:649:LEU:HD12	1:A:653:GLU:HB3	1.93	0.50
1:B:139:ASN:O	1:B:163:HIS:NE2	2.39	0.50
1:A:2233[A]:GLU:HA	1:A:2268[A]:THR:HG22	1.94	0.50
1:B:993:THR:HG22	1:B:995:GLN:H	1.76	0.50
1:A:1003:LEU:O	1:A:1037:ARG:NH2	2.45	0.50
1:A:158:VAL:HG13	1:B:225:LEU:HD21	1.94	0.50
1:A:2213[B]:LEU:HD11	1:A:2272[B]:LEU:CD2	2.41	0.50
1:B:343:ASP:OD1	1:B:343:ASP:N	2.44	0.50
1:B:761:ASN:OD1	1:B:762:LEU:N	2.45	0.50
1:A:351:LYS:NZ	1:A:361:SER:OG	2.35	0.50
1:A:521:SER:O	1:A:584:GLN:NE2	2.42	0.50
1:B:643:LYS:HB2	1:B:682:MET:HE2	1.94	0.50
1:A:2219[B]:VAL:HG11	1:A:2247[B]:ILE:HG13	1.94	0.49
1:A:187:SCY:N	1:A:187:SCY:HE2	2.26	0.49
1:A:2220[A]:LEU:HD13	1:A:2237[A]:MET:SD	2.52	0.49
1:B:1050:ASP:OD1	1:B:1050:ASP:N	2.43	0.49
1:B:2235:ILE:HA	1:B:2239:VAL:HG12	1.92	0.49
1:A:2225[A]:VAL:O	1:A:2228[A]:VAL:HG22	2.12	0.49
1:B:1383:MET:SD	1:B:1420:LYS:NZ	2.86	0.49
1:B:1544:ARG:NE	1:B:1574:ASP:OD1	2.45	0.49
1:A:343:ASP:N	1:A:343:ASP:OD1	2.43	0.49
1:B:105:LEU:HD13	1:B:166:TYR:HA	1.93	0.49
1:B:2117:TYR:HH	2:B:2301:NDP:HO2N	1.60	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:350:ILE:HD12	1:B:368:LYS:HB2	1.95	0.49
1:B:638:GLU:OE1	1:B:638:GLU:N	2.42	0.49
1:A:1504:CYS:HA	1:A:1507:LEU:HD13	1.94	0.49
1:A:1301:GLN:O	1:A:1331:LYS:NZ	2.44	0.49
1:A:1434:GLU:OE2	1:A:1454:ARG:NH1	2.46	0.49
1:B:148:LYS:NZ	1:B:876:GLU:O	2.45	0.49
1:A:639:VAL:HG13	1:A:704:ILE:HD12	1.95	0.48
1:A:2249[A]:GLN:HA	1:A:2252[A]:GLU:OE1	2.13	0.48
1:A:1403:PHE:CD2	1:A:1473:LEU:HD21	2.49	0.48
1:A:1978:GLY:HA2	1:A:2052:MET:SD	2.53	0.48
1:A:2106:ILE:HD12	1:A:2117:TYR:HD2	1.77	0.48
1:B:740:ILE:O	1:B:745:TRP:NE1	2.44	0.48
1:A:639:VAL:HG11	1:A:704:ILE:HD12	1.96	0.48
1:A:2258[A]:VAL:HG13	1:A:2258[A]:VAL:O	2.13	0.48
1:B:581:ASN:O	1:B:585:LEU:HG	2.13	0.48
1:B:1012:LEU:HD12	1:B:1039:SER:O	2.14	0.48
1:B:1803:ARG:O	1:B:1816:TYR:OH	2.18	0.48
1:A:2051:ASN:HB3	1:A:2101:MET:SD	2.54	0.48
1:B:669:SER:HB3	1:B:793:VAL:HG13	1.95	0.48
1:A:1531:LEU:HD12	1:A:1545:CYS:HB3	1.95	0.48
1:B:2239:VAL:HG13	1:B:2239:VAL:O	2.14	0.48
1:B:250:GLY:N	1:B:356:HIS:O	2.46	0.48
1:B:951:ASN:OD1	1:B:951:ASN:N	2.47	0.48
1:A:2263[B]:ASP:O	1:A:2267[B]:MET:N	2.47	0.47
1:B:2087:SER:OG	1:B:2131:ARG:NH1	2.46	0.47
1:A:1042:ALA:HB1	1:A:1066:LEU:HD12	1.95	0.47
1:A:1465:ASP:OD2	1:A:1465:ASP:C	2.52	0.47
1:B:1930:GLU:OE2	1:B:1931:ALA:N	2.47	0.47
1:B:1291:VAL:HG22	1:B:1461:MET:CE	2.44	0.47
1:B:1361:PRO:O	1:B:1362:ALA:HB3	2.14	0.47
1:A:647:VAL:HG12	1:A:696:VAL:HG13	1.96	0.47
1:A:662:VAL:HG12	1:A:675:ILE:HD11	1.97	0.47
1:A:1136:ASP:OD1	1:A:1136:ASP:N	2.41	0.47
1:B:388:ASN:HB3	1:B:391:ILE:HD12	1.96	0.47
1:B:443:ASP:OD1	1:B:443:ASP:N	2.47	0.47
1:A:1345:ASP:N	1:A:1345:ASP:OD1	2.47	0.47
1:B:551:LEU:HD22	1:B:624:ILE:HD11	1.95	0.47
1:B:1142:ASP:OD2	1:B:1156:ARG:NH1	2.48	0.47
1:B:1910:ARG:HD3	1:B:1910:ARG:N	2.30	0.47
1:B:1978:GLY:HA2	1:B:2052:MET:SD	2.54	0.47
1:A:2235[B]:ILE:HB	1:A:2265[B]:GLN:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:794:ILE:O	1:B:798:LEU:HD22	2.15	0.47
1:B:2229:ASP:OD1	1:B:2230:GLY:N	2.48	0.47
1:A:1644:LEU:HD11	1:A:1885:GLN:HG3	1.96	0.47
1:A:1729:GLU:OE2	1:A:1910:ARG:NH2	2.48	0.47
1:B:2073:LEU:HG	1:B:2077:ILE:HD12	1.97	0.47
1:A:1047:ILE:HD12	1:A:1116:ALA:CB	2.45	0.46
1:A:1143:PHE:HB3	1:A:2188:VAL:HG21	1.96	0.46
1:B:686:MET:HB3	1:B:696:VAL:HG11	1.97	0.46
1:B:1462:HIS:CG	1:B:1462:HIS:O	2.68	0.46
1:B:574:MET:HB3	1:B:575:PRO:HD3	1.96	0.46
1:B:2116:ASN:OD1	1:B:2117:TYR:N	2.48	0.46
1:A:1845:LEU:HD11	1:A:1851:PHE:HB2	1.97	0.46
1:B:740:ILE:HG22	1:B:744:ARG:HB2	1.97	0.46
1:B:2192:TYR:CE2	1:B:2194:LEU:HD13	2.50	0.46
1:A:650:THR:HG22	1:A:651:TRP:N	2.30	0.46
1:A:1185:GLU:OE2	1:A:1185:GLU:HA	2.16	0.46
1:A:1298:ASN:OD1	1:A:1576:ALA:N	2.41	0.46
1:A:1489:VAL:O	1:A:1489:VAL:CG1	2.59	0.46
1:B:423:THR:O	1:B:423:THR:HG23	2.16	0.46
1:B:1184:LEU:HD13	1:B:1184:LEU:C	2.36	0.46
1:A:277:ASN:C	1:A:277:ASN:OD1	2.55	0.46
1:A:1847:LYS:HE3	1:A:1847:LYS:HA	1.98	0.46
1:A:2260[A]:SER:HB3	1:A:2263[A]:ASP:OD2	2.16	0.46
1:B:347:ILE:CG2	1:B:399:LEU:HD22	2.46	0.46
1:B:1567:PHE:O	1:B:1571:VAL:HG23	2.16	0.46
1:A:285:GLY:HA3	1:A:2240[A]:ASP:CA	2.44	0.45
1:A:2010:ILE:HG23	1:A:2020:VAL:HG21	1.98	0.45
1:A:2186:ASN:ND2	1:A:2189:THR:OG1	2.48	0.45
1:B:1489:VAL:O	1:B:1489:VAL:HG12	2.15	0.45
1:A:2150:GLY:O	1:A:2153:ALA:N	2.48	0.45
1:B:351:LYS:NZ	1:B:361:SER:OG	2.37	0.45
1:B:1343:VAL:HG23	1:B:1346:ALA:HB3	1.98	0.45
1:A:535:MET:HE1	1:A:544:ILE:HG21	1.99	0.45
1:A:1969:ILE:HD11	1:A:2040:ALA:HB2	1.98	0.45
1:B:396:ASP:N	1:B:396:ASP:OD2	2.49	0.45
1:B:551:LEU:HD13	1:B:624:ILE:HG13	1.98	0.45
1:B:1489:VAL:O	1:B:1489:VAL:CG1	2.64	0.45
1:A:590:LEU:CD2	1:A:838:LEU:HD22	2.47	0.45
1:A:1486:ILE:HD11	1:A:1567:PHE:CZ	2.51	0.45
1:B:1755:THR:HG22	1:B:1779:GLU:HB3	1.98	0.45
1:A:1756:VAL:HG23	1:A:1780:ILE:HD13	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:153:ASP:OD1	1:B:153:ASP:C	2.53	0.45
1:B:2143:TRP:HB3	1:B:2146:ILE:HD11	1.98	0.45
1:A:1140:LEU:HA	1:A:2190:ILE:O	2.16	0.45
1:B:187:SCY:O	1:B:188:SER:CB	2.64	0.45
1:A:458:LEU:HD23	1:A:506:ILE:HG23	1.98	0.45
1:A:699:VAL:HG13	1:A:699:VAL:O	2.16	0.45
1:A:1441:CYS:O	1:A:1442:PHE:CB	2.65	0.45
1:A:2002:THR:HG23	1:A:2003:THR:HG23	1.99	0.45
1:A:1183:TRP:CE3	1:A:1192:LEU:HD22	2.50	0.45
1:A:2140:THR:HB	1:A:2188:VAL:HG12	1.99	0.45
1:B:651:TRP:CZ3	1:B:664:ALA:HB1	2.52	0.45
1:B:2056:LEU:HD23	1:B:2056:LEU:H	1.82	0.45
1:A:105:LEU:HD13	1:A:166:TYR:HA	1.99	0.45
1:A:285:GLY:CA	1:A:2240[A]:ASP:OD2	2.51	0.45
1:B:2192:TYR:HE2	1:B:2194:LEU:HD13	1.80	0.45
1:A:675:ILE:HG12	1:A:685:PHE:HE2	1.81	0.44
1:A:2213[B]:LEU:CD1	1:A:2272[B]:LEU:CD2	2.95	0.44
1:A:2229[B]:ASP:OD1	1:A:2230[B]:GLY:N	2.49	0.44
1:A:2233[A]:GLU:CA	1:A:2268[A]:THR:HG22	2.47	0.44
1:B:558:LEU:HD11	1:B:582:ALA:CB	2.47	0.44
1:A:1012:LEU:HD11	1:A:2008:ARG:HD2	1.99	0.44
1:B:505:GLU:OE2	1:B:507:GLN:NE2	2.50	0.44
1:B:1047:ILE:HD12	1:B:1116:ALA:HB1	1.99	0.44
1:A:1191:VAL:HG12	1:A:1191:VAL:O	2.17	0.44
1:A:155:ALA:HB1	1:B:229:MET:HG2	2.00	0.44
1:A:647:VAL:CG1	1:A:696:VAL:HG13	2.48	0.44
1:A:2267[B]:MET:HG2	1:A:2271[B]:THR:HG23	1.99	0.44
1:A:1261:ARG:HG3	1:A:1261:ARG:HH11	1.83	0.44
1:B:668:ASN:HB3	1:B:793:VAL:HG11	1.99	0.44
1:B:1076:PRO:HD2	3:B:2302:6VG:S1	2.57	0.44
1:A:2062:LEU:N	1:A:2062:LEU:HD22	2.32	0.44
1:A:1171:ALA:HB1	1:A:1225:LEU:HD12	2.00	0.44
1:A:1969:ILE:HD11	1:A:2040:ALA:CB	2.48	0.44
1:B:41:GLU:OE2	1:B:64:ARG:NH2	2.49	0.44
1:B:1863:GLN:OE1	1:B:1875:ARG:NH2	2.51	0.44
1:A:645:ALA:CB	1:A:686:MET:SD	3.06	0.43
1:A:647:VAL:CG1	1:A:689:LEU:HD13	2.48	0.43
1:A:1515:ARG:NH1	1:A:1541:GLU:O	2.51	0.43
1:A:2062:LEU:HD22	1:A:2062:LEU:H	1.83	0.43
1:B:685:PHE:CZ	1:B:689:LEU:HD11	2.53	0.43
1:B:1398:ILE:HG21	1:B:1404:LEU:CD1	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1527:VAL:HG12	1:B:1545:CYS:SG	2.58	0.43
