Full wwPDB EM Validation Report ⓘ

Nov 19, 2022 – 06:39 pm GMT

PDB ID	:	5OJS
EMDB ID	:	EMD-3824
Title	:	Cryo-EM structure of the SAGA and NuA4 coactivator subunit Tra1
Authors	:	Diaz-Santin, L.M.; Lukoyanova, N.; Aciyan, E.; Cheung, A.C.M.
Deposited on	:	2017-07-24
Resolution	:	3.70 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:

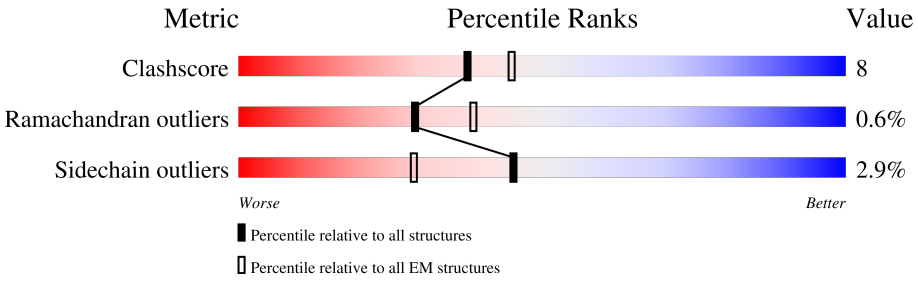
EMDB validation analysis	:	0.0.1.dev43
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.2

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.70 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 <=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	T	3767	16% 69% 21% · 8%

2 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 28407 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 Transcription-associated protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	T	3473	28407	18391	4718	5178	120	0	0

There are 23 discrepancies between the modelled and reference sequences:

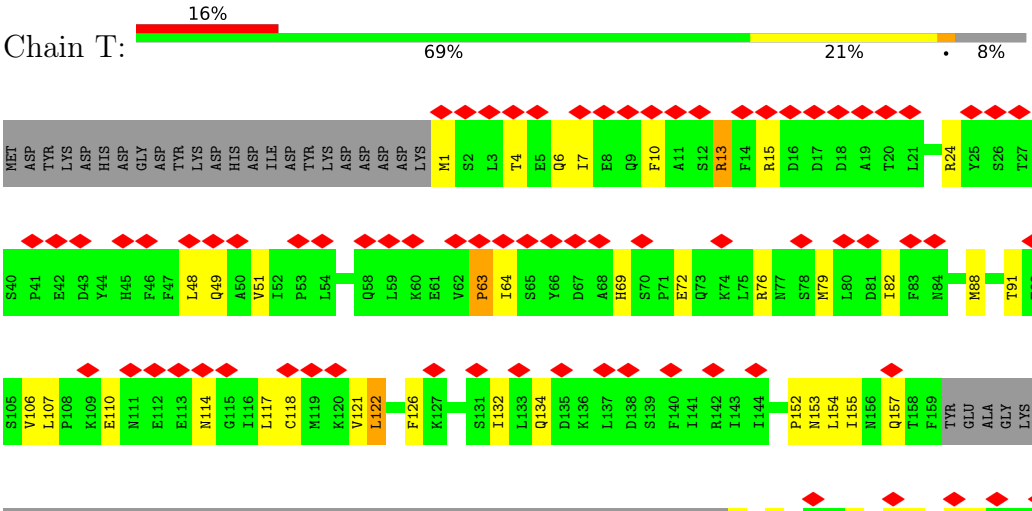
Chain	Residue	Modelled	Actual	Comment	Reference
T	-22	MET	-	initiating methionine	UNP P38811
T	-21	ASP	-	expression tag	UNP P38811
T	-20	TYR	-	expression tag	UNP P38811
T	-19	LYS	-	expression tag	UNP P38811
T	-18	ASP	-	expression tag	UNP P38811
T	-17	HIS	-	expression tag	UNP P38811
T	-16	ASP	-	expression tag	UNP P38811
T	-15	GLY	-	expression tag	UNP P38811
T	-14	ASP	-	expression tag	UNP P38811
T	-13	TYR	-	expression tag	UNP P38811
T	-12	LYS	-	expression tag	UNP P38811
T	-11	ASP	-	expression tag	UNP P38811
T	-10	HIS	-	expression tag	UNP P38811
T	-9	ASP	-	expression tag	UNP P38811
T	-8	ILE	-	expression tag	UNP P38811
T	-7	ASP	-	expression tag	UNP P38811
T	-6	TYR	-	expression tag	UNP P38811
T	-5	LYS	-	expression tag	UNP P38811
T	-4	ASP	-	expression tag	UNP P38811
T	-3	ASP	-	expression tag	UNP P38811
T	-2	ASP	-	expression tag	UNP P38811
T	-1	ASP	-	expression tag	UNP P38811
T	0	LYS	-	expression tag	UNP P38811

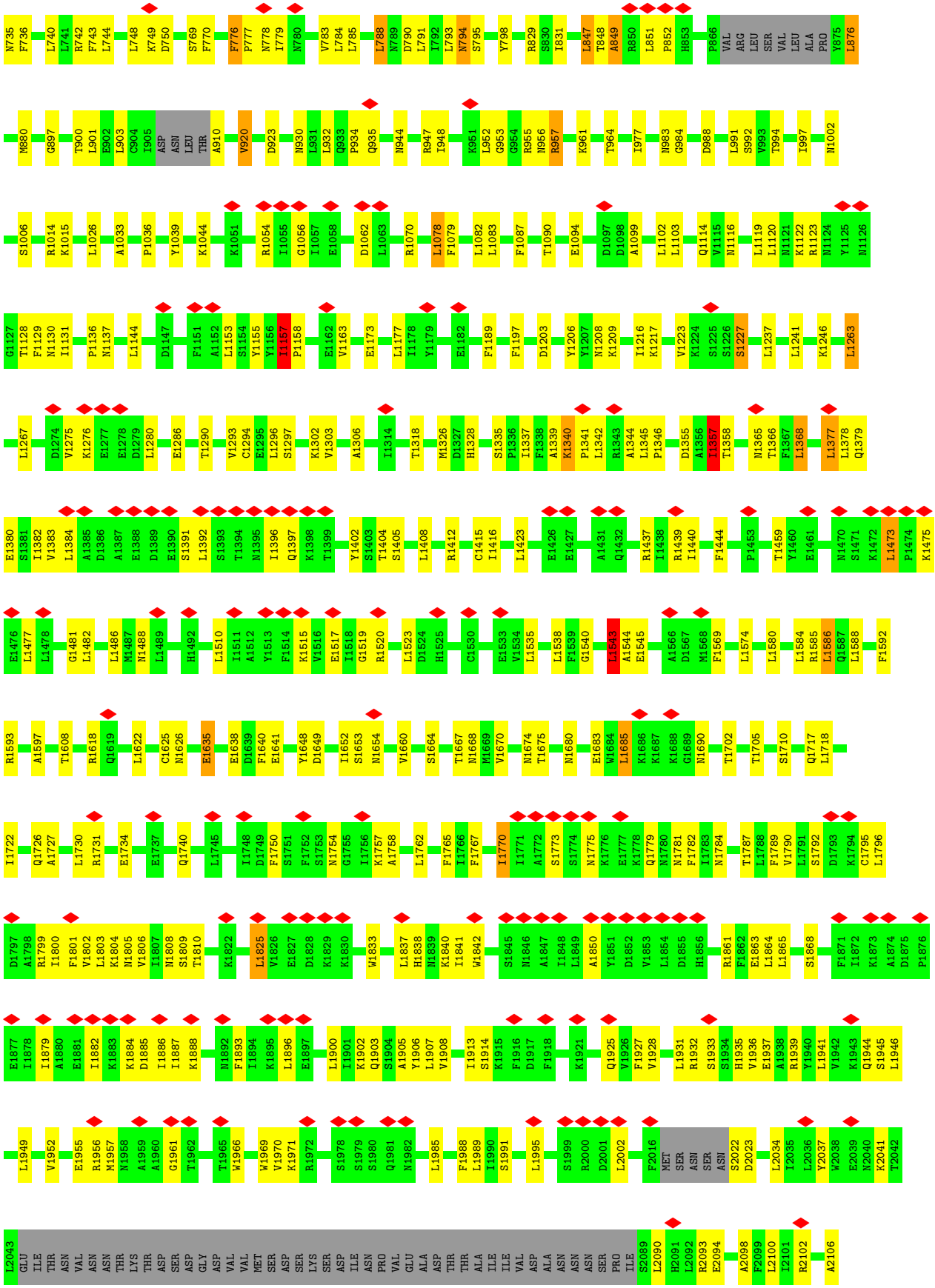
3 Residue-property plots (i)

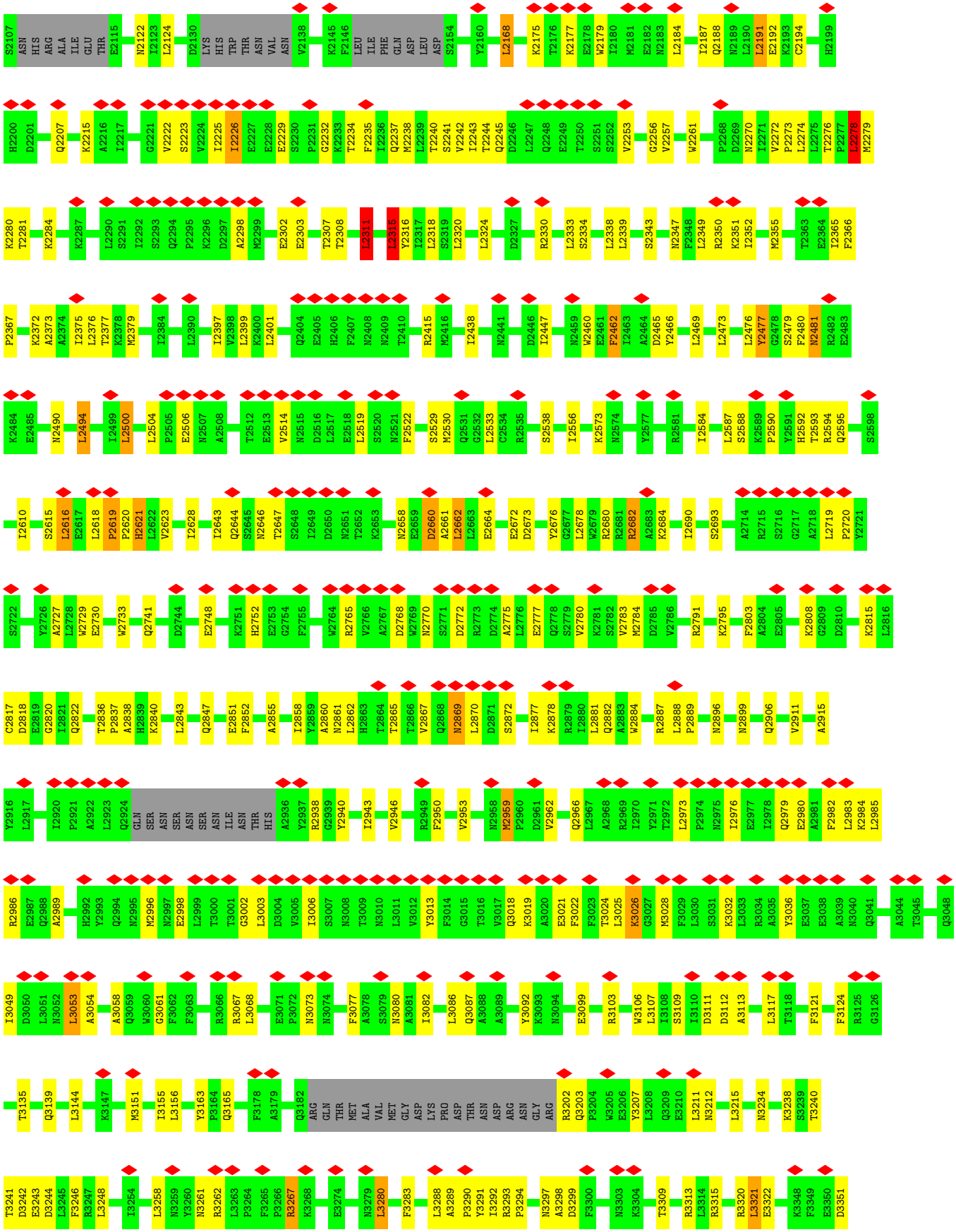
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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.

