



wwPDB X-ray Structure Validation Summary Report ⓘ

Mar 20, 2026 – 09:06 AM UTC

PDB ID : 3CCV / pdb_00003ccv
Title : Structure of Anisomycin resistant 50S Ribosomal Subunit: 23S rRNA mutation G2616A
Authors : Blaha, G.; Gurel, G.
Deposited on : 2008-02-26
Resolution : 2.90 Å(reported)

This is a wwPDB X-ray Structure 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/XrayValidationReportHelp>

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:

MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

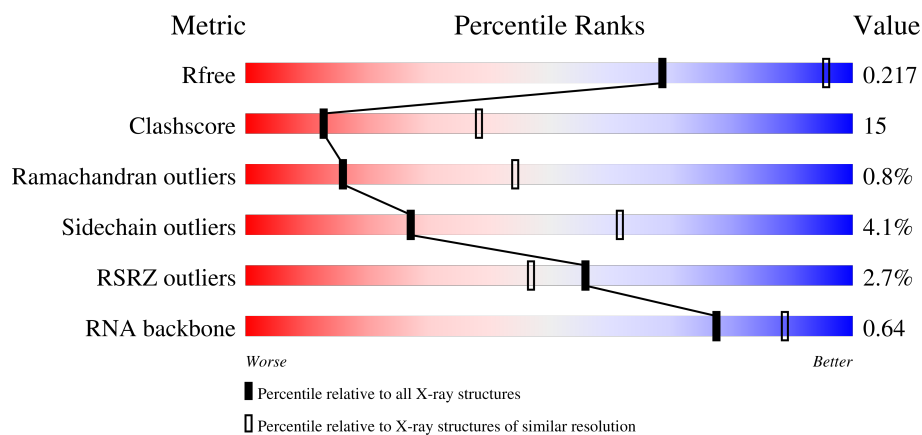
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.90 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)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	2481 (2.90-2.90)
Clashscore	190562	2690 (2.90-2.90)
Ramachandran outliers	187476	2623 (2.90-2.90)
Sidechain outliers	187428	2625 (2.90-2.90)
RSRZ outliers	180081	2481 (2.90-2.90)
RNA backbone	3983	1120 (3.10-2.70)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower 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 electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	240	<div> <div>2%</div> <div>65%</div> <div>29%</div> <div>5%</div> </div>
2	B	338	<div> <div>%</div> <div>60%</div> <div>35%</div> <div>.</div> </div>
3	C	246	<div> <div>68%</div> <div>28%</div> <div>.</div> </div>
4	D	177	<div> <div>16%</div> <div>48%</div> <div>27%</div> <div>.</div> <div>21%</div> </div>

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Mol	Chain	Length	Quality of chain
5	E	178	
6	F	120	
7	G	348	
8	H	177	
9	I	162	
10	J	145	
11	K	132	
12	L	165	
13	M	196	
14	N	187	
15	O	116	
16	P	149	
17	Q	96	
18	R	155	
19	S	85	
20	T	120	
21	U	67	
22	V	71	
23	W	154	
24	X	92	
25	Y	241	
26	Z	116	
27	1	57	
28	2	50	
29	3	92	

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Mol	Chain	Length	Quality of chain
30	0	2923	
31	9	122	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
33	CL	J	8801	-	-	X	-
34	SR	0	9006	-	-	-	X

2 Entry composition

There are 38 unique types of molecules in this entry. The entry contains 99121 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, 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 L2P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	237	Total	C	N	O	S	0	0	0
			1753	1072	352	324	5			

- Molecule 2 is a protein called 50S ribosomal protein L3P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	337	Total	C	N	O	S	0	0	0
			2625	1616	493	511	5			

- Molecule 3 is a protein called 50S ribosomal protein L4P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	C	246	Total	C	N	O	S	0	0	0
			1860	1130	345	384	1			

- Molecule 4 is a protein called 50S ribosomal protein L5P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	D	140	Total	C	N	O	S	0	0	0
			1094	685	195	210	4			

- Molecule 5 is a protein called 50S ribosomal protein L6P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	E	172	Total	C	N	O	S	0	0	0
			1357	840	224	289	4			

- Molecule 6 is a protein called 50S ribosomal protein L7Ae.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	F	119	Total	C	N	O	S	0	0	0
			890	551	141	197	1			

- Molecule 7 is a protein called 50S ribosomal protein L10E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	G	29	Total	C	N	O	S	0	0	0
			240	149	39	51	1			

- Molecule 8 is a protein called 50S ribosomal protein L10e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	H	160	Total	C	N	O	S	0	0	0
			1282	798	240	238	6			

- Molecule 9 is a protein called 50S ribosomal protein L11P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	I	70	Total	C	N	O	S	0	0	0
			519	323	81	114	1			

- Molecule 10 is a protein called 50S ribosomal protein L13P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	J	142	Total	C	N	O	S	0	0	0
			1120	696	199	222	3			

- Molecule 11 is a protein called 50S ribosomal protein L14P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	K	132	Total	C	N	O	S	0	0	0
			994	609	189	192	4			

- Molecule 12 is a protein called 50S ribosomal protein L15P.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
12	L	145	Total	C	N	O	0	0	0
			1118	670	222	226			

- Molecule 13 is a protein called 50S ribosomal protein L15e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	M	194	Total	C	N	O	S	0	0	0
			1558	943	333	281	1			

- Molecule 14 is a protein called 50S ribosomal protein L18P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	N	186	Total	C	N	O	S	0	0	0
			1445	895	262	286	2			

- Molecule 15 is a protein called 50S ribosomal protein L18e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	O	115	Total	C	N	O		0	0	0
			865	529	161	175				

- Molecule 16 is a protein called 50S ribosomal protein L19e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	P	143	Total	C	N	O		0	0	0
			1136	683	229	224				

- Molecule 17 is a protein called 50S ribosomal protein L21e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	Q	95	Total	C	N	O		0	0	0
			735	450	141	144				

- Molecule 18 is a protein called 50S ribosomal protein L22P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	R	150	Total	C	N	O	S	0	0	0
			1149	713	209	223	4			

- Molecule 19 is a protein called 50S ribosomal protein L23P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	S	81	Total	C	N	O	S	0	0	0
			641	389	111	138	3			

- Molecule 20 is a protein called 50S ribosomal protein L24P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	T	119	Total	C	N	O		0	0	0
			950	568	180	202				

- Molecule 21 is a protein called 50S ribosomal protein L24e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	U	53	Total	C	N	O	S	0	0	0
			410	244	75	86	5			

- Molecule 22 is a protein called 50S ribosomal protein L29P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	V	65	Total	C	N	O	S	0	0	0
			499	304	94	100	1			

- Molecule 23 is a protein called 50S ribosomal protein L30P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	W	154	Total	C	N	O	S	0	0	0
			1196	737	209	244	6			

- Molecule 24 is a protein called 50S ribosomal protein L31e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	X	82	Total	C	N	O	S	0	0	0
			654	402	129	122	1			

- Molecule 25 is a protein called 50S ribosomal protein L32e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	Y	142	Total	C	N	O		0	0	0
			1130	686	228	216				

- Molecule 26 is a protein called 50S ribosomal protein L37Ae.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	Z	73	Total	C	N	O	S	0	0	0
			573	343	113	112	5			

- Molecule 27 is a protein called 50S ribosomal protein L37e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	1	56	Total	C	N	O	S	0	0	0
			431	258	86	83	4			

- Molecule 28 is a protein called 50S ribosomal protein L39e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	2	46	Total	C	N	O	S	0	0	0
			396	239	89	67	1			

- Molecule 29 is a protein called 50S ribosomal protein L44E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	3	92	Total	C	N	O	S	0	0	0
			755	458	153	137	7			

- Molecule 30 is a RNA chain called 23S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	0	2754	Total	C	N	O	P	0	0	0
			59019	26349	10873	19052	2745			

- Molecule 31 is a RNA chain called 5S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	9	122	Total	C	N	O	P	0	0	0
			2599	1160	471	847	121			

- Molecule 32 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
32	A	1	Total	Mg	0	0
			1	1		
32	B	1	Total	Mg	0	0
			1	1		
32	K	1	Total	Mg	0	0
			1	1		
32	T	1	Total	Mg	0	0
			1	1		
32	Y	1	Total	Mg	0	0
			1	1		
32	0	87	Total	Mg	0	0
			87	87		
32	9	1	Total	Mg	0	0
			1	1		

- Molecule 33 is CHLORIDE ION (CCD ID: CL) (formula: Cl).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
33	A	1	Total Cl 1 1	0	0
33	B	1	Total Cl 1 1	0	0
33	J	3	Total Cl 3 3	0	0
33	L	1	Total Cl 1 1	0	0
33	M	1	Total Cl 1 1	0	0
33	N	1	Total Cl 1 1	0	0
33	O	1	Total Cl 1 1	0	0
33	R	1	Total Cl 1 1	0	0
33	Y	1	Total Cl 1 1	0	0
33	3	1	Total Cl 1 1	0	0
33	0	10	Total Cl 10 10	0	0

- Molecule 34 is STRONTIUM ION (CCD ID: SR) (formula: Sr).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
34	A	3	Total Sr 3 3	0	0
34	B	2	Total Sr 2 2	0	0
34	F	1	Total Sr 1 1	0	0
34	R	1	Total Sr 1 1	0	0
34	S	1	Total Sr 1 1	0	0
34	Y	1	Total Sr 1 1	0	0
34	1	2	Total Sr 2 2	0	0
34	3	1	Total Sr 1 1	0	0
34	0	94	Total Sr 94 94	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
34	9	2	Total	Sr	0	0
			2	2		

- Molecule 35 is SODIUM ION (CCD ID: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
35	C	1	Total	Na	0	0
			1	1		
35	J	1	Total	Na	0	0
			1	1		
35	M	1	Total	Na	0	0
			1	1		
35	Q	1	Total	Na	0	0
			1	1		
35	R	1	Total	Na	0	0
			1	1		
35	S	1	Total	Na	0	0
			1	1		
35	0	67	Total	Na	0	0
			67	67		
35	9	2	Total	Na	0	0
			2	2		

- Molecule 36 is CADMIUM ION (CCD ID: CD) (formula: Cd).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
36	O	1	Total	Cd	0	0
			1	1		
36	U	1	Total	Cd	0	0
			1	1		
36	Z	1	Total	Cd	0	0
			1	1		
36	1	1	Total	Cd	0	0
			1	1		
36	3	1	Total	Cd	0	0
			1	1		

- Molecule 37 is POTASSIUM ION (CCD ID: K) (formula: K).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
37	0	2	Total	K	0	0
			2	2		

- Molecule 38 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
38	A	112	Total 112	O 112	0	0
38	B	149	Total 149	O 149	0	0
38	C	185	Total 185	O 185	0	0
38	D	49	Total 49	O 49	0	0
38	E	45	Total 45	O 45	0	0
38	F	26	Total 26	O 26	0	0
38	G	17	Total 17	O 17	0	0
38	H	67	Total 67	O 67	0	0
38	I	8	Total 8	O 8	0	0
38	J	51	Total 51	O 51	0	0
38	K	51	Total 51	O 51	0	0
38	L	89	Total 89	O 89	0	0
38	M	133	Total 133	O 133	0	0
38	N	61	Total 61	O 61	0	0
38	O	39	Total 39	O 39	0	0
38	P	62	Total 62	O 62	0	0
38	Q	45	Total 45	O 45	0	0
38	R	81	Total 81	O 81	0	0
38	S	32	Total 32	O 32	0	0
38	T	35	Total 35	O 35	0	0
38	U	29	Total 29	O 29	0	0

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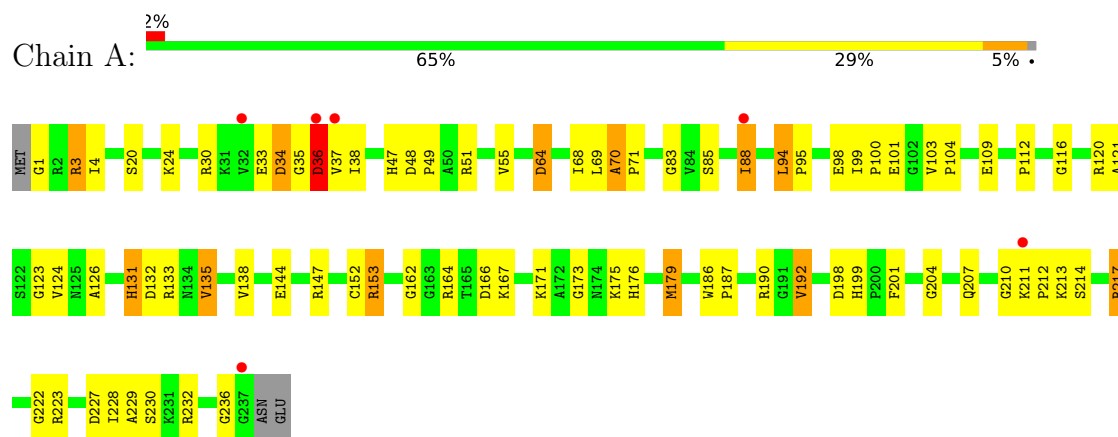
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
38	V	15	Total 15	O 15	0	0
38	W	67	Total 67	O 67	0	0
38	X	26	Total 26	O 26	0	0
38	Y	98	Total 98	O 98	0	0
38	Z	32	Total 32	O 32	0	0
38	1	54	Total 54	O 54	0	0
38	2	44	Total 44	O 44	0	0
38	3	69	Total 69	O 69	0	0
38	0	5910	Total 5910	O 5910	0	0
38	9	142	Total 142	O 142	0	0