1:A:342:LYS:H	1:A:342:LYS:HD2	1.82	0.43
1:A:1419:ILE:HD13	1:A:1419:ILE:N	2.33	0.43
1:A:2216[A]:VAL:HG21	1:A:2272[A]:LEU:HD13	2.01	0.43
1:B:647:VAL:HG12	1:B:696:VAL:HG13	1.99	0.43
1:B:649:LEU:HB2	1:B:654:ALA:HB2	2.00	0.43
1:B:1817:ILE:O	1:B:1821:THR:HG22	2.18	0.43
1:B:1998:ARG:NE	2:B:2301:NDP:O2X	2.48	0.43
1:A:831:VAL:HG23	1:A:831:VAL:O	2.18	0.43
1:A:2213[A]:LEU:HD21	1:A:2273[A]:ARG:NH2	2.33	0.43
1:B:1191:VAL:HG22	1:B:1191:VAL:O	2.19	0.43
1:B:1659:ARG:O	1:B:1662:ILE:HG22	2.19	0.43
1:A:436:ALA:N	1:A:847:SER:OG	2.51	0.43
1:A:1057:LEU:HD23	1:A:1119:VAL:HG11	2.00	0.43
1:A:1528:LEU:HD11	1:A:1579:VAL:HG11	2.00	0.43
1:A:2106:ILE:HD12	1:A:2117:TYR:CD2	2.53	0.43
1:A:455:GLU:HG3	1:A:506:ILE:HG21	2.01	0.43
1:A:699:VAL:O	1:A:699:VAL:CG1	2.67	0.43
1:A:1338:ALA:HB1	1:A:1356:PHE:CE1	2.54	0.43
1:A:1454:ARG:HG3	1:A:1454:ARG:HH11	1.84	0.43
1:A:1773:ALA:CB	1:A:1780:ILE:HD11	2.48	0.43
1:B:689:LEU:O	1:B:692:GLN:O	2.37	0.43
1:B:891:LEU:HD22	1:B:901:LEU:CD2	2.49	0.43
1:A:285:GLY:CA	1:A:2240[A]:ASP:CA	2.96	0.43
1:A:663:VAL:O	1:A:675:ILE:HD12	2.19	0.43
1:A:1143:PHE:HB3	1:A:2188:VAL:CG2	2.48	0.43
1:B:794:ILE:HG23	1:B:798:LEU:CD2	2.49	0.43
1:B:1055:SER:O	1:B:1059:THR:HG23	2.18	0.43
1:B:1377:LEU:HD13	1:B:1381:LEU:HD13	2.00	0.43
1:A:646:ALA:HA	1:A:673:VAL:O	2.19	0.43
1:A:1252:GLU:HG3	1:A:1262:LEU:HD13	2.01	0.43
1:A:1297:ASP:OD2	1:A:1532:ARG:NH2	2.52	0.43
1:A:1971:VAL:HG11	1:A:2079:MET:SD	2.58	0.43
1:A:2198[B]:SER:O	1:A:2199[B]:MET:CB	2.67	0.43
1:B:436:ALA:N	1:B:847:SER:OG	2.52	0.43
1:A:198:GLU:OE1	1:A:199:ARG:NH2	2.52	0.43
1:A:2267[B]:MET:CE	1:A:2272[B]:LEU:HB2	2.48	0.43
1:A:284:ASN:C	1:A:2240[A]:ASP:O	2.57	0.42
1:A:2213[A]:LEU:HD21	1:A:2273[A]:ARG:HH21	1.84	0.42
1:B:649:LEU:HD11	1:B:689:LEU:HD21	2.00	0.42
1:B:1929:ARG:NH1	1:B:1929:ARG:HB2	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:605:SER:O	1:A:606:LEU:HB3	2.18	0.42
1:A:1465:ASP:OD2	1:A:1467:ILE:HG13	2.19	0.42
1:B:458:LEU:HD23	1:B:506:ILE:HG23	2.02	0.42
1:A:2232[B]:LYS:HD3	1:A:2237[B]:MET:CG	2.49	0.42
1:B:594:MET:CG	1:B:838:LEU:HD21	2.49	0.42
1:A:1262:LEU:HD23	1:A:1422:ILE:HD12	2.02	0.42
1:B:369:VAL:O	1:B:373:MET:N	2.52	0.42
1:B:644:MET:HA	1:B:675:ILE:O	2.20	0.42
1:B:1008:ASP:OD2	1:B:1009:LYS:N	2.52	0.42
1:B:1136:ASP:OD1	1:B:1136:ASP:N	2.41	0.42
1:B:1814:GLU:OE1	1:B:1818[B]:ARG:NH2	2.52	0.42
1:A:225:LEU:C	1:A:225:LEU:HD23	2.40	0.42
1:A:298:MET:HE3	1:A:336:ALA:HB3	2.02	0.42
1:A:2045:PRO:CB	1:A:2095:THR:HG21	2.50	0.42
1:A:703:ASN:O	1:A:704:ILE:HD13	2.20	0.42
1:A:1333:TRP:CH2	1:A:2199[A]:MET:O	2.72	0.42
1:A:2244[A]:SER:HB2	1:A:2264[A]:THR:HB	2.00	0.42
1:B:590:LEU:CD2	1:B:838:LEU:HD22	2.49	0.42
1:B:1034:GLY:HA3	1:B:1059:THR:HG21	2.01	0.42
1:B:1122:ARG:O	1:B:1123:SER:C	2.58	0.42
1:B:1670:ARG:NH2	1:B:1677:THR:O	2.52	0.42
1:B:1977:MET:O	1:B:1981:THR:HG22	2.19	0.42
1:A:577:PHE:CD2	1:A:606:LEU:HD22	2.55	0.42
1:A:675:ILE:HG13	1:A:682:MET:HE3	2.02	0.42
1:A:1361:PRO:O	1:A:1362:ALA:HB3	2.19	0.42
1:A:1408:GLU:O	1:A:1470:SER:N	2.52	0.42
1:A:2232[B]:LYS:HG2	1:A:2237[B]:MET:HE3	2.01	0.42
1:B:649:LEU:HB3	1:B:653:GLU:HB3	2.02	0.42
1:B:1868:THR:O	1:B:1868:THR:CG2	2.67	0.42
1:A:1451:LEU:C	1:A:1451:LEU:HD23	2.39	0.42
1:A:2213[B]:LEU:CD1	1:A:2272[B]:LEU:HD21	2.50	0.42
1:B:594:MET:O	1:B:834:ASN:N	2.52	0.42
1:B:824:GLY:O	1:B:828:SER:OG	2.36	0.42
1:B:930:VAL:HG12	1:B:931:GLU:N	2.35	0.42
1:B:1008:ASP:OD2	1:B:1008:ASP:C	2.58	0.42
1:A:748:PRO:O	1:A:751:GLN:HG2	2.20	0.41
1:B:663:VAL:HG12	1:B:664:ALA:H	1.85	0.41
1:B:1152:ARG:N	1:B:1155:ASP:OD2	2.46	0.41
1:A:758:GLN:N	1:A:758:GLN:OE1	2.53	0.41
1:A:2233[B]:GLU:CD	1:A:2266[B]:LEU:HD12	2.40	0.41
1:B:675:ILE:HD12	1:B:675:ILE:C	2.40	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1225:LEU:HD23	1:B:1243:PHE:CD1	2.55	0.41
1:A:1359:LEU:HD22	1:A:1383:MET:HB2	2.01	0.41
1:A:2259[B]:ILE:HD11	1:A:2264[B]:THR:CG2	2.51	0.41
1:B:1196:GLU:OE1	1:B:1196:GLU:N	2.38	0.41
1:B:1439:MET:HB2	1:B:1440:GLY:H	1.78	0.41
1:B:2169:GLN:HG2	1:B:2193:VAL:HG23	2.01	0.41
1:B:594:MET:SD	1:B:823:LEU:HD13	2.61	0.41
1:B:2219:VAL:HG12	1:B:2243:MET:HG3	2.02	0.41
1:A:649:LEU:HD12	1:A:653:GLU:CB	2.51	0.41
1:A:993:THR:HB	1:A:1120:GLU:OE1	2.20	0.41
1:A:1142:ASP:N	1:A:1591:PHE:O	2.51	0.41
1:A:1291:VAL:HG13	1:A:1473:LEU:HD12	2.03	0.41
1:A:1489:VAL:HG13	1:A:1496:TRP:CE2	2.56	0.41
1:A:1544:ARG:HD3	1:A:1576:ALA:HA	2.03	0.41
1:A:2195:VAL:O	1:A:2196[A]:GLU:HB3	2.21	0.41
1:A:2213[A]:LEU:HD11	1:A:2273[A]:ARG:HE	1.86	0.41
1:B:794:ILE:HG23	1:B:798:LEU:HD21	2.02	0.41
1:A:1391:ILE:HD13	1:A:1391:ILE:N	2.35	0.41
1:A:2212[B]:VAL:HG11	1:A:2276[B]:VAL:HG11	2.01	0.41
1:B:2241:SER:O	1:B:2242:LEU:CB	2.67	0.41
1:A:1534:LEU:HD21	1:A:2061:PHE:CD2	2.55	0.41
1:B:35:LEU:HD22	1:B:370:ILE:HG21	2.03	0.41
1:B:713:GLU:HB3	1:B:714:PRO:HD3	2.02	0.41
1:B:1149:VAL:HG23	1:B:1462:HIS:HB3	2.03	0.41
1:B:1413:LEU:HD12	1:B:1413:LEU:H	1.85	0.41
1:A:651:TRP:CZ3	1:A:664:ALA:HB1	2.56	0.41
1:A:1632:ASN:ND2	1:A:1681:GLU:OE2	2.51	0.41
1:A:298:MET:HA	1:A:301:ILE:HG22	2.02	0.41
1:A:713:GLU:HB3	1:A:714:PRO:HD3	2.03	0.41
1:A:1246:LEU:HD23	1:A:1419:ILE:HD11	2.02	0.41
1:A:1733:VAL:N	1:A:1734:PRO:HD2	2.36	0.41
1:A:1755:THR:O	1:A:1827:ASP:N	2.50	0.41
1:A:2192:TYR:CE2	1:A:2194:LEU:HD13	2.56	0.41
1:B:525:SER:N	1:B:789:LEU:HD11	2.36	0.41
1:B:994:ASP:OD2	1:B:994:ASP:C	2.59	0.41
1:B:1245:MET:HE1	1:B:1273:LEU:HB2	2.02	0.41
1:B:1764:VAL:HG11	1:B:1933:LYS:HE2	2.03	0.41
1:B:2128:CYS:SG	1:B:2140:THR:OG1	2.79	0.41
1:A:1435:GLY:O	1:A:1443:TYR:OH	2.16	0.41
1:A:2216[B]:VAL:CG2	1:A:2251[B]:LEU:HD21	2.50	0.41
1:B:552:SER:N	1:B:553:PRO:HD2	2.37	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:563:MET:HB2	1:B:563:MET:HE2	1.92	0.41
1:B:1458:GLU:OE2	1:B:1572:ARG:NE	2.52	0.41
1:A:1398:ILE:HG22	1:A:1399:LYS:O	2.20	0.40
1:A:1534:LEU:HD22	1:A:1538:PHE:CE2	2.56	0.40
1:A:991:LEU:HD22	1:A:1120:GLU:HG3	2.03	0.40
1:B:185:THR:CG2	1:B:423:THR:HG21	2.49	0.40
1:B:1198:ILE:O	1:B:1202:LEU:HD12	2.21	0.40
1:A:647:VAL:HG11	1:A:689:LEU:HD13	2.04	0.40
1:A:2275[A]:MET:C	1:A:2277[A]:LYS:H	2.24	0.40
1:B:1257:ASP:O	1:B:1261:ARG:HB3	2.21	0.40
1:B:1659:ARG:NH1	1:B:1660:ASP:OD1	2.51	0.40
1:B:1661:ILE:HD13	1:B:1925:VAL:HG11	2.03	0.40
1:A:41:GLU:OE2	1:A:64:ARG:NH2	2.51	0.40
1:A:558:LEU:HD21	1:A:582:ALA:CB	2.51	0.40
1:A:1509:ASP:C	1:A:1509:ASP:OD2	2.60	0.40
1:A:1661:ILE:HD13	1:A:1925:VAL:HG11	2.03	0.40
1:A:2212[B]:VAL:CG2	1:A:2251[B]:LEU:HD22	2.52	0.40
1:B:605:SER:O	1:B:606:LEU:HB3	2.20	0.40
1:B:1848:LYS:C	1:B:1848:LYS:HD3	2.42	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	2319/2287 (101%)	2227 (96%)	85 (4%)	7 (0%)	37	68
1	B	2237/2287 (98%)	2146 (96%)	89 (4%)	2 (0%)	48	79
All	All	4556/4574 (100%)	4373 (96%)	174 (4%)	9 (0%)	45	74