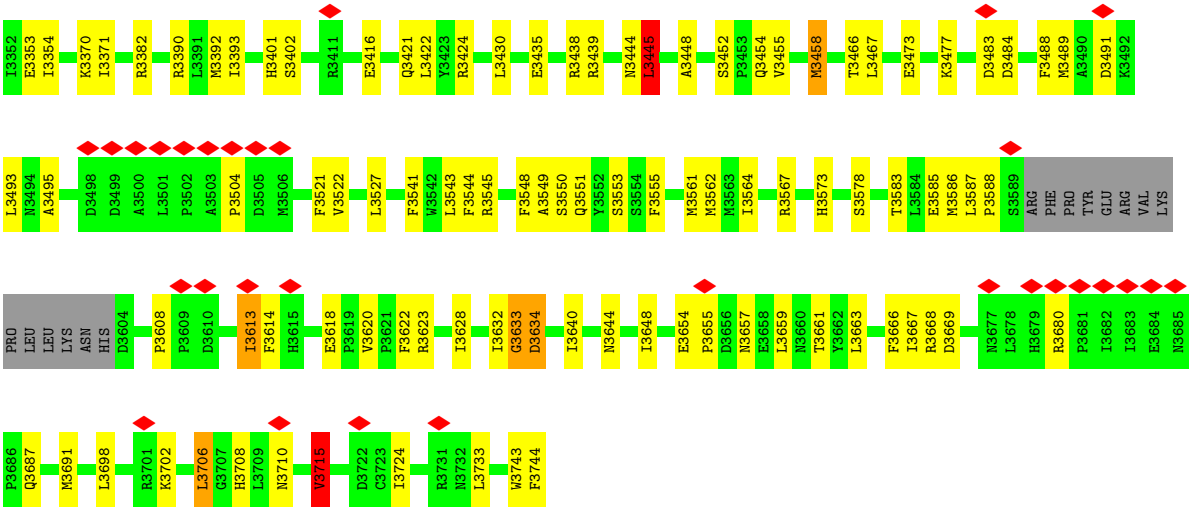
• Molecule 1: Transcription-associated protein 1

Chain T:




N735 F736 L740 L741 R742 F743 L744 L748 K749 D750 S769 F770 F776 P777 N778 I779 N780 V783 L784 L785 L788 N789 D790 L791 I792 L793 N794 S795 Y798 R829 S830 I831 L847 T848 A849 R850 L851 P852 H853 P866 VAL ARG LEU SER VAL LEU ALA PRO Y875 L876
M880 G897 T900 L901 E902 L903 C904 I905 ASP ASN LEU THR A910 V920 D923 N930 L931 L932 Q933 P934 Q935 N944 R947 I948 K951 L952 G953 G954 R955 N956 R957 K961 T964 I977 N983 G984 D988 L991 S992 V993 T994 I997 N1002
S1006 R1014 K1015 L1026 A1033 P1036 Y1039 K1044 K1051 R1054 I1055 G1056 I1057 E1058 D1062 L1063 R1070 L1078 F1079 L1082 L1083 F1087 T1090 E1094 D1097 D1098 A1099 L1102 L1103 Q1114 V1115 N1116 L1119 L1120 N1121 K1122 R1123 N1124 Y1125 N1126
G1127 T1128 F1129 N1130 I1131 P1136 N1137 L1144 D1147 F1151 A1152 L1153 S1154 Y1155 Y1156 I1157 P1158 E1162 V1163 E1173 L1177 I1178 Y1179 E1182 F1189 F1197 D1203 Y1206 Y1207 N1208 K1209 I1216 K1217 V1223 K1224 S1225 S1226 S1227 L1237 L1241 K1246 L1263
L1267 D1274 V1275 K1276 E1277 E1278 D1279 L1280 E1286 T1290 V1293 C1294 E1296 L1296 S1297 K1302 V1303 A1306 I1314 T1318 M1326 D1327 H1328 S1335 P1336 I1337 F1338 A1339 K1340 P1341 L1342 R1343 A1344 L1345 P1346 D1355 A1356 I1357 T1358 N1365 T1366 F1367 L1368 L1377 L1378 Q1379
E1380 S1381 I1382 V1383 L1384 A1385 D1386 A1387 E1388 D1389 E1390 S1391 L1392 S1393 T1394 N1395 I1396 Q1397 K1398 T1399 Y1402 S1403 T1404 S1405 L1408 R1412 C1415 I1416 L1423 E1426 E1427 A1431 Q1432 R1437 I1438 R1439 I1440 F1444 P1453 T1459 Y1460 E1461 N1470 S1471 K1472 L1473 P1474 K1475
E1476 L1477 L1478 G1481 L1482 L1486 M1487 N1488 L1489 H1492 L1510 I1511 A1512 Y1513 F1514 K1515 V1516 E1517 I1518 G1519 R1520 L1523 D1524 H1525 C1530 E1533 V1534 L1535 L1538 F1539 G1540 L1543 A1544 E1545 A1566 D1567 M1568 F1569 L1574 L1580 L1584 R1585 L1586 Q1587 L1588 F1592
R1593 A1597 T1608 R1618 Q1619 L1622 C1625 N1626 E1635 E1638 D1639 F1640 E1641 Y1648 D1649 I1652 S1653 N1654 V1660 S1664 T1667 N1668 M1669 V1670 N1674 T1675 N1680 E1683 W1684 L1685 K1686 K1687 K1688 G1689 N1690 T1702 T1705 S1710 Q1717 L1718
I1722 Q1726 A1727 L1730 R1731 E1734 E1737 Q1740 L1745 I1748 D1749 F1750 S1751 F1752 S1753 N1754 G1755 I1756 K1757 A1758 L1762 F1765 I1766 F1767 I1770 I1771 A1772 S1773 S1774 N1775 K1776 E1777 K1778 Q1779 N1780 N1781 F1782 I1783 N1784 T1787 L1788 F1789 V1790 L1791 S1792 D1793 K1794 C1795 L1796
D1797 A1798 R1799 I1800 F1801 V1802 L1803 K1804 N1805 V1806 I1807 N1808 S1809 T1810 K1822 L1825 V1826 E1827 D1828 K1829 K1830 W1833 L1837 H1838 N1839 K1840 I1841 W1842 S1845 N1846 A1847 I1848 L1849 A1850 Y1851 D1852 V1853 L1854 D1855 H1856 R1861 F1862 E1863 L1864 L1865 S1868 F1871 I1872 K1873 A1874 D1875 P1876
E1877 I1878 I1879 A1880 E1881 I1882 K1883 K1884 D1885 I1886 I1887 K1888 N1892 F1893 I1894 K1895 L1896 E1897 L1900 I1901 K1902 Q1903 S1904 A1905 Y1906 L1907 V1908 I1913 S1914 K1915 F1916 D1917 F1918 K1921 Q1925 V1926 F1927 V1928 L1931 R1932 S1933 S1934 H1935 V1936 E1937 A1938 R1939 Y1940 L1941 V1942 K1943 Q1944 S1945 L1946
L1949 V1952 E1955 R1956 M1957 N1958 A1959 A1960 G1961 T1962 T1965 W1966 W1969 V1970 K1971 R1972 S1978 S1979 S1980 Q1981 N1982 L1985 F1988 L1989 I1990 S1991 L1995 S1999 R2000 D2001 L2002 F2016 MET SER ASN SER ASN S2022 D2023 L2034 I2035 L2036 Y2037 W2038 E2039 N2040 K2041 T2042
L2043 GLU ILE THR ASN VAL ASN ASN THR LYS THR ASP SER ASP GLY ASP VAL VAL MET SER ASP SER LYS SER ASP ILE ASN PRO VAL GLU ALA ASP THR THR ALA ILE ILE VAL ASP ALA ASN ASN ASN SER PRO ILE S2089 L2090 H2091 L2092 R2093 E2094 A2098 F2099 L2100 I2101 R2102 A2106




I3352 E3353 I3354 K3370 I3371 R3382 R3390 L3391 M3392 I3393 H3401 S3402 R3411 E3416 Q3421 L3422 Y3423 R3424 L3430 E3435 R3438 R3439 N3444 L3445 A3448 S3452 P3453 Q3454 V3455 M3458 T3466 L3467 E3473 K3477 D3483 D3484 F3488 M3489 A3490 D3491 K3492
L3493 N3494 A3495 D3498 D3499 A3500 L3501 P3502 A3503 P3504 D3505 M3506 F3521 V3522 L3527 F3541 W3542 L3543 F3544 R3545 F3548 A3549 S3550 Q3551 Y3582 S3553 S3554 F3555 M3561 M3562 M3563 I3564 R3567 H3573 S3578 T3583 L3584 E3585 M3586 L3587 P3588 S3589 ARG PHE PRO TYR GLU ARG VAL LYS
PRO LEU LEU LYS ASN HIS D3604 P3608 P3609 D3610 I3613 F3614 H3615 E3618 P3619 V3620 P3621 F3622 R3623 I3628 I3632 G3633 D3634 I3640 N3644 I3648 E3654 P3655 D3656 N3657 E3658 L3659 N3660 T3661 Y3662 L3663 F3666 I3667 R3668 D3669 N3677 L3678 H3679 R3680 P3681 I3682 I3683 E3684 N3685
P3686 Q3687 N3691 L3698 R3701 K3702 L3706 G3707 H3708 L3709 N3710 V3715 D3722 C3723 I3724 R3731 N3732 L3733 W3743 F3744

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	182285	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	1.4	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	3500	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.208	Depositor
Minimum map value	-0.123	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.04	Depositor
Map size (Å)	307.4, 307.4, 307.4	wwPDB
Map dimensions	290, 290, 290	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

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	T	0.37	0/29026	0.74	49/39323 (0.1%)

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	T	0	50

There are no bond length outliers.

All (49) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	T	3053	LEU	CA-CB-CG	11.43	141.60	115.30
1	T	1825	LEU	CA-CB-CG	11.13	140.90	115.30
1	T	2278	LEU	CA-CB-CG	9.14	136.32	115.30
1	T	38	LEU	CA-CB-CG	8.63	135.14	115.30
1	T	876	LEU	CA-CB-CG	7.54	132.63	115.30
1	T	2494	LEU	CA-CB-CG	7.47	132.48	115.30
1	T	932	LEU	CA-CB-CG	7.41	132.35	115.30
1	T	2315	LEU	CA-CB-CG	7.37	132.26	115.30
1	T	2339	LEU	CA-CB-CG	7.31	132.11	115.30
1	T	3444	ASN	C-N-CA	7.15	139.56	121.70
1	T	2504	LEU	CA-CB-CG	6.97	131.34	115.30
1	T	3445	LEU	CA-CB-CG	6.90	131.18	115.30
1	T	246	LEU	CA-CB-CG	6.78	130.88	115.30
1	T	1368	LEU	CA-CB-CG	6.71	130.74	115.30
1	T	991	LEU	CA-CB-CG	6.68	130.66	115.30
1	T	788	LEU	CA-CB-CG	6.61	130.50	115.30
1	T	340	LEU	CA-CB-CG	6.55	130.36	115.30
1	T	3634	ASP	CB-CG-OD1	6.33	124.00	118.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	T	2618	LEU	CA-CB-CG	6.12	129.38	115.30
1	T	1157	ILE	C-N-CD	-6.09	107.19	120.60
1	T	2660	ASP	CB-CG-OD1	6.05	123.74	118.30
1	T	37	LEU	CA-CB-CG	5.90	128.87	115.30
1	T	785	LEU	CA-CB-CG	5.82	128.69	115.30
1	T	107	LEU	CA-CB-CG	5.76	128.55	115.30
1	T	3706	LEU	CA-CB-CG	5.72	128.47	115.30
1	T	1907	LEU	CA-CB-CG	5.66	128.32	115.30
1	T	2959	MET	CA-CB-CG	5.64	122.89	113.30
1	T	1510	LEU	CA-CB-CG	5.59	128.16	115.30
1	T	847	LEU	CA-CB-CG	5.52	128.00	115.30
1	T	2662	LEU	CA-CB-CG	5.51	127.97	115.30
1	T	1263	LEU	CB-CG-CD1	-5.45	101.74	111.00
1	T	122	LEU	CA-CB-CG	5.38	127.67	115.30
1	T	2339	LEU	CB-CG-CD2	-5.36	101.88	111.00
1	T	3715	VAL	C-N-CA	5.35	135.07	121.70
1	T	3430	LEU	CA-CB-CG	5.33	127.55	115.30
1	T	1586	LEU	CA-CB-CG	5.32	127.53	115.30
1	T	1083	LEU	CA-CB-CG	5.31	127.50	115.30
1	T	1384	LEU	CA-CB-CG	5.29	127.46	115.30
1	T	3633	GLY	C-N-CA	5.27	134.88	121.70
1	T	3543	LEU	CA-CB-CG	5.26	127.40	115.30
1	T	1588	LEU	CA-CB-CG	5.24	127.35	115.30
1	T	748	LEU	CA-CB-CG	5.18	127.20	115.30
1	T	2311	LEU	CA-CB-CG	5.14	127.13	115.30
1	T	727	LEU	CA-CB-CG	5.14	127.13	115.30
1	T	1296	LEU	CA-CB-CG	5.12	127.09	115.30
1	T	2616	LEU	CA-CB-CG	5.11	127.04	115.30
1	T	3613	ILE	CG1-CB-CG2	-5.06	100.28	111.40
1	T	1357	ILE	CG1-CB-CG2	-5.05	100.28	111.40
1	T	1078	LEU	CA-CB-CG	5.01	126.82	115.30

There are no chirality outliers.