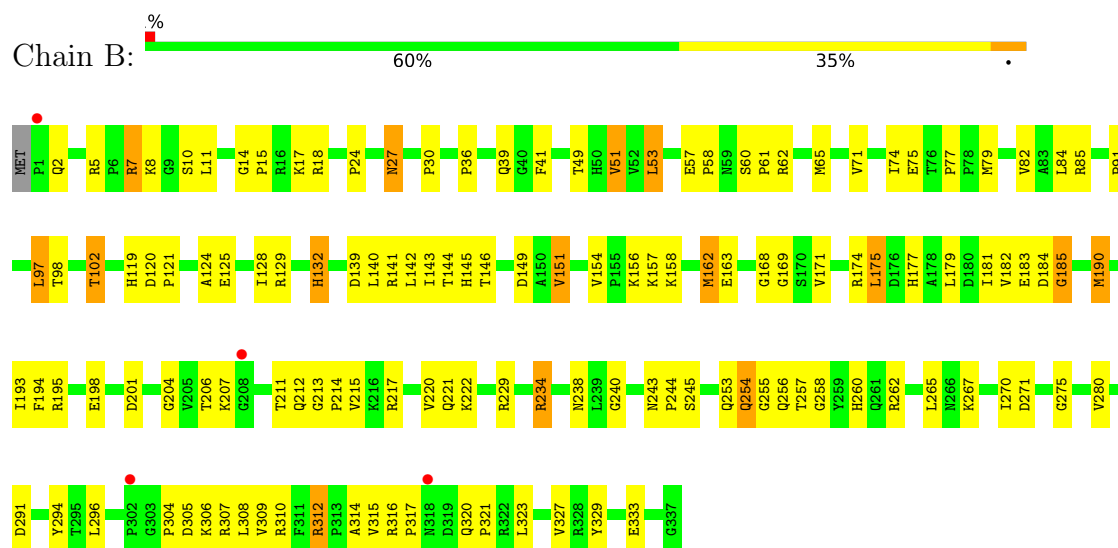
3 Residue-property plots

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron 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 dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). 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.

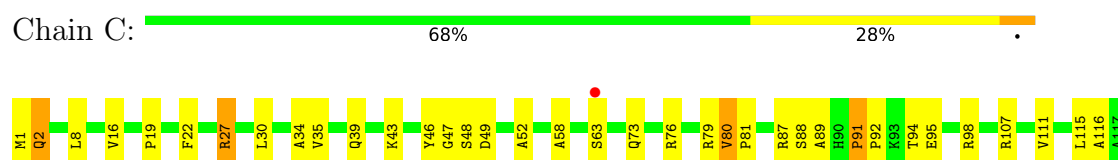
• Molecule 1: 50S ribosomal protein L2P

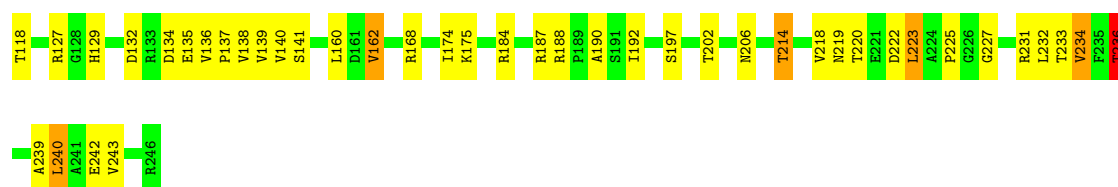


• Molecule 2: 50S ribosomal protein L3P

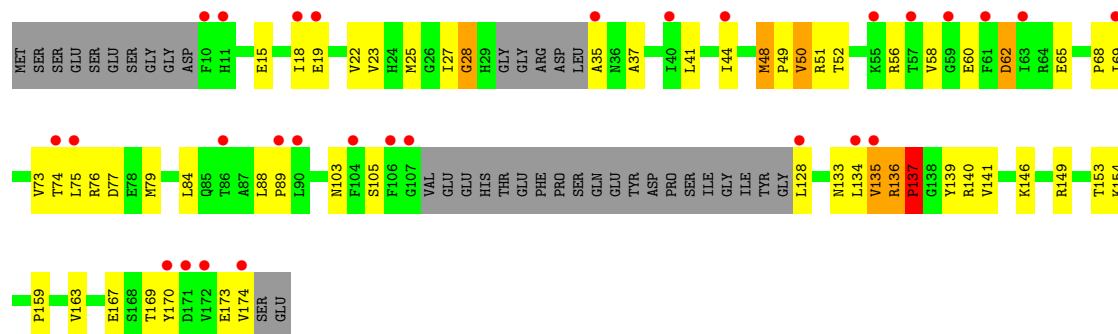


• Molecule 3: 50S ribosomal protein L4P

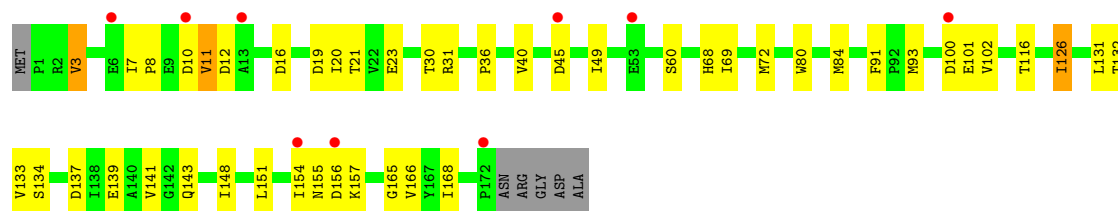




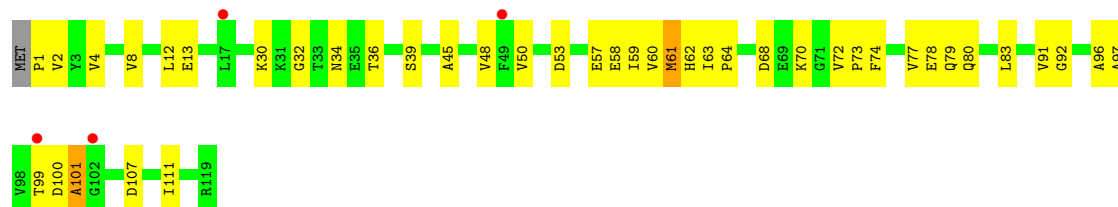
• Molecule 4: 50S ribosomal protein L5P



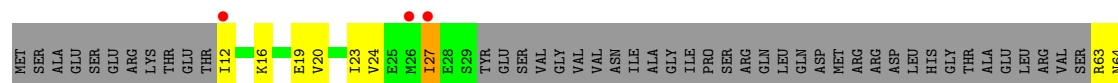
• Molecule 5: 50S ribosomal protein L6P

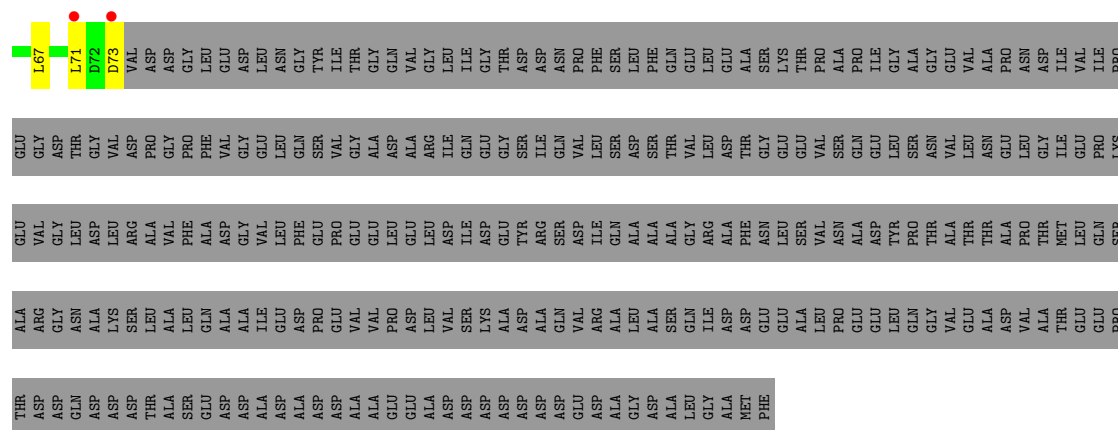


• Molecule 6: 50S ribosomal protein L7Ae

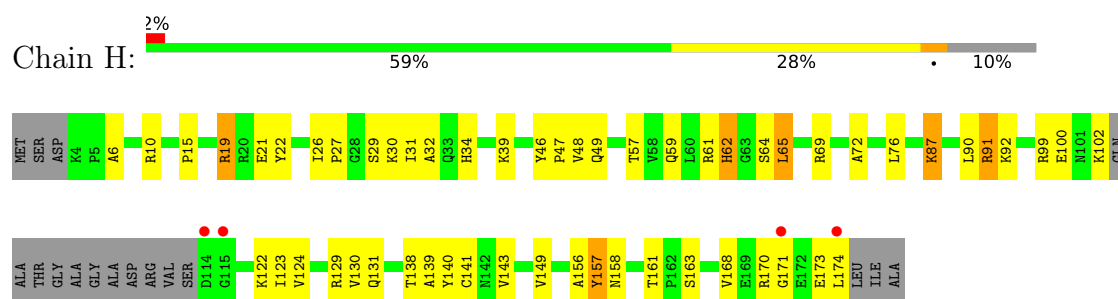


• Molecule 7: 50S ribosomal protein L10E

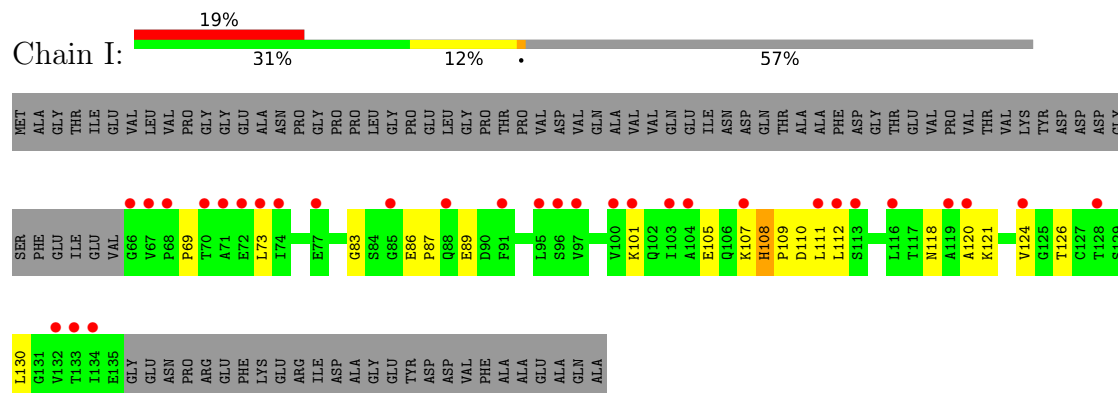




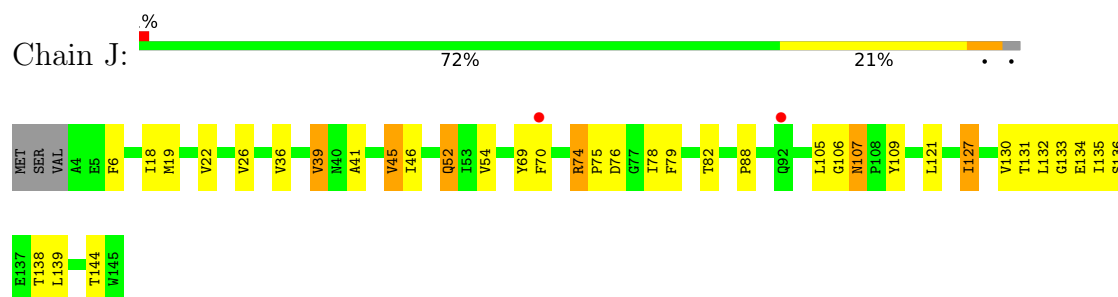
• Molecule 8: 50S ribosomal protein L10e