All (9) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	2198	SER
1	A	2199[A]	MET
1	A	2199[B]	MET
1	A	186	ALA
1	A	1442	PHE
1	A	1468	ALA
1	B	1468	ALA
1	A	2198[A]	SER
1	A	2198[B]	SER

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	1966/1929 (102%)	1905 (97%)	61 (3%)	35	63
1	B	1891/1929 (98%)	1832 (97%)	59 (3%)	35	63
All	All	3857/3858 (100%)	3737 (97%)	120 (3%)	37	63

All (120) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	207	ASP
1	A	227	MET
1	A	229	MET
1	A	245	ASP
1	A	342	LYS
1	A	455	GLU
1	A	464	GLU
1	A	626	SER
1	A	640	LYS
1	A	656	ARG
1	A	684	LYS
1	A	695	THR
1	A	717	TYR
1	A	765	SER
1	A	809	LYS

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Mol	Chain	Res	Type
1	A	888	ASP
1	A	939	MET
1	A	989	ARG
1	A	1143	PHE
1	A	1218	PHE
1	A	1239	ASN
1	A	1268	ASP
1	A	1276	ASP
1	A	1300	ASN
1	A	1302	GLN
1	A	1345	ASP
1	A	1373	ASP
1	A	1439	MET
1	A	1443	TYR
1	A	1454	ARG
1	A	1503	ARG
1	A	1532	ARG
1	A	1535	VAL
1	A	1602	ARG
1	A	1613	SER
1	A	1699	MET
1	A	1785	LYS
1	A	1788	ASP
1	A	1802	ASP
1	A	1808	SER
1	A	1811	CYS
1	A	1827	ASP
1	A	1879	ASP
1	A	1910	ARG
1	A	1915	MET
1	A	1940	ASP
1	A	1977	MET
1	A	1983	HIS
1	A	2008	ARG
1	A	2206[A]	GLU
1	A	2206[B]	GLU
1	A	2240[A]	ASP
1	A	2240[B]	ASP
1	A	2242[A]	LEU
1	A	2242[B]	LEU
1	A	2243[A]	MET
1	A	2243[B]	MET

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Mol	Chain	Res	Type
1	A	2251[A]	LEU
1	A	2251[B]	LEU
1	A	2269[A]	PHE
1	A	2269[B]	PHE
1	B	58	MET
1	B	95	THR
1	B	207	ASP
1	B	225	LEU
1	B	227	MET
1	B	334	CYS
1	B	339	LYS
1	B	396	ASP
1	B	559	MET
1	B	564	ASP
1	B	569	LYS
1	B	626	SER
1	B	637	CYS
1	B	676	SER
1	B	684	LYS
1	B	724	LYS
1	B	733	LYS
1	B	757	TYR
1	B	801	ASP
1	B	802	CYS
1	B	809	LYS
1	B	852	MET
1	B	884	ASP
1	B	885	ASN
1	B	933	GLU
1	B	955	LYS
1	B	984	THR
1	B	989	ARG
1	B	998	LYS
1	B	1008	ASP
1	B	1015	LYS
1	B	1041	ASP
1	B	1095	GLU
1	B	1183	TRP
1	B	1272	TYR
1	B	1304	MET
1	B	1353	MET
1	B	1356	PHE

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Mol	Chain	Res	Type
1	B	1387	LEU
1	B	1393	GLU
1	B	1400	PRO
1	B	1430	LYS
1	B	1443	TYR
1	B	1461	MET
1	B	1559	LYS
1	B	1595	ASP
1	B	1785	LYS
1	B	1847	LYS
1	B	1879	ASP
1	B	1902	SER
1	B	1910	ARG
1	B	1930	GLU
1	B	1940	ASP
1	B	1943	ARG
1	B	1961	CYS
1	B	1974	MET
1	B	1983	HIS
1	B	2070	LEU
1	B	2231	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (5) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	507	GLN
1	A	829	HIS
1	A	951	ASN
1	B	94	HIS
1	B	581	ASN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains (i)

2 non-standard protein/DNA/RNA residues 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	$\#\|Z\| > 2$
1	SCY	A	187	1	7,8,9	0.85	0	4,9,11	0.68	0
1	SCY	B	187	1	7,8,9	0.90	0	4,9,11	0.74	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
1	SCY	A	187	1	-	2/5/7/9	-
1	SCY	B	187	1	-	4/5/7/9	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (6) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	187	SCY	OCD-CD-SG-CB
1	A	187	SCY	CE-CD-SG-CB
1	B	187	SCY	N-CA-CB-SG
1	B	187	SCY	C-CA-CB-SG
1	B	187	SCY	OCD-CD-SG-CB
1	B	187	SCY	CE-CD-SG-CB

There are no ring outliers.

2 monomers are involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	A	187	SCY	1	0
1	B	187	SCY	1	0

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

4 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	NDP	B	2301	-	47,52,52	2.38	7 (14%)	61,80,80	1.72	13 (21%)
3	6VG	B	2302	1	18,23,24	0.34	0	22,30,33	1.10	2 (9%)
2	NDP	A	2301	-	47,52,52	2.42	7 (14%)	61,80,80	1.73	11 (18%)

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	NDP	B	2301	-	-	4/30/77/77	0/5/5/5
3	6VG	B	2302	1	-	13/27/29/30	-
2	NDP	A	2301	-	-	9/30/77/77	0/5/5/5

All (14) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	2301	NDP	P2B-O2B	13.33	1.82	1.59
2	B	2301	NDP	P2B-O2B	13.04	1.82	1.59
2	A	2301	NDP	PA-O3	4.37	1.64	1.59
2	A	2301	NDP	PN-O5D	4.32	1.76	1.59
2	B	2301	NDP	PA-O3	4.24	1.64	1.59
2	B	2301	NDP	PN-O5D	4.18	1.75	1.59
2	B	2301	NDP	O2B-C2B	-3.25	1.33	1.44
2	A	2301	NDP	O2B-C2B	-3.22	1.33	1.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	2301	NDP	C2A-N1A	2.40	1.38	1.33
2	A	2301	NDP	C2A-N1A	2.21	1.37	1.33
2	A	2301	NDP	O4B-C4B	-2.12	1.40	1.45
2	B	2301	NDP	O4B-C4B	-2.06	1.40	1.45
2	B	2301	NDP	O5D-C5D	-2.02	1.37	1.44
2	A	2301	NDP	O5D-C5D	-2.01	1.37	1.44

All (26) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	A	2301	NDP	C4B-O4B-C1B	-6.68	103.81	109.92
2	B	2301	NDP	C4B-O4B-C1B	-6.31	104.15	109.92
2	A	2301	NDP	P2B-O2B-C2B	-4.64	111.04	123.43
2	B	2301	NDP	P2B-O2B-C2B	-4.57	111.22	123.43
2	B	2301	NDP	O2B-P2B-O1X	-3.59	96.54	109.33
2	A	2301	NDP	O2B-P2B-O1X	-3.58	96.59	109.33
2	A	2301	NDP	O3-PA-O1A	-3.32	100.73	110.70
3	B	2302	6VG	O1-C1-S1	-3.26	109.45	122.65
2	B	2301	NDP	O3-PA-O1A	-3.18	101.13	110.70
2	A	2301	NDP	PA-O5B-C5B	-2.96	104.37	121.35
2	B	2301	NDP	PA-O5B-C5B	-2.94	104.51	121.35
2	B	2301	NDP	PN-O5D-C5D	-2.69	105.93	121.35
2	A	2301	NDP	PN-O5D-C5D	-2.62	106.34	121.35
2	A	2301	NDP	O3X-P2B-O2X	2.56	117.41	107.80
2	A	2301	NDP	O2N-PN-O3	2.55	114.16	107.27
2	B	2301	NDP	O3X-P2B-O2X	2.54	117.34	107.80
2	B	2301	NDP	O2N-PN-O3	2.44	113.88	107.27
2	A	2301	NDP	O2N-PN-O1N	2.44	123.80	112.44
2	B	2301	NDP	O2N-PN-O1N	2.41	123.66	112.44
2	A	2301	NDP	O5D-PN-O1N	-2.27	99.94	108.94
2	B	2301	NDP	C5D-C4D-C3D	-2.16	107.42	115.21
2	B	2301	NDP	O3X-P2B-O2B	-2.15	97.48	105.85
2	A	2301	NDP	O3X-P2B-O2B	-2.15	97.48	105.85
2	B	2301	NDP	C5B-C4B-C3B	-2.12	107.59	115.21
3	B	2302	6VG	C43-S1-C1	2.05	111.27	101.42
2	B	2301	NDP	O5D-PN-O1N	-2.02	100.94	108.94

There are no chirality outliers.