All (50) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	T	1070	ARG	Peptide
1	T	1136	PRO	Peptide
1	T	1157	ILE	Peptide
1	T	1227	SER	Peptide
1	T	1297	SER	Peptide
1	T	1346	PRO	Peptide

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Group
1	T	1357	ILE	Peptide
1	T	1473	LEU	Peptide
1	T	1543	LEU	Peptide
1	T	1635	GLU	Peptide
1	T	1660	VAL	Peptide
1	T	1710	SER	Peptide
1	T	1770	ILE	Peptide
1	T	1773	SER	Peptide
1	T	1795	CYS	Peptide
1	T	1850	ALA	Peptide
1	T	1900	LEU	Peptide
1	T	2225	ILE	Peptide
1	T	2226	ILE	Peptide
1	T	227	CYS	Peptide
1	T	2315	LEU	Peptide
1	T	2343	SER	Peptide
1	T	2366	PHE	Peptide
1	T	246	LEU	Peptide
1	T	2462	PHE	Peptide
1	T	2615	SER	Peptide
1	T	2619	PRO	Peptide
1	T	2888	LEU	Peptide
1	T	2973	LEU	Peptide
1	T	2976	ILE	Peptide
1	T	3163	TYR	Peptide
1	T	3238	LYS	Peptide
1	T	3290	PRO	Peptide
1	T	346	GLU	Peptide
1	T	3504	PRO	Peptide
1	T	3608	PRO	Peptide
1	T	3618	GLU	Peptide
1	T	3633	GLY	Peptide
1	T	3654	GLU	Peptide
1	T	3680	ARG	Peptide
1	T	3715	VAL	Peptide
1	T	380	GLY	Peptide
1	T	693	MET	Peptide
1	T	694	ASP	Peptide
1	T	72	GLU	Peptide
1	T	750	ASP	Peptide
1	T	776	PHE	Peptide
1	T	847	LEU	Peptide

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Group
1	T	851	LEU	Peptide
1	T	935	GLN	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	T	28407	0	28803	463	0
All	All	28407	0	28803	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 8.

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:T:118:CYS:O	1:T:122:LEU:HB2	1.70	0.91
1:T:2188:GLN:O	1:T:2192:GLU:HB3	1.71	0.89
1:T:3293:ARG:O	1:T:3297:ASN:HB2	1.73	0.89
1:T:3258:LEU:O	1:T:3262:ARG:HB2	1.72	0.89
1:T:1902:LYS:O	1:T:1906:TYR:HB2	1.74	0.87
1:T:1404:THR:O	1:T:1408:LEU:HB2	1.73	0.87
1:T:3541:PHE:O	1:T:3544:PHE:HB3	1.80	0.82
1:T:1173:GLU:O	1:T:1177:LEU:HB2	1.82	0.80
1:T:702:ILE:O	1:T:706:LEU:HB2	1.81	0.80
1:T:2473:LEU:O	1:T:2477:TYR:HB2	1.82	0.78
1:T:3473:GLU:O	1:T:3477:LYS:HB2	1.84	0.78
1:T:2372:LYS:O	1:T:2376:LEU:HB2	1.84	0.77
1:T:1838:HIS:O	1:T:1842:TRP:HB2	1.85	0.77
1:T:2590:PRO:HG2	1:T:2592:HIS:HB3	1.70	0.73
1:T:1335:SER:O	1:T:1339:ALA:HB2	1.89	0.73
1:T:2238:MET:O	1:T:2241:SER:HB2	1.90	0.72
1:T:1114:GLN:HG3	1:T:1189:PHE:HD1	1.56	0.71
1:T:397:ASP:O	1:T:401:ASN:HB2	1.92	0.70
1:T:246:LEU:HD12	1:T:247:PRO:HD2	1.75	0.69
1:T:685:TYR:O	1:T:689:MET:HB2	1.93	0.68