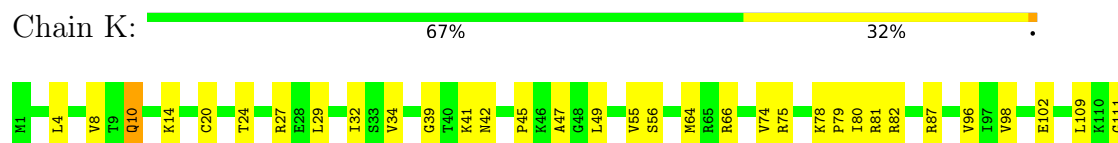
• Molecule 9: 50S ribosomal protein L11P



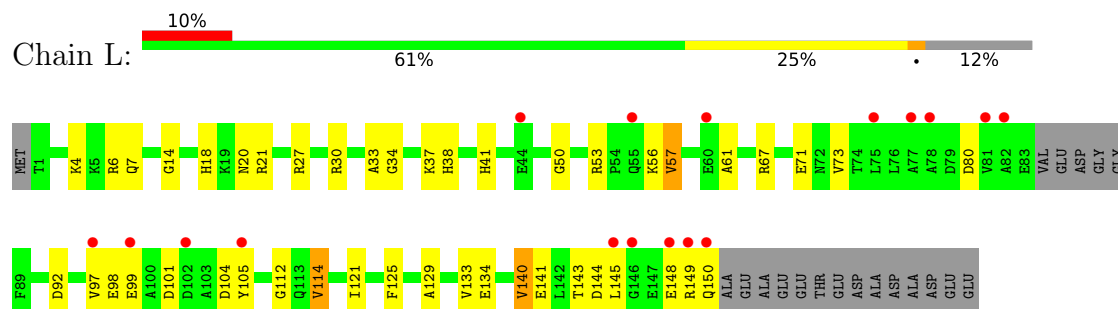
• Molecule 10: 50S ribosomal protein L13P



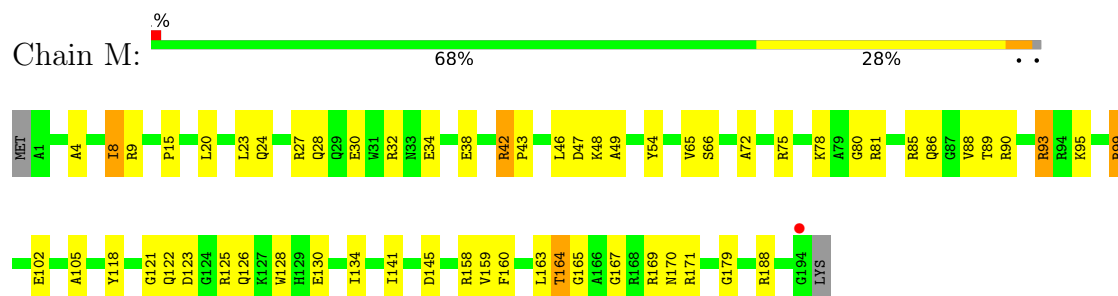
• Molecule 11: 50S ribosomal protein L14P



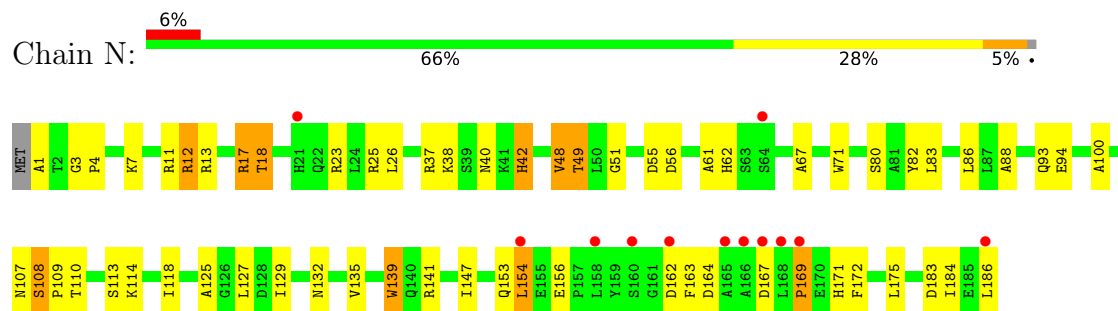
- Molecule 12: 50S ribosomal protein L15P



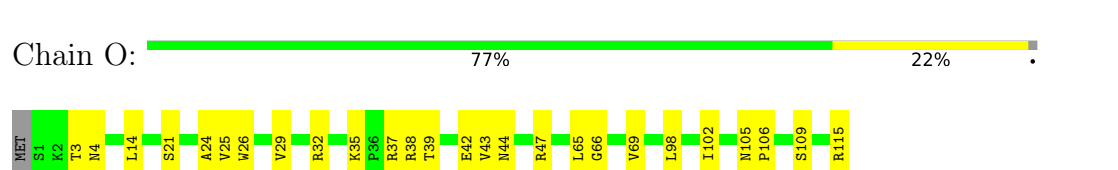
- Molecule 13: 50S ribosomal protein L15e



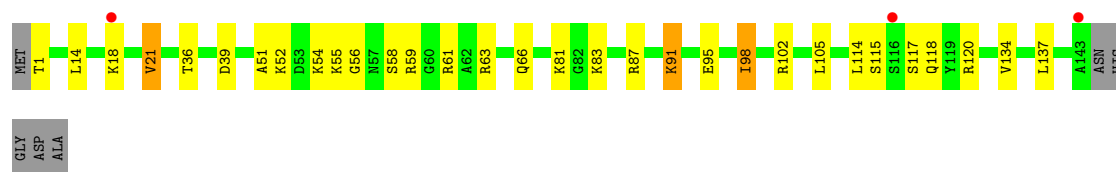
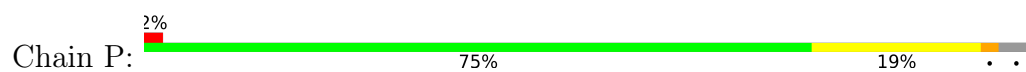
- Molecule 14: 50S ribosomal protein L18P



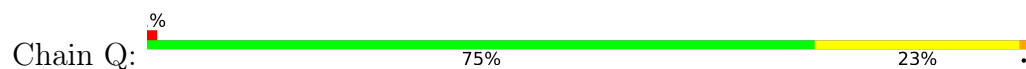
- Molecule 15: 50S ribosomal protein L18e



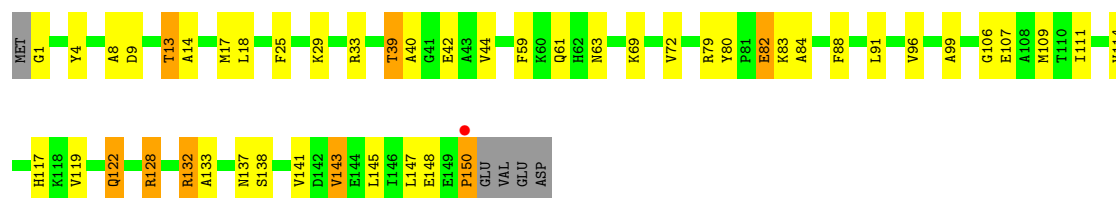
- Molecule 16: 50S ribosomal protein L19e



- Molecule 17: 50S ribosomal protein L21e



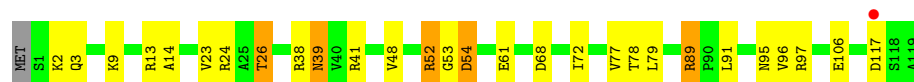
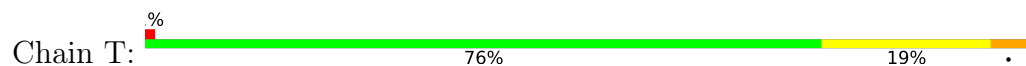
- Molecule 18: 50S ribosomal protein L22P



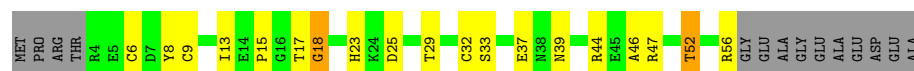
- Molecule 19: 50S ribosomal protein L23P



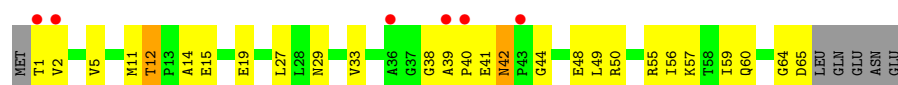
- Molecule 20: 50S ribosomal protein L24P



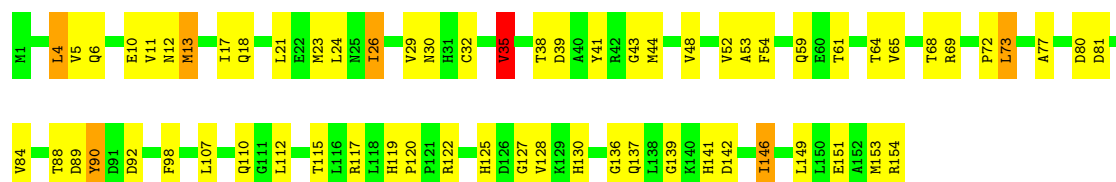
- Molecule 21: 50S ribosomal protein L24e



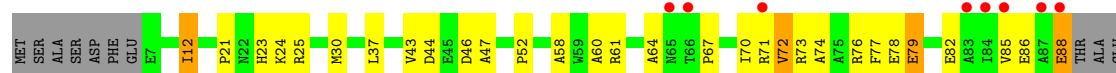
- Molecule 22: 50S ribosomal protein L29P



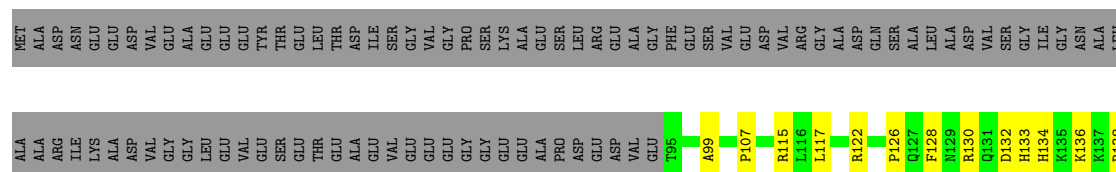
• Molecule 23: 50S ribosomal protein L30P



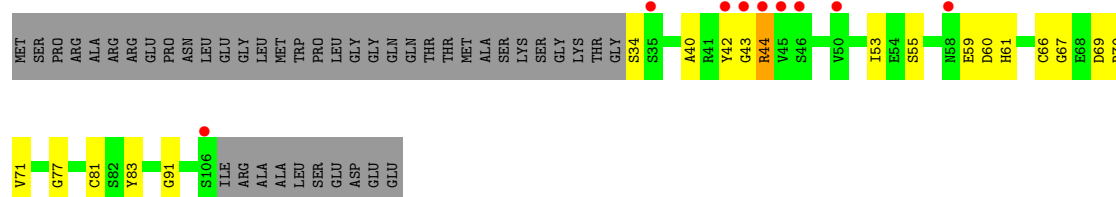
• Molecule 24: 50S ribosomal protein L31e



• Molecule 25: 50S ribosomal protein L32e

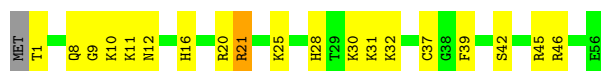


• Molecule 26: 50S ribosomal protein L37Ae

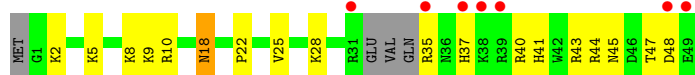


• Molecule 27: 50S ribosomal protein L37e

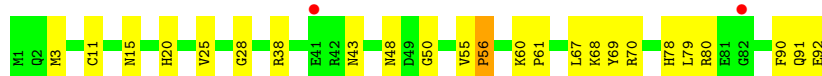
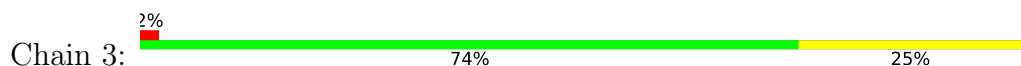