All (26) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	2301	NDP	C5B-O5B-PA-O1A

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Mol	Chain	Res	Type	Atoms
2	A	2301	NDP	C5B-O5B-PA-O3
2	B	2301	NDP	O4D-C1D-N1N-C6N
3	B	2302	6VG	C28-C29-C32-O33
3	B	2302	6VG	C28-C29-C32-C34
3	B	2302	6VG	C30-C29-C32-O33
3	B	2302	6VG	C30-C29-C32-C34
3	B	2302	6VG	C31-C29-C32-O33
3	B	2302	6VG	C31-C29-C32-C34
3	B	2302	6VG	C29-C32-C34-O35
3	B	2302	6VG	C29-C32-C34-N36
3	B	2302	6VG	O1-C1-S1-C43
2	A	2301	NDP	O4D-C1D-N1N-C6N
2	B	2301	NDP	O4D-C4D-C5D-O5D
2	A	2301	NDP	O4B-C4B-C5B-O5B
2	A	2301	NDP	O4D-C4D-C5D-O5D
2	A	2301	NDP	C3D-C4D-C5D-O5D
3	B	2302	6VG	O33-C32-C34-N36
2	A	2301	NDP	C5B-O5B-PA-O2A
3	B	2302	6VG	N36-C37-C38-C39
2	A	2301	NDP	C3B-C4B-C5B-O5B
2	A	2301	NDP	C2B-O2B-P2B-O2X
3	B	2302	6VG	C37-C38-C39-O40
2	B	2301	NDP	C3D-C4D-C5D-O5D
2	B	2301	NDP	O4B-C4B-C5B-O5B
3	B	2302	6VG	C37-C38-C39-N41

There are no ring outliers.

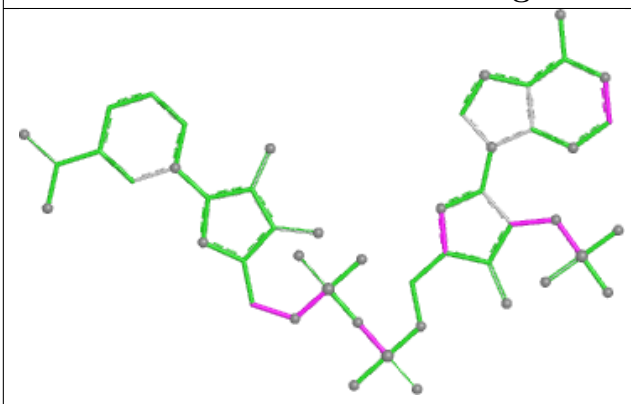
3 monomers are involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	2301	NDP	3	0
3	B	2302	6VG	1	0
2	A	2301	NDP	1	0

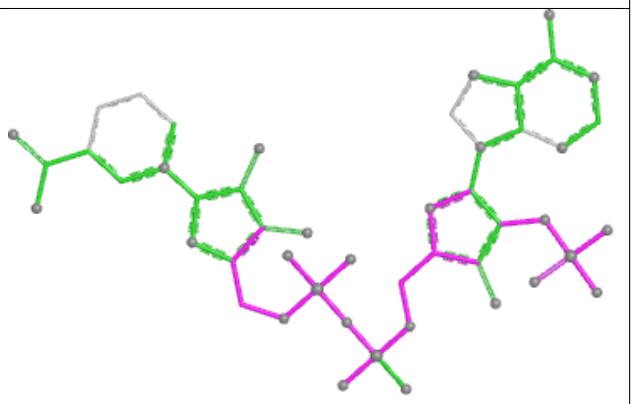
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 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.

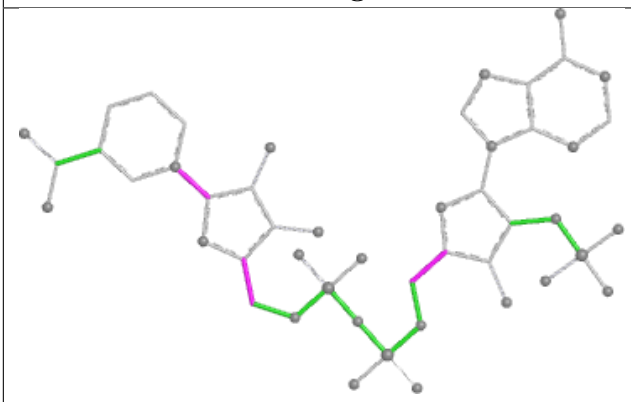
Ligand NDP B 2301



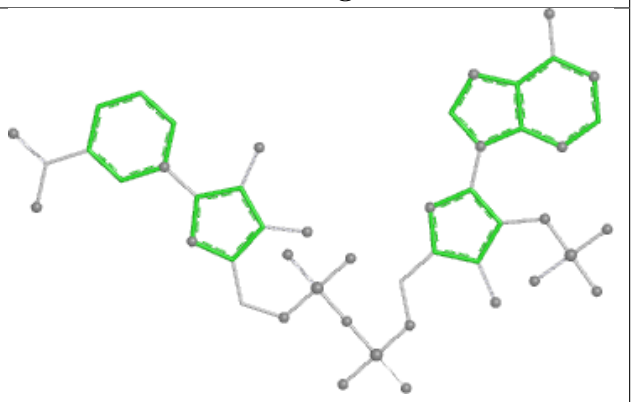
Bond lengths



Bond angles

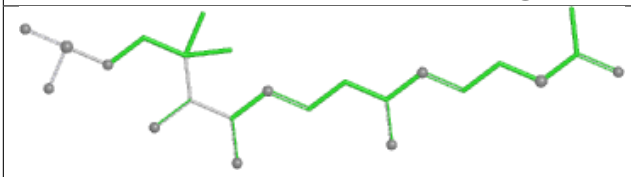


Torsions

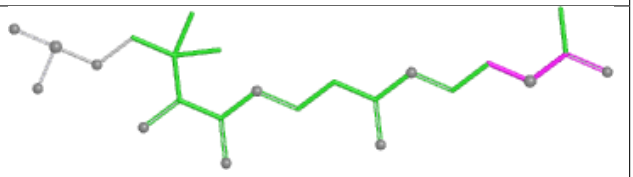


Rings

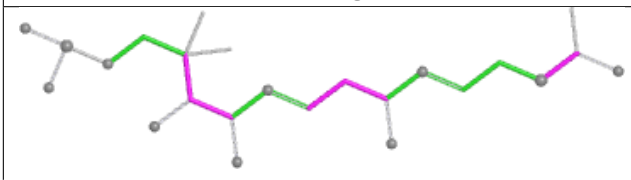
Ligand 6VG B 2302



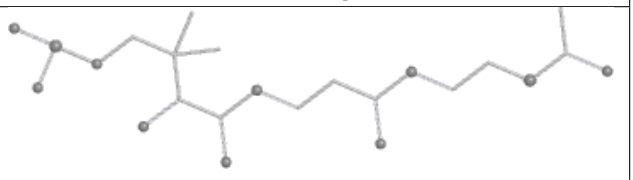
Bond lengths



Bond angles

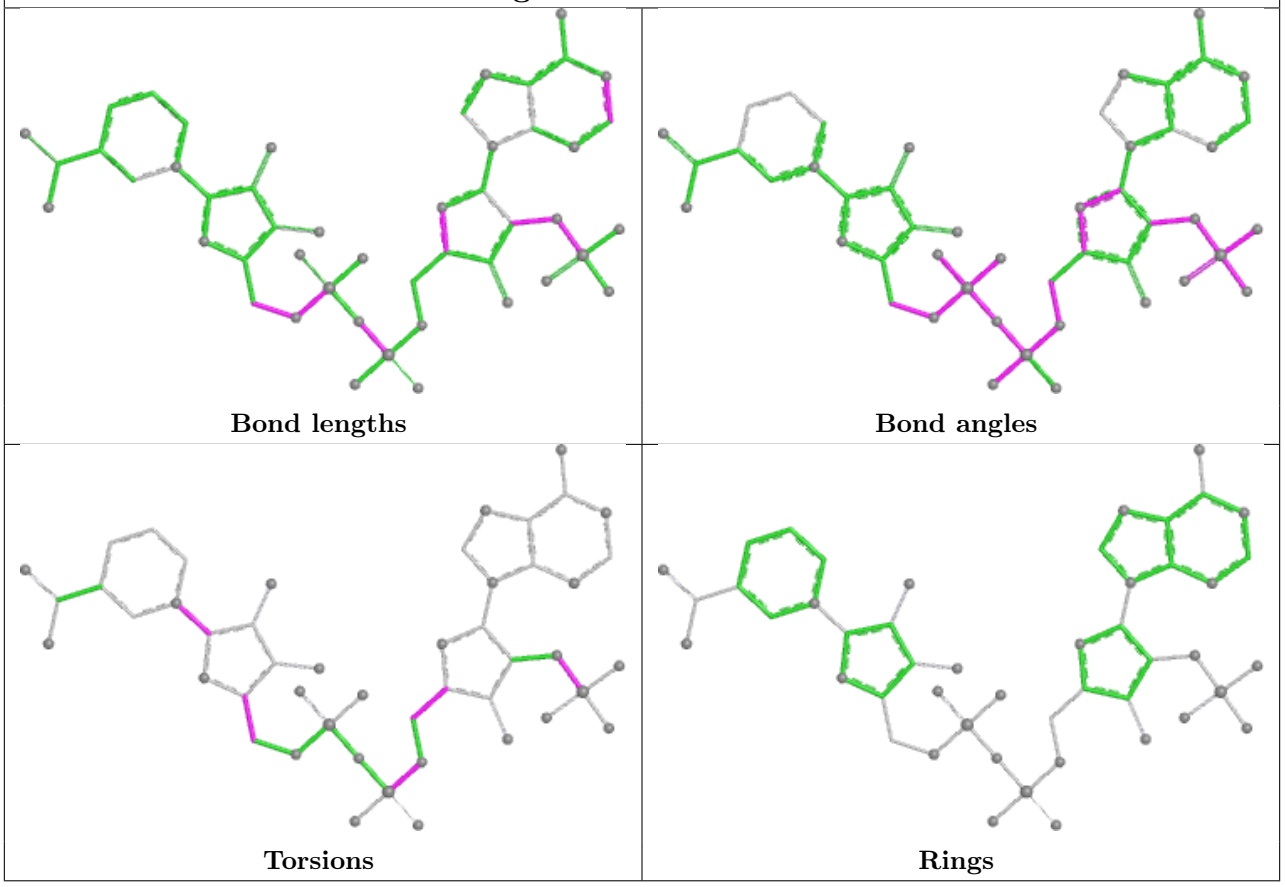


Torsions



Rings

Ligand NDP A 2301



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	A	2

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A	2241[B]:SER	C	2242[B]:LEU	N	1.87
1	A	2195:VAL	C	2196[A]:GLU	N	1.15

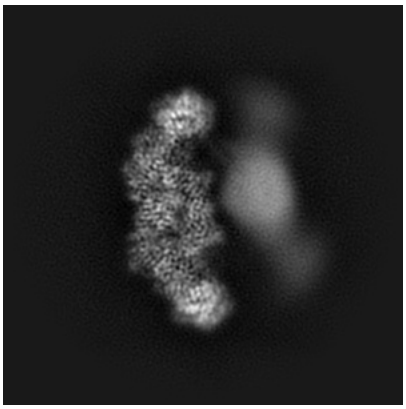
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-45913. These allow visual inspection of the internal detail of the map and identification of artifacts.

