



wwPDB EM Validation Summary Report ⓘ

Nov 6, 2022 – 09:50 PM EST

PDB ID : 6DDD
EMDB ID : EMD-7867
Title : Structure of the 50S ribosomal subunit from Methicillin Resistant Staphylococcus aureus in complex with the oxazolidinone antibiotic LZD-5
Authors : Belousoff, M.J.; Venugopal, H.; Bamert, R.S.; Lithgow, T.
Deposited on : 2018-05-10
Resolution : 3.10 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev43
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.31.2

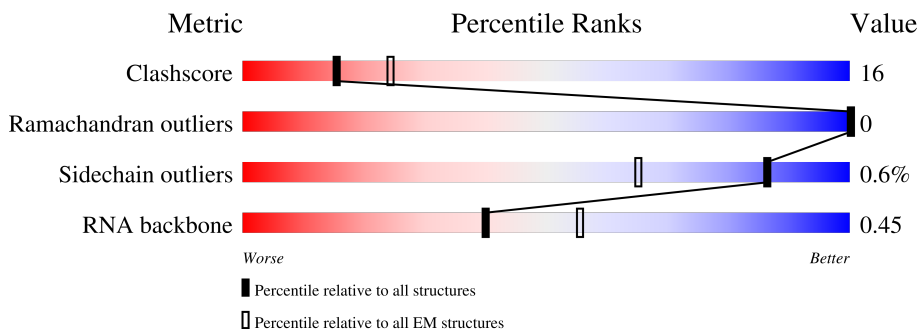
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.10 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.




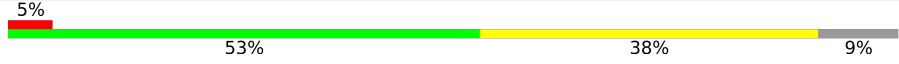
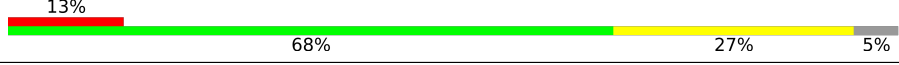
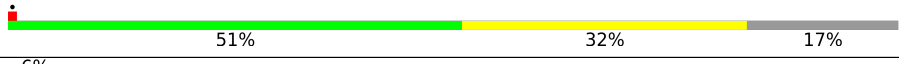
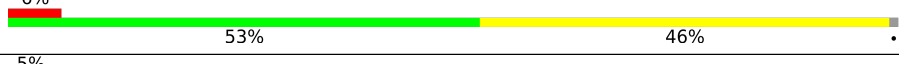

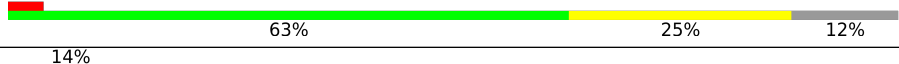
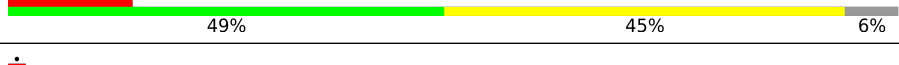





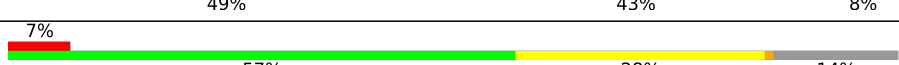

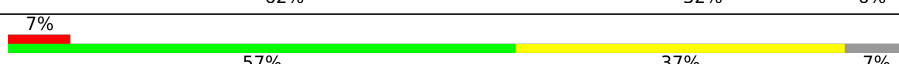
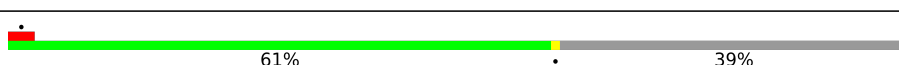
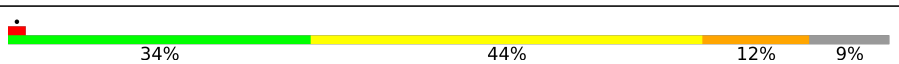
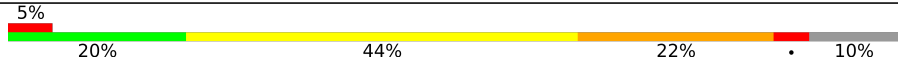

Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

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

Mol	Chain	Length	Quality of chain
1	A	116	9% (red), 54% (green), 43% (yellow), . (grey)
2	B	276	8% (red), 63% (green), 36% (yellow), . (grey)
3	C	118	. (red), 63% (green), 36% (yellow), . (grey)
4	D	102	12% (red), 61% (green), 37% (yellow), . (grey)
5	E	116	. (red), 62% (green), 33% (yellow), . . (grey)
6	F	91	18% (red), 57% (green), 38% (yellow), . (grey)
7	G	105	20% (red), 41% (green), 49% (yellow), . 10% (grey)

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
8	H	217	
9	I	85	
10	J	62	
11	K	69	
12	L	217	
13	M	59	
14	N	57	
15	O	49	
16	P	50	
17	Q	65	
18	R	37	
19	S	207	
20	V	145	
21	W	122	
22	X	146	
23	Y	144	
24	Z	122	
25	a	119	
26	1	2923	
27	2	115	

2 Entry composition [i](#)

There are 28 unique types of molecules in this entry. The entry contains 79136 atoms, of which 18 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 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
1	A	113	915	576	184	155	0	0

- Molecule 2 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	274	2094	1303	415	371	5	0	0

- Molecule 3 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	116	943	593	189	157	4	0	0

- Molecule 4 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	D	100	785	499	139	146	1	0	0

- Molecule 5 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	E	111	853	532	163	155	3	0	0

- Molecule 6 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	F	87	711	449	128	130	4	0	0

- Molecule 7 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	G	95	730	460	134	135	1	0	0

- Molecule 8 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	H	93	727	465	129	132	1	0	0

- Molecule 9 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
9	I	77	592	364	115	113	0	0

- Molecule 10 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	J	59	463	287	99	76	1	0	0

- Molecule 11 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
11	K	57	472	290	89	93	0	0

- Molecule 12 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	L	215	1628	1018	299	306	5	0	0

- Molecule 13 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
13	M	56	432	269	82	81	0	0

- Molecule 14 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	N	50	Total	C	N	O	S	0	0
			397	241	83	68	5		

- Molecule 15 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	O	46	Total	C	N	O	S	0	0
			382	228	78	72	4		

- Molecule 16 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	P	44	Total	C	N	O	S	0	0
			372	228	90	53	1		

- Molecule 17 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	Q	64	Total	C	N	O	S	0	0
			521	324	113	82	2		

- Molecule 18 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	R	37	Total	C	N	O	S	0	0
			296	186	60	45	5		

- Molecule 19 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	S	171	Total	C	N	O	S	0	0
			1318	829	248	239	2		

- Molecule 20 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	V	143	Total	C	N	O	S	0	0
			1138	710	209	217	2		

- Molecule 21 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
21	W	112	850	526	163	158	3	0	0

- Molecule 22 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
22	X	125	938	580	188	170		0	0

- Molecule 23 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
23	Y	136	1089	698	206	181	4	0	0

- Molecule 24 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
24	Z	114	902	556	175	170	1	0	0

- Molecule 25 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
25	a	73	583	361	119	103	0	0

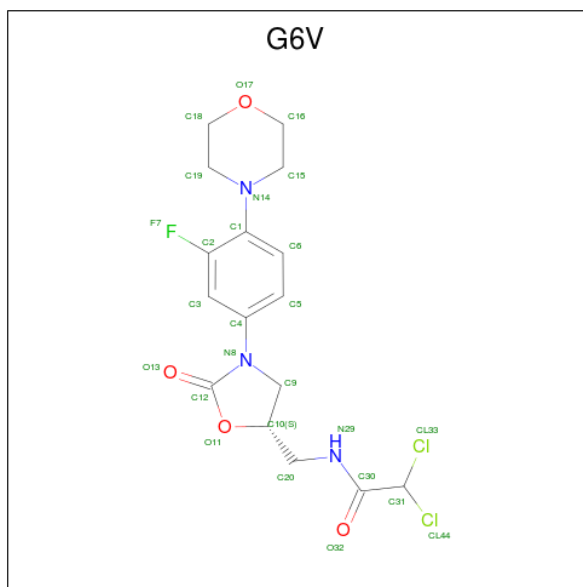
- Molecule 26 is a RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
26	1	2646	56747	25338	10405	18361	2643	0	0

- Molecule 27 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
27	2	104	2214	990	395	725	104	0	0

- Molecule 28 is 2,2-dichloro-N-((5S)-3-[3-fluoro-4-(morpholin-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)acetamide (three-letter code: G6V) (formula: C₁₆H₁₈Cl₂FN₃O₄).

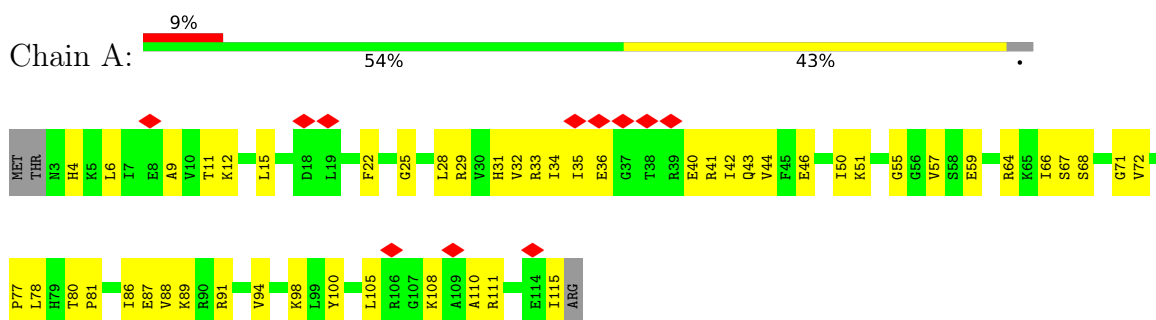


Mol	Chain	Residues	Atoms						AltConf	
			Total	C	Cl	F	H	N		O
28	1	1	44	16	2	1	18	3	4	0

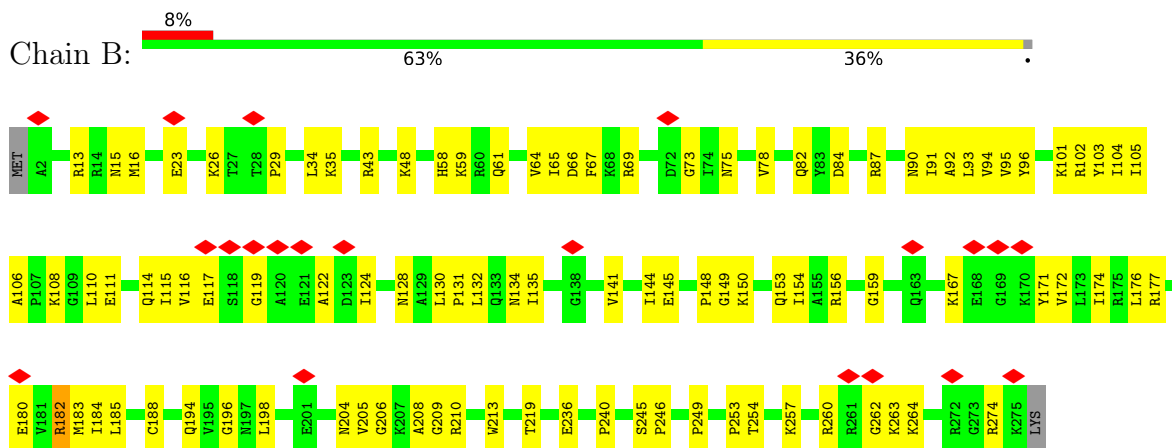
3 Residue-property plots [i](#)

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.