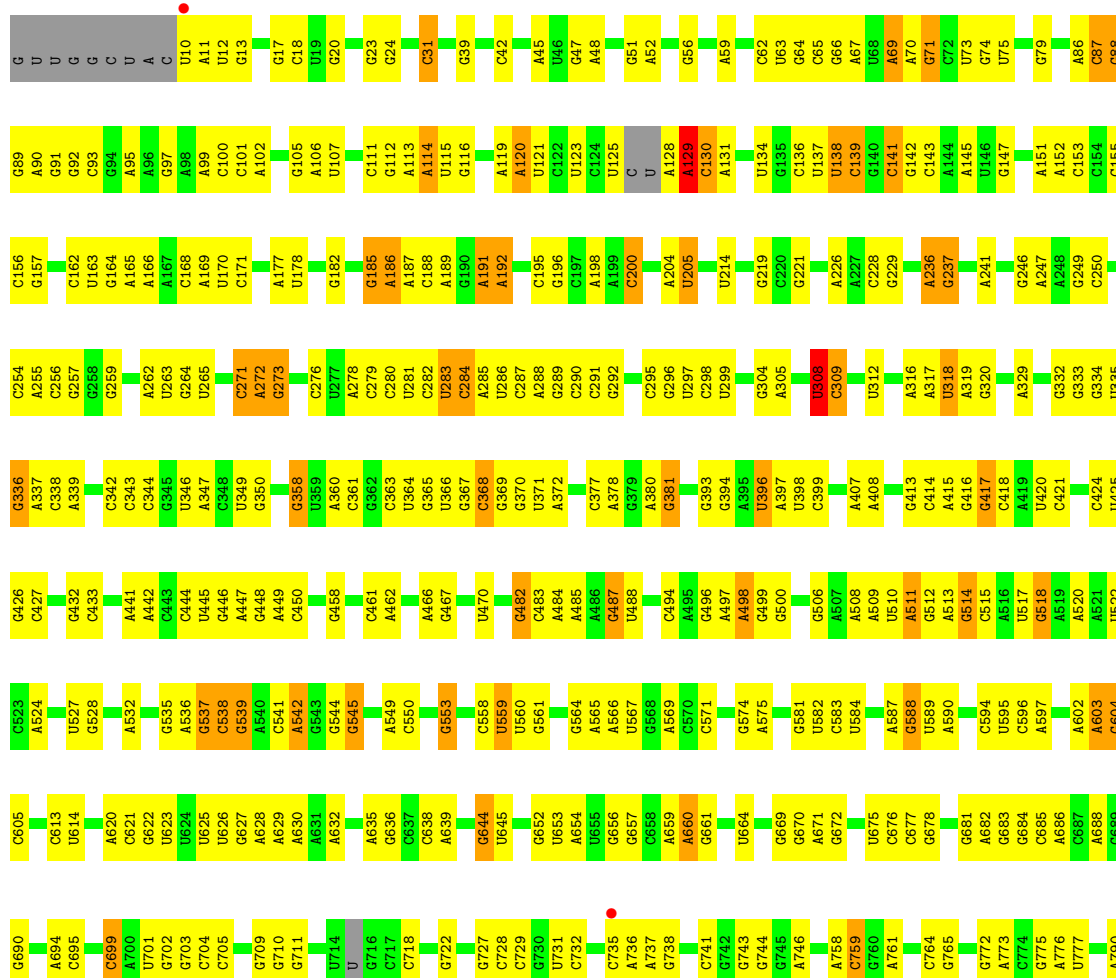
- Molecule 28: 50S ribosomal protein L39e



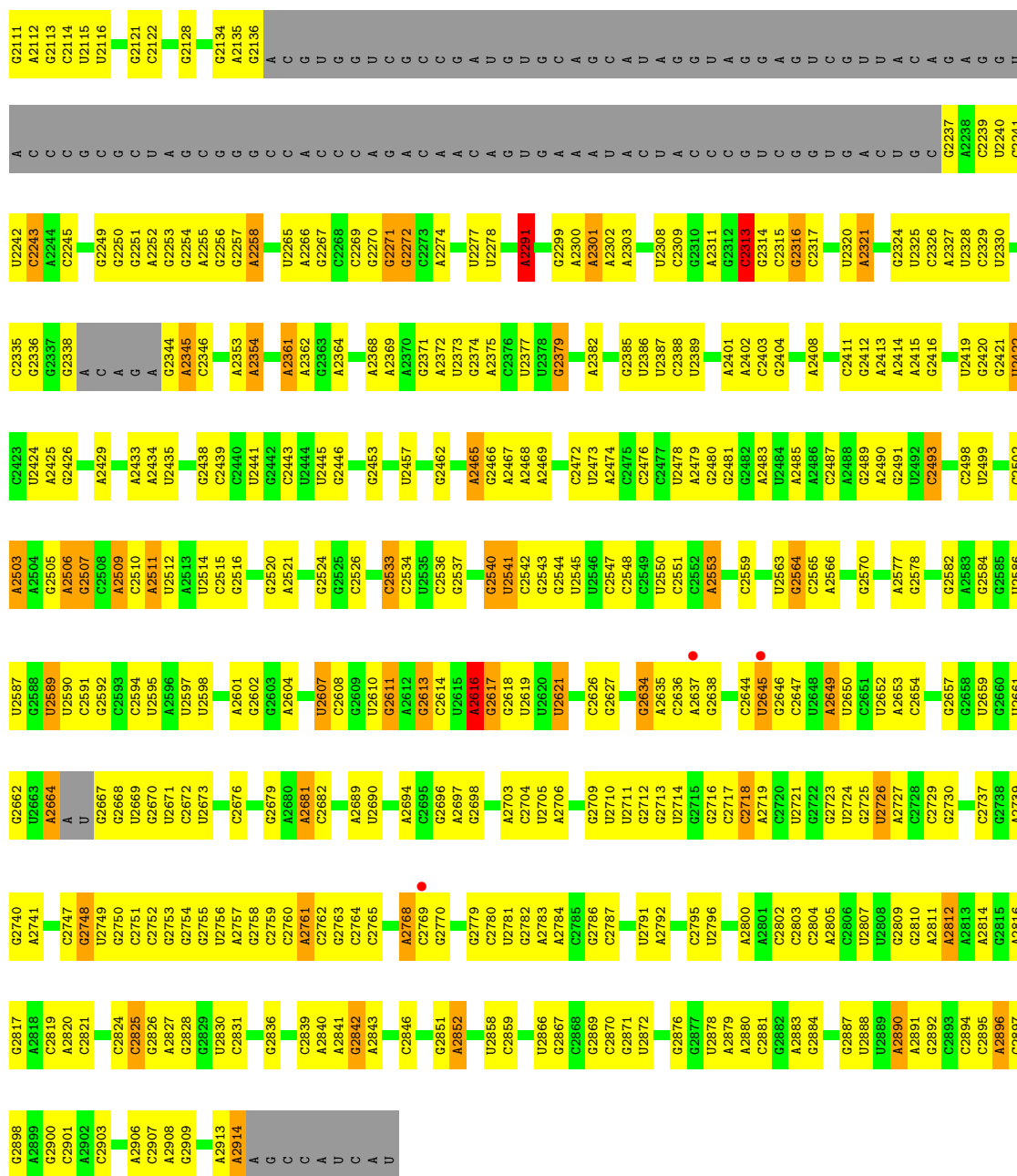
- Molecule 29: 50S ribosomal protein L44E