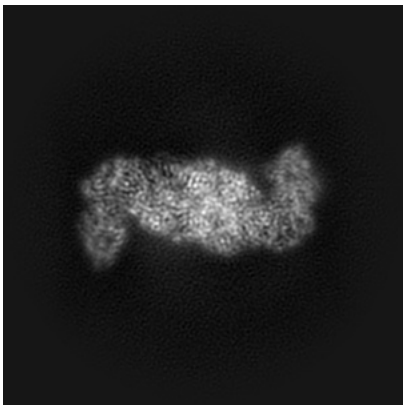
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

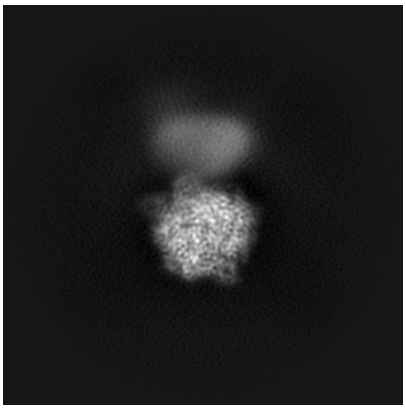
6.1.1 Primary map



X

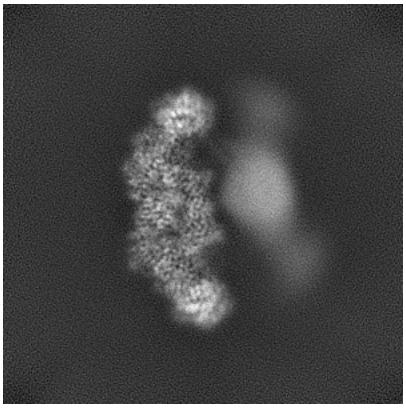


Y

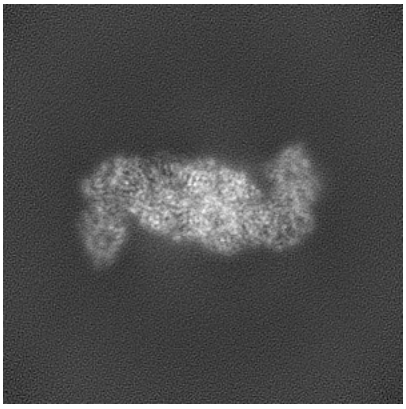


Z

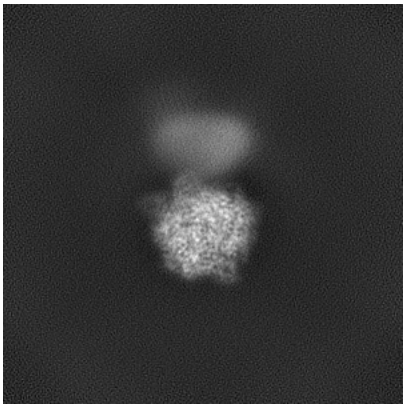
6.1.2 Raw map



X



Y

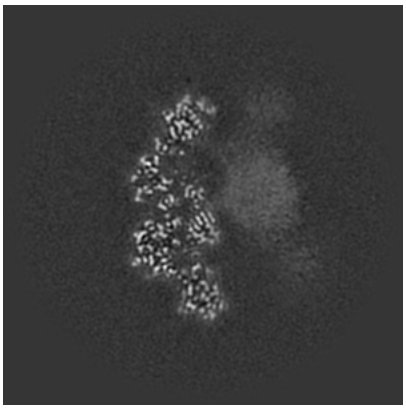


Z

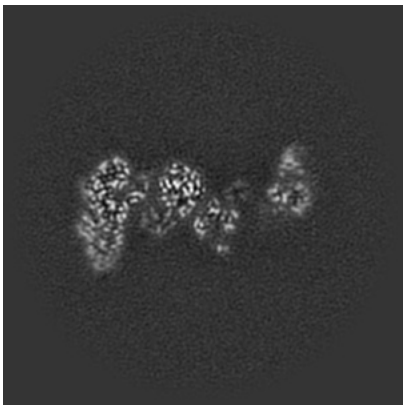
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

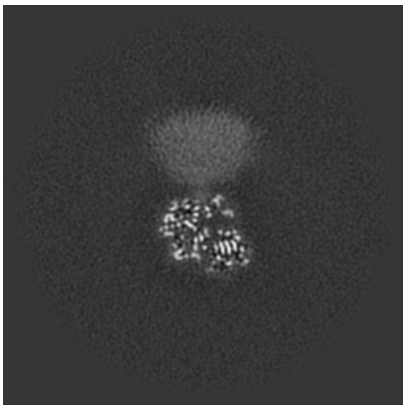
6.2.1 Primary map



X Index: 150

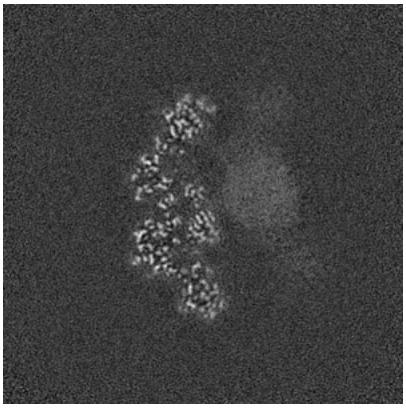


Y Index: 150

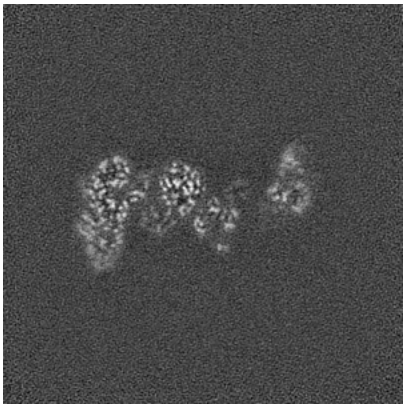


Z Index: 150

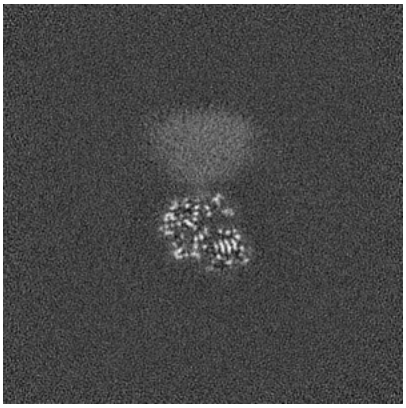
6.2.2 Raw map



X Index: 150



Y Index: 150

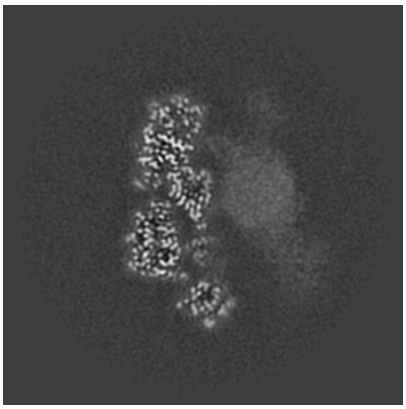


Z Index: 150

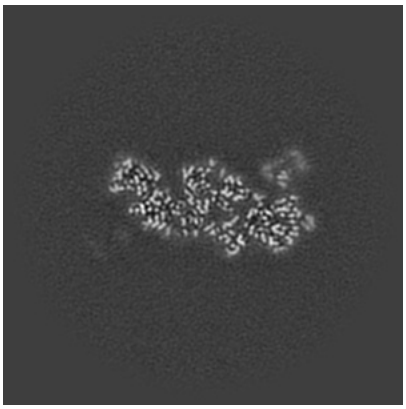
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