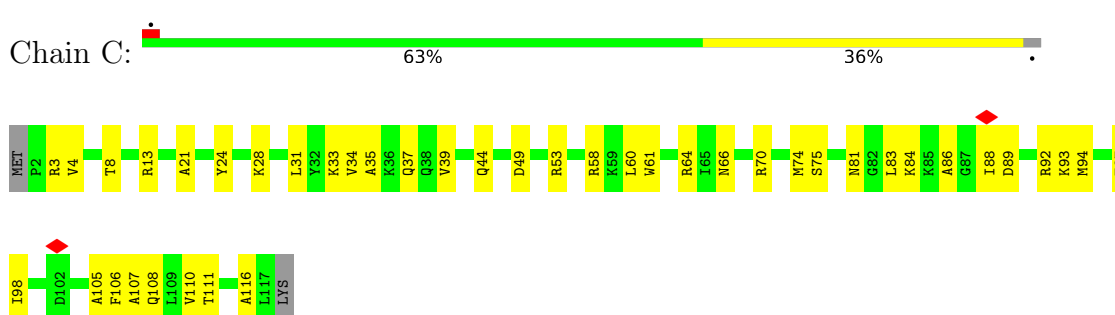
- Molecule 1: 50S ribosomal protein L19



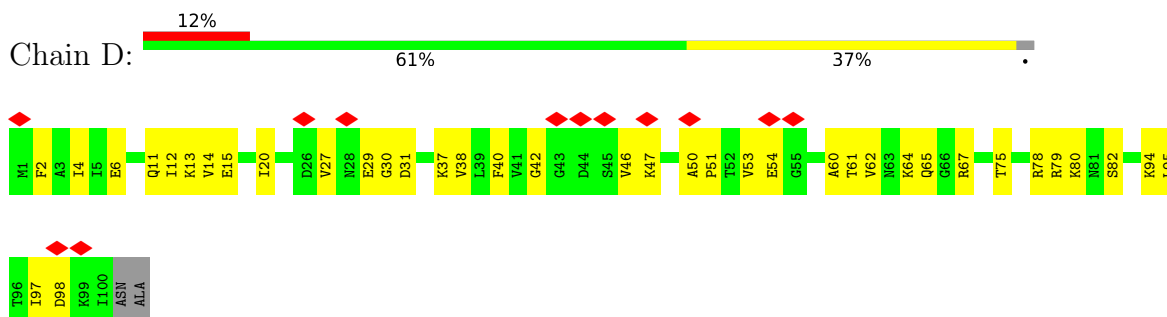
- Molecule 2: 50S ribosomal protein L2



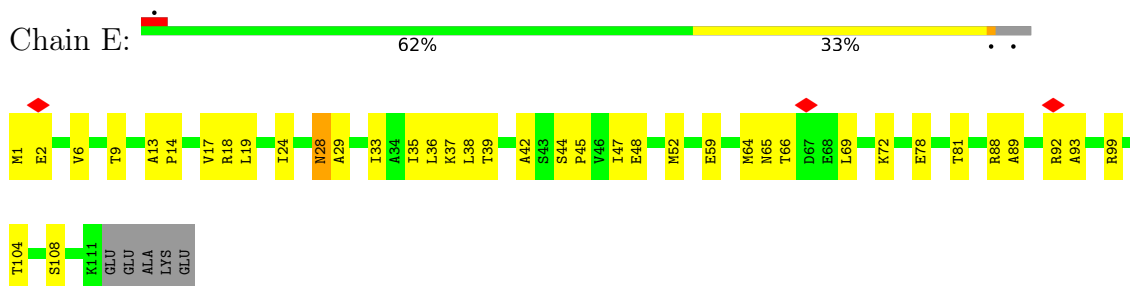
- Molecule 3: 50S ribosomal protein L20



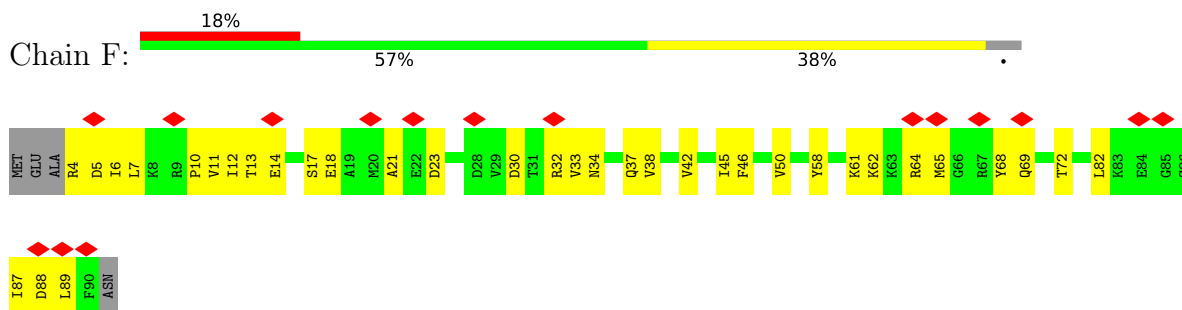
- Molecule 4: 50S ribosomal protein L21



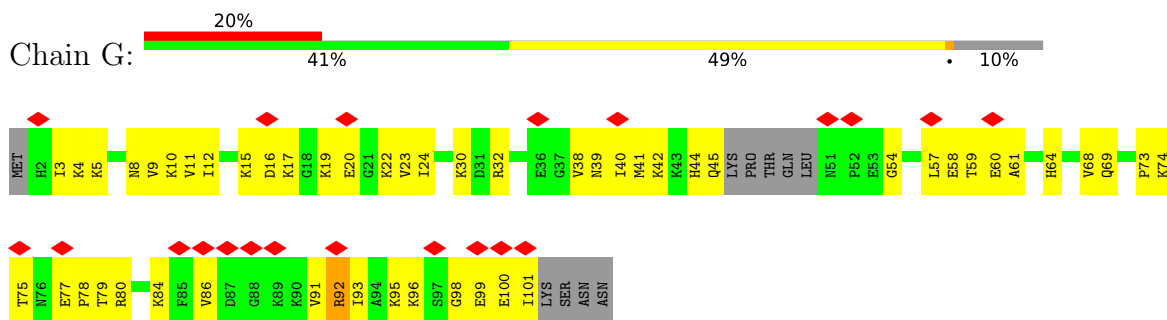
- Molecule 5: 50S ribosomal protein L22



- Molecule 6: 50S ribosomal protein L23

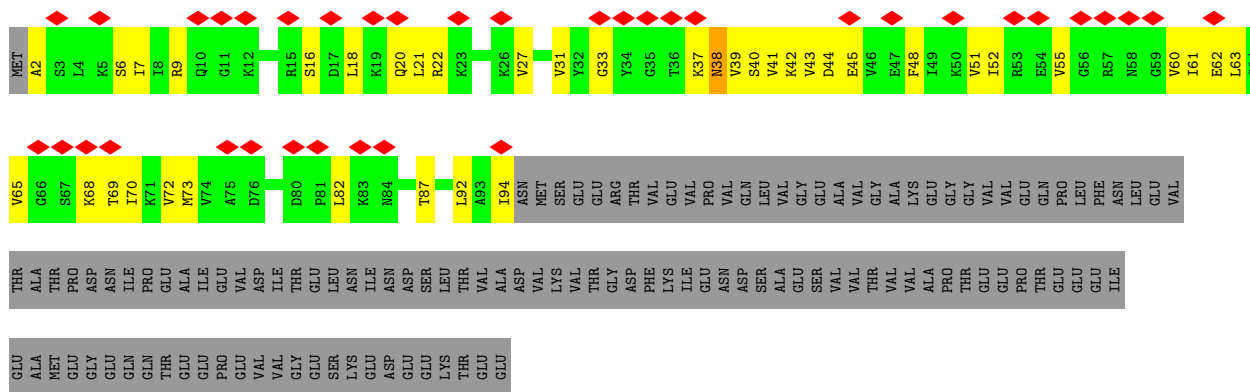


- Molecule 7: 50S ribosomal protein L24

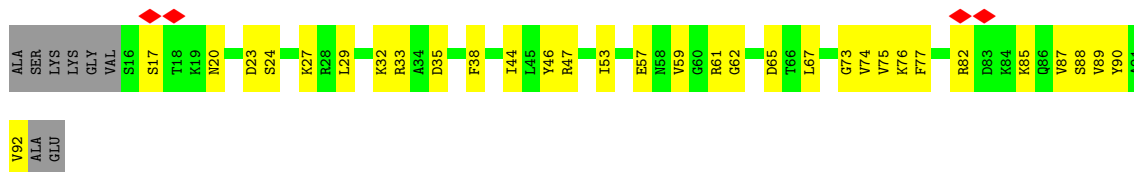


- Molecule 8: 50S ribosomal protein L25

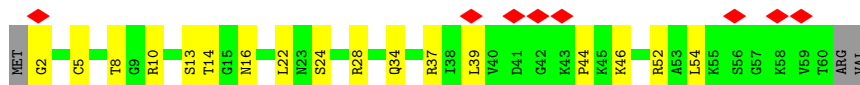




- Molecule 9: 50S ribosomal protein L27



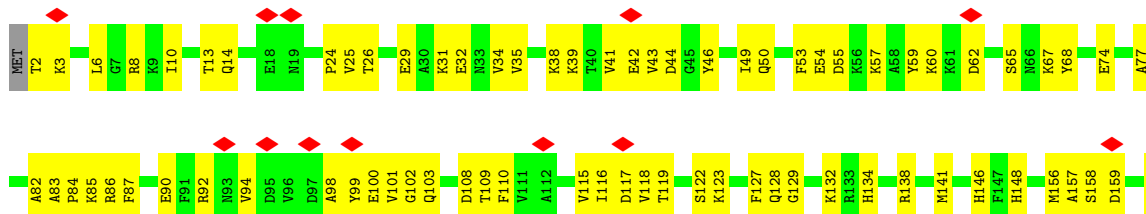
- Molecule 10: 50S ribosomal protein L28



- Molecule 11: 50S ribosomal protein L29

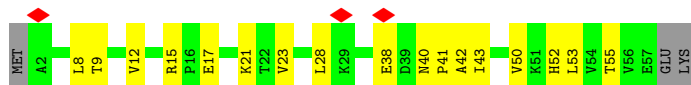


- Molecule 12: 50S ribosomal protein L3

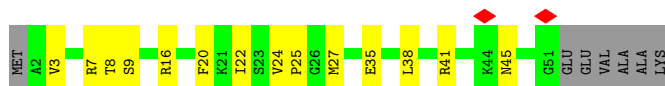




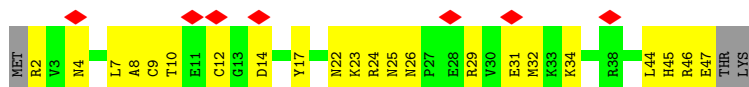
- Molecule 13: 50S ribosomal protein L30



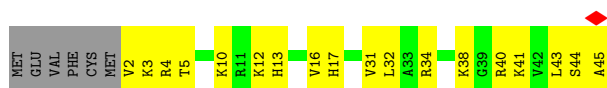
- Molecule 14: 50S ribosomal protein L32



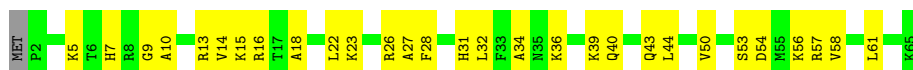
- Molecule 15: 50S ribosomal protein L33