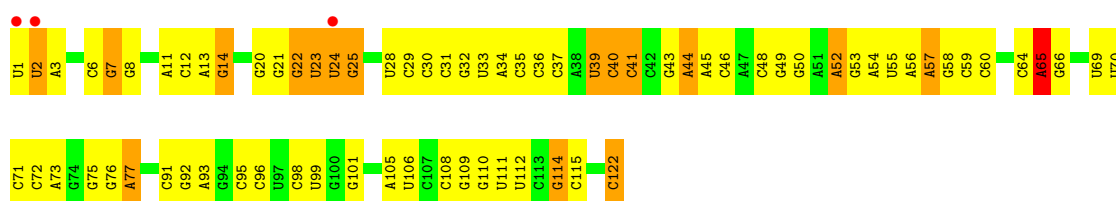
- Molecule 30: 23S RIBOSOMAL RNA



U2008	G1926	A1938	A1742	A1641	C1553	A1471	G1385	G1295	C1213	G1143	U1056	C	A875	A791
G2009	G1926	A1839	G1743	A1642	C1559	C1472	G1386	U1298	G1214	U1149	A1057	C	A876	G792
A2010	A1927	A1840	G1752	G1649	U	C1473	G1387	G1299	A1215	A1150	A1058	G	G877	A793
G2011		C1841		C1650	C1562	G1475	G1391	G1300	G1216	G1151	G1059	C	G878	U794
U2012	A1930	A1845	A1755	U1654	C1565	G1476	A1392	U1304	U1218	A1152	U1066	U	A882	G795
G2013	A1931	U1846	G1756	U1655	C1566	C1477	A1393	U1305	U1219	G1153	A1067	C	A883	A797
A2022	C1940			G1656	G1567	U1478	C1394	U1306	U1220	G1154		C	G884	
A1941	A1941	G1849	G1760	A1656	C1568		C1395	U1307	U1221	G1155	A1067	G	G885	C803
A2030	C1942	U1850	U1761	G1657	G1567	A1482	C1396	A1307	G1224	U1158	G1072	A	A895	C804
G2031	A1943	G1851	C1762	G1658	C1567	C1483	C1397	A1308	C1225	G1159	G1073	G	A896	G805
U2032	U2032	A1852	C1763	G1659	U1569	G1484	G1398	U1309		G1160	G1074	A	A897	A806
G2033	C1853	C1853		A1667	U1569	A1485	A1399	U1310		G1161	G1075	G	A897	A807
U2034	G1947	U1854	U1766	U1663	C1574	A1486	C1400	G1311	C1229	A1161	G1076	G	G898	A808
G1948	G1948	G1855	A1767	U1669	C1575		G1401	G1312	A1230	G1162	G1077	A	G899	A809
A2039		C1856	C1768	A1670	G1576	A1494	A1406	A1313	U1234	G1163	G1078	G		G810
G2044	G1951	A1857	U1769	U1577	U1577	C1495	A1407	G1314	U1234	U1164	A1079	U	G902	A811
G2050		U1770	U1771	U1677	U1583	A1496	A1408	G1315	U1237	A1165	C1080	C	C905	A812
A2054	A	A1778	C1772	C1679	C1584	G1497	G1409	G1316	U1238	A1166	A1081	G	A912	G813
U2063	C	A1779	G1774	C1679	C1585		G1415		G1239	C1168	C1084	C	A912	G814
U2064	U	G1773		A1682	C1585	A1501	G1416	A1321	C1238	U1169	G1087	A	C920	U815
A2067	C	G1774		A1683	C1586	A1502	G1417	G1322	A1242	U1170	A1088	C	G921	G816
G2069	U	G1775		A1684	C1587	A1503	G1418	G1323	C1243	A1171		A	A923	U821
G2070	G	G1776		A1685	C1588	U1504	U1419	A1326	C1244	G1172	A1098	C	A926	G822
G2071	A	G1777		C1686	G1589	U1505	U1419	A1327	C1245	A1173	G1100	U	A926	U823
G2072	C	G1778		C1687	G1592	U1511	U1422		A1246	A1174	G1101	U	G935	A827
A2074	C	G1779		C1687	G1592	G1512	C1423	C1332	U1249	G1175	A1097	C	G935	
G2075	C	G1780		C1687	G1592	G1512	C1424	C1333	C1250	U1180	A1098	C	G935	
G2076	C	G1781		C1687	G1592	G1512	C1425	C1334	C1251	A1181	A1099	C	G935	
G2077	C	G1782		C1687	G1592	G1512	C1426	C1335	A1252	C1182	A1007	C	G935	
G2078	C	G1783		C1687	G1592	G1512	C1427	C1336	C1253	C1183	A1008	C	G935	
G2079	C	G1784		C1687	G1592	G1512	C1428	C1337	A1259	C1184	A1009	C	G935	
G2080	C	G1785		C1687	G1592	G1512	C1429	C1338	G1260	U1185	U942	C	G935	
G2081	C	G1786		C1687	G1592	G1512	C1430	C1339	G1261	C1186	U943	C	G935	
G2082	C	G1787		C1687	G1592	G1512	C1431	C1340	U1266	U1187	A944	C	G935	
A2083	C	G1788		C1687	G1592	G1512	C1432	C1341	C1267	U1188	G944	C	G935	
C2088	C	G1789		C1687	G1592	G1512	C1433	C1342	U1268	C1189	U945	C	G935	
A2089	C	G1790		C1687	G1592	G1512	C1434	C1343	G1269	U1190	U946	C	G935	
G2090	C	G1791		C1687	G1592	G1512	C1435	C1344	U1270	A1191	U947	C	G935	
G2091	C	G1792		C1687	G1592	G1512	C1436	C1345	G1271	A1192	U948	C	G935	
G2092	C	G1793		C1687	G1592	G1512	C1437	C1346	C1272	A1193	U949	C	G935	
G2093	C	G1794		C1687	G1592	G1512	C1438	C1347	U1273	A1194	U950	C	G935	
G2094	C	G1795		C1687	G1592	G1512	C1439	C1348	A1274	U1195	A951	C	G935	
A2095	C	G1796		C1687	G1592	G1512	C1440	C1349	C1275	U1196	G952	C	G935	
A2096	C	G1797		C1687	G1592	G1512	C1441	C1350	U1276	U1197	G953	C	G935	
A2100	C	G1798		C1687	G1592	G1512	C1442	C1351	G1277	U1198	G954	C	G935	
A2101	C	G1799		C1687	G1592	G1512	C1443	C1352	U1278	U1199	G955	C	G935	
G2102	C	G1800		C1687	G1592	G1512	C1444	C1353	A1279	A1200	U1028	C	G935	
A2103	C	G1801		C1687	G1592	G1512	C1445	C1354	U1280	C1201	U1029	C	G935	
G2104	C	G1802		C1687	G1592	G1512	C1446	C1355	C1281	A1202	U1030	C	G935	
C2105	C	G1803		C1687	G1592	G1512	C1447	C1356	U1282	G1203	G1131	C	G935	
C2106	C	G1804		C1687	G1592	G1512	C1448	C1357	C1283	U1204	A1132	C	G935	
G2110	C	G1805		C1687	G1592	G1512	C1449	C1358	U1284	U1205	G1135	C	G935	
		G1806		C1687	G1592	G1512	C1450	C1359	A1286	U1206	G1136	C	G935	
		G1807		C1687	G1592	G1512	C1451	C1360	U1287	A1207	U1137	C	G935	
		G1808		C1687	G1592	G1512	C1452	C1361	U1288	C1208	G1138	C	G935	
		G1809		C1687	G1592	G1512	C1453	C1362	G1290	C1209	U1139	C	G935	
		G1810		C1687	G1592	G1512	C1454	C1363	A1291	G1210	G1140	C	G935	
		G1811		C1687	G1592	G1512	C1455	C1364	U1292	G1211		C	G935	
		G1812		C1687	G1592	G1512	C1456	C1365	A1293	G1212		C	G935	
		G1813		C1687	G1592	G1512	C1457	C1366	U1294			C	G935	
		G1814		C1687	G1592	G1512	C1458	C1367				C	G935	
		G1815		C1687	G1592	G1512	C1459	C1368				C	G935	
		G1816		C1687	G1592	G1512	C1460	C1369				C	G935	
		G1817		C1687	G1592	G1512	C1461	C1370				C	G935	
		G1818		C1687	G1592	G1512	C1462	C1371				C	G935	
		G1819		C1687	G1592	G1512	C1463	C1372				C	G935	
		G1820		C1687	G1592	G1512	C1464	C1373				C	G935	
		G1821		C1687	G1592	G1512	C1465	C1374				C	G935	
		G1822		C1687	G1592	G1512	C1466	C1375				C	G935	
		G1823		C1687	G1592	G1512	C1467	C1376				C	G935	
		G1824		C1687	G1592	G1512	C1468	C1377				C	G935	
		G1825		C1687	G1592	G1512	C1469	C1378				C	G935	
		G1826		C1687	G1592	G1512	C1470	C1379				C	G935	
		G1827		C1687	G1592	G1512	C1471	C1380				C	G935	
		G1828		C1687	G1592	G1512	C1472	C1381				C	G935	
		G1829		C1687	G1592	G1512	C1473	C1382				C	G935	
		G1830		C1687	G1592	G1512	C1474	C1383				C	G935	
		G1831		C1687	G1592	G1512	C1475	C1384				C	G935	
		G1832		C1687	G1592	G1512	C1476	C1385				C	G935	
		G1833		C1687	G1592	G1512	C1477	C1386				C	G935	
		G1834		C1687	G1592	G1512	C1478	C1387				C	G935	
		G1835		C1687	G1592	G1512	C1479	C1388				C	G935	
		G1836		C1687	G1592	G1512	C1480	C1389				C	G935	
		G1837		C1687	G1592	G1512	C1481	C1390				C	G935	
		G1838		C1687	G1592	G1512	C1482	C1391				C	G935	
		G1839		C1687	G1592	G1512	C1483	C1392				C	G935	
		G1840		C1687	G1592	G1512	C1484	C1393				C	G935	
		G1841		C1687	G1592	G1512	C1485	C1394				C	G935	
		G1842		C1687	G1592	G1512	C1486	C1395				C	G935	
		G1843		C1687	G1592	G1512	C1487	C1396				C	G935	
		G1844		C1687	G1592	G1512	C1488	C1397				C	G935	
		G1845		C1687	G1592	G1512	C1489	C1398				C	G935	
		G1846		C1687	G1592	G1512	C1490	C1399				C	G935	
		G1847		C1687	G1592	G1512	C1491	C1400				C	G935	
		G1848		C1687	G1592	G1512	C1492	C1401				C	G935	
		G1849		C1687	G1592	G1512	C1493	C1402				C	G935	
		G1850		C1687	G1592	G1512	C1494	C1403				C	G935	
		G1851		C1687	G1592	G1512	C1495	C1404				C	G935	
		G1852		C1687	G1592	G1512	C1496	C1405				C	G935	
		G1853		C1687	G1592	G1512	C1497	C1406				C	G935	
		G1854		C1687	G1592	G1512	C1498	C1407				C	G935	
		G1855		C1687	G1592	G1512	C1499	C1408				C	G935	
		G1856		C1687	G1592	G1512	C1500	C1409				C	G935	
		G1857		C1687	G1592	G1512	C1501	C1410				C	G935	
		G1858		C1687	G1592	G1512	C1502	C1411				C	G935	
		G1859		C1687	G1592	G1512	C1503	C1412				C	G935	
		G1860		C1687	G1592	G1512	C1504	C1413				C	G935	
		G1861		C1687	G1592	G1512	C1505	C1414				C	G935	
		G1862		C1687	G1592	G1512	C1506	C1415				C	G935	
		G												



• Molecule 31: 5S RIBOSOMAL RNA



4 Data and refinement statistics

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α , β , γ	211.75Å 299.01Å 574.48Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.99 – 2.90 49.99 – 2.90	Depositor EDS
% Data completeness (in resolution range)	93.5 (49.99-2.90) 92.1 (49.99-2.90)	Depositor EDS
R_{merge}	0.14	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	0.00 (at 2.40Å)	Xtriage
Refinement program	CNS	Depositor
R, R_{free}	0.175 , 0.225 0.171 , 0.217	Depositor DCC
R_{free} test set	6547 reflections (0.98%)	wwPDB-VP
Wilson B-factor (Å ²)	47.7	Xtriage
Anisotropy	0.289	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 73.0	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	99121	wwPDB-VP
Average B, all atoms (Å ²)	53.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.43% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: OMU, SR, NA, PSU, MG, CL, OMG, UR3, K, CD, 1MA

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	0.43	0/1786	1.01	9/2408 (0.4%)
2	B	0.41	0/2690	1.03	17/3652 (0.5%)
3	C	0.46	0/1885	0.99	8/2552 (0.3%)
4	D	0.41	0/1111	0.98	8/1498 (0.5%)
5	E	0.40	0/1382	0.88	1/1880 (0.1%)
6	F	0.40	0/901	0.95	4/1224 (0.3%)
7	G	0.37	0/241	0.89	1/324 (0.3%)
8	H	0.40	0/1302	0.97	4/1743 (0.2%)
9	I	0.38	0/526	0.91	0/716
10	J	0.42	0/1136	0.96	2/1530 (0.1%)
11	K	0.42	0/1004	0.99	2/1351 (0.1%)
12	L	0.38	0/1130	0.96	5/1509 (0.3%)
13	M	0.43	0/1582	0.92	6/2116 (0.3%)
14	N	0.38	0/1474	1.08	12/1999 (0.6%)
15	O	0.44	0/874	0.95	5/1181 (0.4%)
16	P	0.39	0/1147	0.83	0/1528
17	Q	0.42	0/749	1.04	5/1005 (0.5%)
18	R	1.29	7/1172 (0.6%)	1.39	9/1578 (0.6%)
19	S	0.38	0/648	0.88	2/875 (0.2%)
20	T	0.40	0/958	1.02	8/1289 (0.6%)
21	U	0.40	0/417	0.84	1/562 (0.2%)
22	V	0.41	0/502	0.96	2/675 (0.3%)
23	W	0.48	0/1219	0.99	3/1655 (0.2%)
24	X	0.44	0/664	1.01	4/895 (0.4%)
25	Y	0.44	0/1146	0.93	1/1536 (0.1%)
26	Z	0.39	0/584	0.97	1/781 (0.1%)
27	1	0.44	0/438	0.89	1/578 (0.2%)
28	2	0.40	0/401	0.79	0/529
29	3	0.38	0/771	0.84	4/1024 (0.4%)
30	0	0.38	0/65956	0.60	17/102865 (0.0%)
31	9	0.37	0/2904	0.58	2/4526 (0.0%)
All	All	0.41	7/98700 (0.0%)	0.73	144/147584 (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
18	R	1	0
23	W	0	1
30	0	0	29
All	All	1	30

The worst 5 of 7 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
18	R	150	PRO	CB-CG	27.50	2.87	1.49
18	R	150	PRO	CA-C	-17.28	1.16	1.52
18	R	150	PRO	CG-CD	13.49	1.96	1.50
18	R	150	PRO	N-CA	13.02	1.66	1.47
18	R	150	PRO	C-O	11.74	1.47	1.23

The worst 5 of 144 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
18	R	150	PRO	CB-CA-C	-28.63	55.71	110.10
18	R	150	PRO	N-CA-C	-20.10	61.85	112.10
18	R	150	PRO	N-CA-CB	12.27	116.50	103.00
18	R	150	PRO	CA-N-CD	12.05	128.87	112.00
14	N	163	PHE	N-CA-C	-11.78	98.71	113.55

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
18	R	150	PRO	CA

5 of 30 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
30	0	205	U	Sidechain
30	0	221	G	Sidechain
30	0	246	G	Sidechain
30	0	48	A	Sidechain
23	W	90	TYR	Sidechain

5.2 Too-close contacts

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	1753	0	1766	74	0
2	B	2625	0	2532	111	0
3	C	1860	0	1813	56	0
4	D	1094	0	1085	39	0
5	E	1357	0	1266	37	0
6	F	890	0	843	29	0
7	G	240	0	231	9	0
8	H	1282	0	1292	40	0
9	I	519	0	500	21	0
10	J	1120	0	1098	42	0
11	K	994	0	1027	41	0
12	L	1118	0	1076	38	0
13	M	1558	0	1573	52	0
14	N	1445	0	1401	54	0
15	O	865	0	873	23	0
16	P	1136	0	1123	25	0
17	Q	735	0	729	18	0
18	R	1149	0	1122	43	0
19	S	641	0	605	13	0
20	T	950	0	924	22	0
21	U	410	0	364	17	0
22	V	499	0	511	21	0
23	W	1196	0	1137	70	0
24	X	654	0	653	23	0
25	Y	1130	0	1133	40	0
26	Z	573	0	531	15	0
27	1	431	0	426	25	0
28	2	396	0	413	17	0
29	3	755	0	728	15	0
30	0	59019	0	29809	1377	0
31	9	2599	0	1325	96	0
32	0	87	0	0	0	0
32	9	1	0	0	0	0
32	A	1	0	0	0	0
32	B	1	0	0	0	0
32	K	1	0	0	0	0
32	T	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
32	Y	1	0	0	0	0
33	0	10	0	0	1	0
33	3	1	0	0	0	0
33	A	1	0	0	0	0
33	B	1	0	0	0	0
33	J	3	0	0	2	0
33	L	1	0	0	0	0
33	M	1	0	0	0	0
33	N	1	0	0	0	0
33	O	1	0	0	0	0
33	R	1	0	0	0	0
33	Y	1	0	0	0	0
34	0	94	0	0	0	0
34	1	2	0	0	0	0
34	3	1	0	0	0	0
34	9	2	0	0	0	0
34	A	3	0	0	0	0
34	B	2	0	0	0	0
34	F	1	0	0	0	0
34	R	1	0	0	0	0
34	S	1	0	0	0	0
34	Y	1	0	0	0	0
35	0	67	0	0	0	0
35	9	2	0	0	0	0
35	C	1	0	0	0	0
35	J	1	0	0	0	0
35	M	1	0	0	0	0
35	Q	1	0	0	0	0
35	R	1	0	0	0	0
35	S	1	0	0	0	0
36	1	1	0	0	0	0
36	3	1	0	0	0	0
36	O	1	0	0	0	0
36	U	1	0	0	0	0
36	Z	1	0	0	0	0
37	0	2	0	0	0	0
38	0	5910	0	0	205	0
38	1	54	0	0	6	0
38	2	44	0	0	1	0
38	3	69	0	0	2	0
38	9	142	0	0	10	0
38	A	112	0	0	7	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
38	B	149	0	0	12	0
38	C	185	0	0	17	0
38	D	49	0	0	4	0
38	E	45	0	0	4	0
38	F	26	0	0	3	0
38	G	17	0	0	0	0
38	H	67	0	0	4	0
38	I	8	0	0	1	0
38	J	51	0	0	2	0
38	K	51	0	0	2	0
38	L	89	0	0	8	0
38	M	133	0	0	4	0
38	N	61	0	0	7	0
38	O	39	0	0	3	0
38	P	62	0	0	1	0
38	Q	45	0	0	2	0
38	R	81	0	0	4	0
38	S	32	0	0	3	0
38	T	35	0	0	3	0
38	U	29	0	0	2	0
38	V	15	0	0	2	0
38	W	67	0	0	6	0
38	X	26	0	0	4	0
38	Y	98	0	0	5	0
38	Z	32	0	0	1	0
All	All	99121	0	59909	2259	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 15.