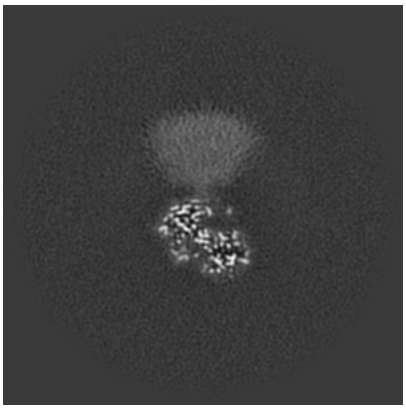
6.3.1 Primary map



X Index: 143

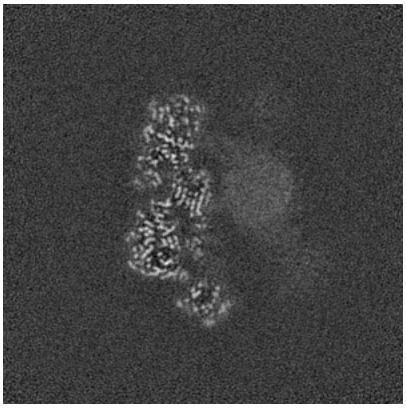


Y Index: 122

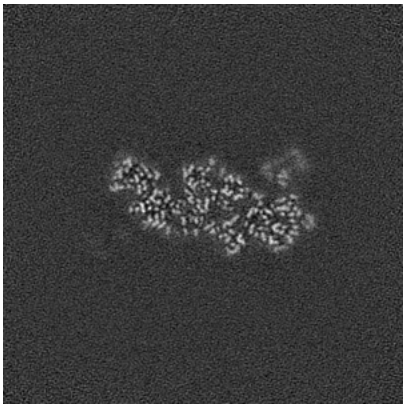


Z Index: 152

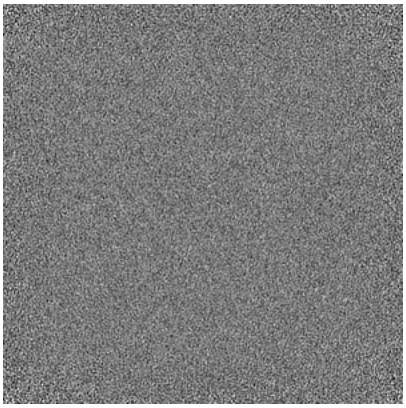
6.3.2 Raw map



X Index: 144



Y Index: 122

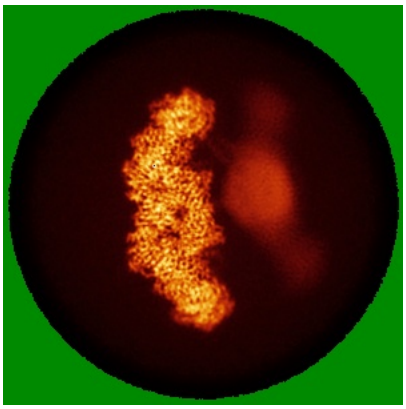


Z Index: 0

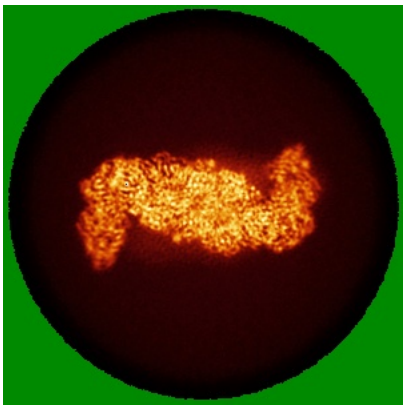
The images above show the largest variance slices of the map in three orthogonal directions.

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

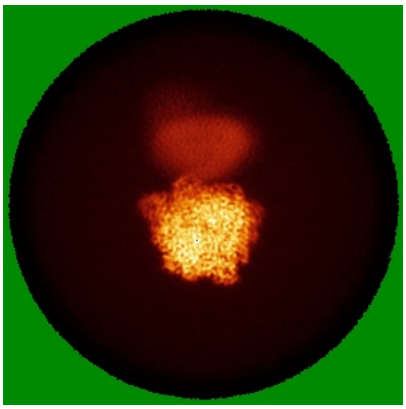
6.4.1 Primary map



X

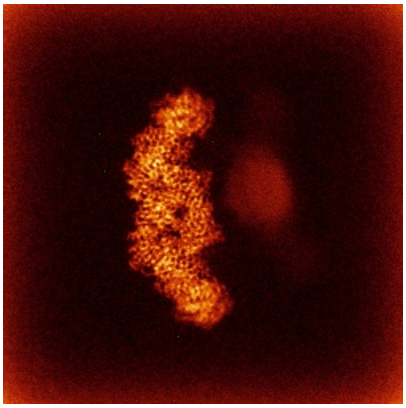


Y

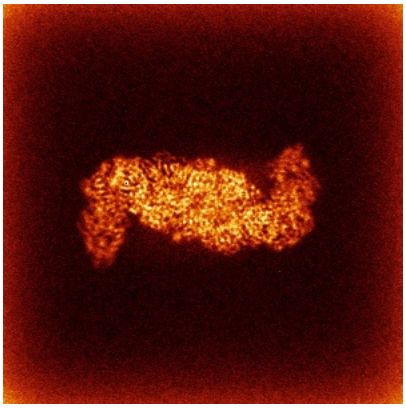


Z

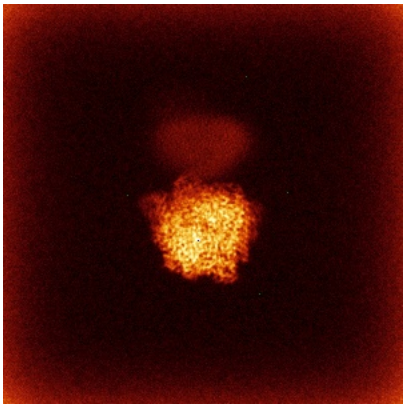
6.4.2 Raw map



X



Y

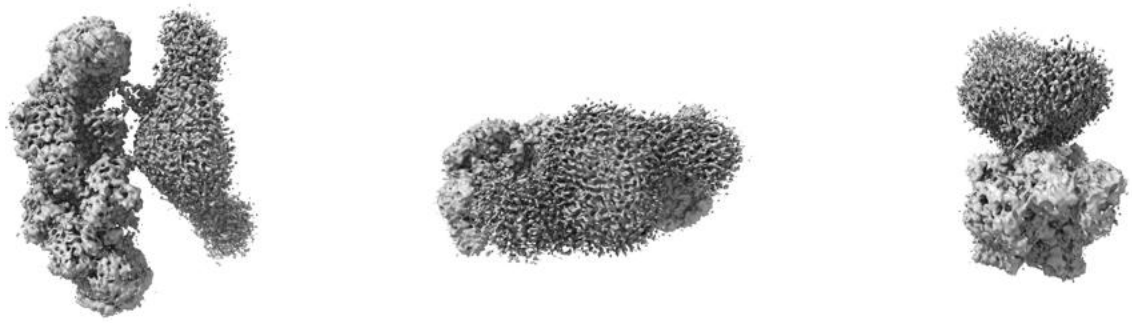


Z

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

6.5 Orthogonal surface views (i)

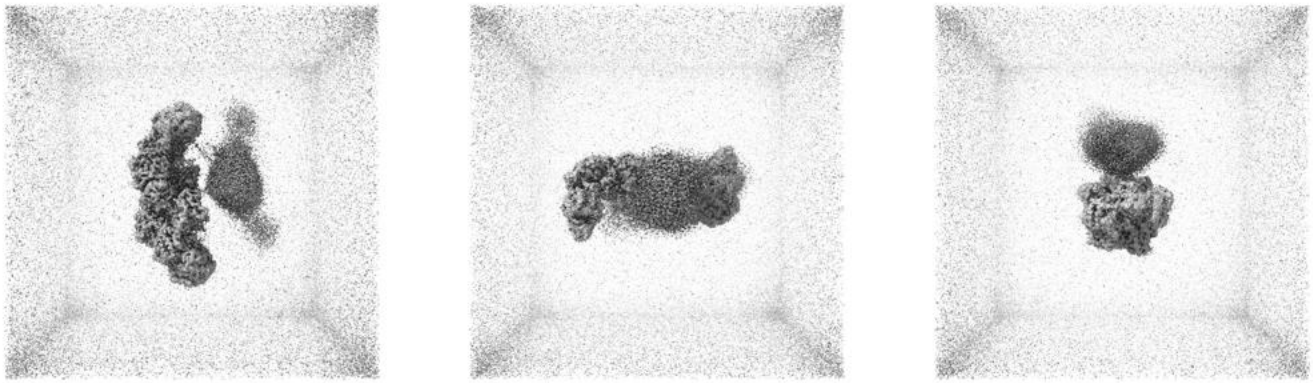
6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.0704. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X Y Z

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

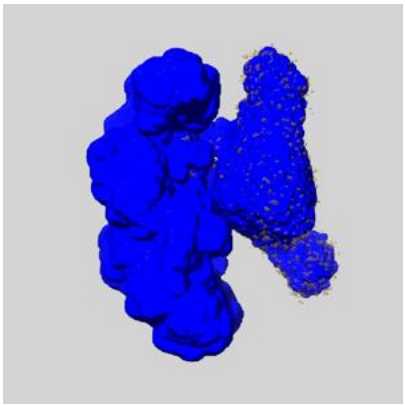
6.6 Mask visualisation (i)

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

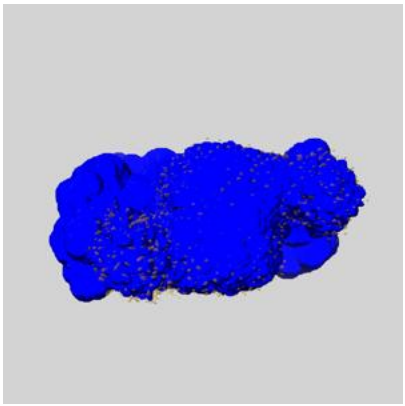
A mask typically either:

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

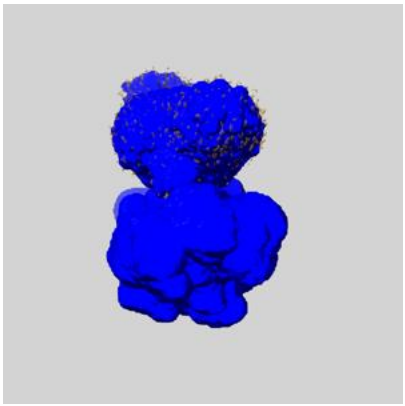
6.6.1 emd_45913_msk_1.map (i)