- Molecule 16: 50S ribosomal protein L34



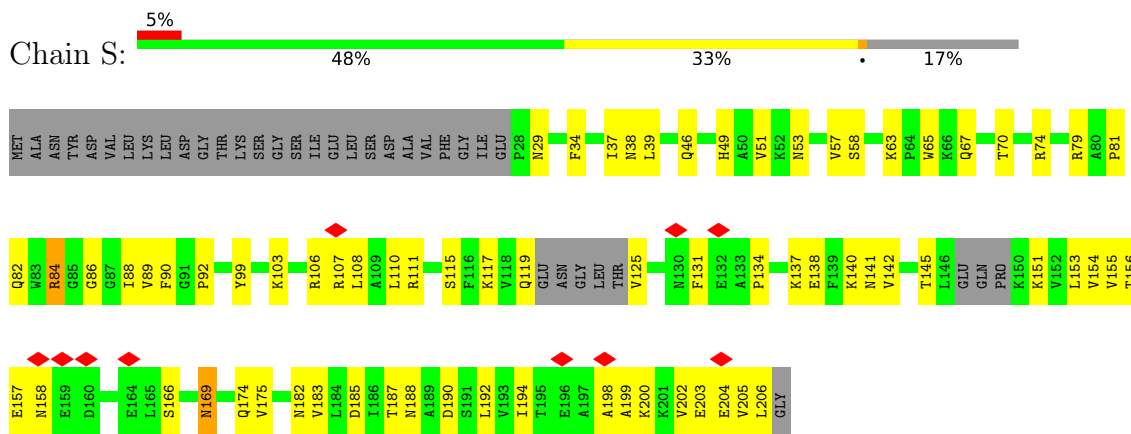
- Molecule 17: 50S ribosomal protein L35



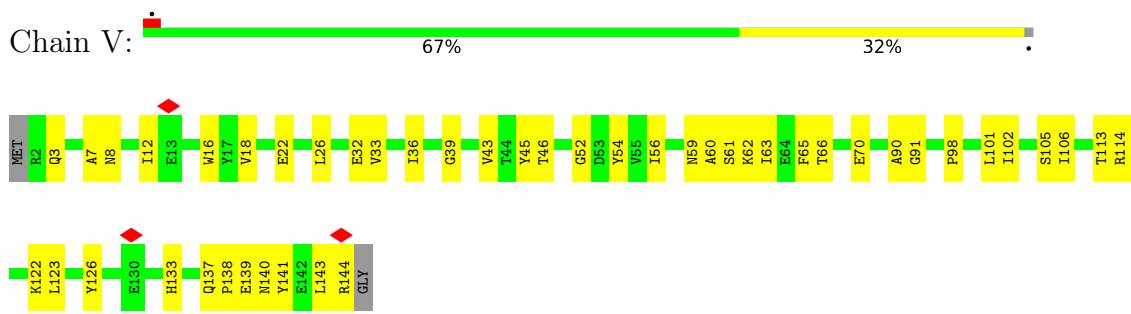
- Molecule 18: 50S ribosomal protein L36



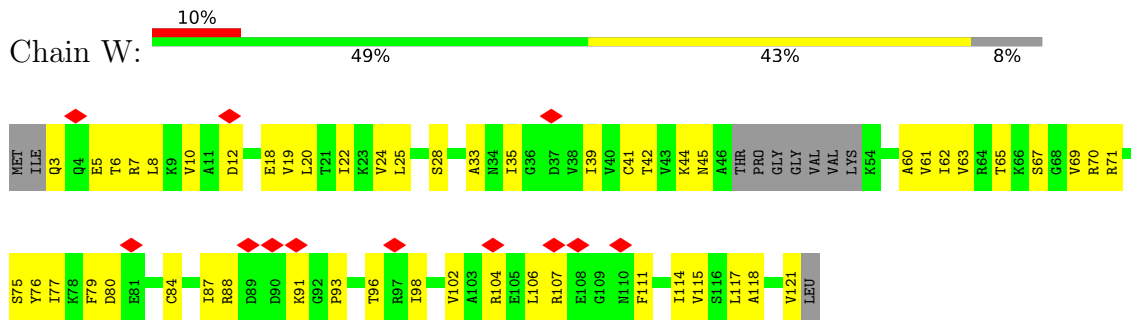
- Molecule 19: 50S ribosomal protein L4



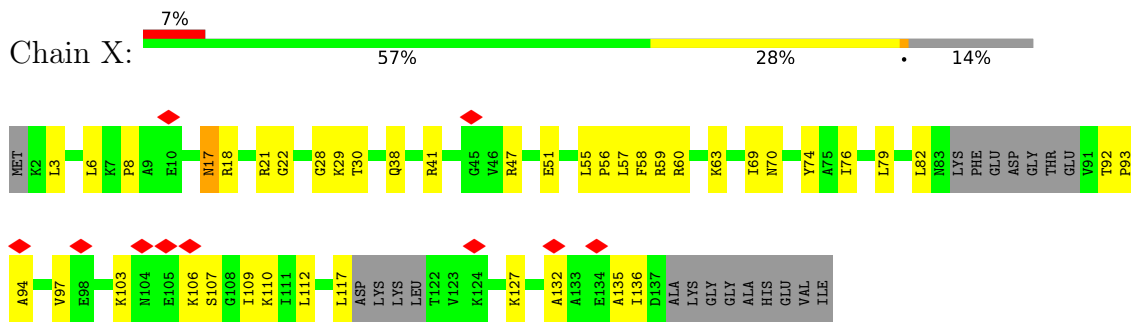
• Molecule 20: 50S ribosomal protein L13



• Molecule 21: 50S ribosomal protein L14

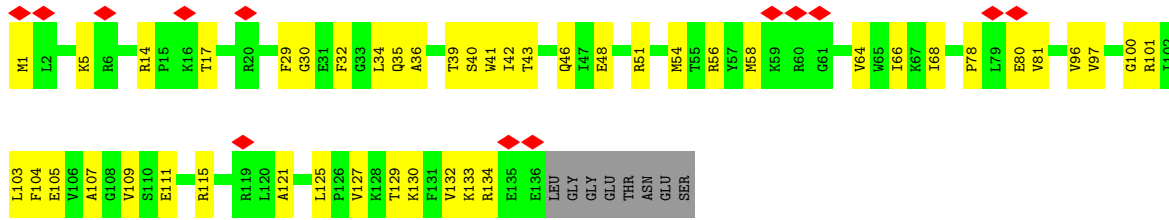


• Molecule 22: 50S ribosomal protein L15

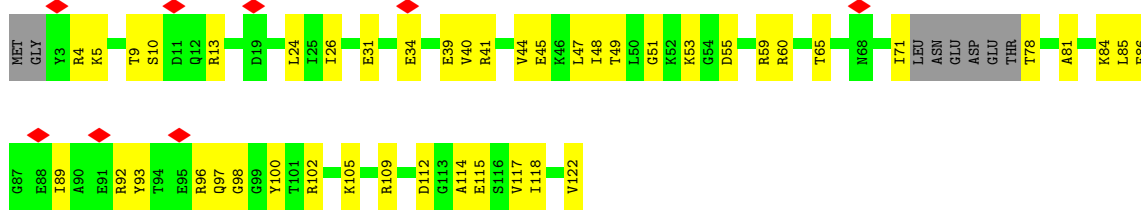


• Molecule 23: 50S ribosomal protein L16

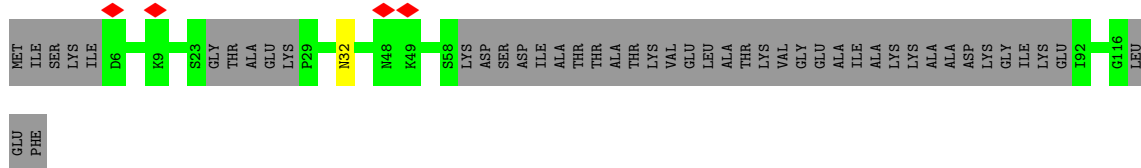




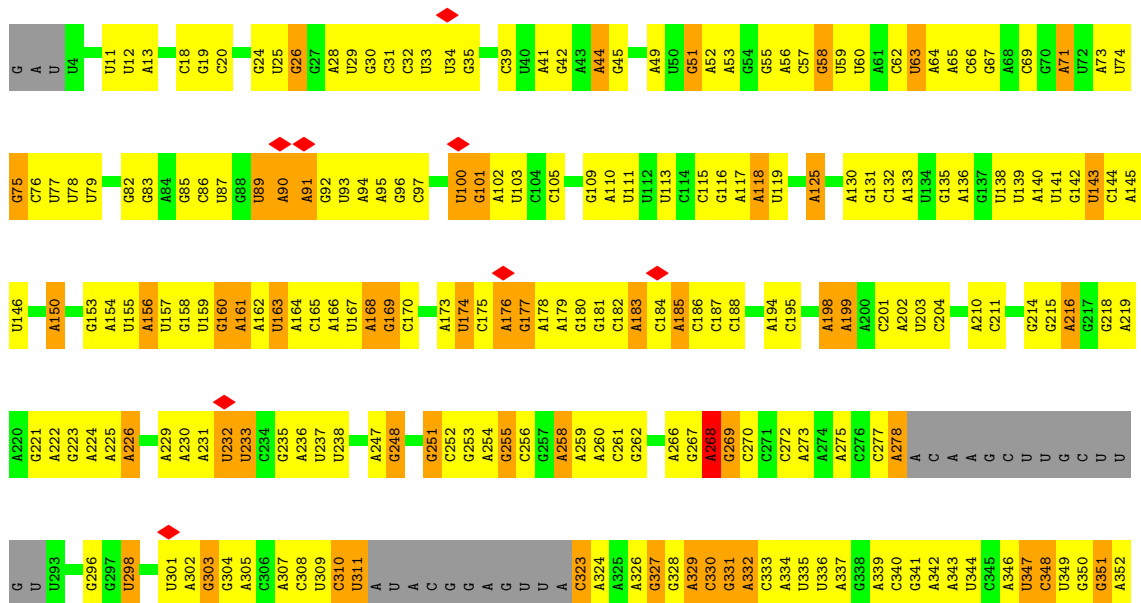
• Molecule 24: 50S ribosomal protein L17