The worst 5 of 2259 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)
18:R:150:PRO:CG	18:R:150:PRO:CD	1.96	1.43
30:0:1160:G:C5'	30:0:1161:A:H5'	1.74	1.18
30:0:871:G:C8	30:0:871:G:H5'	1.80	1.15
30:0:1160:G:H5'	30:0:1161:A:C5'	1.74	1.15
18:R:150:PRO:CG	18:R:150:PRO:C	2.22	1.12

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

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	235/240 (98%)	212 (90%)	19 (8%)	4 (2%)	7	26
2	B	335/338 (99%)	308 (92%)	24 (7%)	3 (1%)	14	41
3	C	244/246 (99%)	228 (93%)	15 (6%)	1 (0%)	30	59
4	D	134/177 (76%)	112 (84%)	18 (13%)	4 (3%)	3	14
5	E	170/178 (96%)	162 (95%)	8 (5%)	0	100	100
6	F	117/120 (98%)	106 (91%)	8 (7%)	3 (3%)	4	17
7	G	25/348 (7%)	24 (96%)	1 (4%)	0	100	100
8	H	156/177 (88%)	144 (92%)	10 (6%)	2 (1%)	9	32
9	I	68/162 (42%)	55 (81%)	11 (16%)	2 (3%)	3	15
10	J	140/145 (97%)	131 (94%)	9 (6%)	0	100	100
11	K	130/132 (98%)	123 (95%)	6 (5%)	1 (1%)	16	44
12	L	141/165 (86%)	126 (89%)	12 (8%)	3 (2%)	5	21
13	M	192/196 (98%)	185 (96%)	6 (3%)	1 (0%)	24	54
14	N	184/187 (98%)	169 (92%)	11 (6%)	4 (2%)	5	20
15	O	113/116 (97%)	109 (96%)	4 (4%)	0	100	100
16	P	141/149 (95%)	138 (98%)	3 (2%)	0	100	100
17	Q	93/96 (97%)	87 (94%)	6 (6%)	0	100	100
18	R	148/155 (96%)	140 (95%)	8 (5%)	0	100	100
19	S	79/85 (93%)	76 (96%)	3 (4%)	0	100	100
20	T	117/120 (98%)	111 (95%)	6 (5%)	0	100	100
21	U	51/67 (76%)	46 (90%)	5 (10%)	0	100	100
22	V	63/71 (89%)	59 (94%)	4 (6%)	0	100	100
23	W	152/154 (99%)	146 (96%)	6 (4%)	0	100	100
24	X	80/92 (87%)	74 (92%)	5 (6%)	1 (1%)	9	32
25	Y	140/241 (58%)	138 (99%)	2 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
26	Z	71/116 (61%)	63 (89%)	7 (10%)	1 (1%)	9	30
27	1	54/57 (95%)	51 (94%)	3 (6%)	0	100	100
28	2	42/50 (84%)	41 (98%)	1 (2%)	0	100	100
29	3	90/92 (98%)	87 (97%)	2 (2%)	1 (1%)	11	36
All	All	3705/4472 (83%)	3451 (93%)	223 (6%)	31 (1%)	16	44

5 of 31 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	37	VAL
4	D	137	PRO
6	F	101	ALA
14	N	154	LEU
14	N	183	ASP

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

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	179/182 (98%)	167 (93%)	12 (7%)	15	43
2	B	282/283 (100%)	266 (94%)	16 (6%)	18	49
3	C	193/193 (100%)	177 (92%)	16 (8%)	10	32
4	D	117/148 (79%)	110 (94%)	7 (6%)	17	47
5	E	152/156 (97%)	145 (95%)	7 (5%)	24	57
6	F	93/94 (99%)	92 (99%)	1 (1%)	65	88
7	G	27/282 (10%)	26 (96%)	1 (4%)	30	64
8	H	134/145 (92%)	127 (95%)	7 (5%)	21	52
9	I	58/130 (45%)	58 (100%)	0	100	100
10	J	118/121 (98%)	112 (95%)	6 (5%)	21	53
11	K	106/106 (100%)	105 (99%)	1 (1%)	70	90
12	L	113/127 (89%)	108 (96%)	5 (4%)	25	59

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
13	M	158/160 (99%)	154 (98%)	4 (2%)	42	74
14	N	149/150 (99%)	144 (97%)	5 (3%)	32	66
15	O	93/94 (99%)	93 (100%)	0	100	100
16	P	113/117 (97%)	109 (96%)	4 (4%)	32	66
17	Q	79/80 (99%)	77 (98%)	2 (2%)	42	74
18	R	117/122 (96%)	111 (95%)	6 (5%)	21	53
19	S	71/74 (96%)	71 (100%)	0	100	100
20	T	105/106 (99%)	99 (94%)	6 (6%)	18	49
21	U	44/53 (83%)	43 (98%)	1 (2%)	44	76
22	V	51/57 (90%)	50 (98%)	1 (2%)	48	78
23	W	130/130 (100%)	122 (94%)	8 (6%)	16	46
24	X	66/74 (89%)	60 (91%)	6 (9%)	9	28
25	Y	120/196 (61%)	118 (98%)	2 (2%)	53	82
26	Z	60/94 (64%)	60 (100%)	0	100	100
27	1	46/47 (98%)	46 (100%)	0	100	100
28	2	42/46 (91%)	41 (98%)	1 (2%)	43	75
29	3	79/79 (100%)	78 (99%)	1 (1%)	61	86
All	All	3095/3646 (85%)	2969 (96%)	126 (4%)	27	61

5 of 126 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
5	E	156	ASP
23	W	26	ILE
10	J	74	ARG
23	W	13	MET
24	X	52	PRO

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 92 such sidechains are listed below:

Mol	Chain	Res	Type
19	S	53	ASN
24	X	23	HIS
19	S	56	ASN
23	W	27	HIS

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Mol	Chain	Res	Type
25	Y	134	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
30	0	2745/2923 (93%)	242 (8%)	25 (0%)
31	9	121/122 (99%)	17 (14%)	2 (1%)
All	All	2866/3045 (94%)	259 (9%)	27 (0%)

5 of 259 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
30	0	31	C
30	0	67	A
30	0	69	A
30	0	70	A
30	0	71	G

5 of 27 RNA pucker outliers are listed below:

Mol	Chain	Res	Type
30	0	1506	U
30	0	2313	C
30	0	2761	A
30	0	1730	G
30	0	2467	A

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

5 non-standard protein/DNA/RNA residues are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
30	PSU	0	2621	30	18,21,22	1.54	2 (11%)	21,30,33	1.45	3 (14%)
30	OMG	0	2588	30	23,26,27	0.32	0	32,38,41	0.39	0
30	OMU	0	2587	30,35	19,22,23	0.32	0	25,31,34	0.36	0
30	1MA	0	628	30,35	21,25,26	0.72	1 (4%)	30,37,40	0.75	1 (3%)
30	UR3	0	2619	30	19,22,23	0.46	0	26,32,35	0.67	1 (3%)

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
30	PSU	0	2621	30	-	0/7/25/26	0/2/2/2
30	OMG	0	2588	30	-	0/9/27/28	0/3/3/3
30	OMU	0	2587	30,35	-	0/9/27/28	0/2/2/2
30	1MA	0	628	30,35	-	2/7/25/26	0/3/3/3
30	UR3	0	2619	30	-	0/7/25/26	0/2/2/2

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
30	0	2621	PSU	C2-N1	4.98	1.43	1.36
30	0	2621	PSU	C6-C5	2.74	1.38	1.35
30	0	628	1MA	C6-N6	2.50	1.34	1.28

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
30	0	2621	PSU	C6-C5-C4	3.76	120.71	118.17
30	0	2621	PSU	C6-N1-C2	-3.22	119.70	122.69
30	0	2621	PSU	O2-C2-N1	3.12	126.00	122.79
30	0	628	1MA	N1-C2-N3	2.81	129.33	126.00
30	0	2619	UR3	C4-N3-C2	2.78	126.82	124.58

There are no chirality outliers.

All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
30	0	628	1MA	C2'-C1'-N9-C8
30	0	628	1MA	C2'-C1'-N9-C4

There are no ring outliers.

2 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
30	0	2621	PSU	1	0
30	0	2587	OMU	2	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 305 ligands modelled in this entry, 305 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	237/240 (98%)	-0.01	6 (2%) 58 48	25, 49, 89, 109	0
2	B	337/338 (99%)	0.13	4 (1%) 76 69	27, 54, 81, 92	0
3	C	246/246 (100%)	-0.17	1 (0%) 88 85	22, 42, 65, 77	0
4	D	140/177 (79%)	1.43	28 (20%) 3 2	65, 101, 125, 137	0
5	E	172/178 (96%)	0.33	9 (5%) 33 26	45, 70, 92, 97	0
6	F	119/120 (99%)	0.45	4 (3%) 48 39	48, 69, 99, 116	0
7	G	29/348 (8%)	1.16	5 (17%) 4 3	76, 95, 103, 106	0
8	H	160/177 (90%)	0.20	4 (2%) 58 48	41, 59, 97, 103	0
9	I	70/162 (43%)	2.07	31 (44%) 0 0	127, 146, 165, 166	0
10	J	142/145 (97%)	0.02	2 (1%) 73 65	38, 51, 72, 91	0
11	K	132/132 (100%)	-0.17	0 100 100	35, 50, 74, 84	0
12	L	145/165 (87%)	0.47	17 (11%) 9 8	25, 64, 110, 127	0
13	M	194/196 (98%)	-0.25	1 (0%) 87 83	28, 40, 57, 65	0
14	N	186/187 (99%)	0.60	12 (6%) 25 20	41, 66, 114, 123	0
15	O	115/116 (99%)	0.12	0 100 100	34, 53, 72, 76	0
16	P	143/149 (95%)	0.12	3 (2%) 63 54	37, 54, 69, 79	0
17	Q	95/96 (98%)	-0.04	1 (1%) 78 71	36, 46, 62, 76	0
18	R	150/155 (96%)	-0.30	1 (0%) 84 79	30, 44, 65, 81	0
19	S	81/85 (95%)	0.04	2 (2%) 58 48	41, 56, 78, 89	0
20	T	119/120 (99%)	0.17	1 (0%) 82 77	39, 54, 83, 110	0
21	U	53/67 (79%)	-0.02	0 100 100	42, 55, 75, 83	0
22	V	65/71 (91%)	0.45	6 (9%) 14 12	44, 70, 119, 125	0
23	W	154/154 (100%)	0.03	0 100 100	36, 50, 67, 80	0
24	X	82/92 (89%)	0.48	8 (9%) 13 11	43, 60, 86, 101	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
25	Y	142/241 (58%)	-0.18	1 (0%) 84 79	24, 42, 67, 88	0
26	Z	73/116 (62%)	0.90	9 (12%) 8 7	55, 77, 92, 98	0
27	1	56/57 (98%)	-0.67	0 100 100	25, 30, 37, 43	0
28	2	46/50 (92%)	0.66	7 (15%) 5 4	31, 61, 91, 101	0
29	3	92/92 (100%)	0.13	2 (2%) 62 53	36, 63, 77, 90	0
30	0	2749/2923 (94%)	-0.65	9 (0%) 90 87	19, 44, 88, 164	0
31	9	122/122 (100%)	-0.16	3 (2%) 58 48	37, 67, 89, 147	0
All	All	6646/7517 (88%)	-0.16	177 (2%) 56 47	19, 51, 100, 166	0