X



Y

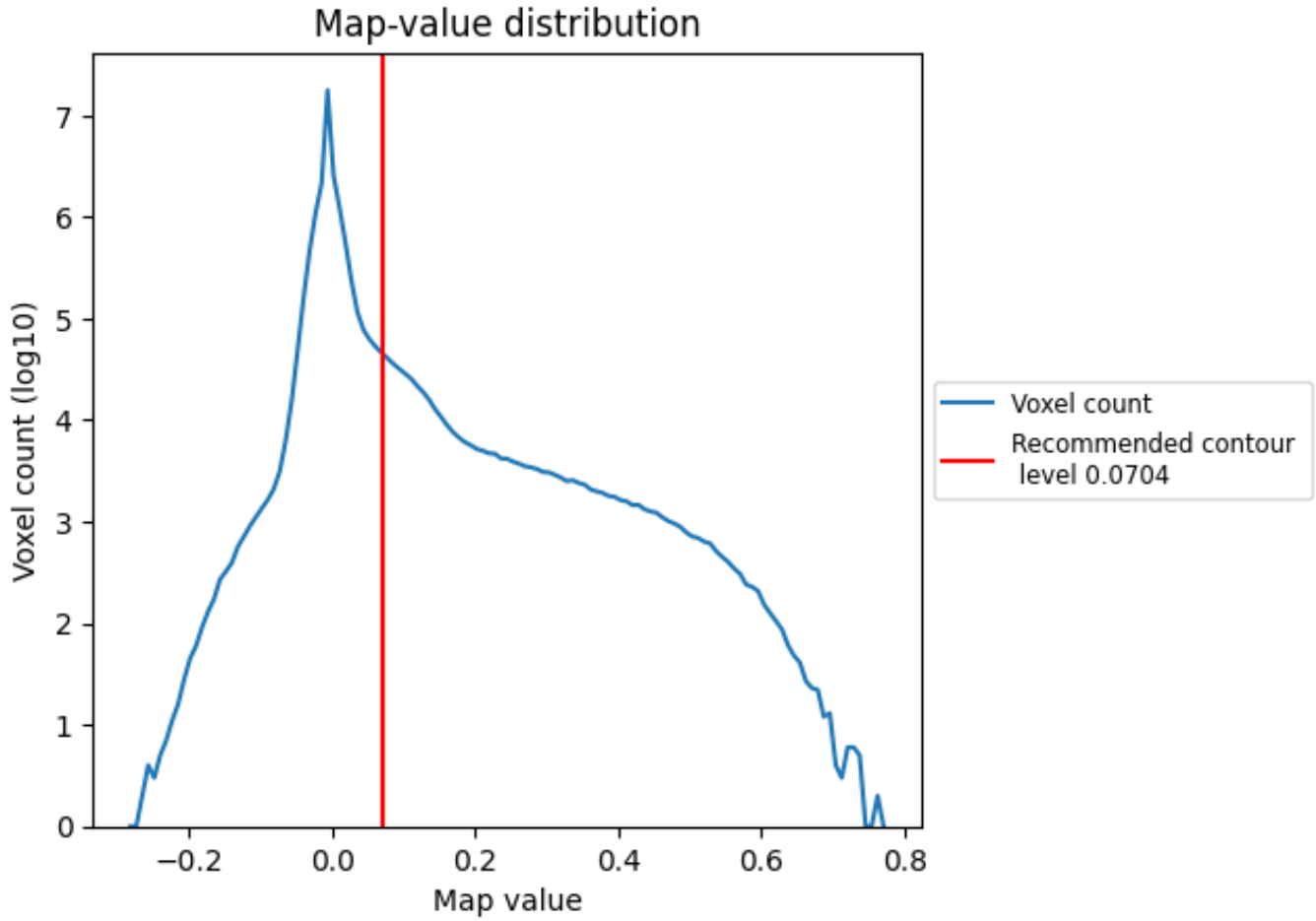


Z

7 Map analysis

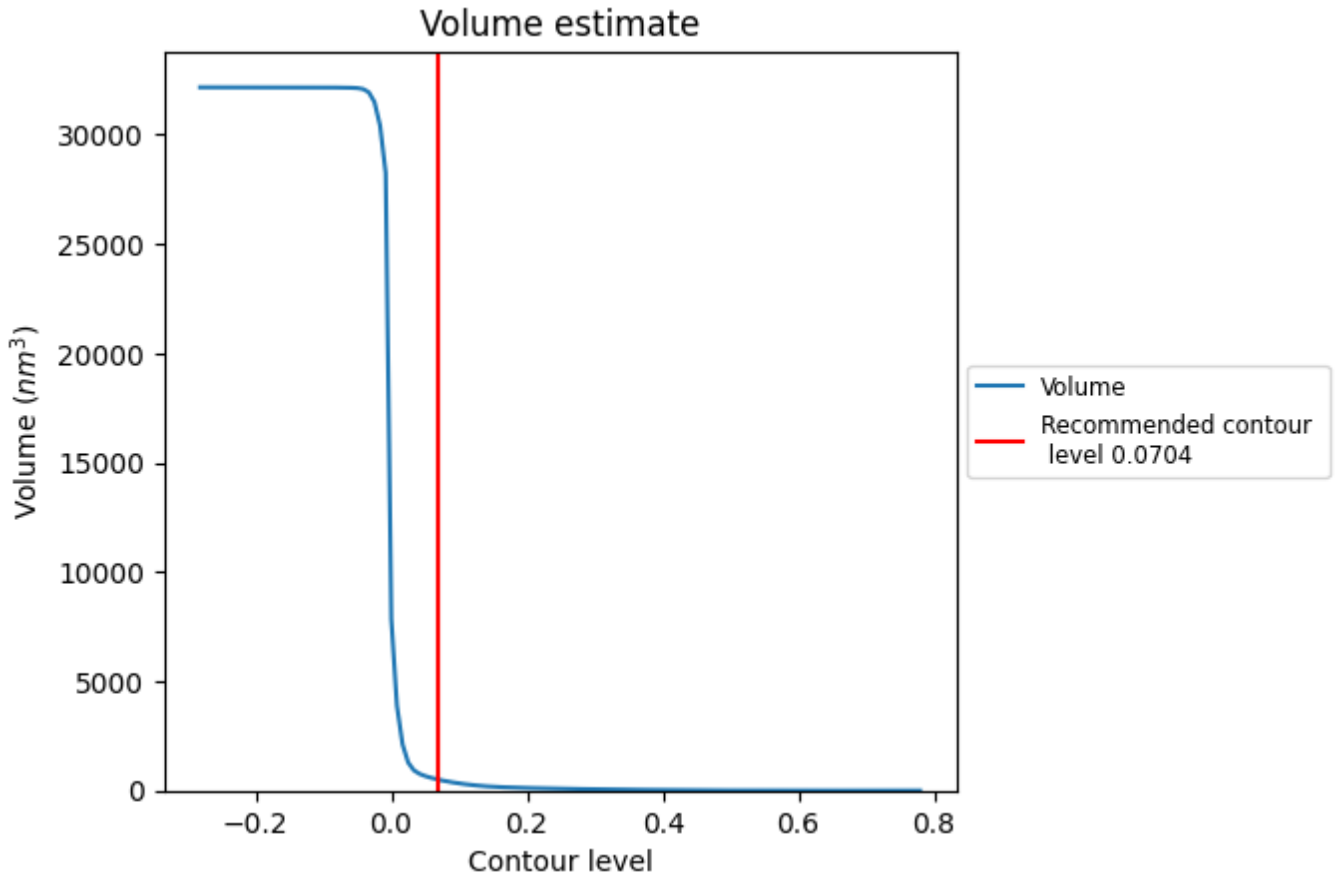
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

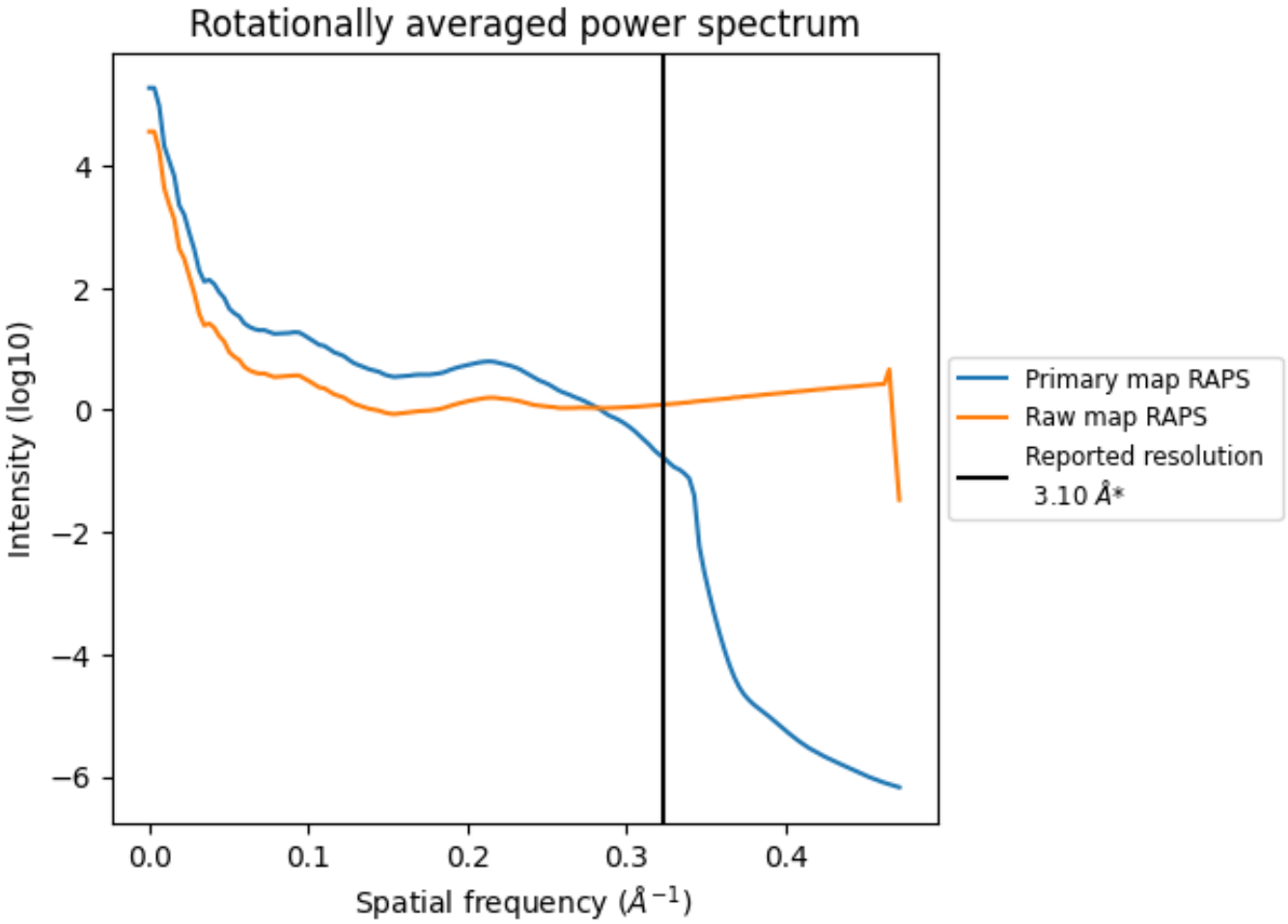
7.2 Volume estimate



The volume at the recommended contour level is 494 nm^3; this corresponds to an approximate mass of 447 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)