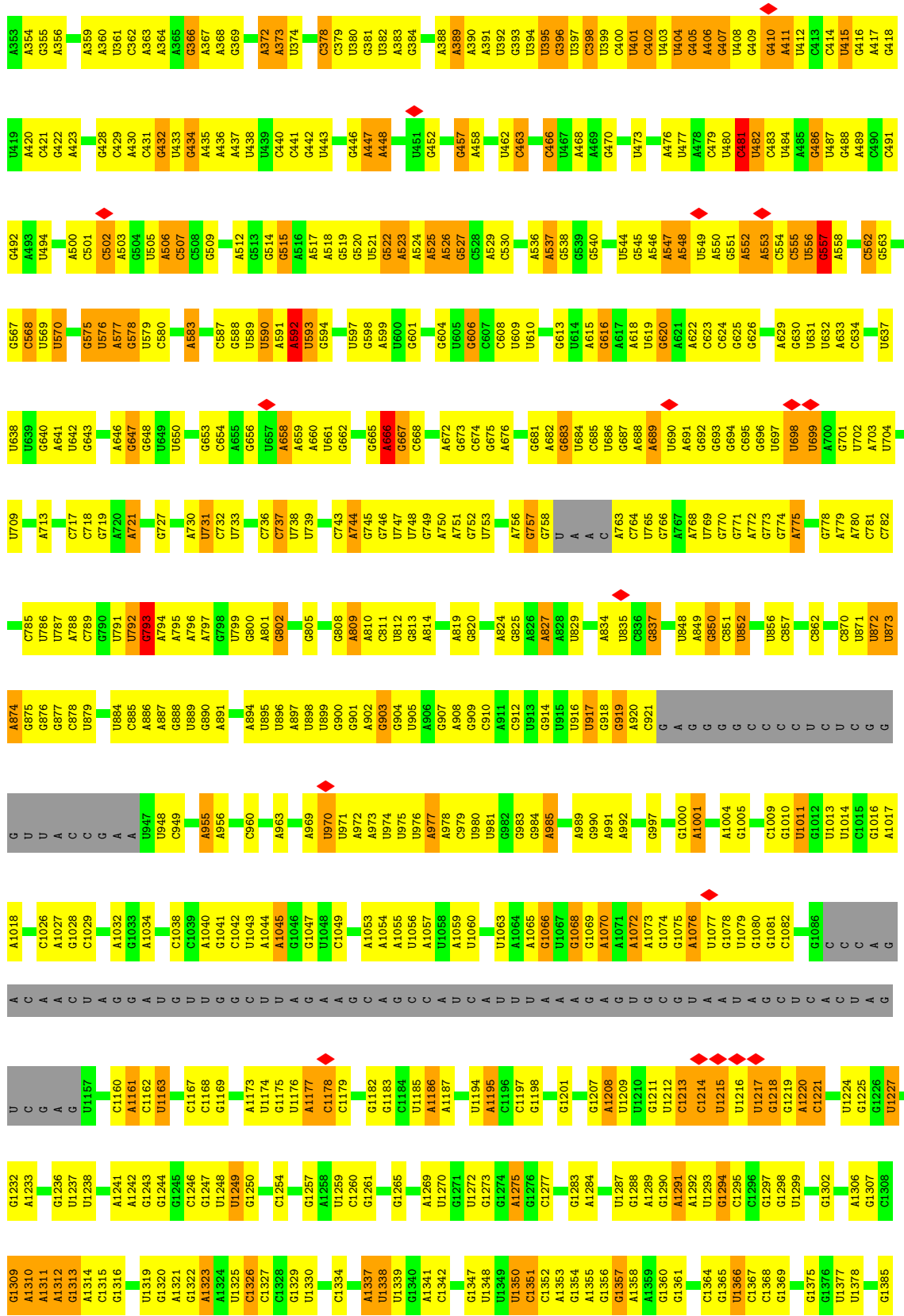


• Molecule 25: 50S ribosomal protein L18

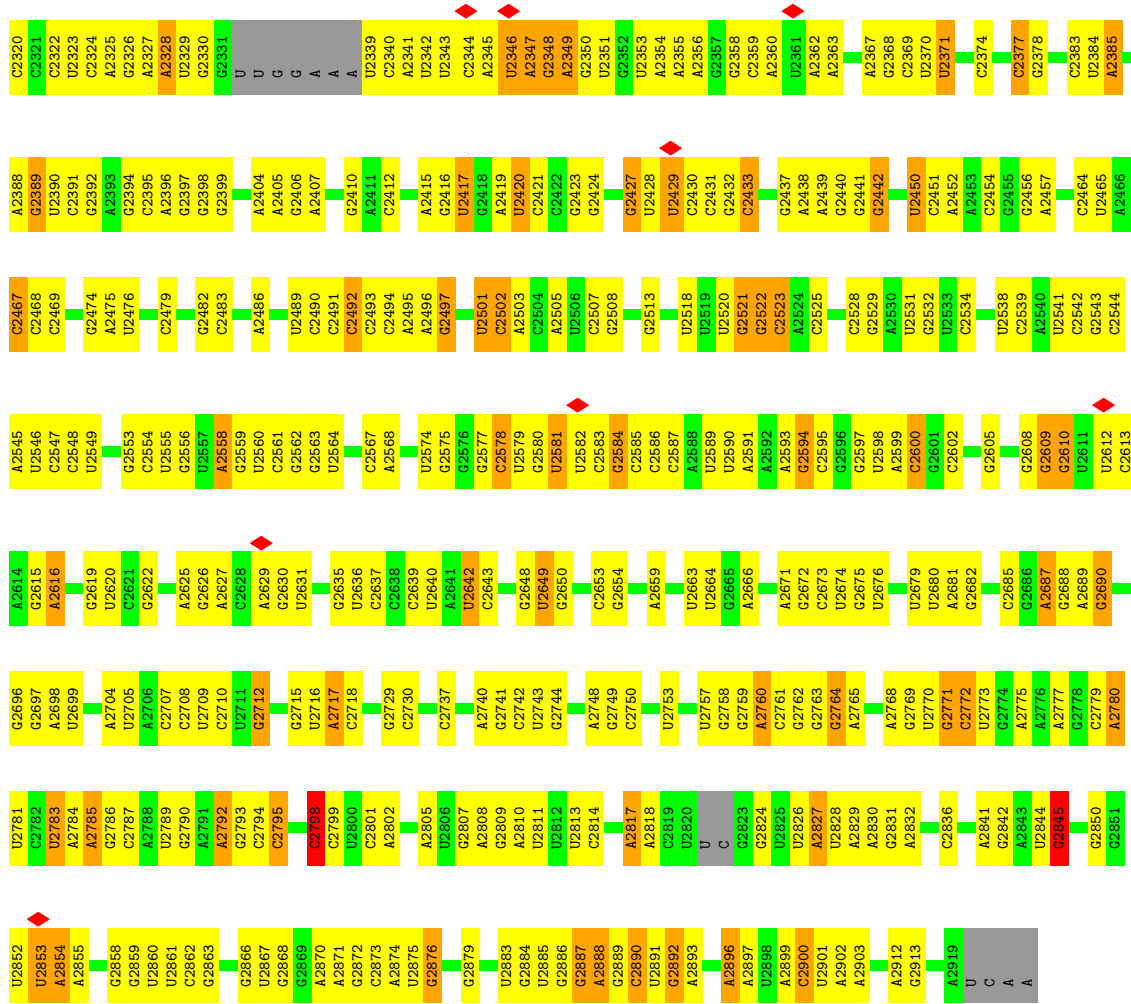


• Molecule 26: 23S rRNA

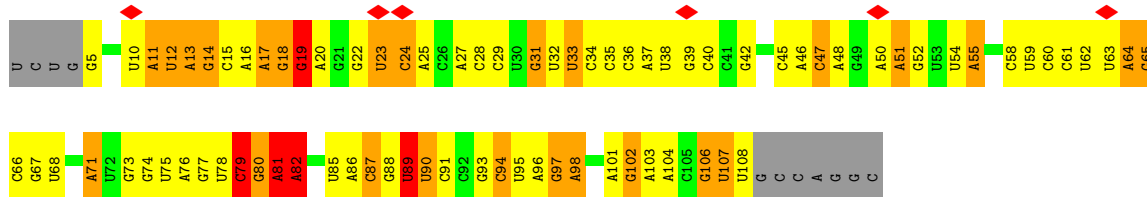
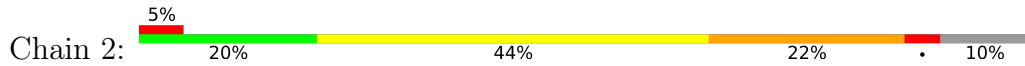