The worst 5 of 177 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
9	I	128	THR	6.6
4	D	10	PHE	5.7
26	Z	46	SER	5.6
9	I	74	ILE	5.4
22	V	40	PRO	5.3

6.2 Non-standard residues in protein, DNA, RNA chains ⓘ

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
30	UR3	0	2619	21/22	0.96	0.08	45,48,53,54	0
30	PSU	0	2621	20/21	0.97	0.07	26,30,50,51	0
30	OMG	0	2588	24/25	0.98	0.07	30,35,38,40	0
30	1MA	0	628	23/24	0.98	0.07	28,29,31,32	0
30	OMU	0	2587	21/22	0.98	0.06	32,36,38,39	0

6.3 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

6.4 Ligands

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
35	NA	0	8525	1/1	0.47	0.30	83,83,83,83	0
35	NA	0	8502	1/1	0.73	0.16	51,51,51,51	0
34	SR	0	9006	1/1	0.74	0.42	200,200,200,200	0
34	SR	9	9003	1/1	0.76	0.12	171,171,171,171	0
34	SR	0	9001	1/1	0.77	0.14	176,176,176,176	0
34	SR	0	8976	1/1	0.78	0.18	194,194,194,194	0
35	NA	0	8556	1/1	0.78	0.38	55,55,55,55	0
34	SR	0	8971	1/1	0.79	0.16	175,175,175,175	0
34	SR	0	8983	1/1	0.79	0.23	177,177,177,177	0
35	NA	0	8554	1/1	0.79	0.35	69,69,69,69	0
34	SR	0	8993	1/1	0.79	0.14	173,173,173,173	0
34	SR	0	8990	1/1	0.80	0.23	173,173,173,173	0
34	SR	0	8991	1/1	0.80	0.14	186,186,186,186	0
34	SR	0	9004	1/1	0.80	0.39	200,200,200,200	0
34	SR	Y	9002	1/1	0.81	0.19	188,188,188,188	0
34	SR	0	8919	1/1	0.81	0.17	178,178,178,178	0
34	SR	0	8979	1/1	0.82	0.18	198,198,198,198	0
34	SR	0	8955	1/1	0.82	0.22	198,198,198,198	0
35	NA	0	8522	1/1	0.82	0.19	67,67,67,67	0
35	NA	0	8561	1/1	0.82	0.44	77,77,77,77	0
34	SR	0	8997	1/1	0.83	0.29	194,194,194,194	0
32	MG	0	8063	1/1	0.84	0.27	90,90,90,90	0
32	MG	A	8051	1/1	0.84	0.12	60,60,60,60	0
35	NA	0	8514	1/1	0.84	0.14	48,48,48,48	0
35	NA	0	8557	1/1	0.84	0.17	57,57,57,57	0
32	MG	T	8057	1/1	0.84	0.24	66,66,66,66	0
35	NA	0	8564	1/1	0.84	0.14	70,70,70,70	0
35	NA	0	8571	1/1	0.84	0.15	61,61,61,61	0
34	SR	0	8922	1/1	0.85	0.17	155,155,155,155	0
35	NA	0	8518	1/1	0.85	0.39	82,82,82,82	0
34	SR	0	8988	1/1	0.86	0.09	162,162,162,162	0
34	SR	9	8980	1/1	0.86	0.11	158,158,158,158	0
32	MG	0	8078	1/1	0.87	0.29	76,76,76,76	0
34	SR	0	8938	1/1	0.87	0.12	165,165,165,165	0
35	NA	0	8548	1/1	0.87	0.14	42,42,42,42	0
35	NA	0	8574	1/1	0.87	0.32	52,52,52,52	0
37	K	0	8401	1/1	0.87	0.14	93,93,93,93	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
34	SR	0	8989	1/1	0.88	0.17	159,159,159,159	0
35	NA	0	8570	1/1	0.88	0.11	48,48,48,48	0
35	NA	0	8559	1/1	0.88	0.29	67,67,67,67	0
34	SR	A	8977	1/1	0.88	0.08	154,154,154,154	0
35	NA	0	8562	1/1	0.88	0.31	55,55,55,55	0
34	SR	B	8950	1/1	0.89	0.12	114,114,114,114	0
32	MG	0	8082	1/1	0.89	0.12	73,73,73,73	0
34	SR	0	8944	1/1	0.89	0.13	175,175,175,175	0
34	SR	0	8982	1/1	0.89	0.24	197,197,197,197	0
34	SR	0	8951	1/1	0.89	0.07	144,144,144,144	0
32	MG	0	8066	1/1	0.89	0.34	80,80,80,80	0
35	NA	0	8549	1/1	0.89	0.17	51,51,51,51	0
34	SR	0	8957	1/1	0.89	0.21	200,200,200,200	0
35	NA	9	8572	1/1	0.89	0.24	80,80,80,80	0
34	SR	0	8959	1/1	0.89	0.09	159,159,159,159	0
35	NA	0	8558	1/1	0.90	0.17	45,45,45,45	0
32	MG	0	8038	1/1	0.90	0.07	66,66,66,66	0
34	SR	0	8975	1/1	0.90	0.10	137,137,137,137	0
34	SR	0	8933	1/1	0.90	0.14	141,141,141,141	0
32	MG	0	8039	1/1	0.90	0.21	67,67,67,67	0
34	SR	0	8920	1/1	0.90	0.09	112,112,112,112	0
35	NA	0	8553	1/1	0.90	0.15	52,52,52,52	0
34	SR	0	8996	1/1	0.90	0.19	200,200,200,200	0
35	NA	0	8506	1/1	0.90	0.11	63,63,63,63	0
34	SR	0	8968	1/1	0.90	0.13	161,161,161,161	0
35	NA	0	8520	1/1	0.91	0.12	40,40,40,40	0
34	SR	0	8928	1/1	0.91	0.09	139,139,139,139	0
32	MG	0	8089	1/1	0.91	0.10	42,42,42,42	0
35	NA	0	8575	1/1	0.91	0.34	83,83,83,83	0
35	NA	0	8546	1/1	0.91	0.25	82,82,82,82	0
34	SR	0	9000	1/1	0.91	0.20	165,165,165,165	0
34	SR	0	8992	1/1	0.92	0.19	133,133,133,133	0
34	SR	0	8974	1/1	0.92	0.14	158,158,158,158	0
34	SR	0	8947	1/1	0.92	0.12	162,162,162,162	0
34	SR	0	8927	1/1	0.92	0.14	170,170,170,170	0
34	SR	0	8953	1/1	0.92	0.15	160,160,160,160	0
32	MG	9	8074	1/1	0.92	0.20	75,75,75,75	0
35	NA	0	8544	1/1	0.92	0.27	60,60,60,60	0
35	NA	0	8565	1/1	0.92	0.14	57,57,57,57	0
34	SR	0	8956	1/1	0.92	0.09	138,138,138,138	0
33	CL	J	8802	1/1	0.92	0.09	66,66,66,66	0
32	MG	0	8073	1/1	0.92	0.26	74,74,74,74	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
35	NA	0	8550	1/1	0.92	0.12	53,53,53,53	0
35	NA	9	8543	1/1	0.92	0.24	44,44,44,44	0
34	SR	0	8939	1/1	0.92	0.13	145,145,145,145	0
32	MG	0	8080	1/1	0.92	0.06	66,66,66,66	0
35	NA	Q	8540	1/1	0.93	0.13	58,58,58,58	0
34	SR	B	8987	1/1	0.93	0.26	200,200,200,200	0
34	SR	0	8994	1/1	0.93	0.25	192,192,192,192	0
35	NA	0	8509	1/1	0.93	0.15	63,63,63,63	0
35	NA	0	8511	1/1	0.93	0.11	56,56,56,56	0
35	NA	0	8513	1/1	0.93	0.12	42,42,42,42	0
34	SR	0	8962	1/1	0.93	0.16	155,155,155,155	0
34	SR	F	9005	1/1	0.93	0.09	132,132,132,132	0
34	SR	0	8986	1/1	0.93	0.17	200,200,200,200	0
35	NA	0	8521	1/1	0.93	0.09	50,50,50,50	0
34	SR	0	8970	1/1	0.93	0.06	123,123,123,123	0
32	MG	0	8071	1/1	0.93	0.22	50,50,50,50	0
35	NA	0	8529	1/1	0.93	0.14	39,39,39,39	0
35	NA	0	8535	1/1	0.93	0.19	55,55,55,55	0
35	NA	0	8537	1/1	0.93	0.06	38,38,38,38	0
35	NA	0	8541	1/1	0.93	0.13	61,61,61,61	0
32	MG	0	8033	1/1	0.93	0.12	49,49,49,49	0
32	MG	0	8067	1/1	0.93	0.06	50,50,50,50	0
32	MG	0	8090	1/1	0.93	0.10	55,55,55,55	0
32	MG	0	8081	1/1	0.94	0.14	74,74,74,74	0
34	SR	0	8998	1/1	0.94	0.15	172,172,172,172	0
33	CL	J	8801	1/1	0.94	0.12	71,71,71,71	0
34	SR	0	8973	1/1	0.94	0.07	121,121,121,121	0
32	MG	0	8037	1/1	0.94	0.17	59,59,59,59	0
33	CL	Y	8820	1/1	0.94	0.07	40,40,40,40	0
35	NA	0	8566	1/1	0.94	0.21	71,71,71,71	0
35	NA	0	8567	1/1	0.94	0.29	72,72,72,72	0
34	SR	0	9007	1/1	0.94	0.29	191,191,191,191	0
33	CL	0	8822	1/1	0.94	0.39	83,83,83,83	0
35	NA	0	8573	1/1	0.94	0.08	61,61,61,61	0
34	SR	0	8964	1/1	0.94	0.07	124,124,124,124	0
34	SR	0	8967	1/1	0.94	0.07	131,131,131,131	0
35	NA	0	8555	1/1	0.94	0.17	53,53,53,53	0
34	SR	0	8915	1/1	0.94	0.08	110,110,110,110	0
35	NA	0	8534	1/1	0.94	0.24	64,64,64,64	0
34	SR	0	8985	1/1	0.95	0.11	124,124,124,124	0
34	SR	S	8961	1/1	0.95	0.07	128,128,128,128	0
34	SR	0	8969	1/1	0.95	0.28	164,164,164,164	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
33	CL	A	8809	1/1	0.95	0.12	65,65,65,65	0
32	MG	0	8044	1/1	0.95	0.06	45,45,45,45	0
35	NA	0	8528	1/1	0.95	0.05	44,44,44,44	0
35	NA	0	8560	1/1	0.95	0.17	85,85,85,85	0
34	SR	0	8934	1/1	0.95	0.12	117,117,117,117	0
35	NA	0	8533	1/1	0.95	0.12	55,55,55,55	0
35	NA	0	8563	1/1	0.95	0.25	67,67,67,67	0
32	MG	0	8092	1/1	0.95	0.14	66,66,66,66	0
35	NA	J	8538	1/1	0.95	0.09	43,43,43,43	0
34	SR	0	8958	1/1	0.95	0.06	97,97,97,97	0
32	MG	0	8072	1/1	0.95	0.09	43,43,43,43	0
35	NA	0	8568	1/1	0.95	0.19	36,36,36,36	0
35	NA	0	8569	1/1	0.95	0.08	44,44,44,44	0
34	SR	0	8995	1/1	0.95	0.07	136,136,136,136	0
34	SR	0	8942	1/1	0.95	0.07	115,115,115,115	0
35	NA	0	8547	1/1	0.95	0.22	60,60,60,60	0
33	CL	0	8815	1/1	0.95	0.10	67,67,67,67	0
34	SR	0	8926	1/1	0.95	0.08	122,122,122,122	0
34	SR	0	8999	1/1	0.95	0.07	93,93,93,93	0
35	NA	0	8552	1/1	0.95	0.16	72,72,72,72	0
35	NA	0	8516	1/1	0.95	0.09	45,45,45,45	0
34	SR	0	8981	1/1	0.96	0.12	171,171,171,171	0
32	MG	0	8083	1/1	0.96	0.07	37,37,37,37	0