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:T:1099:ALA:O	1:T:1103:LEU:HB2	1.94	0.68
1:T:1726:GLN:HE21	1:T:1762:LEU:HB2	1.59	0.68
1:T:1988:PHE:HA	1:T:1991:SER:HB3	1.75	0.68
1:T:695:ASN:HD21	1:T:1540:GLY:HA2	1.59	0.67
1:T:10:PHE:HB2	1:T:13:ARG:HE	1.60	0.67
1:T:2168:LEU:O	1:T:2215:LYS:NZ	2.27	0.67
1:T:3211:LEU:O	1:T:3215:LEU:HB2	1.94	0.67
1:T:447:LEU:O	1:T:451:LYS:HB2	1.95	0.67
1:T:2397:ILE:O	1:T:2401:LEU:HB2	1.94	0.66
1:T:3024:THR:O	1:T:3028:MET:N	2.29	0.66
1:T:476:LYS:HG3	1:T:640:GLU:HG2	1.78	0.65
1:T:1939:ARG:HE	1:T:1985:LEU:HD13	1.59	0.65
1:T:1750:PHE:O	1:T:1799:ARG:NH2	2.30	0.65
1:T:1730:LEU:HD11	1:T:1765:PHE:HB2	1.78	0.64
1:T:3491:ASP:O	1:T:3495:ALA:HB2	1.98	0.64
1:T:2094:GLU:O	1:T:2098:ALA:HB3	1.97	0.64
1:T:3687:GLN:O	1:T:3691:MET:HB2	1.98	0.64
1:T:1293:VAL:HG21	1:T:1326:MET:HG2	1.79	0.64
1:T:730:GLU:HB3	1:T:732:THR:H	1.63	0.64
1:T:1805:ASN:O	1:T:1809:SER:HB2	1.98	0.63
1:T:2980:GLU:O	1:T:2984:LYS:HB2	1.97	0.63
1:T:3315:ARG:NH1	1:T:3483:ASP:OD1	2.32	0.63
1:T:76:ARG:HD3	1:T:117:LEU:HD21	1.80	0.62
1:T:3309:THR:O	1:T:3313:ARG:HB2	1.99	0.62
1:T:2316:TYR:O	1:T:2320:LEU:HB2	2.00	0.62
1:T:3036:TYR:O	1:T:3067:ARG:NH2	2.34	0.61
1:T:1805:ASN:O	1:T:1809:SER:CB	2.48	0.61
1:T:2469:LEU:HB2	1:T:2556:ILE:HD11	1.82	0.61
1:T:790:ASP:O	1:T:794:ASN:HB2	2.01	0.61
1:T:2257:VAL:O	1:T:2261:TRP:HB2	2.00	0.60
1:T:719:LEU:O	1:T:722:VAL:HB	2.00	0.60
1:T:3550:SER:O	1:T:3553:SER:HB2	2.01	0.60
1:T:3698:LEU:O	1:T:3702:LYS:HB2	2.01	0.60
1:T:2690:ILE:HG13	1:T:3715:VAL:HA	1.82	0.60
1:T:1841:ILE:HG21	1:T:1885:ASP:HB3	1.83	0.60
1:T:2660:ASP:HB3	1:T:2682:ARG:HH22	1.66	0.60
1:T:3109:SER:OG	1:T:3668:ARG:NH1	2.35	0.60
1:T:1913:ILE:O	1:T:1956:ARG:NH1	2.35	0.59
1:T:3068:LEU:O	1:T:3073:ASN:ND2	2.35	0.59
1:T:2983:LEU:HA	1:T:2986:ARG:HB3	1.85	0.59
1:T:1217:LYS:HB3	1:T:1263:LEU:HD11	1.84	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:T:1006:SER:O	1:T:1014:ARG:NH2	2.36	0.59
1:T:1033:ALA:HB1	1:T:2530:MET:HB3	1.84	0.59
1:T:1740:GLN:HE22	1:T:1781:ASN:HB2	1.68	0.59
1:T:1936:VAL:HG22	1:T:1939:ARG:HD2	1.85	0.59
1:T:1945:SER:O	1:T:1949:LEU:HB2	2.03	0.59
1:T:1750:PHE:HZ	1:T:1802:VAL:HG21	1.68	0.58
1:T:2270:ASN:HB3	1:T:2272:VAL:HG23	1.84	0.58
1:T:1801:PHE:HA	1:T:1804:LYS:HG3	1.85	0.58
1:T:3452:SER:HB2	1:T:3455:VAL:H	1.69	0.58
1:T:2729:TRP:O	1:T:2733:TRP:HB2	2.02	0.58
1:T:953:GLY:O	1:T:957:ARG:NH1	2.37	0.58
1:T:2836:THR:HG22	1:T:2838:ALA:H	1.68	0.58
1:T:117:LEU:O	1:T:121:VAL:HB	2.04	0.58
1:T:3622:PHE:HZ	1:T:3724:ILE:HG22	1.68	0.58
1:T:1648:TYR:O	1:T:1652:ILE:HB	2.03	0.57
1:T:2768:ASP:OD1	1:T:2770:ASN:ND2	2.37	0.57
1:T:1966:TRP:HA	1:T:1969:TRP:HD1	1.70	0.57
1:T:2852:PHE:O	1:T:2855:ALA:HB3	2.05	0.57
1:T:2817:CYS:SG	1:T:2818:ASP:N	2.78	0.56
1:T:153:ASN:OD1	1:T:157:GLN:NE2	2.37	0.56
1:T:3424:ARG:NH1	1:T:3445:LEU:O	2.37	0.56
1:T:2465:ASP:N	1:T:2465:ASP:OD1	2.36	0.56
1:T:1952:VAL:HA	1:T:1955:GLU:HG2	1.87	0.56
1:T:3567:ARG:NH1	1:T:3585:GLU:OE1	2.38	0.56
1:T:3561:MET:HG2	1:T:3562:MET:HG3	1.87	0.56
1:T:956:ASN:HD21	1:T:2843:LEU:HD12	1.70	0.56
1:T:3628:ILE:O	1:T:3632:ILE:HB	2.06	0.56
1:T:2783:VAL:O	1:T:2791:ARG:NH2	2.36	0.56
1:T:1971:LYS:HD3	1:T:2002:LEU:HD23	1.88	0.56
1:T:49:GLN:NE2	1:T:91:THR:OG1	2.39	0.56
1:T:3299:ASP:HB3	1:T:3313:ARG:HD2	1.87	0.56
1:T:1380:GLU:HA	1:T:1383:VAL:HG12	1.88	0.55
1:T:1054:ARG:NH1	1:T:2506:GLU:OE2	2.39	0.55
1:T:1790:VAL:HG23	1:T:1800:ILE:HG23	1.88	0.55
1:T:3435:GLU:O	1:T:3439:ARG:NH1	2.39	0.55
1:T:2741:GLN:OE1	1:T:2765:ARG:NH2	2.39	0.55
1:T:3156:LEU:HD13	1:T:3211:LEU:HD11	1.89	0.55
1:T:355:LEU:HD21	1:T:364:LEU:HD13	1.89	0.55
1:T:445:ARG:O	1:T:449:LEU:HB2	2.06	0.55
1:T:1203:ASP:OD2	1:T:1208:ASN:ND2	2.40	0.55
1:T:910:ALA:O	1:T:955:ARG:NH2	2.40	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:T:1337:ILE:HG21	1:T:1357:ILE:HD11	1.87	0.55
1:T:1477:LEU:O	1:T:1481:GLY:N	2.38	0.55
1:T:1015:LYS:NZ	1:T:1094:GLU:O	2.39	0.55
1:T:1416:ILE:HG23	1:T:1444:PHE:HE1	1.71	0.55
1:T:3351:ASP:HB3	1:T:3370:LYS:HG2	1.89	0.55
1:T:222:LYS:NZ	1:T:237:SER:OG	2.40	0.54
1:T:122:LEU:O	1:T:126:PHE:HB2	2.07	0.54
1:T:3058:ALA:O	1:T:3061:GLY:N	2.41	0.54
1:T:3640:ILE:O	1:T:3644:ASN:ND2	2.40	0.54
1:T:1664:SER:O	1:T:1668:ASN:ND2	2.41	0.54
1:T:1391:SER:OG	1:T:1397:GLN:NE2	2.41	0.54
1:T:2593:THR:OG1	1:T:2595:GLN:NE2	2.40	0.54
1:T:1517:GLU:HA	1:T:1520:ARG:HD3	1.89	0.54
1:T:1991:SER:HB2	1:T:2034:LEU:HD11	1.90	0.54
1:T:3521:PHE:HB3	1:T:3522:VAL:HG23	1.89	0.54
1:T:2587:LEU:O	1:T:2594:ARG:NH2	2.41	0.54
1:T:3454:GLN:HG3	1:T:3455:VAL:HG23	1.90	0.54
1:T:1625:CYS:SG	1:T:1675:THR:OG1	2.60	0.54
1:T:2473:LEU:HD23	1:T:2476:LEU:HD11	1.90	0.54
1:T:3135:THR:O	1:T:3421:GLN:NE2	2.40	0.54
1:T:2102:ARG:O	1:T:2106:ALA:HB2	2.07	0.54
1:T:3139:GLN:NE2	1:T:3669:ASP:OD2	2.40	0.54
1:T:934:PRO:HB3	1:T:2822:GLN:HE21	1.74	0.53
1:T:1099:ALA:O	1:T:1103:LEU:CB	2.55	0.53
1:T:3422:LEU:HD11	1:T:3666:PHE:HB3	1.90	0.53
1:T:106:VAL:HG21	1:T:117:LEU:HB2	1.89	0.53
1:T:3545:ARG:HA	1:T:3548:PHE:HB3	1.90	0.53
1:T:1519:GLY:O	1:T:1523:LEU:CB	2.55	0.53
1:T:1580:LEU:HD22	1:T:1592:PHE:HZ	1.73	0.53
1:T:1757:LYS:HE3	1:T:1802:VAL:HG13	1.90	0.53
1:T:1925:GLN:HA	1:T:1928:VAL:HB	1.88	0.53
1:T:474:ARG:O	1:T:474:ARG:NH2	2.40	0.53
1:T:1122:LYS:HE3	1:T:1123:ARG:HH12	1.74	0.53
1:T:1683:GLU:HG3	1:T:1685:LEU:H	1.74	0.53
1:T:1734:GLU:HB3	1:T:1765:PHE:HE1	1.73	0.53
1:T:510:ASN:ND2	1:T:2207:GLN:OE1	2.42	0.53
1:T:1957:MET:HG3	1:T:1961:GLY:HA3	1.90	0.53
1:T:2784:MET:HG3	1:T:2795:LYS:HD3	1.91	0.53
1:T:2529:SER:O	1:T:2533:LEU:N	2.41	0.53
1:T:1593:ARG:O	1:T:1597:ALA:N	2.40	0.53
1:T:3564:ILE:HA	1:T:3588:PRO:HA	1.90	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:T:468:ILE:HA	1:T:471:TYR:HD2	1.74	0.52
1:T:1216:ILE:HD11	1:T:1241:LEU:HD21	1.91	0.52
1:T:608:PRO:O	1:T:612:THR:N	2.41	0.52
1:T:1805:ASN:O	1:T:1809:SER:OG	2.28	0.52
1:T:2349:LEU:HA	1:T:2352:ILE:HG12	1.91	0.52
1:T:3392:MET:HA	1:T:3402:SER:HA	1.90	0.52
1:T:2584:ILE:HG23	1:T:2623:VAL:HG21	1.90	0.52
1:T:1837:LEU:HG	1:T:1840:LYS:HE3	1.92	0.52
1:T:2865:THR:HA	1:T:2867:VAL:HG23	1.91	0.52
1:T:2878:LYS:O	1:T:2882:GLN:HB2	2.10	0.52
1:T:3019:LYS:O	1:T:3022:PHE:HB2	2.09	0.52
1:T:3246:PHE:HB2	1:T:3321:LEU:HD12	1.91	0.52
1:T:2817:CYS:O	1:T:2820:GLY:N	2.42	0.52
1:T:1:MET:O	1:T:6:GLN:NE2	2.39	0.52
1:T:118:CYS:O	1:T:122:LEU:CB	2.51	0.52
1:T:1520:ARG:HD2	1:T:1569:PHE:HZ	1.75	0.52
1:T:1635:GLU:HA	1:T:1638:GLU:HG2	1.92	0.52
1:T:1726:GLN:HE22	1:T:1758:ALA:HB3	1.75	0.52
1:T:2588:SER:HB2	1:T:2623:VAL:HG13	1.92	0.52
1:T:1044:LYS:NZ	1:T:2514:VAL:O	2.40	0.52
1:T:1116:ASN:O	1:T:1120:LEU:CB	2.58	0.52
1:T:3371:ILE:HG22	1:T:3393:ILE:HG21	1.91	0.52
1:T:3614:PHE:HE2	1:T:3667:ILE:HG23	1.75	0.52
1:T:2090:LEU:HD23	1:T:2093:ARG:HH11	1.75	0.51
1:T:1641:GLU:OE2	1:T:1680:ASN:ND2	2.43	0.51
1:T:1879:ILE:HD12	1:T:1882:ILE:HG13	1.92	0.51
1:T:1995:LEU:O	1:T:2041:LYS:NZ	2.43	0.51
1:T:2280:LYS:O	1:T:2284:LYS:N	2.42	0.51
1:T:3473:GLU:O	1:T:3477:LYS:CB	2.57	0.51
1:T:3261:ASN:OD1	1:T:3267:ARG:NH1	2.43	0.51
1:T:3211:LEU:O	1:T:3215:LEU:CB	2.57	0.51
1:T:2996:MET:HG2	1:T:3032:LYS:HE3	1.91	0.51
1:T:611:TYR:OH	1:T:1585:ARG:NH2	2.36	0.51
1:T:920:VAL:HG12	1:T:923:ASP:HB2	1.93	0.51
1:T:2094:GLU:O	1:T:2098:ALA:CB	2.58	0.51
1:T:3309:THR:O	1:T:3313:ARG:CB	2.59	0.51
1:T:1437:ARG:HA	1:T:1440:ILE:HG12	1.93	0.51
1:T:695:ASN:HA	1:T:698:PHE:HB3	1.92	0.50
1:T:848:THR:OG1	1:T:849:ALA:N	2.37	0.50
1:T:3659:LEU:O	1:T:3663:LEU:HB2	2.11	0.50
1:T:1203:ASP:O	1:T:1209:LYS:NZ	2.42	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:T:3067:ARG:HH11	1:T:3077:PHE:HZ	1.59	0.50
1:T:1423:LEU:HD12	1:T:1440:ILE:HD11	1.93	0.50
1:T:1355:ASP:O	1:T:1358:THR:OG1	2.29	0.50
1:T:2240:THR:HG22	1:T:2256:GLY:HA2	1.94	0.50
1:T:793:LEU:HB3	1:T:831:ILE:HD11	1.94	0.50
1:T:2232:GLY:O	1:T:2235:PHE:HB3	2.11	0.50
1:T:1473:LEU:HD21	1:T:1477:LEU:HB3	1.94	0.50
1:T:2837:PRO:O	1:T:2840:LYS:HB3	2.12	0.50
1:T:4:THR:HG22	1:T:7:ILE:HD12	1.94	0.50
1:T:1804:LYS:HE2	1:T:1863:GLU:HB2	1.94	0.50
1:T:2022:SER:OG	1:T:2023:ASP:N	2.44	0.50
1:T:1649:ASP:O	1:T:1653:SER:CB	2.60	0.49
1:T:2373:ALA:HA	1:T:2415:ARG:HH21	1.77	0.49
1:T:3289:ALA:HA	1:T:3293:ARG:HH21	1.77	0.49
1:T:1036:PRO:HG2	1:T:1039:TYR:HB2	1.94	0.49
1:T:2376:LEU:HD12	1:T:2379:MET:HG3	1.95	0.49
1:T:24:ARG:HA	1:T:28:LEU:HD23	1.93	0.49
1:T:152:PRO:HA	1:T:155:ILE:HG12	1.94	0.49
1:T:1340:LYS:NZ	1:T:1344:ALA:O	2.45	0.49
1:T:1932:ARG:HE	1:T:1933:SER:H	1.59	0.49
1:T:602:LYS:HB3	1:T:624:ARG:HH21	1.77	0.49
1:T:3620:VAL:HG11	1:T:3733:LEU:HD23	1.95	0.49
1:T:776:PHE:O	1:T:778:ASN:N	2.43	0.49
1:T:1237:LEU:HD13	1:T:1267:LEU:HD11	1.95	0.49
1:T:1757:LYS:HZ2	1:T:1805:ASN:HB3	1.77	0.49
1:T:1861:ARG:HH12	1:T:1896:LEU:HG	1.78	0.49
1:T:13:ARG:HH22	1:T:30:GLU:HA	1.78	0.49
1:T:2877:ILE:O	1:T:2881:LEU:HB3	2.12	0.49
1:T:1286:GLU:OE2	1:T:1328:HIS:NE2	2.46	0.49
1:T:485:ILE:HG23	1:T:579:PRO:HB2	1.94	0.48
1:T:944:ASN:OD1	1:T:947:ARG:NH2	2.42	0.48
1:T:407:GLN:N	1:T:410:GLU:OE2	2.45	0.48
1:T:2244:THR:HA	1:T:2253:VAL:HG23	1.94	0.48
1:T:3082:ILE:O	1:T:3086:LEU:HB2	2.13	0.48
1:T:983:ASN:ND2	1:T:2480:PHE:O	2.45	0.48
1:T:1914:SER:HA	1:T:1952:VAL:HG21	1.95	0.48
1:T:2303:GLU:O	1:T:2307:THR:OG1	2.21	0.48
1:T:732:THR:HB	1:T:735:ASN:HD22	1.79	0.48
1:T:952:LEU:HB2	1:T:955:ARG:HB2	1.95	0.48
1:T:1062:ASP:O	1:T:3320:ARG:NH1	2.46	0.48
1:T:2240:THR:HA	1:T:2243:ILE:HG22	1.94	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:T:3234:ASN:OD1	1:T:3452:SER:OG	2.30	0.48
1:T:1702:THR:HA	1:T:1705:THR:HG22	1.96	0.48
1:T:1767:PHE:HA	1:T:1770:ILE:HD12	1.94	0.48
1:T:2862:LEU:HD13	1:T:2865:THR:HB	1.96	0.48
1:T:13:ARG:HH12	1:T:30:GLU:HB2	1.77	0.48
1:T:1779:GLN:HA	1:T:1782:PHE:HD2	1.79	0.48
1:T:1128:THR:HG21	1:T:3291:TYR:HB2	1.95	0.48
1:T:1246:LYS:HA	1:T:1303:VAL:HG21	1.96	0.48
1:T:1796:LEU:HB3	1:T:1799:ARG:HB2	1.96	0.48
1:T:2175:LYS:HG2	1:T:2179:TRP:HB3	1.96	0.48
1:T:1519:GLY:O	1:T:1523:LEU:HB2	2.14	0.48
1:T:1670:VAL:O	1:T:1674:ASN:HB2	2.14	0.48
1:T:770:PHE:HE1	1:T:784:LEU:HD21	1.77	0.48
1:T:2184:LEU:HA	1:T:2187:ILE:HG22	1.95	0.48
1:T:1837:LEU:HD21	1:T:1886:ILE:HD11	1.95	0.47
1:T:2273:PRO:HB2	1:T:2274:LEU:HD12	1.95	0.47
1:T:3491:ASP:O	1:T:3495:ALA:CB	2.62	0.47
1:T:1482:LEU:HB2	1:T:1486:LEU:HD13	1.96	0.47