G2244	A2305	A2306	A2307	G2308	G2309	C2310	C2311	C2312	C2313	C2314	A2315	G2316	C2317	U2318	U2319
G2250	G2306	G2307	G2308	G2309	G2310	G2311	G2312	G2313	G2314	G2315	G2316	G2317	G2318	G2319	
A2251	A2295	A2296	A2297	A2298	A2299	A2300	A2301	A2302	A2303	A2304	A2305	A2306	A2307	A2308	A2309
C2051	C2052	C2053	C2054	C2055	C2056	C2057	C2058	C2059	C2060	C2061	C2062	C2063	C2064	C2065	C2066
U2051	U2052	U2053	U2054	U2055	U2056	U2057	U2058	U2059	U2060	U2061	U2062	U2063	U2064	U2065	U2066
A1965	A1966	A1967	A1968	A1969	A1970	A1971	A1972	A1973	A1974	A1975	A1976	A1977	A1978	A1979	A1980
C1965	C1966	C1967	C1968	C1969	C1970	C1971	C1972	C1973	C1974	C1975	C1976	C1977	C1978	C1979	C1980
U1965	U1966	U1967	U1968	U1969	U1970	U1971	U1972	U1973	U1974	U1975	U1976	U1977	U1978	U1979	U1980
G1902	A1903	A1904	A1905	A1906	A1907	A1908	A1909	A1910	A1911	A1912	A1913	A1914	A1915	A1916	A1917
C1902	C1903	C1904	C1905	C1906	C1907	C1908	C1909	C1910	C1911	C1912	C1913	C1914	C1915	C1916	C1917
U1902	U1903	U1904	U1905	U1906	U1907	U1908	U1909	U1910	U1911	U1912	U1913	U1914	U1915	U1916	U1917
G1838	G1841	G1842	G1843	G1844	G1845	G1846	G1847	G1848	G1849	G1850	G1851	G1852	G1853	G1854	G1855
C1838	C1841	C1842	C1843	C1844	C1845	C1846	C1847	C1848	C1849	C1850	C1851	C1852	C1853	C1854	C1855
U1838	U1841	U1842	U1843	U1844	U1845	U1846	U1847	U1848	U1849	U1850	U1851	U1852	U1853	U1854	U1855
A1764	A1765	A1766	A1767	A1768	A1769	A1770	A1771	A1772	A1773	A1774	A1775	A1776	A1777	A1778	A1779
C1764	C1765	C1766	C1767	C1768	C1769	C1770	C1771	C1772	C1773	C1774	C1775	C1776	C1777	C1778	C1779
U1764	U1765	U1766	U1767	U1768	U1769	U1770	U1771	U1772	U1773	U1774	U1775	U1776	U1777	U1778	U1779
G1682	U1683	G1686	G1687	G1688	G1689	G1690	G1691	G1692	G1693	G1694	G1695	G1696	G1697	G1698	G1699
C1682	C1683	C1686	C1687	C1688	C1689	C1690	C1691	C1692	C1693	C1694	C1695	C1696	C1697	C1698	C1699
U1682	U1683	U1686	U1687	U1688	U1689	U1690	U1691	U1692	U1693	U1694	U1695	U1696	U1697	U1698	U1699
A1601	U1602	U1603	C1604	A1605	A1607	A1608	A1609	A1610	A1611	A1612	A1613	A1614	A1615	A1616	A1617
C1601	C1602	C1603	C1604	C1605	C1607	C1608	C1609	C1610	C1611	C1612	C1613	C1614	C1615	C1616	C1617
U1601	U1602	U1603	U1604	U1605	U1607	U1608	U1609	U1610	U1611	U1612	U1613	U1614	U1615	U1616	U1617
A1628	A1629	A1630	A1631	A1632	A1633	A1634	A1635	A1636	A1637	A1638	A1639	A1640	A1641	A1642	A1643
C1628	C1629	C1630	C1631	C1632	C1633	C1634	C1635	C1636	C1637	C1638	C1639	C1640	C1641	C1642	C1643
U1628	U1629	U1630	U1631	U1632	U1633	U1634	U1635	U1636	U1637	U1638	U1639	U1640	U1641	U1642	U1643
A1489	A1490	A1491	A1492	A1493	A1494	A1495	A1496	A1497	A1498	A1499	A1500	A1501	A1502	A1503	A1504
C1489	C1490	C1491	C1492	C1493	C1494	C1495	C1496	C1497	C1498	C1499	C1500	C1501	C1502	C1503	C1504
U1489	U1490	U1491	U1492	U1493	U1494	U1495	U1496	U1497	U1498	U1499	U1500	U1501	U1502	U1503	U1504
A1415	A1416	A1417	A1418	A1419	A1420	A1421	A1422	A1423	A1424	A1425	A1426	A1427	A1428	A1429	A1430
C1415	C1416	C1417	C1418	C1419	C1420	C1421	C1422	C1423	C1424	C1425	C1426	C1427	C1428	C1429	C1430
U1415	U1416	U1417	U1418	U1419	U1420	U1421	U1422	U1423	U1424	U1425	U1426	U1427	U1428	U1429	U1430
A1445	A1446	A1447	A1448	A1449	A1450	A1451	A1452	A1453	A1454	A1455	A1456	A1457	A1458	A1459	A1460
C1445	C1446	C1447	C1448	C1449	C1450	C1451	C1452	C1453	C1454	C1455	C1456	C1457	C1458	C1459	C1460
U1445	U1446	U1447	U1448	U1449	U1450	U1451	U1452	U1453	U1454	U1455	U1456	U1457	U1458	U1459	U1460
A1516	A1517	A1518	A1519	A1520	A1521	A1522	A1523	A1524	A1525	A1526	A1527	A1528	A1529	A1530	A1531
C1516	C1517	C1518	C1519	C1520	C1521	C1522	C1523	C1524	C1525	C1526	C1527	C1528	C1529	C1530	C1531
U1516	U1517	U1518	U1519	U1520	U1521	U1522	U1523	U1524	U1525	U1526	U1527	U1528	U1529	U1530	U1531
A1556	A1557	A1558	A1559	A1560	A1561	A1562	A1563	A1564	A1565	A1566	A1567	A1568	A1569	A1570	A1571
C1556	C1557	C1558	C1559	C1560	C1561	C1562	C1563	C1564	C1565	C1566	C1567	C1568	C1569	C1570	C1571
U1556	U1557	U1558	U1559	U1560	U1561	U1562	U1563	U1564	U1565	U1566	U1567	U1568	U1569	U1570	U1571
A1575	A1576	A1577	A1578	A1579	A1580	A1581	A1582	A1583	A1584	A1585	A1586	A1587	A1588	A1589	A1590
C1575	C1576	C1577	C1578	C1579	C1580	C1581	C1582	C1583	C1584	C1585	C1586	C1587	C1588	C1589	C1590
U1575	U1576	U1577	U1578	U1579	U1580	U1581	U1582	U1583	U1584	U1585	U1586	U1587	U1588	U1589	U1590
A1666	A1667	A1668	A1669	A1670	A1671	A1672	A1673	A1674	A1675	A1676	A1677	A1678	A1679	A1680	A1681
C1666	C1667	C1668	C1669	C1670	C1671	C1672	C1673	C1674	C1675	C1676	C1677	C1678	C1679	C1680	C1681
U1666	U1667	U1668	U1669	U1670	U1671	U1672	U1673	U1674	U1675	U1676	U1677	U1678	U1679	U1680	U1681
A1658	A1659	A1660	A1661	A1662	A1663	A1664	A1665	A1666	A1667	A1668	A1669	A1670	A1671	A1672	A1673
C1658	C1659	C1660	C1661	C1662	C1663	C1664	C1665	C1666	C1667	C1668	C1669	C1670	C1671	C1672	C1673
U1658	U1659	U1660	U1661	U1662	U1663	U1664	U1665	U1666	U1667	U1668	U1669	U1670	U1671	U1672	U1673
A1810	A1811	A1812	A1813	A1814	A1815	A1816	A1817	A1818	A1819	A1820	A1821	A1822	A1823	A1824	A1825
C1810	C1811	C1812	C1813	C1814	C1815	C1816	C1817	C1818	C1819	C1820	C1821	C1822	C1823	C1824	C1825
U1810	U1811	U1812	U1813	U1814	U1815	U1816	U1817	U1818	U1819	U1820	U1821	U1822	U1823	U1824	U1825
A1836	A1837	A1838	A1839	A1840	A1841	A1842	A1843	A1844	A1845	A1846	A1847	A1848	A1849	A1850	A1851
C1836	C1837	C1838	C1839	C1840	C1841	C1842	C1843	C1844	C1845	C1846	C1847	C1848	C1849	C1850	C1851
U1836	U1837	U1838	U1839	U1840	U1841	U1842	U1843	U1844	U1845	U1846	U1847	U1848	U1849	U1850	U1851
A1836	A1837	A1838	A1839	A1840	A1841	A1842	A1843	A1844	A1845	A1846	A1847	A1848	A1849	A1850	A1851
C1836	C1837	C1838	C1839	C1840	C1841	C1842	C1843	C1844	C1845	C1846	C1847	C1848	C1849	C1850	C1851
U1836	U1837	U1838	U1839	U1840	U1841	U1842	U1843	U1844	U1845	U1846	U1847	U1848	U1849	U1850	U1851
A1836	A1837	A1838	A1839	A1840	A1841	A1842	A1843	A1844	A1845	A1846	A1847	A1848	A1849	A1850	A1851
C1836	C1837	C1838	C1839	C1840	C1841	C1842	C1843	C1844	C1845	C1846	C1847	C1848	C1849	C1850	C1851
U1836	U1837	U1838	U1839	U1840	U1841	U1842	U1843	U1844	U1845	U1846	U1847	U1848	U1849	U1850	U1851
A1836	A1837	A1838	A1839	A1840	A1841	A1842	A1843	A1844	A1845	A1846	A1847	A1848	A1849	A1850	A1851
C1836	C1837	C1838	C1839	C1840	C1841	C1842	C1843	C1844	C1845	C1846	C1847	C1848	C1849	C1850	C1851
U1836	U1837	U1838	U1839	U1840	U1841	U1842	U1843	U1844	U1845	U1846	U1847	U1848	U1849	U1850	U1851
A1836	A1837	A1838	A1839	A1840	A1841	A1842	A1843	A1844	A1845	A1846	A1847	A1848	A1849	A1850	A1851
C1836	C1837	C1838	C1839	C1840	C1841	C1842	C1843	C1844	C1845	C1846	C1847	C1848	C1849	C1850	C1851
U1836	U1837	U1838	U1839	U1840	U1841	U1842	U1843	U1844	U1845	U1846	U1847	U1848	U1849	U1850	U1851
A1836	A1837	A1838	A1839	A1840	A1841	A1842	A1843	A1844	A1845	A1846	A1847	A1848	A1849	A1850	A1851
C1836	C1837	C1838	C1839	C1840	C1841	C1842	C1843	C1844	C1845	C1846	C1847	C1848	C1849	C1850	C1851
U1836	U1837	U1838	U1839	U1840	U1841	U1842	U1843	U1844	U1845	U1846	U1847	U1848	U1849	U1850	U1851



• Molecule 27: 5S rRNA



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	49223	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	35	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.229	Depositor
Minimum map value	-0.118	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.03	Depositor
Map size (Å)	385.83997, 385.83997, 385.83997	wwPDB
Map dimensions	364, 364, 364	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.06, 1.06, 1.06	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: G6V

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	0.44	0/927	0.57	0/1239
2	B	0.44	0/2129	0.56	0/2858
3	C	0.51	0/955	0.57	0/1265
4	D	0.43	0/795	0.57	0/1062
5	E	0.39	0/861	0.55	0/1159
6	F	0.42	0/719	0.59	0/959
7	G	0.35	0/737	0.55	0/983
8	H	0.36	0/735	0.55	0/986
9	I	0.47	0/598	0.59	0/794
10	J	0.44	0/469	0.59	0/625
11	K	0.41	0/473	0.55	0/631
12	L	0.48	0/1652	0.58	0/2216
13	M	0.44	0/434	0.61	0/585
14	N	0.48	0/404	0.57	0/537
15	O	0.39	0/385	0.59	0/513
16	P	0.52	0/376	0.56	0/491
17	Q	0.47	0/526	0.54	0/690
18	R	0.40	0/299	0.54	0/393
19	S	0.42	0/1336	0.55	0/1799
20	V	0.49	0/1160	0.55	0/1563
21	W	0.42	0/855	0.53	0/1145
22	X	0.44	0/948	0.56	0/1262
23	Y	0.47	0/1113	0.56	0/1493
24	Z	0.42	0/905	0.54	0/1207
25	a	0.38	0/589	0.54	0/785
26	1	0.93	0/63551	0.94	65/99100 (0.1%)
27	2	0.58	0/2475	1.08	17/3854 (0.4%)
All	All	0.83	0/86406	0.88	82/130194 (0.1%)

There are no bond length outliers.

The worst 5 of 82 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
27	2	20	A	N9-C1'-C2'	-9.73	101.30	112.00
26	1	1931	G	C1'-C2'-O2'	-8.31	85.68	110.60
26	1	1501	G	N3-C4-N9	-8.14	121.12	126.00
26	1	557	G	O4'-C1'-N9	7.58	114.27	108.20
26	1	481	C	N1-C2-O2	7.52	123.41	118.90

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	915	0	987	54	0
2	B	2094	0	2205	97	0
3	C	943	0	1014	42	0
4	D	785	0	825	38	0
5	E	853	0	914	35	0
6	F	711	0	750	36	0
7	G	730	0	781	56	0
8	H	727	0	777	42	0
9	I	592	0	602	25	0
10	J	463	0	501	13	0
11	K	472	0	493	23	0
12	L	1628	0	1667	98	0
13	M	432	0	472	15	0
14	N	397	0	407	14	0
15	O	382	0	382	22	0
16	P	372	0	420	18	0
17	Q	521	0	586	32	0
18	R	296	0	340	13	0
19	S	1318	0	1377	66	0
20	V	1138	0	1129	40	0
21	W	850	0	895	46	0
22	X	938	0	977	39	0
23	Y	1089	0	1155	39	0
24	Z	902	0	958	39	0
25	a	583	0	598	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
26	1	56747	0	28540	1263	0
27	2	2214	0	1120	53	0
28	1	26	18	0	1	0
All	All	79118	18	50872	2052	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 16.

The worst 5 of 2052 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)
21:W:3:GLN:N	21:W:6:THR:HG1	1.37	1.20
26:1:1489:A:N6	26:1:1509:G:H21	1.45	1.15
26:1:1489:A:H62	26:1:1509:G:N2	1.44	1.14
26:1:275:A:H62	26:1:296:G:N2	1.52	1.06
24:Z:31:GLU:HG2	24:Z:118:ILE:HG12	1.45	0.99