35	NA	0	8501	1/1	0.96	0.11	33,33,33,33	0
34	SR	0	8945	1/1	0.96	0.08	107,107,107,107	0
35	NA	0	8505	1/1	0.96	0.20	34,34,34,34	0
32	MG	0	8016	1/1	0.96	0.10	50,50,50,50	0
32	MG	0	8024	1/1	0.96	0.10	52,52,52,52	0
32	MG	0	8091	1/1	0.96	0.09	51,51,51,51	0
32	MG	0	8069	1/1	0.96	0.08	57,57,57,57	0
32	MG	0	8029	1/1	0.96	0.19	46,46,46,46	0
34	SR	0	8916	1/1	0.96	0.08	104,104,104,104	0
34	SR	0	8917	1/1	0.96	0.07	111,111,111,111	0
32	MG	0	8031	1/1	0.96	0.07	57,57,57,57	0
32	MG	0	8049	1/1	0.96	0.12	58,58,58,58	0
32	MG	0	8077	1/1	0.96	0.10	35,35,35,35	0
35	NA	0	8524	1/1	0.96	0.04	52,52,52,52	0
34	SR	0	8965	1/1	0.96	0.07	121,121,121,121	0
34	SR	0	8924	1/1	0.96	0.14	133,133,133,133	0
33	CL	J	8821	1/1	0.96	0.07	60,60,60,60	0
35	NA	0	8531	1/1	0.96	0.11	41,41,41,41	0
33	CL	L	8810	1/1	0.96	0.10	52,52,52,52	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
32	MG	0	8055	1/1	0.96	0.07	30,30,30,30	0
34	SR	0	8931	1/1	0.96	0.07	110,110,110,110	0
35	NA	0	8536	1/1	0.96	0.08	47,47,47,47	0
32	MG	0	8056	1/1	0.96	0.10	41,41,41,41	0
32	MG	B	8042	1/1	0.96	0.09	44,44,44,44	0
34	SR	A	8929	1/1	0.96	0.17	130,130,130,130	0
34	SR	A	8930	1/1	0.96	0.05	110,110,110,110	0
32	MG	0	8064	1/1	0.96	0.06	41,41,41,41	0
37	K	0	8402	1/1	0.96	0.13	67,67,67,67	0
34	SR	0	8972	1/1	0.97	0.14	127,127,127,127	0
32	MG	0	8093	1/1	0.97	0.04	27,27,27,27	0
34	SR	0	8943	1/1	0.97	0.06	99,99,99,99	0
35	NA	0	8542	1/1	0.97	0.09	48,48,48,48	0
34	SR	0	8914	1/1	0.97	0.11	121,121,121,121	0
35	NA	C	8503	1/1	0.97	0.06	27,27,27,27	0
33	CL	3	8804	1/1	0.97	0.05	58,58,58,58	0
35	NA	M	8539	1/1	0.97	0.08	26,26,26,26	0
34	SR	0	8978	1/1	0.97	0.04	119,119,119,119	0
35	NA	R	8532	1/1	0.97	0.09	45,45,45,45	0
35	NA	0	8551	1/1	0.97	0.08	38,38,38,38	0
35	NA	S	8510	1/1	0.97	0.04	27,27,27,27	0
34	SR	0	8946	1/1	0.97	0.05	99,99,99,99	0
33	CL	0	8803	1/1	0.97	0.06	52,52,52,52	0
34	SR	0	8949	1/1	0.97	0.07	104,104,104,104	0
33	CL	0	8805	1/1	0.97	0.05	53,53,53,53	0
35	NA	0	8507	1/1	0.97	0.05	32,32,32,32	0
35	NA	0	8508	1/1	0.97	0.07	43,43,43,43	0
33	CL	0	8811	1/1	0.97	0.09	63,63,63,63	0
34	SR	0	8954	1/1	0.97	0.06	100,100,100,100	0
33	CL	0	8813	1/1	0.97	0.06	46,46,46,46	0
32	MG	0	8010	1/1	0.97	0.04	48,48,48,48	0
33	CL	0	8816	1/1	0.97	0.17	67,67,67,67	0
34	SR	0	8925	1/1	0.97	0.07	87,87,87,87	0
35	NA	0	8519	1/1	0.97	0.08	39,39,39,39	0
32	MG	0	8085	1/1	0.97	0.13	80,80,80,80	0
32	MG	0	8060	1/1	0.97	0.06	43,43,43,43	0
34	SR	0	8963	1/1	0.97	0.05	131,131,131,131	0
32	MG	0	8035	1/1	0.97	0.13	43,43,43,43	0
32	MG	0	8006	1/1	0.97	0.05	21,21,21,21	0
35	NA	0	8526	1/1	0.97	0.08	39,39,39,39	0
34	SR	0	8966	1/1	0.97	0.06	100,100,100,100	0
32	MG	0	8017	1/1	0.97	0.07	23,23,23,23	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
35	NA	0	8530	1/1	0.97	0.08	41,41,41,41	0
33	CL	M	8818	1/1	0.97	0.06	44,44,44,44	0
33	CL	N	8807	1/1	0.97	0.07	71,71,71,71	0
33	CL	O	8808	1/1	0.97	0.14	73,73,73,73	0
34	SR	0	8941	1/1	0.97	0.06	104,104,104,104	0
32	MG	0	8068	1/1	0.98	0.07	52,52,52,52	0
32	MG	0	8030	1/1	0.98	0.18	72,72,72,72	0
32	MG	0	8070	1/1	0.98	0.05	43,43,43,43	0
33	CL	0	8812	1/1	0.98	0.04	45,45,45,45	0
34	SR	0	8921	1/1	0.98	0.04	77,77,77,77	0
32	MG	0	8052	1/1	0.98	0.04	39,39,39,39	0
33	CL	0	8814	1/1	0.98	0.11	50,50,50,50	0
34	SR	0	8960	1/1	0.98	0.06	134,134,134,134	0
35	NA	0	8515	1/1	0.98	0.06	35,35,35,35	0
32	MG	0	8053	1/1	0.98	0.03	38,38,38,38	0
32	MG	0	8036	1/1	0.98	0.07	46,46,46,46	0
33	CL	0	8817	1/1	0.98	0.04	51,51,51,51	0
32	MG	0	8075	1/1	0.98	0.04	39,39,39,39	0
33	CL	B	8819	1/1	0.98	0.14	51,51,51,51	0
32	MG	0	8076	1/1	0.98	0.05	39,39,39,39	0
35	NA	0	8523	1/1	0.98	0.07	46,46,46,46	0
32	MG	0	8007	1/1	0.98	0.04	43,43,43,43	0
34	SR	0	8935	1/1	0.98	0.05	80,80,80,80	0
34	SR	0	8937	1/1	0.98	0.05	102,102,102,102	0
35	NA	0	8527	1/1	0.98	0.13	47,47,47,47	0
32	MG	0	8059	1/1	0.98	0.08	50,50,50,50	0
32	MG	0	8079	1/1	0.98	0.05	39,39,39,39	0
32	MG	0	8032	1/1	0.98	0.06	44,44,44,44	0
32	MG	K	8054	1/1	0.98	0.04	37,37,37,37	0
32	MG	0	8040	1/1	0.98	0.06	80,80,80,80	0
34	SR	1	8952	1/1	0.98	0.03	79,79,79,79	0
34	SR	0	8908	1/1	0.98	0.04	83,83,83,83	0
34	SR	0	8910	1/1	0.98	0.05	99,99,99,99	0
34	SR	0	8911	1/1	0.98	0.04	75,75,75,75	0
32	MG	0	8034	1/1	0.98	0.04	38,38,38,38	0
32	MG	0	8046	1/1	0.98	0.12	44,44,44,44	0
36	CD	O	8705	1/1	0.98	0.05	84,84,84,84	0
34	SR	0	8984	1/1	0.98	0.06	114,114,114,114	0
35	NA	0	8545	1/1	0.98	0.08	38,38,38,38	0
33	CL	R	8806	1/1	0.99	0.04	47,47,47,47	0
32	MG	0	8005	1/1	0.99	0.06	31,31,31,31	0
32	MG	Y	8086	1/1	0.99	0.03	35,35,35,35	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
32	MG	0	8018	1/1	0.99	0.05	27,27,27,27	0
32	MG	0	8062	1/1	0.99	0.07	44,44,44,44	0
34	SR	0	9008	1/1	0.99	0.03	84,84,84,84	0
34	SR	0	8918	1/1	0.99	0.06	79,79,79,79	0
32	MG	0	8084	1/1	0.99	0.09	29,29,29,29	0
32	MG	0	8020	1/1	0.99	0.09	36,36,36,36	0
32	MG	0	8087	1/1	0.99	0.02	31,31,31,31	0
32	MG	0	8088	1/1	0.99	0.05	32,32,32,32	0
34	SR	0	8923	1/1	0.99	0.03	87,87,87,87	0
32	MG	0	8022	1/1	0.99	0.08	31,31,31,31	0
32	MG	0	8065	1/1	0.99	0.03	33,33,33,33	0
32	MG	0	8001	1/1	0.99	0.03	30,30,30,30	0
32	MG	0	8025	1/1	0.99	0.03	27,27,27,27	0
35	NA	0	8504	1/1	0.99	0.06	31,31,31,31	0
32	MG	0	8043	1/1	0.99	0.07	43,43,43,43	0
32	MG	0	8027	1/1	0.99	0.03	31,31,31,31	0
32	MG	0	8045	1/1	0.99	0.05	35,35,35,35	0
32	MG	0	8008	1/1	0.99	0.04	24,24,24,24	0
32	MG	0	8047	1/1	0.99	0.09	50,50,50,50	0
34	SR	0	8936	1/1	0.99	0.05	91,91,91,91	0
35	NA	0	8512	1/1	0.99	0.14	45,45,45,45	0
32	MG	0	8048	1/1	0.99	0.06	22,22,22,22	0
34	SR	R	8912	1/1	0.99	0.06	83,83,83,83	0
32	MG	0	8003	1/1	0.99	0.06	26,26,26,26	0
34	SR	0	8940	1/1	0.99	0.03	78,78,78,78	0
35	NA	0	8517	1/1	0.99	0.11	46,46,46,46	0
32	MG	0	8050	1/1	0.99	0.04	28,28,28,28	0
34	SR	1	8913	1/1	0.99	0.05	91,91,91,91	0
32	MG	0	8012	1/1	0.99	0.04	22,22,22,22	0
34	SR	3	8932	1/1	0.99	0.03	74,74,74,74	0
34	SR	0	8901	1/1	0.99	0.04	84,84,84,84	0
34	SR	0	8902	1/1	0.99	0.02	37,37,37,37	0
34	SR	0	8904	1/1	0.99	0.07	55,55,55,55	0
34	SR	0	8948	1/1	0.99	0.04	88,88,88,88	0
34	SR	0	8905	1/1	0.99	0.12	69,69,69,69	0
34	SR	0	8906	1/1	0.99	0.05	53,53,53,53	0
34	SR	0	8907	1/1	0.99	0.02	43,43,43,43	0
32	MG	0	8013	1/1	0.99	0.02	21,21,21,21	0
36	CD	Z	8703	1/1	0.99	0.02	83,83,83,83	0
36	CD	1	8702	1/1	0.99	0.03	60,60,60,60	0
34	SR	0	8909	1/1	0.99	0.06	86,86,86,86	0
32	MG	0	8015	1/1	0.99	0.04	31,31,31,31	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
32	MG	0	8041	1/1	1.00	0.06	29,29,29,29	0
32	MG	0	8021	1/1	1.00	0.06	32,32,32,32	0
32	MG	0	8058	1/1	1.00	0.04	16,16,16,16	0
32	MG	0	8002	1/1	1.00	0.02	30,30,30,30	0
32	MG	0	8023	1/1	1.00	0.03	26,26,26,26	0
32	MG	0	8061	1/1	1.00	0.06	25,25,25,25	0
32	MG	0	8011	1/1	1.00	0.01	23,23,23,23	0
32	MG	0	8004	1/1	1.00	0.05	25,25,25,25	0
34	SR	0	8903	1/1	1.00	0.07	53,53,53,53	0
32	MG	0	8026	1/1	1.00	0.05	33,33,33,33	0
36	CD	U	8701	1/1	1.00	0.01	62,62,62,62	0
32	MG	0	8009	1/1	1.00	0.09	28,28,28,28	0
32	MG	0	8028	1/1	1.00	0.05	24,24,24,24	0
36	CD	3	8704	1/1	1.00	0.03	76,76,76,76	0
32	MG	0	8019	1/1	1.00	0.05	19,19,19,19	0
32	MG	0	8014	1/1	1.00	0.07	21,21,21,21	0

6.5 Other polymers [i](#)

There are no such residues in this entry.