1:T:2621:HIS:CE1	1:T:2661:ALA:HB3	2.49	0.47
1:T:1116:ASN:O	1:T:1120:LEU:HB3	2.14	0.47
1:T:776:PHE:HB3	1:T:779:ILE:HG12	1.96	0.47
1:T:1056:GLY:N	1:T:2506:GLU:OE1	2.47	0.47
1:T:1120:LEU:HD22	1:T:2500:LEU:HD11	1.97	0.47
1:T:2877:ILE:O	1:T:2881:LEU:CB	2.62	0.47
1:T:327:ASP:O	1:T:331:ARG:CB	2.63	0.47
1:T:1649:ASP:O	1:T:1653:SER:HB3	2.14	0.47
1:T:2998:GLU:O	1:T:3002:GLY:N	2.48	0.47
1:T:132:ILE:HD13	1:T:134:GLN:HG2	1.96	0.47
1:T:2276:THR:O	1:T:2279:MET:HB3	2.14	0.47
1:T:2962:VAL:O	1:T:2966:GLN:N	2.47	0.47
1:T:345:LYS:HG2	1:T:387:LEU:HD11	1.96	0.47
1:T:740:LEU:HD12	1:T:769:SER:HB3	1.96	0.47
1:T:3003:LEU:HD12	1:T:3026:LYS:HB2	1.97	0.47
1:T:1355:ASP:HA	1:T:1358:THR:HG23	1.97	0.47
1:T:110:GLU:HG2	1:T:154:LEU:HD21	1.96	0.47
1:T:2950:PHE:HA	1:T:2953:VAL:HG12	1.96	0.47
1:T:2980:GLU:O	1:T:2984:LYS:CB	2.63	0.47
1:T:3587:LEU:HA	1:T:3588:PRO:HD3	1.75	0.47
1:T:3623:ARG:NH2	1:T:3744:PHE:O	2.47	0.47
1:T:48:LEU:HA	1:T:51:VAL:HG22	1.97	0.46
1:T:1079:PHE:HD2	1:T:1144:LEU:HD11	1.80	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:T:3241:THR:HB	1:T:3288:LEU:HD22	1.97	0.46
1:T:1535:LEU:HA	1:T:1538:LEU:HD23	1.96	0.46
1:T:1884:LYS:HA	1:T:1887:ILE:HD12	1.98	0.46
1:T:2481:ASN:O	1:T:2538:SER:OG	2.32	0.46
1:T:24:ARG:NH2	1:T:69:HIS:O	2.36	0.46
1:T:742:ARG:HH21	1:T:1545:GLU:H	1.61	0.46
1:T:1342:LEU:HB3	1:T:1377:LEU:HD12	1.96	0.46
1:T:1535:LEU:HD12	1:T:1584:LEU:HD21	1.97	0.46
1:T:790:ASP:O	1:T:794:ASN:CB	2.64	0.46
1:T:2851:GLU:OE1	1:T:2884:TRP:NE1	2.49	0.46
1:T:1519:GLY:O	1:T:1523:LEU:HB3	2.16	0.46
1:T:1902:LYS:O	1:T:1906:TYR:CB	2.55	0.46
1:T:2676:TYR:HB3	1:T:2680:ARG:HH21	1.81	0.46
1:T:2979:GLN:HG3	1:T:2982:PHE:HD2	1.79	0.46
1:T:3106:TRP:HE3	1:T:3107:LEU:HD22	1.80	0.46
1:T:791:LEU:O	1:T:795:SER:CB	2.64	0.45
1:T:122:LEU:O	1:T:126:PHE:CB	2.64	0.45
1:T:232:VAL:O	1:T:236:SER:CB	2.64	0.45
1:T:2373:ALA:O	1:T:2415:ARG:NH2	2.48	0.45
1:T:3354:ILE:HD13	1:T:3401:HIS:CE1	2.51	0.45
1:T:628:TYR:CG	1:T:1622:LEU:HD21	2.51	0.45
1:T:685:TYR:O	1:T:689:MET:CB	2.62	0.45
1:T:1789:PHE:O	1:T:1792:SER:OG	2.34	0.45
1:T:1941:LEU:HD13	1:T:1944:GLN:HE21	1.81	0.45
1:T:585:TYR:O	1:T:589:THR:OG1	2.28	0.45
1:T:588:ARG:O	1:T:592:SER:HB2	2.17	0.45
1:T:2989:ALA:HB2	1:T:3006:ILE:HG21	1.99	0.45
1:T:1667:THR:HG21	1:T:1717:GLN:HB2	1.99	0.45
1:T:1787:THR:HG21	1:T:1833:TRP:HB2	1.99	0.45
1:T:2399:LEU:HD12	1:T:2438:ILE:HD11	1.98	0.45
1:T:3288:LEU:HD11	1:T:3292:ILE:HG12	1.99	0.45
1:T:3467:LEU:HD22	1:T:3527:LEU:HD11	1.99	0.45
1:T:2377:THR:HG23	1:T:2415:ARG:HH22	1.82	0.45
1:T:3054:ALA:O	1:T:3058:ALA:N	2.49	0.45
1:T:3294:PRO:O	1:T:3298:ALA:HB2	2.16	0.45
1:T:1770:ILE:HG23	1:T:1810:THR:HA	1.99	0.45
1:T:1087:PHE:CG	1:T:1153:LEU:HD11	2.52	0.45
1:T:1840:LYS:HE2	1:T:1864:LEU:HD12	1.99	0.45
1:T:1905:ALA:HA	1:T:1908:VAL:HG22	1.98	0.45
1:T:3551:GLN:O	1:T:3555:PHE:N	2.50	0.44
1:T:154:LEU:HD22	1:T:214:LEU:HD13	1.98	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:T:1946:LEU:HD23	1:T:1989:LEU:HD22	1.99	0.44
1:T:2257:VAL:O	1:T:2261:TRP:CB	2.64	0.44
1:T:2278:LEU:O	1:T:2281:THR:HB	2.17	0.44
1:T:3103:ARG:HG3	1:T:3107:LEU:HD23	1.99	0.44
1:T:3019:LYS:HB2	1:T:3049:ILE:HG21	1.98	0.44
1:T:1800:ILE:HA	1:T:1803:LEU:HB2	2.00	0.44
1:T:2347:ASN:O	1:T:2351:LYS:NZ	2.47	0.44
1:T:2858:ILE:HD11	1:T:2877:ILE:HD13	1.98	0.44
1:T:3416:GLU:HG2	1:T:3586:MET:H	1.81	0.44
1:T:730:GLU:OE1	1:T:732:THR:OG1	2.31	0.44
1:T:1241:LEU:HD23	1:T:1241:LEU:HA	1.84	0.44
1:T:1378:LEU:HD12	1:T:1415:CYS:SG	2.57	0.44
1:T:1379:GLN:NE2	1:T:1439:ARG:HD3	2.33	0.44
1:T:413:LYS:HA	1:T:416:LYS:HG2	1.99	0.44
1:T:2643:ILE:O	1:T:2647:THR:N	2.44	0.44
1:T:3112:ASP:HA	1:T:3113:ALA:HA	1.59	0.44
1:T:3522:VAL:HG11	1:T:3743:TRP:HD1	1.83	0.44
1:T:901:LEU:HD12	1:T:948:ILE:HD13	1.99	0.44
1:T:1129:PHE:HB3	1:T:1131:ILE:HG12	1.99	0.44
1:T:2351:LYS:O	1:T:2355:MET:HB2	2.17	0.44
1:T:2985:LEU:HD12	1:T:3006:ILE:HG23	2.00	0.44
1:T:3054:ALA:HB3	1:T:3092:TYR:HB2	2.00	0.44
1:T:307:TYR:HE1	1:T:346:GLU:HB2	1.82	0.44
1:T:2334:SER:O	1:T:2338:LEU:HB2	2.18	0.44
1:T:2869:ASN:ND2	1:T:2872:SER:OG	2.51	0.44
1:T:3280:LEU:HA	1:T:3283:PHE:HB2	1.99	0.44
1:T:749:LYS:HA	1:T:798:TYR:CE2	2.53	0.44
1:T:1275:VAL:HG23	1:T:1280:LEU:HB2	2.00	0.43
1:T:1726:GLN:NE2	1:T:1758:ALA:O	2.51	0.43
1:T:2772:ASP:HB2	1:T:2775:ALA:HB3	1.99	0.43
1:T:3322:GLU:OE2	1:T:3382:ARG:NH2	2.51	0.43
1:T:984:GLY:HA3	1:T:2447:ILE:HG22	2.00	0.43
1:T:988:ASP:OD1	1:T:988:ASP:N	2.49	0.43
1:T:2644:GLN:NE2	1:T:3634:ASP:OD2	2.51	0.43
1:T:977:ILE:HA	1:T:992:SER:HA	2.00	0.43
1:T:1173:GLU:O	1:T:1177:LEU:CB	2.60	0.43
1:T:2748:GLU:O	1:T:2752:HIS:ND1	2.50	0.43
1:T:3240:THR:HG23	1:T:3242:ASP:H	1.81	0.43
1:T:964:THR:HA	1:T:3578:SER:HB3	2.00	0.43
1:T:1302:LYS:O	1:T:1306:ALA:HB2	2.19	0.43
1:T:1841:ILE:HD11	1:T:1886:ILE:HD13	2.01	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:T:2661:ALA:HA	1:T:2664:GLU:HG3	2.00	0.43
1:T:2684:LYS:HB3	1:T:2719:LEU:HD13	2.00	0.43
1:T:1885:ASP:HA	1:T:1888:LYS:HG2	1.99	0.43
1:T:2460:TRP:HE1	1:T:2462:PHE:HD1	1.67	0.43
1:T:2680:ARG:HH12	1:T:2693:SER:HB3	1.83	0.43
1:T:3025:LEU:HA	1:T:3028:MET:HG2	2.01	0.43
1:T:217:SER:HA	1:T:304:PHE:HD2	1.83	0.43
1:T:445:ARG:O	1:T:449:LEU:CB	2.67	0.43
1:T:1090:THR:HG21	1:T:1163:VAL:HG11	2.00	0.43
1:T:3111:ASP:HA	1:T:3117:LEU:HD22	2.01	0.43
1:T:2673:ASP:HB3	1:T:3640:ILE:HG12	2.01	0.43
1:T:613:VAL:HG12	1:T:615:ASN:H	1.83	0.43
1:T:2855:ALA:HA	1:T:2858:ILE:HG22	1.99	0.43
1:T:897:GLY:O	1:T:901:LEU:HB2	2.18	0.43
1:T:2621:HIS:CE1	1:T:2658:ASN:HA	2.54	0.43
1:T:3018:GLN:HG3	1:T:3021:GLU:HB3	2.01	0.43
1:T:3144:LEU:HD11	1:T:3207:TYR:HB2	2.01	0.43
1:T:3448:ALA:HA	1:T:3458:MET:HB3	2.01	0.43
1:T:695:ASN:HB3	1:T:732:THR:HG21	2.01	0.42
1:T:3099:GLU:HG3	1:T:3661:THR:HG21	2.01	0.42
1:T:3466:THR:HG22	1:T:3573:HIS:CD2	2.54	0.42
1:T:1116:ASN:HD22	1:T:2500:LEU:HD12	1.84	0.42
1:T:1685:LEU:HD22	1:T:1685:LEU:HA	1.84	0.42
1:T:1722:ILE:HD13	1:T:1754:ASN:HD22	1.84	0.42
1:T:2037:TYR:O	1:T:2041:LYS:N	2.53	0.42
1:T:2372:LYS:O	1:T:2376:LEU:CB	2.61	0.42
1:T:79:MET:HA	1:T:82:ILE:HD12	2.00	0.42
1:T:1026:LEU:HD21	1:T:1102:LEU:HD21	2.00	0.42
1:T:1584:LEU:HB2	1:T:1586:LEU:HD23	2.00	0.42
1:T:2610:ILE:HD12	1:T:2616:LEU:HD11	2.01	0.42
1:T:1864:LEU:HD13	1:T:1864:LEU:HA	1.84	0.42
1:T:2222:VAL:HG11	1:T:2229:GLU:HB3	2.01	0.42
1:T:2658:ASN:O	1:T:2662:LEU:HB2	2.20	0.42
1:T:327:ASP:O	1:T:331:ARG:HB2	2.19	0.42
1:T:396:ALA:HB1	1:T:438:LEU:HG	2.00	0.42
1:T:459:ARG:O	1:T:463:LEU:HB2	2.18	0.42
1:T:588:ARG:O	1:T:592:SER:CB	2.67	0.42
1:T:1379:GLN:NE2	1:T:1439:ARG:O	2.53	0.42
1:T:2242:VAL:O	1:T:2245:GLN:HB2	2.20	0.42
1:T:491:ARG:O	1:T:495:HIS:ND1	2.35	0.42
1:T:2870:LEU:HD12	1:T:2938:ARG:HG3	2.02	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:T:1927:PHE:HZ	1:T:1966:TRP:HB2	1.84	0.42
1:T:2191:LEU:HD22	1:T:2194:CYS:HB2	2.01	0.42
1:T:3244:ASP:O	1:T:3248:LEU:HB2	2.20	0.42
1:T:2877:ILE:HG21	1:T:2940:TYR:HE1	1.85	0.42
1:T:3240:THR:HG23	1:T:3243:GLU:H	1.85	0.42
1:T:1727:ALA:O	1:T:1731:ARG:HB2	2.20	0.41
1:T:2308:THR:HA	1:T:2311:LEU:HD23	2.01	0.41
1:T:2906:GLN:HG2	1:T:2943:ILE:HG23	2.02	0.41
1:T:3013:TYR:HB2	1:T:3019:LYS:HZ1	1.85	0.41
1:T:3549:ALA:HA	1:T:3632:ILE:HD11	2.01	0.41
1:T:3613:ILE:H	1:T:3613:ILE:HG13	1.64	0.41
1:T:408:LEU:HD23	1:T:459:ARG:HH21	1.83	0.41
1:T:727:LEU:HB3	1:T:736:PHE:HD2	1.85	0.41
1:T:63:PRO:HB2	1:T:64:ILE:HG13	2.00	0.41
1:T:232:VAL:O	1:T:236:SER:OG	2.29	0.41
1:T:1803:LEU:HA	1:T:1806:VAL:HG12	2.02	0.41
1:T:2727:ALA:HA	1:T:2730:GLU:HG2	2.02	0.41
1:T:2946:VAL:O	1:T:2950:PHE:CB	2.68	0.41
1:T:3321:LEU:HD22	1:T:3321:LEU:HA	1.92	0.41
1:T:1392:LEU:HD22	1:T:1396:ILE:HA	2.02	0.41
1:T:1649:ASP:O	1:T:1653:SER:OG	2.36	0.41
1:T:2519:LEU:HA	1:T:2522:PHE:HB3	2.02	0.41
1:T:3165:GLN:HE22	1:T:3353:GLU:N	2.18	0.41
1:T:977:ILE:HG22	1:T:2490:ASN:HD22	1.85	0.41
1:T:1608:THR:HG22	1:T:1640:PHE:HE1	1.85	0.41
1:T:3484:ASP:O	1:T:3488:PHE:HB2	2.20	0.41
1:T:3489:MET:O	1:T:3493:LEU:HB2	2.19	0.41
1:T:95:TYR:O	1:T:99:VAL:HB	2.20	0.41
1:T:1290:THR:O	1:T:1294:CYS:HB2	2.21	0.41
1:T:1276:LYS:HG2	1:T:1318:THR:HG21	2.02	0.41
1:T:2803:PHE:HE2	1:T:2860:ALA:HB2	1.85	0.41
1:T:3121:PHE:HZ	1:T:3155:ILE:HD11	1.86	0.41
1:T:2100:LEU:HD22	1:T:2124:LEU:HB2	2.02	0.41
1:T:2234:THR:HG22	1:T:2237:GLN:HE21	1.86	0.41
1:T:2333:LEU:HD22	1:T:2375:ILE:HG21	2.02	0.41
1:T:2447:ILE:HD13	1:T:2479:SER:HB3	2.02	0.41
1:T:2719:LEU:HA	1:T:2720:PRO:HD3	1.91	0.41
1:T:2777:GLU:HA	1:T:2780:VAL:HB	2.03	0.41
1:T:3644:ASN:O	1:T:3648:ILE:HD12	2.21	0.41
1:T:346:GLU:HA	1:T:349:HIS:HB2	2.03	0.41
1:T:1155:TYR:HD2	1:T:1157:ILE:HG12	1.86	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:T:1402:TYR:HA	1:T:1405:SER:HB3	2.02	0.41
1:T:1861:ARG:HH11	1:T:1893:PHE:HD1	1.68	0.41
1:T:1864:LEU:O	1:T:1868:SER:CB	2.69	0.41
1:T:1931:LEU:HD22	1:T:1970:VAL:HG22	2.02	0.41
1:T:2628:ILE:HD12	1:T:2628:ILE:HA	1.83	0.41
1:T:2658:ASN:O	1:T:2662:LEU:CB	2.69	0.41
1:T:3583:THR:OG1	1:T:3586:MET:SD	2.73	0.41
1:T:3614:PHE:CE2	1:T:3667:ILE:HD12	2.56	0.41
1:T:1781:ASN:HA	1:T:1784:ASN:HD22	1.86	0.41
1:T:1931:LEU:HD11	1:T:1969:TRP:HB3	2.03	0.41
1:T:1935:HIS:ND1	1:T:1937:GLU:OE1	2.54	0.41
1:T:2102:ARG:O	1:T:2106:ALA:CB	2.68	0.41
1:T:2911:VAL:O	1:T:2915:ALA:HB3	2.20	0.41
1:T:1223:VAL:HG12	1:T:1227:SER:HB2	2.03	0.40
1:T:1787:THR:HA	1:T:1790:VAL:HG12	2.03	0.40
1:T:1903:GLN:HA	1:T:1906:TYR:HB3	2.02	0.40
1:T:2365:ILE:HG22	1:T:2367:PRO:HA	2.03	0.40
1:T:3087:GLN:HE21	1:T:3124:PHE:HD1	1.70	0.40
1:T:302:THR:O	1:T:305:LEU:HB3	2.21	0.40
1:T:587:TYR:O	1:T:591:MET:HB2	2.22	0.40
1:T:1543:LEU:O	1:T:1545:GLU:N	2.54	0.40
1:T:3202:ARG:HB3	1:T:3203:GLN:H	1.59	0.40
1:T:1382:ILE:HG22	1:T:1412:ARG:HG3	2.02	0.40
1:T:2672:GLU:OE2	1:T:3438:ARG:NH1	2.54	0.40
1:T:900:THR:HA	1:T:903:LEU:HD22	2.04	0.40
1:T:2298:ALA:HB1	1:T:2302:GLU:HG3	2.03	0.40
1:T:2847:GLN:HE21	1:T:2887:ARG:HD3	1.87	0.40
1:T:3708:HIS:CE1	1:T:3710:ASN:HB3	2.56	0.40
1:T:743:PHE:HD2	1:T:744:LEU:HD12	1.86	0.40
1:T:997:ILE:HD13	1:T:1078:LEU:HD21	2.03	0.40
1:T:1197:PHE:HB3	1:T:1216:ILE:HG23	2.03	0.40
1:T:1416:ILE:HG21	1:T:1459:THR:HG22	2.03	0.40
1:T:2462:PHE:CE2	1:T:2466:TYR:HB3	2.56	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	T	3443/3767 (91%)	2913 (85%)	508 (15%)	22 (1%)	25 62