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	111/116 (96%)	95 (86%)	16 (14%)	0	100	100
2	B	272/276 (99%)	236 (87%)	36 (13%)	0	100	100
3	C	114/118 (97%)	108 (95%)	6 (5%)	0	100	100
4	D	98/102 (96%)	87 (89%)	11 (11%)	0	100	100
5	E	109/116 (94%)	100 (92%)	9 (8%)	0	100	100
6	F	85/91 (93%)	72 (85%)	13 (15%)	0	100	100
7	G	91/105 (87%)	78 (86%)	13 (14%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
8	H	91/217 (42%)	82 (90%)	9 (10%)	0	100	100
9	I	75/85 (88%)	64 (85%)	11 (15%)	0	100	100
10	J	57/62 (92%)	47 (82%)	10 (18%)	0	100	100
11	K	55/69 (80%)	50 (91%)	5 (9%)	0	100	100
12	L	213/217 (98%)	189 (89%)	24 (11%)	0	100	100
13	M	54/59 (92%)	47 (87%)	7 (13%)	0	100	100
14	N	48/57 (84%)	43 (90%)	5 (10%)	0	100	100
15	O	44/49 (90%)	41 (93%)	3 (7%)	0	100	100
16	P	42/50 (84%)	39 (93%)	3 (7%)	0	100	100
17	Q	62/65 (95%)	57 (92%)	5 (8%)	0	100	100
18	R	35/37 (95%)	30 (86%)	5 (14%)	0	100	100
19	S	165/207 (80%)	146 (88%)	19 (12%)	0	100	100
20	V	141/145 (97%)	127 (90%)	14 (10%)	0	100	100
21	W	108/122 (88%)	99 (92%)	9 (8%)	0	100	100
22	X	119/146 (82%)	108 (91%)	11 (9%)	0	100	100
23	Y	134/144 (93%)	127 (95%)	7 (5%)	0	100	100
24	Z	110/122 (90%)	101 (92%)	9 (8%)	0	100	100
25	a	67/119 (56%)	61 (91%)	6 (9%)	0	100	100
All	All	2500/2896 (86%)	2234 (89%)	266 (11%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	99/102 (97%)	99 (100%)	0	100	100
2	B	221/223 (99%)	220 (100%)	1 (0%)	88	94
3	C	96/98 (98%)	96 (100%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	D	85/86 (99%)	85 (100%)	0	100	100
5	E	90/94 (96%)	89 (99%)	1 (1%)	73	89
6	F	79/82 (96%)	79 (100%)	0	100	100
7	G	80/90 (89%)	79 (99%)	1 (1%)	69	87
8	H	81/190 (43%)	80 (99%)	1 (1%)	71	88
9	I	61/66 (92%)	60 (98%)	1 (2%)	62	84
10	J	49/52 (94%)	49 (100%)	0	100	100
11	K	52/62 (84%)	52 (100%)	0	100	100
12	L	173/175 (99%)	172 (99%)	1 (1%)	86	94
13	M	50/53 (94%)	50 (100%)	0	100	100
14	N	45/50 (90%)	44 (98%)	1 (2%)	52	78
15	O	44/47 (94%)	44 (100%)	0	100	100
16	P	39/45 (87%)	39 (100%)	0	100	100
17	Q	55/56 (98%)	55 (100%)	0	100	100
18	R	35/35 (100%)	35 (100%)	0	100	100
19	S	141/170 (83%)	137 (97%)	4 (3%)	43	73
20	V	122/123 (99%)	122 (100%)	0	100	100
21	W	92/100 (92%)	92 (100%)	0	100	100
22	X	96/112 (86%)	95 (99%)	1 (1%)	76	90
23	Y	113/119 (95%)	113 (100%)	0	100	100
24	Z	95/102 (93%)	95 (100%)	0	100	100
25	a	60/95 (63%)	59 (98%)	1 (2%)	60	83
All	All	2153/2427 (89%)	2140 (99%)	13 (1%)	86	94

5 of 13 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
19	S	38	ASN
19	S	84	ARG
25	a	32	ASN
19	S	188	ASN
22	X	17	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 41 such sidechains are listed below:

Mol	Chain	Res	Type
17	Q	31	HIS
20	V	24	GLN
19	S	29	ASN
19	S	169	ASN
22	X	17	ASN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
26	1	2634/2923 (90%)	628 (23%)	20 (0%)
27	2	103/115 (89%)	43 (41%)	3 (2%)
All	All	2737/3038 (90%)	671 (24%)	23 (0%)

5 of 671 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
26	1	13	A
26	1	26	G
26	1	34	U
26	1	35	G
26	1	44	A

5 of 23 RNA pucker outliers are listed below:

Mol	Chain	Res	Type
26	1	1926	A
26	1	1988	C
26	1	1953	U
26	1	2827	A
26	1	433	U

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

1 ligand is 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
28	G6V	1	3001	-	28,28,28	2.17	8 (28%)	38,39,39	2.92	14 (36%)

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
28	G6V	1	3001	-	-	4/17/37/37	0/3/3/3

The worst 5 of 8 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
28	1	3001	G6V	C20-C10	6.53	1.60	1.51
28	1	3001	G6V	C30-N29	4.04	1.42	1.33
28	1	3001	G6V	O11-C12	3.56	1.40	1.35
28	1	3001	G6V	C12-N8	3.12	1.39	1.36
28	1	3001	G6V	C31-CL33	2.54	1.84	1.76

The worst 5 of 14 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
28	1	3001	G6V	C9-N8-C12	-12.57	104.00	111.28
28	1	3001	G6V	C10-C9-N8	4.63	106.47	101.81
28	1	3001	G6V	C4-N8-C12	4.61	130.85	125.91
28	1	3001	G6V	C19-N14-C1	3.94	125.61	116.27
28	1	3001	G6V	O11-C10-C20	3.90	112.80	109.33

There are no chirality outliers.

All (4) torsion outliers are listed below:

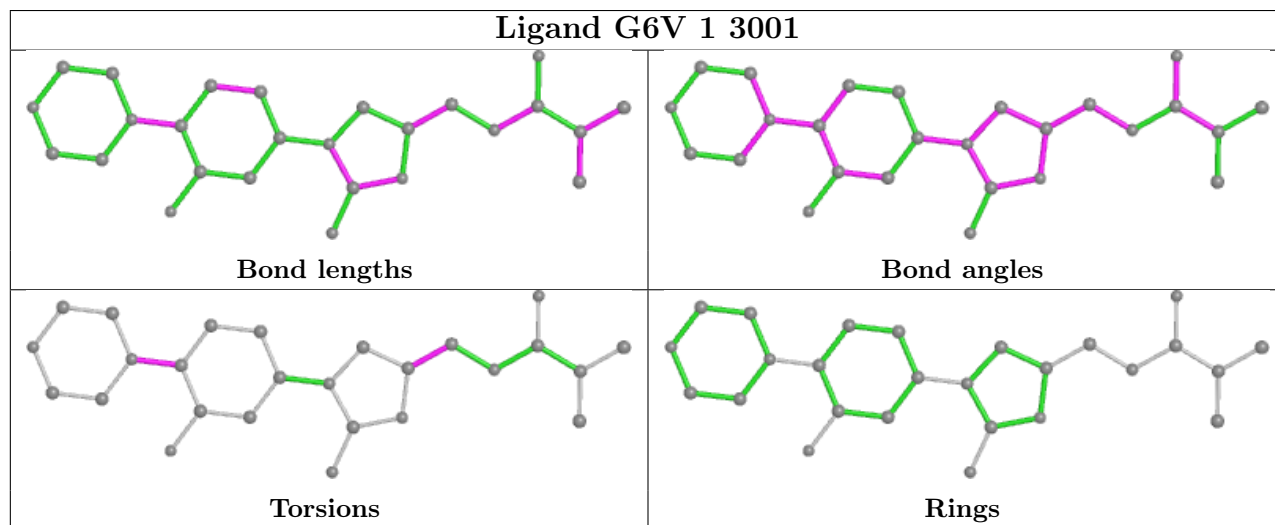
Mol	Chain	Res	Type	Atoms
28	1	3001	G6V	C9-C10-C20-N29
28	1	3001	G6V	C2-C1-N14-C19
28	1	3001	G6V	C6-C1-N14-C19
28	1	3001	G6V	O11-C10-C20-N29

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
28	1	3001	G6V	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 than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



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

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

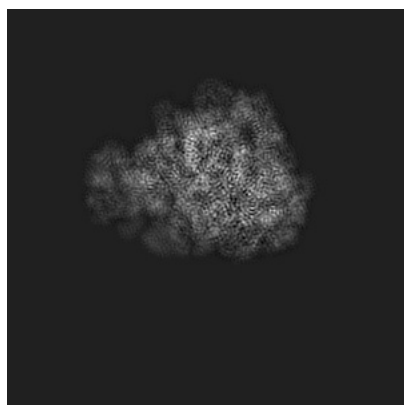
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-7867. These allow visual inspection of the internal detail of the map and identification of artifacts.

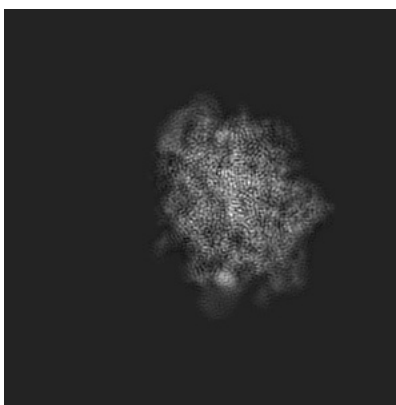
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

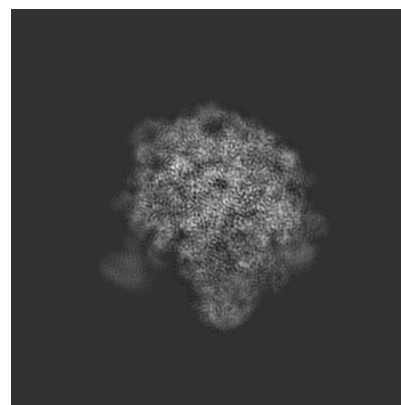
6.1.1 Primary map



X



Y

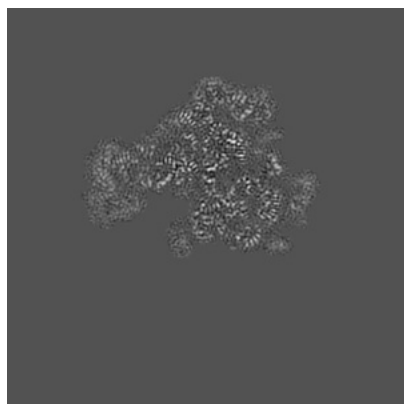


Z

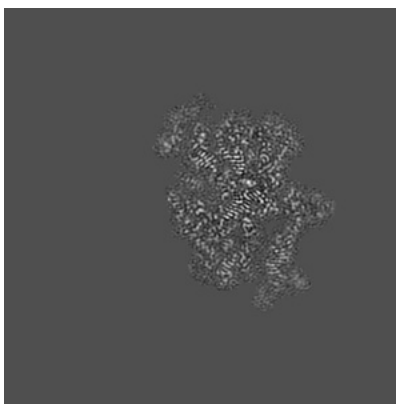
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

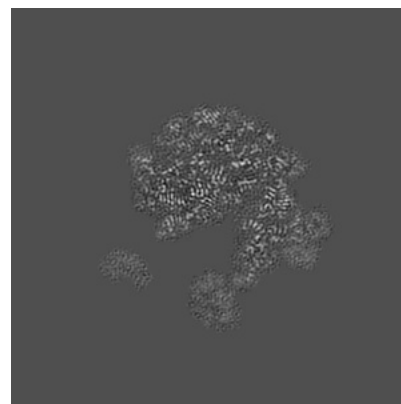
6.2.1 Primary map



X Index: 182



Y Index: 182

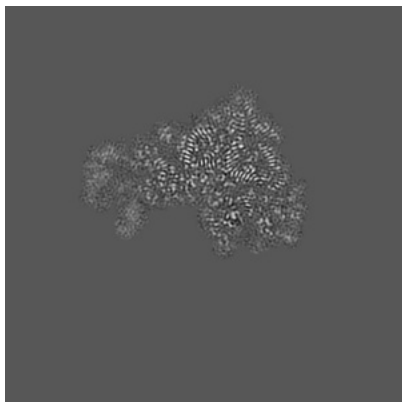


Z Index: 182

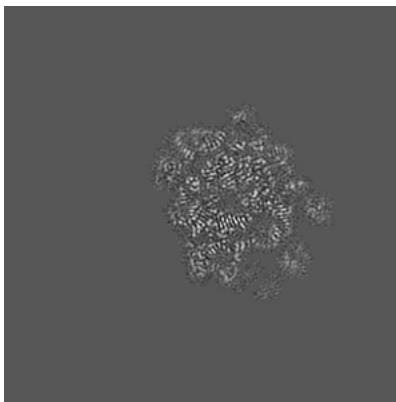
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

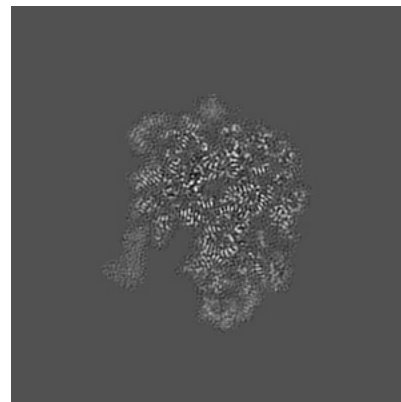
6.3.1 Primary map



X Index: 204



Y Index: 199

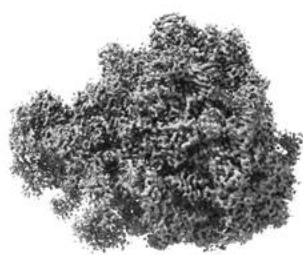


Z Index: 206

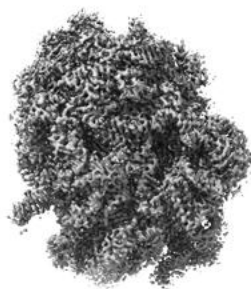
The images above show the largest variance slices of the map in three orthogonal directions.