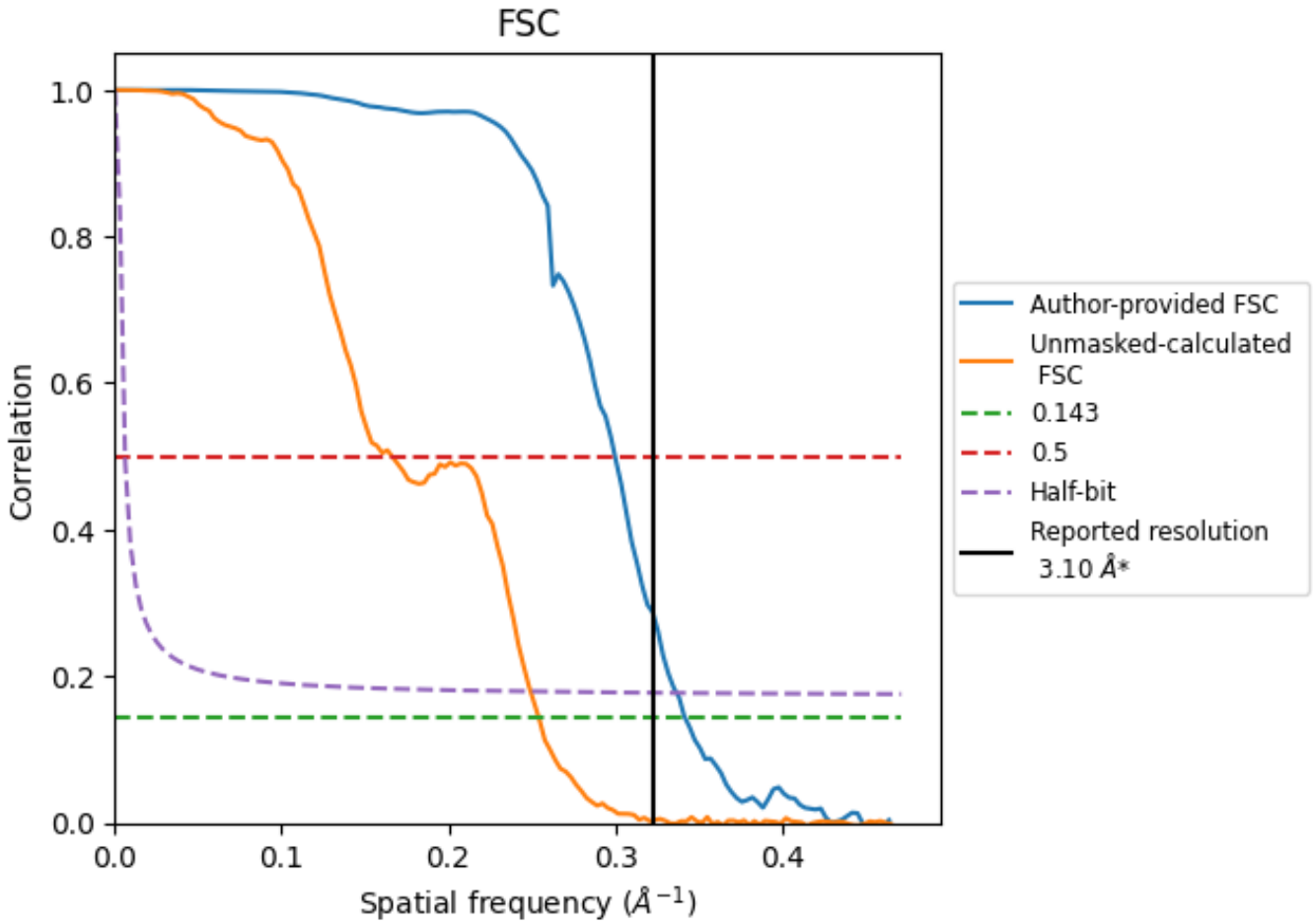


*Reported resolution corresponds to spatial frequency of 0.323 Å^{-1}

8 Fourier-Shell correlation

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

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.323 Å^{-1}

8.2 Resolution estimates (i)

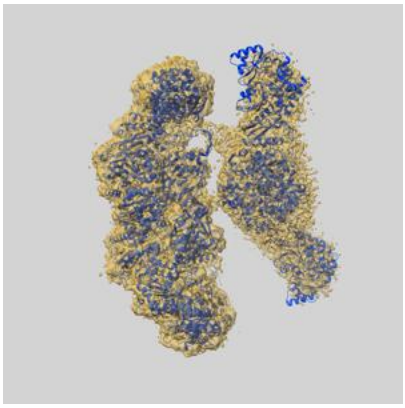
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.10	-	-
Author-provided FSC curve	2.92	3.33	2.97
Unmasked-calculated*	3.93	6.01	4.01

*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 3.93 differs from the reported value 3.1 by more than 10 %

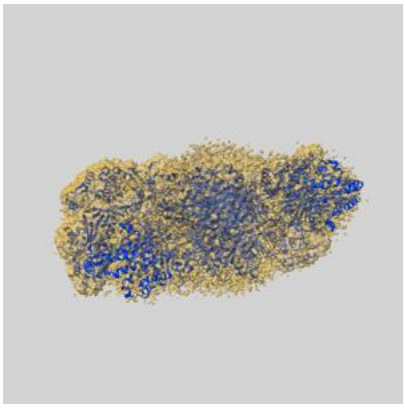
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-45913 and PDB model 9CTO. Per-residue inclusion information can be found in section 3 on page 5.

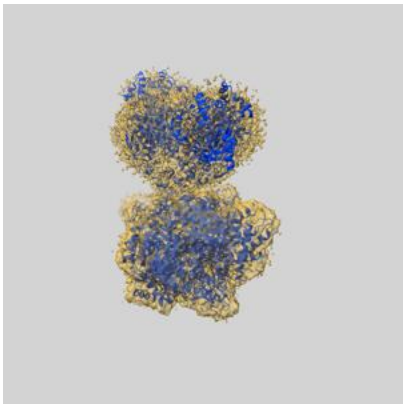
9.1 Map-model overlay



X



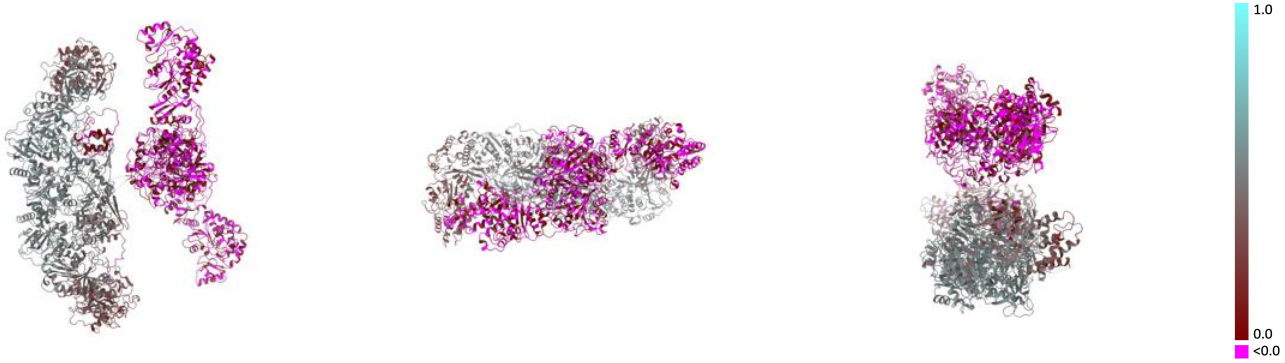
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.0704 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

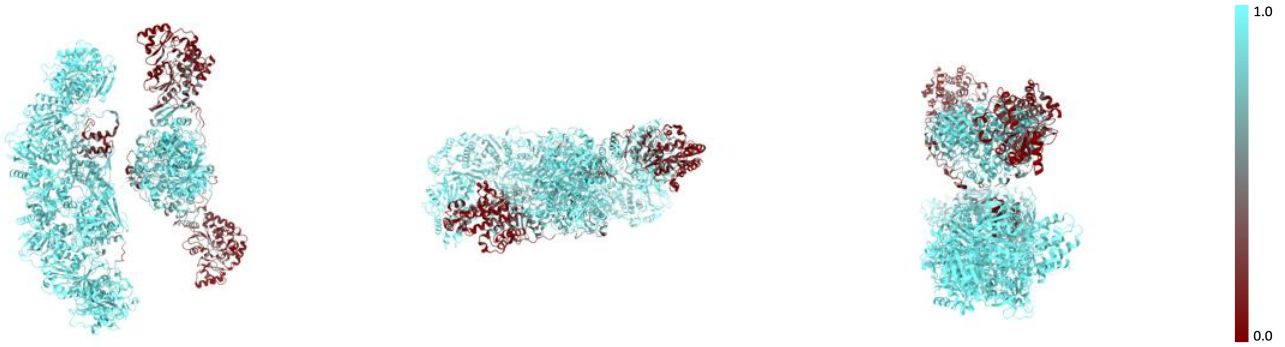
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

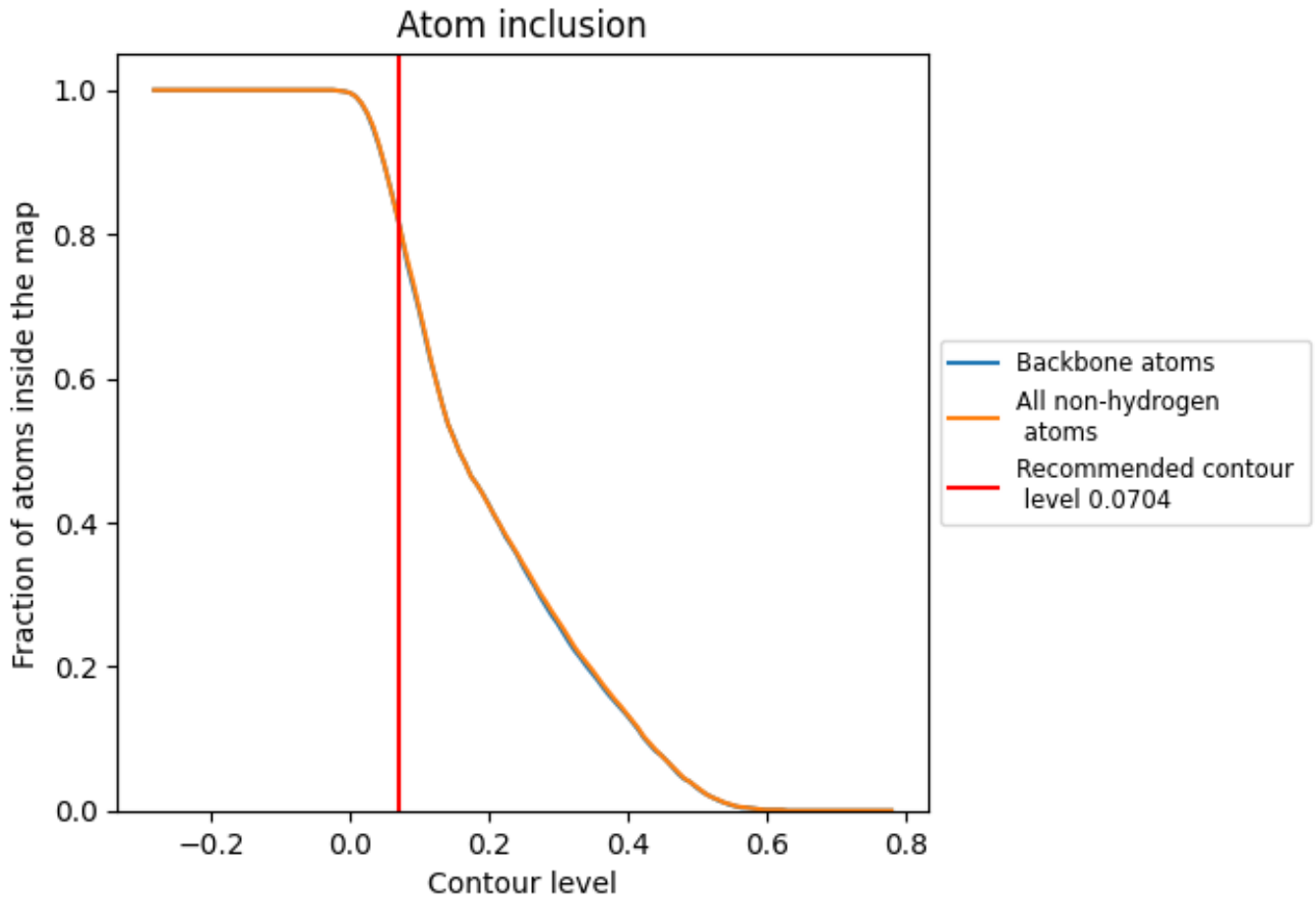
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0704).

9.4 Atom inclusion (i)



At the recommended contour level, 82% of all backbone atoms, 82% 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 (0.0704) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8160	0.2850
A	0.8020	0.3000
B	0.8280	0.2700