All (22) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	T	1544	ALA
1	T	2889	PRO
1	T	1158	PRO
1	T	1157	ILE
1	T	3655	PRO
1	T	777	PRO
1	T	849	ALA
1	T	852	PRO
1	T	2223	SER
1	T	228	PRO
1	T	247	PRO
1	T	510	ASN
1	T	1206	TYR
1	T	1341	PRO
1	T	3657	ASN
1	T	695	ASN
1	T	1543	LEU
1	T	2620	PRO
1	T	2621	HIS
1	T	63	PRO
1	T	2619	PRO
1	T	2226	ILE

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	T	3200/3474 (92%)	3107 (97%)	93 (3%)	42 66

All (93) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	T	13	ARG
1	T	15	ARG
1	T	37	LEU
1	T	38	LEU
1	T	88	MET
1	T	114	ASN
1	T	231	MET
1	T	246	LEU
1	T	331	ARG
1	T	340	LEU
1	T	399	ILE
1	T	440	LEU
1	T	447	LEU
1	T	463	LEU
1	T	499	LYS
1	T	594	LEU
1	T	617	LYS
1	T	677	LYS
1	T	691	MET
1	T	783	VAL
1	T	788	LEU
1	T	794	ASN
1	T	829	ARG
1	T	876	LEU
1	T	880	MET
1	T	920	VAL
1	T	930	ASN
1	T	957	ARG
1	T	961	LYS
1	T	994	THR
1	T	1002	ASN
1	T	1082	LEU
1	T	1119	LEU
1	T	1130	ASN
1	T	1137	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	T	1340	LYS
1	T	1345	LEU
1	T	1365	ASN
1	T	1366	THR
1	T	1368	LEU
1	T	1377	LEU
1	T	1475	LYS
1	T	1488	ASN
1	T	1515	LYS
1	T	1574	LEU
1	T	1618	ARG
1	T	1626	ASN
1	T	1654	ASN
1	T	1685	LEU
1	T	1690	ASN
1	T	1718	LEU
1	T	1775	ASN
1	T	1808	ASN
1	T	1825	LEU
1	T	1865	LEU
1	T	2122	ASN
1	T	2168	LEU
1	T	2177	LYS
1	T	2191	LEU
1	T	2278	LEU
1	T	2311	LEU
1	T	2315	LEU
1	T	2318	LEU
1	T	2324	LEU
1	T	2330	ARG
1	T	2350	ARG
1	T	2477	TYR
1	T	2481	ASN
1	T	2494	LEU
1	T	2500	LEU
1	T	2573	LYS
1	T	2646	ASN
1	T	2678	LEU
1	T	2682	ARG
1	T	2808	LYS
1	T	2815	LYS
1	T	2861	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	T	2869	ASN
1	T	2896	ASN
1	T	2899	ASN
1	T	2959	MET
1	T	3026	LYS
1	T	3053	LEU
1	T	3080	ASN
1	T	3151	MET
1	T	3212	ASN
1	T	3267	ARG
1	T	3280	LEU
1	T	3321	LEU
1	T	3390	ARG
1	T	3445	LEU
1	T	3458	MET
1	T	3706	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (55) such sidechains are listed below:

Mol	Chain	Res	Type
1	T	49	GLN
1	T	298	GLN
1	T	510	ASN
1	T	565	ASN
1	T	639	HIS
1	T	794	ASN
1	T	840	GLN
1	T	930	ASN
1	T	956	ASN
1	T	1002	ASN
1	T	1114	GLN
1	T	1130	ASN
1	T	1137	ASN
1	T	1365	ASN
1	T	1379	GLN
1	T	1397	GLN
1	T	1488	ASN
1	T	1601	ASN
1	T	1654	ASN
1	T	1690	ASN
1	T	1726	GLN
1	T	1775	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	T	1779	GLN
1	T	1784	ASN
1	T	1805	ASN
1	T	1808	ASN
1	T	1839	ASN
1	T	1983	ASN
1	T	2122	ASN
1	T	2183	ASN
1	T	2207	GLN
1	T	2237	GLN
1	T	2289	HIS
1	T	2294	GLN
1	T	2481	ASN
1	T	2595	GLN
1	T	2658	ASN
1	T	2670	GLN
1	T	2822	GLN
1	T	2839	HIS
1	T	2861	ASN
1	T	2863	HIS
1	T	2869	ASN
1	T	2896	ASN
1	T	2899	ASN
1	T	2907	HIS
1	T	2975	ASN
1	T	3080	ASN
1	T	3087	GLN
1	T	3154	HIS
1	T	3165	GLN
1	T	3250	ASN
1	T	3361	ASN
1	T	3385	HIS
1	T	3537	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

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.

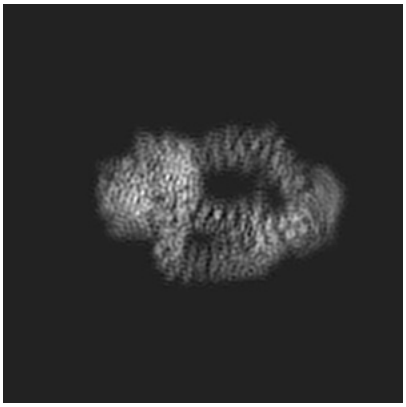
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-3824. These allow visual inspection of the internal detail of the map and identification of artifacts.

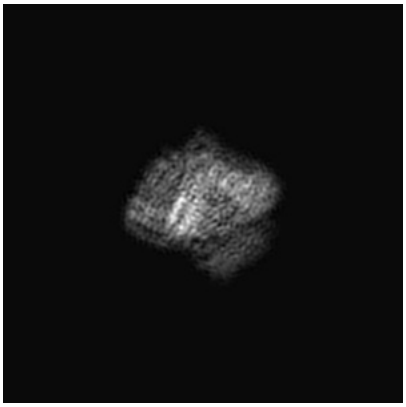
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

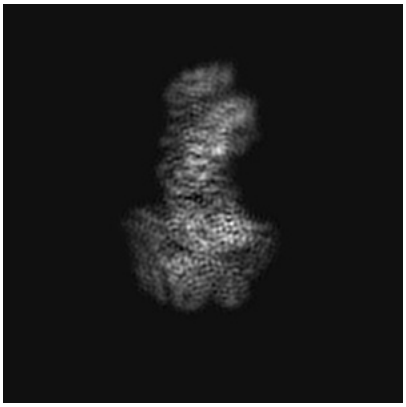
6.1.1 Primary map



X



Y

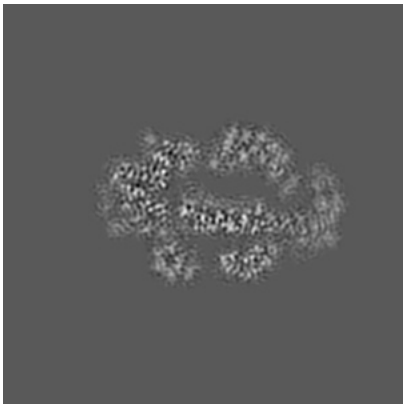


Z

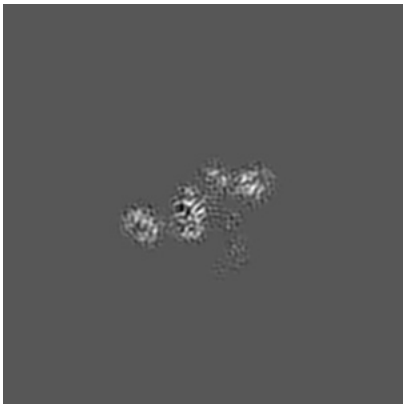
The images above show the map projected in three orthogonal directions.