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 0.03. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

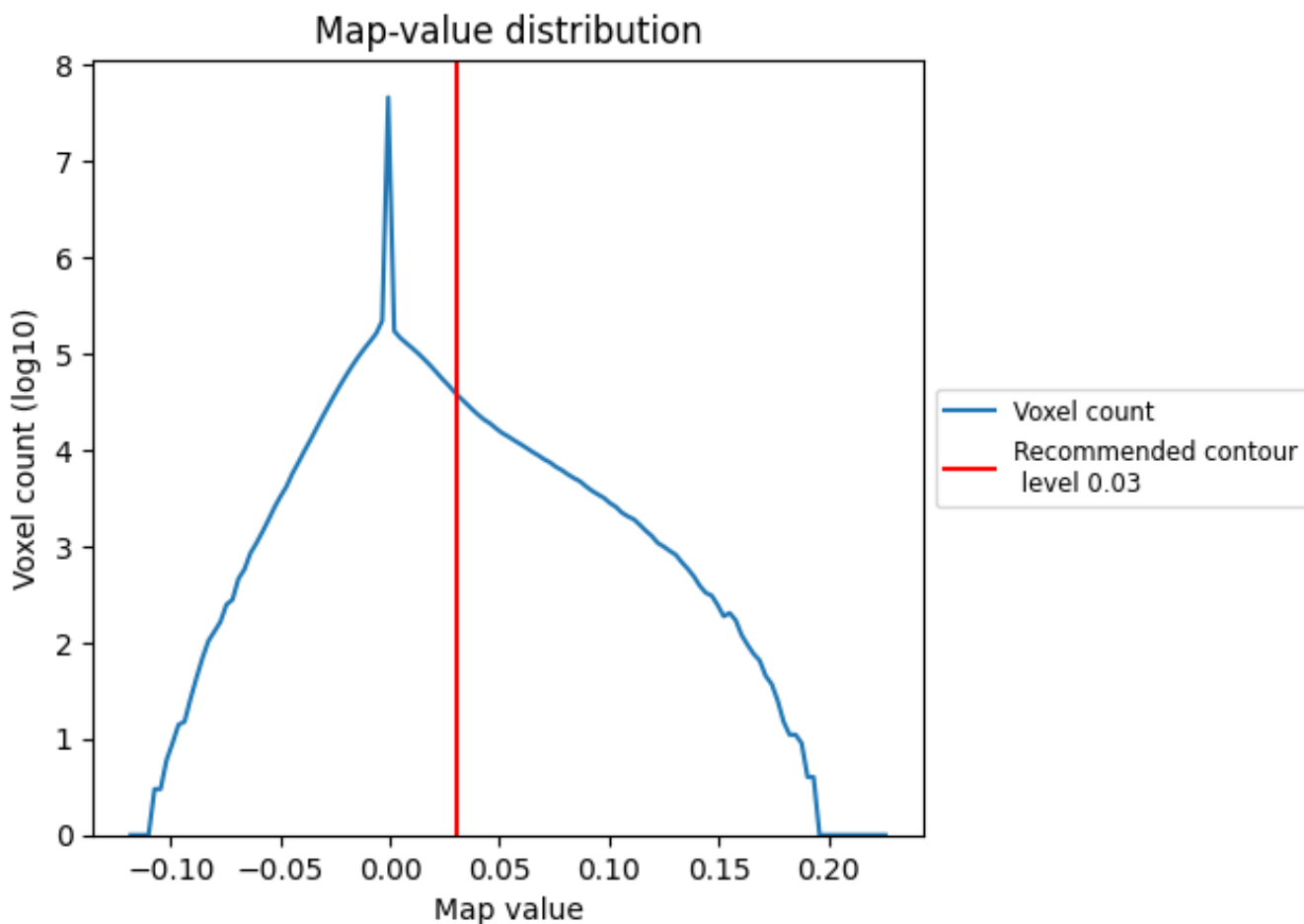
6.5 Mask visualisation

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

7 Map analysis [i](#)

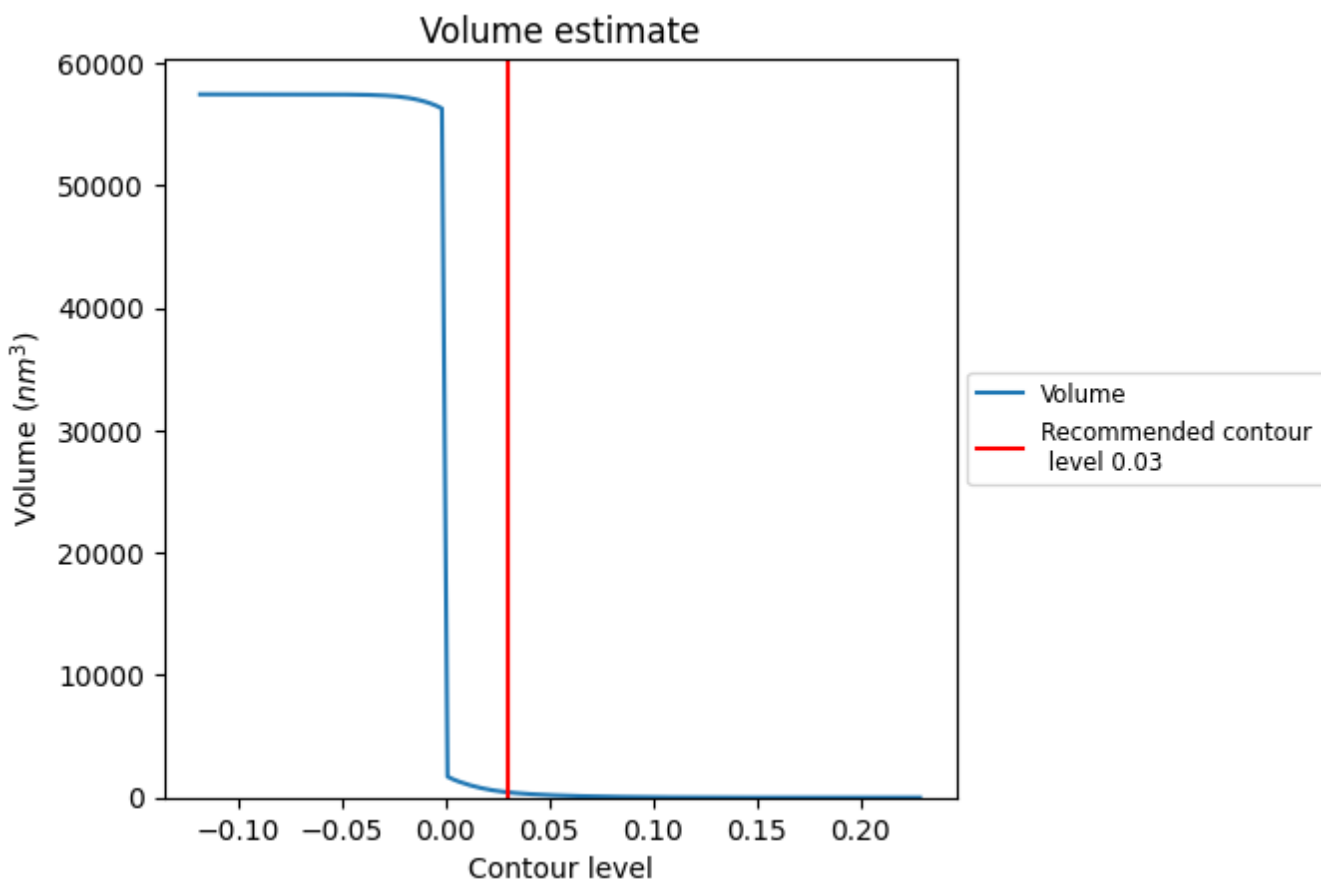
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

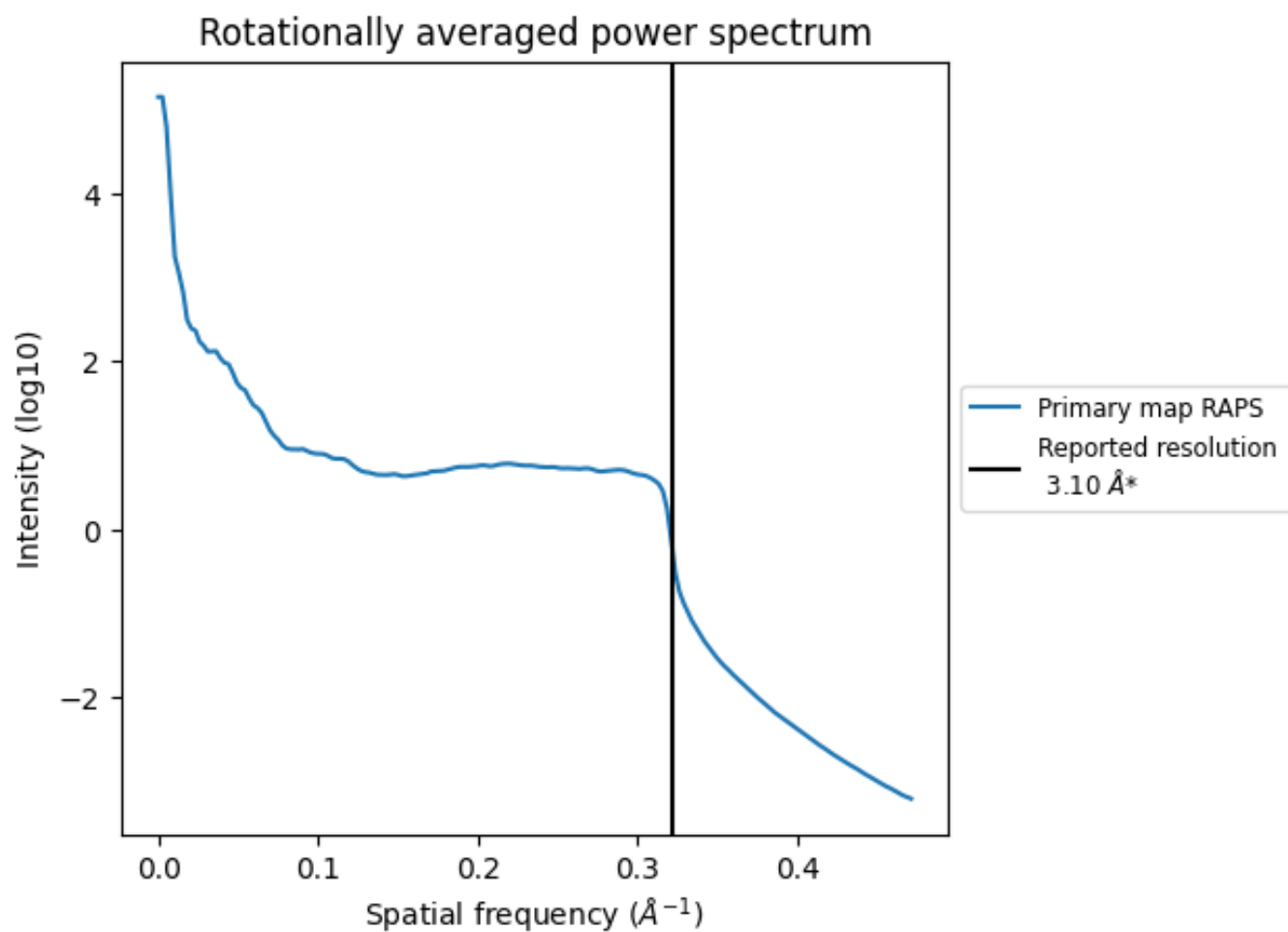
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 434 nm³; this corresponds to an approximate mass of 392 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 \AA^{-1}