6.2 Central slices

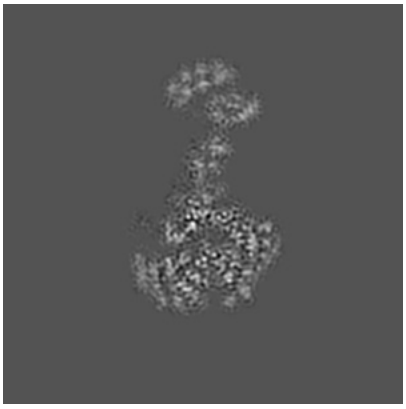
6.2.1 Primary map



X Index: 145



Y Index: 145

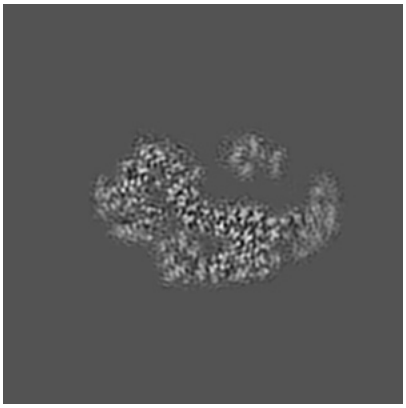


Z Index: 145

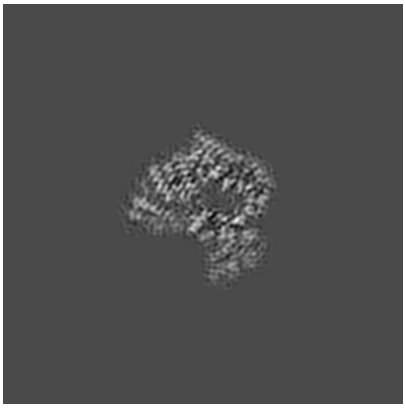
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

6.3.1 Primary map



X Index: 136



Y Index: 127

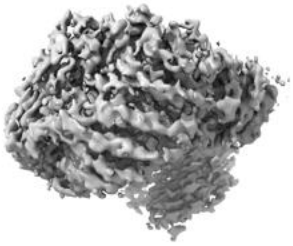
Z Index: 137

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

6.4 Orthogonal surface views (i)

6.4.1 Primary map

X



Y

Z

The images above show the 3D surface view of the map at the recommended contour level 0.04. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

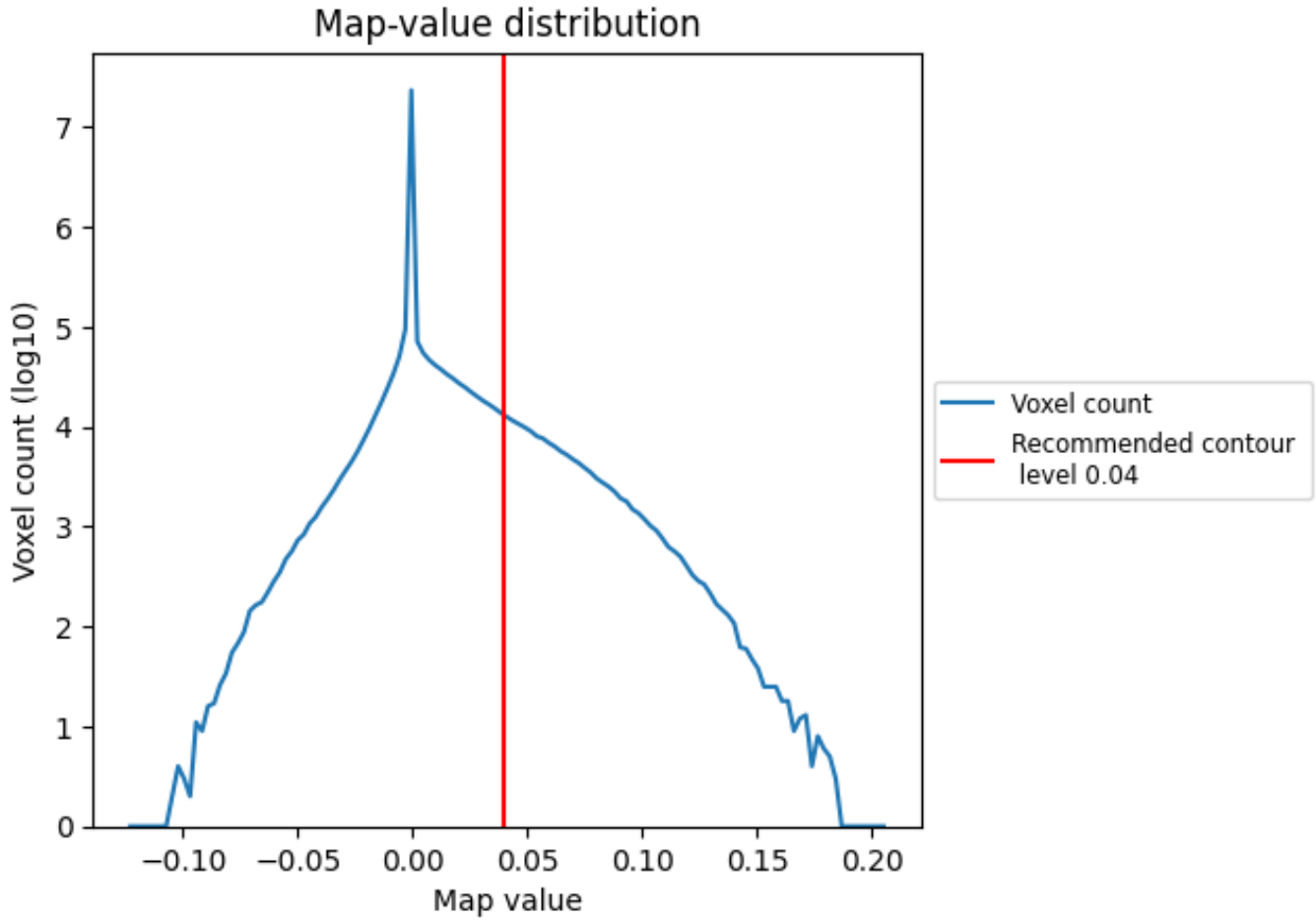
6.5 Mask visualisation (i)

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

7 Map analysis

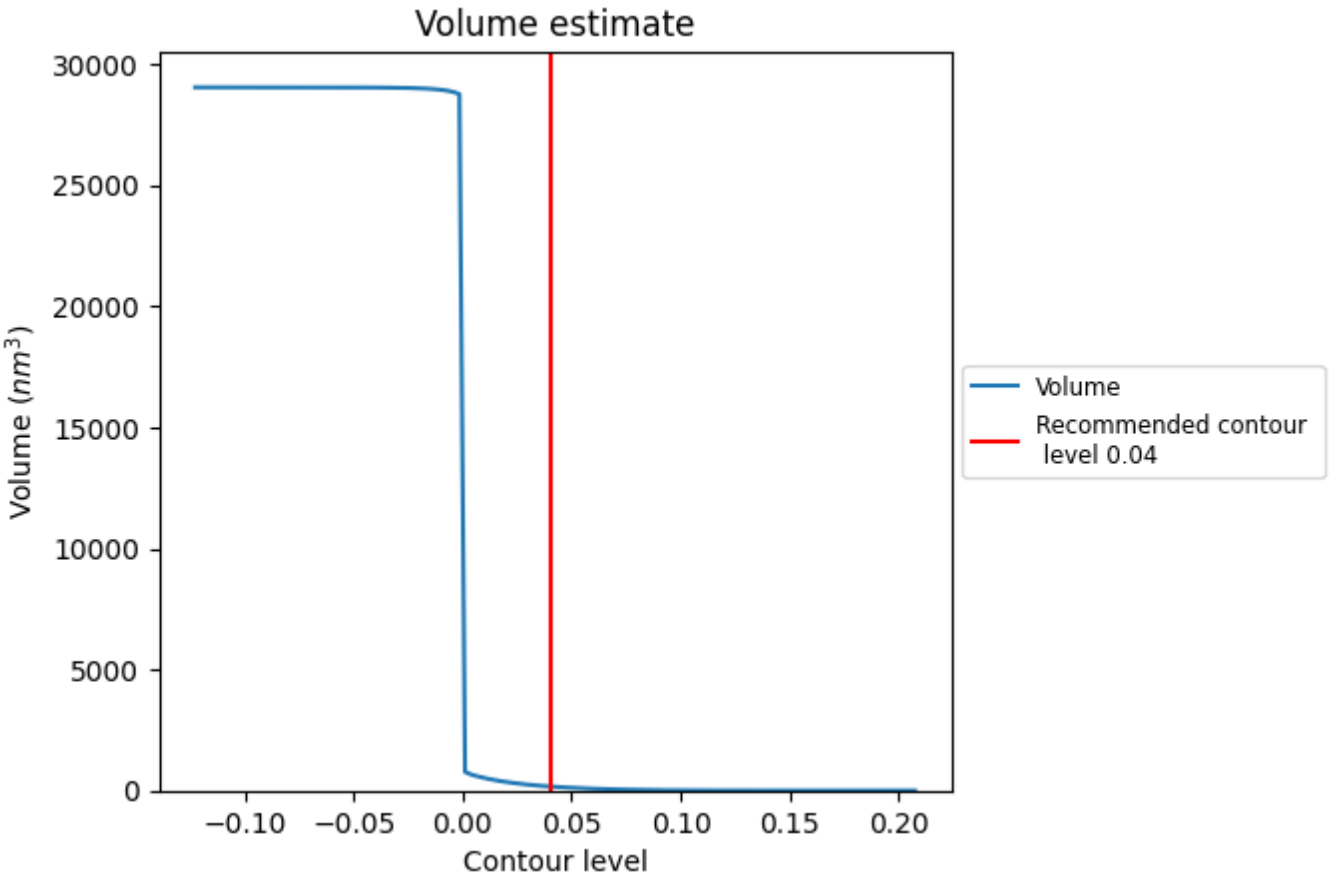
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

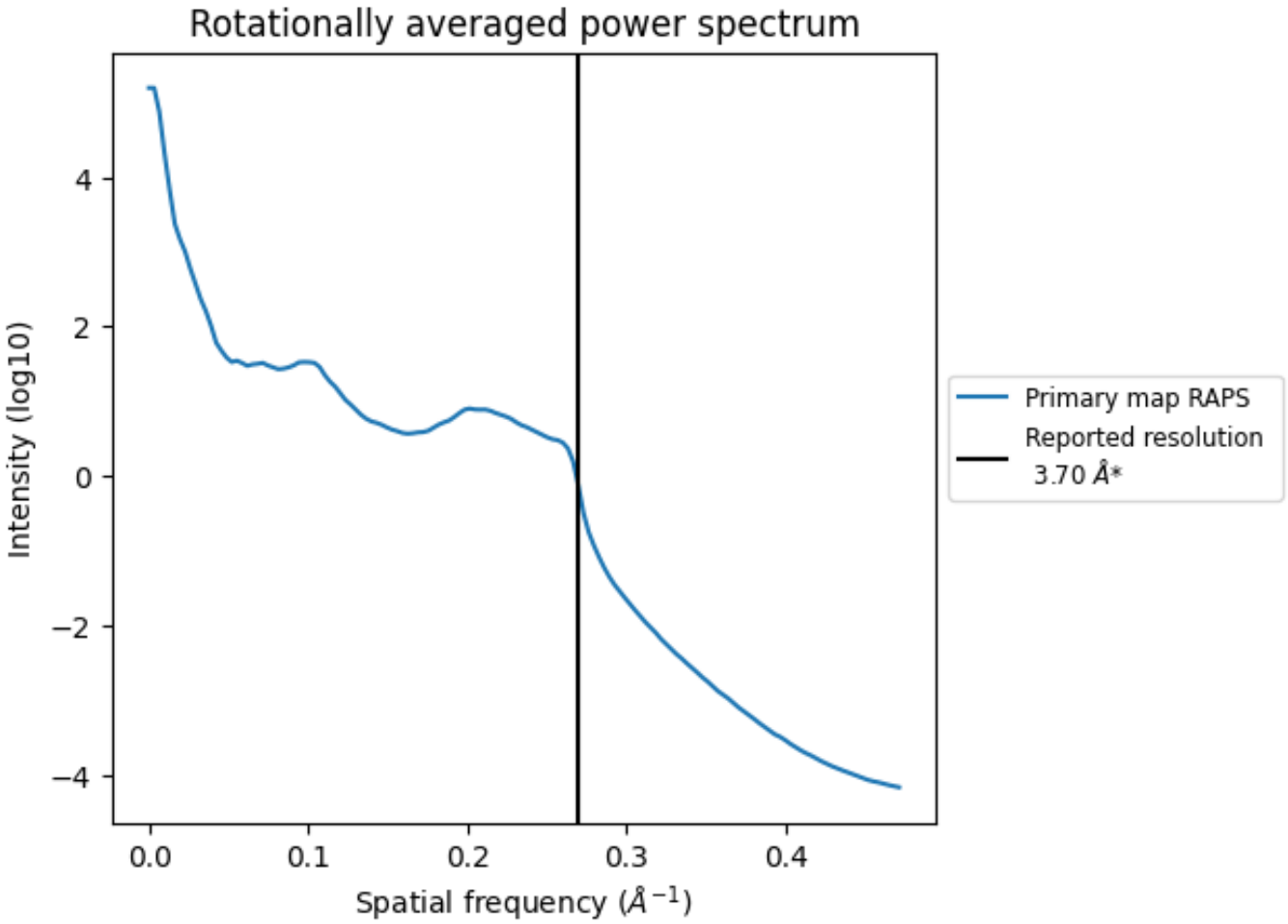
7.2 Volume estimate (i)



The volume at the recommended contour level is 168 nm^3; this corresponds to an approximate mass of 152 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)

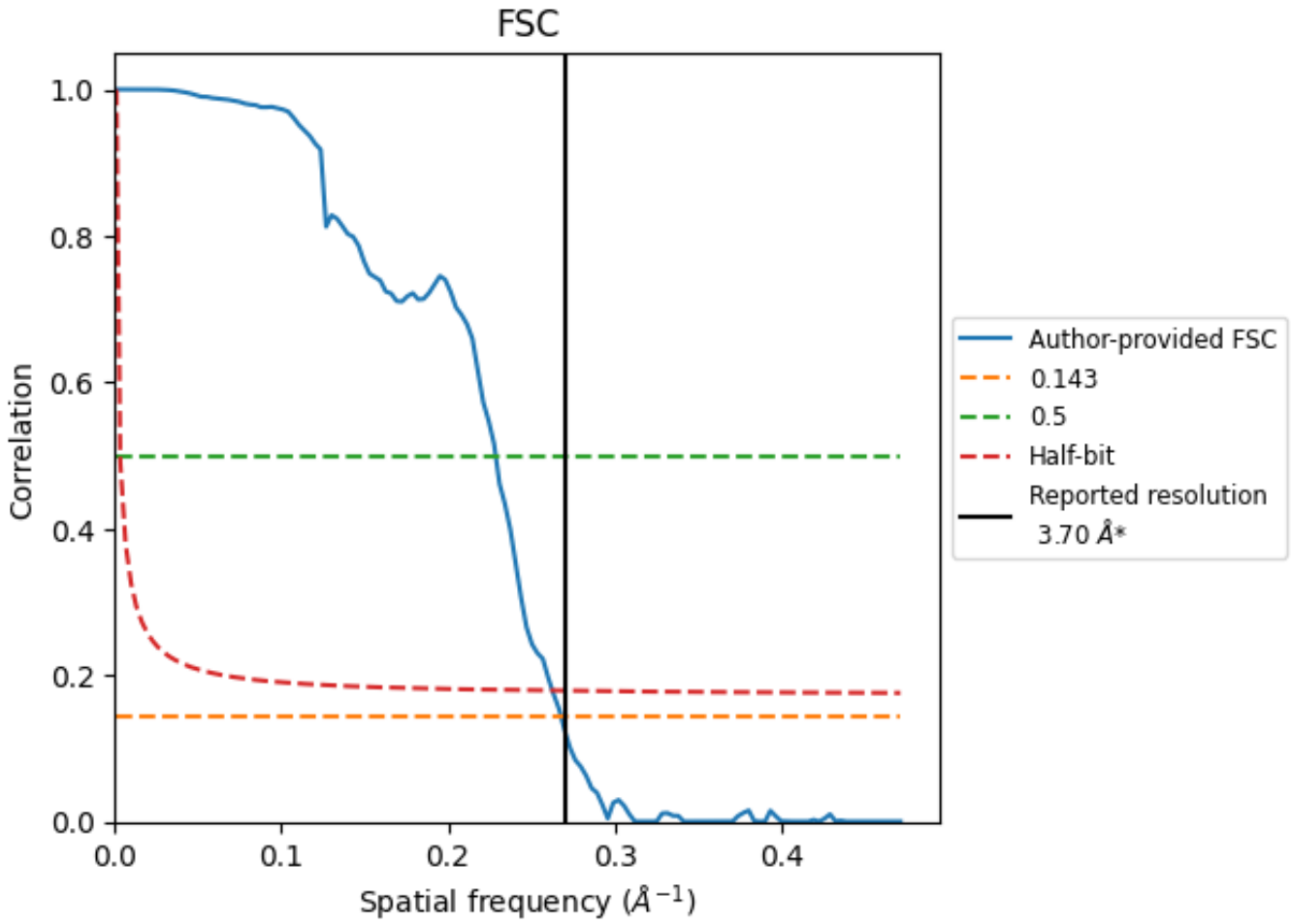


*Reported resolution corresponds to spatial frequency of 0.270 Å^{-1}

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 0.270 Å^{-1}

8.2 Resolution estimates (i)

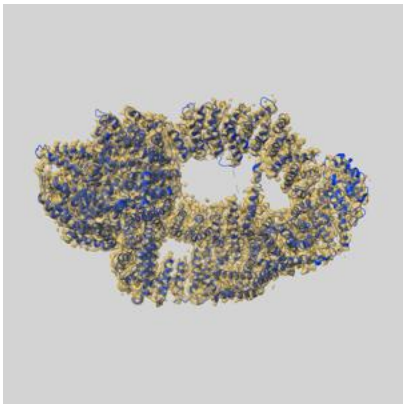
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.70	-	-
Author-provided FSC curve	3.73	4.37	3.81
Unmasked-calculated*	-	-	-

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

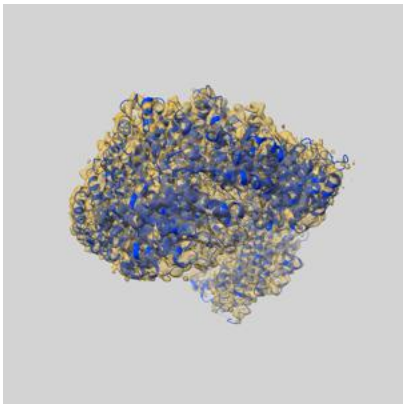
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-3824 and PDB model 5OJS. Per-residue inclusion information can be found in section 3 on page 4.

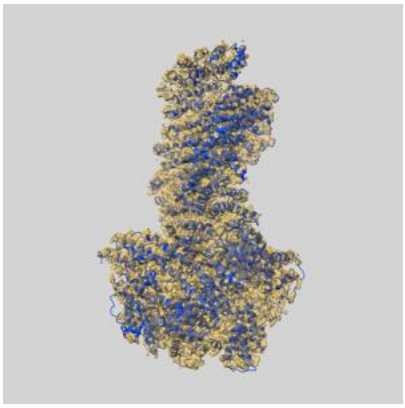
9.1 Map-model overlay



X



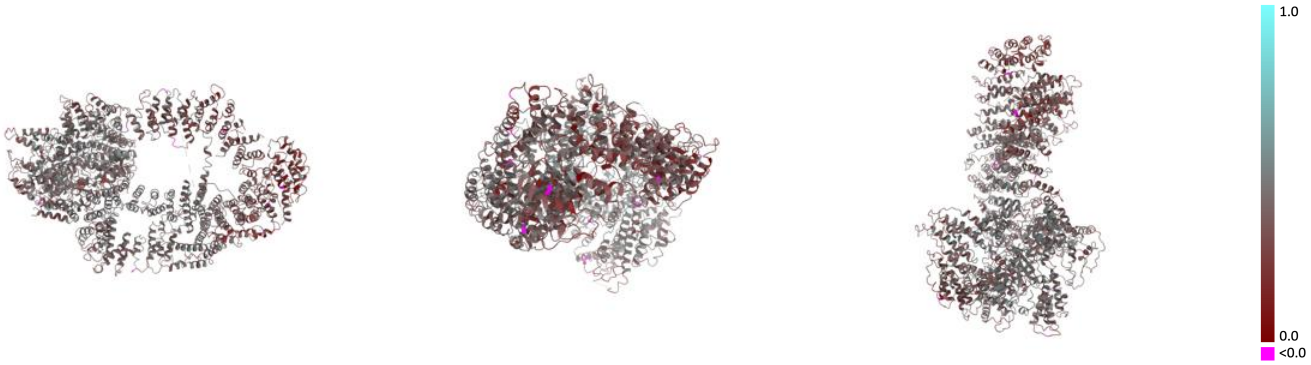
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.04 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.

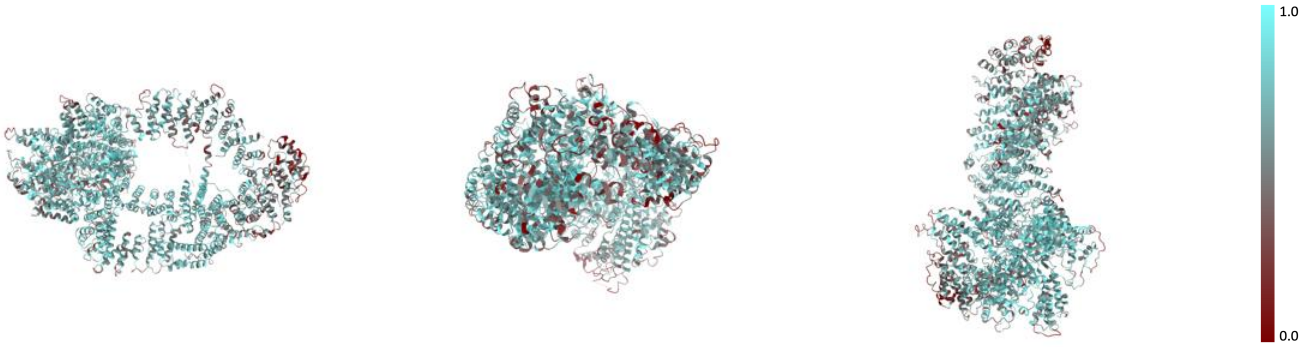
9.2 Q-score mapped to coordinate model (i)



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.

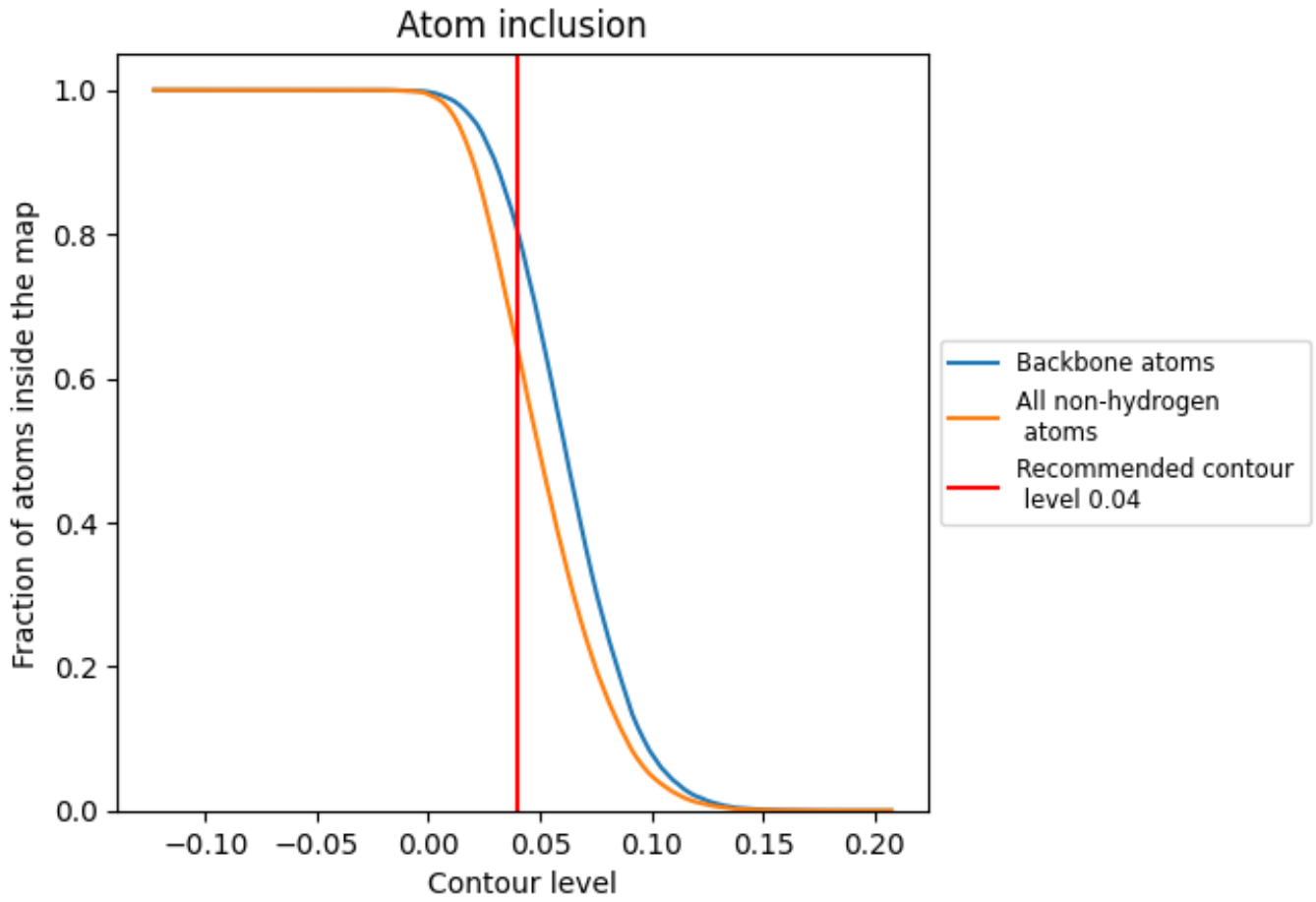
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.04).

9.4 Atom inclusion (i)



At the recommended contour level, 80% of all backbone atoms, 64% 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 (0.04) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6411	0.3870
T	0.6411	0.3870