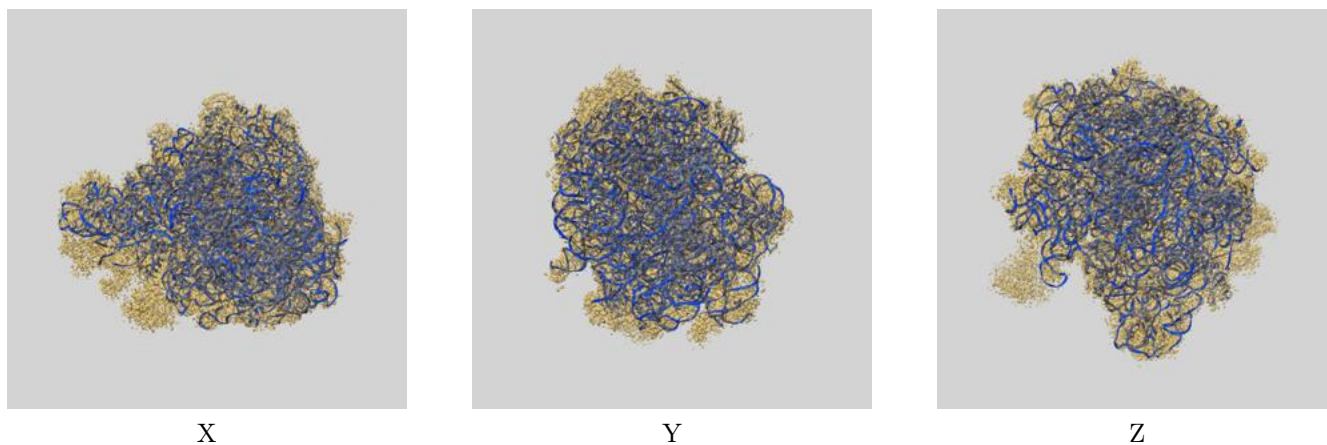
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

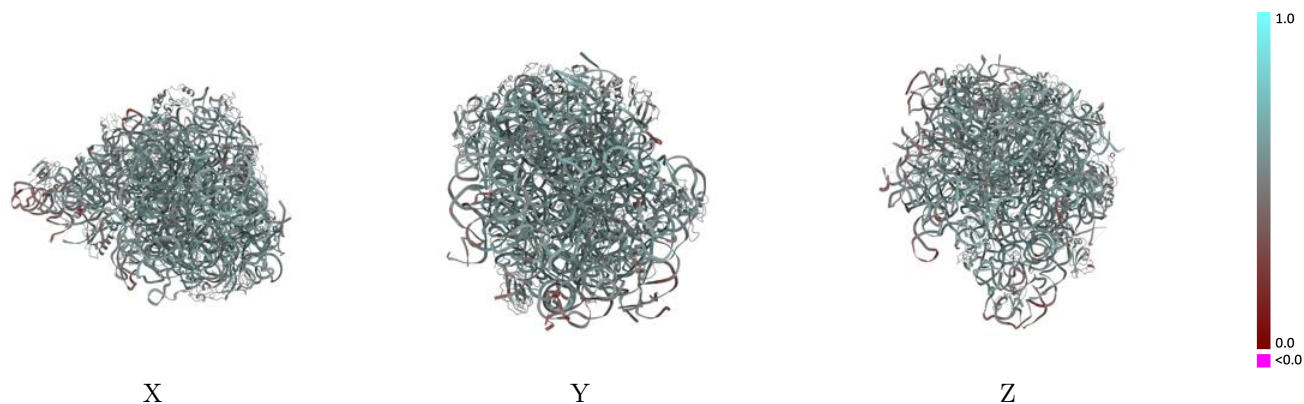
This section contains information regarding the fit between EMDB map EMD-7867 and PDB model 6DDD. Per-residue inclusion information can be found in section [3](#) on page [9](#).

9.1 Map-model overlay [i](#)



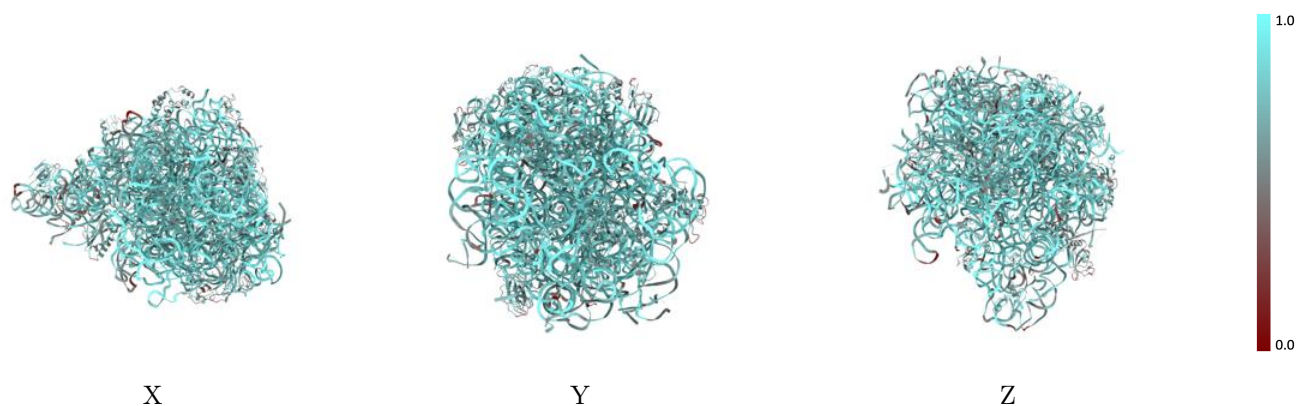
The images above show the 3D surface view of the map at the recommended contour level 0.03 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



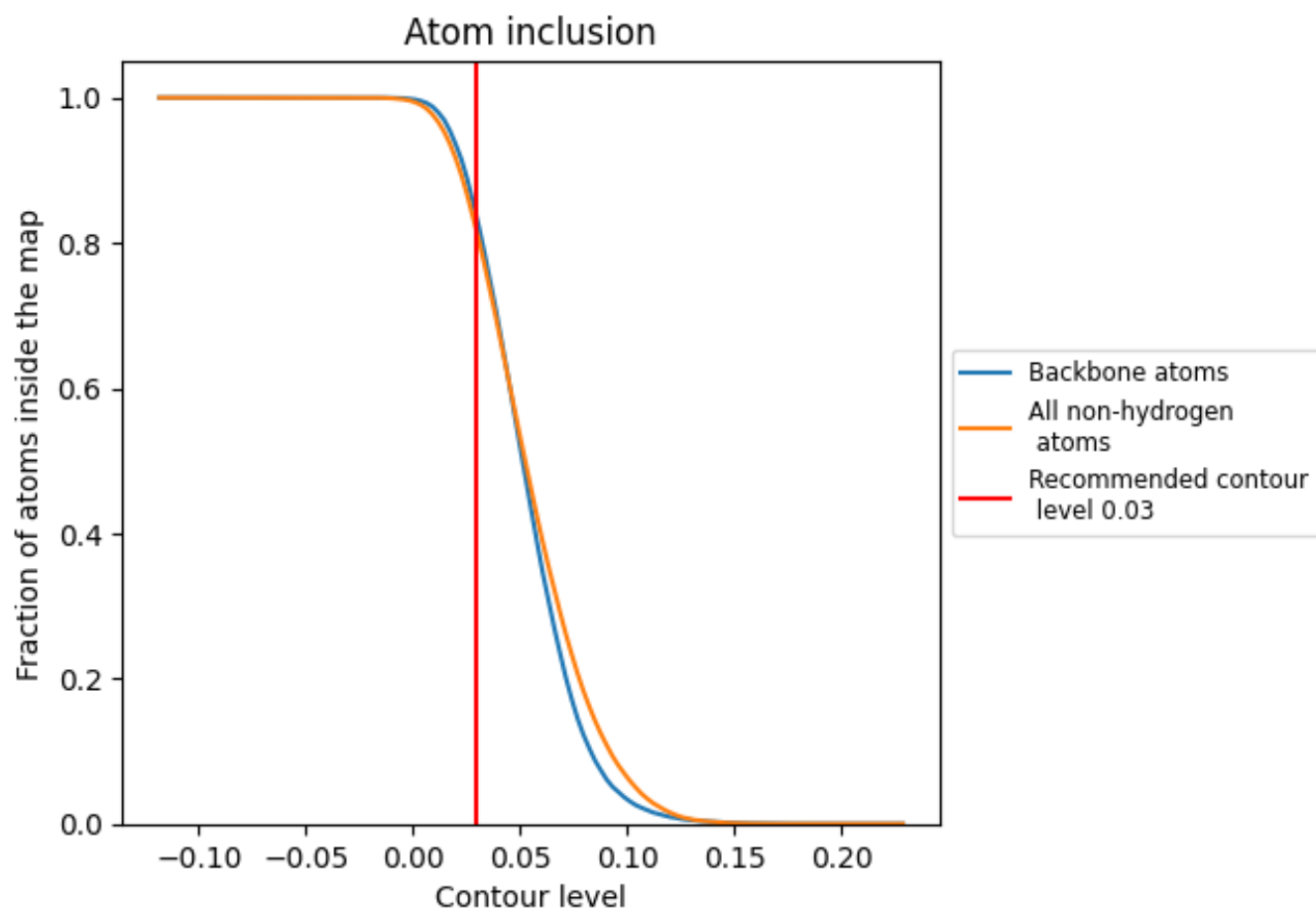
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.03).

























































9.4 Atom inclusion [i](#)



At the recommended contour level, 83% of all backbone atoms, 81% 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 (0.03) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8139	 0.5540
1	 0.8569	 0.5650
2	 0.7127	 0.4680
A	 0.6564	 0.5120
B	 0.7100	 0.5480
C	 0.7626	 0.5550
D	 0.6869	 0.5120
E	 0.7473	 0.5460
F	 0.6537	 0.5160
G	 0.5781	 0.4820
H	 0.4804	 0.4690
I	 0.7208	 0.5460
J	 0.6421	 0.5230
K	 0.6864	 0.4900
L	 0.7581	 0.5490
M	 0.6981	 0.5380
N	 0.7937	 0.5580
O	 0.6396	 0.5170
P	 0.8006	 0.6000
Q	 0.7789	 0.5820
R	 0.6759	 0.5370
S	 0.7096	 0.5400
V	 0.7495	 0.5430
W	 0.6663	 0.5280
X	 0.7224	 0.5440
Y	 0.7068	 0.5450
Z	 0.7261	 0.5470
a	 0.6649	 0.4990

